LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 2

2017

Bate Stamp Numbers
00746882 – 00750150

Prepared for
Department of the Army
Longhorn Army Ammunition Plant

1976 – 2017

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 2

2017

Note: Volume 2, Year 2017 A, B and C are listed out of date in sequence and should have been inserted in Year 2013.

A.	Title:	Meeting Minutes – Longhorn Army Ammunition Plant Monthly Managers' Meeting Minutes
	Author(s):	AECOM Technical Services
	Recipient:	All Stakeholders
	Date:	July 16, 2013
	Bate Stamp:	00746882 – 00746887
B.	Title:	Meeting Minutes – Longhorn Army Ammunition Plant Monthly Managers' Meeting Minutes
	Author(s):	AECOM Technical Services
	Recipient:	All Stakeholders
	Date:	August 28, 2013
	Bate Stamp:	00746888 – 00746893
C.	Title:	Meeting Minutes – Longhorn Army Ammunition Plant Monthly Managers' Meeting Minutes
	Author(s):	AECOM Technical Services
	Recipient:	All Stakeholders
	Date:	September 24, 2013
	Bate Stamp:	00746894 – 00746900
D.	Title:	Report - Draft Final 2014 Remedial Action Operation Report for LHAAP-12, Landfill 12, Longhorn Army Ammunition Plant, Karnack, Texas
	Author(s):	AECOM Technical Services
	Recipient:	U.S. Army Corps of Engineers
	Date:	August 12, 2015
	Bate Stamp:	00746901 – 00747381

Note: Volume 2, Year 2017 D was originally included as Volume 3, Year 2015 H without laboratory reports.

E.	Title:	Report - Draft Final 2016 Remedial Action Operation Report for LHAAP-12, Landfill 12, Longhorn Army Ammunition Plant, Karnack, Texas
	Author(s):	AECOM Technical Services
	Recipient:	U.S. Army Corps of Engineers
	Date:	July 13, 2016
	Bate Stamp:	00747382 – 00747685

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 2

2017

F.	Title:	Report - FY2016 Installation Action Plan, Longhorn Army Ammunition Plant, Karnack, Texas
	Author(s):	U.S. Army Corps of Engineers
	Recipient:	U.S. Environmental Protection Agency, Texas Commission on Environmental Quality
	Date:	September 27, 2016
	Bate Stamp:	00747686 – 00747781
G.	Title:	Meeting Minutes – Longhorn Army Ammunition Plant Monthly Managers' Meeting Minutes
	Author(s):	AECOM Technical Services
	Recipient:	All Stakeholders
	Date:	October 20, 2016
	Bate Stamp:	00747782 – 00747812
H.	Title:	Meeting Minutes – Longhorn Army Ammunition Plant Restoration Advisory Board (RAB) Meeting Minutes
	Author(s):	AECOM Technical Services
	Recipient:	All Stakeholders
	Date:	January 19, 2017
	Bate Stamp:	00747813 – 00747857
I.	Title:	Letter - Concurrence of Record of Decision for LHAAP-04 , Former Pilot Wastewater Treatment Plant at Longhorn Army Ammunition Plant, Karnack, Texas
	Author(s):	Texas Commission on Environmental Quality
	Recipient:	Army BRAC Office
	Date:	February 7, 2017
	Bate Stamp:	00747858
J.	Title:	Meeting Minutes – Longhorn Army Ammunition Plant Monthly Managers' Meeting Minutes
	Author(s):	AECOM Technical Services
	Recipient:	All Stakeholders
	Date:	March 28, 2017
	Bate Stamp:	00747859 – 00747872

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 2

2017

K.	Title:	Report - Draft Final 3rd Annual Remedial Action Operation Report for LHAAP-67, Above Ground Storage Tank Farm, Longhorn Army Ammunition Plant, Karnack, Texas
	Author(s):	AECOM Technical Services
	Recipient:	U.S. Army Corps of Engineers
	Date:	March 29, 2017
	Bate Stamp:	00747873 – 00750028

L.	Title:	Report - Quarterly Evaluation Report, 2nd Quarter (April-June) 2016, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas – Part 1
	Author(s):	AECOM Technical Services
	Recipient:	U.S. Army Corps of Engineers
	Date:	April 1, 2017
	Bate Stamp:	00750029 – 00750150

LONGHORN ARMY AMMUNITION PLANT
Karnack, Texas

FINAL MONTHLY MANAGERS' MEETING

Minutes

DATE: July 16, 2013
TIME: 11:00 a.m.
PLACE: **Army Trailer, Teleconference – 866-203-6896, passcode 1759304791**

Welcome **RMZ**

Attendees:

Army BRAC: Rose Zeiler
EPA: Rich Mayer, Steve Tzhone, Janetta Coats, Barry Forsythe-USFWS liaison to EPA (by phone), Kent Becher-USGS liaison to EPA
TCEQ: April Palmie, Dale Vodak
USACE: Aaron Williams
USFWS: Paul Bruckwicki
AECOM: Dave Wacker, Gretchen McDonnell, Veronica Robinson (by phone), Josh Miller (by phone)
AEC: Robin Paul, Marilyn Plitnik

Action Items
AECOM

- Submit Field Standard Operating Procedures to agencies by June 19th. **Complete.** Four primary SOPs have been submitted and comments received. Another set is coming to agencies later this week.
- Submit repackaged IWWP to agencies by mid-July. **Pending.** Currently in Army review. Outstanding EPA comments are also addressed in this update. New date for submittal to agencies by Tuesday, July 23rd.
- Include review and submittal milestone dates in the transmittal letter for the draft 5-Year Review Report. **Pending**. In Army review. Submittal to agencies by Tuesday, July 23rd.
- Provide a summary of the treated water nutrient data in October, after fluidized bed reactor feeding optimization has been implemented. **Pending.** AECOM has kicked off the optimization of the fluidized bed reactor. A comparison of pre- and post-optimization nutrient levels will be presented to agencies in the Fall. Mr. Mayer and Mr. Becher discussed a concern regarding historical reinjection of treated water and impacts of residual nutrients in the treated water on groundwater. Mr. Becher stated that, if dissolved oxygen is great enough, ammonia may convert to nitrate in the presence of oxygen, which may be a concern because there is a nitrate MCL of 10 mg/L. At this point, Army is not injecting water. Ms. Zeiler stated that this is something the Army can keep in mind if injection becomes part of the treatment process again.
- Add the next round of 1,4-dioxane sampling to the 6-month outlook schedule and redistribute the schedule. Review the dates provided for future sampling events for accuracy. **Pending.** Change action item to "Redistribute the 6-month outlook schedule after adding 1,4-dioxane sampling. "

Army

- Combine decision documents for LHAAP-19 and LHAAP-56, -65, and -69 before returning them to TCEQ, for TCEQ staffing purposes. **Pending.**
- Submit comments for four priority Field Standard Operating Procedures (well installation, well development, groundwater sampling, Direct Push Technology) to AECOM by end of June. **Complete.**
- Army will work to finalize a teleconference to discuss responses to agency comments on LHAAP-47 Draft Final ROD for July 1st or 2nd. **Complete.**
- Mr. Williams will provide Mr. Wacker with dates relating to BERA items, for inclusion in the Document and Issue Tracking table. **Complete.**

EPA

Mr. Mayer requested historical pH data on MW-7. Mr. Wacker stated that the pH data are in the field notes which are included in the compliance sampling results data reports. Mr. Becher is concerned that the installation of a new well nearby may be influencing the pH.

EPA 1,4-dioxane split sampling data has been validated and a report will be submitted to the group. An EPA chemist is evaluating and will compile thoughts as to why there are differences in the data between Army and EPA samples. The EPA chemist mentioned that 8270 SIM recoveries are 50-60%, while the Method 522 has 100% recovery. While there are differences in the split data, Mr. Becher stated that Army is following EPA guidance in how they are conducting their analysis. Mr. Becher stated that the 1,4-dioxane methods are under development now that the chemical is becoming a focus of more scrutiny. Mr. Wacker summarized that the recent sampling indicates levels of 1,4-dioxane found at LHAAP are low and the actual variance between the split samples is a factor of 2, not an order of magnitude.

Ms. Palmie mentioned that the public may be concerned whether perimeter wells have been sampled for 1,4-dioxane. Mr. Becher stated that the perimeter wells have been analyzed for volatile organic compounds, including trichloroethane with which 1,4-dioxane is associated. Trichloroethane was not a concern in perimeter wells so 1,4-dioxane would not be suspected in perimeter wells.

TCEQ

AEC

Defense Environmental Restoration Program (DERP) PBR Update **AECOM**

- Upcoming document submissions to regulators (see Document and Issue Tracking table)

Item 1 (LHAAP-47 ROD) – DF due on July 20th. Comment resolution meeting was held on July 15th. Email documenting technical issue resolution is scheduled to go to agencies on July 17th.

Item 2 (LHAAP-18/24 Data Gap Report) – A preliminary data review will be conducted for the group for today, after the MMM. Draft report due to agencies at the end of the month. Draft FS is set for submittal to agencies in September.

Item 3 (LHAAP-03 ROD) – Currently under agency review. August 30th is the deadline for agency comments. TCEQ's comments have already been submitted.

Item 4 (5-Year Review Report) – Will be submitted to agencies on July 23rd. AECOM will add the required document signature date to the Document and Issue Tracker.

Item 5 (Explanation of Significant Differences) – Add "18/24" to the description on the tracker document. Document is in Army review. The ESD requests relief from weekly air sampling that has been done for the past 26 weeks without any exceedances.

Item 6 (GWTP Quarterly Reports) – The 1st quarter 2013 has been issued. Mr. Becher and Ms. Palmie asked for a hard copy of the quarterly reports. AECOM will check the document distribution list to ensure Mr. Becher and Ms. Palmie are designated to receive a hard copies.

Item 7 (IWWP and SOPs) – Discussed previously. July 23rd new date for submittal to agencies for IWWP.

Item 8 (LHAAP-46 and LHAAP-67 RACRs) – Data has been validated. RACRs are under development. IDW has been characterized as non-hazardous and disposal will be moving forward.

Item 9 (Monthly Managers' Meeting) –Next meeting will be Tuesday, August 20th at 10AM, by teleconference.

Item 10 (LHAAP-37, LHAAP-50 and LHAAP-58 Field Work) – AECOM will notify EPA and TCEQ when a start date for field work has been confirmed. AECOM tentatively plans to being work on July 22nd. Required completion date for field activities is September 30th, so agencies will be seeing field work completion letters for LHAAP-37 and LHAAP-58 likely first, followed by LHAAP-50.

Item 11 (LHAAP-29 PSI) – PSI Workplan is in development. Next field activity after this summer is planned to be a PSI at LHAAP-29. Tentatively planning for Fall field work.

Items 12-13 (LHAAP-17 RD WP and LHAAP-16 RD WP) – Placeholders for future documents.

Item 14 (July RAB) – July RAB meeting to be held tonight. October RAB meeting tentatively scheduled for Tuesday, October 29th at 6PM.

Item 15 (GWTP) – FBR optimization in progress. INF pond soil repair and seeding was done. Vegetation has started to fill in.
Topsoil was placed to address minor erosion and subsidence identified at Landfill 12 and Landfill 16. 5-Year Review Report recommendations table will be updated to reflect these items have been completed.

Item 16 (Administrative Record Update) – Update for documents from April – June 2013 should be submitted to Army by end of July.

Item 17 (BERA Addendum Work Plan) – In agency review.

Items 18-19 (BERA Field Work and BERA Addenedum) – Placeholders for future work.

Item 20 (Nutrient Issue for HB and INF) – Pre- and Post-Optimization nutrient level comparison will be presented in Fall, and will be added to the action items.

- Upcoming field work

Field work for 37, 50 and 58 tentatively commences next week and will likely start with DPT, with well installation to follow.

- Monthly data

Data report has been submitted to agencies and will be appended to the minutes of this meeting. Validation report for perimeter wells and surface water compliance sampling needs to be formally submitted. AECOM will prepare a Technical Memo providing the validation report so it can be added to the Administrative Record. The Technical Memo will be submitted to USACE for review prior to the quarterly RAB meeting, then will be transmitted to the MMM group. Validated results of the perimeter well and surface water sampling will be summarized and presented to the RAB.

- Quarterly reports - discussed previously.
- Groundwater Treatment Plant
    - Air Monitoring – discussed previously
    - INF Pond Topsoil and erosion control status - discussed previously
    - GWTP Longer-Term Plan – no update

Other DERA Program Update **Army**

- Status of Supplemental BERA – discussed previously
- Five-Year Review Report Update – discussed previously

MMRP Update **Army**

- Update – no update

Other Environmental Restoration **Army**

- CRP/CIP Update - Army will announce a final call for comments tonight at RAB.
- Site 19 Decision Document update - discussed previously
- Decision Documents for multiple sites – status update – discussed previously
- Site 37 Bioplug – APG is late with their report to AEC. Army requires the data to be able to submit it to agencies and present it to the RAB. AEC will contact APG and attempt to obtain validated project data.
- 1,4-dioxane sampling at Longhorn – discussed previously

Programmatic Issues **RMZ/RM/AP**

- Status of Dispute – no update. After the LHAAP-29 field work is accomplished this fall, AECOM's work will essentially come to a halt if dispute is not resolved.

USFWS Update **RMZ/PB**

- Environmental Restoration Issues with Transfer Schedule Impact –Damaged Well - LHAAP-35AWW07 was run over by a bulldozer during USFWS clearing activities. This well is part of LHAAP-58 arsenic monitoring and may need to be replaced. Likely need to determine when it was last sampled and what the data showed to determine whether it must be replaced. Army need to provide USFWS with map of well coordinates for the new wells installed on transferred property, if there are any at this time(LHAAP-46 and LHAAP-67, specifically). USFWS has placed a sheet in the open hole to prevent things from getting into the well, but the well needs to be better secured. A cover of some kind needs to be put in place until it can be abandoned. Need a recommendation for what to do with the well by the next MMM. AECOM's and USFWS will coordinate to have AECOM's driller work on the well. Ms. Palmie suggested all wells could be placed on a shared Google Earth page for easier reference.
- USFWS Comments on Documents – None

Schedule Next Managers' Meeting – Tuesday, August 20th at 10AM. By teleconference.

Discussion of LHAAP-29 ISCO remedy. Army is evaluating alternatives to the approved remedy which may provide a more effective solution.

Adjourn

New Action Items

AECOM

- Provide recommendation on damaged well 35AWW07.

ARMY

- Provide USFWS with map of well coordinates for new wells on transferred properties (specifically LHAAP-46 and LHAAP-67).

EPA

- EPA's 1,4-dioxane split sampling data has been validated and a report will be submitted to the group.

AEC

- Request validated LHAAP-37 bioplug demonstration data from APG.

Attachments
Monthly Data Report

ACRONYM LIST

AEC	**United States Army Environmental Command**
AECOM	**AECOM Technology Services, Inc.**
AP	**April Palmie**
APG	**Aberdeen Proving Ground**
BERA	**Baseline Environmental Risk Assessment**
BRAC	**Base Realignment and Closure**
CRP/CIP	**Community Relations Plan / Community Involvement Plan**
DERA	**Defense Environmental Restoration Act**
DERP	**Defense Environmental Restoration Program**
DPT	**Direct Push Technology**
EPA	**United States Environmental Protection Agency**
ESD	**Explanation of Significant Differences**
FBR	**Fluidized Bed Reactor**
FS	**Feasibility Study**
GWTP	**Ground Water Treatment Plant**
HB	**Harrison Bayou**
IDW	**Investigation-Derived Waste**
INF	**Intermediate-Range Nuclear Forces**

ISCO	In-Situ Chemical Oxidation
IWWP	Installation-Wide Work Plan
LHAAP	Longhorn Army Ammunition Plant
MCL	Maximum Contaminant Level
MMM	Monthly Managers' Meeting
MMRP	Military Munitions Response Program
PB	Paul Bruckwicki
PBR	Performance-Based Remediation
PSI	Post-Screening Investigation
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RD WP	Remedial Design Work Plan
RM	Rich Mayer
RMZ	Rose M. Zeiler
ROD	Record of Decision
SOP	Standard Operating Procedure
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

LONGHORN ARMY AMMUNITION PLANT
Karnack, Texas

MONTHLY MANAGERS' MEETING

Minutes

DATE: **August 28, 2013**
TIME: 10:00 a.m.
PLACE: **Teleconference – 866-203-6896, code 1759304791**

Welcome **RMZ**

Attendees:

Army BRAC:	Rose Zeiler
EPA:	Rich Mayer, Barry Forsythe-USFWS liaison to EPA, Phil Turner, Terry Burton
TCEQ:	April Palmie, Dale Vodak
USACE:	Aaron Williams
USFWS:	Paul Bruckwicki
AECOM:	Dave Wacker, Gretchen McDonnell, Josh Miller
AEC:	Marilyn Plitnik

Action Items
AECOM

- Submit repackaged IWWP to agencies by mid-July. **Complete.** This document was submitted in component pieces to facilitate review, with an updated consolidated version of the IWWP submitted to agencies this morning.
- Include review and submittal milestone dates in the transmittal letter for the draft 5-Year Review Report. **Complete.** Mr. Mayer stated that EPA priorities are the 18/24 Data Gap report and 5-Year Review, and they are trying to meet the 30-day review period for the 5-Year Review Report.
- Provide a summary of the treated water nutrient data in October, after fluidized bed reactor feeding optimization has been implemented. **Pending.**
- Add the next round of 1,4-dioxane sampling to the 6-month outlook schedule and redistribute the schedule. Review the dates provided for future sampling events for accuracy. **Complete.** Next round scheduled for early December.
- Provide recommendation on damaged well 35AWW07. **Complete.** Well has been replaced with 35AWW07R and has been relocated about 10 feet, and moved out of the ditch line.

Army

- Combine decision documents for LHAAP-19 and LHAAP-56, -65, and -69 before returning them to TCEQ, for TCEQ staffing purposes. **Pending.** Deadline currently for the end of September.
- Provide USFWS with map of well coordinates for new wells (specifically, LHAAP-35B(37), LHAAP-35A(58)LHAAP-46, LHAAP-50 and LHAAP-67) and existing wells on transferred properties. **Pending.**

EPA

- Submit EPA's validated 1,4-dioxane split sampling data report to the MMM group. **Complete.** Army will review the conclusions of the report to determine if any changes should be implemented prior to the next round of 1,4-dioxane sampling (scheduled for the first part of December).

TCEQ

AEC

- Request validated LHAAP-37 bioplug demonstration data from APG. **Complete.** Received draft report from APG. No reduction in concentrations has been seen at this point.

Defense Environmental Restoration Program (DERP) PBR Update **AECOM**

- Upcoming document submissions to regulators (see Document and Issue Tracking table)

Item 1(5-Year Review Report) – 30-day comment period September 14th deadline

Items 2/3 (SOPs/IWWP, QAPP, and HASP) – Agency comments on SOPs due are scheduled for September 14 and on the remainder of the IWWP by September 27th.

Item 4 (LHAAP-18/24 – Explanation of Significant Differences) – Army review should be complete by the end of the week, with submittal to the agencies to follow.

Item 5 (GWTP Quarterly Report) – These reports are not primary documents, so review can be prioritized behind other more critical documents.

Item 6 (LHAAP-46 and LHAAP-67 RACRs) – RACR reports in progress. IDW has been characterized as non-hazardous and manifests will be coming to Ms. Zeiler for review to facilitate disposal. The LUC boundary for LHAAP-46 is defined based on groundwater sampling results. The LUC boundary definition is still in progress for LHAAP-67 where additional groundwater data is needed. ROD language says the LUC must be recorded within 90 days of the completion report. AECOM will develop a path forward for getting the LUC boundary established, surveyed and recorded.

Item 7 (Monthly Managers' Meeting) – Action item review from last meeting indicates the following outstanding items:

-GWTP Quarterly Reports. Mr. Wacker suggested that agency comments be incorporated in a revised version of the current document instead of putting the changes into the following quarterly report. Final hard copies of the revised document will be distributed to the MMM group. The first report to be done in this way will be the 4th quarter 2012 report.

-Data Validation Technical Memo. In Progress. Validation reports for perimeter and surface water data should be submitted to USACE as an attachment to an explanatory technical memo, and then added to the AR.

Item 8 (LHAAP-37, 50 and 58) – Ms. McDonnell provided an update on the progress of field work. All direct push/hydropunch work is complete. One well remains at LHAAP-58. Two potential (dependent upon lab data) wells remain at LHAAP-37. Approximately 50% of the wells are complete at LHAAP-50. All drilling and well development work is projected to be complete by 25 September. Mr. Mayer stated everything looked fine during recent observation visits conducted by he and Mr. Becher.

Items 9, 10 and 11 (LHAAP–29 PSI WP, LHAAP-17 PDI WP, LHAAP-16 RD WP) – Placeholders for documents in Army review.

Item 12 (LHAAP-18/24 Data Gap Report) – EPA has requested a 20-day extension to review the document. Ms. Zeiler stated that while the Army wants all agency input, the LHAAP-18/24 Data Gap report is a secondary document that is not eligible to enter the dispute process. However, the Revised Feasibility Study which the data gap investigation data will feed into, is a primary document and can go through the informal dispute process for any comments not resolved on the Data Gap Report.

Item 13 (LHAAP-03 Record of Decision) – Army will be sending out Response to Comments to the agencies this week. A 20-day extension may be done to allow for further discussion.

Item 14 (October RAB) - Scheduled for October 29th at 6pm. LHAAP-37 bioplug study results may be reported during this meeting. AECOM will provide a short presentation on in-situ bioremediation/bioaugmentation. The dispute status will probably also be an item of discussion.

Item 15 (GWTP O&M / Air Monitoring) – AECOM has initiated work on the FBR nutrient optimization, working on determining the minimum levels of nutrients necessary to keep perchlorate at zero without overfeeding. INF Pond cover soil repairs look good but establishing vegetation has been difficult given heat and dry weather, leading AECOM to plan to reseed in the fall.

Item 16 (Administrative Record Update) – 2nd quarter 2012 Administrative Record update is planned for submittal to agencies by the end of the month.

Item 17 (BERA Addendum Work Plan) – Agency comments have been received on the work plan and RTCs should be back to agencies by September 4th.

Item 18 (BERA Field Work) – The BERA contractor will be ready to mobilize at the end of September, with field work to begin by middle of October.

Item 19 (BERA Addendum) – Placeholder.

Item 20 (Nutrient Issue for Harrison Bayou and INF Pond) – Discussed under Item 15.

Item 21 (LHAAP-18/24 Revised Feasibility Study) - Discussed under Item 12.

Item 22 (LUC Management Plan) - The end of the fiscal year is approaching, requiring the annual update of the document be prepared. The update this year may be an acknowledgement page stating that no new changes have been done during the fiscal year.

Item 23 (CRP) – RTCs are currently being reviewed by Ms. Coats, EPA. TCEQ concurs with the RTCs.

- Upcoming field work - Sampling of all new wells at 37, 50, 58 and wells at 46 and 67 and surveying will be done in September and October. Majority of the field work planned subsequent dates is in question due to the Army/EPA dispute.
- Monthly data

- Technical Memorandum for surface water and perimeter well data- Discussed in Item 7 above
- Quarterly reports – Discussed in Item 7, above.
- Groundwater Treatment Plant – All items discussed earlier in the meeting.
    - Air Monitoring – Discussed in Item 4, above.
    - INF Pond Topsoil and erosion control status
    - GWTP Longer-Term Plan – Discussed in Item 15 above

Other DERA Program Update **Army**

- Status of Supplemental BERA – Discussed in Items 17-19, above.
- Five Year Review Report Update – Discussed in Item 11, above.

MMRP Update **Army**

- Update – no update

Other Environmental Restoration **Army**

- CRP/CIP Update - Discussed in Item 23, above.
- Site 19 Decision Document update- already discussed
- Decision Documents for multiple sites – status update - already discussed
- Site 37 Bioplug – Discussed above.
- 1,4-dioxane sampling at Longhorn – Discussed above.
- Discussion of EPA's specific concerns regarding bioaugmentation and any case studies/lines of evidence supporting potential detriment to the aquifer
    - Mr. Burton stated that the main concern of EPA headquarters will be introduction of non-indigenous bacteria. Are some kind of "super-bacteria" being introduced ? Is the public aware of what is going to be introduced and are they okay with that?
    - Mr. Burton stated AECOM has already started addressing these questions by saying the bacteria that will be used for bioaugmentation are common bacteria, are not harmful and are not genetically-engineered. If this information is presented at the RAB, that would likely close the loop and resolve the EPA's comment about concerns with bioaugmentation.
    - Mr. Wacker summarized that the latest best practice in ISB is to bioaugment as a standard practice to avoid stalling of dechlorination and formation of more harmful daughter-products.
    - In order to demonstrate Army is meeting UIC substantive requirements, Army will submit paperwork to Ms. Palmie (copy to EPA) and she will facilitate review by the UIC Permit Team. The periodic MNA reports for LHAAP-58 should contain the UIC reporting documents. Ms. Palmie stated that two weeks allowed for TCEQ review of the UIC documents is insufficient. Army will work to find a resolution to provide TCEQ with more review time, but still meet the FFA deadline for the remedy to be in place by September 30, 2013.

Programmatic Issues **RMZ/RM/AP**

- Status of Dispute – no update

USFWS Update **RMZ/PB**

- Environmental Restoration Issues with Transfer Schedule Impact – no update
- USFWS Comments on Documents – no comments

Schedule Next Managers' Meeting – Will be held by teleconference on September 24th at 10AM.

Adjourn

New Action Items

AECOM

- Develop a path forward for getting the :LHAAP-46 LUC boundary established, surveyed, and recorded.
- Add Phil Turner (turner.philip@epa.gov) to the MMM distribution list.

ARMY

- Reschedule LHAAP-58 EISB activities to provide TCEQ with more review time of the LHAAP-58 UIC documents.
- Update LUC Management Plan by end of FY

EPA

AEC

Attachments
LHAAP Bioaugmentation Brief

ACRONYM LIST

AEC	**United States Army Environmental Command**
AECOM	**AECOM Technology Services, Inc.**
AP	**April Palmie**
APG	**Aberdeen Proving Grounds**
BERA	**Baseline Environmental Risk Assessment**
BRAC	**Base Realignment and Closure**
CRP/CIP	**Community Relations Plan / Community Involvement Plan**
DERA	**Defense Environmental Restoration Act**
DERP	**Defense Environmental Restoration Program**
EISB	**Enhanced In-Situ Bioremediation**
EPA	**United States Environmental Protection Agency**
FBR	**Fluidized Bed Reactor**
GWTP	**Ground Water Treatment Plant**
HASP	**Health and Safety Plan**
IDW	**Investigation-Derived Waste**
INF	**Intermediate-Range Nuclear Forces**
ISB	**In-Situ Bioremediation**
IWWP	**Installation-Wide Work Plan**
LHAAP	**Longhorn Army Ammunition Plant**
LUC	**Land Use Control**
MMM	**Monthly Managers' Meeting**
MMRP	**Military Munitions Response Program**
MNA	**Monitored Natural Attenuation**
O&M	**Operation and Maintenance**
PB	**Paul Bruckwicki**

PBR	**Performance-Based Remediation**
PDI	**Pre-Design Investigation**
PSI	**Post-Screening Investigation**
QAPP	**Quality Assurance Project Plan**
RAB	**Restoration Advisory Board**
RACR	**Remedial Action Completion Report**
RD	**Remedial Design**
RM	**Rich Mayer**
RMZ	**Rose M. Zeiler**
ROD	**Record of Decision**
SOP	**Standard Operating Procedure**
TCEQ	**Texas Commission on Environmental Quality**
UIC	**Underground Injection Control**
USACE	**United States Army Corps of Engineers**
USFWS	**United States Fish and Wildlife Service**
WP	**Work Plan**

LONGHORN ARMY AMMUNITION PLANT
Karnack, Texas

MONTHLY MANAGERS' MEETING

Final Minutes

DATE: **September 24, 2013**
TIME: 10:00 a.m.
PLACE: **Teleconference – 866-203-6896, code 1759304791**

Welcome **RMZ**

Attendees:

Army BRAC:	Rose Zeiler
EPA:	Rich Mayer, Barry Forsythe-USFWS liaison to EPA, Kent Becher-USGS liaison to EPA
TCEQ:	April Palmie, Dale Vodak
USACE:	Aaron Williams, Rick Smith
USFWS:	Paul Bruckwicki
AECOM:	Gretchen McDonnell, Josh Miller
AEC:	Robin Paul

Introduction of New LHAAP USACE Project Manager
Dr. Zeiler provided an introduction of Rick Smith with USACE, who will be replacing Mr. Lambert as the USACE Project Manager. Mr. Smith was the USACE Project Manager for LHAAP from 2003 to 2007 so knows the history of the site. Mr. Smith is a P.E. Geological Engineer who has 30 years with USACE.

Action Items
AECOM

- Provide a summary of the treated water nutrient data in late fall, after fluidized bed reactor feeding optimization has been implemented. **Pending.**
- Develop a path foward for getting the LHAAP-46 and 67 LUC boundaries established, surveyed and recorded. **Complete.** The path forward is to provide TCEQ, EPA and USFWS (as the future transferee) with maps of proposed LUC boundaries for review. These maps will present the most recent round of groundwater data supporting the proposed LUC boundaries, and likely will be supported by a table containing a few additional rounds of historical groundwater data. Once stakeholder feedback is obtained, the LUC boundaries will be finalized, surveyed and recorded in Harrison County. Concurrence with this path forward was provided by Ms. Palmie, Mr. Mayer and Mr. Bruckwicki.
- Add Phil Turner (turner.philip@epa.gov) to the MMM distribution list. **Complete**.

Army

- Combine decision documents for LHAAP-19 and LHAAP-56, -65, and -69 before returning them to TCEQ, for TCEQ staffing purposes. **Pending.** On 26 September, Army will be reviewing with TCEQ the path forward for LHAAP-19.
- Provide USFWS with map of well coordinates for new wells (specifically, LHAAP-35B(37), LHAAP-35A(58), LHAAP-46, LHAAP-50 and LHAAP-67) and existing wells on

transferred properties. **Pending.** Survey work has been completed for new wells at LHAAP-46 and LHAAP-67 in April and May. Survey work for new wells just installed at LHAAP-35B(37), LHAAP-35A(58) and LHAAP-50 will begin the week of September 30th. LUC boundary surveys will be done under separate mobilizations. For sites not under AECOM's contract (all properties already transferred) USACE will compile and provide the well maps. This action item will be split into two pieces to reflect separate USACE and AECOM responsibilities to prepare well location maps and coordinate tables that will include all existing monitoring wells at Longhorn.

- Update LUC Management Plan by end of fiscal year. **Pending.** Because no LUCs were recorded during FY2013, Army proposed the LUC Management Plan be updated through addition of a one-page document approval notice stating no changes have been made to the plan for the FY 2013. The MMM group in attendence concurred with Army's proposed action. LUCs for LHAAP-46 and other sites recently moved into the RAO phase will be recorded in FY 2014 and will be captured in the FY 2014 plan update to be performed during the first quarter of FY 2015.

EPA

TCEQ

AEC

Defense Environmental Restoration Program (DERP) PBR Update AECOM

- Upcoming document submissions to regulators (see Document and Issue Tracking table)

Item 1(5-Year Review Report) – Response to TCEQ comments planned for submittal to the agency by September 26th. EPA comments are pending.

Item 2 (SOPs) – Response to TCEQ comments planned for submittal to the agency by September 27th. Mr. Mayer stated that EPA comments may be provided next week.

Item 3 (IWWP, QAPP, and HASP) – Due to other priorities within the document review workload, the due date for comments on these documents will be pushed back to October 11th. Dr. Zeiler, Ms. Palmie and Mr. Mayer concurred that delay of review of these documents does not pose a significant problem given that the previous documents are in place for use until these revisions are reviewed and finalized.

Item 4 (LHAAP-18/24 – Explanation of Significant Differences) – Air monitoring data for May 21st through August 19th was submitted on September 19th. Dr. Zeiler asked AECOM for advanced warning and prior discussion if any future situation occurs where a large amount of backlogged data must be released.

The group discussed changing frequency of air monitoring from weekly to monthly, given that a year of weekly data showing Texas air standards are being met has been collected. Frequency of air monitoring is not addressed in the ESD, in order to provide maximum flexibility as conditions change. Dr. Zeiler stated that frequency of monitoring is probably best handled through discussion within the Managers' group to obtain concurrence from the agencies on any changes. Ms. Palmie and Mr. Mayer concurred with a change to monthly sampling, with the caveat that the operating conditions of the plant remain the same as that over the last year when the air data was collected.

Army will develop a letter to the agencies describing the proposed monitoring frequency change from weekly to monthly that:

-Provides basis of change from weekly to monthly sampling as the data collected over the last year;

-States that monthly data will be presented in the quarterly GWTP reports, but that an email notification will be made after each sampling event (but before the subsequent sampling event) to indicate 1) that data from that sampling event has been reviewed and 2) whether results did or did not exceed concentration limits;

-Describes a contingency plan for confirmation sampling if initial sampling indicates air limits have been exceeded; and,

-States that frequency of monitoring is subject to change based on plant operating conditions, sampling results and a change in load.

Army legal has provided comments on the draft ESD. Those comments will be incorporated and the draft document submitted to the agencies for review.

Item 5 (GWTP Quarterly Report) – As requested by Ms. Palmie, air monitoring data will be included in the quarterly reports beginning with the Q3 2013 report.

Hard copies of the Q4 2012 and Q1 2013 final reports have been mailed. Responses to TCEQ's comments on the Q2 2013 draft report are being developed. EPA comments on the Q2 2013 report are pending.

Mr. Becher and Ms. Palmie stated that they have not received any hard copies of the quarterly reports since the Q4 2012 report. Ms. Palmie stated that hard copies and comprehensive support data must be provided to allow review of especially the draft documents. Dr. Zeiler suggested, and Ms. Palmie agreed, that the current document distribution table be provided to the agencies for review to ensure their recipients and format preferences are correctly noted.

Item 6 (LHAAP-46 and LHAAP-67 RACRs) – RACR reports in progress. Preliminary LUC boundary maps will be prepared and submitted to stakeholders for review. Ms. McDonnell stated that LUC surveys for these sites and others (LHAAP-35B(37), LHAAP-50 and LHAAP-35A(58) should be prepared and ready for recording by the December/January RAB. Current ROD language says the LUC must be recorded within 90 days of the completion report. Dr. Zeiler noted that resolution of the dispute may change deadlines for recordation.

Item 7 (Monthly Managers' Meeting) – Action item review from last meeting indicates the following outstanding items:

-Develop map of new wells to submit to stakeholders – Pending. Discussed during Action Item review.

-Data Validation Technical Memo. Pending. Validation reports for perimeter and surface water data should be submitted to USACE as an attachment to an explanatory technical memo, and then added to the Administrative Record.

-Draft boundaries for LHAAP-46 and LHAAP-67 LUCs for stakeholder review – Pending. Discussed during Action Item review.

Item 8 (LHAAP-37, 50 and 58) – Ms. McDonnell provided an update on the progress of field work. All well drilling and development work has been completed for these sites as of September 23rd and that crew has demobilized from the site. An AECOM crew has been on site since yesterday

conducting the initial EISB injection event at LHAAP-58. Three injection locations were completed yesterday without issues, and that work is project to continue until Thursday.

Items 9, 10 and 11 (LHAAP–29 PSI WP, LHAAP-17 PDI WP, LHAAP-16 RD WP) – Placeholders for documents in Army review.

Item 12 (LHAAP-18/24 Data Gap Report) – TCEQ comments were received on August 29th. EPA comments were received on September 23rd, making October 23rd the new date for Army to submit the Draft Final Data Gap Report. However, the number of EPA comments may require Army to request an extension.

Item 13 (LHAAP-03 Record of Decision) – On September 23rd, EPA requested a 30-day extension of the comment resolution period, making our revised due date October 23rd. Army is preparing RTCs for comments resolved during the conference call last week. Ms. Palmie expressed her disappointment that LHAAP-03 was pulled into the dispute and that the work at this site will also be delayed.

Item 14 (October RAB) - Scheduled for October 29th at 6pm. Dr. Zeiler has inquired with the RAB members regarding the status of their potential new members. She received two replies (Charles Dixon and Carol Fortune), but has not heard back from the RAB co-chair, Mr. Fortune. Dr. Zeiler will send another email during the first week in October to attempt again to get feedback from Mr. Fortune. Mr. Mayer stated that he will not be attending the meeting, but Mr. Torcoletti and Mr. Becher will be present.

Item 15 (GWTP O&M / Air Monitoring) – Discussed air monitoring under Items 4 and 5. While FBR feeding is being evaluated for optimization, the metals precipitation process is also being optimized.

Item 16 (Administrative Record Update) – 2nd quarter 2012 Administrative Record update is planned for submittal to agencies by the end of the month.

Item 17 (BERA Field Work) – The BERA contractor will initiate field work by the middle of October. They plan to be in the field for two weeks.

Item 18 (BERA Addendum) – The BERA Addendum is planned for submittal to the agencies in December, pending results of field activities.

Item 19 (Nutrient Issue for Harrison Bayou and INF Pond) – Placeholder for reporting to take place later this Fall.

Item 20 (LHAAP-18/24 Revised Feasibility Study) – EPA comments on the Draft Data Gap Report received September 23rd, so October 23rd marks the end of the 30-day response period. Given the number of EPA comments, it is likely that an extension of the comment response period will be requested, resulting in the Data Gap Report being finalized later than expected, which will push back the schedule for the Draft Revised Feasibility Study. Also discussed under Item 12.

Item 21 (LUC Management Plan) – Discussed Under Action Item review.

Item 22 (CRP) – EPA responses to CLI comments were received today. Army's goal is to have the document finalized before the next RAB.

- Upcoming field work – Discussed under Items 8 and 17
- Monthly data
- Technical Memorandum for surface water and perimeter well data – Ms. McDonnell stated that this document is in progress. Discussed in Item 7 above and in Action Item review.
- Quarterly reports – Discussed in Item 5, above.
- Groundwater Treatment Plant – All items discussed earlier in the meeting.
    - Air Monitoring – Discussed in Item 4, above.
    - INF Pond Topsoil and erosion control status – additional seed has been placed in some areas and watering is being conducted to facilitate growth
    - GWTP Longer-Term Plan – Discussed in Item 15 above
    - Sprinkling of Treated Water – Ms. Palmie made a comment regarding AECOM's statement that returning treated water to the surface through sprinkling is beneficial to help flush contaminants from the vadose zone, allowing for capture through the extraction system. Sprinkling is currently used only when discharge to Harrison Bayou is not possible, but in light of AECOM's comment, TCEQ would like Army to consider whether using sprinkling more extensively would be beneficial, especially now that we have done the data gap study and know where our contaminants are and how the containment system is performing.

Other DERA Program Update **Army**

- Status of Supplemental BERA – Discussed in Items 17-18, above.
- Five Year Review Report Update – Discussed in Item 1, above.

MMRP Update **Army**

- Update – no update

Other Environmental Restoration **Army**

- Decision Documents for multiple sites – status update – Waiting on resolution of LHAAP-19, which will be discussed on September 25th.
- Site 37 Bioplug – Agency comments on the draft report have been submitted to Mr. Fabian at APG.
- 1,4-dioxane sampling at Longhorn – Mr. Mayer will be compiling EPA chemist and lab comments regarding analysis and will submit to the group.

Programmatic Issues **RMZ/RM/AP**

- Status of Dispute – no update

USFWS Update **RMZ/PB**

- Environmental Restoration Issues with Transfer Schedule Impact – Dr. Zeiler has provided information on the property transfer process to Brad Sargent in the USFWS Division of Realty office in Albuquerque.
- USFWS Comments on Documents – no comments

Schedule Next Managers' Meeting – Will be held at the LHAAP Army Trailer on October 29th at 12PM. Those not attending in person will attend by teleconference.

Adjourn

New Action Items

AECOM

- Develop a letter responsive to stated aspects of modifications to the GWTP air sampling plan. Provide basis of change from weekly to monthly sampling. State that monthly data will be presented in the quarterly GWTP reports, but that an email notification will be made monthly (before the subsequent sampling event) to indicate that data has been reviewed and provide a summary of the results. Describe a contingency plan for confirmation sampling if initial sampling indicates air limits have been exceeded.
- Provide the document distribution table to MMM participants for review to ensure recipients and format preferences are correctly noted.
- Provide USFWS with maps of well coordinates for existing and new wells at all sites under AECOM's contract.
- Include all GWTP air monitoring data in quarterly reports, starting with the Q3 2013 report.
- Evaluate/consider whether surface application of treated groundwater should be implemented at a higher rate to encourage flushing of contaminants.

ARMY

- Provide USFWS with maps of well coordinates for wells at all sites that have been transferred to USFWS and are not under AECOM's contract.

EPA

- Provide summarized EPA chemist comments on 1,4-dioxane analyses.

AEC

ACRONYM LIST

AEC	**United States Army Environmental Command**
AECOM	**AECOM Technology Services, Inc.**
AP	**April Palmie**
APG	**Aberdeen Proving Grounds**
BERA	**Baseline Environmental Risk Assessment**
BRAC	**Base Realignment and Closure**
CLI	**Caddo Lake Institute**
CRP/CIP	**Community Relations Plan / Community Involvement Plan**
DERA	**Defense Environmental Restoration Act**
DERP	**Defense Environmental Restoration Program**
DSMOA	**Defense and State Memorandum of Agreement**
EISB	**Enhanced In-Situ Bioremediation**
EPA	**United States Environmental Protection Agency**
ESD	**Explanation of Significant Differences**
FBR	**Fluidized Bed Reactor**
FY	**Fiscal Year**
GWTP	**Ground Water Treatment Plant**
HASP	**Health and Safety Plan**
INF	**Intermediate-Range Nuclear Forces**
IWWP	**Installation-Wide Work Plan**
LHAAP	**Longhorn Army Ammunition Plant**
LUC	**Land Use Control**

MMM	**Monthly Managers' Meeting**
MMRP	**Military Munitions Response Program**
O&M	**Operation and Maintenance**
PB	**Paul Bruckwicki**
PBR	**Performance-Based Remediation**
PDI	**Pre-Design Investigation**
PE	**Professional Engineer**
PSI	**Post-Screening Investigation**
Q1	**First Quarter**
Q2	**Second Quarter**
Q3	**Third Quarter**
Q4	**Fourth Quarter**
QAPP	**Quality Assurance Project Plan**
RAB	**Restoration Advisory Board**
RACR	**Remedial Action Completion Report**
RD	**Remedial Design**
RM	**Rich Mayer**
RMZ	**Rose M. Zeiler**
ROD	**Record of Decision**
RTC	**Response to Comments**
SOP	**Standard Operating Procedure**
TCEQ	**Texas Commission on Environmental Quality**
USACE	**United States Army Corps of Engineers**
USFWS	**United States Fish and Wildlife Service**
USGS	**United States Geological Survey**
WP	**Work Plan**

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

August 12, 2015

DAIM-ODB-LO

Mr. Rich Mayer
US Environmental Protection Agency
Federal Facilities Section R6
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Draft Final 2014 Remedial Action Operation Report for LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

Dear Mr. Mayer,

The above-referenced document is being transmitted to you for your records and includes revisions based upon your comments on the Draft. In accordance with the FFA, the Draft Final will be considered Final after 30 days without further comment.

The document was prepared by AECOM on behalf of the Army as part of AECOM's Performance Based Remediation contract for the facility. I ask that Mark Heaston, AECOM's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
A. Palmie, TCEQ, Austin, TX
D. Vodak, TCEQ, Tyler, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
R. Paul, USAEC, San Antonio, TX
M. Heaston, AECOM – San Antonio, TX (for project files)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

August 12, 2015

DAIM-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Draft Final 2014 Remedial Action Operation Report for LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

Dear Ms. Palmie,

The above-referenced document is being transmitted to you for your records and includes revisions based upon your comments on the Draft. In accordance with the FFA, the Draft Final will be considered Final after 30 days without further comment.

The document was prepared by AECOM on behalf of the Army as part of AECOM's Performance Based Remediation contract for the facility. I ask that Mark Heaston, AECOM's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
R. Mayer, USEPA Region 6, Dallas, TX
D. Vodak, TCEQ, Tyler, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
R. Paul, USAEC, San Antonio, TX
M. Heaston, AECOM, San Antonio, TX (for project files)

Responses to Comments on
Draft 2014 Remedial Action Operation Report for Site LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

June 2015

Reviewer: Richard Mayer, EPA

Respondent: Mark Heaston, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
1		General	The report should include a contingency plan/pathway for determining whether monitoring well 12WW24 needs to be replaced (due to the bailing of the well). While the EPA recognizes that the well has been sampled the past two years, the DO and ORP data was not valid. These are some key data to support the MNA evaluation at the Site. Hopefully, the recent rains this year may make this decision pathway mute.	D	The first two years of sampling for site 12 were conducted quarterly and included natural attenuation parameters to evaluate both primary and secondary lines of evidence. The results of the first two years of quarterly sampling documented that degradation is occurring at the site. The remedy for the site has achieved OPS. In accordance with the RD, geochemical parameters are no longer sampled and the subsequent annual reports focus on trend analysis for the primary COCs. The bailing technique does not affect VOC (primary COC) results, therefore a contingency plan to replace 12WW24 is not required. With the rain quantities received since April 2015, it is expected that adequate water will be present in the well for low-flow sampling to be used in the future and for representative ORP and DO parameters to be collected, rendering the comment moot.	

Responses to Comments on
Draft 2014 Remedial Action Operation Report for Site LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

June 2015

Reviewer: Richard Mayer, EPA

Respondent: Mark Heaston, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
2	2-3	Section 2	As recommended in the EPA comments on the 2012 and 2013 RAO Report, the Army should be performing more robust statistical analyses of these data to support MNA evaluation. A concentration-time plot by itself, such as presented in Figure 2-3, is only one piece of multiple lines of evidence needed to demonstrate MNA. The Report does not include other lines of evidence. The sample taken in January 2015 from well 12WW24 was the second highest concentration of TCE measured since December of 2006 and the second consecutive increase. EPA recommends using the following Guidance: An Approach for Evaluating the Progress of Natural Attenuation in Groundwater, EPA 600-R11/204, December 2011/www.epa.gov/ada.	E	Agree with EPA that a plot of concentration of time is not sufficient on its own. The concentrations were subjected to Mann-Kendall trend analysis with and without the last two data points. The Mann-Kendall was conducted using EPA Pro UCL ver 5.0.0. The analysis indicated a significant decrease in TCE concentration in 12WW24 has occurred through June 2011. However, due to the drought condition and the change in seasonal sampling which has seen an increase in TCE concentration in this well in the last two sampling events, the Mann-Kendall statistics did not show a significant decreasing trend although a general decreasing trend was observed. The Mann-Kendall information is introduced as Appendix G. As stated in response to comment #1 above, in accordance with the RD, geochemical parameters are no longer sampled and the subsequent annual reports focus on trend analysis for the primary COCs.	
3	Table 2-4	Section 2	Please include the sampling results for January 2015 in this Table.	C	January 2015 results were added to Table 2-4.	
4	Page 2-2	1st Paragraph	What is the current projected time for the cleanup of TCE (in the groundwater) to the MCL?	C	Based on all the data and using a first order decay rate, the projected time for TCE to reach the MCL is estimated at 250 years. Without the last two data points (i.e., between 2006 and 2011), the projected time to reach the MCL is estimated at 15 years. The drought conditions along with changes in seasonal sampling have constrained the trend observed between 2006 and 2011. Additional data will be evaluated under normal weather conditions to confirm projected estimates regarding time frame to cleanup.	

Responses to Comments on
Draft 2014 Remedial Action Operation Report for Site LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

June 2015

Reviewer: Richard Mayer, EPA

Respondent: Mark Heaston, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
5	Figure 2-4	Section 2	Please include boring 12WW25 on the Figure and take off the "NS" symbol from the Notes.	C	Changes made to Figure 2-4 as indicated.	
6	Page 3-1	3rd Paragraph	The EPA notes that the groundwater sampling results from temporary boring 12WW25 indicate that the COCs detected are below MCLs; however, the question is: are these results indicative of a plume that is decreasing/degrading or a plume that is migrating laterally to the east from contaminated well 12WW24?	E	This is indicative of an extremely small plume with no evidence of migration. All parties agreed that due the limited size of the plume an additional well installed less than 50 feet from 12WW24 was not practical.	
7	Page 3-1	Last Paragraph	So if monitoring well 12WW22 is only monitored once every five years, what well will be used as a background well for the annual monitoring?	E	The intended objective for 12WW22, per the RD Groundwater Sampling Plan, is to meet the RAO for preventing TCE contaminated groundwater from migrating into nearby surface water. No background well was required in the sampling plan.	

Responses to Comments on
Draft 2014 Remedial Action Operation Report for Site LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

June 2015

Reviewer: Richard Mayer, EPA

Respondent: Mark Heaston, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
8		General	As has been repeatedly expressed in EPA comments on other documents, the DO and ORP measurements presented in the Monitoring Well Sample Collection Forms (Appendix C) are notable, and the EPA questions some of the data. Please consider:			
			• Is it realistic to have DO concentrations of 0 in shallow groundwater at any location, especially those located outside of the plume (where anaerobic reductive dechlorination is not supposed to be occurring)? This is the case at monitoring wells 12WW23 and 12WW21.	C	Zero DO readings in clean well in shallow zone aquifers may not be representative of aquifer conditions as levels above zero would be expected. Non-impacted wells should generally reflect natural aerobic aquifer conditions.	
			• While the EPA recognizes that low water levels necessitated sampling of 12WW24 by bailing, the DO and ORP values are clearly not representative of a plume where anaerobic reductive dechlorination is purported to be occurring. This undoubtedly is a function of the sampling method. These are key data to support the MNA evaluation. If a well is bailed, do not take DO or ORP values, as they are not representative of the aquifer.	C	ORP and DO data from bailed wells will not be used.	
			• Monitoring well 12WW22 had very low DO readings and negative ORP readings (except for the first reading). This well is located hydraulically upgradient and is located over a 1000 feet from contaminated well 12WW24. Are these readings correct?	C	Previous sampling events have provided similar results for 12WW22 and while the results could be considered contradictory, literature indicates it is possible to have a positive DO value and a negative ORP value. Based on this information, we believe the readings are correct.	

Responses to Comments on
Draft 2014 Remedial Action Operation Report for Site LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

June 2015

Reviewer: April Palmie, TCEQ

Respondent: Mark Heaston, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
1	2-1	Section 2.1	First bullet of O&M activities says desiccation cracks, erosion, or gullying will be repaired upon observance. Why wasn't the 18" subsidence area repaired? Please repair this and any subsidence areas upon observation.	C	Concur with comment. A portion of the subsidence area has been repaired by backfilling eroded area with top soil and adding matting to enhance grass growth. A load of top soil is under order and will be used to patch the other two small subsidence areas.	
2	2-3	Section 2.2	States: Water samples were collected using the low-flow method Standard Operating Procedure (AECOM, 2013). According to the field notes, 12WW24 was bailed dry and sampled after recovery. This should be in the narrative. Please revise to reflect well was bailed and explain why. [I copied/pasted this comment from last report comments - this is consistently misstated]	C	Revised text to indicate that monitoring well 12WW24 was bailed because of insufficient water in the well to support low-flow sampling.	
3	2-3	Section 2.2	Last paragraph – I concur with EPA's comment (comment 2) regarding lack of evidence to support MNA. It will continue to be difficult to conduct trend analysis based on one plume data point.	C	See response to EPA's Comment #2. Because 12WW24 is the only well with CoCs above the MCL, it is the only well of interest. The attempt to install a second well within the plume on September 8, 2014 included the installation of a boring and collection of a grab groundwater sample. The results of the grab groundwater sample were barely detectable levels of COCs TCE (0.317 ug/L) and cis-1,2-DCE (0.402 ug/L) which indicated that the plume is extremely small. All parties agreed that due the limited size of the plume an additional well installed less than 50 feet from 12WW24 was not practical.	
4	Table 2-4	Section 2	Add January 2015 TCE results. You could change title to "Cumulative" rather than "Historic"	C	Added January 2015 TCE concentration and changed title to "Cumulative".	

Responses to Comments on
Draft 2014 Remedial Action Operation Report for Site LHAAP-12, Landfill 12
Longhorn Army Ammunition Plant, Karnack, Texas

June 2015

Reviewer: April Palmie, TCEQ

Respondent: Mark Heaston, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
5	3-1	Section 3	Third paragraph – Extra period in the paragraph before "Limited". Last paragraph – If 12WW22 sampling is reduced to once per five years, what well serves as background well?	C E	Removed extra period. The intended objective for 12WW22, per the RD Groundwater Sampling Plan, is to meet the RAO for preventing TCE contaminated groundwater from migrating into nearby surface water. No background well was required in the sampling plan.	

From: Mayer, Richard [mailto:mayer.richard@epa.gov]
Sent: Thursday, September 03, 2015 4:38 PM
To: Zeiler, Rose M CIV USARMY HQDA ACSIM (US)
Cc: 'Williams, Aaron K SWT'; Forsythe, Barry; 'Dale Vodak'; Tzhone, Stephen; Burton, Terry; 'april.palmie@tceq.texas.gov'; 'paul_bruckwicki@fws.gov'; 'Smith, Richard P SWT'; 'Becher, Kent'; Torcoletti, Paul; Turner, Philip; Heaston, Mark; 'nicholas.b.smith56.civ@mail.mil'; Salameh, Marwan
Subject: FW: EPAs Approval of the Draft Final 2014 Remedial Action Operation Report for Longhorn Site 12 (Plus the RTCs)

Rose, EPA approves the Draft Final 2014 Remedial Action Operation Report for Longhorn Site 12. Below are EPA's Responses to the Army RTCs on the Draft 2014 Remedial Action Operation Report.

1. Concur; however, the Army takes a risk by relying only on the concentration levels for the COCs in determining whether MNA is occurring. For TCE, the 2006 concentration was 404 ug/l at 12WW24. In January of 2015, the concentration level for TCE was 353 ug/l, a 17% decrease. Also, only time will indicate whether 12WW24 will need to be replaced.

2. Concur, the Mann-Kendall information was added.

3. Concur, January 2015 results were added.

4. Concur.

5. Concur, changes were made to Figure 2-4.

6. Concur.

7. Concur.

8. Concur.

From: April Palmie <april.palmie@tceq.texas.gov>
Sent: Thursday, August 20, 2015 9:45 AM
To: Heaston, Mark; 'richard.p.smith@usace.army.mil'
Cc: 'aaron.k.williams@usace.army.mil'; 'rose.m.zeiler.civ@mail.mil'; 'richard.p.smith@usace.army.mil'; 'nicholas.b.smith56.civ@mail.mil'; 'robin.e.paul4.civ@mail.mil'; Salameh, Marwan; Snow, JoLynn
Subject: RE: FOR AGENCY REVIEW- LHAAP-12 Draft Final RAO Report

Good morning. I've reviewed the RTC for LHAAP-12 Draft Final RAO Report and accept the responses.

April Palmie
Project Manager
Superfund Section
Remediation Division
Texas Commission on Environmental Quality
Phone: (512) 239-4152
Email: April.Palmie@tceq.texas.gov

From: Heaston, Mark [mailto:Mark.Heaston@aecom.com]
Sent: Wednesday, August 12, 2015 8:07 PM
To: April Palmie; 'richard.p.smith@usace.army.mil'
Cc: 'aaron.k.williams@usace.army.mil'; 'rose.m.zeiler.civ@mail.mil'; 'richard.p.smith@usace.army.mil'; 'nicholas.b.smith56.civ@mail.mil'; 'robin.e.paul4.civ@mail.mil'; Salameh, Marwan; Snow, JoLynn
Subject: FOR AGENCY REVIEW- LHAAP-12 Draft Final RAO Report

Good Evening April and Rich,

Please find attached transmittal letters for the Draft Final LHAAP-12 2014 RAO Report. Due to large file size, the subject document, transmitted under cover of the attached letters, will be transmitted to you via SendFiles. You should receive the SendFiles notification shortly. I have also included the Draft RTC tables and a Redline of the Draft text to make tracking of the changes easier.

Mark Heaston
Senior Scientist
AECOM Environment
D (402) 643-9823 C (570) 394-0487
mark.heaston@aecom.com

DRAFT FINAL
2014 REMEDIAL ACTION OPERATION REPORT
LANDFILL 12 (LHAAP-12)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Prepared By:

AECOM

AECOM Technical Services, Inc.

August 2015

DRAFT FINAL
2014 REMEDIAL ACTION OPERATION REPORT
LANDFILL 12 (LHAAP-12)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corp of Engineers

Tulsa District

Prepared By:

AECOM Technical Services, Inc.

Contract No. W912DY-09-D-0059

Task Order No. DS01

August 2015

Table of Contents

1 INTRODUCTION ***1-1***

1.1 Remedial Action Operation Scope and Objective **1-1**

1.2 Site Description **1-1**

2 OPERATIONS AND MAINTENANCE ACTIVITIES AT LHAAP-12 ..... ***2-1***

2.1 Physical Inspection Summary **2-1**

2.2 Groundwater Monitoring and Analytical Results **2-1**

3 CONCLUSIONS ***3-1***

4 REFERENCES ***4-1***

List of Figures

Figure 2-1: LHAAP-12 Groundwater Monitoring Well Locations Map

Figure 2-2: Groundwater Gradient Map 2013 and 2014

Figure 2-3: Trichloroethene, cis-1,2-Dichloroethene, and Vinyl Chloride Concentrations in 12WW24

Figure 2-4: Groundwater COC Concentrations Map 2014

List of Tables

Table 2-1: Monthly Groundwater Levels – LHAAP-12

Table 2-2: Groundwater Elevation Data – LHAAP-12

Table 2-3: Groundwater Analytical Results, Year 7 – LHAAP-12

Table 2-4: Cumulative TCE Concentrations (ug/L) at LHAAP-12 Monitoring Wells

List of Appendices

APPENDIX A: PHOTO LOG

APPENDIX B: LUC INSPECTION AND MAINTENANCE LOG

APPENDIX C: 12WW25 DPT LOG & INSTALLATION MEMO

APPENDIX D: GROUNDWATER GRADIENT MAPS

APPENDIX E: MONITORING WELL SAMPLING FORMS

APPENDIX F: LABORATORY ANALYTICAL RESULTS

APPENDIX G: MANN-KENDALL STATISTICS FOR TREND IN 12WW24 FOR TCE

Acronyms and Abbreviations

µg/L	micrograms per liter
AECOM	AECOM Technical Services, Inc.
bgs	below ground surface
cis-1,2-DCE	cis-1,2-dichloroethene
COC	contaminant of concern
IRA	Interim Remedial Action
LHAAP	Longhorn Army Ammunition Plant
LHAAP-12	Landfill 12
LUC	Land Use Control
MCL	maximum contaminant level
MNA	Monitored Natural Attenuation
No.	Number
RA(O)	Remedial Action Operation
RD	Remedial Design
ROD	Record of Decision
TCE	trichloroethene
U.S.	United States
VC	vinyl chloride
VOC	volatile organic compound

1 INTRODUCTION

The United States (U.S.) Army Corps of Engineers, Tulsa District, contracted AECOM Technical Services, Inc. (AECOM), to perform remedial activities at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, under the Huntsville District's Worldwide Environmental Restoration Services Contract Number (No.) W912DY-09-D-0059, Task Order No. DS01. As part of this contract, AECOM is performing operations and maintenance and monitoring activities at the closed Landfill 12 (LHAAP-12). A Final Record of Decision (ROD) was executed for LHAAP-12 in August, 2006 (Shaw, 2006). Groundwater monitoring and site inspection activities at LHAAP-12 are ongoing as described in the Final Remedial Design (RD) Addendum (Shaw, 2007). This report summarizes the results of January 2015 groundwater sampling and the November 2014 landfill integrity inspections and repairs.

1.1 Remedial Action Operation Scope and Objective

Work completed as part of the Remedial Action Operation (RA[O]) at LHAAP-12 consisted of the following components: physical inspections and repairs; monthly water level measurements of current wells; MNA evaluation; and groundwater monitoring. Physical inspections are conducted at a minimum annually to confirm compliance with Land Use Control (LUC) objectives, which consist of ensuring the integrity of the existing landfill cover, and ensuring no consumption of trichloroethene (TCE)-contaminated groundwater. Monthly groundwater levels have been measured at site 12 since October 2014 to assess optimum sampling dates to avoid dry wells. This activity was recommended for a year. The objectives of groundwater monitoring at LHAAP-12 are to ensure that contaminated groundwater does not migrate into nearby surface water and to perform Monitored Natural Attenuation (MNA) so that maximum contaminant levels (MCLs) are achieved for groundwater contaminants of concern (COCs): TCE, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). The remedy at Site 12 is functioning as intended and all human risks are currently under control. This report summarizes the results of groundwater sampling and the landfill integrity inspections and repairs.

1.2 Site Description

LHAAP-12 was established in 1963, covers approximately seven acres, and is 500 feet southeast of Central Creek, which eventually drains into Caddo Lake. LHAAP-12 was used for the disposal of industrial solid wastes, possibly containing small quantities of hazardous constituents generated at LHAAP. From 1978 until its closure in April 1994, the landfill was used continuously for the disposal of non-hazardous industrial solid waste, including cafeteria waste, chemical waste, petroleum-contaminated soil, and asbestos. The construction of a landfill cap over the site was completed in 1998 as part of an Interim Remedial Action (IRA). The IRA is consistent with U.S. Environmental Protection Agency presumptive remedy guidance. The final remedy for LHAAP-12 is protective of human health and the environment and consists of LUCs in conjunction with MNA. LUCs include those set in place by the ROD (Shaw, 2006) for landfill cap maintenance and restriction of groundwater use.

2 OPERATIONS AND MAINTENANCE ACTIVITIES AT LHAAP-12

Physical inspection activities at LHAAP-12 consist of:

- Maintenance of the integrity of the landfill cap and repairs to desiccation cracks, erosion, or gullying upon observance.
- Maintenance of the vegetative cover on the landfill cap, including periodic mowing.
- Maintenance of the signage around landfill cap.
- Prohibition of any activities that would affect the integrity of the cap.
- Prohibition of any activities that would cause exposure to contaminated groundwater.

The RD Addendum stipulated physical inspections to be conducted annually, although actual inspections are conducted more frequently with daily drive-by oversight to ensure compliance with the above requirements and annual groundwater sampling to monitor the effectiveness of MNA in reducing contaminant concentrations over time. The effectiveness of MNA was evaluated in the Years 1 and 2 report (Shaw, 2011). Groundwater was included as a component of the remedy for LHAAP-12 identified in the ROD (Shaw, 2006).

2.1 Physical Inspection Summary

Inspections conducted on 21 November 2014 indicated that minimal repairs were needed. The vegetative cover was observed to be in good condition and well-maintained through routine mowing. No evidence of subsidence that was repaired by AECOM conducted during 2013 was observed. A single small area of subsidence, separate from the 2013 repaired area, approximately 18" in depth was observed along the western edge of the landfill. Inspections conducted during 2014 indicated that no repairs to the cap were needed, and the area of subsidence will be observed to ensure the landfill cap cover continues to cover landfill contents. Six separate locations of surface erosion that were observed during the November 2013 inspection, and were addressed through re-seeding, were found to be in good condition during the 2014 inspection. No excessive cracking or desiccation was observed.

A tree was observed down along the fence line at the south west corner of the landfill, and was removed during the inspection. Signage remains in good condition and the fencing is intact (See Photo Log, **Appendix A**). Well-head locks continue to be in good condition. No damage to bollards, pads, or protective casings was observed, and no encroachment of weeds or brush on the well pads was observed. (See Photo Log, **Appendix A**). No change in land or groundwater use was observed at the site and the use of the site is consistent with that mandated by the ROD (SHAW, 2006). No significant issues were identified regarding the cap condition or maintenance, signs, or site use.

The official 2014 physical inspection of the LHAAP-12 cap was completed November 21, 2014. The LUC Inspection and Maintenance Log is included in **Appendix B**.

2.2 Groundwater Monitoring and Analytical Results

As described by the Groundwater Sampling Plan included in the RD Addendum (Shaw, 2007), groundwater sampling of monitoring wells (12WW20, 12WW21, and 12WW24) and compliance monitoring wells (12WW22 and 12WW23), has been conducted annually beginning in the third

year of the RA(O). The Purpose of the sampling was to develop data to support the effectiveness of MNA in reducing contaminant concentrations over time, to evaluate plume migration, and to ensure that TCE-contaminated groundwater does not impact nearby surface water. The locations of these groundwater monitoring wells are shown in **Figure 2-1**. During the 2015 sampling event, all five wells were in good condition and no evidence of turbidity or silt accumulation was identified.

A DPT boring was installed on September 8th, 2014 at the proposed LHAAP-12 new well 12WW25 location (50 feet down-gradient/east of plume well 12WW24) to guide well installation. The field log for 12WW25 and the memorandum for installation of an additional well are presented in **Appendix C**. The boring was drilled to a depth of 35 feet, with visibly wet soils encountered starting at 25 feet below ground surface (bgs) and an assemblage of sands from 15 – 30 feet bgs. A grab groundwater sample was collected from this boring to confirm its location within the plume. Analytical results identified low levels of COCs TCE (0.317 micrograms per liter [ug/L]) and cis-1,2-DCE (0.402 ug/L) below the MCL, along with similar levels of methylene chloride, benzene, chlorobenzene and 1,4-dichlorobenzene.

The proposed 12WW25 location is not within the plume above the clean-up criteria observed at 12WW24, so a permanent monitoring well will not be installed. This approach was discussed between the Army, EPA, and TCEQ with EPA and TCEQ providing concurrence via email September 17, 2014 and September 18, 2014, respectively. As discussed, a plume this limited in size does not justify the installation of additional wells; however, monthly groundwater level monitoring will be completed for a year in order to assess optimum sampling dates to avoid dry wells. Twelve (12) consecutive monthly groundwater levels for the eight (8) site wells began in October 2014 and the first seven (7) gauging events are presented in Table 2-1. The collected data show consistent trends in water levels with increase in groundwater level observed since measurements began in October 2014. The average increase in water level over the period between October 2014 and March 2015 is 0.66 feet to 3.57 feet with the highest elevation increase occurring in 12WW22, the most upgradient well, and the lowest occurring in 12WW23, the most downgradient well. None of the wells were dry. Because there is no change in the groundwater flow direction between 2013 and 2014 as depicted in **Figure 2-2**, the MNA network of well continues to represent site conditions and no change is recommended. This is corroborated with monthly potentiometric plots of the groundwater levels in the eight (8) wells that were collected between October 2014 and March 2015. The potentiometric plots are presented in **Appendix D** and indicate that the groundwater flow is primarily to the east with occasional slight shift to the northeast and/or southeast. The addition of gauging data from wells 12WW01, 12WW02, and 12WW05 did not change the understanding of groundwater flow at the site even though groundwater levels have increased between 0.66 and 3.57 feet over this time period. Based on the groundwater flow direction which is primarily to the east, the network of wells monitored while appear to be adequate, could be optimized. For example monitoring well 12WW22 is an upgradient well at a great distance from the landfill. This well has historically been sampled to ensure the plume is not migrating to the creek, however based on groundwater flow direction and considering there has been no detections in this well to date, sampling this well can be reduced from annually to once every five years. Additionally, monitoring well 12WW23 located downgradient and farther downgradient from the landfill relative to 12WW21 which remains unimpacted, does not provide additional information to understanding site

conditions. It is recommended to remove well 12WW23 from the network of monitored wells. Wells 12WW22 and 12WW23 will continue to be included in well gauging events.

Groundwater flow direction interpretation shows as south easterly flow, slightly changing from an easterly flow the previous year. The 2013 and 2014 groundwater elevation measurements are within historic range. Year 6 and 7 (i.e., 2013 and 2014) elevation data are plotted on **Figure 2-2**. Groundwater elevation data can be found on **Table 2-2**.

Annual samples were collected January 9, 2015 from wells 12WW20, 12WW21, 12WW22, 12WW23, and 12WW24 and were analyzed for volatile organic compounds (VOCs). Sampling was not conducted in December 2014 due to scheduling conflicts in the field. Analytical results for the samples are shown in **Table 2-3**. Historic COC concentrations for LHAAP-12 wells are shown in **Table 2-4**.

Water samples were collected using the low-flow method Standard Operating Procedure (AECOM, 2013) for wells 12WW20, 12WW21, 12WW22, and 12WW23. Monitoring well 12WW24 was bailed dry and sampled after recovery because of insufficient water in the well to support low-flow sampling. The objective of using this method was to collect representative samples of the groundwater in the formation adjacent to the well screen, eliminating the mixing of stagnant water above and below the well screen. After water quality parameters stabilized and were within acceptable ranges, samples were collected at the same low flow rate. Groundwater monitoring well sampling forms were completed for each monitoring well sampled and are included in **Appendix E**. Laboratory analytical results are included in **Appendix F**.

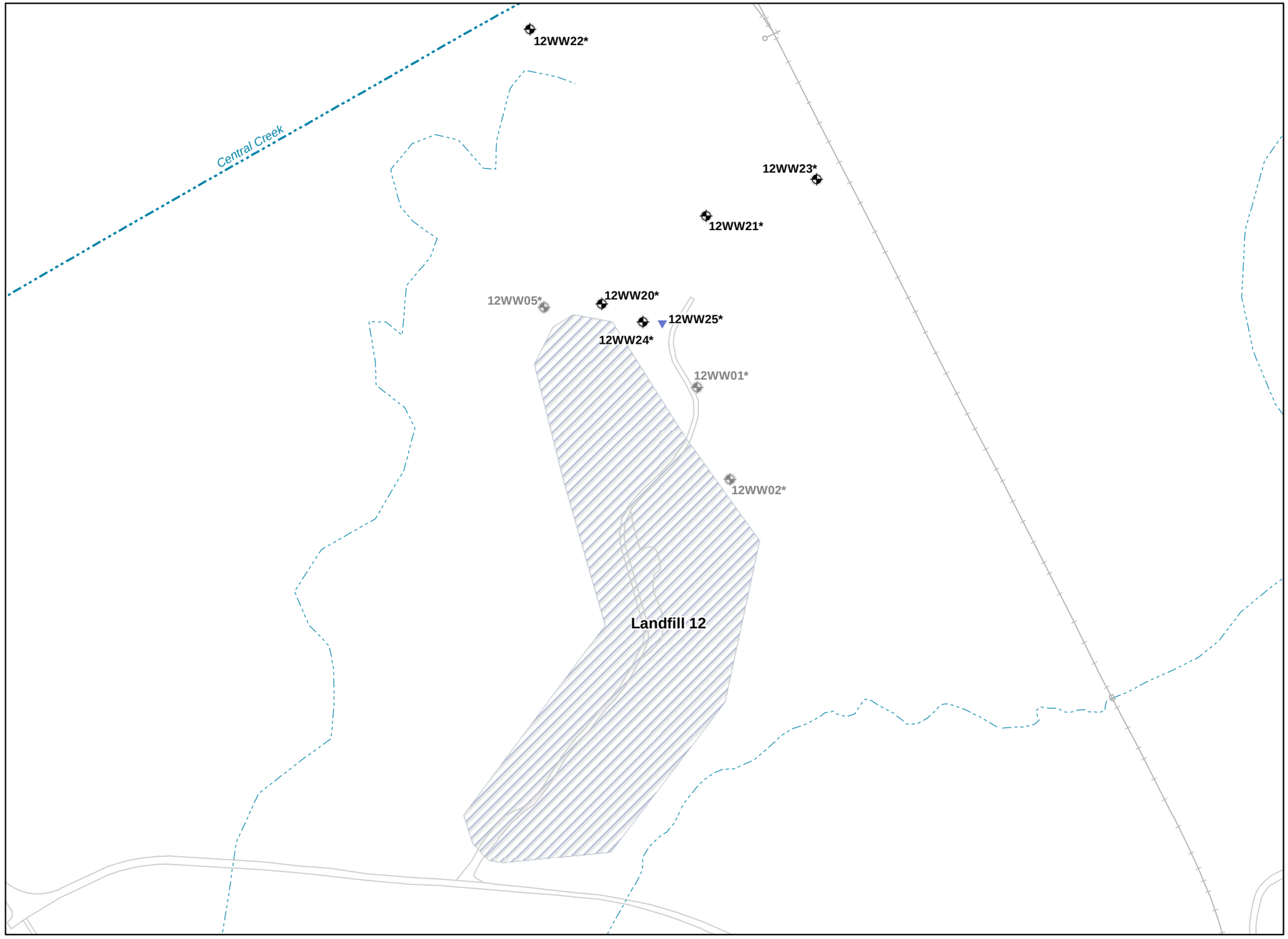
The MNA evaluation completed as part of the Five-Year Review (AECOM, 2014), concluded that TCE degradation was occurring via anaerobic reductive dechlorination. Although an increasing trend in TCE has been observed over the past two years (see **Figure 2-3** for 12WW24), the trend appears due to seasonal effect because both samples were collected in the winter season (December 2013 and January 2015). The groundwater elevation presented on **Figure 2-3** indicated an inverse correlation with constituent concentrations (-44% for TCE, -53% for cis-1,2-DCE, and -34% for VC), noting that these correlations do not account for natural attenuation mechanisms. Groundwater COC concentrations can be found on **Table 2-2** and seen on **Figure 2-4**.

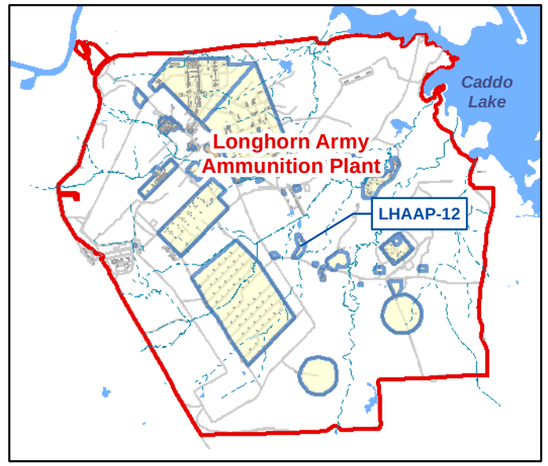
Statistical analysis of the concentration profile for TCE in 12WW24 using Mann-Kendall for trend was completed. The analysis was completed using EPA Pro UCL ver 5.0.0. The results shown in **Appendix G** indicate that a significant decrease in TCE concentration in 12WW24 has occurred through June 2011. However, due to the drought condition as evidenced by the dry well in December 2012 and the increase in TCE concentration in this well in the last two sampling events, the Mann-Kendall statistics did not show a significant decreasing trend although a general decreasing trend was observed. These results provide evidence that natural attenuation is occurring at this site, resulting in a decrease in TCE concentration in groundwater.

The concentration profile for TCE in 12WW24 shown in **Figure 2-3** was used to calculate a first order decay rate. The determination was made for the dataset through June 2011 and for the dataset that included the December 2013 and January 2015 results. This was conducted because drought conditions evidenced by the dry well in December 2012 were later manifested by an increase in TCE concentration in this well in the last two sampling events. The first order rate constant for the period through June 2011 was 6.2E-04 per day while the first order rate constant

for the entire dataset was 4.6E-05 per day, an implied decrease of just over one order of magnitude. Based on these rate constants, the estimated durations to achieve the MCL for TCE in 12WW24 are 15 years using the dataset through June 2011 and 255 years using the entire dataset. The drought conditions along with changes in seasonal sampling have constrained the trend observed between 2006 and 2011. Additional data will be evaluated under normal weather conditions to confirm projected estimates regarding time frame to cleanup

00746920





Legend

- DPT Location
- Monitored Natural Attenuation Shallow Well
- Monitoring Well
- Former Railroad
- Streams (Continuous)
- Streams (Intermittent)
- Roads
- Landfill Cap Area

Note:
1 - Each well has 5' x 5' concrete surface monument surrounded bollards. Each piezometer has a PVC riser. Appropriate equipment and care used around these features.
2- *Gauged Monthly for Water Level for 12 months beginning October 2014

AECOM

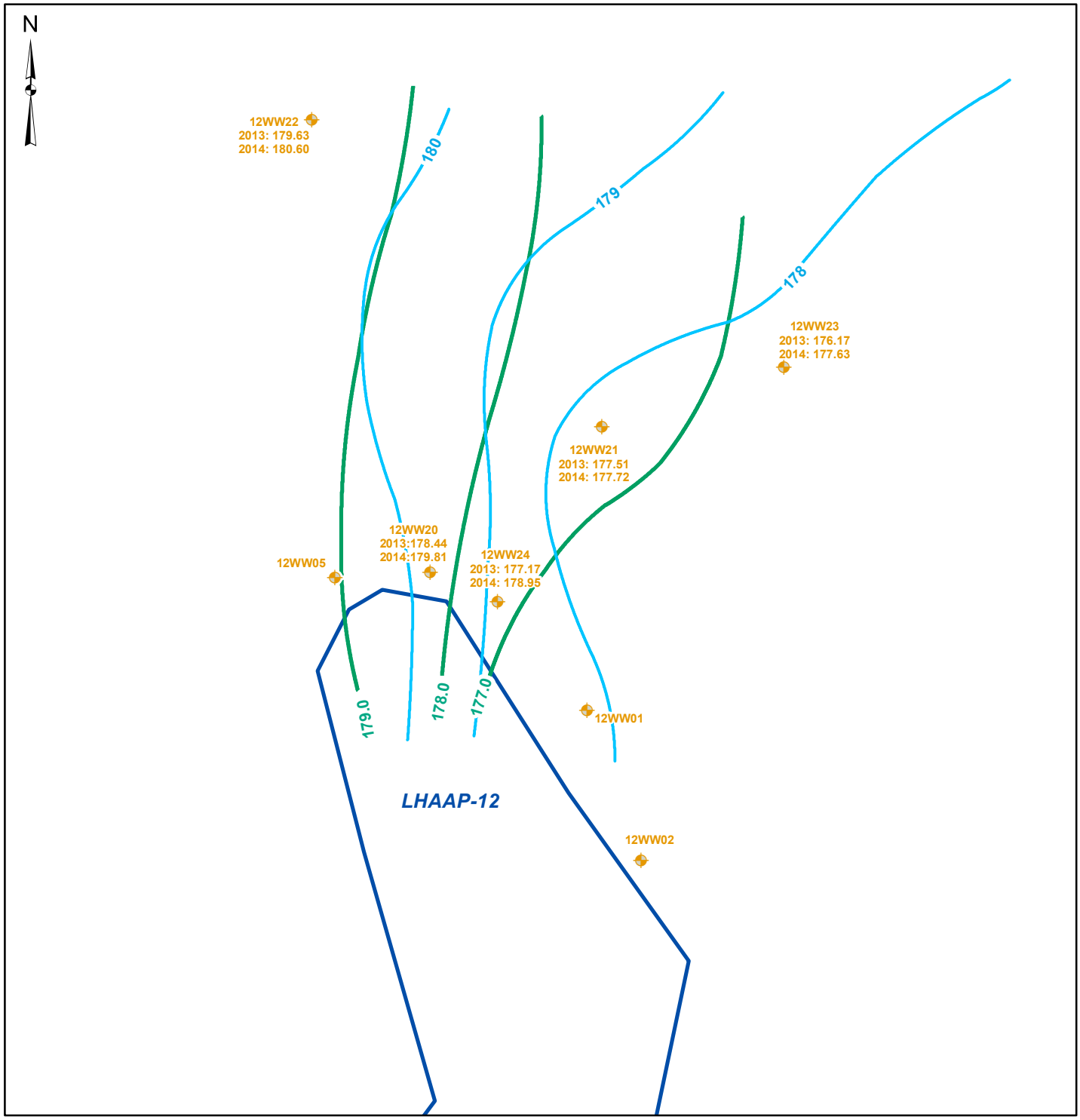
Figure 2-1
Groundwater Monitoring Well Locations
LHAAP-12

Longhorn Army Ammunition Plant
Karnack, Texas

60256135

March 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\2015_Mar_04\Figure 2-1 LHAAP-12 Groundwater MW Locations Rev-RJS.mxd



Legend

- Shallow Monitoring Well
- 2013 Groundwater Gradient Contour
- 2014 Groundwater Gradient Contour
- Streams
- Roads
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

AECOM

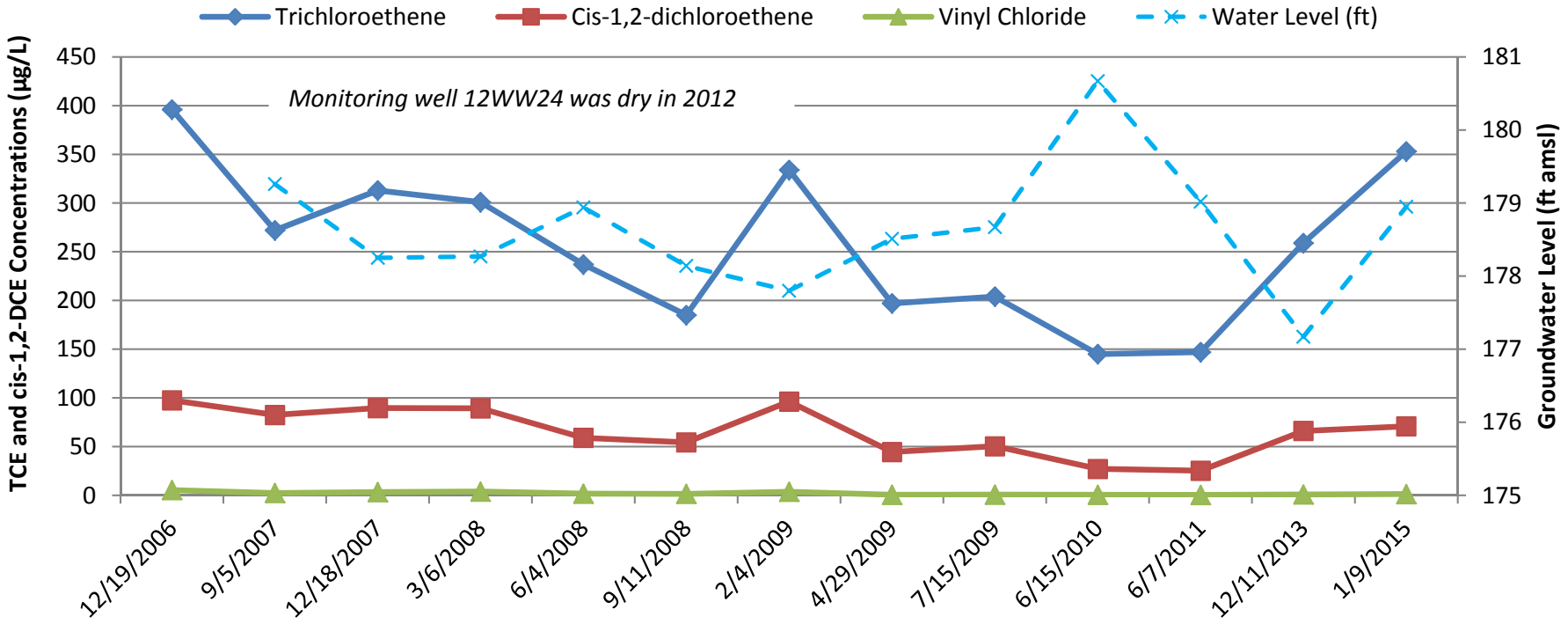
Figure 2-2
Groundwater Gradient Map
2013 and 2014
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

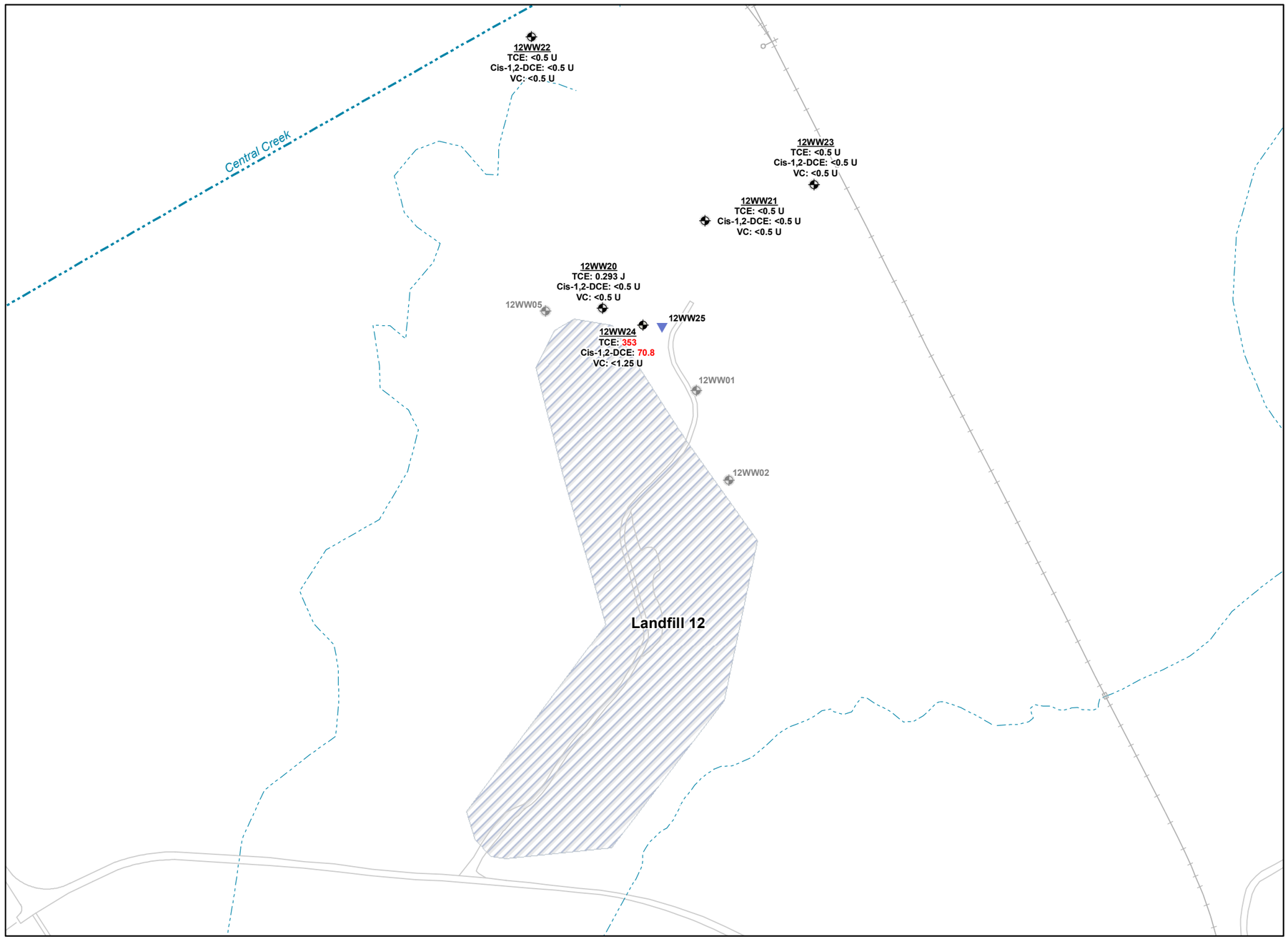
March 2015

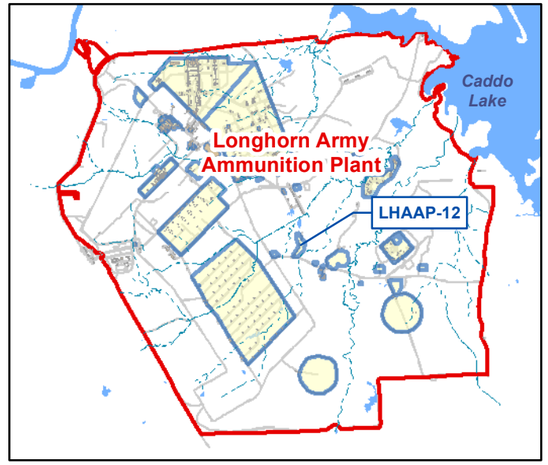
Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\2015_Mar_04\Figure 2-3 LHAAP-12 GW Gradient Map 2012_2013.mxd

Figure 2-3
TCE, cis-1,2-DCE, and VC Concentrations in 12WW24
LHAAP-12



00746923





Legend

- DPT Location
- Monitored Natural Attenuation Shallow Well
- Monitoring Well
- Former Railroad
- Streams (Continuous)
- Streams (Intermittent)
- Roads
- Landfill Cap Area

Note:
1 - Each well has 5' x 5' concrete surface monument surrounded bollards. Each piezometer has a PVC riser. Appropriate equipment and care used around these features.
2 - 12WW25 boring location is approximate.

Results are in micrograms per liter (µg/L)
J - Estimated Value
TCE - Trichloroethene
cis-1,2-DCE - Cis-1,2-dichloroethene
VC - Vinyl Chloride

AECOM

Figure 2-4
Groundwater COC Concentrations Map 2014
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 August 2015

Path: L:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\RAO\2015_08_03\Figure 2-4 LHAAP-12 Groundwater COC Concentrations.mxd

Table 2-1: Monthly Groundwater Levels - LHAAP-12

Well ID	Measurement Date	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft AMSL)
12WW01	10/10/2014	204.19	25.40	178.79
	11/8/2014	204.19	25.21	178.98
	12/8/2014	204.19	25.10	179.09
	1/9/2015	204.19	24.98	179.21
	2/4/2015	204.19	24.80	179.39
	3/10/2015	204.19	24.60	179.59
	3/31/2015	204.19	24.47	179.72
12WW02	10/10/2014	202.45	23.77	178.68
	11/8/2014	202.45	23.60	178.85
	12/8/2014	202.45	23.42	179.03
	1/9/2015	202.45	23.25	179.20
	2/4/2015	202.45	22.90	179.55
	3/10/2015	202.45	22.79	179.66
	3/31/2015	202.45	22.55	179.90
12WW05	10/10/2014	190.52	11.27	179.25
	11/8/2014	190.52	11.09	179.43
	12/8/2014	190.52	11.00	179.52
	1/9/2015	190.52	10.42	180.10
	2/4/2015	190.52	9.93	180.59
	3/10/2015	190.52	7.90	182.62
	3/31/2015	190.52	7.95	182.57
12WW20	10/10/2014	199.15	20.15	179.00
	11/8/2014	199.15	20.00	179.15
	12/8/2014	199.15	19.86	179.29
	1/9/2015	199.15	19.34	179.81
	2/4/2015	199.15	18.87	180.28
	3/10/2015	199.15	17.94	181.21
	3/31/2015	199.15	18.00	181.15
12WW21	10/10/2014	202.07	23.78	178.29
	11/8/2014	202.07	23.59	178.48
	12/8/2014	202.07	23.38	178.69
	1/9/2015	202.07	24.35	177.72
	2/4/2015	202.07	23.91	178.16
	3/10/2015	202.07	22.27	179.80
	3/31/2015	202.07	22.29	179.78
12WW22	10/10/2014	190.20	10.98	179.22
	11/8/2014	190.20	10.75	179.45
	12/8/2014	190.20	10.60	179.60
	1/9/2015	190.20	9.60	180.60
	2/4/2015	190.20	9.05	181.15
	3/10/2015	190.20	6.92	183.28
	3/31/2015	190.20	7.41	182.79
12WW23	10/10/2014	196.97	19.37	177.60
	11/8/2014	196.97	19.19	177.78
	12/8/2014	196.97	19.04	177.93
	1/9/2015	196.97	19.34	177.63
	2/4/2015	196.97	19.10	177.87
	3/10/2015	196.97	18.83	178.14
	3/31/2015	196.97	18.71	178.26

Table 2-1: Monthly Groundwater Levels - LHAAP-12

Well ID	Measurement Date	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft AMSL)
12WW24	10/10/2014	203.17	24.35	178.82
	11/8/2014	203.17	24.15	179.02
	12/8/2014	203.17	23.97	179.20
	1/9/2015	203.17	24.22	178.95
	2/4/2015	203.17	24.00	179.17
	3/10/2015	203.17	23.15	180.02
	3/31/2015	203.17	23.10	180.07

Table 2-2: Groundwater Elevation Data – LHAAP-12

Well ID	Sampling Date	Top of Casing Elevation (ft)	Depth to Water from TOC (ft)	Groundwater Elevation (ft AMSL)	Total Depth BGS (ft)	Screen Interval BGS (ft)
12WW20	6/15/2010	199.15	17.98	181.17	38.85	28.85-38.85
	6/7/2011	199.15	19.78	179.37		
	12/8/2012	199.15	22.03	177.12		
	1/8/2014	199.15	20.71	178.44		
	1/9/2015	199.15	19.34	179.81		
12WW21	6/15/2010	202.07	21.85	180.22	41.7	31.70-41.70
	6/7/2011	202.07	23.35	178.72		
	12/3/2012	202.07	24.21	177.86		
	1/8/2014	202.07	24.56	177.51		
	1/9/2015	202.07	24.35	177.72		
12WW22	6/15/2010	190.2	7.93	182.27	38.36	28.36-38.36
	6/7/2011	190.2	9.72	180.48		
	12/3/2012	190.2	13.46	176.74		
	1/8/2014	190.2	10.57	179.63		
	1/9/2015	190.2	9.6	180.60		
12WW23	6/16/2010	196.97	18.28	178.69	25.14	15.14-25.14
	6/7/2011	196.97	19.40	177.57		
	12/3/2012	196.97	20.38	176.59		
	1/8/2014	196.97	20.80	176.17		
	1/9/2015	196.97	19.34	177.63		
12WW24	6/16/2010	203.17	22.50	180.67	26	15.50-25.50
	6/7/2011	203.17	24.15	179.02		
	12/3/2012	203.17	Dry	Dry		
	12/9/2013	203.17	26.00	177.17		
	1/9/2015	203.17	24.22	178.95		

Table 2-3: Groundwater Analytical Results, Year 7 - LHAAP-12

Location ID: Sample Date:	Units	MCL/ MSC	12WW20-010915 1/9/2015	12WW21-010915 1/9/2015	12WW21FD-010915 1/9/2015	12WW22-010915 1/9/2015	12WW23-010915 1/9/2015	12WW24-010915 1/9/2015	12WW25(30)080914 9/8/2014
Volatile Organic Compounds (8260B)									
1,1,1,2-TETRACHLOROETHANE	ug/L	110	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	14	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	10000	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.768 J	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
1,1-DICHLOROPROPENE	ug/L	2.9	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	310	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.75 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.0041	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	5100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<5 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.005	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	5100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	3100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	29	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	3.25	0.293 J
2,2-DICHLOROPROPANE	ug/L	42	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
2-BUTANONE	ug/L	61000	<5 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<5 U
2-CHLOROTOLUENE	ug/L	2000	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.25 U
2-HEXANONE	ug/L	6100	<5 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<5 U
4-CHLOROTOLUENE	ug/L	2000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	8200	<5 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<5 U
ACETONE	ug/L	92000	<5 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	5.15 J
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.649 J	0.38 J
BROMOBENZENE	ug/L	2000	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	4100	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	4.6	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
BROMOFORM	ug/L	36	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
BROMOMETHANE	ug/L	140	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 UJ
CARBON DISULFIDE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	7.64	0.873 J
CHLOROETHANE	ug/L	41000	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
CHLOROFORM	ug/L	1000	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.25 U
CHLOROMETHANE	ug/L	220	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	70.8	0.402 J
CIS-1,3-DICHLOROPROPENE	ug/L	5.3	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U

Table 2-3: Groundwater Analytical Results, Year 7 - LHAAP-12

Location ID: / Sample Date:	Units	MCL/ MSC	12WW20-010915 1/9/2015	12WW21-010915 1/9/2015	12WW21FD-010915 1/9/2015	12WW22-010915 1/9/2015	12WW23-010915 1/9/2015	12WW24-010915 1/9/2015	12WW25(30) 080914 9/8/2014
DIBROMOCHLOROMETHANE	ug/L	34	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
DIBROMOMETHANE	ug/L	380	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	20000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 UJ
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	20	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
ISOPROPYLBENZENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	0.388 B
NAPHTHALENE	ug/L	2000	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U
N-BUTYLBENZENE	ug/L	4100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
N-PROPYLBENZENE	ug/L	4100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.538 J	<1.25 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	4100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	4100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.87 J	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	29	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<1 U
TRICHLOROETHENE	ug/L	5	0.293 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	353	0.317 J
TRICHLOROFLUOROMETHANE	ug/L	31000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL/MSC.

B - Blank contamination: The analyte was found in an associated blank as well as in the sample.

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

MSC - medium specific concentrations

NA - not analyzed

U - Analyte was not detected.

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

µg/L - microgram per liter

Table 2-4: Cumulative TCE Concentrations (ug/L) at LHAAP-12 Monitoring Wells

Sampling Date	Monitoring Wells					
	12WW20	12WW21	12WW22	12WW23	12WW24	*12WW25(30)
Dec 2006	0.713	ND(1)	ND(1)	ND(1)	404	--
Sept 2007	1.34	ND(1)	ND(1)	ND(1)	272	--
Dec 2007	1.19	ND(1)	ND(1)	ND(1)	313	--
Mar 2008	0.999J	ND(0.25)	ND(0.25)	ND(0.25)	301	--
Jun 2008	1.04	ND(0.25)	ND(0.25)	ND(0.25)	237	--
Sept 2008	0.985	ND(0.25)	ND(0.25)	ND(0.25)	185	--
Feb 2009	1.18	ND(0.25)	ND(0.25)	ND(0.25)	334	--
Apr 2009	0.997	ND(0.25)	ND(0.25)	ND(0.25)	197	--
Jul 2009	0.931	ND(0.25)	ND(0.25)	ND(0.25)	204	--
Jun 2010	0.353J	ND(0.25)	ND(0.25)	ND(0.25)	145	--
Jun 2011	0.263J	ND(0.25)	ND(0.25)	ND(0.25)	147	--
Dec 2012	0.5J	0.582J	ND(0.5)	ND(0.5)	Dry Well	--
Jan 2014	5	0.721J	ND(0.5)	ND(0.5)	**259	--
Aug 2014	--	--	--	--	--	0.317J
Jan 2015	0.293J	ND(0.25)	ND(0.25)	ND(0.25)	353	--

Notes:

*	This was a DPT boring grab groundwater sample, no well was subsequently installed.
**	Analyte was diluted 5X
J	estimated result
ND	not detected; values within parentheses denote detection limits

3 CONCLUSIONS

Physical inspections and groundwater monitoring continue to be completed at LHAAP-12 in compliance with the ROD for LHAAP-12 (Shaw, 2006). No damage to bollards, pads, or protective casings was observed, and no encroachment of weeds or brush on the well pads was observed. No change in land or groundwater use has occurred at the site. Inspections conducted indicated that no repairs to the cap were needed, and the area of subsidence will be observed to ensure the landfill cap cover continues to cover landfill contents. No significant issues were identified regarding the cap condition or maintenance, signs, or site use. LUCs were verified, and the use of the site is still consistent with that mandated by the ROD.

In accordance with the Groundwater Sampling Plan, found in Appendix A of the RD Addendum for LHAAP-12 (Shaw, 2007), annual sampling of wells will continue until the next Five-Year Review. Results for Year 7 are documented in this report.

Monitoring well 12WW24 was sampled on January 9, 2015 for VOCs. TCE was detected above its MCL at 353 µg/L. The MCL for TCE is 5 µg/L. Cis-1,2-DCE was detected above its MCL at 70.8. The MCL for cis-1,2-DCE is 70. VOC concentrations in 12WW24 have shown a decreasing trend over the past several years excluding the most recent two years, where TCE and cis-1,2-DCE increased. The past seven (7) months of groundwater level measurements (the March 31, 2015 gauging event represented the month of April) have not shown any significant changes with regards to seasonal variations, although these measurements have only been through the fall and winter cycle. The measurements began October 2014. A proposed location for an additional monitoring well (12WW25) was not installed within the plume at site 12 due to the limited plume size. This DPT point was reviewed with the results showing low levels of COCs (below the MCLs). Limited sampling groundwater elevation data (**Figure 2-3**) indicated a slight inverse correlation between groundwater elevation and concentrations in 12WW24 (average correlation coefficient of -49%). Some seasonal variation was determined to be present in the levels of the COCs over time as the data were collected in variable seasons. The increase in TCE in the last two years is associated with low water level and the samples being collected in the winter season.

Monitoring wells 12WW20, 12WW21, 12WW22, and 12WW23 were sampled on January 9, 2015 for VOCs. No contaminants were detected above their MCLs. Monitoring well 12WW20 had detections for TCE (0.293 J µg/L), but they were not above the MCL/ medium specific concentration.

Based on gauging results of seven (7) consecutive months and analytical data, it is recommended to sample monitoring well 12WW22 once every five years and to eliminate monitoring well 12WW23 from the network of monitored wells. Wells 12WW22 and 12WW23 will continue to be included in well gauging events.

4 REFERENCES

AECOM, 2013, *Standard Operating Procedures, Groundwater Sampling Procedures*, Longhorn Army Ammunition Plant, Karnack, Texas, June.

AECOM, 2014, *Final 2013 Five-Year Review Report,* Longhorn Army Ammunition Plant, Karnack, Texas, May.

Shaw, 2006, *Final Record of Decision, Landfill 12 (LHAAP-12)*, Longhorn Army Ammunition Plant, Karnack, Texas, August.

Shaw, 2007, *Final Remedial Design Addendum Landfill 12 (LHAAP-12),* Longhorn Army Ammunition Plant, Karnack, Texas, June.

Shaw, 2011, *Draft Annual Remedial Action Operation Report, Years 1 and 2, Landfill 12 (LHAAP-12)*, Longhorn Army Ammunition Plant, Karnack, Texas, June.

APPENDIX A: PHOTO LOG

Photo 1 - LHAAP-12 Fence after tree removal – November 2014

Photo 2 - LHAAP-12 Typical view of western edge of Landfill to north – November 2014

Photo 3 - LHAAP-12 small area of subsidence ~18” deep along western edge of Landfill – November 2014

Photo 4 - LHAAP-12 Viewing north along east edge of Landfill – November 2014

Photo 5 – View of monitoring well 12WW20

Photo 6 – View of monitoring well 12WW21

Photo 7 – View of monitoring well 12WW23

Photo 8 – View of monitoring well 12WW24

APPENDIX B: LUC INSPECTION AND MAINTENANCE LOG

LUC Inspection and Maintenance Log - LHAAP 12

Date	Inspected by:	Inspection / MaintenanceActivitiesYearly, at a minimum					Corrective action or repairs required?	Repairs / Action Taken
		Protect Landfill Integrity				Prevent Human Exposure to Groundwater		
		Vegetative Cover maintained: i.e. grass mowed at least annually	Fence and signage maintained	Observance of landfill cover degredation -e.g. desiccation cracks, erosion, or gullying	Continued compliance verified for no digging or disturbance of landfill cover or contents	Verified no withdrawl of use of groundwater (other than environmental testing)		
11/21/2014	Wacker, D.	Completed and maintained. Vegetative cover is in good condition. See photos 2 and 4 of the photo log.	Tree down along fence line at SW edge of LF.	No cover degredation observed.	No evidence of animal burrows along north east edge of cap, as seen during the 2013 inspection.	Completed and verified.	Remove tree from fence line at SW edge of LF.	Tree removed from fence line at SW edge of LF during inspection. See photo 1 of the photo log.
11/21/2014	Wacker, D.		Remainder of fencing and signage in good repair.		Small area of subsidence, ~18" deep, along western edge of LF.		No corrective action required.	Continue to observe subsidance, and ensure LF cap continues to cover contents.

APPENDIX C: 12WW25 DPT LOG & INSTALLATION MEMO

AECOM

Client: USACE
Project Number: 60274185
Site Location: LHAAP-12
Coordinates: Elevation
Drilling Method: HSA
Sample Type(s): 5' Core Barrel Boring Diameter: 10¼"
Weather: Sunny. 90° F Logged By: B. H. Date/Time Started: 9/8/14
Drilling Contractor: Fugro Ground Elevation: Date/Time Finished: 9/8/14

BORING ID: 12WW25
Sheet 1 of 2
Monitoring Well Installed:
Screened Interval:
Depth of Boring: 35 feet
Water Level: 24.40' bgs

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
1–3				60" / 60"	0.1	SM	Silty Sand, brown to strong brown, dry to damp, loose to medium dense, no odor.		
3.5'									
4–5					0.0	ML	Silt, pinkish gray with yellowish red mottling, dry, medium stiff, no odor.		
5.5'									
6					0.0	SM	5.5', Silty Sand, light gray to light brown,		
6.0'							damp, loose to medium dense.		
7				45" / 60"		SP	Fine sand with silt, light gray, dry,		
7.4'							dense, no odor.		
8					0.0	ML	Sandy silt, light gray with brown		
8.7'							mottling, moist, stiff, no odor.		
9–10					0.0	NR	10.0' No Recovery		
11–12				60" / 60"	0.0	CL	Sandy clay, light gray, moist, very stiff.		
13.6'									
14					0.0	SM	13.6', Silty Sand light gray, damp,		
14.1'							medium dense, no odor.		
15						ML	15.0' Sandy silt, light gray, damp, medium stiff to stiff, no odor.		
16				56" / 60"	0.0	SM	Silty Sand, light gray, damp to moist,		
17.0'							loose to medium dense, no odor.		
18–19					0.0	SW	Fine Sand, light gray, damp to moist, loose to medium dense,		
19.7'							No odor.		
20					0.0	NR	No Recovery		

NOTES:

Date	Time	Depth to groundwater while drilling
9/8/14	11:32	27.25 ft, bgs
9/8/14	12:25	24.40 ft, bgs

Checked by: Brian Ho Date: 9/10/14

AECOM

Client: USACE
Project Number: 60274185
Site Location: LHAAP-12
Coordinates: Elevation
Drilling Method: HSA
Sample Type(s): 5' Core Barrel
Boring Diameter: 10¼"
Weather: Sunny 90°F
Logged By: B.H.
Drilling Contractor: Fugro
Ground Elevation:
Date/Time Started: 9-8-14
Date/Time Finished: 9-8-14

BORING ID: 12WW25
Sheet 2 of 2
Monitoring Well Installed: No
Screened Interval:
Depth of Boring: 35 feet
Water Level: 24.40' bgs

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
21						SW	Fine Sand, light gray, moist, loose, no odor.		
22				60" / 60"	0.0				
23									
24					0.0		Wet at 23.9', otherwise same As Above		
25							25.0'		
26					0.0	SC	Clayey Sand, gray, wet, medium stiff, no odor.		
27				60" / 60"					
28					0.0		28.2'		
29						SW	29.1' Fine Sand, gray, wet, loose to medium dense, no odor.		
30					0.0	CL / SW	29.6' clay, gray, moist, very stiff, no odor. 30.0' Fine Sand, brown, moist, loose, no odor.		
31						CL	Clay, gray with brown mottling, moist, stiff, no odor.		
32				48" / 60"			32.3'		
33						SW / CL / SW	32.4' Fine Sand, wet, brown, loose, no odor. 32.7' Clay, gray, moist, stiff, no odor. 32.9' Fine Sand, gray, wet loose, no odor.		
34						CL / SC	33.7' clay, gray, moist, stiff, no odor. 34.0' clayey Sand, gray, moist to wet, loose to soft, no odor.		
35						NR	35.0' No Recovery		
36									
37							Drilling Terminated, TD = 35 feet		
38									
39									
40									

NOTES:
Groundwater grab sample 12WW25(30)080914 was collected at 12:40 for VOC analysis (8260B).

Date	Time	Depth to groundwater while drilling

Checked by: Brian Ho Date: 9/10/14

AECOM

MEMORANDUM

DATE: August 18, 2014

PROJECT NAME: Remediation of Multiple Sites, Longhorn Army Ammunition Plant, Karnack, TX

TO:	Rose Zeiler	Site Manager
	Richard Smith	Project Manager
	Aaron Williams	Project Engineer
FROM:	Dave Wacker	AECOM PM, 210-253-7514

SUBJECT: **Installation of New Plume Monitoring Well at LHAAP-12**
Longhorn Army Ammunition Plant, Karnack, TX
(Contract: W912DY-09-D-0059, Task Order DS01)

1 INTRODUCTION

Well 12WW24 is currently the sole well monitoring the shallow groundwater zone plume at LHAAP-12. This well is installed at a relatively shallow depth, resulting in dry well conditions during the 2012 annual Long Term Monitoring (LTM) sampling event.

Per recommendation of the 2012 Five Year Review for the site, installation of an additional plume monitoring well has been evaluated.

2 EVALUATION AND RECOMMENDATIONS

In determining a location with the highest probability of intersecting the plume, historical LHAAP-12 groundwater data was reviewed. Two well locations downgradient from plume well 12WW24 were found to have historical TCE detections. 12WW10 was located approximately 185 feet east of 12WW24. TCE was found in 12WW10 at its highest concentration of 14.5 µg/L in February 2003, but sampling ceased after TCE concentrations declined (1.84 µg/L in February 2004, 6.96 µg/L in December 2004), and the well was abandoned in 2007. 12WW01 located approximately 185 feet southeast of 12WW24 is an existing well that was last sampled in August 2006, but is not sampled under the current LTM plan. The only detection of TCE in this well occurred in 1993 at a concentration of 27 µg/L.

Using these two wells with historical impacts as a downgradient guide, the location proposed for new plume well 12WW25 is located 50 feet east of 12WW24, just south of the line between 12WW24 and 12WW10 (see attached **Figure 1**).

If the plume is not encountered at proposed 12WW25, located only 50 feet downgradient of impacted well 12WW24, this indicates that plume is very limited in extent and does not require a

second well to adequately assess plume conditions. Under this scenario, AECOM instead recommends augmentation of plume well 12WW24 through installation of a deeper shallow zone well at that location. This action will better ensure uninterrupted monitoring of the shallow zone plume even under seasonal or multi-year dry conditions where the water table is lowered, as failure to obtain plume data from 12WW24 due to its shallow installation depth well creates a data gap, complicating on-going trend analysis.

Review of the Final Remedial Design Addendum (Shaw, 2007) indicates well 12WW24 is installed with a total depth of only 26 feet, screened shallowly across the 15.5' – 25.5' below ground surface (bgs) interval. 12WW20, only 100' west-northwest (upgradient), is installed as a shallow zone monitoring well with a greater total depth of 38 feet, and screened deeper across the interval 28' – 38' bgs. 12WW20 maintained nearly 20 feet of water column during even the lowest water table levels observed in 2012.

Given similar lithology at 12WW24 and 12WW20, the additional well will be installed as close as possible to the current 12WW24 location, but with a greater total depth and deeper screened interval, similar to that of 12WW20. Depending upon field conditions, a longer screen length (20-30') may be utilized to prevent a piezometer configuration in the replacement well during non-drought conditions.

Because 12WW24 is currently a functioning monitoring well, containing sufficient water for sampling during the 2013 annual monitoring event, abandonment is not recommended at this time.

3 WELL INSTALLATION PROCEDURES AND REPORTING

Prior to installation of a well at the proposed 12WW25 location, intersection with the plume will be confirmed by installation of a boring, and laboratory analysis of a grab sample from a temporary groundwater sampling point. If intersection with the plume is not confirmed, a well will not be installed at this location.

This monitoring well will be installed in compliance with the Installation-Wide Work Plan in place at the time the work is conducted, and monitored in accordance with the LHAAP-12 Final Remedial Design Addendum (Shaw, 2007).

Installation of this well and analytical data from the initial sampling event will be reported in the 2014 Remedial Action Operation Report.

4 ANTICIPATED SCHEDULE FOR THE PROPOSED WORK

This well is currently planned for installation in August 2014.

5 REFERENCES

Shaw, 2007. *Final LHAAP-12 Well Abandonment and Installation Report, Longhorn Army Ammunition Plant, Karnack, Texas,* April.

Shaw, 2007. *Final Remedial Design Addendum, Landfill 12 (LHAAP-12), Longhorn Ammunition Plant, Karnack, Texas*, June.

6 ATTACHMENT

Figure 1. New Well 12WW25 Proposed Location

.

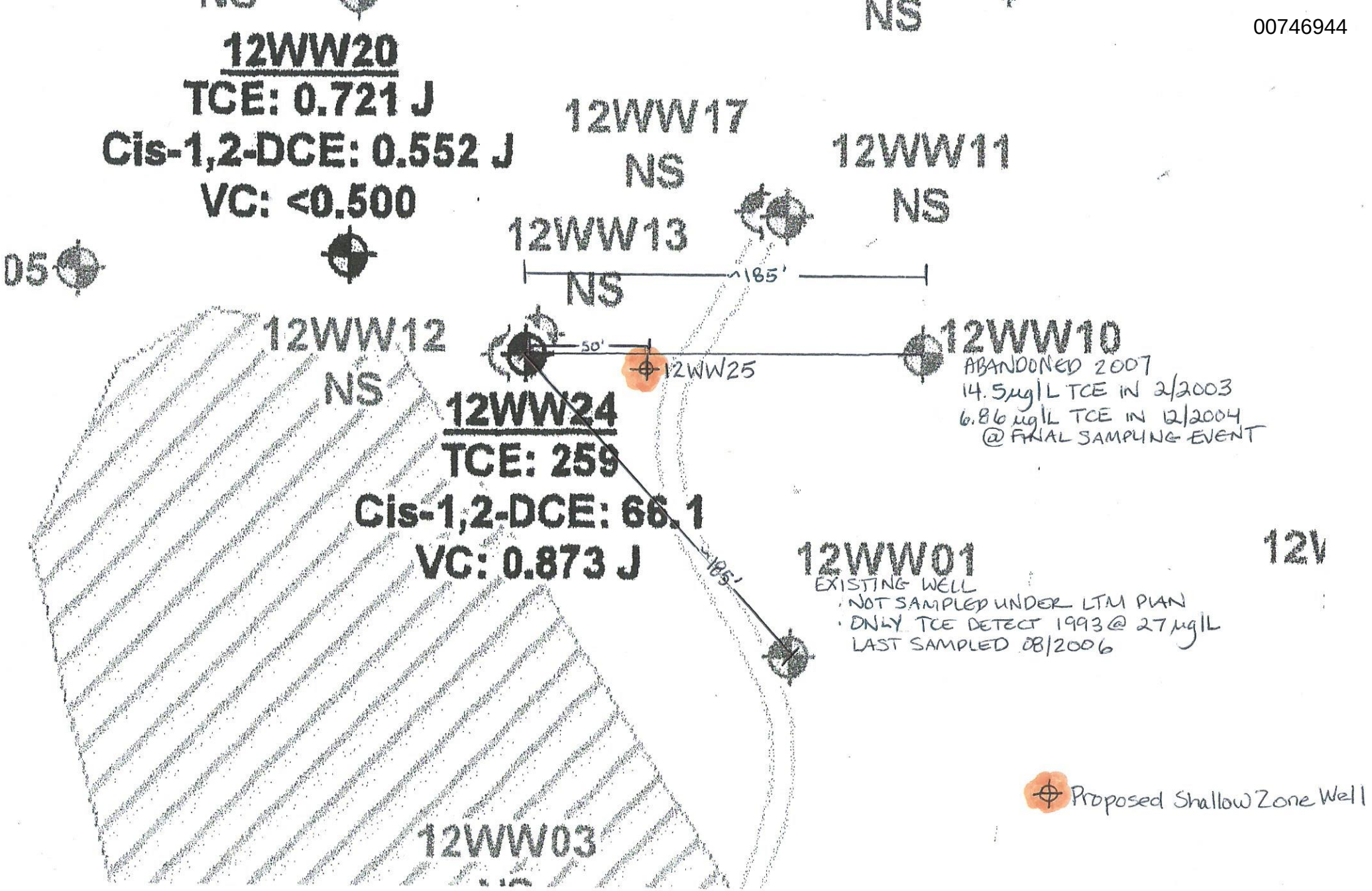
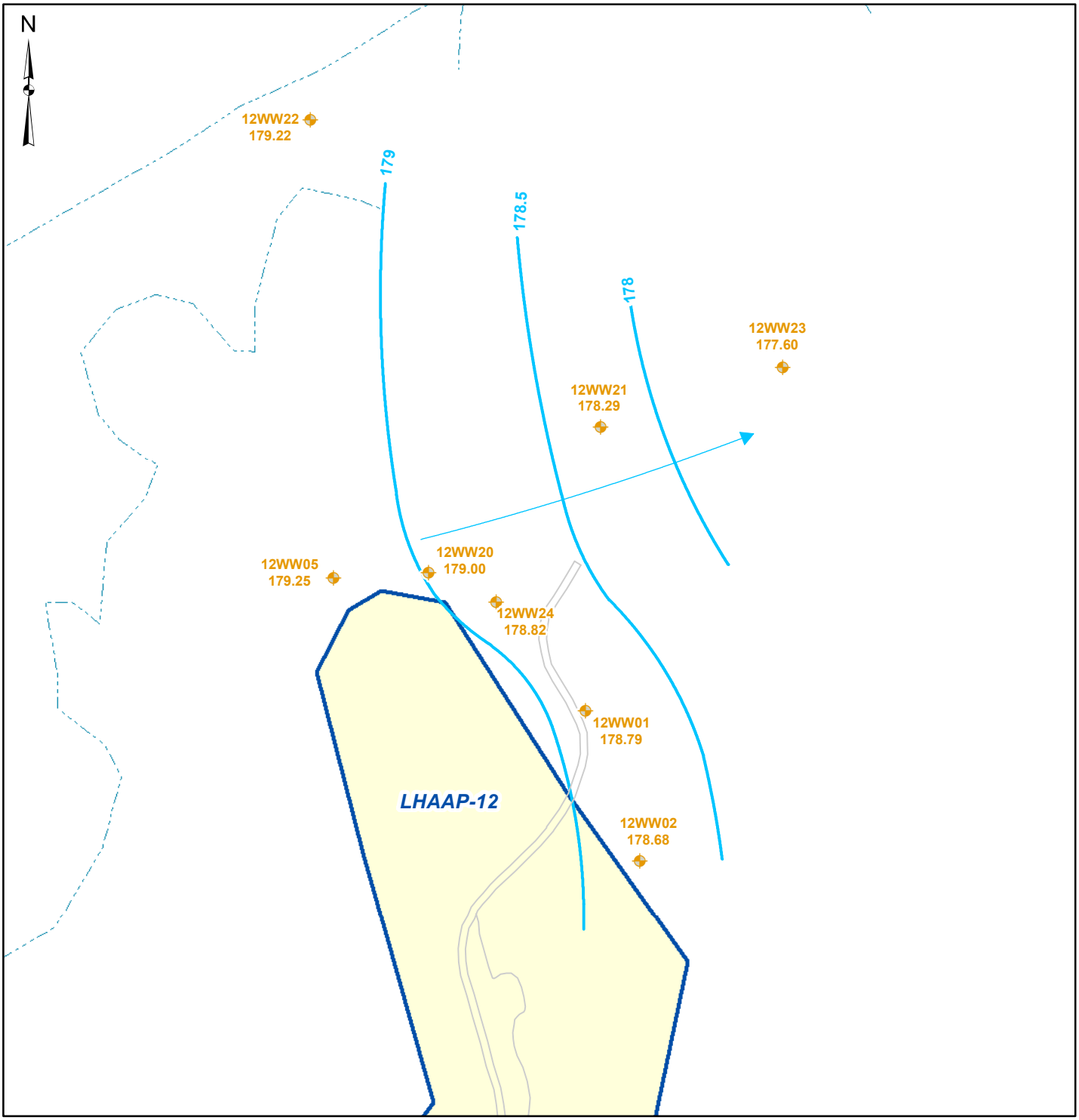


FIGURE 1
NEW WELL 12WW25 PROPOSED LOCATION
LHAAP-12

APPENDIX D: GROUNDWATER GRADIENT MAPS



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

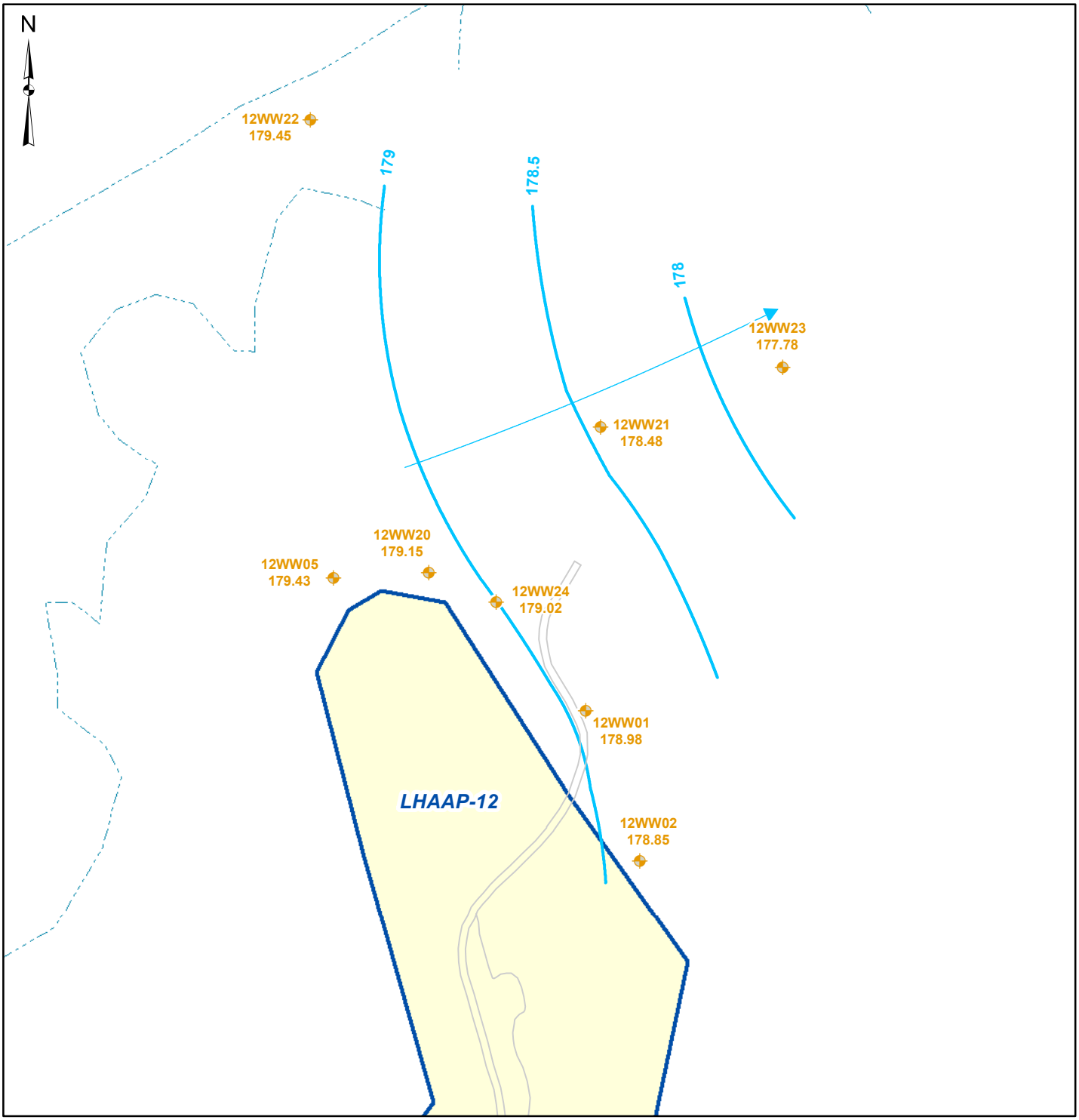
AECOM

Figure A
Groundwater Gradient Map
October 10, 2014
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure A_LHAAP12_GW Gradient Map_Oct2014.mxd



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

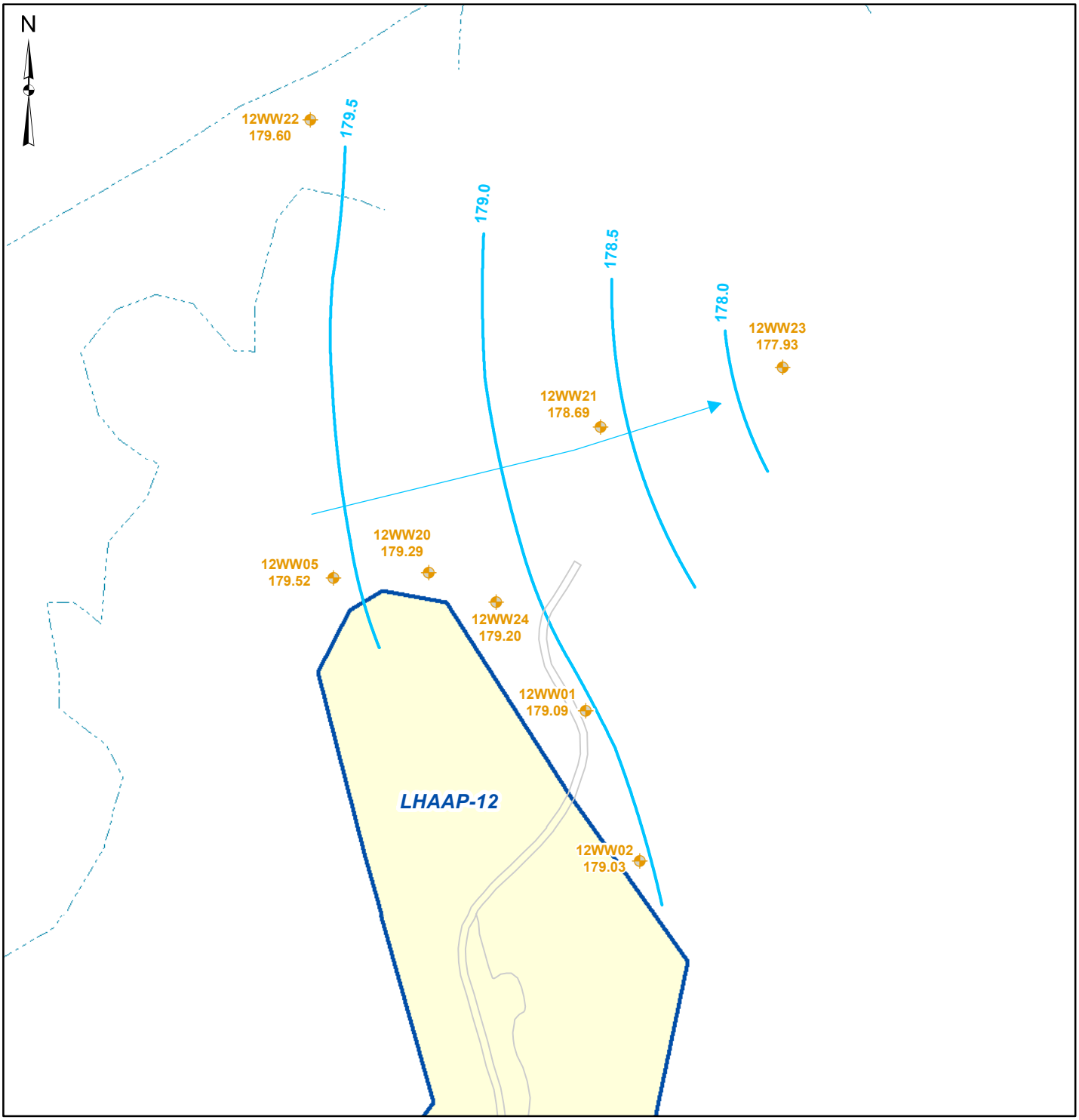
AECOM

Figure B
Groundwater Gradient Map
November 8, 2014
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure B_LHAAP12_GW Gradient Map_Nov2014.mxd



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

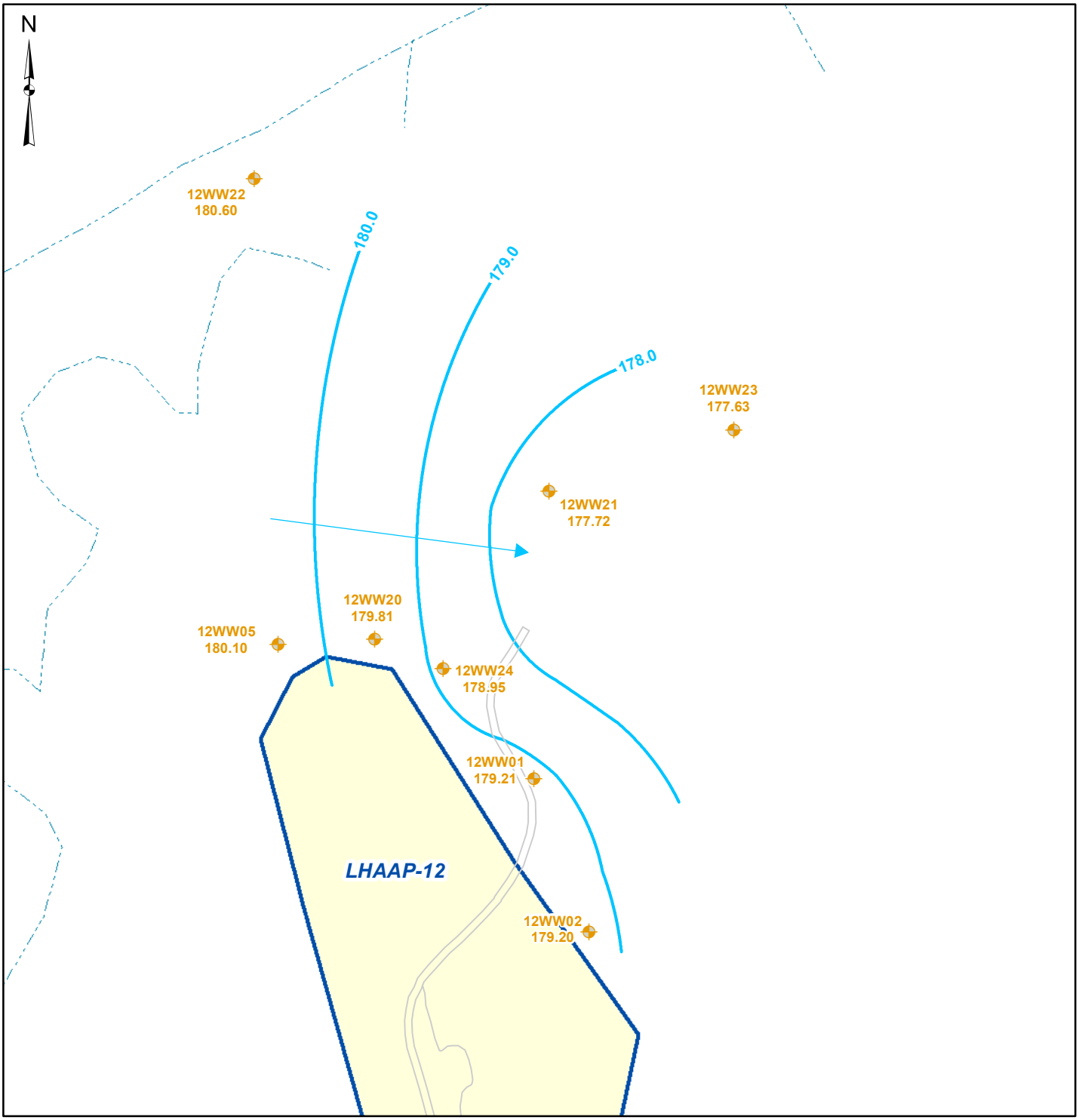
AECOM

Figure C
Groundwater Gradient Map
December 8, 2014
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure C_LHAAP12_GW Gradient Map_Dec2014.mxd



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

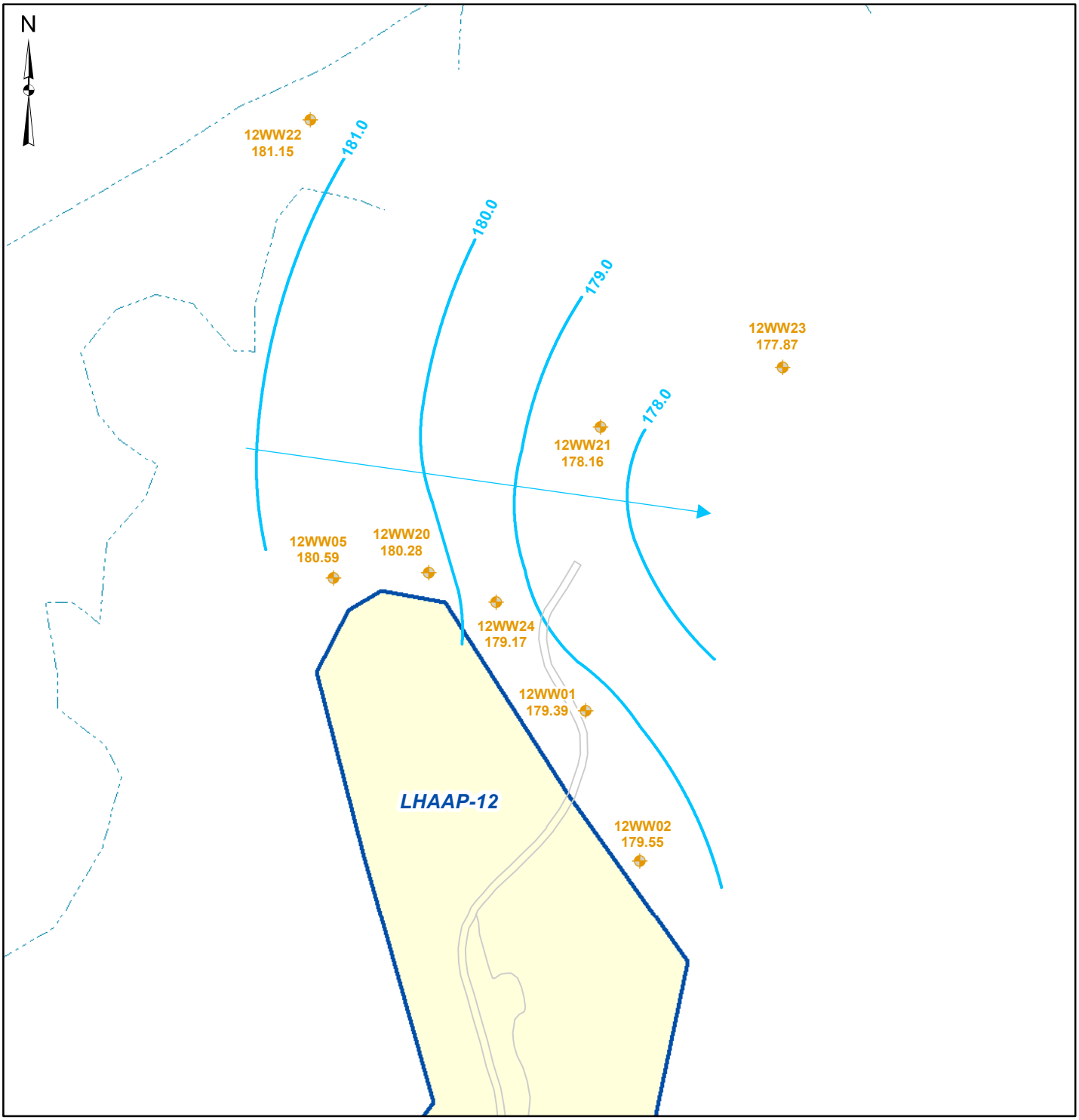
AECOM

Figure D
Groundwater Gradient Map
January 9, 2015
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure D_LHAAP12_GW Gradient Map_Jan2015.mxd



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

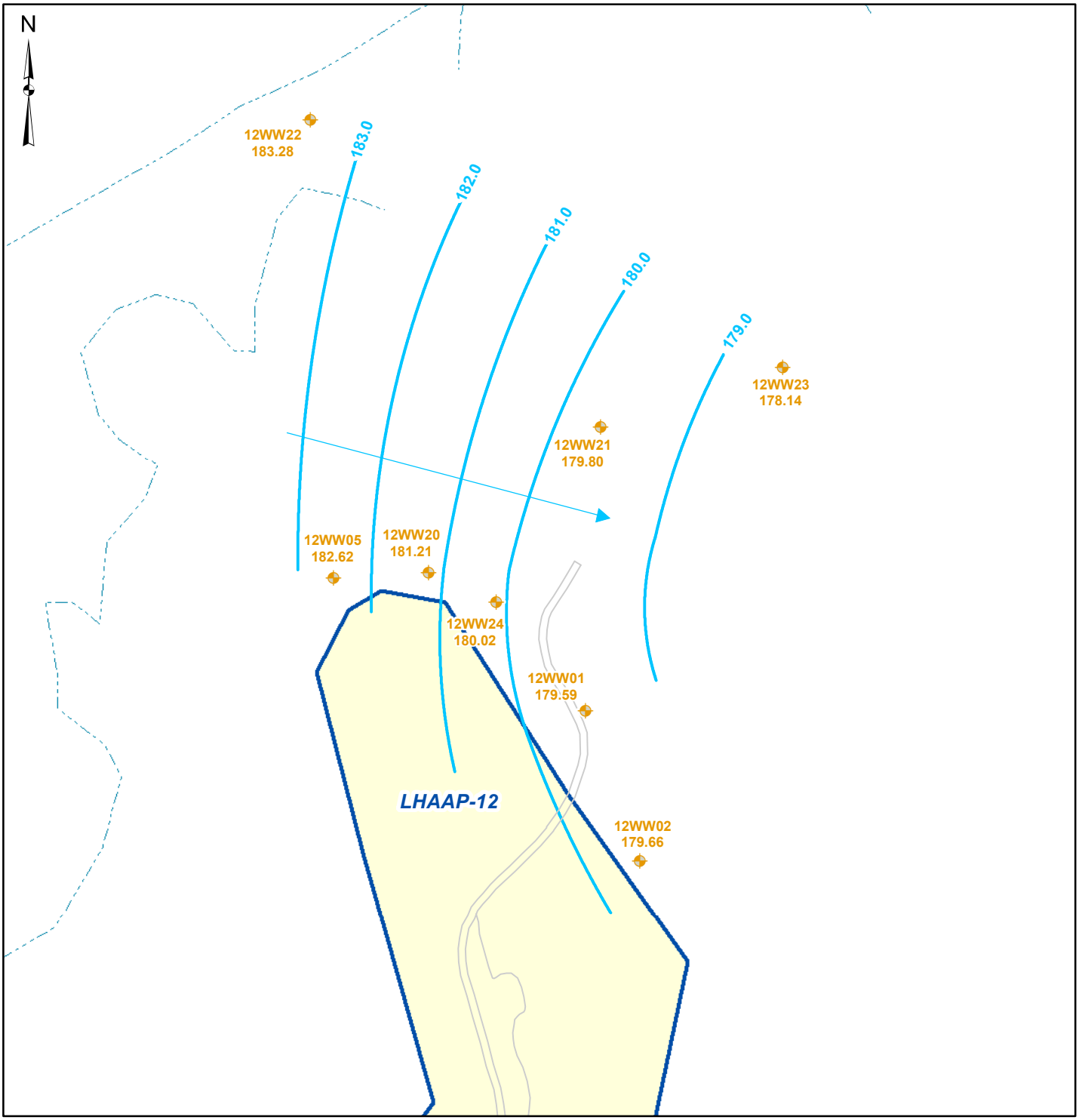
AECOM

Figure E
Groundwater Gradient Map
February 4, 2015
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure E_LHAAP12_GW Gradient Map_Feb2015.mxd



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

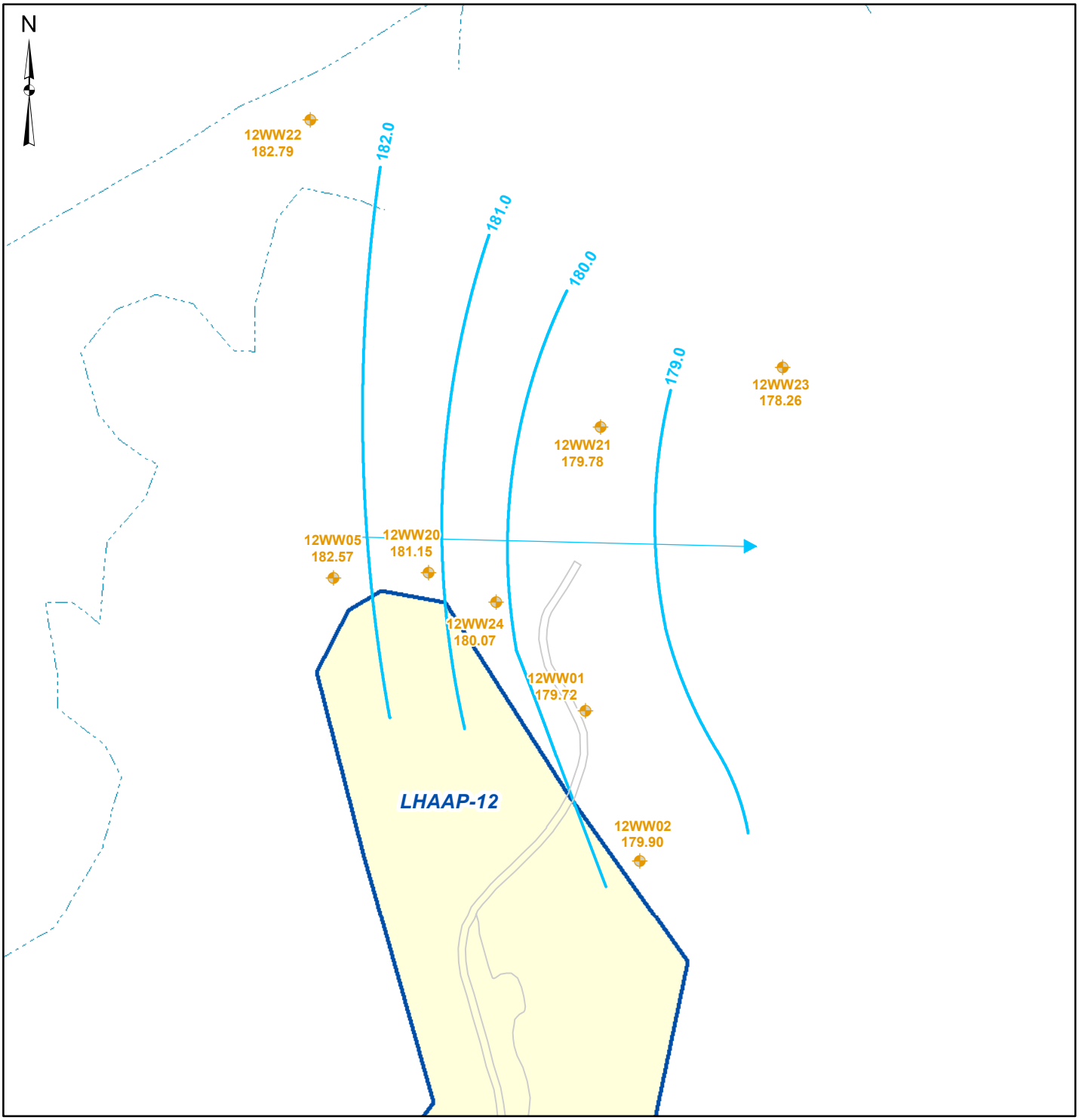
AECOM

Figure F
Groundwater Gradient Map
March 10, 2015
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure F_LHAAP12_GW Gradient Map_10March2015.mxd



Legend

- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Gradient Contour
- Roads
- Streams
- Site (Boundary of Landfill Cap)

0 100 200 400 Feet

AECOM

Figure G
Groundwater Gradient Map
March 31, 2015
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

May 2015

Path: E:\Group\IT_GIS\GIS Projects\Longhorn\MXDs\LHAAP-12\Monthly_GW_Levels\2015_05_11\Figure G_LHAAP12_GW Gradient Map_31March2015.mxd

APPENDIX E: MONITORING WELL SAMPLING FORMS

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

00746954
Page 1 of ___

LOCATION	Site: 12	LocID: 12WW20		Date: 1/9/15	
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA		Recorded By: Scott Beesinger	Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe:	Water Level Indicator: ID#: 611ces/cevr	Min Recharge Level = (TD-DTW(0.80)) - TD	
	Unit #	Sampling Equipment:	Peristaltic/Bladder/Bailer ID#:		
WELL INFO	Casing I.D. (in) [a]: 4	Static Water Level Reading (ft) [c]: 19.34		Weather Conditions: CLEAR / COLD	
	Total Well Depth (ft) [d]: 39.28	Screened Interval/Pump placement: 28-38 / 33.00		Condition of Well/Remarks: GOOD	

CASING INFO												
Casing I.D. (in) [a]:	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/in ft) [b]:	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
1/9/15	0805	19.30	100	12.44	5.30	1.13	1.67	11.0	172	
1/9/15	0810	19.35	100	14.32	5.23	1.11	1.01	7.3	256	
1/9/15	0815	19.38	100	15.03	5.15	1.10	1.06	3.9	321	
1/9/15	0820	19.40	100	15.50	5.15	1.09	1.17	2.5	357	
1/9/15	0825	19.42	100	15.64	5.17	1.09	1.13	2.3	396	
1/9/15	0830	19.44	100	15.80	5.13	1.09	1.14	2.8	398	
1/9/15	0835	19.46	100	15.82	5.13	1.09	1.12	2.7	400	
1/9/15	0840	19.48	100	15.87	5.12	1.09	1.11	2.5	401	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU Ideal), for 4 consecutive readings

SAMPLE ID: 12WW20-010915 TIME: 0840

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

00746955

LOCATION	Site: 12	LocID: 12WW21	Date: 1/9/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: ID#: 611ces/cevr	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit #	Sampling Equipment: Peristaltic/Bladder/Bailer ID#:	
WELL INFO	Casing I.D. (in) [a]: 4 11	Static Water Level Reading (ft) [c]: 24.35	Weather Conditions: CLEAR / COLD
	Total Well Depth (ft) [d]: 41.83	Screened Interval/Pump placement: 31-41 / 36.00	Condition of Well/Remarks: GOOD

CASING INFO												
Casing I.D. (in) [a]:	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/in ft) [b]:	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
1/9/15	0920	24.31	100	15.08	5.91	4.80	0.75	5.9	81	
1/9/15	0925	24.35	100	15.79	5.91	4.84	0.00	8.2	50	
1/9/15	0930	24.38	100	16.09	5.93	4.98	0.00	7.2	38	
1/9/15	0935	24.40	100	16.21	5.94	5.00	0.00	6.0	35	
1/9/15	0940	24.42	100	16.41	5.95	5.01	0.00	3.9	32	
1/9/15	0945	24.43	100	16.42	5.96	5.01	0.00	4.1	32	
1/9/15	0950	24.43	100	16.45	5.97	5.01	0.00	4.1	32	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW21-010915 TIME: 0950

DUPLICATE (D): YES/NO YES

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
6 - 40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12 WW 22	Date: 1/9/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: ID#: 611ces/cevr	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit #	Sampling Equipment: Peristaltic/Bladder/Bailer ID#:	
WELL INFO	Casing I.D. (in) [a]: 4 11	Static Water Level Reading (ft) [c]: 9.60	Weather Conditions: Cloudy / Cold
	Total Well Depth (ft) [d]: 38.63	Screened Interval/Pump placement: 28-38 / 33.00	Condition of Well/Remarks: Good

CASING INFO												
Casing I.D. (in) [a]:	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/in ft) [b]:	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
1/9/15	1300	9.55	100	12.87	6.67	0.692	3.03	16.4	-106	
1/9/15	1305	9.60	100	14.63	6.86	0.952	0.64	15.2	-135	
1/9/15	1310	9.63	100	15.49	6.88	1.04	0.31	16.7	-130	
1/9/15	1315	9.65	100	15.80	6.91	1.08	0.32	17.5	-120	
1/9/15	1320	9.66	100	15.66	6.91	1.09	0.33	16.0	-118	
1/9/15	1325	9.67	100	15.71	6.89	1.10	0.34	10.1	-104	
1/9/15	1330	9.67	100	15.77	6.86	1.10	0.35	9.8	-102	
1/9/15	1335	9.67	100	15.79	6.86	1.11	0.36	9.5	-101	
1/9/15	1340	9.67	100	15.82	6.85	1.11	0.36	9.6	-100	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW22-010915 TIME: 1340

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12		LocID: 12WW23		Date: 1/9/15
	Project: Longhorn Army Ammunition Plant		Project No. 60256135.0005AA		Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52		Water Interface Probe: Water Level Indicator: ID#: 611ces/cevr		Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit #		Sampling Equipment: Peristaltic/Bladder/Bailer ID#:		
WELL INFO	Casing I.D. (in) [a]: 4"		Static Water Level Reading (ft) [c]: 19.34		Weather Conditions: CLEAR / COLD
	Total Well Depth (ft) [d]: 25.50		Screened Interval/Pump placement: 15-25 / 22.00		Condition of Well/Remarks: GOOD

CASING INFO												
Casing I.D. (in) [a]:	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/in ft) [b]:	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
1/9/15	1015	19.30	100	12.18	6.55	0.679	0.75	66.3	-27	
1/9/15	1020	19.35	100	12.53	6.15	0.452	0.00	39.9	-14	
1/9/15	1025	19.38	100	12.74	6.13	0.415	0.00	35.9	-14	
1/9/15	1030	19.41	100	12.89	6.12	0.400	0.00	33.1	-16	
1/9/15	1035	19.44	100	13.02	6.12	0.400	0.00	22.3	-19	
1/9/15	1040	19.47	100	13.13	6.11	0.400	0.00	22.5	-20	
1/9/15	1045	19.50	100	13.15	6.12	0.401	0.00	22.0	-21	
1/9/15	1050	19.52	100	13.18	6.12	0.401	0.00	22.4	-22	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW23-010915 TIME: 1050

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3- 40ml glass	HCL	N	Pump	VOC

00746958

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

Page 1 of ___

LOCATION	Site: 12	LocID: 12WW24		Date: 1/8/15	
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.000.5AA		Recorded By: Beesinger	Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe:	Water Level Indicator ID# Solinist 101	Min Recharge Level = (TD-DTW(0.80)) - TD	
	Unit #	Sampling Equipment:	Peristaltic/Bladder/Bailer ID#:		
WELL INFO	Casing I.D. (in) [a]: 4"	Static Water Level Reading (ft) [c]: 24.22		Weather Conditions: CLEAR / COLD	
	Total Well Depth (ft) [d]: 27.84	Screened Interval/Pump placement: 15.5-25.5		Condition of Well/Remarks: GOOD	

CASING INFO												
Casing I.D. (in) [a]:	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Total Fe (mg/L)	Ferrous Fe (mg/L)	Ferric Fe (mg/L)	Remarks (odor, clarity, etc.)
1/8/15	1240	24.22	NA										BAILING WELL
1/8/15	1249	27.80	NA										BAILED 3.5 GALLONS RAN DRY
1/9/15	0745	24.22	NA	15.37	4.83	1.07	7.13	15.7	181				

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW24-010915 TIME: 0745

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCL	N	BAILER	VOC

APPENDIX F: LABORATORY ANALYTICAL RESULTS

QUALITY CONTROL SUMMARY REPORT
FOR
LANDFILL 12 (LHAAP-12)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Prepared By:

AECOM

AECOM Technical Services

April 2015

Table of Contents

1 INTRODUCTION ***1***
1.1 Intended Use of Data **1**
1.2 Preservation and Holding Times **1**
1.3 Calibrations **1**
1.3.1 Continuing Calibration Verifications (CCV) **1**
1.3.1.1 SW8260 ..... ***1***
1.3.2 Blanks **1**
1.3.2.1 SW8260 ..... ***2***
1.3.3 Surrogates **2**
1.3.4 Laboratory Control Sample (LCS) **2**
2 DATA USABILITY SUMMARY ***2***

List of Tables

Table 1: Completeness by Method
Table 2: Field Sample Identification and Laboratory Identification
Table 3: Qualified Analytical Data

1 INTRODUCTION

AECOM reviewed two data packages from Microbac Laboratory Services, Marietta, OH. A DPT sample was collect on September 8, 2014 for confirmation of location in the plume. Groundwater samples were collected January 9, 2015 at Site 12 at Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas. Data were reviewed for conformance to the requirements of the following guidance documents: Automated Data Review by Laboratory Data Consultants (ADR.net), United States Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, (EPA, July 2002), and EPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, (EPA, June 2001).

1.1 Intended Use of Data

The objective of this sampling event for LHAAP-12 is to monitor remedy performance by natural attenuation with land use controls.

Analyses requested included SW8260 – Volatiles by GC/MS.

Table 1 lists completeness by method. Table 2 lists the sample identifications and their associated laboratory identifications. Table 3 lists qualified results with the associated quality control parameter that was exceeded.

1.2 Preservation and Holding Times

Sample identification data were evaluated for agreement with the chain-of-custody (COC). All samples were received in appropriate containers, within the proper temperature range, in good condition, and with the required signatures.

1.3 Calibrations

Initial calibration criteria modification includes RSD< or = to 30%, two compounds allowed up to 40%. If the continuing calibration verification (CCV) compound exceeds 30% drift, the compound is checked in the LCS, if both are outside recovery limits, the compound is rejected, R. If only the CCV exceeds recovery criteria and is less than ± 40% drift, then the compound is qualified J or UJ.

1.3.1 Continuing Calibration Verifications (CCV)

1.3.1.1 SW8260

CCV WG491745-02 has bromomethane at 67.4%, dichlorodifluoromethane at 71%, and trichloroethene at 76.8% in SDG L14090460. The associated DPT sample is non-detect for bromomethane and dichlorodifluoromethane and are UJ qualified. Trichloroethene is J qualified for a trace result.

1.3.2 Blanks

Where contamination by a target analyte of one of the various blanks was found, if the sample result for an associated sample was non-detect or less than 5X (10X for common laboratory contaminants) the analyte concentration in the blank, the corresponding sample result for the

analyte was qualified B. Where the sample result for the affected analyte was greater than 5X the amount in the blank, no qualifier was applied.

1.3.2.1 SW8260

Method blank WG491746-01 has methylene chloride at 0.280 µg/L in SDG L14090460.
Associated DPT sample is B qualified for methylene chloride.

1.3.3 Surrogates

All surrogates are within criteria.

1.3.4 Laboratory Control Sample (LCS)

All LCS are within criteria.

2 DATA USABILITY SUMMARY

The data are usable for the intended purposes of the project. The data quality objectives have been met for the project.

Table 1: Completeness by Method

Method	Total Analytes	No. of Rejected Results	% Completeness
SW8260	448	0	100

Table 2: Field Sample Identification and Laboratory Identification

ClientSampleID	LabSampleID	Collected	SW8260
12WW25(30)080914	L14090460-01	9/8/2014	X
12TB080914	L14090460-02	9/8/2014	X
12WW20-010915	L15010566-02	1/9/2015	X
12WW21-010915	L15010566-03	1/9/2015	X
12WW21FD-010915	L15010566-04	1/9/2015	X
12WW22-010915	L15010566-06	1/9/2015	X
12WW23-010915	L15010566-05	1/9/2015	X
12WW24-010915	L15010566-01	1/9/2015	X
Trip blank	L15010566-07	1/9/2015	X

Table 3: Qualified Analytical Data

ClientSampleID	LabSampleID	AnalyteName	DVQualOverall	Reason
12WW25(30)080914	L14090460-01	Bromomethane	UJ	CCV below control limits
		Dichlorodifluoromethane	UJ	CCV below control limits
		Trichloroethene	J	CCV below control limits
		Methylene chloride	B	Method blank contamination

Microbac

Laboratory Report Number: L14090460

Kayla Teague
AECOM Technical Services, Inc.
16000 Dallas Parkway
Dallas, TX 75248

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Kathy Albertson – Team Chemist/Data Specialist
(740) 373-4071
Kathy.Albertson@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on September 12 2014

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0019519	I	2.0		J2317156500	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
12WW25(30)080914	L14090460-01	09/08/2014 12:40	09/09/2014 09:37
12TB080914	L14090460-02	09/08/2014 00:01	09/09/2014 09:37

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac REPORT L14090460
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 13
2.0 Full Sample Data Package 22
2.1 Volatiles Data 23
2.1.1 Volatiles GCMS Data (8260) 24
2.1.1.1 Summary Data 25
2.1.1.2 QC Summary Data 33
2.1.1.3 Sample Data 78
2.1.1.4 Standards Data 93
2.1.1.5 Raw QC Data 165
3.0 Attachments 188

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L14090460
Project Name:		**Method:**	8260
Prep Batch Number(s):	491672, 491746	**Reviewer Name:**	Michael Albertson
LRC Date:	2014-09-12 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Michael Albertson		Volatiles Supervisor	2014-09-12 19:13:26

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L14090460
Project Name:		**Method:**	8260
Prep Batch Number(s):	491672, 491746	**Reviewer Name:**	Michael Albertson
LRC Date:	2014-09-12 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L14090460
Project Name:		**Method:**	8260
Prep Batch Number(s):	491672, 491746	**Reviewer Name:**	Michael Albertson
LRC Date:	2014-09-12 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L14090460
Project Name:		**Method:**	8260
Prep Batch Number(s):	491672, 491746	**Reviewer Name:**	Michael Albertson
LRC Date:	2014-09-12 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			2
Was the ICAL curve verified for each analyte?		X			1
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L14090460
Project Name:		**Method:**	8260
Prep Batch Number(s):	491672, 491746	**Reviewer Name:**	Michael Albertson
LRC Date:	2014-09-12 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L14090460
Project Name:		**Method:**	8260
Prep Batch Number(s):	491672, 491746	**Reviewer Name:**	Michael Albertson
LRC Date:	2014-09-12 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1) The percent difference was out of range for the following analytes: carbon disulfide, dichlorodifluoromethane.
2) Recoveries out of range were observed for the following analytes: bromomethane, carbon disulfide, dichlorodifluoromethane, trichloroethene..

1.2 Certificate of Analysis

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Certificate of Analysis

Sample #:	L14090460-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS17
Client ID:	12WW25(30)080914	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	08/12/2014 17:50
Workgroup #:	WG491746	**Analyst:**	FJB	**Run Date:**	09/10/2014 13:42
Collect Date:	09/08/2014 12:40	**Dilution:**	1	**File ID:**	17M008121
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.15	J	10.0	5.00	2.50
Benzene	71-43-2	0.380	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.873	J	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.293	J	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	Q	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.402	J	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.388	J	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.317	Q	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	94.2	85	115	
1,2-Dichloroethane-d4	96.4	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	112	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Certificate of Analysis

Sample #:	L14090460-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS17
Client ID:	12TB080914	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	08/12/2014 17:50
Workgroup #:	WG491672	**Analyst:**	ADC	**Run Date:**	09/10/2014 00:08
Collect Date:	09/08/2014 00:01	**Dilution:**	1	**File ID:**	17M008106
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	Q	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.9	85	115	
1,2-Dichloroethane-d4	94.1	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	108	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Certificate of Analysis

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Certificate of Analysis

Sample #:	L14090460-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS17
Client ID:	12WW25(30)080914	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	08/12/2014 17:50
Workgroup #:	WG491746	**Analyst:**	FJB	**Run Date:**	09/10/2014 13:42
Collect Date:	09/08/2014 12:40	**Dilution:**	1	**File ID:**	17M008121
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.15	J	10.0	5.00	2.50
Benzene	71-43-2	0.380	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.873	J	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.293	J	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	Q	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.402	J	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.388	J	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.317	Q	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	94.2	85	115	
1,2-Dichloroethane-d4	96.4	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	112	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Certificate of Analysis

Sample #:	L14090460-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS17
Client ID:	12TB080914	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	08/12/2014 17:50
Workgroup #:	WG491672	**Analyst:**	ADC	**Run Date:**	09/10/2014 00:08
Collect Date:	09/08/2014 00:01	**Dilution:**	1	**File ID:**	17M008106
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	Q	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.9	85	115	
1,2-Dichloroethane-d4	94.1	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	108	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L14090460
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Kathy Albertson

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Analyst(s): BLG
Date: 9-8-14
Filter Lot #: 91986129

Agitator Speed 30 ± 2 rpm ☑

Analyst / Date		Analyst / Date	
BLG 9-8-14		BLG 9-9-14	
Time On	Temp On °C	Time Off	Temp Off °C
1620	23.7	0835	22.8

ZHE	Sample #	Pressure √	PSI ON	PSI OFF	Method	Fluid #	Matrix*	%Solid	Size Reduction Yes	Size Reduction No	Int. Wt. (g)	Fluid Vol. (mL)
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K	9-369-2	✓	10	10	1311	F1991	S	100		✓	25.00	500
L	4	✓	↓	↓	↓	↓	↓	↓		✓	25.03	500
M												
N												
O												
P												
Q												
R												
S												
N/A	FBIK1	NA	NA	NA	1311	F1991	W	NA		✓	NA	40

BLG 9-9-14

*Matrix Code = (S-solid) (SS-sand, soil or sludge) (P-paint) (O-organic) (W-water or waste)

Comments: _____

Peer Review By: Vicki Gillen 9/9/14

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 101313

Analyst1: MES Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 17

Method: 624 SOP: MSV10 Rev: 10

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13

Maintenance Log ID: 47805

Internal Standard: STD60409 Surrogate Standard: STD60842

CCV: STD60752 LCS: STD60749 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG448463

Comments: Rerun MDLs for isobutanol and cyclohexanone.

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M000183	WG448462-01 50NG BFB STD 8260	NA	1	1	STD60561	10/13/13 16:29
17M000184	WG448462-01 50NG BFB STD 8260	NA	1	1	STD60561	10/13/13 16:45
17M000185	WG448466-02 50ug/L WATER STD 8260	NA	1	1	STD60687	10/13/13 17:20
17M000186	WG448462-02 5ug/L APPIX STD	NA	1	1	STD60752	10/13/13 17:48
17M000187	WG448462-03 20ug/L APPIX STD	NA	1	1	STD60752	10/13/13 18:15
17M000188	WG448462-04 50ug/L APPIX STD	NA	1	1	STD60752	10/13/13 18:43
17M000189	WG448462-05 100ug/L APPIX STD	NA	1	1	STD60752	10/13/13 19:11
17M000190	WG448462-06 200ug/L APPIX STD	NA	1	1	STD60752	10/13/13 19:39
17M000191	WG448462-07 300ug/L APPIX STD	NA	1	1	STD60752	10/13/13 20:07
17M000192	WG448462-08 400ug/L APPIX STD	NA	1	1	STD60752	10/13/13 20:35
17M000193	WG448462-09 500ug/L APPIX STD	NA	1	1	STD60752	10/13/13 21:03
17M000194	RINSE	NA	1	1		10/13/13 21:31
17M000195	WG448462-10 100ug/L APPIX ALT SRC	NA	1	1	STD60749	10/13/13 22:00
17M000196	RINSE	NA	1	1		10/13/13 22:27
17M000197	L13100005-12 BLANK	NA	1	1		10/13/13 22:55
17M000198	L13100005-13 BLANK	NA	1	1		10/13/13 23:23
17M000199	L13100005-01 MDL	NA	1	1	STD60752	10/13/13 23:51
17M000200	L13100005-02 MDL	NA	1	1	STD60752	10/14/13 00:18
17M000201	L13100005-03 MDL	NA	1	1	STD60752	10/14/13 00:47
17M000202	L13100005-04 MDL	NA	1	1	STD60752	10/14/13 01:14
17M000203	L13100005-05 MDL	NA	1	1	STD60752	10/14/13 01:43
17M000204	L13100005-06 MDL	NA	1	1	STD60752	10/14/13 02:11
17M000205	L13100005-07 MDL	NA	1	1	STD60752	10/14/13 02:39

Approved: October 18, 2013

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 081214

Analyst1: ADC Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 19

Method: 5030C SOP: PAT01 Rev: 16

Method: 624 SOP: MSV10 Rev: 12

Maintenance Log ID: 51343

Internal Standard: STD65745 Surrogate Standard: STD65715

CCV: STD65747 LCS: STD65748 MS/MSD: STD65748

Column 1 ID: RTX-VMS Column 2 ID: NA

Workgroups: WG487972 (ICAL)

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M007342	WG487972-01 50ng BFB 8260	NA	1	1	STD65934	08/12/14 14:16
17M007343	RINSE	NA	1	1		08/12/14 14:34
17M007344	WG487972-02 0.3ug/L STD 8260	NA	1	1	STD65747	08/12/14 14:53
17M007345	WG487972-03 0.4ug/L STD 8260	NA	1	1	STD65747	08/12/14 15:13
17M007346	WG487972-04 1.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 15:33
17M007347	WG487972-05 2.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 15:52
17M007348	WG487972-06 5.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 16:12
17M007349	WG487972-07 20.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 16:32
17M007350	WG487972-08 50.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 16:51
17M007351	WG487972-09 100.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 17:11
17M007352	WG487972-10 200.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 17:30
17M007353	WG487972-11 300.0ug/L STD 8260	NA	1	1	STD65747	08/12/14 17:50
17M007354	RINSE	NA	1	1		08/12/14 18:10
17M007355	WG487972-12 50.0ug/L ALTSRC 8260	NA	1	1	STD65748	08/12/14 18:29

Approved: August 18, 2014

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 090914
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 19
Method: 5030C/5035A SOP: PAT01 Rev: 16
Method: 624 SOP: MSV10 Rev: 12
Maintenance Log ID: 51602

Internal Standard: STD66140 Surrogate Standard: STD66349
CCV: STD66320 LCS: STD66321 MS/MSD: NA

Column 1 ID: 624-VMS Column 2 ID: NA
Workgroups: WG491621, WG491672

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M008073	WG491620-01 50ng BFB STD	NA	1	1	STD66239	09/09/14 13:18
17M008074	WG491620-02 50ug/L CCV 8260	NA	1	1	STD66320	09/09/14 13:36
17M008075	RINSE	NA	1	1		09/09/14 13:58
17M008076	WG491621-01 VBLK 0908 8260	NA	1	1		09/09/14 14:18
17M008077	WG491621-02 20ug/L LCS 8260	NA	1	1	STD66321	09/09/14 14:38
17M008078	WG491621-03 20ug/L LCSDUP 8260	NA	1	1	STD66321	09/09/14 14:57
17M008079	RINSE	NA	1	1		09/09/14 15:17
17M008080	WG491621-01 VBLK 0908 8260	NA	1	1		09/09/14 15:36
17M008081	L14090254-09 A 826-LOW FB	<2	1	1		09/09/14 15:56
17M008082	L14090254-10 A 826-LOW TB	<2	1	1		09/09/14 16:16
17M008083	L14090304-06 A 826-LOW TB	<2	1	1		09/09/14 16:35
17M008084	L14090317-07 B 5X 826-SPE D1	<2	1	5		09/09/14 16:55
17M008085	L14081618-11 B 10X 826-SPE D1	<2	1	10		09/09/14 17:15
17M008086	L14081618-12 B 10X 826-SPE D1	<2	1	10		09/09/14 17:35
17M008087	L14090254-01 A 826-LOW	<2	1	1		09/09/14 17:54
17M008088	L14090254-02 A 826-LOW	<2	1	1		09/09/14 18:14
17M008089	L14090254-03 A 826-LOW	<2	1	1		09/09/14 18:34
17M008090	L14090254-04 A 826-LOW	<2	1	1		09/09/14 18:53
17M008091	L14090254-05 A 826-LOW	<2	1	1		09/09/14 19:13
17M008092	L14090254-06 A 826-LOW	<2	1	1		09/09/14 19:33
17M008093	L14090254-07 A 826-LOW	<2	1	1		09/09/14 19:52
17M008094	L14090254-08 A 826-LOW	<2	1	1		09/09/14 20:12
17M008095	L14090304-01 A 826-LOW	<2	1	1		09/09/14 20:32
17M008096	L14090304-02 A 826-LOW	<2	1	1		09/09/14 20:51
17M008097	L14090304-03 A 826-LOW	<2	1	1		09/09/14 21:11
17M008098	L14090304-04 A 826-LOW	<2	1	1		09/09/14 21:31
17M008099	L14090304-05 A 826-LOW	<2	1	1		09/09/14 21:50
17M008100	L14090304-07 A 826-LOW	<2	1	1		09/09/14 22:10
17M008101	RINSE	NA	1	1		09/09/14 22:30
17M008102	WG491672-01 VBLK 0909 8260	NA	1	1		09/09/14 22:49
17M008103	WG491672-02 20ug/L LCS 8260	NA	1	1		09/09/14 23:09
17M008104	WG491672-03 20ug/L LCSDUP 8260	NA	1	1		09/09/14 23:29
17M008105	RINSE	NA	1	1		09/09/14 23:48
17M008106	L14090460-02 A 826-LOW	<2	1	1		09/10/14 00:08

Approved: September 11, 2014

Tiffany Bailey

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 090914

Analyst1: ADC Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 19

Method: 5030C/5035A SOP: PAT01 Rev: 16

Method: 624 SOP: MSV10 Rev: 12

Maintenance Log ID: 51602

Internal Standard: STD66140 Surrogate Standard: STD66349

CCV: STD66320 LCS: STD66321 MS/MSD: NA

Column 1 ID: 624-VMS Column 2 ID: NA

Workgroups: WG491621, WG491672

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M008107	L14090369-02 A 10X 826-TC	NA	17	10		09/10/14 00:28
17M008108	L14090369-04 A 10X 826-TC	NA	17	10		09/10/14 00:48
17M008109	L14090460-01 A 100X 826-LOW	<2	1	100		09/10/14 01:07
17M008110	RINSE	NA	1	1		09/10/14 01:27
17M008111	RINSE	NA	1	1		09/10/14 01:47
17M008112	RINSE	NA	1	1		09/10/14 02:07
17M008113	WG491483-01 10X 826-TC BLK	NA	17	10		09/10/14 02:27

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4				
File ID: 17M008076				
	dnr rr			
37				
File ID: 17M008109				
	rr 2x; sediment in vials			

Approved: September 11, 2014

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 091014
Analyst1: FJB Analyst2: ADC
Method: 8260B SOP: MSV01 Rev: 19
Method: 5030C SOP: PAT01 Rev: 16
Method: 624 SOP: MSV10 Rev: 14
Maintenance Log ID: 51633

Internal Standard: STD66140 Surrogate Standard: STD66349
CCV: STD66320 LCS: STD66321 MS/MSD: STD66321

Column 1 ID: RTX-VMS Column 2 ID: NA
Workgroups: WG491746, WG491868

Comments: Unison L14090355's require reanalysis due to a failing LCS.

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M008114	WG491745-01 BFB 50ng STD	NA	1	1	STD66239	09/10/14 11:20
17M008115	WG491745-02 50ug/L CCV 8260	NA	1	1	STD66320	09/10/14 11:38
17M008116	RINSE	NA	1	1		09/10/14 12:04
17M008117	WG491746-01 VBLK0910 BLANK 8260	NA	1	1		09/10/14 12:23
17M008118	WG491746-02 20ug/L LCS 8260	NA	1	1	STD66321	09/10/14 12:43
17M008119	WG491746-03 20ug/L LCSDUP 8260	NA	1	1	STD66321	09/10/14 13:03
17M008120	L14090295-02 A 826-SPE	<2	1	1		09/10/14 13:22
17M008121	L14090460-01 B+C 826-LOW	<2	1	1		09/10/14 13:42
17M008122	L14090295-03 A 826-SPE	<2	1	1		09/10/14 14:02
17M008123	L14090295-05 A 826-SPE	<2	1	1		09/10/14 14:21
17M008124	L14090123-03 A TB 826-LOW	<2	1	1		09/10/14 14:41
17M008125	L14090195-01 A TB 826-LOW	<2	1	1		09/10/14 15:01
17M008126	L14090191-04 A TB 826-SPE	NA	1	1		09/10/14 15:20
17M008127	L14090465-03 A TB 826-LOW	<2	1	1		09/10/14 15:40
17M008128	L14090195-02 A 826-LOW	<2	1	1		09/10/14 16:00
17M008129	L14090190-01 A 826-SPE	<2	1	1		09/10/14 16:20
17M008130	L14090190-05 A 826-SPE	<2	1	1		09/10/14 16:39
17M008131	L14090191-02 A 826-SPE	<2	1	1		09/10/14 16:59
17M008132	L14090191-03 A 826-SPE	<2	1	1		09/10/14 17:19
17M008133	L14090465-01 A 826-LOW	<2	1	1		09/10/14 17:38
17M008134	L14090191-01 A 826-SPE	<2	1	1		09/10/14 17:58
17M008135	L14090444-01 A 10X 826-TC	<2	17	10		09/10/14 18:18
17M008136	L14090295-07 200X A 826-SPE	<2	1	200		09/10/14 18:37
17M008137	L14090295-06 50X A 826-SPE	<2	1	50		09/10/14 18:57
17M008138	L14090295-04 5X A 826-SPE	<2	1	5		09/10/14 19:17
17M008139	L14090123-01 50X A 826-LOW	<2	1	50		09/10/14 19:36
17M008140	WG491868-01 VBLK0910 BLANK STD 826	NA	1	1		09/10/14 19:56
17M008141	WG491868-02 20ug/L LCS STD 8260	NA	1	1	STD66321	09/10/14 20:16
17M008142	WG491868-03 20ug/L LCSDUP STD 8260	NA	1	1	STD66321	09/10/14 20:35
17M008143	RINSE	NA	1	1		09/10/14 20:55
17M008144	WG491868-04 VBLK0910 BLANK STD 624	NA	2	1		09/10/14 21:15
17M008145	L14090355-03 A TB 826-SPE	<2	1	1		09/10/14 21:35
17M008146	L14090355-02 A 826-SPE	<2	1	1		09/10/14 21:54
17M008147	L14090355-01 A 826-SPE	<2	1	1		09/10/14 22:14

Approved: September 12, 2014

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 091014
Analyst1: FJB Analyst2: ADC
Method: 8260B SOP: MSV01 Rev: 19
Method: 5030C SOP: PAT01 Rev: 16
Method: 624 SOP: MSV10 Rev: 14
Maintenance Log ID: 51633

Internal Standard: STD66140 Surrogate Standard: STD66349
CCV: STD66320 LCS: STD66321 MS/MSD: STD66321

Column 1 ID: RTX-VMS Column 2 ID: NA
Workgroups: WG491746, WG491868

Comments: Unison L14090355's require reanalysis due to a failing LCS.

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M008148	L14090492-01 A 624-SPE	7	2	1		09/10/14 22:34
17M008149	L14090492-02 A 624-SPE1	7	2	1		09/10/14 22:54
17M008150	L14090492-03 A 624-SPE2	7	2	1		09/10/14 23:14
17M008151	L14090492-04 A 624-SPE3	<2	2	1		09/10/14 23:33
17M008152	CCV	NA	1	1		09/10/14 23:53
17M008153	RINSE	NA	1	1		09/11/14 00:13
17M008154	WG491644-01 FBLK 10X 826-TC	NA	17	10		09/11/14 00:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X	5	Over Calibration Range	DEE
File ID: 17M008123				
L14090295-05				

Approved: September 12, 2014

Microbac Laboratories Inc.

Data Checklist

Date: 13-OCT-2013
Analyst: MES
Analyst: NA
Method: 8260/624
Instrument: HPMS17
Curve Workgroup: NA
Runlog ID: 56448
Analytical Workgroups: WG448463

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	NA
Recoveries	NA
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	NA
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer: 17-OCT-2013

Secondary Reviewer: 18-OCT-2013

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-18-2013 08:13:54

Microbac Laboratories Inc.

Data Checklist

Date: 12-AUG-2014
Analyst: ADC
Analyst: NA
Method: 8260/624
Instrument: HPMS17
Curve Workgroup: WG487972
Runlog ID: 62870
Analytical Workgroups:

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	ADC
Surrogates	NA
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	NA
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
15-AUG-2014

Secondary Reviewer:
18-AUG-2014

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-18-2014 08:25:45

Microbac Laboratories Inc.

Data Checklist

Date: 09-SEP-2014
Analyst: ADC
Analyst: NA
Method: 8260B/624
Instrument: HPMS17
Curve Workgroup: NA
Runlog ID: 63339
Analytical Workgroups: WG491621, WG491672

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	MDA
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	NDA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MDA
Secondary Reviewer	TMB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
10-SEP-2014

Secondary Reviewer:
11-SEP-2014

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-11-2014 14:24:04

Microbac Laboratories Inc.

Data Checklist

Date: 10-SEP-2014
Analyst: ADC
Analyst: NA
Method: 8260/624
Instrument: HPMS17
Curve Workgroup: NA
Runlog ID: 63374
Analytical Workgroups: WG491746, WG491868

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
12-SEP-2014

Secondary Reviewer:
12-SEP-2014

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-12-2014 12:32:37

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG491672

Login Number: L14090460

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
12TB080914	02	09/08/14					09/10/2014	2	14		09/10/14	2	14	

*** = SEE PROJECT QAPP REQUIREMENTS**

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3749113
Report generated 09/12/2014 14:49

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG491746

Login Number: L14090460

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
12WW25(30)080914	01	09/08/14					09/10/2014	2	14		09/10/14	2	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3749113
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L14090460
Instrument Id: HPMS17
Workgroup (AAB#): WG491746

Method: 8260
CAL ID: HPMS17-12-AUG-14
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L14090460-01	1.00	01	96.4	94.2	112	102
WG491746-01	1.00	01	96.0	94.7	113	102
WG491746-02	1.00	01	94.5	95.6	107	101
WG491746-03	1.00	01	93.1	94.1	102	99.3

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 3749121
Report generated: 09/12/2014 14:49

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L14090460
Instrument Id: HPMS17
Workgroup (AAB#): WG491672

Method: 8260
CAL ID: HPMS17-12-AUG-14
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L14090460-02	1.00	01	94.1	92.9	108	101
WG491672-01	1.00	01	92.5	90.7	109	99.4
WG491672-02	1.00	01	94.5	95.0	106	101
WG491672-03	1.00	01	97.0	96.7	110	104

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 3749121
Report generated: 09/12/2014 14:49

METHOD BLANK SUMMARY

Login Number: L14090460
Blank File ID: 17M008102
Prep Date: 09/09/14 22:49
Analyzed Date: 09/09/14 22:49
Analyst: ADC

Work Group: WG491672
Blank Sample ID: WG491672-01
Instrument ID: HPMS17
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG491672-02	17M008103	09/09/14 23:09	01
LCS2	WG491672-03	17M008104	09/09/14 23:29	01
12TB080914	L14090460-02	17M008106	09/10/14 00:08	01

Report Name: BLANK_SUMMARY
PDF File ID: 3749114
Report generated 09/12/2014 14:49

METHOD BLANK SUMMARY

Login Number:	L14090460	**Work Group:**	WG491746
Blank File ID:	17M008117	**Blank Sample ID:**	WG491746-01
Prep Date:	09/10/14 12:23	**Instrument ID:**	HPMS17
Analyzed Date:	09/10/14 12:23	**Method:**	8260B
Analyst:	FJB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG491746-02	17M008118	09/10/14 12:43	01
LCS2	WG491746-03	17M008119	09/10/14 13:03	01
12WW25(30)080914	L14090460-01	17M008121	09/10/14 13:42	01

Report Name: BLANK_SUMMARY
PDF File ID: 3749114
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L14090460 Prep Date:09/09/14 22:49 Sample ID:WG491672-01
Instrument ID:HPMS17 Run Date:09/09/14 22:49 Prep Method:5030B/5030C/503
File ID:17M008102 Analyst:ADC Method:8260B
Workgroup (AAB#):WG491672 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS17-12-AUG-14

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 3749115
12-SEP-2014 14:49

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L14090460 Prep Date: 09/09/14 22:49 Sample ID: WG491672-01
Instrument ID: HPMS17 Run Date: 09/09/14 22:49 Prep Method: 5030B/5030C/503
File ID: 17M008102 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG491672 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS17-12-AUG-14

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	90.7	85 - 115	PASS
1,2-Dichloroethane-d4	92.5	70 - 120	PASS
Toluene-d8	99.4	85 - 120	PASS
4-Bromofluorobenzene	109	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3749115
12-SEP-2014 14:49

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L14090460 Prep Date:09/10/14 12:23 Sample ID:WG491746-01
Instrument ID:HPMS17 Run Date:09/10/14 12:23 Prep Method:5030B/5030C/503
File ID:17M008117 Analyst:FJB Method:8260B
Workgroup (AAB#):WG491746 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS17-12-AUG-14

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 3749115
12-SEP-2014 14:49

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L14090460 Prep Date: 09/10/14 12:23 Sample ID: WG491746-01
Instrument ID: HPMS17 Run Date: 09/10/14 12:23 Prep Method: 5030B/5030C/503
File ID: 17M008117 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG491746 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS17-12-AUG-14

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.280	1	J
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	94.7	85 - 115	PASS
1,2-Dichloroethane-d4	96.0	70 - 120	PASS
Toluene-d8	102	85 - 120	PASS
4-Bromofluorobenzene	113	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3749115
12-SEP-2014 14:49

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L14090460 Analyst: ADC Prep Method: 5030B/5030C/503
Instrument ID: HPMS17 Matrix: Water Method: 8260B
Workgroup (AAB#): WG491672 Units: ug/L
QC Key: DOD4 Lot #: STD66321

Sample ID: WG491672-02 LCS File ID: 17M008103 Run Date: 09/09/2014 23:09
Sample ID: WG491672-03 LCS2 File ID: 17M008104 Run Date: 09/09/2014 23:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	18.5	92.7	20.0	18.9	94.7	2.18	80 - 130	30	
1,1,1-Trichloroethane	20.0	18.5	92.3	20.0	18.3	91.5	0.845	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	19.0	95.2	20.0	20.3	102	6.54	65 - 130	30	
1,1,2-Trichloroethane	20.0	18.8	93.8	20.0	19.6	98.2	4.66	75 - 125	30	
1,1-Dichloroethane	20.0	18.1	90.5	20.0	18.3	91.6	1.15	70 - 135	30	
1,1-Dichloroethene	20.0	17.7	88.5	20.0	17.6	88.2	0.402	70 - 130	30	
1,1-Dichloropropene	20.0	18.3	91.7	20.0	18.3	91.6	0.0843	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	19.5	97.5	20.0	20.4	102	4.65	55 - 140	30	
1,2,3-Trichloropropane	20.0	19.7	98.6	20.0	20.8	104	5.28	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	19.4	97.2	20.0	20.1	101	3.56	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	20.4	102	20.0	21.2	106	3.46	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	20.7	104	20.0	22.1	110	6.39	50 - 130	30	
1,2-Dibromoethane	20.0	18.8	94.2	20.0	19.7	98.3	4.18	80 - 120	30	
1,2-Dichlorobenzene	20.0	18.3	91.4	20.0	19.1	95.3	4.14	70 - 120	30	
1,2-Dichloroethane	20.0	19.7	98.3	20.0	19.9	99.7	1.40	70 - 130	30	
1,2-Dichloropropane	20.0	19.0	94.9	20.0	19.2	95.9	0.983	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	20.6	103	20.0	21.2	106	3.17	75 - 130	30	
1,3-Dichlorobenzene	20.0	18.0	90.2	20.0	18.7	93.3	3.35	75 - 125	30	
1,3-Dichloropropane	20.0	19.2	96.2	20.0	20.2	101	5.00	75 - 125	30	
1,4-Dichlorobenzene	20.0	18.9	94.3	20.0	19.5	97.4	3.21	75 - 125	30	
2,2-Dichloropropane	20.0	14.7	73.7	20.0	14.8	73.9	0.253	70 - 135	30	
2-Butanone	20.0	19.7	98.3	20.0	20.5	102	4.22	30 - 150	30	
2-Chlorotoluene	20.0	19.1	95.6	20.0	19.7	98.7	3.19	75 - 125	30	
2-Hexanone	20.0	19.4	96.9	20.0	20.4	102	5.29	55 - 130	30	
4-Chlorotoluene	20.0	18.5	92.6	20.0	19.1	95.3	2.85	75 - 130	30	
4-Methyl-2-pentanone	20.0	18.9	94.6	20.0	19.9	99.5	5.10	60 - 135	30	
Acetone	20.0	23.1	116	20.0	24.3	122	5.05	40 - 140	30	
Benzene	20.0	18.4	92.0	20.0	18.6	92.8	0.773	80 - 120	30	
Bromobenzene	20.0	19.0	94.9	20.0	19.9	99.5	4.71	75 - 125	30	
Bromochloromethane	20.0	18.3	91.3	20.0	18.7	93.7	2.63	65 - 130	30	
Bromodichloromethane	20.0	18.5	92.3	20.0	18.5	92.7	0.488	75 - 120	30	
Bromoform	20.0	18.7	93.5	20.0	19.2	96.1	2.74	70 - 130	30	
Bromomethane	20.0	14.4	72.2	20.0	16.3	81.5	12.1	30 - 145	30	
Carbon disulfide	20.0	13.4	67.2	20.0	13.5	67.4	0.393	35 - 160	30	
Carbon tetrachloride	20.0	18.6	92.9	20.0	18.5	92.4	0.528	65 - 140	30	
Chlorobenzene	20.0	17.8	88.9	20.0	18.0	90.2	1.45	80 - 120	30	
Chloroethane	20.0	20.6	103	20.0	20.3	102	1.22	60 - 135	30	
Chloroform	20.0	18.6	92.8	20.0	18.7	93.6	0.872	65 - 135	30	
Chloromethane	20.0	20.6	103	20.0	21.3	106	3.15	40 - 125	30	
cis-1,2-Dichloroethene	20.0	18.5	92.6	20.0	18.7	93.3	0.751	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3749116
Report generated: 09/12/2014 14:49

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L14090460 Analyst: ADC Prep Method: 5030B/5030C/503
Instrument ID: HPMS17 Matrix: Water Method: 8260B
Workgroup (AAB#): WG491672 Units: ug/L
QC Key: DOD4 Lot #: STD66321

Sample ID: WG491672-02 LCS File ID: 17M008103 Run Date: 09/09/2014 23:09
Sample ID: WG491672-03 LCS2 File ID: 17M008104 Run Date: 09/09/2014 23:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	18.5	92.4	20.0	18.7	93.5	1.27	70 - 130	30	
Chlorodibromomethane	20.0	18.7	93.7	20.0	19.2	96.0	2.51	60 - 135	30	
Dibromomethane	20.0	18.6	92.8	20.0	19.1	95.4	2.75	75 - 125	30	
Dichlorodifluoromethane	20.0	25.7	128	20.0	25.7	128	0.0588	30 - 155	30	
Ethylbenzene	20.0	19.0	95.2	20.0	19.3	96.7	1.55	75 - 125	30	
Hexachlorobutadiene	20.0	17.5	87.7	20.0	18.2	90.8	3.47	50 - 140	30	
Isopropylbenzene	20.0	18.3	91.5	20.0	18.6	93.1	1.77	75 - 125	30	
m-,p-Xylene	40.0	37.3	93.2	40.0	38.0	95.1	2.05	75 - 130	30	
Methylene chloride	20.0	18.3	91.3	20.0	18.5	92.7	1.48	55 - 140	30	
n-Butylbenzene	20.0	20.8	104	20.0	21.4	107	3.21	70 - 135	30	
n-Propylbenzene	20.0	18.9	94.7	20.0	19.5	97.3	2.72	70 - 130	30	
Naphthalene	20.0	19.1	95.6	20.0	20.8	104	8.20	55 - 140	30	
o-Xylene	20.0	17.9	89.7	20.0	18.2	91.1	1.50	80 - 120	30	
p-Isopropyltoluene	20.0	18.8	94.0	20.0	19.3	96.4	2.58	75 - 130	30	
sec-Butylbenzene	20.0	19.1	95.3	20.0	19.5	97.6	2.44	70 - 125	30	
Styrene	20.0	19.4	97.1	20.0	20.0	99.8	2.78	65 - 135	30	
tert-Butylbenzene	20.0	18.4	91.9	20.0	19.0	94.9	3.15	70 - 130	30	
Tetrachloroethene	20.0	17.7	88.3	20.0	18.0	90.1	2.00	45 - 150	30	
Toluene	20.0	19.1	95.4	20.0	19.6	97.9	2.55	75 - 120	30	
trans-1,2-Dichloroethene	20.0	18.4	92.1	20.0	18.7	93.7	1.81	60 - 140	30	
trans-1,3-Dichloropropene	20.0	17.1	85.5	20.0	17.6	88.2	3.11	55 - 140	30	
Trichloroethene	20.0	18.2	91.2	20.0	18.4	91.9	0.729	70 - 125	30	
Trichlorofluoromethane	20.0	19.9	99.7	20.0	19.4	96.8	2.94	60 - 145	30	
Vinyl chloride	20.0	20.0	99.8	20.0	20.3	102	1.76	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	94.5	97.0	70 - 120	PASS
Dibromofluoromethane	95.0	96.7	85 - 115	PASS
4-Bromofluorobenzene	106	110	75 - 120	PASS
Toluene-d8	101	104	85 - 120	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3749116
Report generated: 09/12/2014 14:49

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L14090460 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS17 Matrix: Water Method: 8260B
Workgroup (AAB#): WG491746 Units: ug/L
QC Key: DOD4 Lot #: STD66321

Sample ID: WG491746-02 LCS File ID: 17M008118 Run Date: 09/10/2014 12:43
Sample ID: WG491746-03 LCS2 File ID: 17M008119 Run Date: 09/10/2014 13:03

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	18.6	93.1	20.0	17.8	89.1	4.38	80 - 130	30	
1,1,1-Trichloroethane	20.0	18.1	90.4	20.0	17.5	87.4	3.35	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	21.5	108	20.0	19.6	98.0	9.41	65 - 130	30	
1,1,2-Trichloroethane	20.0	19.0	95.2	20.0	18.1	90.3	5.22	75 - 125	30	
1,1-Dichloroethane	20.0	18.1	90.6	20.0	17.3	86.6	4.53	70 - 135	30	
1,1-Dichloroethene	20.0	17.6	88.0	20.0	16.9	84.6	3.86	70 - 130	30	
1,1-Dichloropropene	20.0	18.2	91.0	20.0	17.4	87.2	4.32	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	20.0	99.9	20.0	18.5	92.5	7.62	55 - 140	30	
1,2,3-Trichloropropane	20.0	20.7	103	20.0	18.7	93.5	9.96	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	19.9	99.5	20.0	18.8	93.9	5.87	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	21.0	105	20.0	19.5	97.4	7.66	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	21.1	105	20.0	20.0	99.8	5.52	50 - 130	30	
1,2-Dibromoethane	20.0	19.3	96.4	20.0	18.2	91.1	5.63	80 - 120	30	
1,2-Dichlorobenzene	20.0	18.8	94.2	20.0	17.4	87.0	7.91	70 - 120	30	
1,2-Dichloroethane	20.0	19.5	97.3	20.0	18.6	92.8	4.79	70 - 130	30	
1,2-Dichloropropane	20.0	18.9	94.3	20.0	18.1	90.4	4.31	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	21.2	106	20.0	19.6	97.9	7.72	75 - 130	30	
1,3-Dichlorobenzene	20.0	18.5	92.7	20.0	17.2	86.2	7.27	75 - 125	30	
1,3-Dichloropropane	20.0	19.3	96.7	20.0	18.4	91.9	5.02	75 - 125	30	
1,4-Dichlorobenzene	20.0	19.3	96.5	20.0	18.1	90.3	6.63	75 - 125	30	
2,2-Dichloropropane	20.0	18.5	92.3	20.0	17.4	86.9	6.07	70 - 135	30	
2-Butanone	20.0	20.1	101	20.0	19.2	95.8	5.01	30 - 150	30	
2-Chlorotoluene	20.0	19.5	97.3	20.0	18.2	91.1	6.56	75 - 125	30	
2-Hexanone	20.0	20.4	102	20.0	19.0	94.9	7.35	55 - 130	30	
4-Chlorotoluene	20.0	18.9	94.6	20.0	17.6	88.0	7.26	75 - 130	30	
4-Methyl-2-pentanone	20.0	19.4	97.2	20.0	18.3	91.3	6.22	60 - 135	30	
Acetone	20.0	22.1	111	20.0	20.4	102	7.88	40 - 140	30	
Benzene	20.0	18.3	91.5	20.0	17.6	88.1	3.79	80 - 120	30	
Bromobenzene	20.0	19.7	98.5	20.0	18.3	91.4	7.48	75 - 125	30	
Bromochloromethane	20.0	18.4	92.1	20.0	17.7	88.6	3.91	65 - 130	30	
Bromodichloromethane	20.0	18.4	92.2	20.0	17.6	87.8	4.89	75 - 120	30	
Bromoform	20.0	19.0	95.0	20.0	17.9	89.3	6.19	70 - 130	30	
Bromomethane	20.0	14.4	71.9	20.0	15.1	75.5	4.88	30 - 145	30	
Carbon disulfide	20.0	13.8	69.2	20.0	13.3	66.6	3.91	35 - 160	30	
Carbon tetrachloride	20.0	18.3	91.6	20.0	17.6	87.8	4.27	65 - 140	30	
Chlorobenzene	20.0	17.8	89.2	20.0	17.0	85.0	4.76	80 - 120	30	
Chloroethane	20.0	19.5	97.4	20.0	18.4	92.0	5.73	60 - 135	30	
Chloroform	20.0	18.4	92.0	20.0	17.6	88.2	4.31	65 - 135	30	
Chloromethane	20.0	20.6	103	20.0	20.3	102	1.37	40 - 125	30	
cis-1,2-Dichloroethene	20.0	18.4	92.1	20.0	17.8	88.9	3.59	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3749116
Report generated: 09/12/2014 14:49

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L14090460 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS17 Matrix: Water Method: 8260B
Workgroup (AAB#): WG491746 Units: ug/L
QC Key: DOD4 Lot #: STD66321

Sample ID: WG491746-02 LCS File ID: 17M008118 Run Date: 09/10/2014 12:43
Sample ID: WG491746-03 LCS2 File ID: 17M008119 Run Date: 09/10/2014 13:03

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	19.1	95.6	20.0	18.5	92.4	3.46	70 - 130	30	
Chlorodibromomethane	20.0	19.0	95.0	20.0	18.0	89.8	5.63	60 - 135	30	
Dibromomethane	20.0	18.6	92.9	20.0	17.9	89.4	3.81	75 - 125	30	
Dichlorodifluoromethane	20.0	25.1	125	20.0	24.0	120	4.36	30 - 155	30	
Ethylbenzene	20.0	19.0	94.9	20.0	18.0	90.2	5.14	75 - 125	30	
Hexachlorobutadiene	20.0	17.9	89.6	20.0	16.5	82.7	7.90	50 - 140	30	
Isopropylbenzene	20.0	18.4	91.8	20.0	17.4	87.1	5.31	75 - 125	30	
m-,p-Xylene	40.0	37.4	93.5	40.0	35.7	89.2	4.71	75 - 130	30	
Methylene chloride	20.0	18.4	91.9	20.0	17.7	88.3	3.97	55 - 140	30	
n-Butylbenzene	20.0	21.4	107	20.0	19.9	99.3	7.57	70 - 135	30	
n-Propylbenzene	20.0	19.4	96.9	20.0	18.0	89.9	7.50	70 - 130	30	
Naphthalene	20.0	19.3	96.6	20.0	18.3	91.5	5.39	55 - 140	30	
o-Xylene	20.0	18.1	90.3	20.0	17.1	85.7	5.15	80 - 120	30	
p-Isopropyltoluene	20.0	19.3	96.3	20.0	17.9	89.6	7.23	75 - 130	30	
sec-Butylbenzene	20.0	19.4	96.8	20.0	17.9	89.6	7.74	70 - 125	30	
Styrene	20.0	19.6	97.9	20.0	18.6	93.1	5.05	65 - 135	30	
tert-Butylbenzene	20.0	18.7	93.3	20.0	17.3	86.5	7.53	70 - 130	30	
Tetrachloroethene	20.0	17.8	89.0	20.0	16.8	84.1	5.63	45 - 150	30	
Toluene	20.0	19.3	96.3	20.0	18.3	91.4	5.21	75 - 120	30	
trans-1,2-Dichloroethene	20.0	18.3	91.6	20.0	17.6	88.2	3.71	60 - 140	30	
trans-1,3-Dichloropropene	20.0	18.0	89.9	20.0	17.1	85.4	5.11	55 - 140	30	
Trichloroethene	20.0	17.0	85.0	20.0	16.4	82.2	3.33	70 - 125	30	
Trichlorofluoromethane	20.0	19.0	95.1	20.0	18.0	90.0	5.60	60 - 145	30	
Vinyl chloride	20.0	20.1	100	20.0	19.2	96.2	4.31	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	94.5	93.1	70 - 120	PASS
Dibromofluoromethane	95.6	94.1	85 - 115	PASS
4-Bromofluorobenzene	107	102	75 - 120	PASS
Toluene-d8	101	99.3	85 - 120	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3749116
Report generated: 09/12/2014 14:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L14090460
Instrument: HPMS17
Analyst: MES
Workgroup: WG448462

Tune ID: WG448462-01
Run Date: 10/13/2013
Run Time: 16:45
File ID: 17M000184
Cal ID: HPMS17 - 13-OCT-13

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	18.4	9603	PASS
75.0	95.0	30.0	60.0	46.9	24464	PASS
95.0	95.0	100	100	100	52213	PASS
96.0	95.0	5.00	9.00	7.19	3755	PASS
173	174	0	2.00	1.14	488	PASS
174	95.0	50.0	100	82.2	42925	PASS
175	174	5.00	9.00	7.26	3116	PASS
176	174	95.0	101	97.1	41672	PASS
177	176	5.00	9.00	6.38	2660	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG448462-02	STD	01	10/13/2013 17:48	
WG448462-03	STD	01	10/13/2013 18:15	
WG448462-04	STD	01	10/13/2013 18:43	
WG448462-05	STD-CCV	01	10/13/2013 19:11	
WG448462-06	STD	01	10/13/2013 19:39	
WG448462-07	STD	01	10/13/2013 20:07	
WG448462-08	STD	01	10/13/2013 20:35	
WG448462-09	STD	01	10/13/2013 21:03	
WG448462-10	SSCV	01	10/13/2013 22:00	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3749118
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L14090460
Instrument: HPMS17
Analyst: ADC
Workgroup: WG487972

Tune ID: WG487972-01
Run Date: 08/12/2014
Run Time: 14:16
File ID: 17M007342
Cal ID: HPMS17 - 12-AUG-14

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.2	8576	PASS
75.0	95.0	30.0	60.0	47.6	23704	PASS
95.0	95.0	100	100	100	49819	PASS
96.0	95.0	5.00	9.00	6.89	3435	PASS
173	174	0	2.00	1.04	482	PASS
174	95.0	50.0	100	92.7	46200	PASS
175	174	5.00	9.00	7.34	3392	PASS
176	174	95.0	101	97.4	45013	PASS
177	176	5.00	9.00	6.86	3088	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG487972-02	STD	01	08/12/2014 14:53	
WG487972-03	STD	01	08/12/2014 15:13	
WG487972-04	STD	01	08/12/2014 15:33	
WG487972-05	STD	01	08/12/2014 15:52	
WG487972-06	STD	01	08/12/2014 16:12	
WG487972-07	STD	01	08/12/2014 16:32	
WG487972-08	STD-CCV	01	08/12/2014 16:51	
WG487972-09	STD	01	08/12/2014 17:11	
WG487972-10	STD	01	08/12/2014 17:30	
WG487972-11	STD	01	08/12/2014 17:50	
WG487972-12	SSCV	01	08/12/2014 18:29	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3749118
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L14090460
Instrument: HPMS17
Analyst: ADC
Workgroup: WG491620

Tune ID: WG491620-01
Run Date: 09/09/2014
Run Time: 13:18
File ID: 17M008073
Cal ID: HPMS17 - 12-AUG-14

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.7	7293	PASS
75.0	95.0	30.0	60.0	47.9	19728	PASS
95.0	95.0	100	100	100	41205	PASS
96.0	95.0	5.00	9.00	6.77	2788	PASS
173	174	0	2.00	1.05	360	PASS
174	95.0	50.0	100	83.1	34221	PASS
175	174	5.00	9.00	7.84	2682	PASS
176	174	95.0	101	98.0	33531	PASS
177	176	5.00	9.00	6.64	2226	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG491620-02	CCV	01	09/09/2014 13:36	
WG491672-01	BLANK	01	09/09/2014 22:49	
WG491672-02	LCS	01	09/09/2014 23:09	
WG491672-03	LCS2	01	09/09/2014 23:29	
L14090460-02	12TB080914	01	09/10/2014 00:08	
WG491483-01	FBLK1	DL01	09/10/2014 02:27	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3749118
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L14090460
Instrument: HPMS17
Analyst: FJB
Workgroup: WG491745

Tune ID: WG491745-01
Run Date: 09/10/2014
Run Time: 11:20
File ID: 17M008114
Cal ID: HPMS17 - 12-AUG-14

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.5	9411	PASS
75.0	95.0	30.0	60.0	50.4	24261	PASS
95.0	95.0	100	100	100	48139	PASS
96.0	95.0	5.00	9.00	6.56	3157	PASS
173	174	0	2.00	0.887	363	PASS
174	95.0	50.0	100	85.0	40936	PASS
175	174	5.00	9.00	7.86	3217	PASS
176	174	95.0	101	97.5	39904	PASS
177	176	5.00	9.00	6.74	2690	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG491745-02	CCV	01	09/10/2014 11:38	
WG491746-01	BLANK	01	09/10/2014 12:23	
WG491746-02	LCS	01	09/10/2014 12:43	
WG491746-03	LCS2	01	09/10/2014 13:03	
L14090460-01	12WW25(30)080914	01	09/10/2014 13:42	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3749118
Report generated 09/12/2014 14:49

Response Factor Report HPMS17

Method Path : D:\MassHunter\GCMS\1\methods\
Method File : A9FOOWT.M
Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
Last Update : Thu Oct 17 17:39:37 2013
Response Via : Initial Calibration
Curve:WG448462
Calibration Files
5 =17M000186.D 20 =17M000187.D 50 =17M000188.D 100 =17M000189.D 200 =17M000190.D 300 =17M000191.D 400 =17M00019
500 =17M000193.D

		Compound	5	20	50	100	200	300	400	500	Avg	%RSD	Linear	Quadratic
1)	I	Fluorobenzene	----------ISTD----------											
2)	T	Acetonitrile	0.015	0.016	0.016	0.018	0.018	0.019	0.018	0.017		6.99		
3)	T	3-Chloro-1-pro...	0.338	0.384	0.374	0.368	0.350	0.333	0.318	0.306	0.346	8.00		
4)	T	2-Chloro-1,3-b...	0.284	0.344	0.339	0.340	0.330	0.319	0.309	0.299	0.320	6.81		
5)	T	Methacrylonitrile	0.055	0.065	0.068	0.067	0.070	0.066	0.066	0.064	0.065	6.65		
6)	T	Ethyl Acetate	0.124	0.142	0.149	0.150	0.156	0.149	0.150	0.146	0.146	6.70		
7)	T	Isobutyl Alcohol	0.004	0.005	0.004	0.005	0.005	0.005	0.005	0.005		7.94		
8)	T	1-Butanol		0.002	0.002	0.002	0.003	0.003	0.003	0.002		24.53		0.996
9)	T	Methyl methacr...	0.110	0.132	0.142	0.147	0.151	0.141	0.140	0.135	0.137	9.17		
10)	T	2-Nitropropane	0.039	0.048	0.051	0.056	0.055	0.056	0.055	0.051		12.15		
11)		Chlorobenzene-d5	----------ISTD----------											
12)	T	Cyclohexanone		0.004	0.004	0.005	0.005	0.006	0.006	0.005		18.06		0.993
13)	I	1,4-Dichlorobenzen...	----------ISTD----------											

(#) = Out of Range

A9FOOWT.M Thu Oct 17 17:45:24 2013

Calibration Table Report
Method: 8260VMS.M
Title: 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
Last Calibration: Wed Aug 13 09:40:20 2014
Curve: WG487972
Calibration Files

Compound		0.3 17M007344.D	0.4 17M007345.D	1 17M007346.D	2 17M007347.D	5 17M007348.D	20 17M007349.D	50 17M007350.D	100 17M007351.D	200 17M007352.D	300 17M007353.D	Avg	%RSD	R^2 Linear	Quadratic
Fluorobenzene	ISTD														
Dichlorodifluoromethane			0.201	0.208	0.211	0.212	0.256	0.247	0.248	0.262	0.260	0.234	10.702		
Chloromethane			0.313	0.286	0.277	0.285	0.303	0.297	0.298	0.312	0.316	0.298	4.601		
Vinyl Chloride			0.318	0.295	0.298	0.307	0.324	0.316	0.321	0.343	0.342	0.318	5.290		
1,3-Butadiene			0.223	0.195	0.195	0.205	0.224	0.221	0.210	0.231	0.234	0.215	6.908		
Bromomethane				0.121	0.129	0.135	0.151	0.161	0.172	0.190	0.193	0.156	17.355	0.996	
Chloroethane				0.181	0.175	0.185	0.186	0.185	0.174	0.175	0.163	0.178	4.340		
Trichlorofluoromethane			0.455	0.410	0.403	0.418	0.430	0.420	0.423	0.381	0.364	0.411	6.537		
Diethyl ether			0.187	0.166	0.169	0.170	0.183	0.175	0.169	0.182	0.183	0.176	4.450		
1,1-Dichloroethene			0.449	0.396	0.405	0.412	0.433	0.423	0.419	0.450	0.451	0.427	4.827		
Carbon Disulfide			0.946	0.675	0.673	0.659	0.724	0.713	0.666	0.747	0.759	0.729	12.216		
1,1,2-Trichloro-1,2,2-Trifluoroet			0.304	0.244	0.255	0.256	0.270	0.262	0.255	0.277	0.275	0.266	6.618		
Acrolein					0.024	0.025	0.026	0.026	0.024	0.027	0.027	0.026	4.465		
Methylene Chloride			0.351	0.281	0.302	0.289	0.300	0.295	0.281	0.306	0.307	0.301	6.955		
Acetone						0.059	0.057	0.054	0.053	0.058	0.054	0.056	4.557		
trans-1,2-Dichloroethene			0.300	0.269	0.277	0.267	0.283	0.278	0.265	0.291	0.292	0.280	4.315		
Methyl Tert Butyl Ether			0.746	0.724	0.726	0.729	0.760	0.734	0.714	0.764	0.749	0.738	2.332		
1,1-Dichloroethane			0.555	0.523	0.526	0.544	0.541	0.527	0.513	0.550	0.547	0.536	2.697		
Acrylonitrile				0.056	0.061	0.071	0.072	0.070	0.065	0.072	0.070	0.067	8.773		
Vinyl Acetate						0.025	0.027	0.026	0.027	0.026	0.027	0.026	3.665		
cis-1,2-Dichloroethene			0.346	0.304	0.304	0.321	0.302	0.300	0.315	0.325	0.317	0.315	4.678		
2,2-Dichloropropane			0.479	0.413	0.417	0.443	0.428	0.427	0.428	0.441	0.436	0.435	4.451		
Cyclohexane			0.481	0.418	0.421	0.434	0.436	0.437	0.411	0.439	0.434	0.434	4.576		
Bromochloromethane			0.179	0.172	0.189	0.201	0.204	0.204	0.207	0.215	0.210	0.198	7.307		
Chloroform		0.533	0.564	0.508	0.508	0.527	0.523	0.518	0.519	0.537	0.532	0.527	3.118		
Carbon Tetrachloride			0.392	0.377	0.397	0.420	0.431	0.429	0.433	0.451	0.452	0.420	6.271		
Dibromofluoromethane						0.388	0.331	0.311	0.298	0.320	0.322	0.328	9.582		
1,1,1-Trichloroethane			0.484	0.454	0.456	0.480	0.480	0.470	0.471	0.492	0.493	0.476	2.960		
1,1-Dichloropropene			0.441	0.373	0.378	0.396	0.393	0.374	0.391	0.409	0.410	0.396	5.503		
2-Butanone					0.087	0.095	0.089	0.084	0.090	0.095	0.093	0.090	4.413		
Benzene			1.276	1.146	1.147	1.196	1.182	1.147	1.161	1.199	1.193	1.183	3.490		
1,2-Dichloroethane-d4						0.412	0.335	0.306	0.289	0.309	0.310	0.327	13.479		
1,2-Dichloroethane			0.353	0.332	0.339	0.365	0.352	0.351	0.351	0.367	0.365	0.353	3.380		
Trichloroethene			0.369	0.329	0.327	0.335	0.338	0.334	0.335	0.356	0.355	0.342	4.207		
Dibromomethane			0.165	0.163	0.160	0.171	0.172	0.171	0.175	0.184	0.185	0.172	4.962		
1,2-Dichloropropane			0.305	0.322	0.314	0.341	0.329	0.304	0.325	0.341	0.328	0.323	4.178		
Bromodichloromethane			0.394	0.377	0.378	0.401	0.407	0.395	0.412	0.429	0.428	0.402	4.696		
1,4-Dioxane							0.002	0.002	0.002	0.002	0.002	0.002	7.187		
2-Chloroethyl Vinyl Ether					0.142	0.153	0.159	0.161	0.166	0.173	0.174	0.161	7.104		
cis-1,3-Dichloropropene			0.463	0.446	0.450	0.484	0.488	0.484	0.493	0.503	0.513	0.480	4.800		
4-Methyl-2-Pentanone					0.074	0.082	0.083	0.079	0.083	0.084	0.084	0.081	4.365		
trans-1,3-Dichloropropene			0.427	0.369	0.377	0.422	0.424	0.422	0.429	0.449	0.448	0.41859	6.6733		
Chlorobenzene-d5	ISTD														
Toluene-d8						2.008	1.589	1.479	1.401	1.406	1.46	1.55711	14.8452		
Toluene			1.854	1.616	1.686	1.867	1.704	1.661	1.669	1.627	1.647	1.70355	5.47552		
Tetrachloroethene			0.517	0.427	0.449	0.499	0.46	0.452	0.456	0.454	0.477	0.46573	5.91622		
1,1,2-Trichloroethane			0.341	0.289	0.296	0.346	0.316	0.305	0.31	0.309	0.313	0.31377	5.98289		
Dibromochloromethane			0.384	0.368	0.381	0.443	0.421	0.421	0.428	0.438	0.437	0.41332	6.80594		
1,3-Dichloropropane			0.54	0.5	0.494	0.557	0.523	0.51	0.513	0.519	0.515	0.51885	3.76369		
1,2-Dibromoethane			0.291	0.294	0.291	0.332	0.315	0.308	0.317	0.322	0.321	0.31006	4.88029		
2-Hexanone					0.189	0.207	0.195	0.188	0.192	0.197	0.191	0.1941	3.24042		
Chlorobenzene			1.23	1.092	1.064	1.096	1.095	1.082	1.091	1.11	1.093	1.10592	4.33944		
1-Chlorohexane			0.096	0.097	0.09	0.098	0.103	0.102	0.099	0.104	0.105	0.09926	4.74758		
Ethylbenzene			0.665	0.569	0.552	0.594	0.593	0.589	0.596	0.606	0.606	0.5967	5.19044		
1,1,1,2-Tetrachloroethane			0.422	0.391	0.399	0.435	0.419	0.416	0.416	0.423	0.419	0.41562	3.13063		
m-,p-Xylene			0.762	0.674	0.67	0.729	0.713	0.715	0.727	0.724	0.692	0.71167	4.09513		
o-Xylene			0.741	0.689	0.649	0.758	0.662	0.705	0.686	0.724	0.71	0.70263	5.02578		
Styrene			1.108	1.026	1.001	1.181	1.066	1.15	1.154	1.197	1.178	1.11778	6.41507		
Bromoform			0.27	0.266	0.26	0.312	0.282	0.301	0.304	0.316	0.316	0.29201	7.67743		
Isopropylbenzene			1.911	1.778	1.653	1.991	1.741	1.831	1.838	1.802	1.698	1.80479	5.76781		
1,4-Dichlorobenzene-d4	ISTD														
1,3,5-Trimethylbenzene			3.327	3.009	2.945	3.143	3.108	3.044	3.165	3.062	2.852	3.07269	4.44445		
p-Bromofluorobenzene						1.105	1.059	1.02	1.019	1.036	1.059	1.04963	3.07495		
Bromobenzene		1.025	1.058	0.953	0.921	0.957	0.949	0.961	1.01	0.973	0.99	0.97958	4.17758		
n-Propylbenzene			4.488	4.019	3.861	4.17	4.202	4.194	4.327	4.028	3.748	4.1152	5.5467		
1,1,2,2-Tetrachloroethane			0.782	0.703	0.691	0.77	0.728	0.707	0.74	0.706	0.716	0.72696	4.32358		
2-Chlorotoluene			2.707	2.431	2.344	2.52	2.463	2.384	2.489	2.447	2.372	2.46193	4.39432		
1,2,3-Trichloropropane			0.189	0.194	0.19	0.208	0.202	0.195	0.207	0.205	0.198	0.1987	3.61743		
1,2,4-Trimethylbenzene			3.32	2.992	2.928	3.226	3.108	3.04	3.158	3.013	2.808	3.06589	5.0929		
4-Chlorotoluene			2.814	2.417	2.393	2.565	2.516	2.471	2.569	2.541	2.444	2.52568	4.96976		
tert-Butylbenzene			0.594	0.588	0.569	0.599	0.574	0.56	0.59	0.583	0.58	0.58167	2.13663		
sec-Butylbenzene			4.096	3.749	3.673	4.01	3.913	3.86	3.958	3.686	3.385	3.8144	5.67518		
p-Isopropyltoluene			3.409	3.108	3.018	3.347	3.298	3.29	3.39	3.167	2.943	3.21896	5.20434		
1,3-Dichlorobenzene			1.926	1.685	1.656	1.79	1.733	1.753	1.831	1.774	1.757	1.76723	4.48633		
1,4-Dichlorobenzene		2.195	2.065	1.736	1.67	1.814	1.725	1.752	1.806	1.792	1.758	1.8313	9.0546		
n-Butylbenzene			2.868	2.473	2.446	2.761	2.868	2.92	3.026	2.9	2.708	2.77457	7.21693		
1,2-Dichlorobenzene		1.832	1.823	1.685	1.654	1.78	1.711	1.636	1.713	1.708	1.688	1.72303	3.89316		
1,2-Dibromo-3-Chloropropane			0.119	0.111	0.123	0.139	0.139	0.136	0.142	0.137	0.136	0.13109	8.13026		
Hexachlorobutadiene			0.765	0.716	0.698	0.755	0.766	0.756	0.805	0.781	0.802	0.76057	4.67539		

1,2,4-Trichlorobenzene		1.152	1.048	1.056	1.159	1.258	1.29	1.372	1.341	1.346	1.22463	10.1941
Naphthalene		1.872	1.716	1.933	2.167	2.46	2.401	2.565	2.394	2.321	2.20329	13.4985
1,2,3-Trichlorobenzene	0.993	0.958	0.924	0.994	1.108	1.233	1.191	1.267	1.229	1.225	1.1123	11.9228

Fri Aug 15 14:43:09 2014

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L14090460 Run Date: 08/12/2014 Sample ID: WG487972-12
Instrument ID: HPMS17 Run Time: 18:29 Method: 8260B
File ID: 17M007355 Analyst: ADC QC Key: DOD4
ICal Workgroup: WG487972 Cal ID: HPMS17 - 12-AUG-14

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.9	ug/L	0.505	4.20	20	
1,1-Dichloroethene	CCC	50.0	44.2	ug/L	0.377	11.6	20	
1,2-Dichloropropane	CCC	50.0	48.2	ug/L	0.312	3.50	20	
Ethylbenzene	CCC	50.0	48.7	ug/L	0.581	2.70	20	
Toluene	CCC	50.0	47.7	ug/L	1.63	4.50	20	
Vinyl Chloride	CCC	50.0	51.8	ug/L	0.329	3.50	20	
Bromoform	SPCC	50.0	51.4	ug/L	0.300	2.80	20	
Chlorobenzene	SPCC	50.0	46.2	ug/L	1.02	7.70	20	
Chloromethane	SPCC	50.0	54.2	ug/L	0.323	8.40	20	
1,1-Dichloroethane	SPCC	50.0	46.7	ug/L	0.501	6.60	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.3	ug/L	0.687	5.50	20	
Acetone		50.0	52.6	ug/L	0.0587	5.20	20	
Benzene		50.0	47.8	ug/L	1.13	4.50	20	
Bromobenzene		50.0	46.5	ug/L	0.912	6.90	20	
Bromochloromethane		50.0	49.0	ug/L	0.194	2.00	20	
Bromodichloromethane		50.0	48.5	ug/L	0.391	2.90	20	
Bromomethane		50.0	51.7	ug/L	0.162	3.50	20	
2-Butanone		50.0	51.2	ug/L	0.0925	2.30	20	
n-Butylbenzene		50.0	53.5	ug/L	2.97	7.10	20	
sec-Butylbenzene		50.0	46.9	ug/L	3.57	6.30	20	
tert-Butylbenzene		50.0	45.4	ug/L	0.528	9.30	20	
Carbon Disulfide		50.0	39.0	ug/L	0.568	22.1	20	*
Carbon Tetrachloride		50.0	49.2	ug/L	0.414	1.50	20	
Dibromochloromethane		50.0	49.5	ug/L	0.409	0.900	20	
Chloroethane		50.0	44.2	ug/L	0.157	11.7	20	
2-Chlorotoluene		50.0	45.9	ug/L	2.26	8.20	20	
4-Chlorotoluene		50.0	45.7	ug/L	2.31	8.70	20	
1,2-Dibromo-3-Chloropropane		50.0	51.0	ug/L	0.134	2.00	20	
1,2-Dibromoethane		50.0	48.3	ug/L	0.299	3.50	20	
Dibromomethane		50.0	48.6	ug/L	0.167	2.80	20	
1,2-Dichlorobenzene		50.0	46.1	ug/L	1.59	7.70	20	
1,3-Dichlorobenzene		50.0	46.0	ug/L	1.63	8.00	20	
1,4-Dichlorobenzene		50.0	48.1	ug/L	1.76	3.80	20	
Dichlorodifluoromethane		50.0	67.7	ug/L	0.317	35.3	20	*
1,2-Dichloroethane		50.0	49.4	ug/L	0.349	1.10	20	
cis-1,2-Dichloroethene		50.0	48.9	ug/L	0.308	2.10	20	
trans-1,2-Dichloroethene		50.0	47.9	ug/L	0.268	4.30	20	
1,3-Dichloropropane		50.0	47.9	ug/L	0.497	4.20	20	
2,2-Dichloropropane		50.0	44.9	ug/L	0.390	10.2	20	
cis-1,3-Dichloropropene		50.0	51.2	ug/L	0.492	2.40	20	
trans-1,3-Dichloropropene		50.0	48.0	ug/L	0.402	3.90	20	
1,1-Dichloropropene		50.0	46.8	ug/L	0.371	6.40	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 3749117
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L14090460 Run Date: 08/12/2014 Sample ID: WG487972-12
Instrument ID: HPMS17 Run Time: 18:29 Method: 8260B
File ID: 17M007355 Analyst: ADC QC Key: DOD4
ICal Workgroup: WG487972 Cal ID: HPMS17 - 12-AUG-14

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	51.2	ug/L	0.199	2.40	20	
Hexachlorobutadiene		50.0	49.7	ug/L	0.755	0.700	20	
Isopropylbenzene		50.0	47.4	ug/L	1.71	5.20	20	
p-Isopropyltoluene		50.0	47.3	ug/L	3.04	5.40	20	
4-Methyl-2-Pentanone		50.0	52.4	ug/L	0.0852	4.90	20	
Methylene Chloride		50.0	45.9	ug/L	0.276	8.20	20	
Naphthalene		50.0	51.9	ug/L	2.29	3.80	20	
n-Propylbenzene		50.0	45.1	ug/L	3.71	9.80	20	
Styrene		50.0	51.3	ug/L	1.15	2.50	20	
1,1,1,2-Tetrachloroethane		50.0	48.5	ug/L	0.403	3.10	20	
Tetrachloroethene		50.0	46.9	ug/L	0.437	6.20	20	
1,2,3-Trichlorobenzene		50.0	52.4	ug/L	1.17	4.80	20	
1,2,4-Trichlorobenzene		50.0	51.9	ug/L	1.27	3.80	20	
1,1,1-Trichloroethane		50.0	48.2	ug/L	0.458	3.60	20	
1,1,2-Trichloroethane		50.0	48.1	ug/L	0.302	3.90	20	
Trichloroethene		50.0	47.1	ug/L	0.322	5.70	20	
Trichlorofluoromethane		50.0	42.5	ug/L	0.350	14.9	20	
1,2,3-Trichloropropane		50.0	48.1	ug/L	0.191	3.80	20	
1,2,4-Trimethylbenzene		50.0	50.6	ug/L	3.10	1.10	20	
1,3,5-Trimethylbenzene		50.0	50.5	ug/L	3.11	1.10	20	
o-Xylene		50.0	45.7	ug/L	0.643	8.50	20	
m-,p-Xylene		100	96.9	ug/L	0.689	3.10	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 3749117
Report generated 09/12/2014 14:49

Login Number: L14090460 Run Date: 09/09/2014 Sample ID: WG491620-02
Instrument ID: HPMS17 Run Time: 13:36 Method: 8260B
File ID: 17M008074 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG491672 Cal ID: HPMS17 - 12-AUG-14
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.1	ug/L	0.497	5.74	20	
1,1-Dichloroethene	CCC	50.0	49.2	ug/L	0.419	1.70	20	
1,2-Dichloropropane	CCC	50.0	47.2	ug/L	0.305	5.55	20	
Ethylbenzene	CCC	50.0	49.2	ug/L	0.587	1.69	20	
Toluene	CCC	50.0	48.8	ug/L	1.66	2.47	20	
Vinyl Chloride	CCC	50.0	48.4	ug/L	0.308	3.26	20	
Bromoform	SPCC	50.0	44.1	ug/L	0.257	11.9	20	
Chlorobenzene	SPCC	50.0	48.3	ug/L	1.07	3.50	20	
Chloromethane	SPCC	50.0	47.9	ug/L	0.286	4.12	20	
1,1-Dichloroethane	SPCC	50.0	47.4	ug/L	0.508	5.29	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.9	ug/L	0.711	2.26	20	
Xylenes		150	151	ug/L	0.709	0.685	20	
Acetone		50.0	42.2	ug/L	0.0471	15.6	20	
Benzene		50.0	46.1	ug/L	1.09	7.90	20	
Bromobenzene		50.0	49.4	ug/L	0.968	1.17	20	
Bromochloromethane		50.0	45.3	ug/L	0.179	9.35	20	
Bromodichloromethane		50.0	46.8	ug/L	0.376	6.43	20	
Bromomethane		50.0	37.2	ug/L	0.136	25.6	20	*
2-Butanone		50.0	41.6	ug/L	0.0752	16.9	20	
n-Butylbenzene		50.0	59.7	ug/L	3.31	19.3	20	
sec-Butylbenzene		50.0	55.6	ug/L	4.24	11.1	20	
tert-Butylbenzene		50.0	52.1	ug/L	0.606	4.11	20	
Carbon Disulfide		50.0	62.9	ug/L	0.918	25.9	20	*
Carbon Tetrachloride		50.0	48.8	ug/L	0.410	2.43	20	
Dibromochloromethane		50.0	45.8	ug/L	0.379	8.38	20	
Chloroethane		50.0	51.2	ug/L	0.183	2.48	20	
2-Chlorotoluene		50.0	53.6	ug/L	2.64	7.18	20	
4-Chlorotoluene		50.0	53.9	ug/L	2.72	7.74	20	
1,2-Dibromo-3-Chloropropane		50.0	45.9	ug/L	0.120	8.30	20	
1,2-Dibromoethane		50.0	45.3	ug/L	0.281	9.31	20	
Dibromomethane		50.0	44.2	ug/L	0.152	11.6	20	
1,2-Dichlorobenzene		50.0	49.7	ug/L	1.71	0.523	20	
1,3-Dichlorobenzene		50.0	51.9	ug/L	1.83	3.76	20	
1,4-Dichlorobenzene		50.0	49.9	ug/L	1.83	0.124	20	
Dichlorodifluoromethane		50.0	43.4	ug/L	0.203	13.2	20	
1,2-Dichloroethane		50.0	46.1	ug/L	0.325	7.80	20	
cis-1,2-Dichloroethene		50.0	46.6	ug/L	0.294	6.80	20	
trans-1,2-Dichloroethene		50.0	46.5	ug/L	0.261	7.01	20	
1,3-Dichloropropane		50.0	45.6	ug/L	0.473	8.82	20	
2,2-Dichloropropane		50.0	50.3	ug/L	0.437	0.603	20	
cis-1,3-Dichloropropene		50.0	47.3	ug/L	0.454	5.48	20	
trans-1,3-Dichloropropene		50.0	45.9	ug/L	0.384	8.21	20	

CCV - Modified 03/05/2008
PDF File ID: 3749119
Report generated 09/12/2014 14:49

Login Number: L14090460 Run Date: 09/09/2014 Sample ID: WG491620-02
Instrument ID: HPMS17 Run Time: 13:36 Method: 8260B
File ID: 17M008074 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG491672 Cal ID: HPMS17 - 12-AUG-14
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	47.6	ug/L	0.377	4.72	20	
2-Hexanone		50.0	41.9	ug/L	0.163	16.2	20	
Hexachlorobutadiene		50.0	51.8	ug/L	0.789	3.70	20	
Isopropylbenzene		50.0	50.8	ug/L	1.83	1.64	20	
p-Isopropyltoluene		50.0	55.6	ug/L	3.58	11.2	20	
4-Methyl-2-Pentanone		50.0	40.8	ug/L	0.0663	18.4	20	
Methylene Chloride		50.0	46.0	ug/L	0.277	7.92	20	
Naphthalene		50.0	47.2	ug/L	2.08	5.66	20	
n-Propylbenzene		50.0	56.3	ug/L	4.63	12.6	20	
Styrene		50.0	50.7	ug/L	1.13	1.33	20	
1,1,1,2-Tetrachloroethane		50.0	47.7	ug/L	0.397	4.59	20	
Tetrachloroethene		50.0	47.6	ug/L	0.444	4.70	20	
1,2,3-Trichlorobenzene		50.0	50.2	ug/L	1.12	0.362	20	
1,2,4-Trichlorobenzene		50.0	52.6	ug/L	1.29	5.12	20	
1,1,1-Trichloroethane		50.0	47.0	ug/L	0.447	5.99	20	
1,1,2-Trichloroethane		50.0	44.3	ug/L	0.278	11.3	20	
Trichloroethene		50.0	43.3	ug/L	0.296	13.5	20	
Trichlorofluoromethane		50.0	51.2	ug/L	0.421	2.44	20	
1,2,3-Trichloropropane		50.0	46.0	ug/L	0.183	7.99	20	
1,2,4-Trimethylbenzene		50.0	53.9	ug/L	3.31	7.90	20	
1,3,5-Trimethylbenzene		50.0	54.5	ug/L	3.35	8.96	20	
o-Xylene		50.0	49.5	ug/L	0.696	0.943	20	
m-,p-Xylene		100	101	ug/L	0.722	1.50	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 3749119
Report generated 09/12/2014 14:49

Login Number: L14090460 Run Date: 09/10/2014 Sample ID: WG491745-02
Instrument ID: HPMS17 Run Time: 11:38 Method: 8260B
File ID: 17M008115 Analyst: FJB QC Key: DOD4
Workgroup (AAB#): WG491746 Cal ID: HPMS17 - 12-AUG-14
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	43.1	ug/L	0.454	13.8	20	
1,1-Dichloroethene	CCC	50.0	41.8	ug/L	0.357	16.3	20	
1,2-Dichloropropane	CCC	50.0	44.3	ug/L	0.286	11.4	20	
Ethylbenzene	CCC	50.0	44.0	ug/L	0.525	12.1	20	
Toluene	CCC	50.0	43.8	ug/L	1.49	12.4	20	
Vinyl Chloride	CCC	50.0	41.2	ug/L	0.262	17.6	20	
Bromoform	SPCC	50.0	42.0	ug/L	0.245	16.0	20	
Chlorobenzene	SPCC	50.0	44.3	ug/L	0.980	11.4	20	
Chloromethane	SPCC	50.0	40.3	ug/L	0.240	19.4	20	
1,1-Dichloroethane	SPCC	50.0	42.9	ug/L	0.460	14.2	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.2	ug/L	0.686	5.66	20	
Xylenes		150	136	ug/L	0.640	9.29	20	
Acetone		50.0	41.7	ug/L	0.0465	16.6	20	
Benzene		50.0	41.6	ug/L	0.984	16.9	20	
Bromobenzene		50.0	45.6	ug/L	0.894	8.72	20	
Bromochloromethane		50.0	42.7	ug/L	0.169	14.7	20	
Bromodichloromethane		50.0	44.1	ug/L	0.355	11.9	20	
Bromomethane		50.0	33.7	ug/L	0.123	32.5	20	*
2-Butanone		50.0	41.4	ug/L	0.0749	17.2	20	
n-Butylbenzene		50.0	52.1	ug/L	2.89	4.18	20	
sec-Butylbenzene		50.0	48.6	ug/L	3.71	2.83	20	
tert-Butylbenzene		50.0	45.8	ug/L	0.532	8.50	20	
Carbon Disulfide		50.0	56.5	ug/L	0.824	13.1	20	
Carbon Tetrachloride		50.0	41.9	ug/L	0.352	16.3	20	
Dibromochloromethane		50.0	43.6	ug/L	0.360	12.9	20	
Chloroethane		50.0	45.0	ug/L	0.160	10.0	20	
2-Chlorotoluene		50.0	48.4	ug/L	2.38	3.26	20	
4-Chlorotoluene		50.0	48.9	ug/L	2.47	2.12	20	
1,2-Dibromo-3-Chloropropane		50.0	45.2	ug/L	0.118	9.65	20	
1,2-Dibromoethane		50.0	43.6	ug/L	0.271	12.7	20	
Dibromomethane		50.0	42.6	ug/L	0.146	14.9	20	
1,2-Dichlorobenzene		50.0	46.2	ug/L	1.59	7.52	20	
1,3-Dichlorobenzene		50.0	47.1	ug/L	1.67	5.71	20	
1,4-Dichlorobenzene		50.0	45.9	ug/L	1.68	8.15	20	
Dichlorodifluoromethane		50.0	35.7	ug/L	0.167	28.7	20	*
1,2-Dichloroethane		50.0	44.3	ug/L	0.313	11.4	20	
cis-1,2-Dichloroethene		50.0	42.6	ug/L	0.268	14.8	20	
trans-1,2-Dichloroethene		50.0	41.5	ug/L	0.233	17.0	20	
1,3-Dichloropropane		50.0	43.4	ug/L	0.451	13.2	20	
2,2-Dichloropropane		50.0	44.8	ug/L	0.389	10.4	20	
cis-1,3-Dichloropropene		50.0	44.5	ug/L	0.428	10.9	20	
trans-1,3-Dichloropropene		50.0	44.1	ug/L	0.369	11.8	20	

CCV - Modified 03/05/2008
PDF File ID: 3749119
Report generated 09/12/2014 14:49

Login Number: L14090460 Run Date: 09/10/2014 Sample ID: WG491745-02
Instrument ID: HPMS17 Run Time: 11:38 Method: 8260B
File ID: 17M008115 Analyst: FJB QC Key: DOD4
Workgroup (AAB#): WG491746 Cal ID: HPMS17 - 12-AUG-14
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	41.4	ug/L	0.328	17.3	20	
2-Hexanone		50.0	42.3	ug/L	0.164	15.3	20	
Hexachlorobutadiene		50.0	42.0	ug/L	0.639	16.0	20	
Isopropylbenzene		50.0	45.0	ug/L	1.63	9.95	20	
p-Isopropyltoluene		50.0	48.7	ug/L	3.13	2.67	20	
4-Methyl-2-Pentanone		50.0	40.6	ug/L	0.0659	18.9	20	
Methylene Chloride		50.0	43.0	ug/L	0.259	14.1	20	
Naphthalene		50.0	44.7	ug/L	1.97	10.5	20	
n-Propylbenzene		50.0	49.3	ug/L	4.06	1.40	20	
Styrene		50.0	46.7	ug/L	1.04	6.63	20	
1,1,1,2-Tetrachloroethane		50.0	44.1	ug/L	0.367	11.8	20	
Tetrachloroethene		50.0	41.0	ug/L	0.382	18.0	20	
1,2,3-Trichlorobenzene		50.0	46.3	ug/L	1.03	7.34	20	
1,2,4-Trichlorobenzene		50.0	48.2	ug/L	1.18	3.69	20	
1,1,1-Trichloroethane		50.0	40.8	ug/L	0.388	18.4	20	
1,1,2-Trichloroethane		50.0	42.4	ug/L	0.266	15.2	20	
Trichloroethene		50.0	38.4	ug/L	0.263	23.2	20	*
Trichlorofluoromethane		50.0	42.8	ug/L	0.352	14.5	20	
1,2,3-Trichloropropane		50.0	43.8	ug/L	0.174	12.3	20	
1,2,4-Trimethylbenzene		50.0	48.6	ug/L	2.98	2.87	20	
1,3,5-Trimethylbenzene		50.0	48.3	ug/L	2.97	3.42	20	
o-Xylene		50.0	45.0	ug/L	0.633	9.96	20	
m-,p-Xylene		100	91.0	ug/L	0.648	8.96	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 3749119
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L14090460
Instrument ID: HPMS17
Workgroup (AAB#): WG491672

ICAL CCV Number: WG487972-08
CAL ID: HPMS17-12-AUG-14
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG487972-08	NA	NA	139515	275864	358634
Upper Limit	NA	NA	279030	551728	717268
Lower Limit	NA	NA	69758	137932	179317
L14090460-02	1.00	01	92275	203781	279748
WG491672-01	1.00	01	97050	214811	294980
WG491672-02	1.00	01	105019	214123	287489
WG491672-03	1.00	01	100352	206696	281385

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 3749120
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L14090460
Instrument ID: HPMS17
Workgroup (AAB#): WG491746

ICAL CCV Number: WG487972-08
CAL ID: HPMS17-12-AUG-14
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG487972-08	NA	NA	139515	275864	358634
Upper Limit	NA	NA	279030	551728	717268
Lower Limit	NA	NA	69758	137932	179317
L14090460-01	1.00	01	101183	221340	302902
WG491746-01	1.00	01	101153	222048	305533
WG491746-02	1.00	01	107069	223093	302992
WG491746-03	1.00	01	111978	227635	306269

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 3749120
Report generated 09/12/2014 14:49

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L14090460
Instrument ID: HPMS17
Workgroup (AAB#): WG491672

ICAL CCV Number: WG487972-08
CAL ID: HPMS17-12-AUG-14
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG487972-08	NA	NA	9.154	7.785	4.852
Upper Limit	NA	NA	9.654	8.285	5.352
Lower Limit	NA	NA	8.654	7.285	4.352
L14090460-02	1.00	01	9.15	7.78	4.84
WG491672-01	1.00	01	9.15	7.78	4.85
WG491672-02	1.00	01	9.15	7.78	4.84
WG491672-03	1.00	01	9.15	7.78	4.84

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 3749122
Report generated: 09/12/2014 14:49

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L14090460

Instrument ID: HPMS17

Workgroup (AAB#): WG491746

ICAL CCV Number: WG487972-08

CAL ID: HPMS17-12-AUG-14

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG487972-08	NA	NA	9.154	7.785	4.852
Upper Limit	NA	NA	9.654	8.285	5.352
Lower Limit	NA	NA	8.654	7.285	4.352
L14090460-01	1.00	01	9.15	7.78	4.85
WG491746-01	1.00	01	9.15	7.78	4.85
WG491746-02	1.00	01	9.15	7.78	4.84
WG491746-03	1.00	01	9.15	7.78	4.84

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 3749122

Report generated: 09/12/2014 14:49

2.1.1.3 Sample Data

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008121.D
Acq On : 10 Sep 2014 13:42
Operator : FJB
Sample : L14090460-01 B+C 826-LOW
Misc : 1,1
ALS Vial : 7 Sample Multiplier: 1

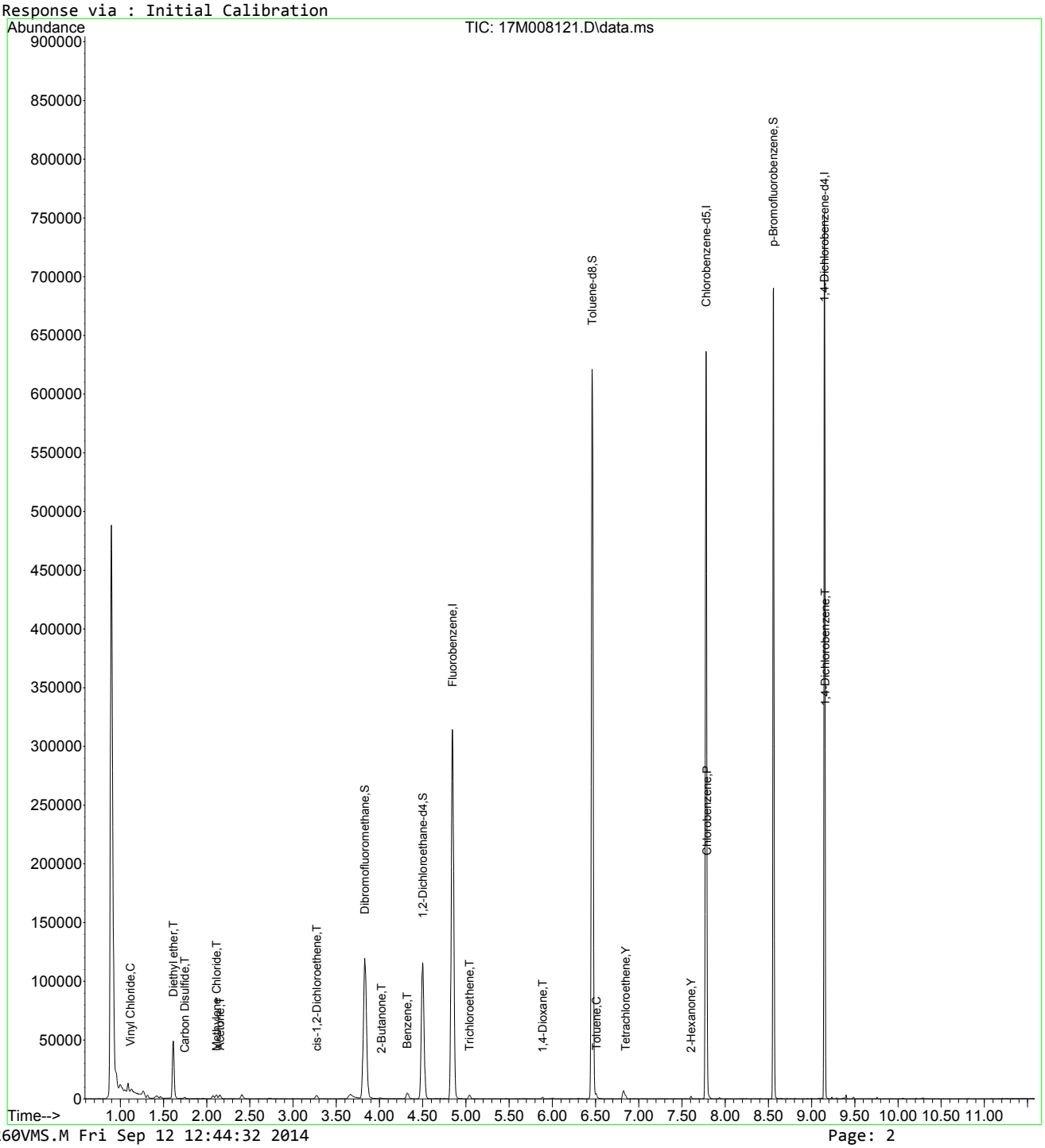
Quant Time: Sep 12 12:44:31 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

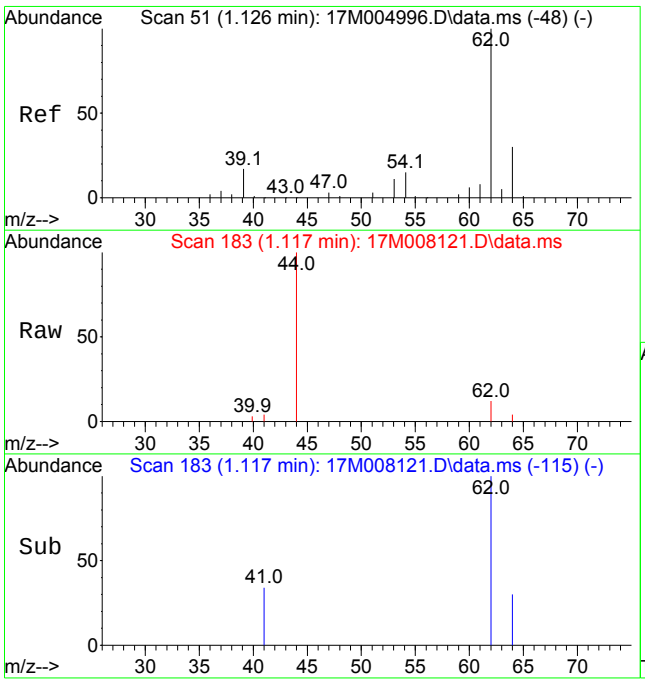
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.846	96	302902	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	221340	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.151	152	101183	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.830	111	93691	23.5567	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.227%			
32) 1,2-Dichloroethane-d4	4.498	65	95462	24.1008	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.403%			
44) Toluene-d8	6.462	98	350582	25.4303	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.721%			
63) p-Bromofluorobenzene	8.558	95	119068	28.0279	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.112%			
Target Compounds						Qvalue
4) Vinyl Chloride	1.117	62	829	0.2151	ug/L	84
9) Diethyl ether	1.612	59	21908	10.2708	ug/L	98
11) Carbon Disulfide	1.745	76	1195	0.1353	ug/L #	73
14) Methylene Chloride	2.113	84	1416	0.3882	ug/L	92
15) Acetone	2.153	43	3484	5.1534	ug/L	94
21) cis-1,2-Dichloroethene	3.274	96	1535	0.4022	ug/L	93
30) 2-Butanone	4.024	43	817	0.7457	ug/L #	40
31) Benzene	4.322	78	5445	0.3799	ug/L	96
34) Trichloroethene	5.043	130	1313	0.3169	ug/L	94
38) 1,4-Dioxane	5.888	88	948	36.9637	ug/L	92
45) Toluene	6.511	91	2092	0.1387	ug/L	96
46) Tetrachloroethene	6.849	166	655	0.1588	ug/L #	90
51) 2-Hexanone	7.608	43	323	0.1880	ug/L #	26
52) Chlorobenzene	7.790	112	8543	0.8725	ug/L #	68
75) 1,4-Dichlorobenzene	9.157	146	2172	0.2930	ug/L #	73

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008121.D
Acq On : 10 Sep 2014 13:42
Operator : FJB
Sample : L14090460-01 B+C 826-LOW
Misc : 1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 12:44:31 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

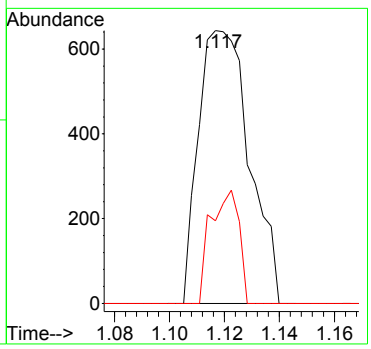


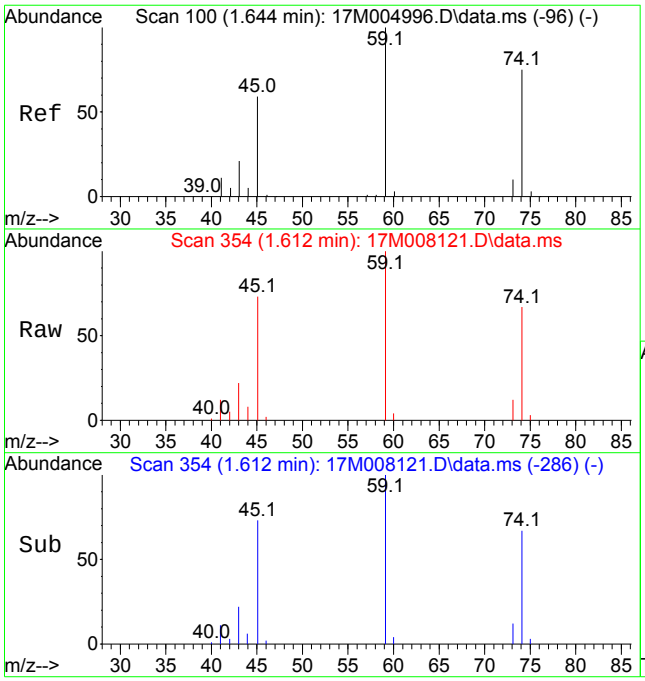


#4
Vinyl Chloride
Concen: 0.2151 ug/L
RT: 1.117 min Scan# 183
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 62 Resp: 829

Ion	Ratio	Lower	Upper
62	100		
64	23.0	19.1	44.5

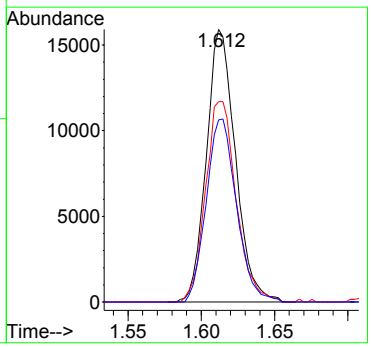


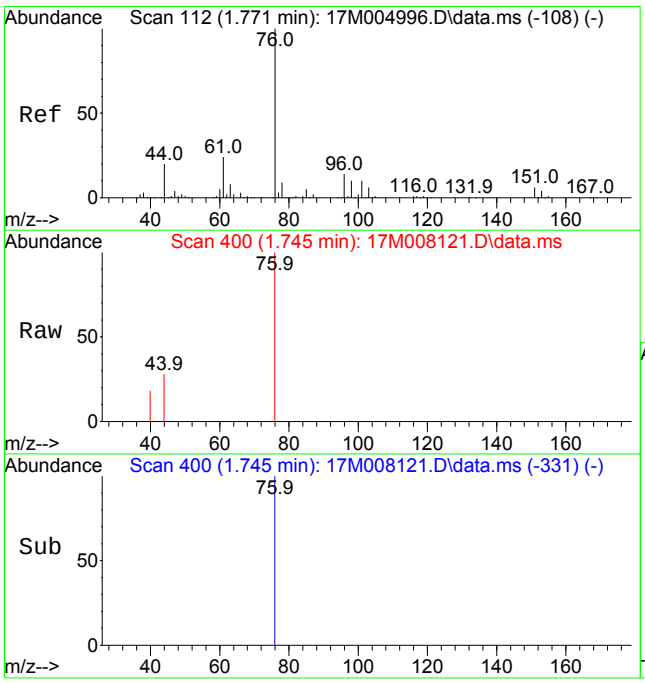


#9
Diethyl ether
Concen: 10.2708 ug/L
RT: 1.612 min Scan# 354
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 59 Resp: 21908

Ion	Ratio	Lower	Upper
59	100		
45	77.6	45.4	106.0
74	70.1	42.7	99.5

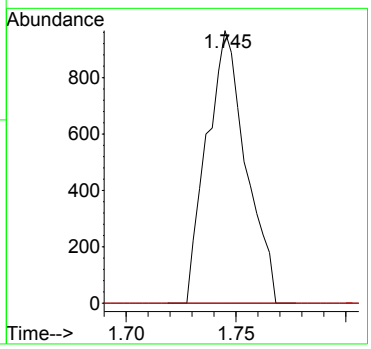


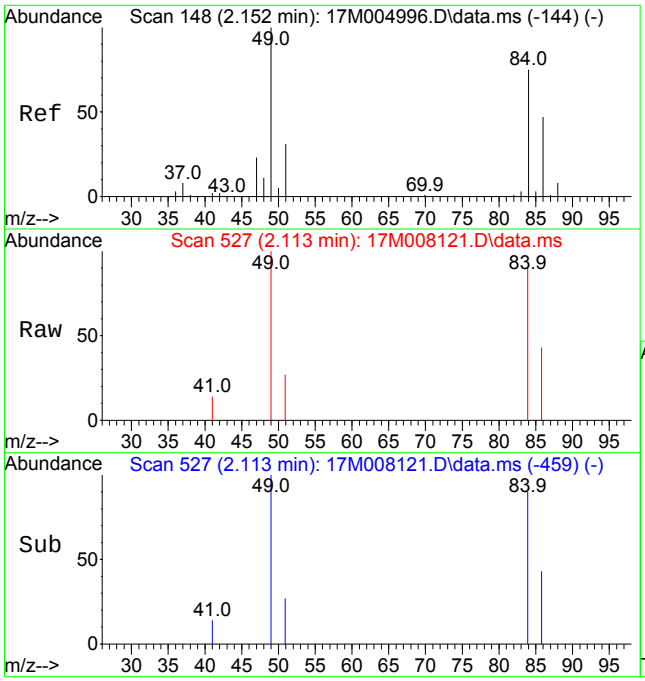


#11
Carbon Disulfide
Concen: 0.1353 ug/L
RT: 1.745 min Scan# 400
Delta R.T. 0.000 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 76 Resp: 1195

Ion	Ratio	Lower	Upper
76	100		
78	0.0	8.0	12.0#

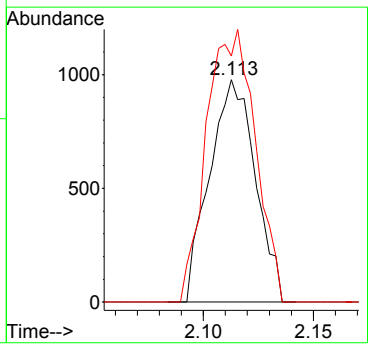


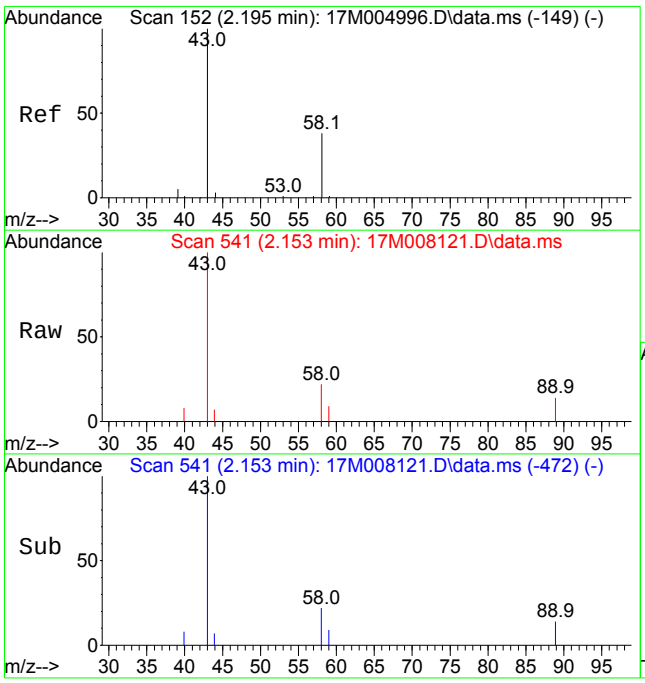


#14
Methylene Chloride
Concen: 0.3882 ug/L
RT: 2.113 min Scan# 527
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 84 Resp: 1416

Ion	Ratio	Lower	Upper
84	100		
49	130.5	97.1	145.7

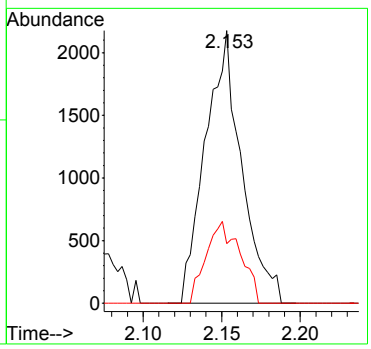


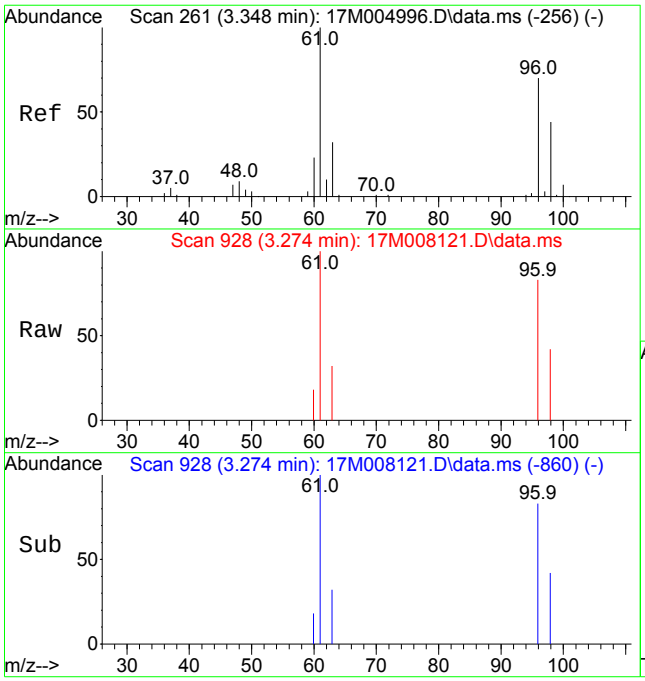


#15
Acetone
Concen: 5.1534 ug/L
RT: 2.153 min Scan# 541
Delta R.T. 0.000 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 43 Resp: 3484

Ion	Ratio	Lower	Upper
43	100		
58	28.2	18.7	43.7

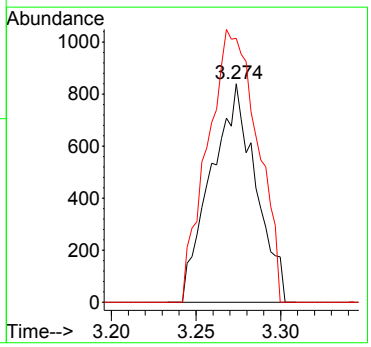


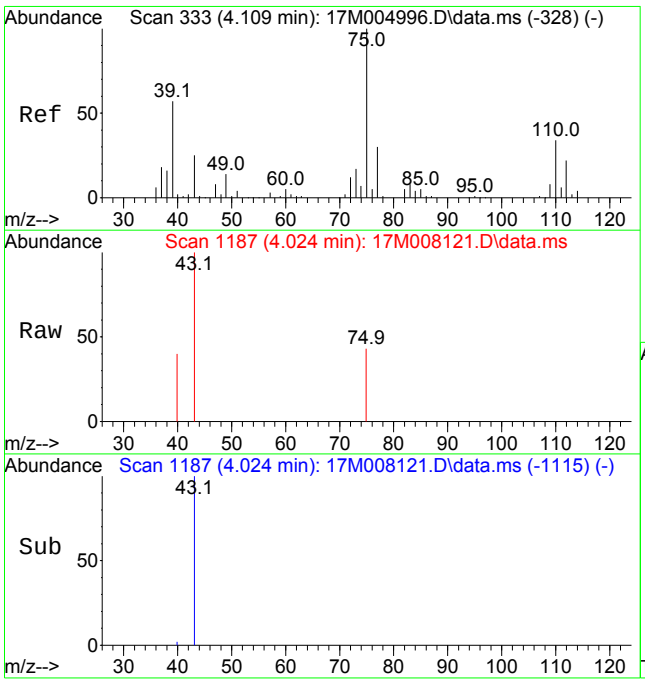


#21
cis-1,2-Dichloroethene
Concen: 0.4022 ug/L
RT: 3.274 min Scan# 928
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 96 Resp: 1535

Ion	Ratio	Lower	Upper
96	100		
61	139.5	105.4	158.2

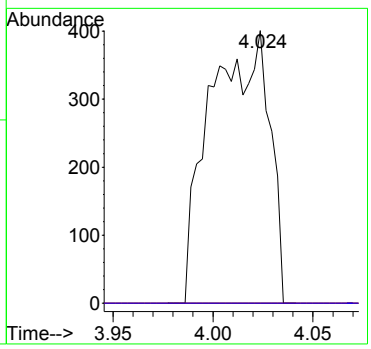


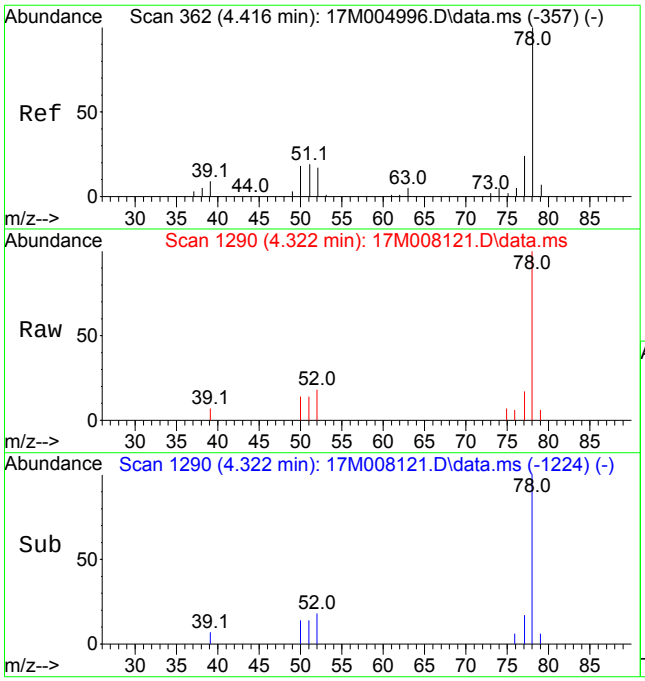


#30
2-Butanone
Concen: 0.7457 ug/L
RT: 4.024 min Scan# 1187
Delta R.T. 0.009 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 43 Resp: 817

Ion	Ratio	Lower	Upper
43	100		
72	0.0	34.1	51.1#
57	0.0	6.4	9.6#

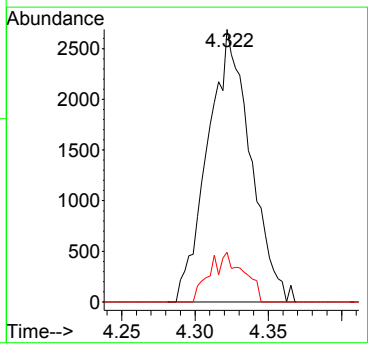


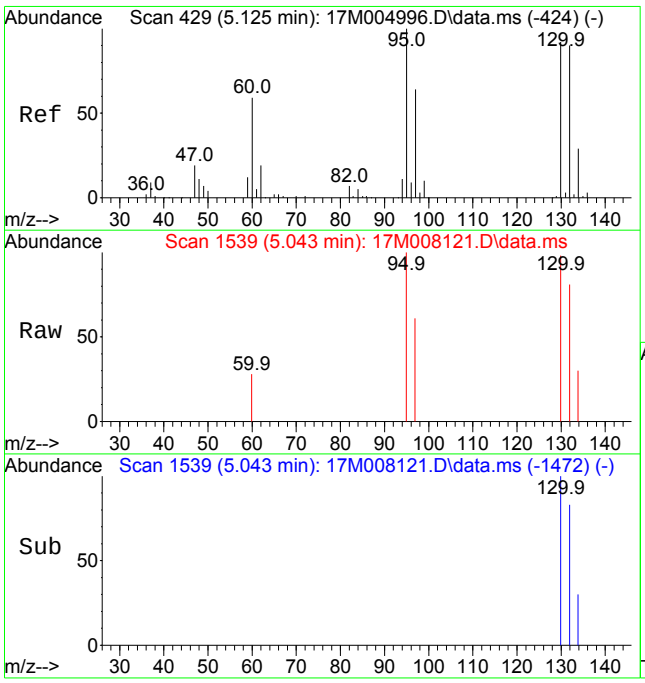


#31
Benzene
Concen: 0.3799 ug/L
RT: 4.322 min Scan# 1290
Delta R.T. -0.009 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 78 Resp: 5445

Ion	Ratio	Lower	Upper
78	100		
52	14.5	12.9	19.3

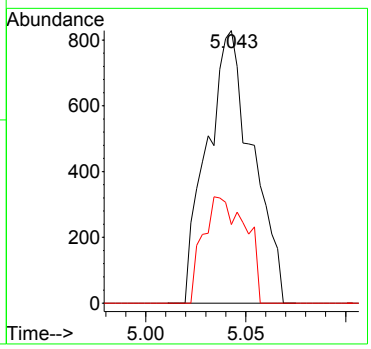


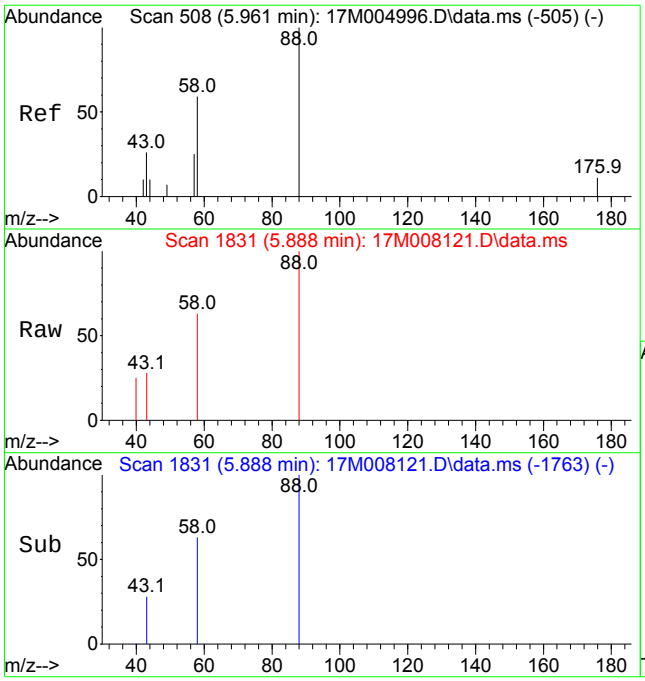


#34
Trichloroethene
Concen: 0.3169 ug/L
RT: 5.043 min Scan# 1539
Delta R.T. -0.006 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion:130 Resp: 1313

Ion	Ratio	Lower	Upper
130	100		
60	36.4	23.9	55.9

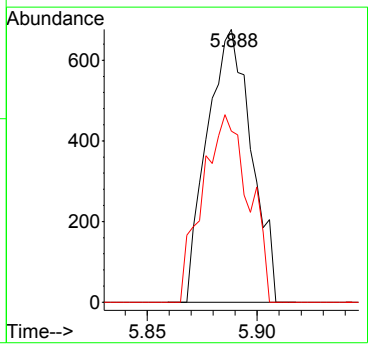


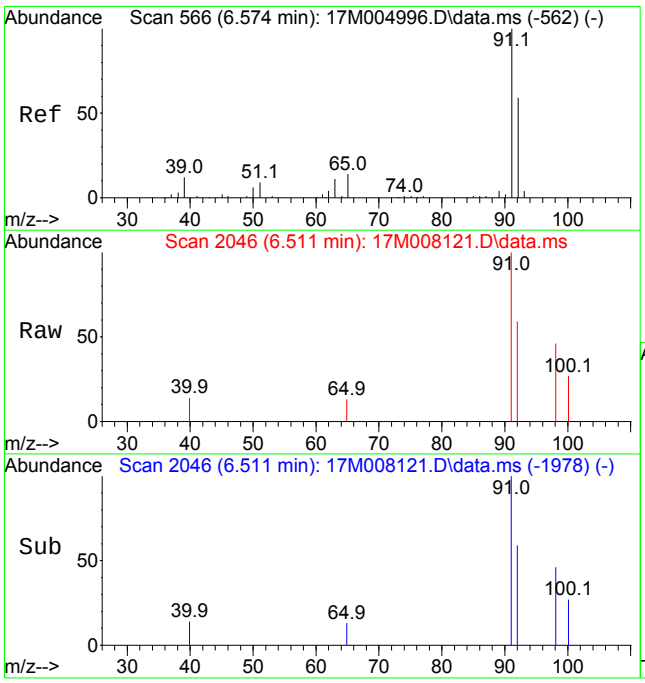


#38
1,4-Dioxane
Concen: 36.9637 ug/L
RT: 5.888 min Scan# 1831
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 88 Resp: 948

Ion	Ratio	Lower	Upper
88	100		
58	71.9	39.4	92.0

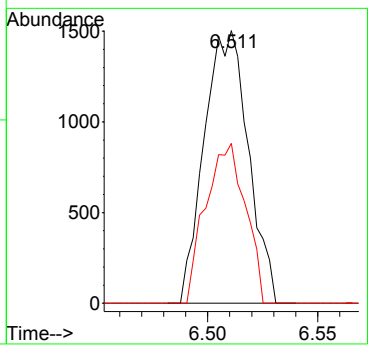


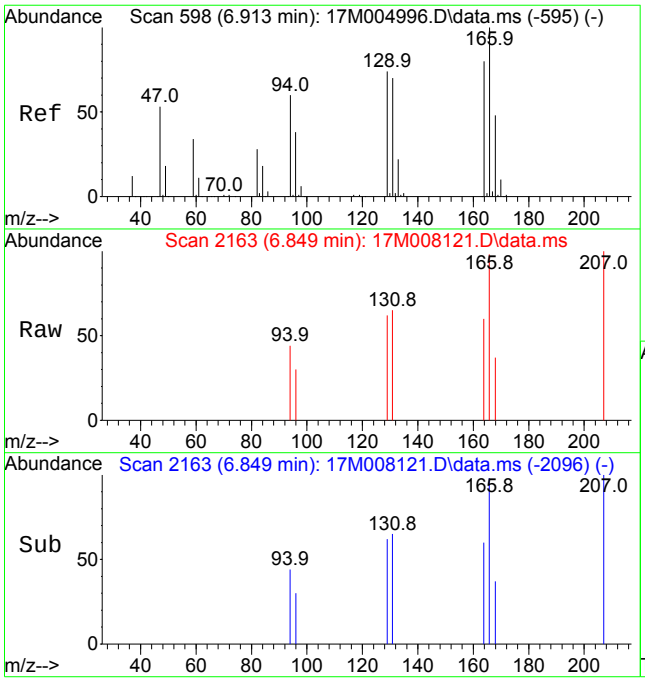


#45
Toluene
Concen: 0.1387 ug/L
RT: 6.511 min Scan# 2046
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 91 Resp: 2092

Ion	Ratio	Lower	Upper
91	100		
92	53.0	33.7	78.7

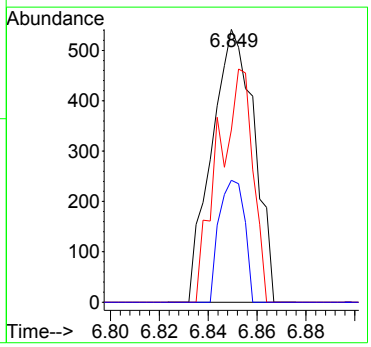


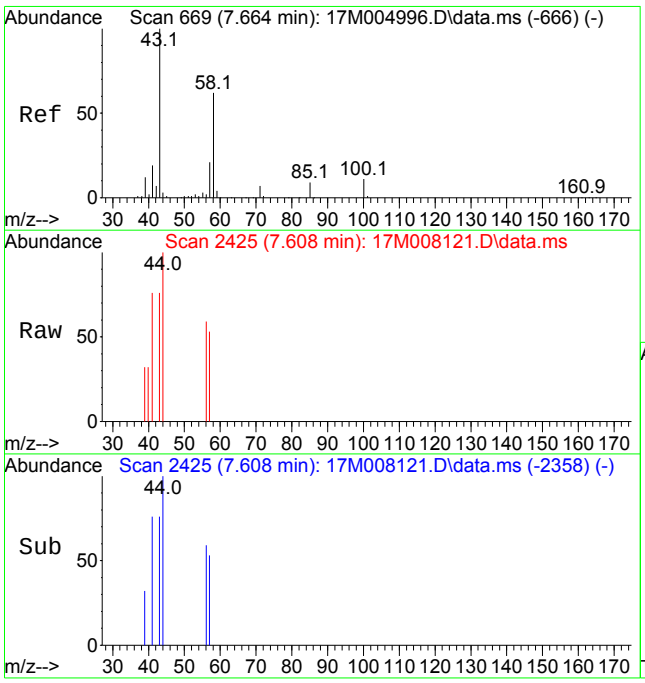


#46
Tetrachloroethene
Concen: 0.1588 ug/L
RT: 6.849 min Scan# 2163
Delta R.T. -0.006 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion:166 Resp: 655

Ion	Ratio	Lower	Upper
166	100		
129	69.9	59.0	88.4
94	26.6	31.3	46.9#

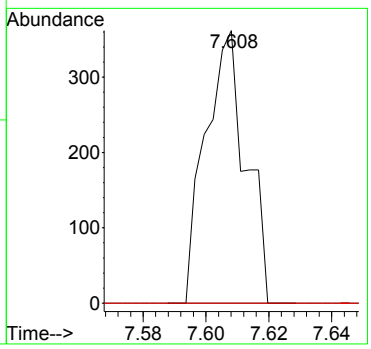


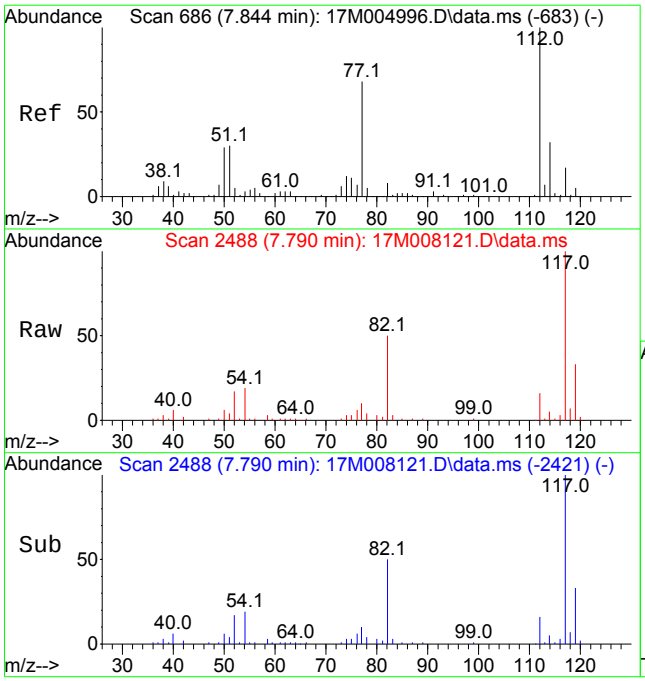


#51
2-Hexanone
Concen: 0.1880 ug/L
RT: 7.608 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion: 43 Resp: 323

Ion	Ratio	Lower	Upper
43	100		
58	0.0	42.2	63.2#

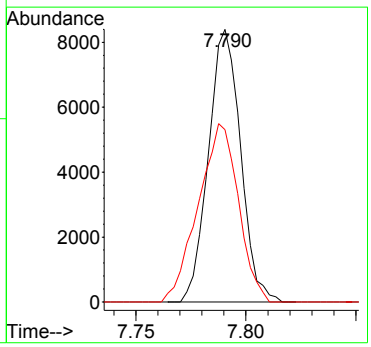


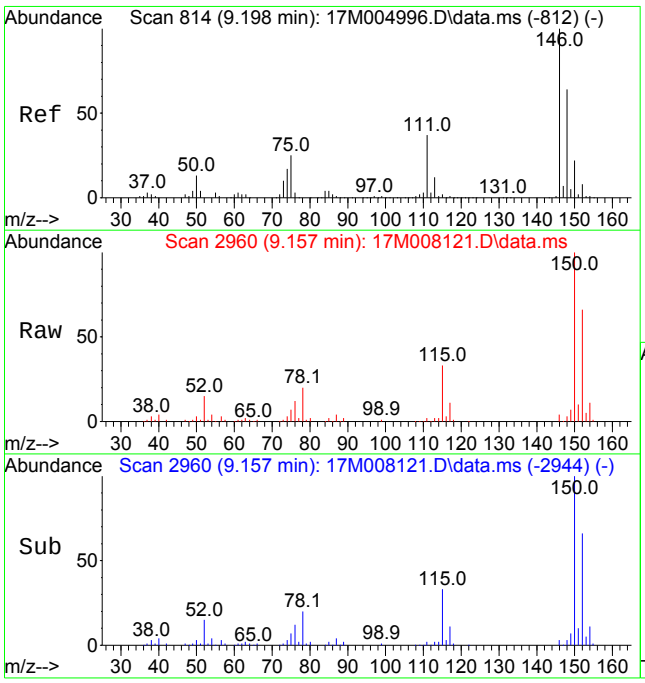


#52
Chlorobenzene
Concen: 0.8725 ug/L
RT: 7.790 min Scan# 2488
Delta R.T. -0.006 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion:112 Resp: 8543

Ion	Ratio	Lower	Upper
112	100		
77	81.6	34.6	80.6#

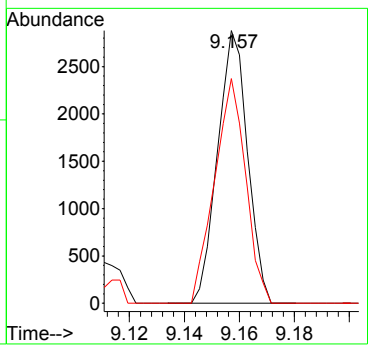




#75
1,4-Dichlorobenzene
Concen: 0.2930 ug/L
RT: 9.157 min Scan# 2960
Delta R.T. -0.003 min
Lab File: 17M008121.D
Acq: 10 Sep 2014 13:42

Tgt Ion:146 Resp: 2172

Ion	Ratio	Lower	Upper
146	100		
148	85.6	51.4	77.0#



Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008106.D
Acq On : 10 Sep 2014 00:08
Operator : adc
Sample : L14090460-02 A 826-LOW
Misc : 1,1
ALS Vial : 33 Sample Multiplier: 1

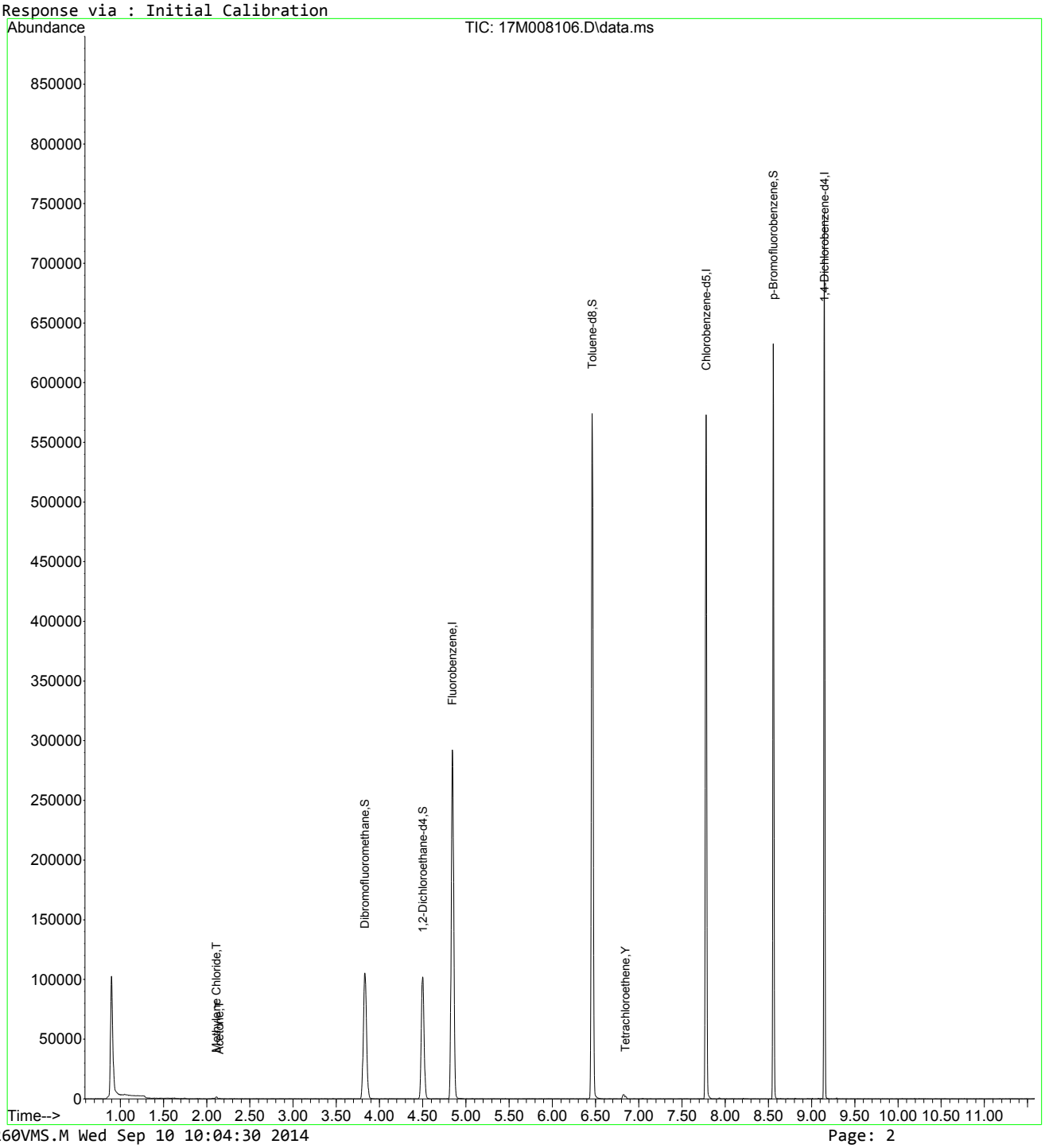
Quant Time: Sep 10 10:04:29 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.843	96	279748	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	203781	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.148	152	92275	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.830	111	85330	23.2303	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 92.921%			
32) 1,2-Dichloroethane-d4	4.498	65	86018	23.5139	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.056%			
44) Toluene-d8	6.461	98	319938	25.2072	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.829%			
63) p-Bromofluorobenzene	8.558	95	104989	27.0996	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 108.398%			
Target Compounds						Qvalue
14) Methylene Chloride	2.110	84	698	0.2072	ug/L	84
15) Acetone	2.144	43	463	0.7415	ug/L #	43
46) Tetrachloroethene	6.847	166	556	0.1465	ug/L	89

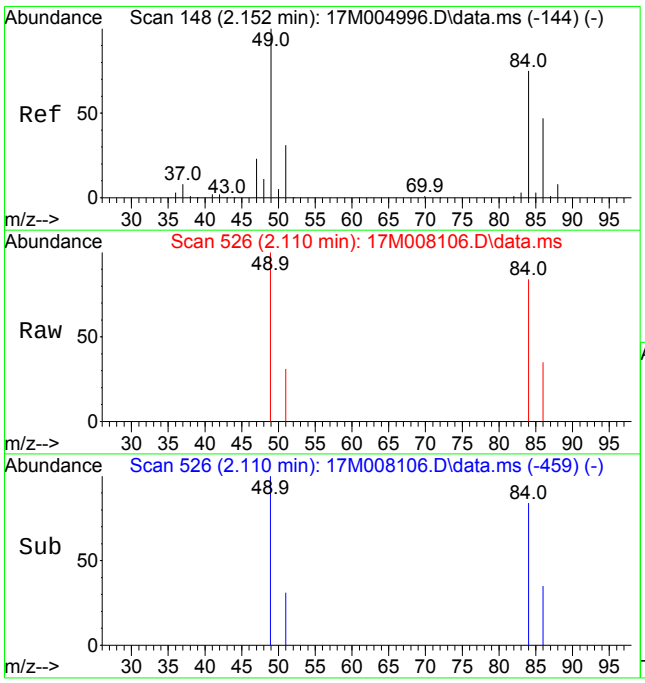
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008106.D
Acq On : 10 Sep 2014 00:08
Operator : adc
Sample : L14090460-02 A 826-LOW
Misc : 1,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Sep 10 10:04:29 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



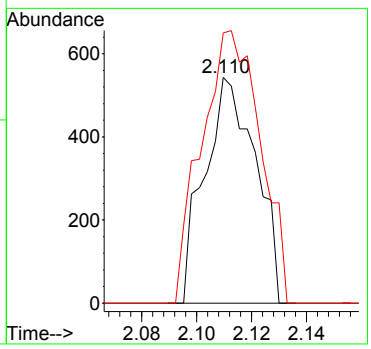
8260VMS.M Wed Sep 10 10:04:30 2014 Page: 2

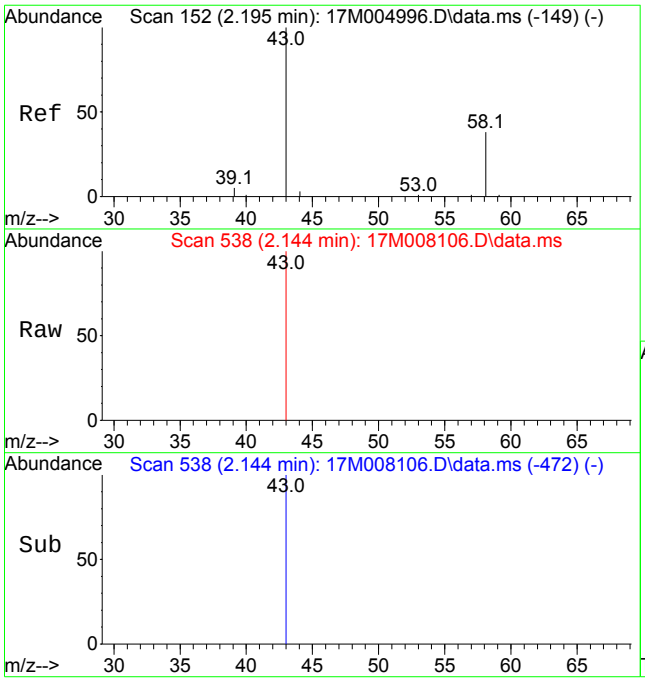


#14
Methylene Chloride
Concen: 0.2072 ug/L
RT: 2.110 min Scan# 526
Delta R.T. -0.006 min
Lab File: 17M008106.D
Acq: 10 Sep 2014 00:08

Tgt Ion: 84 Resp: 698

Ion	Ratio	Lower	Upper
84	100		
49	139.5	97.1	145.7

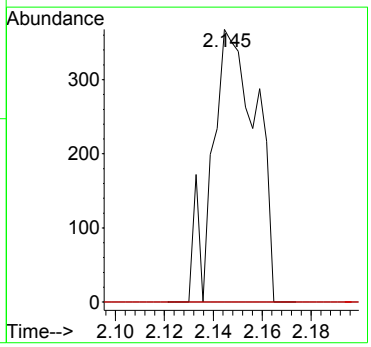


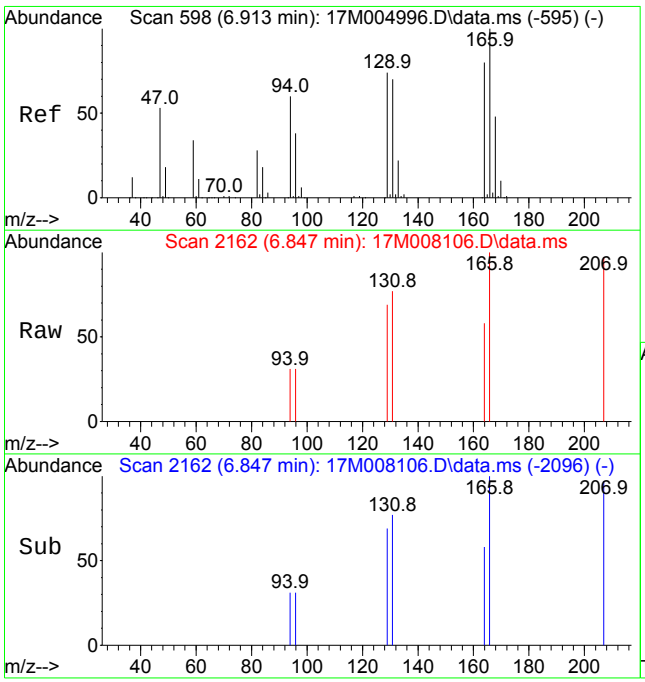


#15
Acetone
Concen: 0.7415 ug/L
RT: 2.144 min Scan# 538
Delta R.T. -0.009 min
Lab File: 17M008106.D
Acq: 10 Sep 2014 00:08

Tgt Ion: 43 Resp: 463

Ion	Ratio	Lower	Upper
43	100		
58	0.0	18.7	43.7#

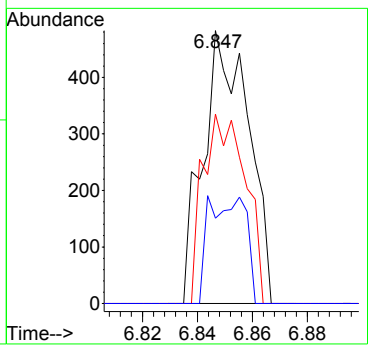




#46
Tetrachloroethene
Concen: 0.1465 ug/L
RT: 6.847 min Scan# 2162
Delta R.T. -0.008 min
Lab File: 17M008106.D
Acq: 10 Sep 2014 00:08

Tgt Ion:166 Resp: 556

Ion	Ratio	Lower	Upper
166	100		
129	64.6	59.0	88.4
94	32.0	31.3	46.9



2.1.1.4 Standards Data

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000186.D
Acq On : 13 Oct 2013 17:48
Operator : MES
Sample : WG448462-02 5ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 3 Sample Multiplier: 1

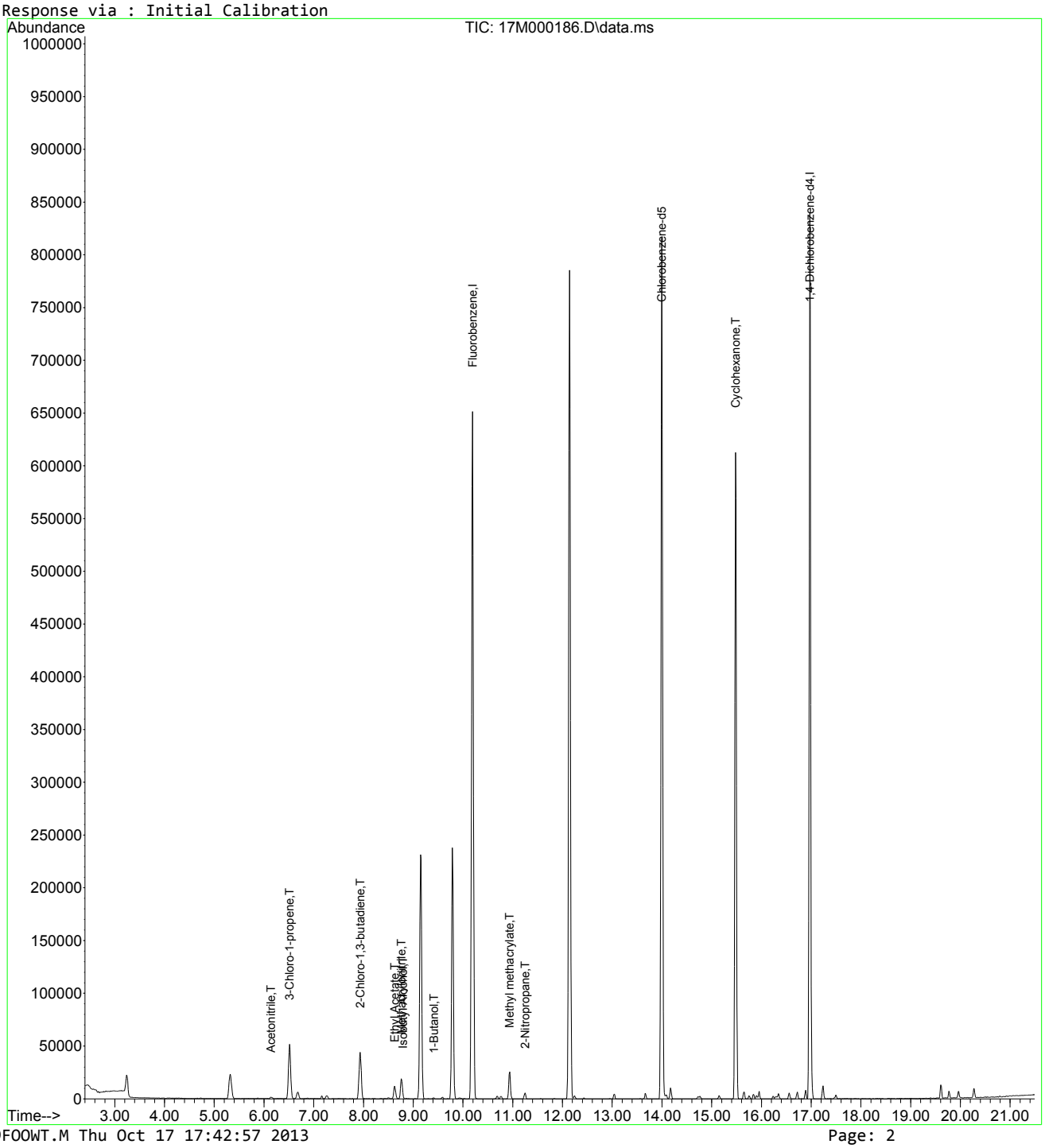
Quant Time: Oct 17 17:42:57 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	834735	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	596678	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.971	152	298748	25.0000	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.139	41	2125	3.70	ug/L	#	72
3) 3-Chloro-1-propene	6.513	41	56439	4.88	ug/L	#	87
4) 2-Chloro-1,3-butadiene	7.933	53	47335	4.42	ug/L		98
5) Methacrylonitrile	8.762	67	9230	4.25	ug/L		98
6) Ethyl Acetate	8.627	43	20657	4.25	ug/L	#	87
7) Isobutyl Alcohol	8.793	43	984	6.08	ug/L	#	48
8) 1-Butanol	9.415	56	1024	34.64	ug/L	#	16
9) Methyl methacrylate	10.939	41	18354	4.00	ug/L		99
10) 2-Nitropropane	11.249	43	5280	3.08	ug/L		90
12) Cyclohexanone	15.479	55	199	17.31	ug/L	#	23

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000186.D
Acq On : 13 Oct 2013 17:48
Operator : MES
Sample : WG448462-02 5ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 17 17:42:57 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000186.D
Acq On : 13 Oct 2013 17:48
Operator : MES
Sample : WG448462-02 5ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 17 17:43:35 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	100	0.00
2	T	Acetonitrile	5.000	3.703	25.9#	0	0.01
3	T	3-Chloro-1-propene	5.000	4.880	2.4	100	0.00
4	T	2-Chloro-1,3-butadiene	5.000	4.424	11.5	100	0.00
5	T	Methacrylonitrile	5.000	4.254	14.9	100	0.00
6	T	Ethyl Acetate	5.000	4.247	15.1	100	0.01
7	T	Isobutyl Alcohol	5.000	6.076	-21.5	0	0.01
8	T	1-Butanol	-1.000	34.643	0.0	0	-0.30
9	T	Methyl methacrylate	5.000	4.002	20.0	100	0.01
10	T	2-Nitropropane	-1.000	3.076	0.0	0	0.00
11		Chlorobenzene-d5	25.000	25.000	0.0	100	0.00
12	T	Cyclohexanone	-1.000	17.312	0.0	0	0.23
13	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000187.D
Acq On : 13 Oct 2013 18:15
Operator : MES
Sample : WG448462-03 20ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 4 Sample Multiplier: 1

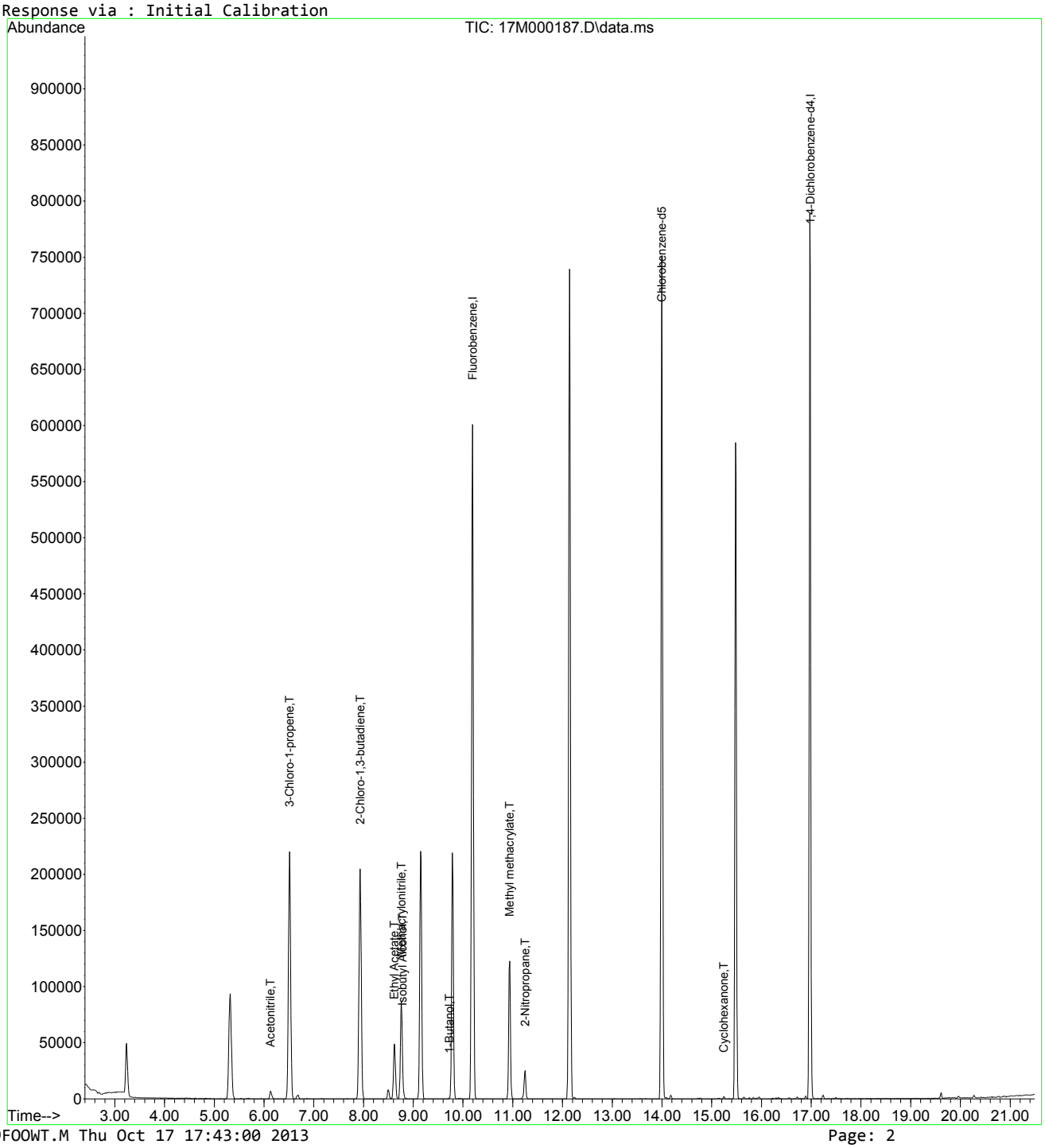
Quant Time: Oct 17 17:43:00 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	769796	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	542862	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.981	152	283988	25.0000	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	9431	17.82	ug/L	#	91
3) 3-Chloro-1-propene	6.512	41	236510	22.18	ug/L		99
4) 2-Chloro-1,3-butadiene	7.932	53	212042	21.49	ug/L		99
5) Methacrylonitrile	8.761	67	39753	19.87	ug/L		99
6) Ethyl Acetate	8.616	43	87278	19.46	ug/L		100
7) Isobutyl Alcohol	8.782	43	5450	36.49	ug/L	#	97
8) 1-Butanol	9.725	56	885	33.83	ug/L	#	48
9) Methyl methacrylate	10.938	41	81246	19.21	ug/L		100
10) 2-Nitropropane	11.249	43	24099	15.23	ug/L		93
12) Cyclohexanone	15.240	55	1683	31.57	ug/L	#	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000187.D
Acq On : 13 Oct 2013 18:15
Operator : MES
Sample : WG448462-03 20ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 17:43:00 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000188.D
Acq On : 13 Oct 2013 18:43
Operator : MES
Sample : WG448462-04 50ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 5 Sample Multiplier: 1

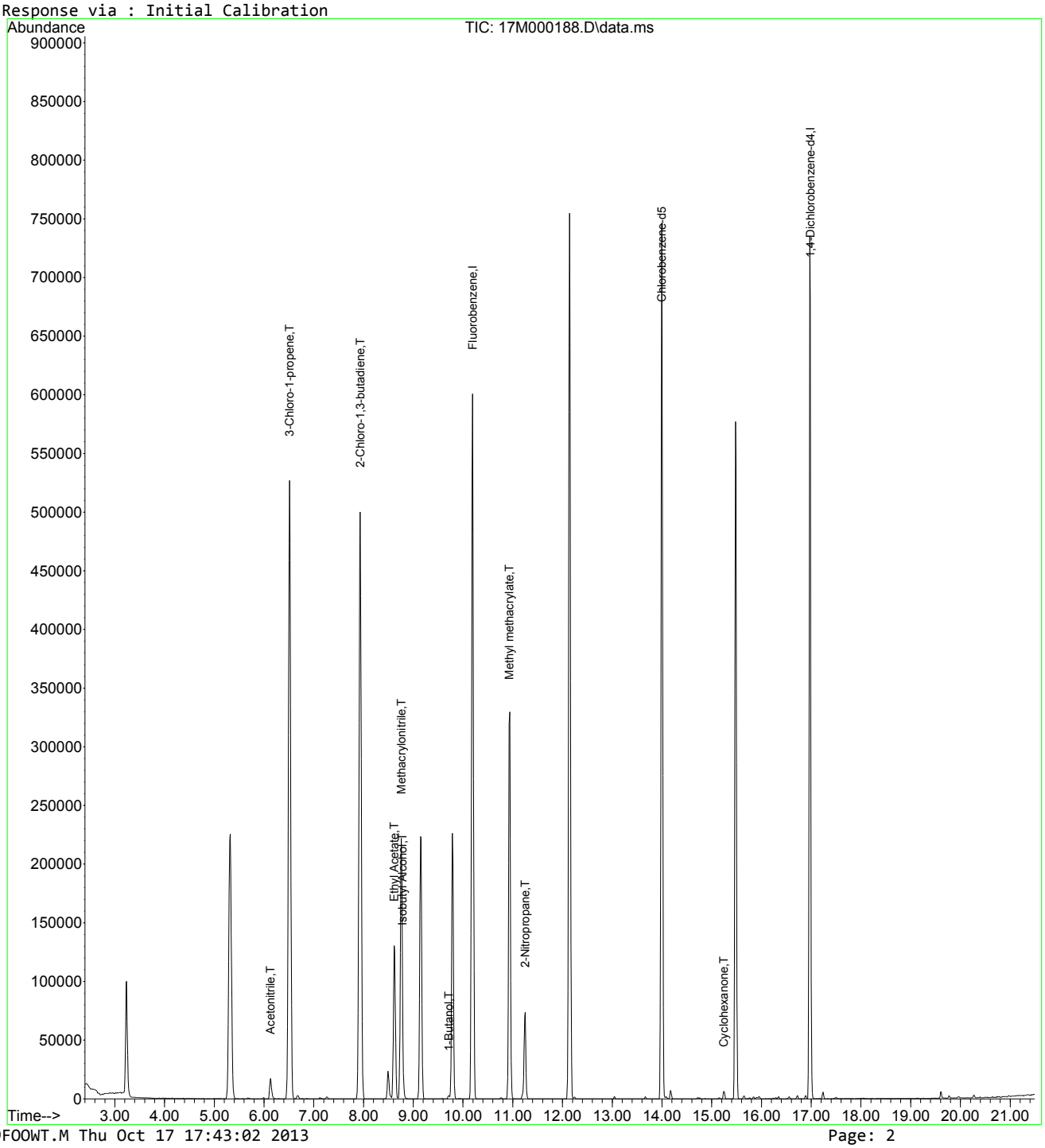
Quant Time: Oct 17 17:43:02 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	764083	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	535993	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.981	152	263764	25.0000	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	25091	47.77	ug/L	#	99
3) 3-Chloro-1-propene	6.512	41	571105	53.95	ug/L		100
4) 2-Chloro-1,3-butadiene	7.932	53	517543	52.84	ug/L		100
5) Methacrylonitrile	8.762	67	103271	52.00	ug/L		99
6) Ethyl Acetate	8.616	43	227233	51.04	ug/L		100
7) Isobutyl Alcohol	8.782	43	14258	96.18	ug/L	#	96
8) 1-Butanol	9.715	56	2582	56.98	ug/L		98
9) Methyl methacrylate	10.928	41	217667	51.85	ug/L		99
10) 2-Nitropropane	11.249	43	72850	46.37	ug/L		97
12) Cyclohexanone	15.240	55	4463	57.76	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000188.D
Acq On : 13 Oct 2013 18:43
Operator : MES
Sample : WG448462-04 50ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 17:43:02 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000189.D
Acq On : 13 Oct 2013 19:11
Operator : MES
Sample : WG448462-05 100ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 6 Sample Multiplier: 1

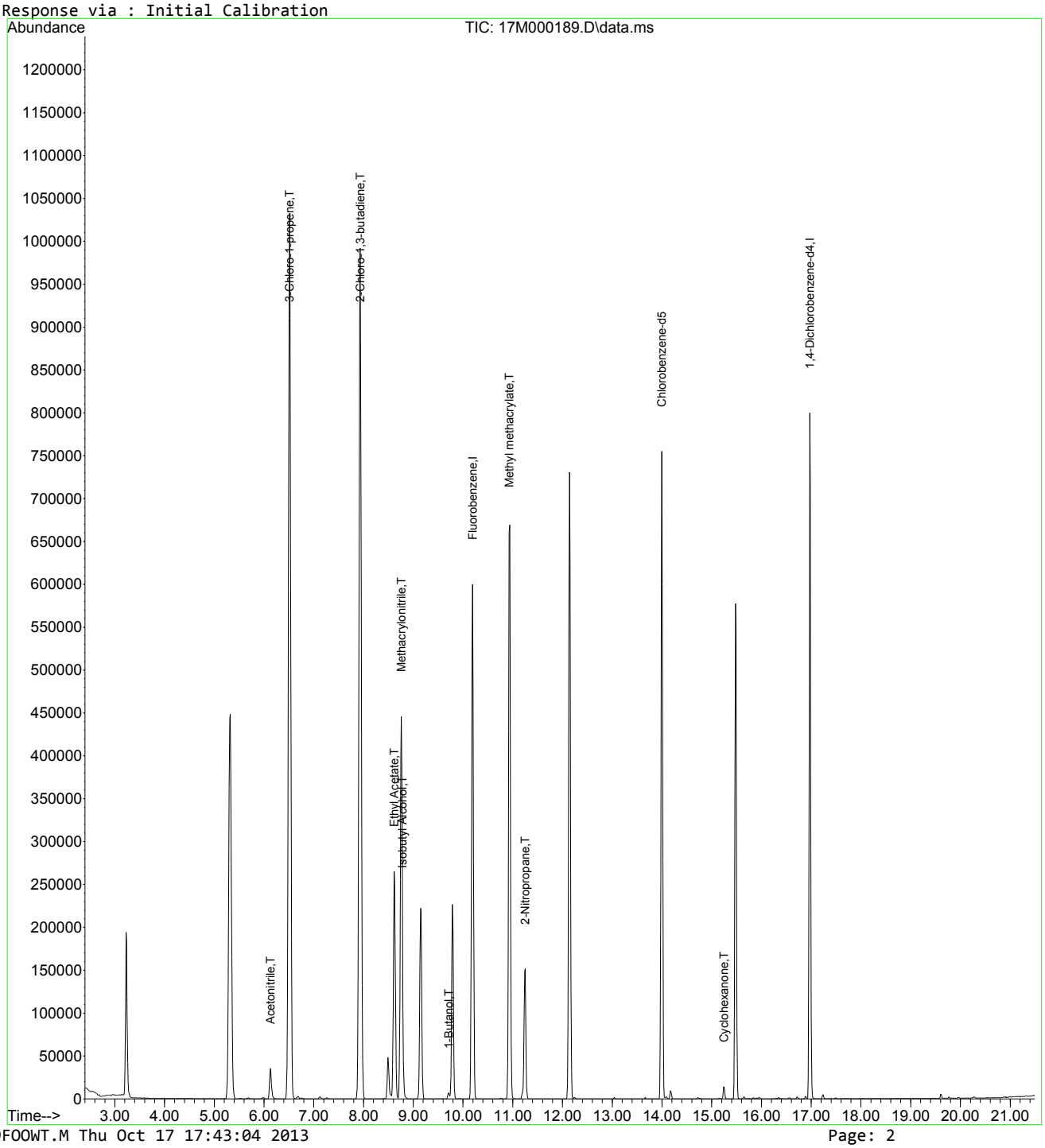
Quant Time: Oct 17 17:43:04 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	762819	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	543994	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.971	152	279020	25.0000	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	49660	94.69	ug/L	#	100
3) 3-Chloro-1-propene	6.512	41	1123358	106.29	ug/L		100
4) 2-Chloro-1,3-butadiene	7.932	53	1036798	106.03	ug/L		100
5) Methacrylonitrile	8.762	67	205353	103.57	ug/L		100
6) Ethyl Acetate	8.616	43	457591	102.95	ug/L		100
7) Isobutyl Alcohol	8.782	43	27086	183.01	ug/L		100
8) 1-Butanol	9.715	56	5648	96.66	ug/L		100
9) Methyl methacrylate	10.928	41	448267	106.96	ug/L		100
10) 2-Nitropropane	11.249	43	155172	98.94	ug/L		100
12) Cyclohexanone	15.250	55	9042	97.58	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000189.D
Acq On : 13 Oct 2013 19:11
Operator : MES
Sample : WG448462-05 100ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 17:43:04 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000190.D
Acq On : 13 Oct 2013 19:39
Operator : MES
Sample : WG448462-06 200ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 7 Sample Multiplier: 1

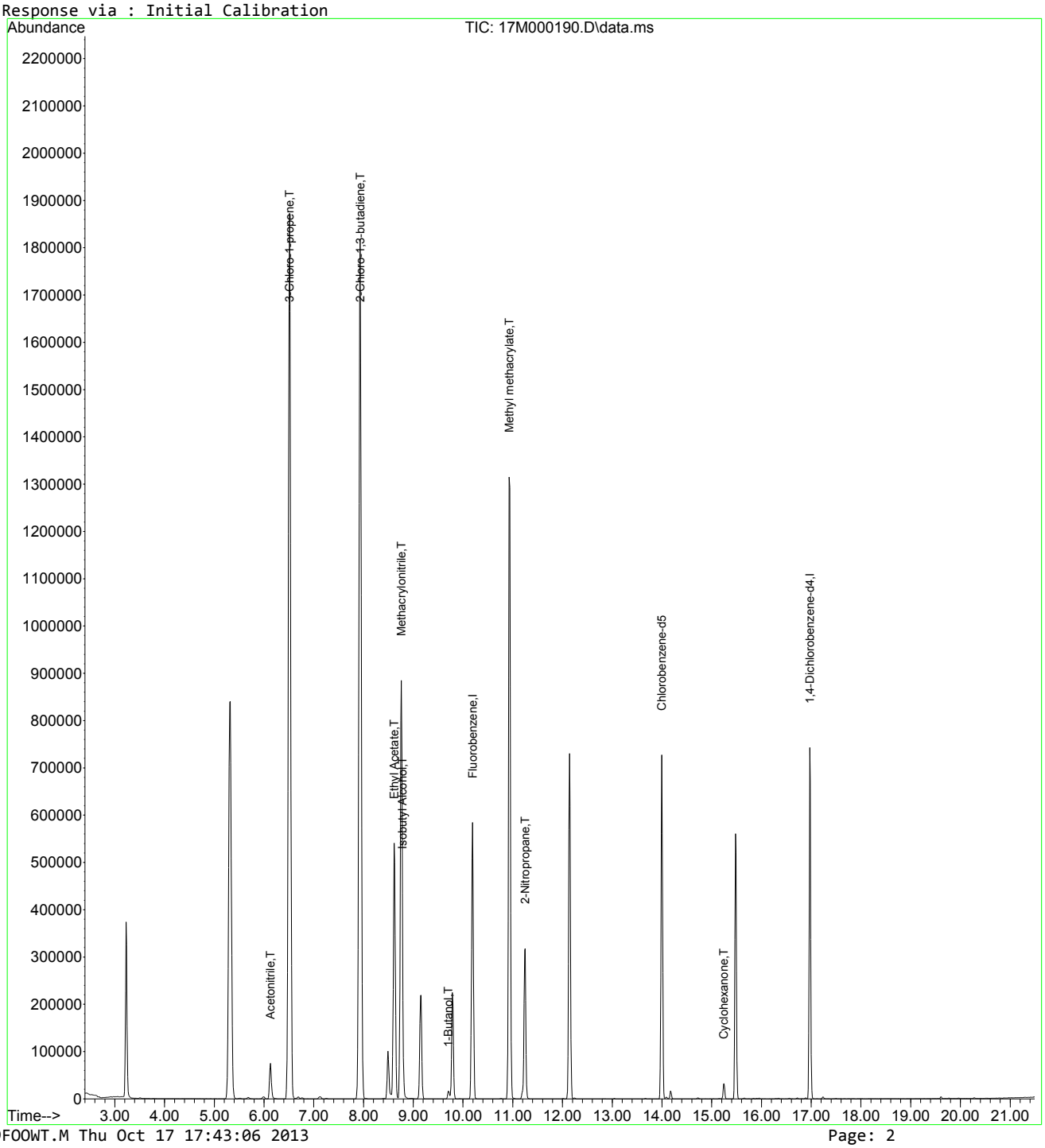
Quant Time: Oct 17 17:43:06 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	735626	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	520486	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.971	152	259787	25.0000	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	104743	207.11	ug/L	#	98
3) 3-Chloro-1-propene	6.512	41	2062227	202.34	ug/L		100
4) 2-Chloro-1,3-butadiene	7.932	53	1943243	206.08	ug/L		100
5) Methacrylonitrile	8.762	67	410090	214.48	ug/L		100
6) Ethyl Acetate	8.616	43	919702	214.56	ug/L		100
7) Isobutyl Alcohol	8.782	43	57001	399.37	ug/L		98
8) 1-Butanol	9.705	56	13539	194.38	ug/L		98
9) Methyl methacrylate	10.928	41	887601	219.62	ug/L		100
10) 2-Nitropropane	11.249	43	329942	218.15	ug/L		100
12) Cyclohexanone	15.240	55	19663	191.13	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000190.D
Acq On : 13 Oct 2013 19:39
Operator : MES
Sample : WG448462-06 200ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 17 17:43:06 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000191.D
Acq On : 13 Oct 2013 20:07
Operator : MES
Sample : WG448462-07 300ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 8 Sample Multiplier: 1

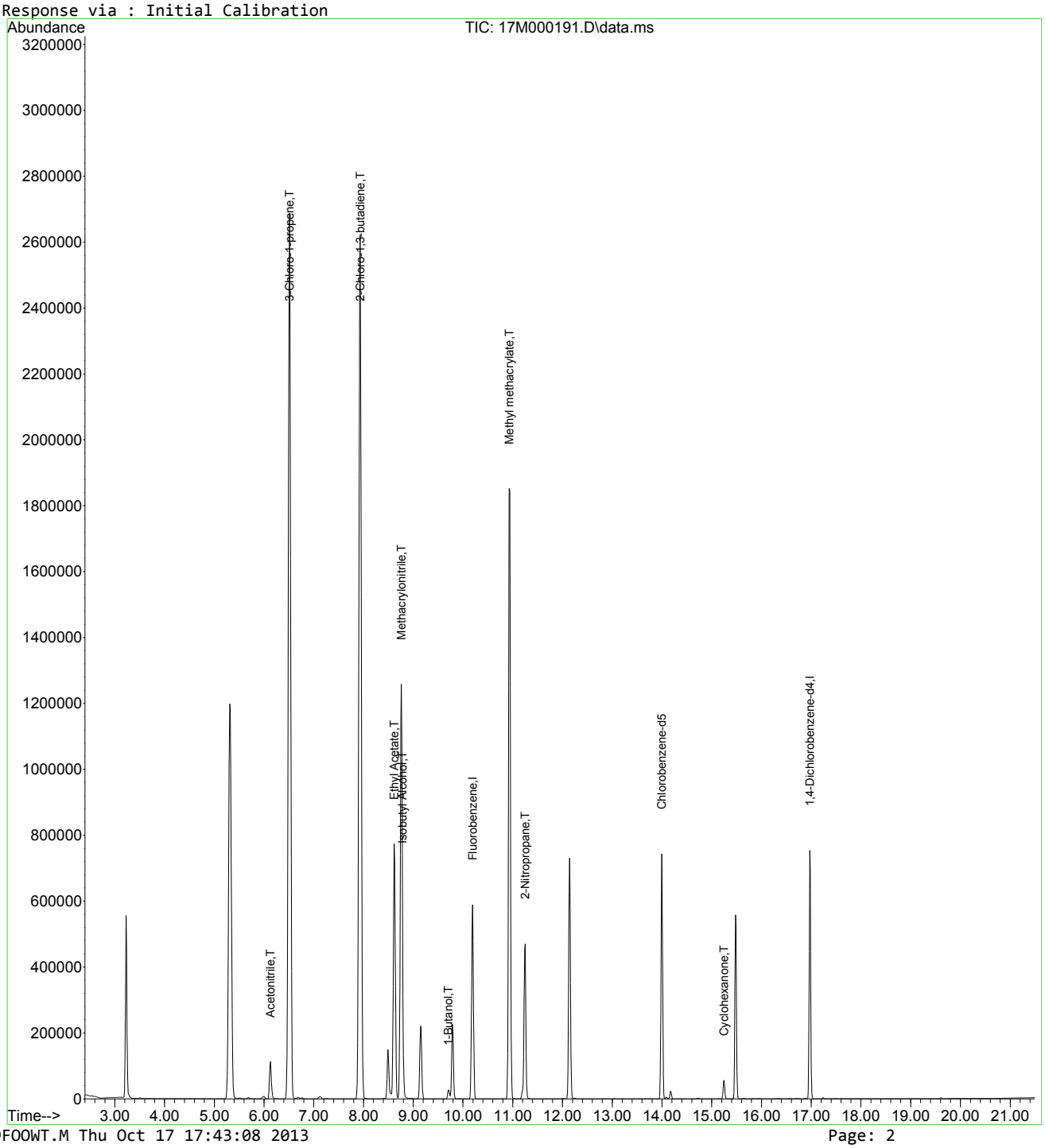
Quant Time: Oct 17 17:43:08 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	745118	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	526334	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.971	152	266080	25.0000	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	157466	307.40	ug/L	#	99
3) 3-Chloro-1-propene	6.512	41	2977166	288.39	ug/L		100
4) 2-Chloro-1,3-butadiene	7.932	53	2856242	299.04	ug/L		100
5) Methacrylonitrile	8.762	67	587249	303.22	ug/L		100
6) Ethyl Acetate	8.616	43	1333314	307.09	ug/L		100
7) Isobutyl Alcohol	8.782	43	87294	603.83	ug/L		98
8) 1-Butanol	9.705	56	22963	291.08	ug/L		96
9) Methyl methacrylate	10.928	41	1264197	308.82	ug/L		99
10) 2-Nitropropane	11.249	43	491384	320.75	ug/L		99
12) Cyclohexanone	15.250	55	32886	289.25	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000191.D
Acq On : 13 Oct 2013 20:07
Operator : MES
Sample : WG448462-07 300ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 17:43:08 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000192.D
Acq On : 13 Oct 2013 20:35
Operator : MES
Sample : WG448462-08 400ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 9 Sample Multiplier: 1

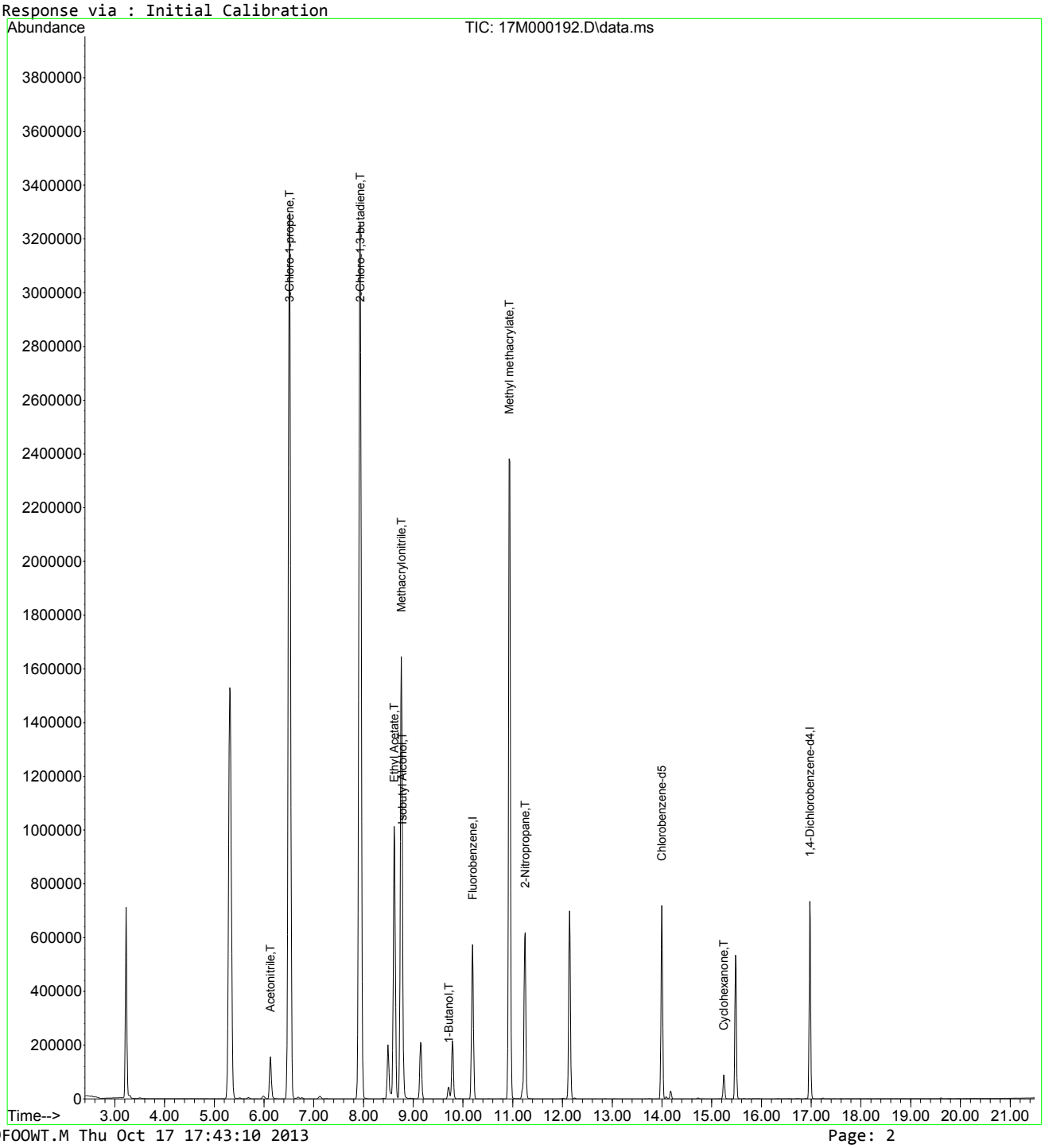
Quant Time: Oct 17 17:43:10 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	728958	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	513477	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.971	152	258316	25.0000	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	215922	430.86	ug/L	#	98
3) 3-Chloro-1-propene	6.512	41	3707052	367.06	ug/L		100
4) 2-Chloro-1,3-butadiene	7.932	53	3605435	385.84	ug/L		99
5) Methacrylonitrile	8.762	67	767786	405.22	ug/L		99
6) Ethyl Acetate	8.616	43	1747197	411.34	ug/L		100
7) Isobutyl Alcohol	8.782	43	125947	890.51	ug/L	#	95
8) 1-Butanol	9.715	56	36038	418.14	ug/L		96
9) Methyl methacrylate	10.928	41	1636030	408.51	ug/L		99
10) 2-Nitropropane	11.249	43	653312	435.90	ug/L		99
12) Cyclohexanone	15.240	55	51645	423.92	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000192.D
Acq On : 13 Oct 2013 20:35
Operator : MES
Sample : WG448462-08 400ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 17 17:43:10 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000193.D
Acq On : 13 Oct 2013 21:03
Operator : MES
Sample : WG448462-09 500ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 10 Sample Multiplier: 1

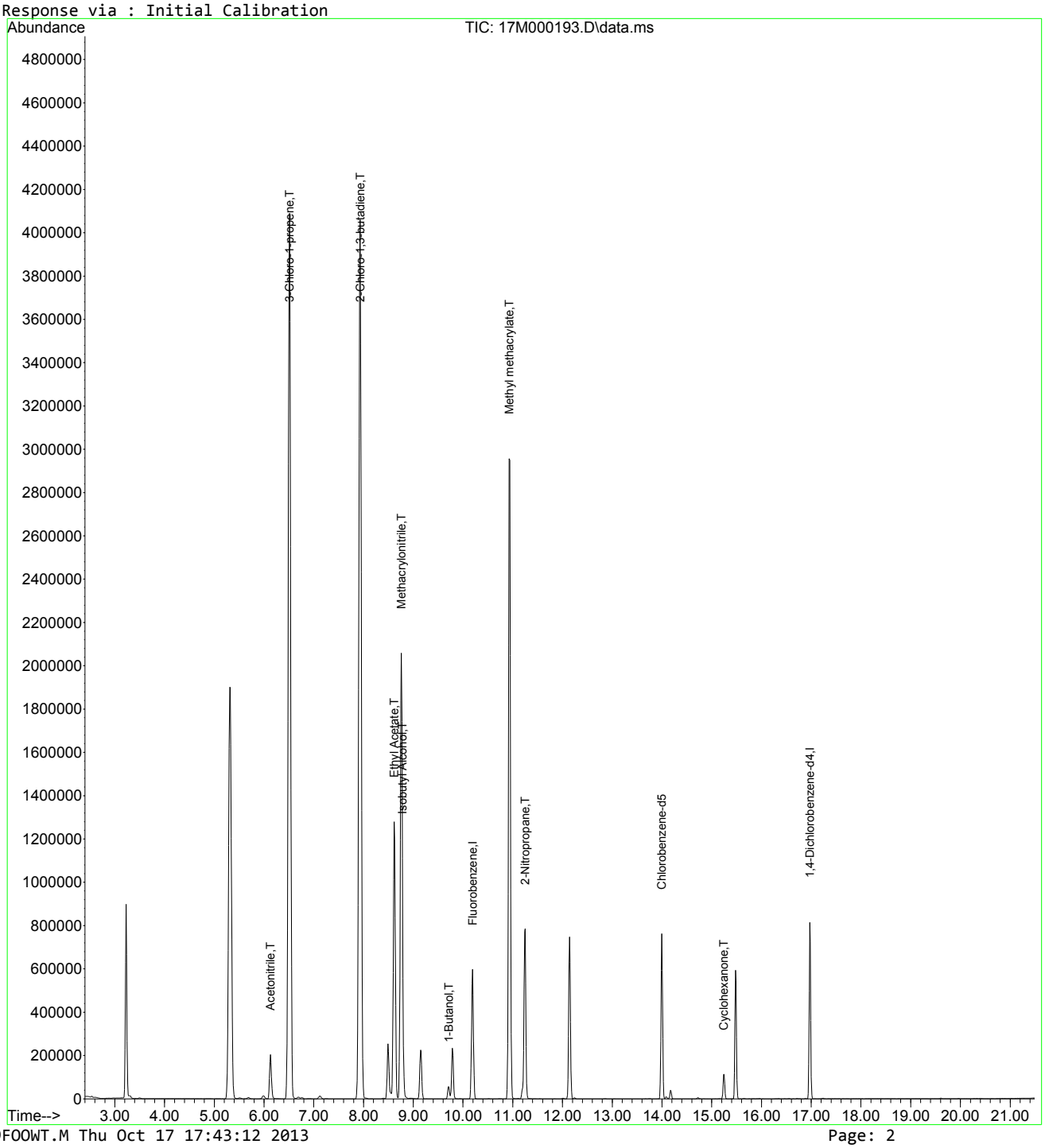
Quant Time: Oct 17 17:43:12 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

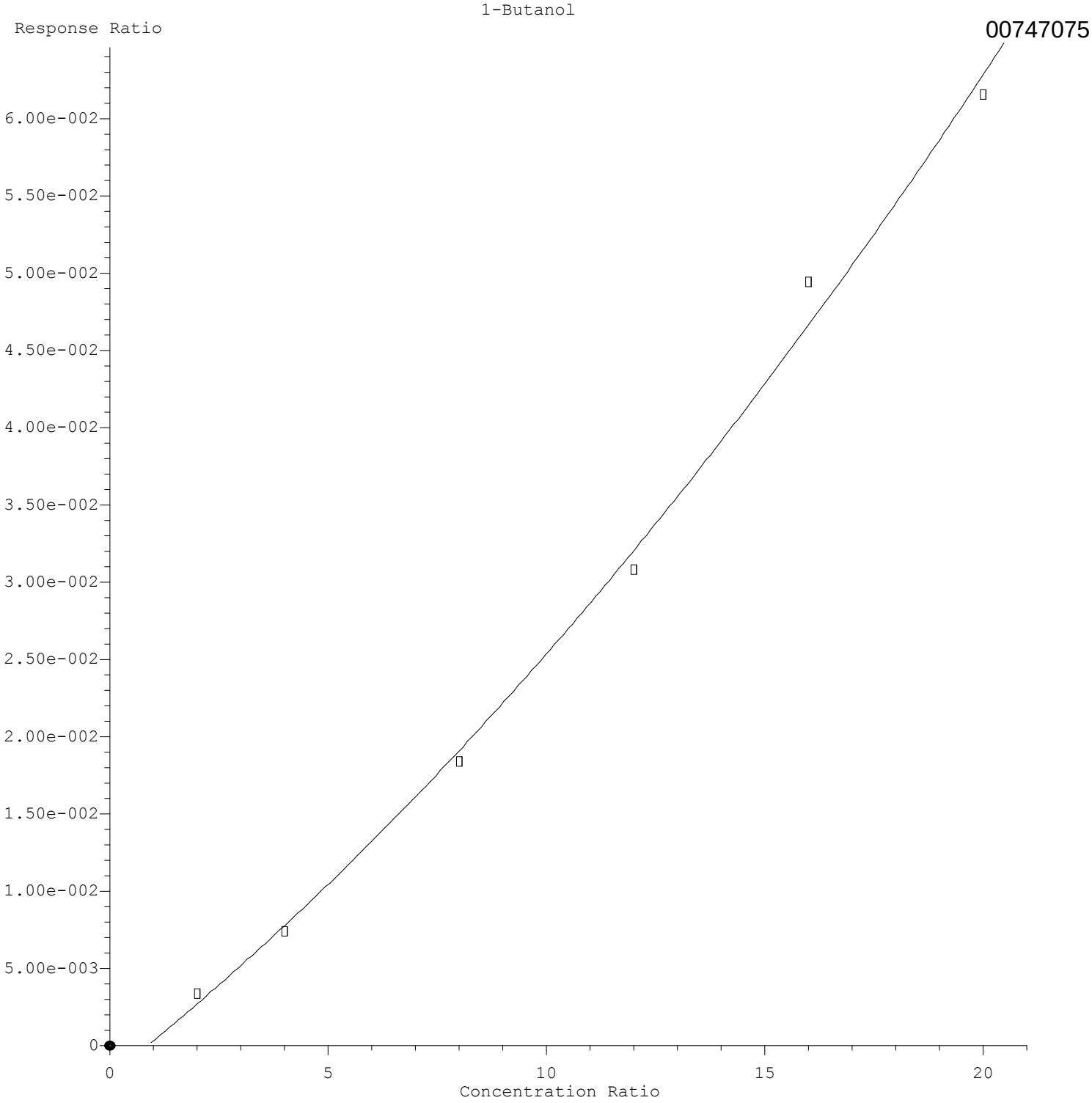
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	759233	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	544729	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.971	152	285472	25.0000	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	279066	534.65	ug/L	#	99
3) 3-Chloro-1-propene	6.512	41	4641883	441.29	ug/L		99
4) 2-Chloro-1,3-butadiene	7.932	53	4534980	465.97	ug/L		100
5) Methacrylonitrile	8.761	67	970860	491.97	ug/L		100
6) Ethyl Acetate	8.616	43	2217784	501.31	ug/L		100
7) Isobutyl Alcohol	8.782	43	161004	1092.99	ug/L	#	96
8) 1-Butanol	9.715	56	46748	492.64	ug/L		96
9) Methyl methacrylate	10.928	41	2051591	491.84	ug/L		98
10) 2-Nitropropane	11.249	43	836858	536.10	ug/L		99
12) Cyclohexanone	15.240	55	65947	490.06	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

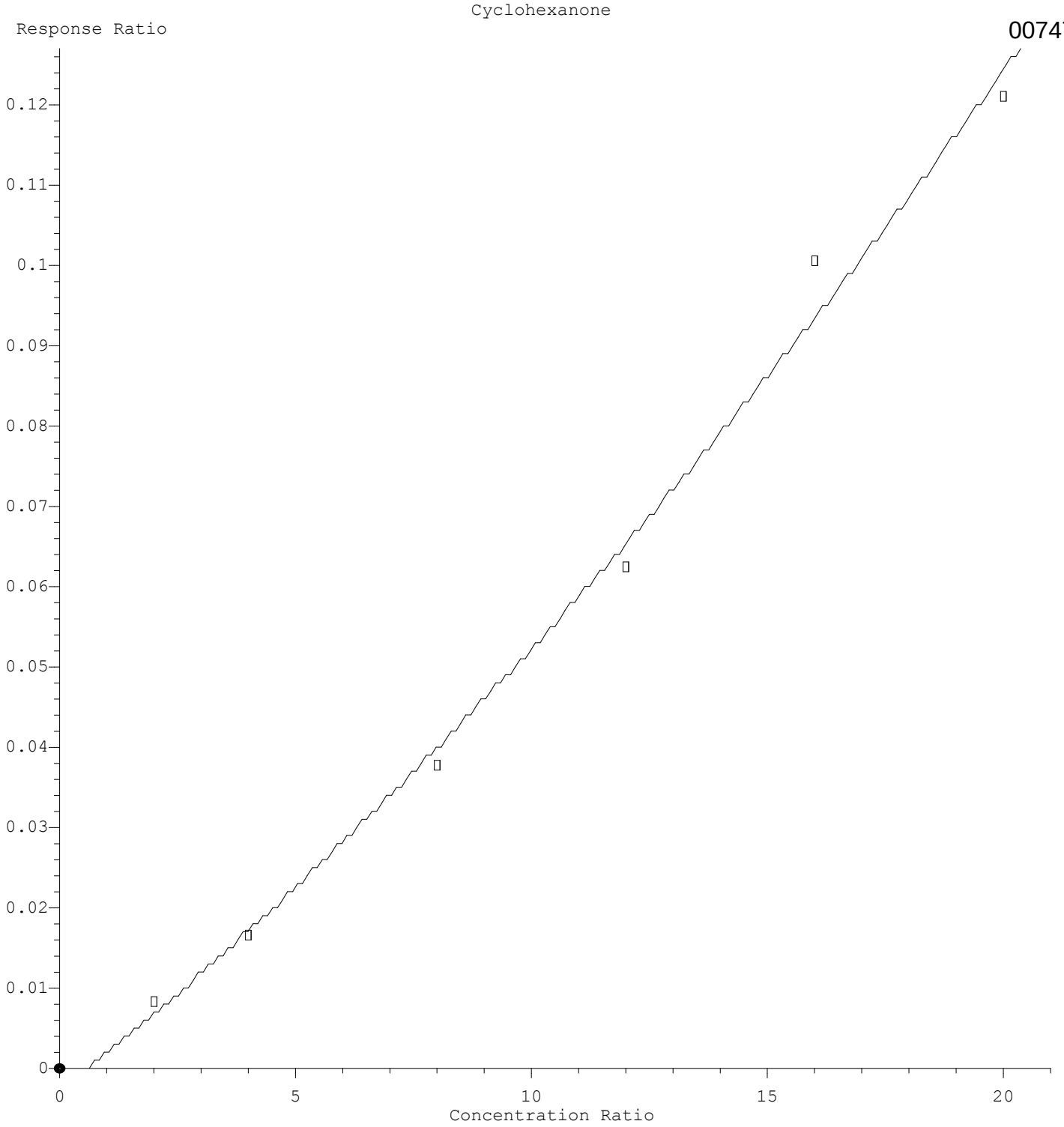
Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000193.D
Acq On : 13 Oct 2013 21:03
Operator : MES
Sample : WG448462-09 500ug/L APPIX STD
Misc : 1,1 STD60752
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 17:43:12 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration





R = 5.08e-005 A*A + 2.22e-003 A - 1.95e-003
Coef of Det (r^2) = 0.995563 Curve Fit: Quadratic
Method Name: D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Calibration Table Last Updated: Thu Oct 17 17:48:22 2013



R = 8.36e-005 A*A + 4.69e-003 A - 2.95e-003
Coef of Det (r^2) = 0.992665 Curve Fit: Quadratic
Method Name: D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Calibration Table Last Updated: Thu Oct 17 17:48:22 2013

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000195.D
Acq On : 13 Oct 2013 22:00
Operator : MES
Sample : WG448462-10 100ug/L APPIX ALT SRC
Misc : 1,1 STD60749
ALS Vial : 12 Sample Multiplier: 1

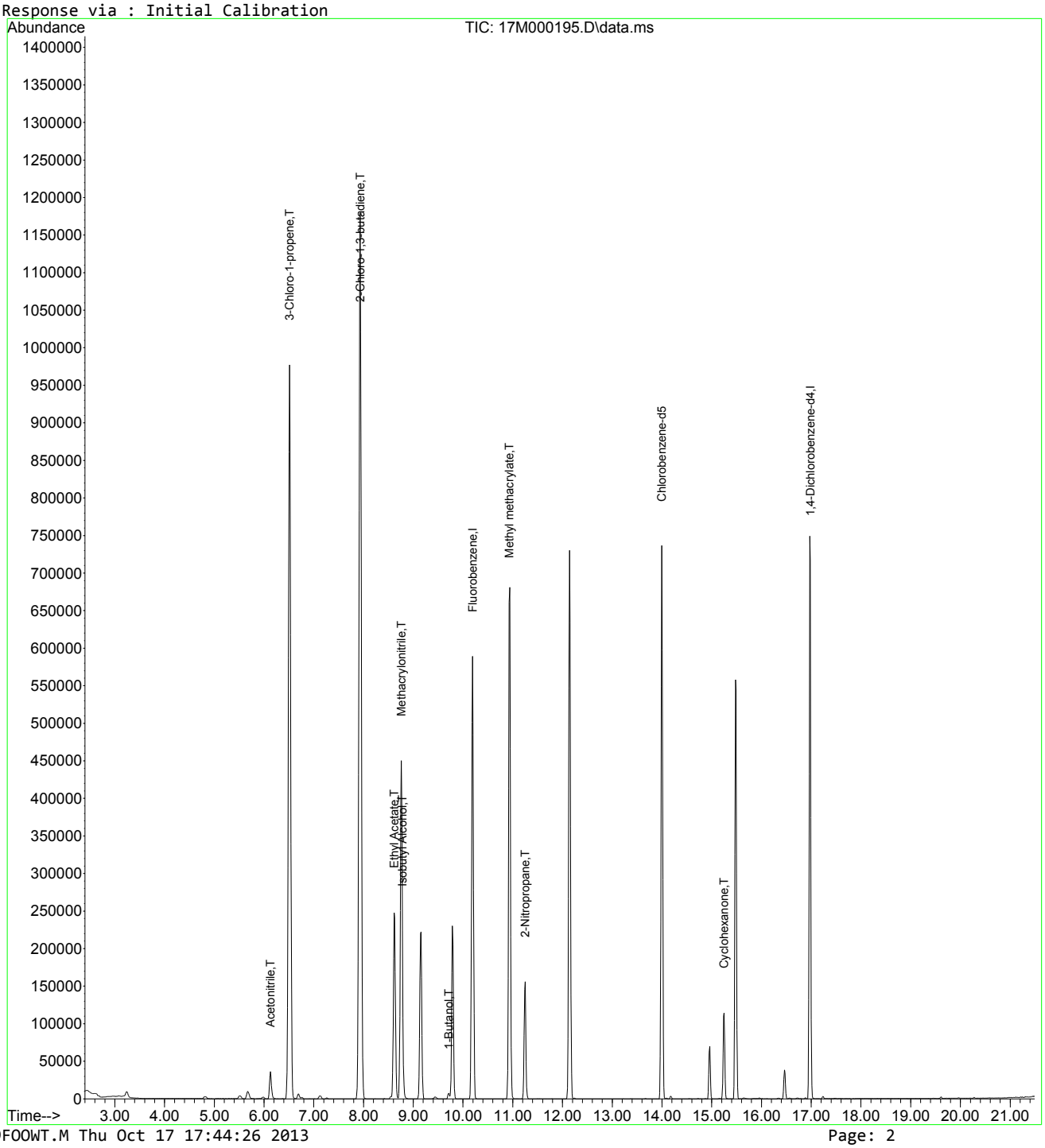
Quant Time: Oct 17 17:44:26 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.192	96	737303	25.0000	ug/L		0.00
11) Chlorobenzene-d5	13.996	117	523223	25.0000	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	16.981	152	266615	25.0000	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.129	41	50664	99.95	ug/L	#	100
3) 3-Chloro-1-propene	6.512	41	1059147	103.69	ug/L		100
4) 2-Chloro-1,3-butadiene	7.932	53	1242553	131.47	ug/L		99
5) Methacrylonitrile	8.761	67	206460	107.73	ug/L		100
6) Ethyl Acetate	8.616	43	431934	100.54	ug/L		100
7) Isobutyl Alcohol	8.782	43	27315	190.94	ug/L		99
8) 1-Butanol	9.715	56	5884	102.15	ug/L		97
9) Methyl methacrylate	10.928	41	453602	111.98	ug/L		99
10) 2-Nitropropane	11.249	43	153443	101.22	ug/L		99
12) Cyclohexanone	15.250	55	65010	500.01	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000195.D
Acq On : 13 Oct 2013 22:00
Operator : MES
Sample : WG448462-10 100ug/L APPIX ALT SRC
Misc : 1,1 STD60749
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 17:44:26 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\101313\
Data File : 17M000195.D
Acq On : 13 Oct 2013 22:00
Operator : MES
Sample : WG448462-10 100ug/L APPIX ALT SRC
Misc : 1,1 STD60749
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 17:44:26 2013
Quant Method : D:\MassHunter\GCMS\1\methods\A9FOOWT.M
Quant Title : Appendix IX (SOP:OVL MSV01) WATER 10/13/13 HPMS17
QLast Update : Thu Oct 17 17:39:37 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	97	0.00
2	T	Acetonitrile	100.000	99.953	0.0	102	0.00
3	T	3-Chloro-1-propene	100.000	103.685	-3.7	94	0.00
4	T	2-Chloro-1,3-butadiene	100.000	131.470	-31.5#	120	0.00
5	T	Methacrylonitrile	100.000	107.732	-7.7	101	0.00
6	T	Ethyl Acetate	100.000	100.539	-0.5	94	0.00
7	T	Isobutyl Alcohol	200.000	190.945	4.5	101	0.00
8	T	1-Butanol	100.000	102.146	-2.1	104	0.00
9	T	Methyl methacrylate	100.000	111.979	-12.0	101	0.00
10	T	2-Nitropropane	100.000	101.221	-1.2	99	0.00
11		Chlorobenzene-d5	25.000	25.000	0.0	96	0.00
12	T	Cyclohexanone	100.000	500.013	-400.0#	719	0.00
13	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	96	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007344.D
Acq On : 12 Aug 2014 14:53
Operator : ADC
Sample : WG487972-02 0.3ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 09:32:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:32:02 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	375367	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	290016	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	138694	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.838	111	3039	0.6166	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	2.466%#		
32) 1,2-Dichloroethane-d4	4.513	65	3765	0.7670	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.068%#		
44) Toluene-d8	6.470	98	10096	0.5589	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.236%#		
63) p-Bromofluorobenzene	8.566	95	912	0.1566	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.626%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	870	0.2477	ug/L #	71
3) Chloromethane	1.076	50	1301	0.2903	ug/L	94
4) Vinyl Chloride	1.117	62	1338	0.2801	ug/L	92
5) 1,3-Butadiene	1.125	54	1012	0.3129	ug/L	91
6) Bromomethane	1.287	94	571	0.5664	ug/L	98
7) Chloroethane	1.363	64	756	0.2827	ug/L	93
8) Trichlorofluoromethane	1.435	101	1884	0.3050	ug/L	97
9) Diethyl ether	1.612	59	717	0.2712	ug/L #	66
10) 1,1-Dichloroethene	1.730	61	1916	0.2992	ug/L	98
11) Carbon Disulfide	1.748	76	4310	0.3937	ug/L #	94
12) 1,1,2-Trichloro-1,2,2-...	1.759	101	1238	0.3095	ug/L	94
14) Methylene Chloride	2.118	84	1605	0.3551	ug/L	95
15) Acetone	2.156	43	563	0.6720	ug/L #	43
16) trans-1,2-Dichloroethene	2.234	96	1387	0.3295	ug/L	95
17) Methyl Tert Butyl Ether	2.321	73	3299	0.2976	ug/L	97
18) 1,1-Dichloroethane	2.735	63	2275	0.2827	ug/L	91
21) cis-1,2-Dichloroethene	3.274	96	1480	0.3130	ug/L	93
22) 2,2-Dichloropropane	3.392	77	2041	0.3127	ug/L	95
23) Cyclohexane	3.485	56	2001	0.3067	ug/L	95
24) Bromochloromethane	3.500	130	698	0.2350	ug/L	96
25) Chloroform	3.618	83	2401	0.3035	ug/L	91
26) Carbon Tetrachloride	3.746	117	1618	0.2564	ug/L #	90
28) 1,1,1-Trichloroethane	3.830	97	1970	0.2759	ug/L	95
29) 1,1-Dichloropropene	4.003	75	1754	0.2950	ug/L	96
31) Benzene	4.333	78	5075	0.2857	ug/L	98
33) 1,2-Dichloroethane	4.585	62	1596	0.3012	ug/L #	76
34) Trichloroethene	5.049	130	1566	0.3050	ug/L	97
35) Dibromomethane	5.480	93	652	0.2529	ug/L	92
36) 1,2-Dichloropropane	5.584	63	1483	0.3055	ug/L	86
37) Bromodichloromethane	5.691	83	1588	0.2629	ug/L	99
39) 2-Chloroethyl Vinyl Ether	6.291	63	547	0.2259	ug/L #	43
40) cis-1,3-Dichloropropene	6.308	75	2180	0.3022	ug/L	91
41) 4-Methyl-2-Pentanone	6.887	58	294	0.2411	ug/L #	25
42) trans-1,3-Dichloropropene	6.916	75	1929	0.3069	ug/L	94
45) Toluene	6.516	91	6737	0.3409	ug/L	100
46) Tetrachloroethene	6.855	166	1782	0.3298	ug/L	97
47) 1,1,2-Trichloroethane	7.049	97	1018	0.2797	ug/L	97
48) Dibromochloromethane	7.194	129	1304	0.2720	ug/L	88
49) 1,3-Dichloropropane	7.275	76	1769	0.2939	ug/L	99
50) 1,2-Dibromoethane	7.368	107	1022	0.2841	ug/L	94
51) 2-Hexanone	7.620	43	652	0.2896	ug/L #	85
52) Chlorobenzene	7.796	112	4188	0.3264	ug/L #	20
53) 1-Chlorohexane	7.814	69	300	0.2605	ug/L #	34
54) Ethylbenzene	7.834	106	2131	0.3079	ug/L	96

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007344.D
Acq On : 12 Aug 2014 14:53
Operator : ADC
Sample : WG487972-02 0.3ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 09:32:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:32:02 2014
Response via : Initial Calibration

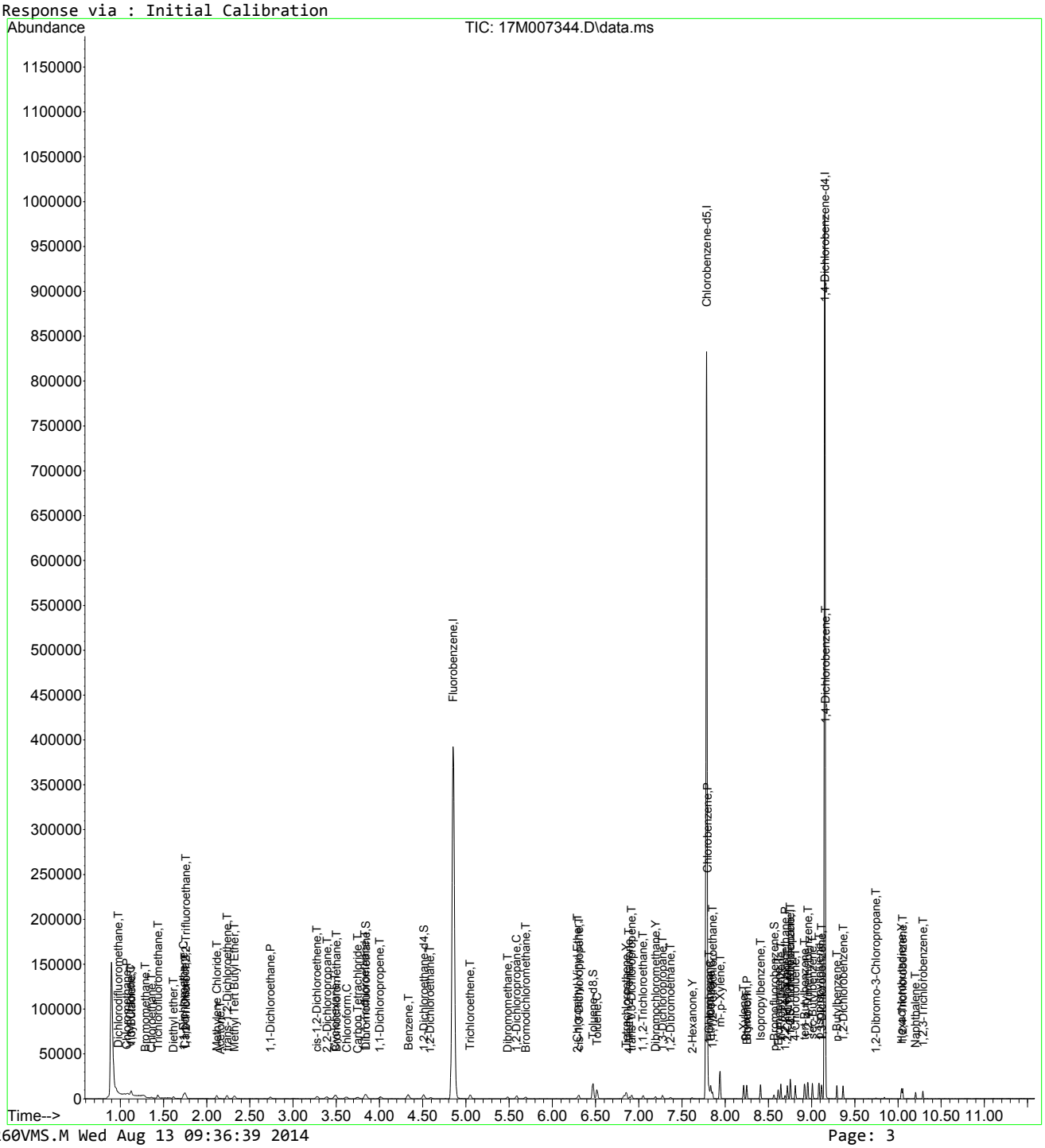
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
55) 1,1,1,2-Tetrachloroethane	7.854	131	1400	0.2904	ug/L		83
56) m-,p-Xylene	7.941	106	5174	0.6267	ug/L		98
57) o-Xylene	8.213	106	2536	0.3111	ug/L		99
58) Styrene	8.248	104	3749	0.2891	ug/L		99
59) Bromoform	8.254	173	800	0.2362	ug/L	#	88
60) Isopropylbenzene	8.410	105	6289	0.3004	ug/L		99
62) 1,3,5-Trimethylbenzene	8.755	105	5412	0.3175	ug/L		98
64) Bromobenzene	8.616	156	1705	0.3137	ug/L		99
65) n-Propylbenzene	8.645	91	7130	0.3123	ug/L		98
66) 1,1,2,2-Tetrachloroethane	8.694	83	1263	0.3132	ug/L		91
67) 2-Chlorotoluene	8.720	91	4442	0.3252	ug/L		99
68) 1,2,3-Trichloropropane	8.755	110	287	0.2604	ug/L		76
69) 1,2,4-Trimethylbenzene	8.957	105	5643	0.3318	ug/L		100
70) 4-Chlorotoluene	8.812	91	4621	0.3298	ug/L		99
71) tert-Butylbenzene	8.920	134	930	0.2882	ug/L		91
72) sec-Butylbenzene	9.009	105	6418	0.3033	ug/L		99
73) p-Isopropyltoluene	9.085	119	5201	0.2912	ug/L		96
74) 1,3-Dichlorobenzene	9.116	146	3406	0.3474	ug/L		97
75) 1,4-Dichlorobenzene	9.160	146	3653	0.3596	ug/L		91
76) n-Butylbenzene	9.293	91	4562	0.2964	ug/L		99
77) 1,2-Dichlorobenzene	9.365	146	3048	0.3189	ug/L		97
78) 1,2-Dibromo-3-Chloropr...	9.745	75	183	0.2516	ug/L		84
79) Hexachlorobutadiene	10.040	225	1266	0.3000	ug/L		98
80) 1,2,4-Trichlorobenzene	10.055	180	1917	0.2822	ug/L		97
81) Naphthalene	10.202	128	2937	0.2403	ug/L		100
82) 1,2,3-Trichlorobenzene	10.289	180	1653	0.2679	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007344.D
Acq On : 12 Aug 2014 14:53
Operator : ADC
Sample : WG487972-02 0.3ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 09:32:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:32:02 2014
Response via : Initial Calibration



8260VMS.M Wed Aug 13 09:36:39 2014 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007345.D
Acq On : 12 Aug 2014 15:13
Operator : ADC
Sample : WG487972-03 0.4ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 13 09:38:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	369765	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	280841	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	136044	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.841	111	2781	0.5728	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	2.291%#		
32) 1,2-Dichloroethane-d4	4.507	65	3638	0.7524	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.010%#		
44) Toluene-d8	6.473	98	9486	0.5423	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.169%#		
63) p-Bromofluorobenzene	8.563	95	883	0.1546	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.618%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	1192	0.3446	ug/L #	71
3) Chloromethane	1.076	50	1852	0.4196	ug/L	88
4) Vinyl Chloride	1.122	62	1879	0.3993	ug/L	99
5) 1,3-Butadiene	1.128	54	1321	0.4146	ug/L	89
6) Bromomethane	1.290	94	764	0.3301	ug/L	97
7) Chloroethane	1.360	64	1116	0.4236	ug/L	100
8) Trichlorofluoromethane	1.438	101	2692	0.4424	ug/L	98
9) Diethyl ether	1.615	59	1105	0.4244	ug/L #	72
10) 1,1-Dichloroethene	1.733	61	2659	0.4215	ug/L	99
11) Carbon Disulfide	1.745	76	5597	0.5190	ug/L #	94
12) 1,1,2-Trichloro-1,2,2-...	1.759	101	1799	0.4565	ug/L	92
14) Methylene Chloride	2.118	84	2074	0.4658	ug/L	96
15) Acetone	2.159	43	625	0.7573	ug/L #	43
16) trans-1,2-Dichloroethene	2.237	96	1773	0.4276	ug/L	95
17) Methyl Tert Butyl Ether	2.318	73	4413	0.4041	ug/L	98
18) 1,1-Dichloroethane	2.735	63	3281	0.4139	ug/L	97
19) Acrylonitrile	2.793	53	314	0.3167	ug/L	91
21) cis-1,2-Dichloroethene	3.274	96	2048	0.4396	ug/L	98
22) 2,2-Dichloropropane	3.384	77	2832	0.4405	ug/L	100
23) Cyclohexane	3.485	56	2843	0.4424	ug/L	97
24) Bromochloromethane	3.499	130	1060	0.3622	ug/L	93
25) Chloroform	3.615	83	3336	0.4280	ug/L	95
26) Carbon Tetrachloride	3.745	117	2321	0.3734	ug/L #	96
28) 1,1,1-Trichloroethane	3.838	97	2866	0.4074	ug/L	97
29) 1,1-Dichloropropene	4.006	75	2610	0.4457	ug/L	94
30) 2-Butanone	4.018	43	416	0.3111	ug/L #	40
31) Benzene	4.333	78	7551	0.4316	ug/L	97
33) 1,2-Dichloroethane	4.591	62	2091	0.4007	ug/L #	91
34) Trichloroethene	5.051	130	2184	0.4318	ug/L	97
35) Dibromomethane	5.488	93	975	0.3840	ug/L	93
36) 1,2-Dichloropropane	5.590	63	1803	0.3771	ug/L	99
37) Bromodichloromethane	5.691	83	2329	0.3914	ug/L	99
39) 2-Chloroethyl Vinyl Ether	6.285	63	781	0.3275	ug/L #	43
40) cis-1,3-Dichloropropene	6.305	75	2738	0.3853	ug/L	94
41) 4-Methyl-2-Pentanone	6.890	58	465	0.3871	ug/L	71
42) trans-1,3-Dichloropropene	6.919	75	2527	0.4082	ug/L	93
45) Toluene	6.513	91	8328	0.4352	ug/L	100
46) Tetrachloroethene	6.855	166	2324	0.4442	ug/L	98
47) 1,1,2-Trichloroethane	7.049	97	1529	0.4338	ug/L	93
48) Dibromochloromethane	7.191	129	1725	0.3715	ug/L	100
49) 1,3-Dichloropropane	7.275	76	2426	0.4162	ug/L	100
50) 1,2-Dibromoethane	7.368	107	1309	0.3758	ug/L	97
51) 2-Hexanone	7.617	43	926	0.4247	ug/L #	77
52) Chlorobenzene	7.796	112	5522	0.4445	ug/L #	40

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007345.D
Acq On : 12 Aug 2014 15:13
Operator : ADC
Sample : WG487972-03 0.4ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 4 Sample Multiplier: 1

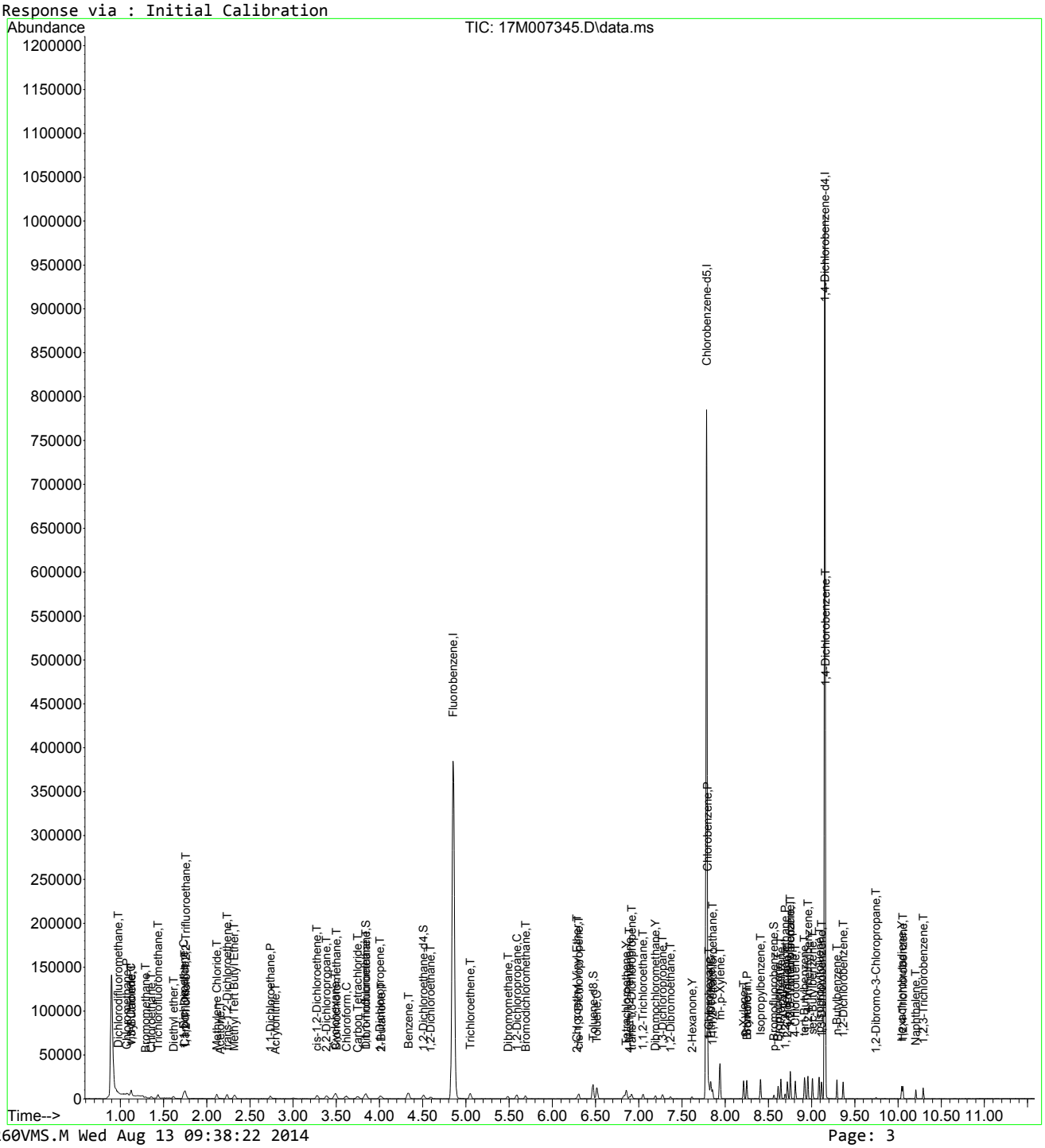
Quant Time: Aug 13 09:38:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 1-Chlorohexane	7.811	69	431	0.3865	ug/L	58
54) Ethylbenzene	7.837	106	2987	0.4456	ug/L	94
55) 1,1,1,2-Tetrachloroethane	7.854	131	1894	0.4057	ug/L	77
56) m-,p-Xylene	7.941	106	6845	0.8562	ug/L	96
57) o-Xylene	8.213	106	3328	0.4216	ug/L	96
58) Styrene	8.251	104	4975	0.3962	ug/L	100
59) Bromoform	8.254	173	1214	0.3701	ug/L	97
60) Isopropylbenzene	8.410	105	8585	0.4234	ug/L	99
62) 1,3,5-Trimethylbenzene	8.754	105	7238	0.4329	ug/L	99
64) Bromobenzene	8.613	156	2301	0.4317	ug/L	97
65) n-Propylbenzene	8.644	91	9769	0.4362	ug/L	98
66) 1,1,2,2-Tetrachloroethane	8.694	83	1703	0.4305	ug/L	94
67) 2-Chlorotoluene	8.720	91	5893	0.4399	ug/L	98
68) 1,2,3-Trichloropropane	8.754	110	412	0.3810	ug/L	78
69) 1,2,4-Trimethylbenzene	8.957	105	7228	0.4332	ug/L	100
70) 4-Chlorotoluene	8.812	91	6126	0.4457	ug/L	98
71) tert-Butylbenzene	8.917	134	1292	0.4082	ug/L	84
72) sec-Butylbenzene	9.009	105	8915	0.4295	ug/L	98
73) p-Isopropyltoluene	9.087	119	7421	0.4237	ug/L	99
74) 1,3-Dichlorobenzene	9.116	146	4192	0.4359	ug/L	99
75) 1,4-Dichlorobenzene	9.160	146	4494	0.4510	ug/L	89
76) n-Butylbenzene	9.293	91	6243	0.4135	ug/L	99
77) 1,2-Dichlorobenzene	9.365	146	3969	0.4233	ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.745	75	258	0.3617	ug/L	92
79) Hexachlorobutadiene	10.043	225	1666	0.4025	ug/L	99
80) 1,2,4-Trichlorobenzene	10.057	180	2507	0.3762	ug/L	99
81) Naphthalene	10.205	128	4075	0.3399	ug/L	98
82) 1,2,3-Trichlorobenzene	10.292	180	2086	0.3446	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007345.D
Acq On : 12 Aug 2014 15:13
Operator : ADC
Sample : WG487972-03 0.4ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 13 09:38:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007346.D
Acq On : 12 Aug 2014 15:33
Operator : ADC
Sample : WG487972-04 1.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 09:38:55 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.855	96	374792	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	280812	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	136873	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.838	111	5026	1.0213	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	4.085%#		
32) 1,2-Dichloroethane-d4	4.513	65	5977	1.2195	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.878%#		
44) Toluene-d8	6.470	98	17123	0.9790	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.916%#		
63) p-Bromofluorobenzene	8.564	95	3624	0.6306	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.522%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	3123	0.8907	ug/L	92
3) Chloromethane	1.082	50	4288	0.9584	ug/L	96
4) Vinyl Chloride	1.117	62	4423	0.9274	ug/L	99
5) 1,3-Butadiene	1.128	54	2922	0.9048	ug/L	95
6) Bromomethane	1.293	94	1816	0.7742	ug/L	99
7) Chloroethane	1.363	64	2720	1.0186	ug/L	97
8) Trichlorofluoromethane	1.438	101	6142	0.9958	ug/L	97
9) Diethyl ether	1.618	59	2489	0.9431	ug/L	84
10) 1,1-Dichloroethene	1.731	61	5941	0.9291	ug/L	98
11) Carbon Disulfide	1.748	76	10126	0.9264	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.754	101	3653	0.9145	ug/L	99
13) Acrolein	1.948	56	210	0.5459	ug/L	92
14) Methylene Chloride	2.116	84	4216	0.9341	ug/L	96
15) Acetone	2.153	43	958	1.1452	ug/L #	43
16) trans-1,2-Dichloroethene	2.234	96	4039	0.9611	ug/L	97
17) Methyl Tert Butyl Ether	2.321	73	10850	0.9802	ug/L	99
18) 1,1-Dichloroethane	2.741	63	7834	0.9750	ug/L	97
19) Acrylonitrile	2.787	53	833	0.8289	ug/L	95
21) cis-1,2-Dichloroethene	3.285	96	4557	0.9651	ug/L	98
22) 2,2-Dichloropropane	3.384	77	6188	0.9496	ug/L	96
23) Cyclohexane	3.488	56	6264	0.9617	ug/L	99
24) Bromochloromethane	3.497	130	2582	0.8705	ug/L	99
25) Chloroform	3.615	83	7608	0.9631	ug/L	98
26) Carbon Tetrachloride	3.746	117	5648	0.8964	ug/L	100
28) 1,1,1-Trichloroethane	3.836	97	6813	0.9556	ug/L	98
29) 1,1-Dichloropropene	4.009	75	5585	0.9409	ug/L	95
30) 2-Butanone	4.024	43	1321	0.9745	ug/L #	72
31) Benzene	4.331	78	17185	0.9690	ug/L	100
33) 1,2-Dichloroethane	4.594	62	4979	0.9412	ug/L #	95
34) Trichloroethene	5.049	130	4930	0.9617	ug/L	96
35) Dibromomethane	5.483	93	2445	0.9500	ug/L	93
36) 1,2-Dichloropropane	5.587	63	4821	0.9948	ug/L	93
37) Bromodichloromethane	5.689	83	5649	0.9366	ug/L	99
39) 2-Chloroethyl Vinyl Ether	6.285	63	2012	0.8323	ug/L	99
40) cis-1,3-Dichloropropene	6.305	75	6688	0.9286	ug/L	99
41) 4-Methyl-2-Pentanone	6.896	58	997	0.8188	ug/L	86
42) trans-1,3-Dichloropropene	6.919	75	5533	0.8817	ug/L	98
45) Toluene	6.514	91	18147	0.9484	ug/L	100
46) Tetrachloroethene	6.858	166	4798	0.9172	ug/L	99
47) 1,1,2-Trichloroethane	7.052	97	3245	0.9207	ug/L	97
48) Dibromochloromethane	7.191	129	4134	0.8904	ug/L	99
49) 1,3-Dichloropropane	7.275	76	5614	0.9633	ug/L	99
50) 1,2-Dibromoethane	7.365	107	3297	0.9467	ug/L	96
51) 2-Hexanone	7.617	43	1982	0.9091	ug/L	93

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007346.D
Acq On : 12 Aug 2014 15:33
Operator : ADC
Sample : WG487972-04 1.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 09:38:55 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

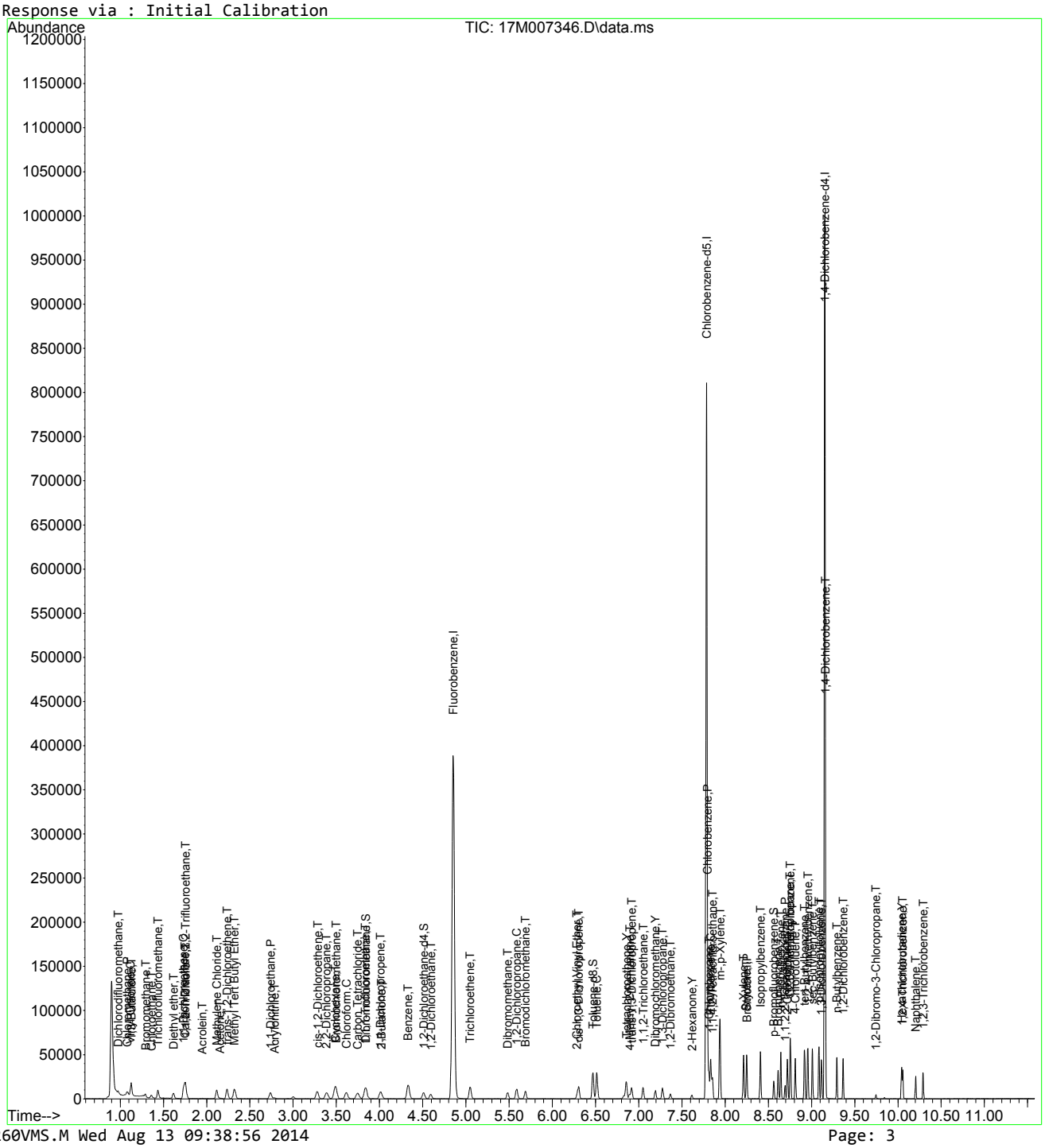
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
52) Chlorobenzene	7.796	112	12264	0.9873	ug/L	74
53) 1-Chlorohexane	7.814	69	1087	0.9750	ug/L	90
54) Ethylbenzene	7.834	106	6398	0.9546	ug/L	98
55) 1,1,1,2-Tetrachloroethane	7.854	131	4397	0.9419	ug/L	89
56) m-,p-Xylene	7.941	106	15139	1.8938	ug/L	99
57) o-Xylene	8.213	106	7743	0.9811	ug/L	98
58) Styrene	8.248	104	11526	0.9180	ug/L	99
59) Bromoform	8.254	173	2986	0.9104	ug/L	97
60) Isopropylbenzene	8.407	105	19981	0.9856	ug/L	98
62) 1,3,5-Trimethylbenzene	8.755	105	16479	0.9796	ug/L	99
64) Bromobenzene	8.613	156	5216	0.9726	ug/L	99
65) n-Propylbenzene	8.645	91	22013	0.9770	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.694	83	3851	0.9676	ug/L	100
67) 2-Chlorotoluene	8.720	91	13367	0.9917	ug/L	98
68) 1,2,3-Trichloropropane	8.752	110	1061	0.9753	ug/L	98
69) 1,2,4-Trimethylbenzene	8.957	105	16389	0.9764	ug/L	100
70) 4-Chlorotoluene	8.813	91	13238	0.9573	ug/L	99
71) tert-Butylbenzene	8.920	134	3218	1.0105	ug/L	96
72) sec-Butylbenzene	9.009	105	20530	0.9831	ug/L	99
73) p-Isopropyltoluene	9.085	119	17017	0.9656	ug/L	97
74) 1,3-Dichlorobenzene	9.114	146	9226	0.9536	ug/L	97
75) 1,4-Dichlorobenzene	9.160	146	9504	0.9479	ug/L	96
76) n-Butylbenzene	9.293	91	13544	0.8916	ug/L	99
77) 1,2-Dichlorobenzene	9.366	146	9231	0.9785	ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.745	75	609	0.8485	ug/L	89
79) Hexachlorobutadiene	10.043	225	3921	0.9416	ug/L	96
80) 1,2,4-Trichlorobenzene	10.055	180	5737	0.8557	ug/L	97
81) Naphthalene	10.205	128	9398	0.7791	ug/L	100
82) 1,2,3-Trichlorobenzene	10.292	180	5062	0.8312	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007346.D
Acq On : 12 Aug 2014 15:33
Operator : ADC
Sample : WG487972-04 1.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 09:38:55 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007347.D
Acq On : 12 Aug 2014 15:52
Operator : ADC
Sample : WG487972-05 2.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 09:38:58 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.854	96	370631	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	273561	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	130626	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.841	111	7084	1.4556	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	5.822%#		
32) 1,2-Dichloroethane-d4	4.510	65	8063	1.6636	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	6.654%#		
44) Toluene-d8	6.470	98	25717	1.5093	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	6.037%#		
63) p-Bromofluorobenzene	8.563	95	5837	1.0643	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.257%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	6244	1.8008	ug/L	94
3) Chloromethane	1.079	50	8200	1.8533	ug/L	95
4) Vinyl Chloride	1.119	62	8838	1.8739	ug/L	98
5) 1,3-Butadiene	1.128	54	5775	1.8083	ug/L	96
6) Bromomethane	1.290	94	3832	1.6520	ug/L	98
7) Chloroethane	1.360	64	5182	1.9623	ug/L	98
8) Trichlorofluoromethane	1.435	101	11948	1.9589	ug/L	99
9) Diethyl ether	1.615	59	5016	1.9219	ug/L	88
10) 1,1-Dichloroethene	1.730	61	12023	1.9013	ug/L	98
11) Carbon Disulfide	1.748	76	19953	1.8460	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.756	101	7571	1.9167	ug/L	98
13) Acrolein	1.953	56	716	1.8820	ug/L	88
14) Methylene Chloride	2.115	84	8942	2.0035	ug/L	99
15) Acetone	2.150	43	1832	2.2147	ug/L	98
16) trans-1,2-Dichloroethene	2.234	96	8208	1.9750	ug/L	98
17) Methyl Tert Butyl Ether	2.318	73	21525	1.9664	ug/L	100
18) 1,1-Dichloroethane	2.738	63	15581	1.9609	ug/L	98
19) Acrylonitrile	2.784	53	1822	1.8334	ug/L	100
20) Vinyl Acetate	2.998	86	477	1.2170	ug/L #	12
21) cis-1,2-Dichloroethene	3.279	96	9004	1.9283	ug/L	98
22) 2,2-Dichloropropane	3.386	77	12374	1.9202	ug/L	100
23) Cyclohexane	3.491	56	12472	1.9362	ug/L	100
24) Bromochloromethane	3.502	130	5607	1.9115	ug/L	99
25) Chloroform	3.615	83	15063	1.9282	ug/L	98
26) Carbon Tetrachloride	3.745	117	11775	1.8897	ug/L	99
28) 1,1,1-Trichloroethane	3.838	97	13513	1.9166	ug/L	99
29) 1,1-Dichloropropene	4.006	75	11223	1.9119	ug/L	97
30) 2-Butanone	4.015	43	2584	1.9276	ug/L #	86
31) Benzene	4.333	78	34017	1.9396	ug/L	100
33) 1,2-Dichloroethane	4.591	62	10045	1.9202	ug/L	98
34) Trichloroethene	5.048	130	9708	1.9150	ug/L	99
35) Dibromomethane	5.486	93	4748	1.8655	ug/L	99
36) 1,2-Dichloropropane	5.587	63	9324	1.9456	ug/L	98
37) Bromodichloromethane	5.688	83	11201	1.8780	ug/L	97
39) 2-Chloroethyl Vinyl Ether	6.285	63	4209	1.7607	ug/L	97
40) cis-1,3-Dichloropropene	6.305	75	13336	1.8724	ug/L	100
41) 4-Methyl-2-Pentanone	6.893	58	2193	1.8213	ug/L	93
42) trans-1,3-Dichloropropene	6.916	75	11174	1.8006	ug/L	99
45) Toluene	6.513	91	36898	1.9794	ug/L	99
46) Tetrachloroethene	6.855	166	9833	1.9295	ug/L	100
47) 1,1,2-Trichloroethane	7.049	97	6477	1.8864	ug/L	100
48) Dibromochloromethane	7.191	129	8334	1.8427	ug/L	99
49) 1,3-Dichloropropane	7.275	76	10811	1.9042	ug/L	95
50) 1,2-Dibromoethane	7.365	107	6363	1.8754	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007347.D
Acq On : 12 Aug 2014 15:52
Operator : ADC
Sample : WG487972-05 2.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 6 Sample Multiplier: 1

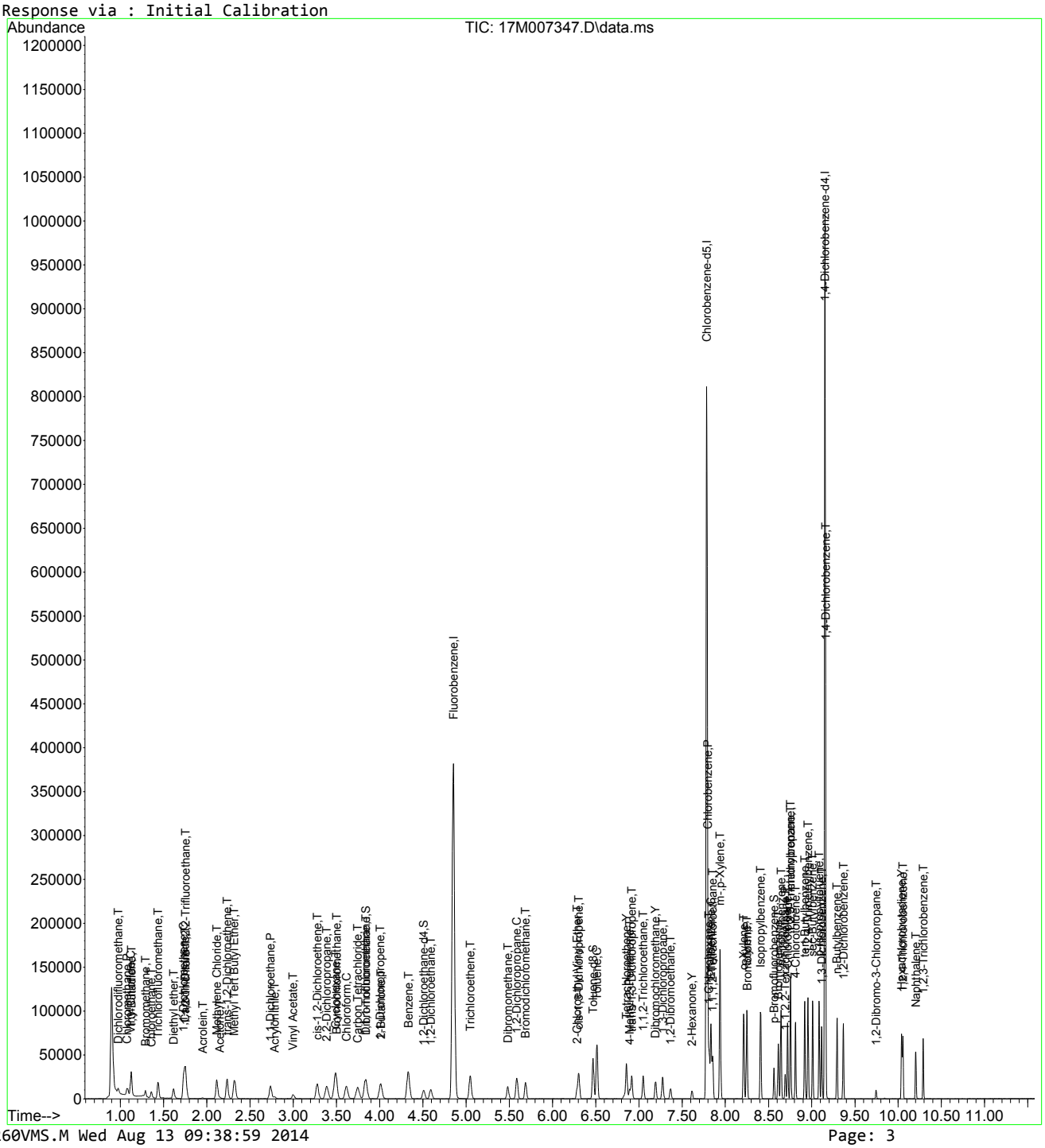
Quant Time: Aug 13 09:38:58 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) 2-Hexanone	7.614	43	4139	1.9488	ug/L	97
52) Chlorobenzene	7.796	112	23288	1.9244	ug/L	87
53) 1-Chlorohexane	7.811	69	1968	1.8120	ug/L	81
54) Ethylbenzene	7.834	106	12078	1.8498	ug/L	98
55) 1,1,1,2-Tetrachloroethane	7.851	131	8727	1.9189	ug/L	95
56) m-,p-Xylene	7.938	106	29329	3.7662	ug/L	97
57) o-Xylene	8.213	106	14198	1.8467	ug/L	94
58) Styrene	8.248	104	21906	1.7910	ug/L	97
59) Bromoform	8.254	173	5699	1.7836	ug/L	99
60) Isopropylbenzene	8.407	105	36191	1.8326	ug/L	100
62) 1,3,5-Trimethylbenzene	8.754	105	30765	1.9162	ug/L	100
64) Bromobenzene	8.613	156	9628	1.8811	ug/L	98
65) n-Propylbenzene	8.644	91	40349	1.8765	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.694	83	7223	1.9016	ug/L	99
67) 2-Chlorotoluene	8.720	91	24549	1.9084	ug/L	99
68) 1,2,3-Trichloropropane	8.754	110	1987	1.9139	ug/L	93
69) 1,2,4-Trimethylbenzene	8.957	105	30599	1.9101	ug/L	100
70) 4-Chlorotoluene	8.812	91	25007	1.8949	ug/L	99
71) tert-Butylbenzene	8.919	134	5944	1.9558	ug/L	99
72) sec-Butylbenzene	9.009	105	38379	1.9257	ug/L	99
73) p-Isopropyltoluene	9.085	119	31538	1.8751	ug/L	99
74) 1,3-Dichlorobenzene	9.116	146	17310	1.8746	ug/L	100
75) 1,4-Dichlorobenzene	9.160	146	17447	1.8234	ug/L	98
76) n-Butylbenzene	9.293	91	25561	1.7632	ug/L	98
77) 1,2-Dichlorobenzene	9.365	146	17283	1.9197	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.745	75	1289	1.8818	ug/L	99
79) Hexachlorobutadiene	10.040	225	7295	1.8357	ug/L	99
80) 1,2,4-Trichlorobenzene	10.054	180	11037	1.7249	ug/L	97
81) Naphthalene	10.205	128	20200	1.7546	ug/L	98
82) 1,2,3-Trichlorobenzene	10.289	180	10387	1.7872	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007347.D
Acq On : 12 Aug 2014 15:52
Operator : ADC
Sample : WG487972-05 2.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 09:38:58 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007348.D
Acq On : 12 Aug 2014 16:12
Operator : ADC
Sample : WG487972-06 5.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 09:39:01 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	4.852	96	362140	25.00000	ug/L		0.0000
43) Chlorobenzene-d5	7.785	117	255340	25.00000	ug/L		0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	135370	25.00000	ug/L		0.0000
System Monitoring Compounds							
27) Dibromofluoromethane	3.838	111	14058	2.9564	ug/L		0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 11.826%#				
32) 1,2-Dichloroethane-d4	4.510	65	14917	3.1500	ug/L		0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 12.600%#				
44) Toluene-d8	6.470	98	51302	3.2258	ug/L		0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 12.903%#				
63) p-Bromofluorobenzene	8.563	95	14954	2.6311	ug/L		0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 10.524%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.975	85	15386	4.5414	ug/L		98
3) Chloromethane	1.079	50	20678	4.7831	ug/L		100
4) Vinyl Chloride	1.119	62	22227	4.8232	ug/L		99
5) 1,3-Butadiene	1.128	54	14821	4.7498	ug/L		99
6) Bromomethane	1.290	94	9796	4.3221	ug/L		98
7) Chloroethane	1.357	64	13412	5.1980	ug/L		94
8) Trichlorofluoromethane	1.432	101	30267	5.0788	ug/L		100
9) Diethyl ether	1.617	59	12321	4.8314	ug/L		93
10) 1,1-Dichloroethene	1.730	61	29817	4.8258	ug/L		99
11) Carbon Disulfide	1.748	76	47722	4.5186	ug/L		99
12) 1,1,2-Trichloro-1,2,2-...	1.756	101	18573	4.8122	ug/L		98
13) Acrolein	1.956	56	1806	4.8584	ug/L		96
14) Methylene Chloride	2.115	84	20905	4.7937	ug/L		97
15) Acetone	2.153	43	4297	5.3163	ug/L		95
16) trans-1,2-Dichloroethene	2.237	96	19368	4.7696	ug/L		99
17) Methyl Tert Butyl Ether	2.321	73	52825	4.9389	ug/L		100
18) 1,1-Dichloroethane	2.738	63	39397	5.0746	ug/L		99
19) Acrylonitrile	2.784	53	5119	5.2719	ug/L		99
20) Vinyl Acetate	3.007	86	1799	4.6973	ug/L		78
21) cis-1,2-Dichloroethene	3.277	96	23283	5.1033	ug/L		99
22) 2,2-Dichloropropane	3.387	77	32118	5.1008	ug/L		98
23) Cyclohexane	3.491	56	31424	4.9928	ug/L		100
24) Bromochloromethane	3.497	130	14556	5.0788	ug/L		99
25) Chloroform	3.612	83	38210	5.0060	ug/L		99
26) Carbon Tetrachloride	3.748	117	30435	4.9989	ug/L		99
28) 1,1,1-Trichloroethane	3.841	97	34746	5.0437	ug/L		99
29) 1,1-Dichloropropene	4.015	75	28666	4.9980	ug/L		99
30) 2-Butanone	4.021	43	6900	5.2680	ug/L	#	93
31) Benzene	4.330	78	86650	5.0565	ug/L		100
33) 1,2-Dichloroethane	4.591	62	26445	5.1739	ug/L		98
34) Trichloroethene	5.046	130	24300	4.9057	ug/L		98
35) Dibromomethane	5.486	93	12418	4.9934	ug/L		100
36) 1,2-Dichloropropane	5.587	63	24673	5.2692	ug/L		96
37) Bromodichloromethane	5.688	83	29082	4.9904	ug/L		99
38) 1,4-Dioxane	5.894	88	256	8.3490	ug/L	#	17
39) 2-Chloroethyl Vinyl Ether	6.285	63	11065	4.7373	ug/L		98
40) cis-1,3-Dichloropropene	6.305	75	35091	5.0424	ug/L		100
41) 4-Methyl-2-Pentanone	6.896	58	5951	5.0583	ug/L		94
42) trans-1,3-Dichloropropene	6.919	75	30553	5.0388	ug/L		98
45) Toluene	6.514	91	95392	5.4825	ug/L		100
46) Tetrachloroethene	6.855	166	25465	5.3534	ug/L		100
47) 1,1,2-Trichloroethane	7.049	97	17666	5.5124	ug/L		99
48) Dibromochloromethane	7.194	129	22622	5.3588	ug/L		99
49) 1,3-Dichloropropane	7.275	76	28454	5.3694	ug/L		98

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007348.D
Acq On : 12 Aug 2014 16:12
Operator : ADC
Sample : WG487972-06 5.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 6 Sample Multiplier: 1

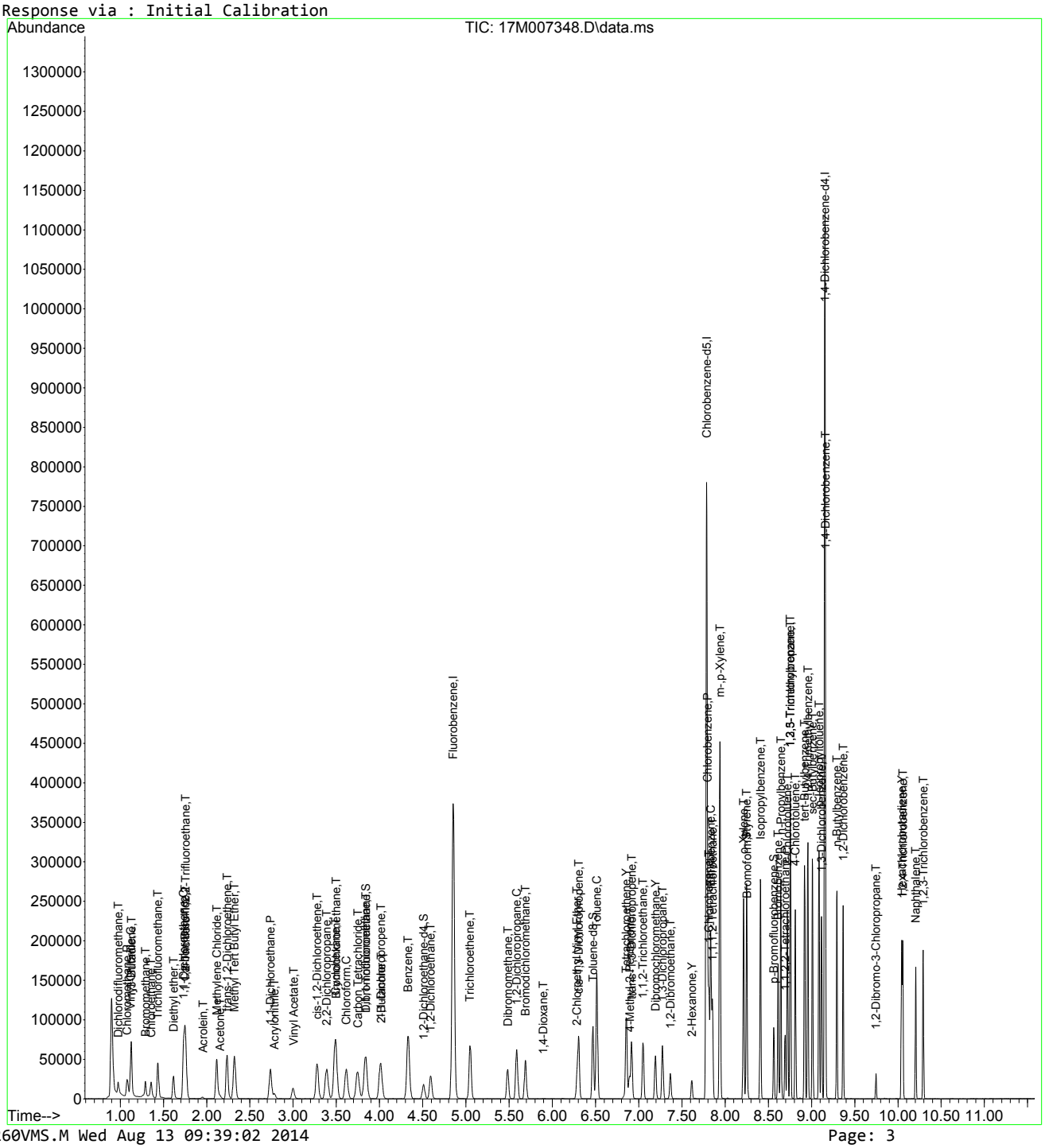
Quant Time: Aug 13 09:39:01 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.365	107	16971	5.3589	ug/L	100
51) 2-Hexanone	7.614	43	10554	5.3238	ug/L	97
52) Chlorobenzene	7.796	112	55978	4.9558	ug/L	94
53) 1-Chlorohexane	7.811	69	5025	4.9567	ug/L	85
54) Ethylbenzene	7.834	106	30367	4.9827	ug/L	99
55) 1,1,1,2-Tetrachloroethane	7.854	131	22208	5.2316	ug/L	99
56) m-,p-Xylene	7.938	106	74452	10.2428	ug/L	98
57) o-Xylene	8.213	106	38696	5.3921	ug/L	98
58) Styrene	8.248	104	60290	5.2809	ug/L	99
59) Bromoform	8.254	173	15940	5.3446	ug/L	100
60) Isopropylbenzene	8.410	105	101702	5.5173	ug/L	99
62) 1,3,5-Trimethylbenzene	8.755	105	85091	5.1143	ug/L	100
64) Bromobenzene	8.613	156	25906	4.8840	ug/L	98
65) n-Propylbenzene	8.644	91	112900	5.0666	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.694	83	20836	5.2932	ug/L	100
67) 2-Chlorotoluene	8.720	91	68368	5.1285	ug/L	98
68) 1,2,3-Trichloropropane	8.755	110	5632	5.2346	ug/L	99
69) 1,2,4-Trimethylbenzene	8.957	105	87338	5.2610	ug/L	99
70) 4-Chlorotoluene	8.812	91	69444	5.0778	ug/L	99
71) tert-Butylbenzene	8.920	134	16211	5.1470	ug/L	99
72) sec-Butylbenzene	9.009	105	108546	5.2554	ug/L	100
73) p-Isopropyltoluene	9.085	119	90582	5.1969	ug/L	99
74) 1,3-Dichlorobenzene	9.116	146	48461	5.0643	ug/L	99
75) 1,4-Dichlorobenzene	9.160	146	49163	4.9579	ug/L	100
76) n-Butylbenzene	9.293	91	74751	4.9755	ug/L	100
77) 1,2-Dichlorobenzene	9.365	146	48179	5.1640	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.745	75	3753	5.2870	ug/L	99
79) Hexachlorobutadiene	10.043	225	20438	4.9627	ug/L	99
80) 1,2,4-Trichlorobenzene	10.057	180	31381	4.7324	ug/L	99
81) Naphthalene	10.205	128	58679	4.9184	ug/L	100
82) 1,2,3-Trichlorobenzene	10.292	180	29998	4.9807	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007348.D
Acq On : 12 Aug 2014 16:12
Operator : ADC
Sample : WG487972-06 5.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 09:39:01 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007349.D
Acq On : 12 Aug 2014 16:32
Operator : ADC
Sample : WG487972-07 20.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 13 09:39:04 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	361155	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	277106	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	133662	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.841	111	47852	10.0908	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.363%#			
32) 1,2-Dichloroethane-d4	4.507	65	48408	10.2500	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.000%#			
44) Toluene-d8	6.467	98	175878	10.1903	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 40.761%#			
63) p-Bromofluorobenzene	8.564	95	56670	10.0983	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 40.393%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	73794	21.8407	ug/L	99
3) Chloromethane	1.082	50	87514	20.2985	ug/L	100
4) Vinyl Chloride	1.120	62	93510	20.3466	ug/L	100
5) 1,3-Butadiene	1.128	54	64811	20.8270	ug/L	100
6) Bromomethane	1.291	94	43571	19.2764	ug/L	100
7) Chloroethane	1.357	64	53696	20.8672	ug/L	99
8) Trichlorofluoromethane	1.435	101	124280	20.9111	ug/L	100
9) Diethyl ether	1.615	59	52955	20.8218	ug/L	99
10) 1,1-Dichloroethene	1.731	61	125065	20.2968	ug/L	100
11) Carbon Disulfide	1.748	76	209040	19.8471	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.760	101	77958	20.2536	ug/L	99
13) Acrolein	1.948	56	7509	20.2555	ug/L	100
14) Methylene Chloride	2.116	84	86639	19.9212	ug/L	98
15) Acetone	2.150	43	16466	20.4276	ug/L	100
16) trans-1,2-Dichloroethene	2.234	96	81863	20.2146	ug/L	100
17) Methyl Tert Butyl Ether	2.318	73	219511	20.5792	ug/L	100
18) 1,1-Dichloroethane	2.735	63	156143	20.1670	ug/L	99
19) Acrylonitrile	2.785	53	20694	21.3703	ug/L	99
20) Vinyl Acetate	2.996	86	7735	20.2518	ug/L	98
21) cis-1,2-Dichloroethene	3.280	96	87366	19.2014	ug/L	100
22) 2,2-Dichloropropane	3.384	77	123760	19.7086	ug/L	99
23) Cyclohexane	3.482	56	126022	20.0775	ug/L	99
24) Bromochloromethane	3.494	130	59062	20.6637	ug/L	99
25) Chloroform	3.615	83	151335	19.8807	ug/L	100
26) Carbon Tetrachloride	3.746	117	124375	20.4841	ug/L	99
28) 1,1,1-Trichloroethane	3.833	97	138671	20.1842	ug/L	100
29) 1,1-Dichloropropene	4.006	75	113383	19.8225	ug/L	98
30) 2-Butanone	4.018	43	25730	19.6977	ug/L	100
31) Benzene	4.331	78	341318	19.9722	ug/L	100
33) 1,2-Dichloroethane	4.591	62	101599	19.9317	ug/L	99
34) Trichloroethene	5.049	130	97599	19.7573	ug/L	99
35) Dibromomethane	5.480	93	49653	20.0202	ug/L	100
36) 1,2-Dichloropropane	5.587	63	95162	20.3782	ug/L	97
37) Bromodichloromethane	5.689	83	117641	20.2422	ug/L	100
38) 1,4-Dioxane	5.888	88	1153	37.7055	ug/L	96
39) 2-Chloroethyl Vinyl Ether	6.285	63	45992	19.7444	ug/L	99
40) cis-1,3-Dichloropropene	6.305	75	140894	20.3010	ug/L	100
41) 4-Methyl-2-Pentanone	6.890	58	23959	20.4206	ug/L	98
42) trans-1,3-Dichloropropene	6.916	75	122489	20.2560	ug/L	100
45) Toluene	6.514	91	377782	20.0069	ug/L	100
46) Tetrachloroethene	6.855	166	101995	19.7577	ug/L	99
47) 1,1,2-Trichloroethane	7.049	97	70146	20.1688	ug/L	99
48) Dibromochloromethane	7.191	129	93251	20.3546	ug/L	100
49) 1,3-Dichloropropane	7.275	76	115976	20.1661	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007349.D
Acq On : 12 Aug 2014 16:32
Operator : ADC
Sample : WG487972-07 20.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 7 Sample Multiplier: 1

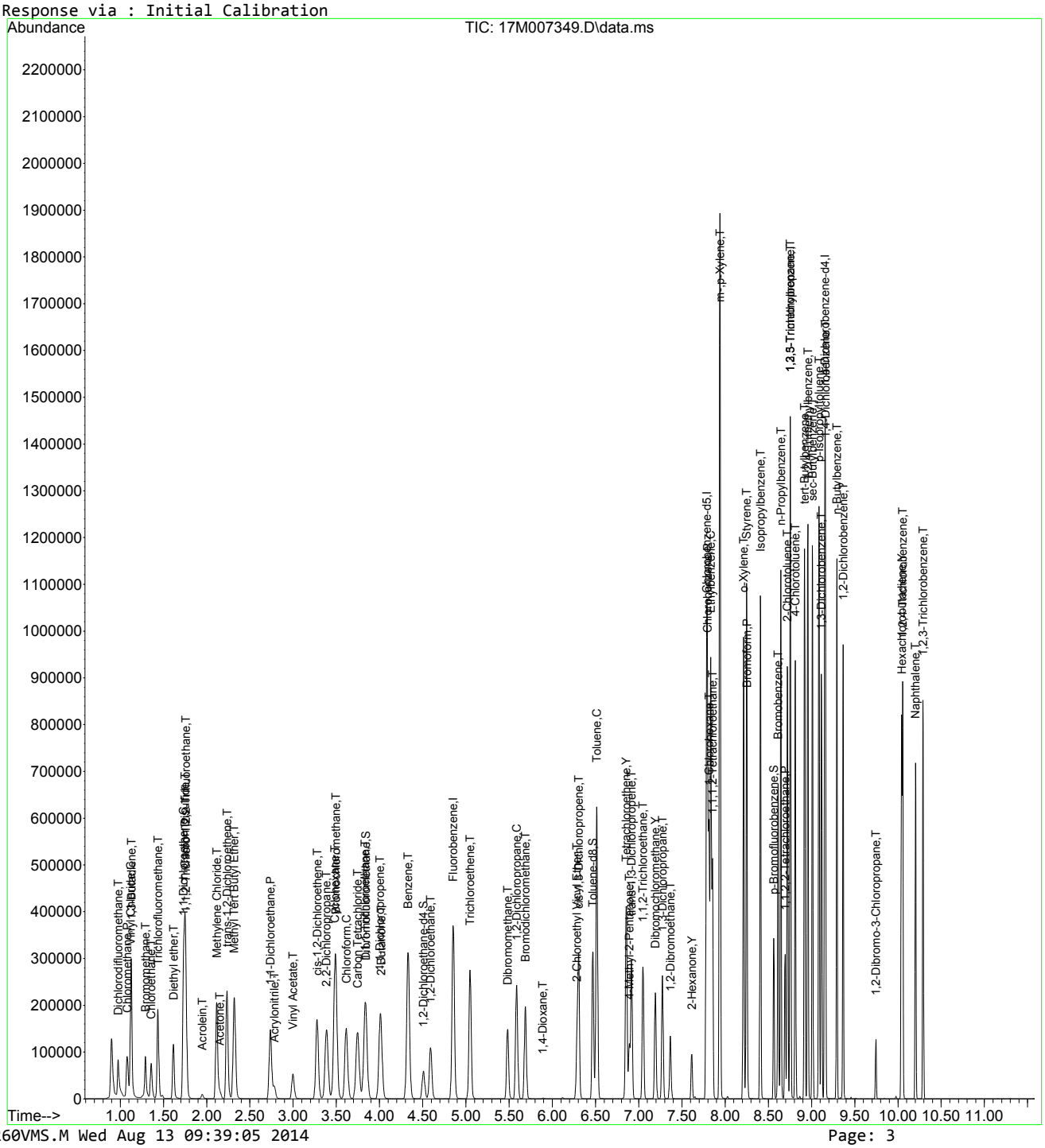
Quant Time: Aug 13 09:39:04 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.365	107	69715	20.2847	ug/L	99
51) 2-Hexanone	7.614	43	43225	20.0914	ug/L	100
52) Chlorobenzene	7.796	112	242868	19.8125	ug/L	99
53) 1-Chlorohexane	7.814	69	22731	20.6609	ug/L	98
54) Ethylbenzene	7.834	106	131454	19.8752	ug/L	99
55) 1,1,1,2-Tetrachloroethane	7.854	131	92968	20.1805	ug/L	100
56) m-,p-Xylene	7.938	106	316034	40.0634	ug/L	99
57) o-Xylene	8.213	106	146733	18.8406	ug/L	98
58) Styrene	8.248	104	235957	19.0445	ug/L	99
59) Bromoform	8.254	173	62613	19.3448	ug/L	99
60) Isopropylbenzene	8.407	105	385868	19.2889	ug/L	100
62) 1,3,5-Trimethylbenzene	8.755	105	332217	20.2225	ug/L	99
64) Bromobenzene	8.613	156	101427	19.3663	ug/L	99
65) n-Propylbenzene	8.645	91	449302	20.4211	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.694	83	77866	20.0341	ug/L	99
67) 2-Chlorotoluene	8.720	91	263817	20.0428	ug/L	99
68) 1,2,3-Trichloropropane	8.755	110	21591	20.3238	ug/L	99
69) 1,2,4-Trimethylbenzene	8.957	105	332259	20.2699	ug/L	100
70) 4-Chlorotoluene	8.813	91	268953	19.9173	ug/L	99
71) tert-Butylbenzene	8.920	134	61386	19.7391	ug/L	99
72) sec-Butylbenzene	9.009	105	418286	20.5106	ug/L	100
73) p-Isopropyltoluene	9.085	119	352481	20.4810	ug/L	99
74) 1,3-Dichlorobenzene	9.114	146	185255	19.6069	ug/L	100
75) 1,4-Dichlorobenzene	9.160	146	183958	18.7885	ug/L	100
76) n-Butylbenzene	9.293	91	306603	20.6687	ug/L	99
77) 1,2-Dichlorobenzene	9.366	146	182883	19.8524	ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.745	75	14827	21.1545	ug/L	98
79) Hexachlorobutadiene	10.043	225	81917	20.1450	ug/L	100
80) 1,2,4-Trichlorobenzene	10.055	180	134432	20.5319	ug/L	99
81) Naphthalene	10.202	128	263000	22.3262	ug/L	100
82) 1,2,3-Trichlorobenzene	10.289	180	131897	22.1792	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007349.D
Acq On : 12 Aug 2014 16:32
Operator : ADC
Sample : WG487972-07 20.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 13 09:39:04 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007350.D
Acq On : 12 Aug 2014 16:51
Operator : ADC
Sample : WG487972-08 50.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 13 09:39:07 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	358634	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	275864	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	139515	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.838	111	111385	23.6535	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.614%			
32) 1,2-Dichloroethane-d4	4.507	65	109866	23.4269	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.708%			
44) Toluene-d8	6.470	98	408038	23.7480	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 94.992%			
63) p-Bromofluorobenzene	8.564	95	142203	24.2768	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.107%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	177049	52.7692	ug/L	100
3) Chloromethane	1.079	50	212928	49.7348	ug/L	100
4) Vinyl Chloride	1.120	62	226965	49.7318	ug/L	100
5) 1,3-Butadiene	1.128	54	158375	51.2514	ug/L	100
6) Bromomethane	1.290	94	115174	51.3127	ug/L	100
7) Chloroethane	1.351	64	132749	51.9512	ug/L	100
8) Trichlorofluoromethane	1.432	101	301422	51.0732	ug/L	100
9) Diethyl ether	1.615	59	125586	49.7272	ug/L	100
10) 1,1-Dichloroethene	1.731	61	303538	49.6074	ug/L	100
11) Carbon Disulfide	1.745	76	511211	48.8777	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.754	101	187851	49.1471	ug/L	100
13) Acrolein	1.948	56	18931	51.4253	ug/L	100
14) Methylene Chloride	2.116	84	211474	48.9667	ug/L	100
15) Acetone	2.153	43	38903	48.6019	ug/L	100
16) trans-1,2-Dichloroethene	2.234	96	199187	49.5313	ug/L	100
17) Methyl Tert Butyl Ether	2.318	73	526287	49.6862	ug/L	100
18) 1,1-Dichloroethane	2.735	63	377622	49.1155	ug/L	100
19) Acrylonitrile	2.782	53	50104	52.1051	ug/L	100
20) Vinyl Acetate	2.996	86	19010	50.1220	ug/L	100
21) cis-1,2-Dichloroethene	3.277	96	215260	47.6428	ug/L	100
22) 2,2-Dichloropropane	3.387	77	306438	49.1429	ug/L	100
23) Cyclohexane	3.485	56	313382	50.2783	ug/L	100
24) Bromochloromethane	3.497	130	146170	51.4991	ug/L	100
25) Chloroform	3.613	83	371306	49.1210	ug/L	100
26) Carbon Tetrachloride	3.746	117	307964	51.0771	ug/L	100
28) 1,1,1-Trichloroethane	3.833	97	337378	49.4522	ug/L	100
29) 1,1-Dichloropropene	4.012	75	267976	47.1789	ug/L	100
30) 2-Butanone	4.015	43	60254	46.4520	ug/L	100
31) Benzene	4.331	78	822491	48.4663	ug/L	100
33) 1,2-Dichloroethane	4.591	62	252035	49.7917	ug/L	100
34) Trichloroethene	5.049	130	239319	48.7866	ug/L	100
35) Dibromomethane	5.483	93	122438	49.7144	ug/L	100
36) 1,2-Dichloropropane	5.587	63	218136	47.0405	ug/L	100
37) Bromodichloromethane	5.689	83	283602	49.1416	ug/L	100
38) 1,4-Dioxane	5.891	88	2803	92.3083	ug/L	100
39) 2-Chloroethyl Vinyl Ether	6.285	63	115403	49.8909	ug/L	100
40) cis-1,3-Dichloropropene	6.305	75	347430	50.4121	ug/L	100
41) 4-Methyl-2-Pentanone	6.893	58	56934	48.8667	ug/L	100
42) trans-1,3-Dichloropropene	6.919	75	302663	50.4031	ug/L	100
45) Toluene	6.514	91	916978	48.7808	ug/L	100
46) Tetrachloroethene	6.855	166	249625	48.5732	ug/L	100
47) 1,1,2-Trichloroethane	7.049	97	168403	48.6382	ug/L	100
48) Dibromochloromethane	7.194	129	232483	50.9742	ug/L	100
49) 1,3-Dichloropropane	7.275	76	281255	49.1252	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007350.D
Acq On : 12 Aug 2014 16:51
Operator : ADC
Sample : WG487972-08 50.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 8 Sample Multiplier: 1

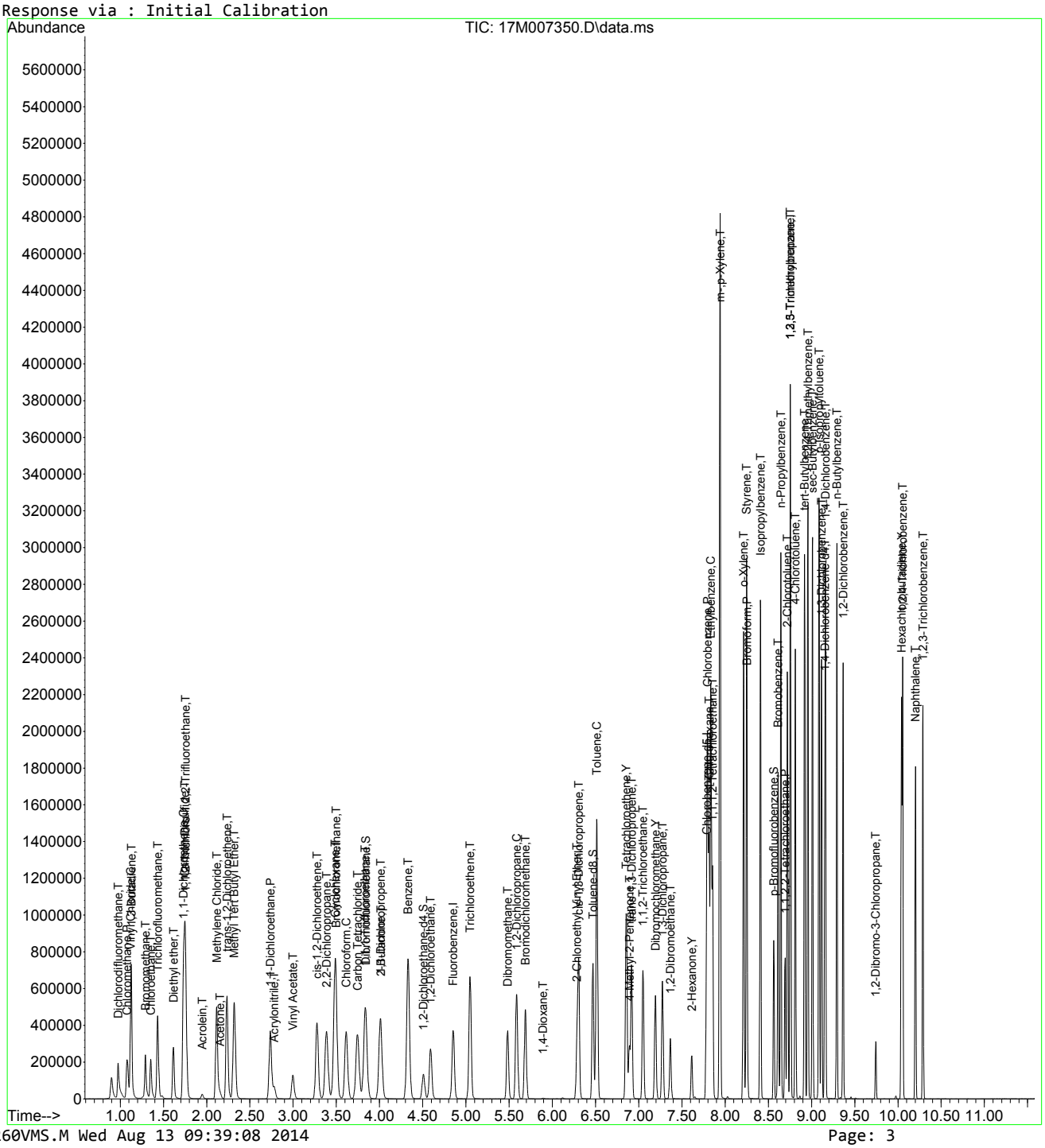
Quant Time: Aug 13 09:39:07 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.365	107	169776	49.6216	ug/L	100
51) 2-Hexanone	7.614	43	103905	48.5134	ug/L	100
52) Chlorobenzene	7.796	112	597474	48.9598	ug/L	100
53) 1-Chlorohexane	7.814	69	56299	51.4021	ug/L	100
54) Ethylbenzene	7.834	106	324925	49.3482	ug/L	100
55) 1,1,1,2-Tetrachloroethane	7.854	131	229781	50.1030	ug/L	100
56) m-,p-Xylene	7.941	106	788873	100.4552	ug/L	100
57) o-Xylene	8.213	106	386388	49.8358	ug/L	99
58) Styrene	8.248	104	634291	51.4251	ug/L	100
59) Bromoform	8.254	173	166374	51.6341	ug/L	100
60) Isopropylbenzene	8.407	105	1010415	50.7363	ug/L	100
62) 1,3,5-Trimethylbenzene	8.755	105	849473	49.5393	ug/L	100
64) Bromobenzene	8.613	156	268142	49.0506	ug/L	100
65) n-Propylbenzene	8.645	91	1170636	50.9742	ug/L	100
66) 1,1,2,2-Tetrachloroethane	8.694	83	197206	48.6104	ug/L	100
67) 2-Chlorotoluene	8.720	91	666231	48.4918	ug/L	99
68) 1,2,3-Trichloropropane	8.755	110	54321	48.9877	ug/L	100
69) 1,2,4-Trimethylbenzene	8.957	105	848540	49.5947	ug/L	100
70) 4-Chlorotoluene	8.813	91	689645	48.9290	ug/L	100
71) tert-Butylbenzene	8.920	134	156281	48.1450	ug/L	100
72) sec-Butylbenzene	9.012	105	1077203	50.6047	ug/L	100
73) p-Isopropyltoluene	9.085	119	917974	51.1015	ug/L	100
74) 1,3-Dichlorobenzene	9.117	146	489207	49.6044	ug/L	100
75) 1,4-Dichlorobenzene	9.160	146	489008	47.8493	ug/L	100
76) n-Butylbenzene	9.293	91	814979	52.6344	ug/L	100
77) 1,2-Dichlorobenzene	9.366	146	456609	47.4865	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.742	75	37864	51.7562	ug/L	100
79) Hexachlorobutadiene	10.040	225	211049	49.7237	ug/L	100
80) 1,2,4-Trichlorobenzene	10.055	180	360088	52.6893	ug/L	100
81) Naphthalene	10.202	128	670276	54.5130	ug/L	100
82) 1,2,3-Trichlorobenzene	10.289	180	332397	53.5493	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007350.D
Acq On : 12 Aug 2014 16:51
Operator : ADC
Sample : WG487972-08 50.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 13 09:39:07 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007351.D
Acq On : 12 Aug 2014 17:11
Operator : ADC
Sample : WG487972-09 100.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 09:39:10 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	361865	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.785	117	280496	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	138263	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.838	111	215286	45.3094	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 181.238%#			
32) 1,2-Dichloroethane-d4	4.507	65	209455	44.2636	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 177.054%#			
44) Toluene-d8	6.470	98	786722	45.0315	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 180.126%#			
63) p-Bromofluorobenzene	8.564	95	282135	48.6020	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 194.408%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	358932	106.0240	ug/L	100
3) Chloromethane	1.079	50	431217	99.8226	ug/L	100
4) Vinyl Chloride	1.120	62	465063	100.9931	ug/L	100
5) 1,3-Butadiene	1.128	54	304329	97.6039	ug/L	99
6) Bromomethane	1.288	94	249350	110.0994	ug/L	99
7) Chloroethane	1.351	64	252486	97.9279	ug/L	99
8) Trichlorofluoromethane	1.424	101	611486	102.6856	ug/L	100
9) Diethyl ether	1.615	59	244405	95.9108	ug/L	100
10) 1,1-Dichloroethene	1.728	61	605795	98.1215	ug/L	100
11) Carbon Disulfide	1.742	76	964463	91.3905	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.754	101	369623	95.8402	ug/L	99
13) Acrolein	1.948	56	35386	95.2664	ug/L	99
14) Methylene Chloride	2.113	84	406127	93.1989	ug/L	98
15) Acetone	2.153	43	76554	94.7858	ug/L	98
16) trans-1,2-Dichloroethene	2.231	96	384082	94.6559	ug/L	99
17) Methyl Tert Butyl Ether	2.321	73	1033324	96.6841	ug/L	100
18) 1,1-Dichloroethane	2.735	63	741924	95.6368	ug/L	100
19) Acrylonitrile	2.782	53	94110	96.9948	ug/L	100
20) Vinyl Acetate	2.999	86	39796	103.9897	ug/L	99
21) cis-1,2-Dichloroethene	3.277	96	456125	100.0512	ug/L	99
22) 2,2-Dichloropropane	3.387	77	619363	98.4393	ug/L	97
23) Cyclohexane	3.482	56	595121	94.6273	ug/L	100
24) Bromochloromethane	3.497	130	299231	104.4848	ug/L	99
25) Chloroform	3.613	83	751212	98.4924	ug/L	99
26) Carbon Tetrachloride	3.743	117	626711	103.0144	ug/L	100
28) 1,1,1-Trichloroethane	3.833	97	681013	98.9303	ug/L	100
29) 1,1-Dichloropropene	4.009	75	565408	98.6549	ug/L	97
30) 2-Butanone	4.015	43	130160	99.4491	ug/L	99
31) Benzene	4.333	78	1680052	98.1153	ug/L	100
33) 1,2-Dichloroethane	4.591	62	507878	99.4399	ug/L	100
34) Trichloroethene	5.049	130	484536	97.8937	ug/L	99
35) Dibromomethane	5.483	93	252834	101.7434	ug/L	100
36) 1,2-Dichloropropane	5.587	63	470940	100.6504	ug/L	98
37) Bromodichloromethane	5.689	83	595710	102.3010	ug/L	100
38) 1,4-Dioxane	5.894	88	6310	205.9453	ug/L	97
39) 2-Chloroethyl Vinyl Ether	6.288	63	240779	103.1639	ug/L	100
40) cis-1,3-Dichloropropene	6.305	75	713069	102.5425	ug/L	99
41) 4-Methyl-2-Pentanone	6.893	58	119633	101.7647	ug/L	99
42) trans-1,3-Dichloropropene	6.919	75	621398	102.5587	ug/L	100
45) Toluene	6.517	91	1874991	98.0975	ug/L	100
46) Tetrachloroethene	6.855	166	512634	98.1035	ug/L	100
47) 1,1,2-Trichloroethane	7.049	97	347879	98.8153	ug/L	99
48) Dibromochloromethane	7.194	129	480418	103.5969	ug/L	100
49) 1,3-Dichloropropane	7.275	76	575703	98.8942	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007351.D
Acq On : 12 Aug 2014 17:11
Operator : ADC
Sample : WG487972-09 100.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 9 Sample Multiplier: 1

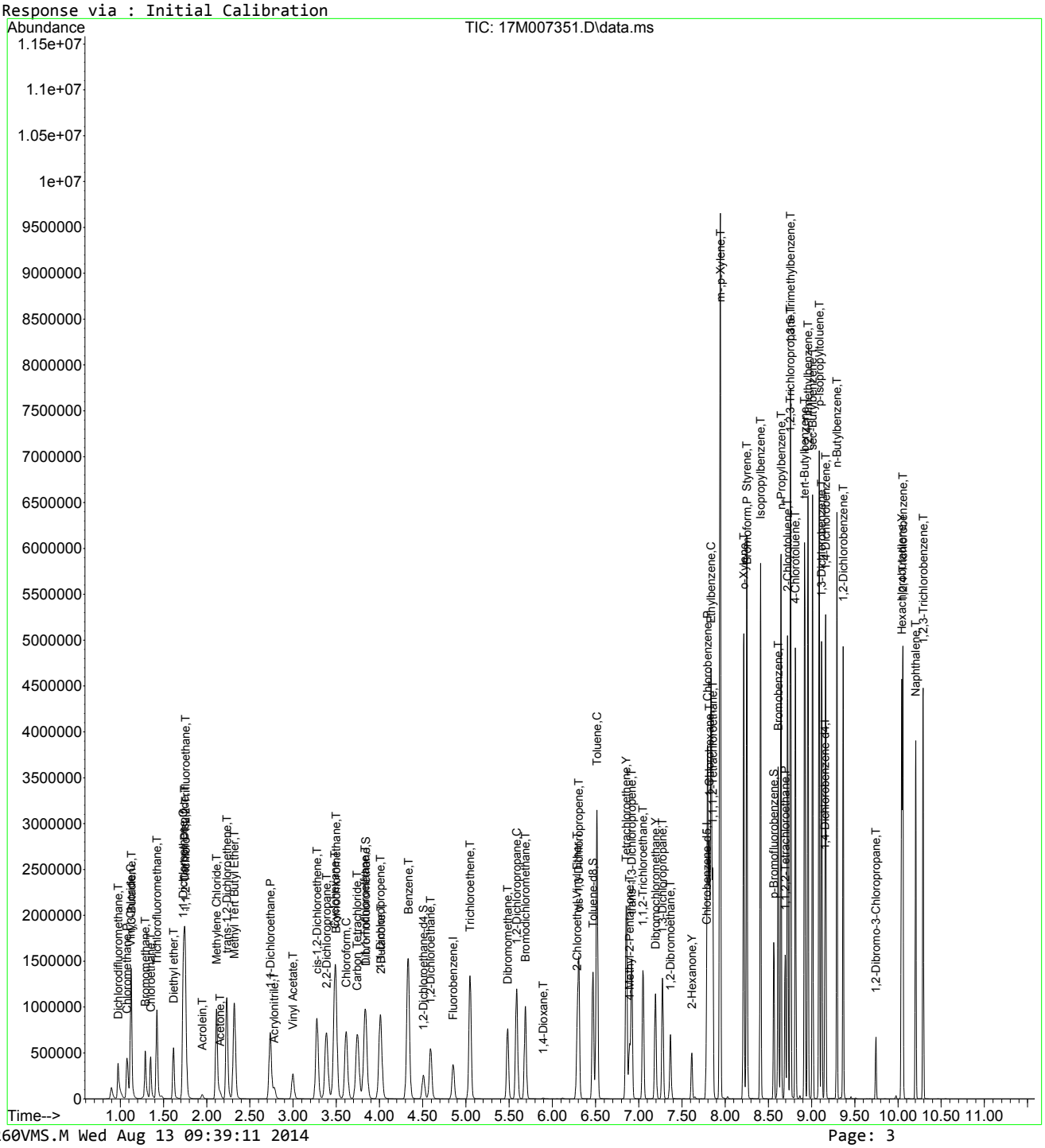
Quant Time: Aug 13 09:39:10 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
50) 1,2-Dibromoethane	7.368	107	356501	102.4763 ug/L	99
51) 2-Hexanone	7.614	43	215573	98.9893 ug/L	99
52) Chlorobenzene	7.796	112	1225815	98.7903 ug/L	100
53) 1-Chlorohexane	7.817	69	111072	99.7364 ug/L	93
54) Ethylbenzene	7.837	106	669169	99.9522 ug/L	97
55) 1,1,1,2-Tetrachloroethane	7.857	131	467769	100.3112 ug/L	100
56) m-,p-Xylene	7.944	106	1633271	204.5464 ug/L	98
57) o-Xylene	8.216	106	770389	97.7229 ug/L	98
58) Styrene	8.251	104	1296688	103.3929 ug/L	99
59) Bromoform	8.254	173	341201	104.1430 ug/L	99
60) Isopropylbenzene	8.410	105	2064196	101.9386 ug/L	100
62) 1,3,5-Trimethylbenzene	8.758	105	1749989	102.9794 ug/L	100
64) Bromobenzene	8.616	156	558412	103.0741 ug/L	100
65) n-Propylbenzene	8.648	91	2392386	105.1174 ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.694	83	409090	101.7521 ug/L	100
67) 2-Chlorotoluene	8.723	91	1377687	101.1832 ug/L	100
68) 1,2,3-Trichloropropane	8.755	110	114473	104.1686 ug/L	99
69) 1,2,4-Trimethylbenzene	8.957	105	1746310	102.9910 ug/L	100
70) 4-Chlorotoluene	8.813	91	1420352	101.6837 ug/L	100
71) tert-Butylbenzene	8.920	134	326091	101.3674 ug/L	98
72) sec-Butylbenzene	9.012	105	2188591	103.7463 ug/L	99
73) p-Isopropyltoluene	9.088	119	1874572	105.2981 ug/L	99
74) 1,3-Dichlorobenzene	9.117	146	1012098	103.5535 ug/L	100
75) 1,4-Dichlorobenzene	9.163	146	997915	98.5300 ug/L	100
76) n-Butylbenzene	9.293	91	1672840	109.0166 ug/L	100
77) 1,2-Dichlorobenzene	9.366	146	947303	99.4100 ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.745	75	78266	107.9503 ug/L	99
79) Hexachlorobutadiene	10.043	225	445311	105.8664 ug/L	99
80) 1,2,4-Trichlorobenzene	10.058	180	758419	111.9793 ug/L	100
81) Naphthalene	10.205	128	1418514	116.4113 ug/L	99
82) 1,2,3-Trichlorobenzene	10.292	180	700326	113.8445 ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007351.D
Acq On : 12 Aug 2014 17:11
Operator : ADC
Sample : WG487972-09 100.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 09:39:10 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



8260VMS.M Wed Aug 13 09:39:11 2014 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007352.D
Acq On : 12 Aug 2014 17:30
Operator : ADC
Sample : WG487972-10 200.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 13 09:39:13 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	344560	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.787	117	277377	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.157	152	142085	25.00000	ug/L	# 0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.841	111	441093	97.4955	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 389.982%#			
32) 1,2-Dichloroethane-d4	4.507	65	425799	94.5022	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 378.009%#			
44) Toluene-d8	6.473	98	1559619	90.2755	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 361.102%#			
63) p-Bromofluorobenzene	8.566	95	589489	98.8168	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 395.267%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.972	85	720807	223.6107	ug/L	100
3) Chloromethane	1.076	50	858747	208.7756	ug/L	100
4) Vinyl Chloride	1.117	62	944319	215.3676	ug/L	100
5) 1,3-Butadiene	1.125	54	636861	214.5114	ug/L	99
6) Bromomethane	1.287	94	523365	242.6957	ug/L	100
7) Chloroethane	1.348	64	481578	196.1633	ug/L	97
8) Trichlorofluoromethane	1.415	101	1049772	185.1397	ug/L	100
9) Diethyl ether	1.617	59	500563	206.2994	ug/L	99
10) 1,1-Dichloroethene	1.722	61	1241047	211.1099	ug/L	99
11) Carbon Disulfide	1.736	76	2059598	204.9650	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.748	101	762318	207.5902	ug/L	99
13) Acrolein	1.950	56	74434	210.4560	ug/L	99
14) Methylene Chloride	2.113	84	842173	202.9700	ug/L	99
15) Acetone	2.159	43	150701	195.9626	ug/L	97
16) trans-1,2-Dichloroethene	2.228	96	801898	207.5508	ug/L	99
17) Methyl Tert Butyl Ether	2.321	73	2105101	206.8584	ug/L	100
18) 1,1-Dichloroethane	2.732	63	1515732	205.1965	ug/L	100
19) Acrylonitrile	2.784	53	197145	213.3929	ug/L	100
20) Vinyl Acetate	2.996	86	71255	195.5456	ug/L	99
21) cis-1,2-Dichloroethene	3.277	96	894417	206.0441	ug/L	100
22) 2,2-Dichloropropane	3.384	77	1213936	202.6287	ug/L	98
23) Cyclohexane	3.482	56	1210482	202.1394	ug/L	100
24) Bromochloromethane	3.494	130	591188	216.7973	ug/L	99
25) Chloroform	3.612	83	1481525	204.0004	ug/L	100
26) Carbon Tetrachloride	3.743	117	1243259	214.6219	ug/L	99
28) 1,1,1-Trichloroethane	3.832	97	1355773	206.8439	ug/L	100
29) 1,1-Dichloropropene	4.009	75	1127595	206.6291	ug/L	97
30) 2-Butanone	4.018	43	260575	209.0922	ug/L	99
31) Benzene	4.330	78	3304250	202.6602	ug/L	100
33) 1,2-Dichloroethane	4.591	62	1010627	207.8135	ug/L	100
34) Trichloroethene	5.048	130	979981	207.9351	ug/L	100
35) Dibromomethane	5.483	93	505986	213.8411	ug/L	100
36) 1,2-Dichloropropane	5.590	63	938449	210.6406	ug/L	98
37) Bromodichloromethane	5.688	83	1181996	213.1783	ug/L	100
38) 1,4-Dioxane	5.900	88	12865	440.9751	ug/L	98
39) 2-Chloroethyl Vinyl Ether	6.291	63	477834	215.0146	ug/L	99
40) cis-1,3-Dichloropropene	6.308	75	1384580	209.1087	ug/L	100
41) 4-Methyl-2-Pentanone	6.899	58	230104	205.5664	ug/L	100
42) trans-1,3-Dichloropropene	6.922	75	1236690	214.3608	ug/L	100
45) Toluene	6.519	91	3608838	190.9336	ug/L	99
46) Tetrachloroethene	6.858	166	1006417	194.7652	ug/L	99
47) 1,1,2-Trichloroethane	7.052	97	684614	196.6518	ug/L	99
48) Dibromochloromethane	7.194	129	970866	211.7107	ug/L	100
49) 1,3-Dichloropropane	7.278	76	1151005	199.9428	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007352.D
Acq On : 12 Aug 2014 17:30
Operator : ADC
Sample : WG487972-10 200.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 13 09:39:13 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

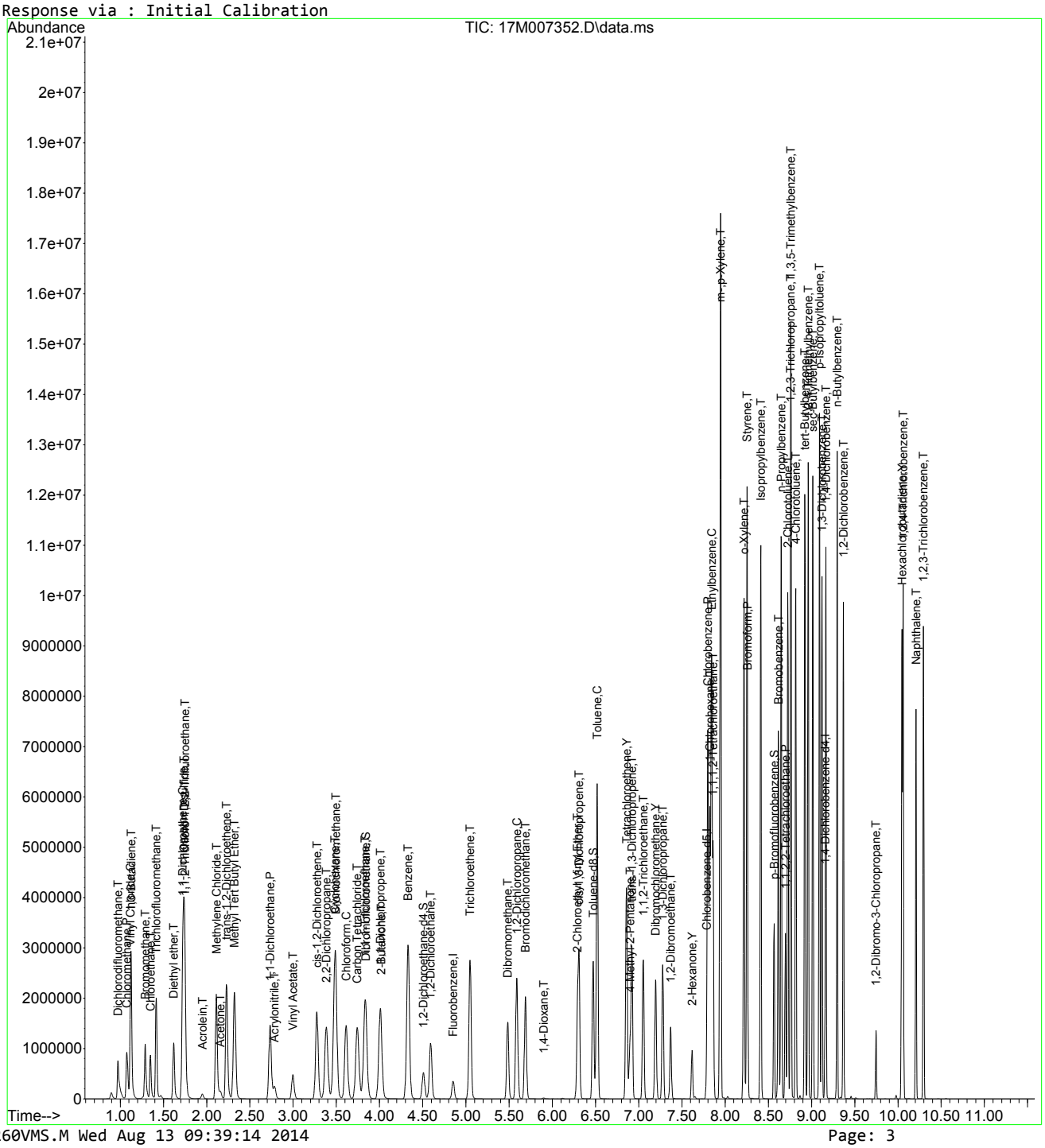
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.371	107	715537	207.9940	ug/L	100
51) 2-Hexanone	7.617	43	436398	202.6437	ug/L	99
52) Chlorobenzene	7.799	112	2463134	200.7398	ug/L	99
53) 1-Chlorohexane	7.822	69	230585	209.3805	ug/L	95
54) Ethylbenzene	7.842	106	1345250	203.1963	ug/L	95
55) 1,1,1,2-Tetrachloroethane	7.860	131	938176	203.4503	ug/L	99
56) m-,p-Xylene	7.947	106	3211573	406.7313	ug/L	92
57) o-Xylene	8.219	106	1606893	206.1244	ug/L	98
58) Styrene	8.254	104	2652474	213.8762	ug/L	99
59) Bromoform	8.259	173	700797	216.3058	ug/L	100
60) Isopropylbenzene	8.413	105	3997104	199.6132	ug/L	97
62) 1,3,5-Trimethylbenzene	8.760	105	3481137	199.3398	ug/L	98
64) Bromobenzene	8.618	156	1106162	198.6878	ug/L	99
65) n-Propylbenzene	8.647	91	4580726	195.8553	ug/L	97
66) 1,1,2,2-Tetrachloroethane	8.697	83	802322	194.1918	ug/L	100
67) 2-Chlorotoluene	8.726	91	2781380	198.7815	ug/L	98
68) 1,2,3-Trichloropropane	8.757	110	233435	206.7081	ug/L	99
69) 1,2,4-Trimethylbenzene	8.960	105	3427673	196.7139	ug/L	97
70) 4-Chlorotoluene	8.818	91	2889117	201.2696	ug/L	99
71) tert-Butylbenzene	8.922	134	662575	200.4252	ug/L	93
72) sec-Butylbenzene	9.015	105	4191400	193.3413	ug/L	97
73) p-Isopropyltoluene	9.090	119	3599680	196.7614	ug/L	97
74) 1,3-Dichlorobenzene	9.119	146	2017267	200.8460	ug/L	98
75) 1,4-Dichlorobenzene	9.166	146	2035585	195.5788	ug/L	99
76) n-Butylbenzene	9.296	91	3297273	209.0985	ug/L	98
77) 1,2-Dichlorobenzene	9.368	146	1941727	198.2837	ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.745	75	155237	208.3548	ug/L	100
79) Hexachlorobutadiene	10.046	225	887959	205.4213	ug/L	100
80) 1,2,4-Trichlorobenzene	10.060	180	1525115	219.1236	ug/L	99
81) Naphthalene	10.208	128	2723493	217.4931	ug/L	98
82) 1,2,3-Trichlorobenzene	10.295	180	1396762	220.9491	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007352.D
Acq On : 12 Aug 2014 17:30
Operator : ADC
Sample : WG487972-10 200.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 13 09:39:13 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



8260VMS.M Wed Aug 13 09:39:14 2014 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007353.D
Acq On : 12 Aug 2014 17:50
Operator : ADC
Sample : WG487972-11 300.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 13 09:39:16 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.852	96	348965	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.790	117	277199	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.160	152	142243	25.00000	ug/L	# 0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.841	111	673432	146.9709	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 587.884%#			
32) 1,2-Dichloroethane-d4	4.507	65	647928	141.9866	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 567.946%#			
44) Toluene-d8	6.473	98	2428848	140.6794	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 562.718%#			
63) p-Bromofluorobenzene	8.566	95	904638	151.4773	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 605.909%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.972	85	1089299	333.6597	ug/L	100
3) Chloromethane	1.076	50	1320484	316.9792	ug/L	100
4) Vinyl Chloride	1.117	62	1429332	321.8679	ug/L	100
5) 1,3-Butadiene	1.123	54	981052	326.2727	ug/L	99
6) Bromomethane	1.288	94	805522	368.8228	ug/L	100
7) Chloroethane	1.348	64	684121	275.1484	ug/L	96
8) Trichlorofluoromethane	1.415	101	1521122	264.8815	ug/L	100
9) Diethyl ether	1.621	59	767826	312.4532	ug/L	99
10) 1,1-Dichloroethene	1.716	61	1887137	316.9617	ug/L	99
11) Carbon Disulfide	1.731	76	3173998	311.8795	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.742	101	1149702	309.1284	ug/L	99
13) Acrolein	1.951	56	111882	312.3440	ug/L	99
14) Methylene Chloride	2.110	84	1282992	305.3075	ug/L	100
15) Acetone	2.165	43	224361	288.0630	ug/L	97
16) trans-1,2-Dichloroethene	2.226	96	1222921	312.5264	ug/L	100
17) Methyl Tert Butyl Ether	2.327	73	3135992	304.2693	ug/L	100
18) 1,1-Dichloroethane	2.732	63	2289961	306.0967	ug/L	100
19) Acrylonitrile	2.790	53	294368	314.6066	ug/L	100
20) Vinyl Acetate	2.999	86	113620	307.8722	ug/L	98
21) cis-1,2-Dichloroethene	3.277	96	1327276	301.9009	ug/L	100
22) 2,2-Dichloropropane	3.384	77	1826366	301.0065	ug/L	99
23) Cyclohexane	3.482	56	1816358	299.4864	ug/L	100
24) Bromochloromethane	3.497	130	877687	317.7978	ug/L	99
25) Chloroform	3.612	83	2224679	302.4631	ug/L	100
26) Carbon Tetrachloride	3.743	117	1892901	322.6439	ug/L	99
28) 1,1,1-Trichloroethane	3.833	97	2063138	310.7899	ug/L	100
29) 1,1-Dichloropropene	4.009	75	1714322	310.1800	ug/L	97
30) 2-Butanone	4.024	43	386913	306.5500	ug/L	99
31) Benzene	4.331	78	4989743	302.1738	ug/L	99
33) 1,2-Dichloroethane	4.594	62	1531474	310.9392	ug/L	100
34) Trichloroethene	5.049	130	1484747	311.0611	ug/L	100
35) Dibromomethane	5.486	93	773321	322.6974	ug/L	100
36) 1,2-Dichloropropane	5.590	63	1374365	304.5906	ug/L	99
37) Bromodichloromethane	5.691	83	1790393	318.8293	ug/L	100
38) 1,4-Dioxane	5.909	88	17737	600.2987	ug/L	96
39) 2-Chloroethyl Vinyl Ether	6.294	63	728333	323.5966	ug/L	99
40) cis-1,3-Dichloropropene	6.311	75	2148791	320.4285	ug/L	100
41) 4-Methyl-2-Pentanone	6.905	58	351353	309.9236	ug/L	100
42) trans-1,3-Dichloropropene	6.922	75	1876437	321.1453	ug/L	99
45) Toluene	6.522	91	5480547	290.1467	ug/L	98
46) Tetrachloroethene	6.861	166	1586071	307.1390	ug/L	100
47) 1,1,2-Trichloroethane	7.055	97	1040331	299.0215	ug/L	99
48) Dibromochloromethane	7.197	129	1454210	317.3142	ug/L	100
49) 1,3-Dichloropropane	7.281	76	1712461	297.6652	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007353.D
Acq On : 12 Aug 2014 17:50
Operator : ADC
Sample : WG487972-11 300.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 11 Sample Multiplier: 1

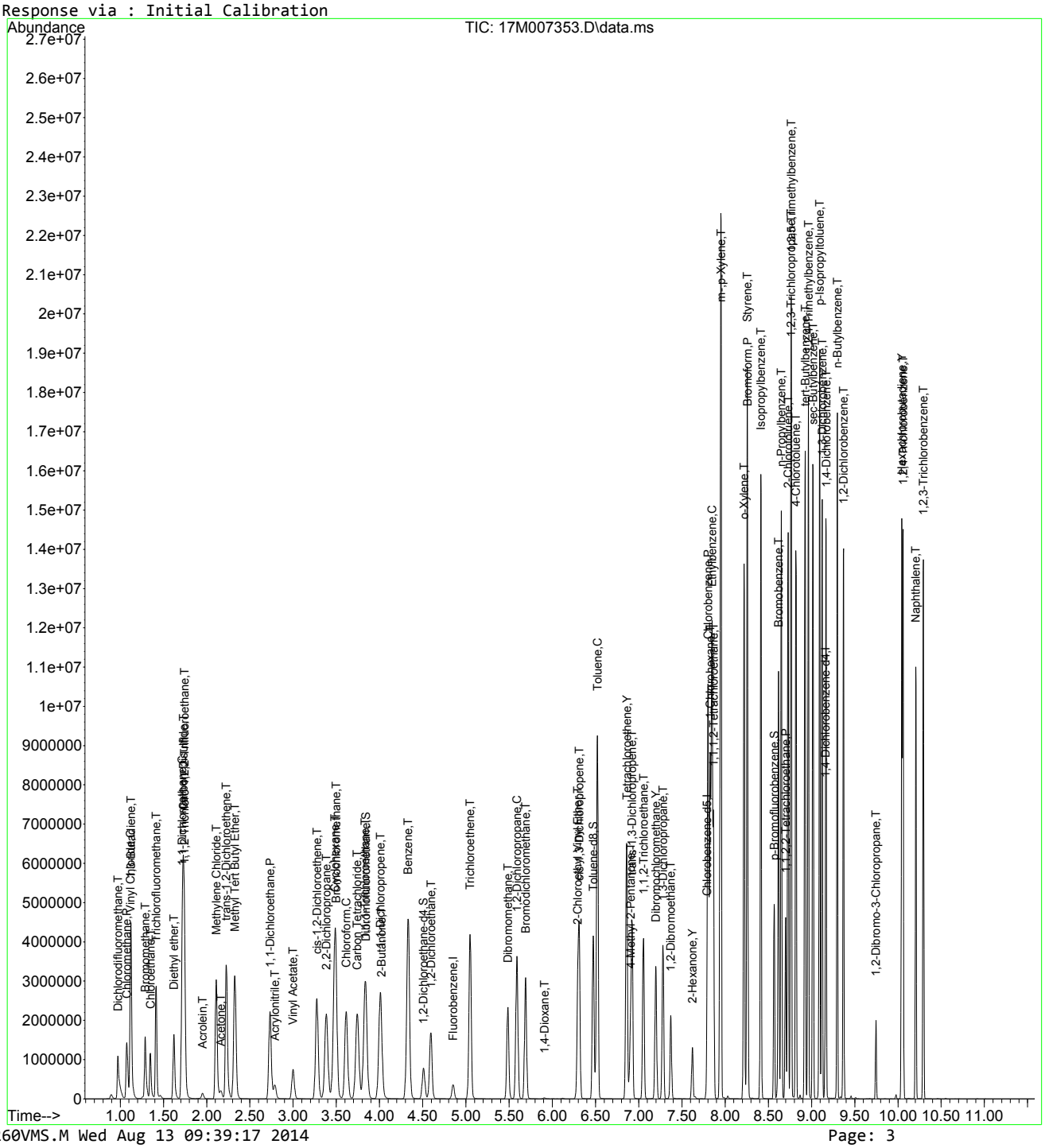
Quant Time: Aug 13 09:39:16 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.371	107	1068222	310.7127	ug/L	99
51) 2-Hexanone	7.620	43	635670	295.3662	ug/L	99
52) Chlorobenzene	7.802	112	3638378	296.7099	ug/L	98
53) 1-Chlorohexane	7.825	69	349125	317.2232	ug/L	86
54) Ethylbenzene	7.846	106	2015307	304.6020	ug/L	91
55) 1,1,1,2-Tetrachloroethane	7.866	131	1394320	302.5626	ug/L	99
56) m-,p-Xylene	7.953	106	4604424	583.5040	ug/L	86
57) o-Xylene	8.219	106	2360937	303.0439	ug/L	95
58) Styrene	8.257	104	3916501	316.0009	ug/L	96
59) Bromoform	8.260	173	1051246	324.6827	ug/L	99
60) Isopropylbenzene	8.413	105	5651771	282.4276	ug/L	94
62) 1,3,5-Trimethylbenzene	8.763	105	4870203	278.5719	ug/L	95
64) Bromobenzene	8.619	156	1689704	303.1660	ug/L	100
65) n-Propylbenzene	8.650	91	6397656	273.2368	ug/L	94
66) 1,1,2,2-Tetrachloroethane	8.700	83	1221829	295.3996	ug/L	99
67) 2-Chlorotoluene	8.729	91	4055155	289.4946	ug/L	97
68) 1,2,3-Trichloropropane	8.760	110	338137	299.0898	ug/L	99
69) 1,2,4-Trimethylbenzene	8.963	105	4793442	274.7896	ug/L	94
70) 4-Chlorotoluene	8.818	91	4173377	290.4143	ug/L	98
71) tert-Butylbenzene	8.925	134	990683	299.3432	ug/L	87
72) sec-Butylbenzene	9.018	105	5780165	266.3319	ug/L	94
73) p-Isopropyltoluene	9.093	119	5027864	274.5219	ug/L	93
74) 1,3-Dichlorobenzene	9.122	146	3000389	298.3972	ug/L	97
75) 1,4-Dichlorobenzene	9.169	146	3001160	288.0309	ug/L	98
76) n-Butylbenzene	9.299	91	4624790	292.9579	ug/L	95
77) 1,2-Dichlorobenzene	9.371	146	2882947	294.0714	ug/L	98
78) 1,2-Dibromo-3-Chloropr...	9.745	75	231646	310.5636	ug/L	98
79) Hexachlorobutadiene	10.043	225	1369024	316.3596	ug/L	100
80) 1,2,4-Trichlorobenzene	10.060	180	2298368	329.8552	ug/L	99
81) Naphthalene	10.205	128	3962151	316.0586	ug/L	97
82) 1,2,3-Trichlorobenzene	10.295	180	2092538	330.6438	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007353.D
Acq On : 12 Aug 2014 17:50
Operator : ADC
Sample : WG487972-11 300.0ug/L STD 8260
Misc : 1,1 STD65747
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 13 09:39:16 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007355.D
Acq On : 12 Aug 2014 18:29
Operator : ADC
Sample : WG487972-12 50.0ug/L ALTSRC 8260
Misc : 1,1 STD65748
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 13 09:39:22 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.849	96	351766	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.784	117	273633	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.154	152	142630	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.838	111	109207	23.6437	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.575%			
32) 1,2-Dichloroethane-d4	4.504	65	101899	22.1523	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.609%			
44) Toluene-d8	6.467	98	398014	23.3535	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 93.414%			
63) p-Bromofluorobenzene	8.563	95	149970	25.0436	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.174%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.969	85	222673	67.6631	ug/L	99
3) Chloromethane	1.073	50	227544	54.1865	ug/L	100
4) Vinyl Chloride	1.114	62	231717	51.7643	ug/L	100
5) 1,3-Butadiene	1.122	54	182233	60.1234	ug/L	99
6) Bromomethane	1.284	94	113907	51.7391	ug/L	100
7) Chloroethane	1.345	64	110705	44.1702	ug/L	99
8) Trichlorofluoromethane	1.412	101	246257	42.5407	ug/L	99
9) Diethyl ether	1.620	59	708109	285.8580	ug/L	99
10) 1,1-Dichloroethene	1.707	61	265163	44.1819	ug/L	100
11) Carbon Disulfide	1.722	76	399768	38.9687	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.733	101	177135	47.2483	ug/L	97
13) Acrolein	1.953	56	30418	84.2426	ug/L	98
14) Methylene Chloride	2.107	84	194468	45.9081	ug/L	98
15) Acetone	2.167	43	41298	52.6014	ug/L	100
16) trans-1,2-Dichloroethene	2.223	96	188776	47.8589	ug/L	99
17) Methyl Tert Butyl Ether	2.330	73	529898	51.0039	ug/L	100
18) 1,1-Dichloroethane	2.729	63	352086	46.6882	ug/L	100
19) Acrylonitrile	2.787	53	21463	22.7560	ug/L	98
20) Vinyl Acetate	2.996	86	22810	61.3153	ug/L	98
21) cis-1,2-Dichloroethene	3.271	96	216894	48.9417	ug/L	99
22) 2,2-Dichloropropane	3.381	77	274569	44.8919	ug/L	99
23) Cyclohexane	3.470	56	329141	53.8376	ug/L #	77
24) Bromochloromethane	3.491	130	136396	48.9938	ug/L	98
25) Chloroform	3.609	83	354993	47.8799	ug/L	100
26) Carbon Tetrachloride	3.734	117	291143	49.2300	ug/L	99
28) 1,1,1-Trichloroethane	3.827	97	322476	48.1908	ug/L	100
29) 1,1-Dichloropropene	4.000	75	260674	46.7894	ug/L	100
30) 2-Butanone	4.023	43	65107	51.1733	ug/L	98
31) Benzene	4.325	78	795183	47.7720	ug/L	100
33) 1,2-Dichloroethane	4.585	62	245468	49.4412	ug/L	100
34) Trichloroethene	5.043	130	226816	47.1406	ug/L	98
35) Dibromomethane	5.480	93	117381	48.5916	ug/L	100
36) 1,2-Dichloropropane	5.584	63	219433	48.2441	ug/L	99
37) Bromodichloromethane	5.685	83	274795	48.5452	ug/L	100
38) 1,4-Dioxane	5.900	88	16287	546.8350	ug/L	98
39) 2-Chloroethyl Vinyl Ether	6.285	63	118784	52.3552	ug/L	99
40) cis-1,3-Dichloropropene	6.305	75	346193	51.2134	ug/L	100
41) 4-Methyl-2-Pentanone	6.896	58	59934	52.4460	ug/L	99
42) trans-1,3-Dichloropropene	6.916	75	282920	48.0352	ug/L	100
45) Toluene	6.513	91	889877	47.7251	ug/L	100
46) Tetrachloroethene	6.855	166	239112	46.9069	ug/L	100
47) 1,1,2-Trichloroethane	7.049	97	165065	48.0628	ug/L	100
48) Dibromochloromethane	7.194	129	224067	49.5294	ug/L	100
49) 1,3-Dichloropropane	7.275	76	272147	47.9219	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007355.D
Acq On : 12 Aug 2014 18:29
Operator : ADC
Sample : WG487972-12 50.0ug/L ALTSRC 8260
Misc : 1,1 STD65748
ALS Vial : 13 Sample Multiplier: 1

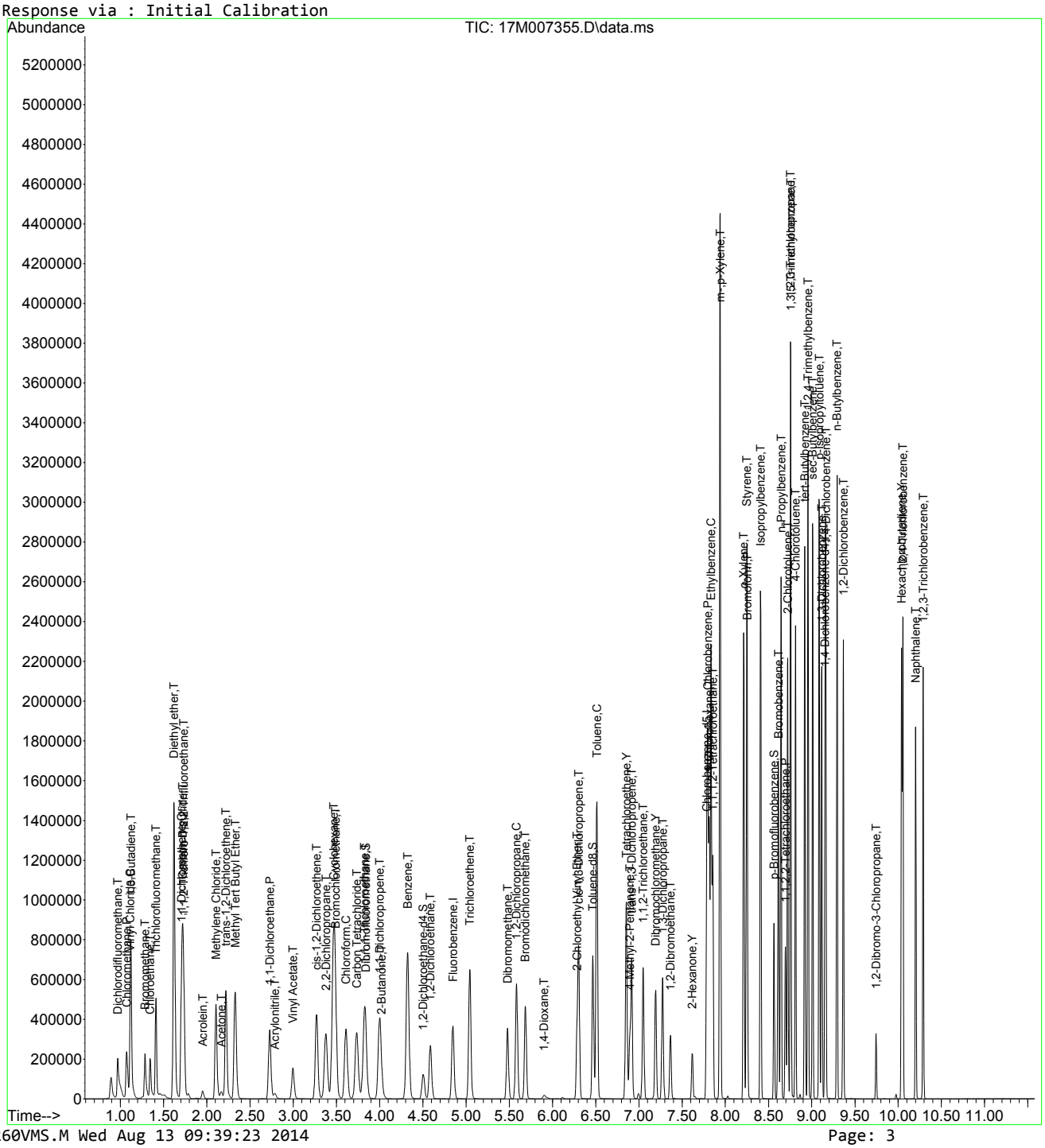
Quant Time: Aug 13 09:39:22 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.365	107	163833	48.2750	ug/L	99
51) 2-Hexanone	7.617	43	108728	51.1792	ug/L	100
52) Chlorobenzene	7.796	112	558661	46.1526	ug/L	100
53) 1-Chlorohexane	7.813	69	54227	49.9140	ug/L	96
54) Ethylbenzene	7.834	106	317823	48.6631	ug/L	100
55) 1,1,1,2-Tetrachloroethane	7.854	131	220498	48.4709	ug/L	99
56) m-,p-Xylene	7.941	106	754587	96.8726	ug/L	100
57) o-Xylene	8.213	106	351678	45.7288	ug/L	98
58) Styrene	8.248	104	627238	51.2679	ug/L	99
59) Bromoform	8.254	173	164325	51.4140	ug/L	99
60) Isopropylbenzene	8.407	105	936418	47.4041	ug/L	100
62) 1,3,5-Trimethylbenzene	8.757	105	886151	50.5496	ug/L	100
64) Bromobenzene	8.615	156	260063	46.5338	ug/L	99
65) n-Propylbenzene	8.644	91	1059031	45.1073	ug/L	100
66) 1,1,2,2-Tetrachloroethane	8.696	83	196012	47.2609	ug/L	100
67) 2-Chlorotoluene	8.723	91	644614	45.8937	ug/L	100
68) 1,2,3-Trichloropropane	8.754	110	54550	48.1198	ug/L	100
69) 1,2,4-Trimethylbenzene	8.957	105	884418	50.5627	ug/L	100
70) 4-Chlorotoluene	8.812	91	658087	45.6703	ug/L	100
71) tert-Butylbenzene	8.919	134	150531	45.3608	ug/L	100
72) sec-Butylbenzene	9.009	105	1019689	46.8566	ug/L	100
73) p-Isopropyltoluene	9.087	119	868212	47.2758	ug/L	100
74) 1,3-Dichlorobenzene	9.116	146	463560	45.9773	ug/L	100
75) 1,4-Dichlorobenzene	9.163	146	502652	48.1102	ug/L	100
76) n-Butylbenzene	9.293	91	847444	53.5358	ug/L	100
77) 1,2-Dichlorobenzene	9.365	146	453649	46.1483	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.745	75	38159	51.0203	ug/L	99
79) Hexachlorobutadiene	10.040	225	215467	49.6559	ug/L	100
80) 1,2,4-Trichlorobenzene	10.054	180	362653	51.9057	ug/L	100
81) Naphthalene	10.202	128	652247	51.8882	ug/L	99
82) 1,2,3-Trichlorobenzene	10.289	180	332488	52.3942	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007355.D
Acq On : 12 Aug 2014 18:29
Operator : ADC
Sample : WG487972-12 50.0ug/L ALTSRC 8260
Misc : 1,1 STD65748
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 13 09:39:22 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007355.D
Acq On : 12 Aug 2014 18:29
Operator : ADC
Sample : WG487972-12 50.0ug/L ALTSRC 8260
Misc : 1,1 STD65748
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 13 09:39:22 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	98	0.000
2	T	Dichlorodifluoromethane	50.000	67.663	-35.3#	126	0.000
3	P	Chloromethane	50.000	54.186	-8.4	107	0.000
4	C	Vinyl Chloride	50.000	51.764	-3.5#	102	0.000
5	T	1,3-Butadiene	50.000	60.123	-20.2	115	0.000
6	T	Bromomethane	50.000	51.739	-3.5	99	0.000
7	T	Chloroethane	50.000	44.170	11.7	83	0.000
8	T	Trichlorofluoromethane	50.000	42.541	14.9	82	-0.020
9	T	Diethyl ether	50.000	285.858	-471.7#	564	0.000
10	C	1,1-Dichloroethene	50.000	44.182	11.6#	87	-0.024
11	T	Carbon Disulfide	50.000	38.969	22.1	78	-0.023
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.000	47.248	5.5	94	-0.021
13	T	Acrolein	50.000	84.243	-68.5#	161	0.000
14	T	Methylene Chloride	50.000	45.908	8.2	92	0.000
15	T	Acetone	50.000	52.601	-5.2	106	0.014
16	T	trans-1,2-Dichloroethene	50.000	47.859	4.3	95	-0.011
17	T	Methyl Tert Butyl Ether	50.000	51.004	-2.0	101	0.012
18	P	1,1-Dichloroethane	50.000	46.688	6.6	93	0.000
19	T	Acrylonitrile	50.000	22.756	54.5#	43	0.000
20	T	Vinyl Acetate	50.000	61.315	-22.6	120	0.000
21	T	cis-1,2-Dichloroethene	50.000	48.942	2.1	101	0.000
22	T	2,2-Dichloropropane	50.000	44.892	10.2	90	0.000
23	T	Cyclohexane	50.000	53.838	-7.7	105	-0.015
24	T	Bromochloromethane	50.000	48.994	2.0	93	0.000
25	C	Chloroform	50.000	47.880	4.2#	96	0.000
26	T	Carbon Tetrachloride	50.000	49.230	1.5	95	-0.012
27	S	Dibromofluoromethane	25.000	23.644	5.4	98	0.000
28	T	1,1,1-Trichloroethane	50.000	48.191	3.6	96	0.000
29	T	1,1-Dichloropropene	50.000	46.789	6.4	97	-0.012
30	T	2-Butanone	50.000	51.173	-2.3	108	0.000
31	T	Benzene	50.000	47.772	4.5	97	0.000
32	S	1,2-Dichloroethane-d4	25.000	22.152	11.4	93	0.000
33	T	1,2-Dichloroethane	50.000	49.441	1.1	97	0.000
34	T	Trichloroethene	50.000	47.141	5.7	95	0.000
35	T	Dibromomethane	50.000	48.592	2.8	96	0.000
36	C	1,2-Dichloropropane	50.000	48.244	3.5#	101	0.000
37	T	Bromodichloromethane	50.000	48.545	2.9	97	0.000
38	T	1,4-Dioxane	100.000	546.835	-446.8#	581	0.000
39	T	2-Chloroethyl Vinyl Ether	50.000	52.355	-4.7	103	0.000
40	T	cis-1,3-Dichloropropene	50.000	51.213	-2.4	100	0.000
41	T	4-Methyl-2-Pentanone	50.000	52.446	-4.9	105	0.000
42	T	trans-1,3-Dichloropropene	50.000	48.035	3.9	93	0.000
43	I	Chlorobenzene-d5	25.000	25.000	0.0	99	0.000
44	S	Toluene-d8	25.000	23.353	6.6	98	0.000
45	C	Toluene	50.000	47.725	4.5#	97	0.000
46	Y	Tetrachloroethene	50.000	46.907	6.2	96	0.000
47	T	1,1,2-Trichloroethane	50.000	48.063	3.9	98	0.000
48	Y	Dibromochloromethane	50.000	49.529	0.9	96	0.000
49	T	1,3-Dichloropropane	50.000	47.922	4.2	97	0.000
50	T	1,2-Dibromoethane	50.000	48.275	3.5	96	0.000
51	Y	2-Hexanone	50.000	51.179	-2.4	105	0.000
52	P	Chlorobenzene	50.000	46.153	7.7	94	0.000
53	T	1-Chlorohexane	50.000	49.914	0.2	96	0.000
54	C	Ethylbenzene	50.000	48.663	2.7#	98	0.000
55	T	1,1,1,2-Tetrachloroethane	50.000	48.471	3.1	96	0.000

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007355.D
Acq On : 12 Aug 2014 18:29
Operator : ADC
Sample : WG487972-12 50.0ug/L ALTSRC 8260
Misc : 1,1 STD65748
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 13 09:39:22 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Wed Aug 13 09:38:18 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	m-,p-Xylene	100.000	96.873	3.1	96	0.000
57	T	o-Xylene	50.000	45.729	8.5	90	0.000
58	T	Styrene	50.000	51.268	-2.5	99	0.000
59	P	Bromoform	50.000	51.414	-2.8	99	0.000
60	T	Isopropylbenzene	50.000	47.404	5.2	93	0.000
61	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	102	0.000
62	T	1,3,5-Trimethylbenzene	50.000	50.550	-1.1	104	0.000
63	S	p-Bromofluorobenzene	25.000	25.044	-0.2	105	0.000
64	T	Bromobenzene	50.000	46.534	6.9	97	0.000
65	T	n-Propylbenzene	50.000	45.107	9.8	90	0.000
66	P	1,1,2,2-Tetrachloroethane	50.000	47.261	5.5	99	0.000
67	T	2-Chlorotoluene	50.000	45.894	8.2	97	0.000
68	T	1,2,3-Trichloropropane	50.000	48.120	3.8	100	0.000
69	T	1,2,4-Trimethylbenzene	50.000	50.563	-1.1	104	0.000
70	T	4-Chlorotoluene	50.000	45.670	8.7	95	0.000
71	T	tert-Butylbenzene	50.000	45.361	9.3	96	0.000
72	T	sec-Butylbenzene	50.000	46.857	6.3	95	0.000
73	T	p-Isopropyltoluene	50.000	47.276	5.4	95	0.000
74	T	1,3-Dichlorobenzene	50.000	45.977	8.0	95	0.000
75	T	1,4-Dichlorobenzene	50.000	48.110	3.8	103	0.000
76	T	n-Butylbenzene	50.000	53.536	-7.1	104	0.000
77	T	1,2-Dichlorobenzene	50.000	46.148	7.7	99	0.000
78	T	1,2-Dibromo-3-Chloropropane	50.000	51.020	-2.0	101	0.000
79	Y	Hexachlorobutadiene	50.000	49.656	0.7	102	0.000
80	T	1,2,4-Trichlorobenzene	50.000	51.906	-3.8	101	0.000
81	T	Naphthalene	50.000	51.888	-3.8	97	0.000
82	T	1,2,3-Trichlorobenzene	50.000	52.394	-4.8	100	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.846	96	297879	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	218521	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.151	152	103946	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.830	111	92611	23.6778	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.711%			
32) 1,2-Dichloroethane-d4	4.498	65	88380	22.6891	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.756%			
44) Toluene-d8	6.464	98	345933	25.4168	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.667%			
63) p-Bromofluorobenzene	8.561	95	118687	27.1956	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 108.782%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	120984	43.4137	ug/L	99
3) Chloromethane	1.079	50	170479	47.9414	ug/L	100
4) Vinyl Chloride	1.117	62	183345	48.3677	ug/L	100
5) 1,3-Butadiene	1.125	54	179796	70.0504	ug/L	99
6) Bromomethane	1.287	94	80836	37.1797	ug/L	99
7) Chloroethane	1.348	64	108749	51.2391	ug/L	99
8) Trichlorofluoromethane	1.429	101	251078	51.2198	ug/L	100
9) Diethyl ether	1.612	59	119598	57.0149	ug/L	99
10) 1,1-Dichloroethene	1.728	61	249797	49.1510	ug/L	99
11) Carbon Disulfide	1.742	76	546707	62.9328	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.754	101	154185	48.5666	ug/L	98
13) Acrolein	1.942	56	17272	56.4882	ug/L	99
14) Methylene Chloride	2.110	84	165142	46.0376	ug/L	95
15) Acetone	2.144	43	28064	42.2116	ug/L	98
16) trans-1,2-Dichloroethene	2.228	96	155295	46.4930	ug/L	96
17) Methyl Tert Butyl Ether	2.312	73	370627	42.1272	ug/L	100
18) 1,1-Dichloroethane	2.729	63	302408	47.3550	ug/L	100
19) Acrylonitrile	2.776	53	38344	48.0083	ug/L	100
20) Vinyl Acetate	2.990	86	15948	50.6249	ug/L	91
21) cis-1,2-Dichloroethene	3.268	96	174883	46.6007	ug/L	98
22) 2,2-Dichloropropane	3.378	77	260525	50.3013	ug/L	98
23) Cyclohexane	3.476	56	312802	60.4209	ug/L	98
24) Bromochloromethane	3.485	130	106857	45.3269	ug/L	99
25) Chloroform	3.604	83	295915	47.1318	ug/L	99
26) Carbon Tetrachloride	3.737	117	244306	48.7833	ug/L	99
28) 1,1,1-Trichloroethane	3.824	97	266362	47.0060	ug/L	99
29) 1,1-Dichloropropene	4.000	75	224765	47.6422	ug/L	99
30) 2-Butanone	3.997	43	44779	41.5628	ug/L	97
31) Benzene	4.322	78	649132	46.0525	ug/L	99
33) 1,2-Dichloroethane	4.582	62	193818	46.1001	ug/L	99
34) Trichloroethene	5.040	130	176263	43.2610	ug/L	94
35) Dibromomethane	5.474	93	90435	44.2094	ug/L	100
36) 1,2-Dichloropropane	5.578	63	181884	47.2227	ug/L	99
37) Bromodichloromethane	5.680	83	224273	46.7874	ug/L	100
38) 1,4-Dioxane	5.888	88	2047	81.1609	ug/L	94
39) 2-Chloroethyl Vinyl Ether	6.279	63	80371	41.8326	ug/L	100
40) cis-1,3-Dichloropropene	6.296	75	270526	47.2594	ug/L	98
41) 4-Methyl-2-Pentanone	6.884	58	39473	40.7899	ug/L	98
42) trans-1,3-Dichloropropene	6.910	75	228901	45.8941	ug/L	99
45) Toluene	6.508	91	726139	48.7654	ug/L	99
46) Tetrachloroethene	6.849	166	193974	47.6491	ug/L	97
47) 1,1,2-Trichloroethane	7.043	97	121586	44.3316	ug/L	99
48) Dibromochloromethane	7.185	129	165492	45.8076	ug/L	100
49) 1,3-Dichloropropane	7.269	76	206765	45.5914	ug/L	98

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

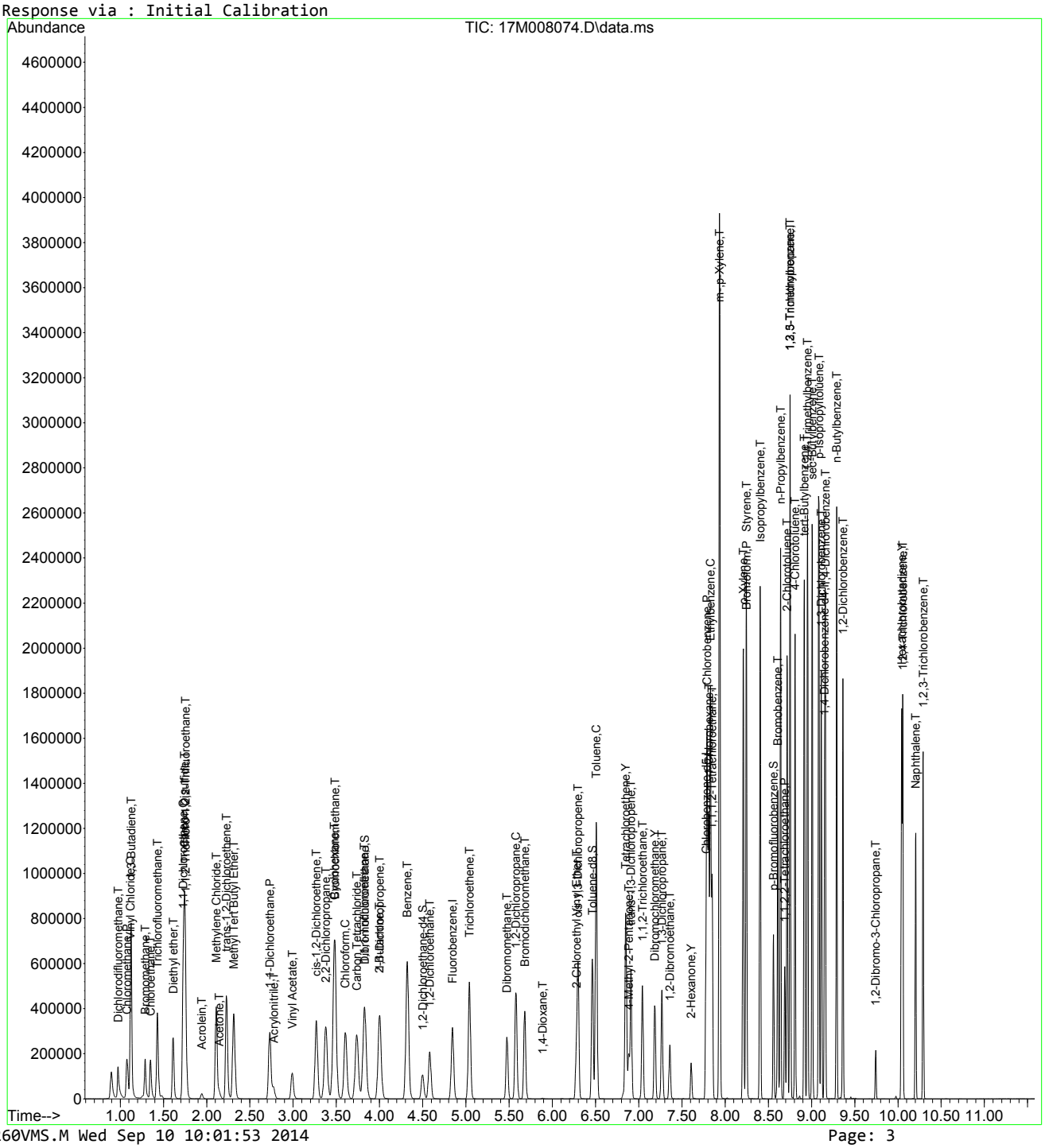
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.359	107	122901	45.3473	ug/L	99
51) 2-Hexanone	7.608	43	71068	41.8892	ug/L	99
52) Chlorobenzene	7.790	112	466418	48.2501	ug/L	98
53) 1-Chlorohexane	7.811	69	48361	55.7414	ug/L	86
54) Ethylbenzene	7.831	106	256379	49.1555	ug/L	95
55) 1,1,1,2-Tetrachloroethane	7.848	131	173308	47.7057	ug/L	99
56) m-,p-Xylene	7.935	106	631386	101.4990	ug/L	99
57) o-Xylene	8.210	106	304184	49.5286	ug/L	98
58) Styrene	8.245	104	495010	50.6644	ug/L	99
59) Bromoform	8.248	173	112491	44.0728	ug/L	99
60) Isopropylbenzene	8.404	105	801679	50.8185	ug/L	100
62) 1,3,5-Trimethylbenzene	8.752	105	696046	54.4818	ug/L	99
64) Bromobenzene	8.610	156	201263	49.4148	ug/L	96
65) n-Propylbenzene	8.642	91	962979	56.2805	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.691	83	147713	48.8699	ug/L	100
67) 2-Chlorotoluene	8.717	91	548552	53.5888	ug/L	99
68) 1,2,3-Trichloropropane	8.752	110	38009	46.0064	ug/L	95
69) 1,2,4-Trimethylbenzene	8.954	105	687705	53.9484	ug/L	99
70) 4-Chlorotoluene	8.810	91	565704	53.8695	ug/L	99
71) tert-Butylbenzene	8.917	134	125893	52.0546	ug/L	99
72) sec-Butylbenzene	9.006	105	881195	55.5620	ug/L	99
73) p-Isopropyltoluene	9.085	119	744303	55.6117	ug/L	100
74) 1,3-Dichlorobenzene	9.114	146	381188	51.8776	ug/L	99
75) 1,4-Dichlorobenzene	9.160	146	380242	49.9382	ug/L	100
76) n-Butylbenzene	9.290	91	688287	59.6631	ug/L	98
77) 1,2-Dichlorobenzene	9.363	146	356332	49.7387	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.742	75	24992	45.8511	ug/L	94
79) Hexachlorobutadiene	10.043	225	163964	51.8491	ug/L	100
80) 1,2,4-Trichlorobenzene	10.057	180	267624	52.5596	ug/L	99
81) Naphthalene	10.205	128	432144	47.1724	ug/L	99
82) 1,2,3-Trichlorobenzene	10.292	180	232075	50.1809	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



8260VMS.M Wed Sep 10 10:01:53 2014 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	83	0.000
2	T	Dichlorodifluoromethane	0.234	0.203	13.2	68	0.000
3	P	Chloromethane	0.298	0.286	4.0	80	0.000
4	C	Vinyl Chloride	0.318	0.308	3.1#	81	0.000
5	T	1,3-Butadiene	0.215	0.302	-40.5#	113	0.000
6	T	Bromomethane	0.156	0.136	12.8	70	0.000
7	T	Chloroethane	0.178	0.183	-2.8	82	0.000
8	T	Trichlorofluoromethane	0.411	0.421	-2.4	83	0.000
9	T	Diethyl ether	0.176	0.201	-14.2	95	0.000
10	C	1,1-Dichloroethene	0.427	0.419	1.9#	82	0.000
11	T	Carbon Disulfide	0.729	0.918	-25.9#	107	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.266	0.259	2.6	82	0.000
13	T	Acrolein	0.026	0.029	-11.5	91	0.000
14	T	Methylene Chloride	0.301	0.277	8.0	78	0.000
15	T	Acetone	0.056	0.047	16.1	72	0.000
16	T	trans-1,2-Dichloroethene	0.280	0.261	6.8	78	0.000
17	T	Methyl Tert Butyl Ether	0.738	0.622	15.7	70	0.000
18	P	1,1-Dichloroethane	0.536	0.508	5.2	80	0.000
19	T	Acrylonitrile	0.067	0.064	4.5	77	0.000
20	T	Vinyl Acetate	0.026	0.027	-3.8	84	0.000
21	T	cis-1,2-Dichloroethene	0.315	0.294	6.7	81	0.000
22	T	2,2-Dichloropropane	0.435	0.437	-0.5	85	0.000
23	T	Cyclohexane	0.434	0.525	-21.0	100	0.000
24	T	Bromochloromethane	0.198	0.179	9.6	73	-0.012
25	C	Chloroform	0.527	0.497	5.7#	80	0.000
26	T	Carbon Tetrachloride	0.420	0.410	2.4	79	0.000
27	S	Dibromofluoromethane	0.328	0.311	5.2	83	0.000
28	T	1,1,1-Trichloroethane	0.476	0.447	6.1	79	0.000
29	T	1,1-Dichloropropene	0.396	0.377	4.8	84	-0.012
30	T	2-Butanone	0.090	0.075	16.7	74	-0.018
31	T	Benzene	1.183	1.090	7.9	79	0.000
32	S	1,2-Dichloroethane-d4	0.327	0.297	9.2	80	0.000
33	T	1,2-Dichloroethane	0.353	0.325	7.9	77	0.000
34	T	Trichloroethene	0.342	0.296	13.5	74	0.000
35	T	Dibromomethane	0.172	0.152	11.6	74	0.000
36	C	1,2-Dichloropropane	0.323	0.305	5.6#	83	0.000
37	T	Bromodichloromethane	0.402	0.376	6.5	79	0.000
38	T	1,4-Dioxane	0.002	0.002	0.0	73	0.000
39	T	2-Chloroethyl Vinyl Ether	0.161	0.135	16.1	70	0.000
40	T	cis-1,3-Dichloropropene	0.480	0.454	5.4	78	0.000
41	T	4-Methyl-2-Pentanone	0.081	0.066	18.5	69	0.000
42	T	trans-1,3-Dichloropropene	0.419	0.384	8.4	76	0.000
43	I	Chlorobenzene-d5	1.000	1.000	0.0	79	0.000
44	S	Toluene-d8	1.557	1.583	-1.7	85	0.000
45	C	Toluene	1.704	1.661	2.5#	79	0.000
46	Y	Tetrachloroethene	0.466	0.444	4.7	78	0.000
47	T	1,1,2-Trichloroethane	0.314	0.278	11.5	72	0.000
48	Y	Dibromochloromethane	0.413	0.379	8.2	71	0.000
49	T	1,3-Dichloropropane	0.519	0.473	8.9	74	0.000
50	T	1,2-Dibromoethane	0.310	0.281	9.4	72	0.000
51	Y	2-Hexanone	0.194	0.163	16.0	68	0.000
52	P	Chlorobenzene	1.106	1.067	3.5	78	0.000
53	T	1-Chlorohexane	0.099	0.111	-12.1	86	0.000
54	C	Ethylbenzene	0.597	0.587	1.7#	79	0.000
55	T	1,1,1,2-Tetrachloroethane	0.416	0.397	4.6	75	0.000

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	T	m-,p-Xylene	0.712	0.722	-1.4	80	0.000
57	T	o-Xylene	0.703	0.696	1.0	78	0.000
58	T	Styrene	1.118	1.133	-1.3	78	0.000
59	P	Bromoform	0.292	0.257	12.0	68	0.000
60	T	Isopropylbenzene	1.805	1.834	-1.6	79	0.000
61	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	74	0.000
62	T	1,3,5-Trimethylbenzene	3.073	3.348	-8.9	82	0.000
63	S	p-Bromofluorobenzene	1.050	1.142	-8.8	83	0.000
64	T	Bromobenzene	0.980	0.968	1.2	75	0.000
65	T	n-Propylbenzene	4.115	4.632	-12.6	82	0.000
66	P	1,1,2,2-Tetrachloroethane	0.727	0.711	2.2	75	0.000
67	T	2-Chlorotoluene	2.462	2.639	-7.2	82	0.000
68	T	1,2,3-Trichloropropane	0.199	0.183	8.0	70	0.000
69	T	1,2,4-Trimethylbenzene	3.066	3.308	-7.9	81	0.000
70	T	4-Chlorotoluene	2.526	2.721	-7.7	82	0.000
71	T	tert-Butylbenzene	0.582	0.606	-4.1	81	0.000
72	T	sec-Butylbenzene	3.814	4.239	-11.1	82	0.000
73	T	p-Isopropyltoluene	3.219	3.580	-11.2	81	0.000
74	T	1,3-Dichlorobenzene	1.767	1.834	-3.8	78	0.000
75	T	1,4-Dichlorobenzene	1.831	1.829	0.1	78	0.000
76	T	n-Butylbenzene	2.775	3.311	-19.3	84	0.000
77	T	1,2-Dichlorobenzene	1.723	1.714	0.5	78	0.000
78	T	1,2-Dibromo-3-Chloropropane	0.131	0.120	8.4	66	0.000
79	Y	Hexachlorobutadiene	0.761	0.789	-3.7	78	0.000
80	T	1,2,4-Trichlorobenzene	1.225	1.287	-5.1	74	0.000
81	T	Naphthalene	2.203	2.079	5.6	64	0.000
82	T	1,2,3-Trichlorobenzene	1.112	1.116	-0.4	70	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Evaluate Continuing Calibration Report

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	83	0.000
2	T	Dichlorodifluoromethane	50.000	43.414	13.2	68	0.000
3	P	Chloromethane	50.000	47.941	4.1	80	0.000
4	C	Vinyl Chloride	50.000	48.368	3.3#	81	0.000
5	T	1,3-Butadiene	50.000	70.050	-40.1#	113	0.000
6	T	Bromomethane	50.000	37.180	25.6#	70	0.000
7	T	Chloroethane	50.000	51.239	-2.5	82	0.000
8	T	Trichlorofluoromethane	50.000	51.220	-2.4	83	0.000
9	T	Diethyl ether	50.000	57.015	-14.0	95	0.000
10	C	1,1-Dichloroethene	50.000	49.151	1.7#	82	0.000
11	T	Carbon Disulfide	50.000	62.933	-25.9#	107	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.000	48.567	2.9	82	0.000
13	T	Acrolein	50.000	56.488	-13.0	91	0.000
14	T	Methylene Chloride	50.000	46.038	7.9	78	0.000
15	T	Acetone	50.000	42.212	15.6	72	0.000
16	T	trans-1,2-Dichloroethene	50.000	46.493	7.0	78	0.000
17	T	Methyl Tert Butyl Ether	50.000	42.127	15.7	70	0.000
18	P	1,1-Dichloroethane	50.000	47.355	5.3	80	0.000
19	T	Acrylonitrile	50.000	48.008	4.0	77	0.000
20	T	Vinyl Acetate	50.000	50.625	-1.3	84	0.000
21	T	cis-1,2-Dichloroethene	50.000	46.601	6.8	81	0.000
22	T	2,2-Dichloropropane	50.000	50.301	-0.6	85	0.000
23	T	Cyclohexane	50.000	60.421	-20.8	100	0.000
24	T	Bromochloromethane	50.000	45.327	9.3	73	-0.012
25	C	Chloroform	50.000	47.132	5.7#	80	0.000
26	T	Carbon Tetrachloride	50.000	48.783	2.4	79	0.000
27	S	Dibromofluoromethane	25.000	23.678	5.3	83	0.000
28	T	1,1,1-Trichloroethane	50.000	47.006	6.0	79	0.000
29	T	1,1-Dichloropropene	50.000	47.642	4.7	84	-0.012
30	T	2-Butanone	50.000	41.563	16.9	74	-0.018
31	T	Benzene	50.000	46.053	7.9	79	0.000
32	S	1,2-Dichloroethane-d4	25.000	22.689	9.2	80	0.000
33	T	1,2-Dichloroethane	50.000	46.100	7.8	77	0.000
34	T	Trichloroethene	50.000	43.261	13.5	74	0.000
35	T	Dibromomethane	50.000	44.209	11.6	74	0.000
36	C	1,2-Dichloropropane	50.000	47.223	5.6#	83	0.000
37	T	Bromodichloromethane	50.000	46.787	6.4	79	0.000
38	T	1,4-Dioxane	100.000	81.161	18.8	73	0.000
39	T	2-Chloroethyl Vinyl Ether	50.000	41.833	16.3	70	0.000
40	T	cis-1,3-Dichloropropene	50.000	47.259	5.5	78	0.000
41	T	4-Methyl-2-Pentanone	50.000	40.790	18.4	69	0.000
42	T	trans-1,3-Dichloropropene	50.000	45.894	8.2	76	0.000
43	I	Chlorobenzene-d5	25.000	25.000	0.0	79	0.000
44	S	Toluene-d8	25.000	25.417	-1.7	85	0.000
45	C	Toluene	50.000	48.765	2.5#	79	0.000
46	Y	Tetrachloroethene	50.000	47.649	4.7	78	0.000
47	T	1,1,2-Trichloroethane	50.000	44.332	11.3	72	0.000
48	Y	Dibromochloromethane	50.000	45.808	8.4	71	0.000
49	T	1,3-Dichloropropane	50.000	45.591	8.8	74	0.000
50	T	1,2-Dibromoethane	50.000	45.347	9.3	72	0.000
51	Y	2-Hexanone	50.000	41.889	16.2	68	0.000
52	P	Chlorobenzene	50.000	48.250	3.5	78	0.000
53	T	1-Chlorohexane	50.000	55.741	-11.5	86	0.000
54	C	Ethylbenzene	50.000	49.156	1.7#	79	0.000
55	T	1,1,1,2-Tetrachloroethane	50.000	47.706	4.6	75	0.000

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008074.D
Acq On : 09 Sep 2014 13:36
Operator : adc
Sample : WG491620-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 13:48:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	m-,p-Xylene	100.000	101.499	-1.5	80	0.000
57	T	o-Xylene	50.000	49.529	0.9	78	0.000
58	T	Styrene	50.000	50.664	-1.3	78	0.000
59	P	Bromoform	50.000	44.073	11.9	68	0.000
60	T	Isopropylbenzene	50.000	50.818	-1.6	79	0.000
61	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	74	0.000
62	T	1,3,5-Trimethylbenzene	50.000	54.482	-9.0	82	0.000
63	S	p-Bromofluorobenzene	25.000	27.196	-8.8	83	0.000
64	T	Bromobenzene	50.000	49.415	1.2	75	0.000
65	T	n-Propylbenzene	50.000	56.281	-12.6	82	0.000
66	P	1,1,2,2-Tetrachloroethane	50.000	48.870	2.3	75	0.000
67	T	2-Chlorotoluene	50.000	53.589	-7.2	82	0.000
68	T	1,2,3-Trichloropropane	50.000	46.006	8.0	70	0.000
69	T	1,2,4-Trimethylbenzene	50.000	53.948	-7.9	81	0.000
70	T	4-Chlorotoluene	50.000	53.869	-7.7	82	0.000
71	T	tert-Butylbenzene	50.000	52.055	-4.1	81	0.000
72	T	sec-Butylbenzene	50.000	55.562	-11.1	82	0.000
73	T	p-Isopropyltoluene	50.000	55.612	-11.2	81	0.000
74	T	1,3-Dichlorobenzene	50.000	51.878	-3.8	78	0.000
75	T	1,4-Dichlorobenzene	50.000	49.938	0.1	78	0.000
76	T	n-Butylbenzene	50.000	59.663	-19.3	84	0.000
77	T	1,2-Dichlorobenzene	50.000	49.739	0.5	78	0.000
78	T	1,2-Dibromo-3-Chloropropane	50.000	45.851	8.3	66	0.000
79	Y	Hexachlorobutadiene	50.000	51.849	-3.7	78	0.000
80	T	1,2,4-Trichlorobenzene	50.000	52.560	-5.1	74	0.000
81	T	Naphthalene	50.000	47.172	5.7	64	0.000
82	T	1,2,3-Trichlorobenzene	50.000	50.181	-0.4	70	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.846	96	304333	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	224737	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.151	152	107751	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.827	111	98342	24.6099	ug/L	-0.0115
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.440%			
32) 1,2-Dichloroethane-d4	4.498	65	94070	23.6377	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.551%			
44) Toluene-d8	6.461	98	365846	26.1364	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.546%			
63) p-Bromofluorobenzene	8.558	95	125267	27.6897	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.759%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.975	85	101502	35.6504	ug/L	99
3) Chloromethane	1.076	50	146350	40.2831	ug/L	99
4) Vinyl Chloride	1.117	62	159522	41.1906	ug/L	99
5) 1,3-Butadiene	1.125	54	162225	61.8642	ug/L	100
6) Bromomethane	1.287	94	74772	33.7286	ug/L	100
7) Chloroethane	1.348	64	97559	44.9919	ug/L	100
8) Trichlorofluoromethane	1.429	101	214149	42.7599	ug/L	100
9) Diethyl ether	1.612	59	116724	54.4647	ug/L	100
10) 1,1-Dichloroethene	1.727	61	217203	41.8314	ug/L	99
11) Carbon Disulfide	1.742	76	501739	56.5315	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.753	101	132479	40.8445	ug/L	98
13) Acrolein	1.942	56	17340	55.5079	ug/L	99
14) Methylene Chloride	2.110	84	157427	42.9562	ug/L	94
15) Acetone	2.144	43	28315	41.6859	ug/L	98
16) trans-1,2-Dichloroethene	2.228	96	141547	41.4784	ug/L	97
17) Methyl Tert Butyl Ether	2.312	73	367954	40.9364	ug/L	99
18) 1,1-Dichloroethane	2.729	63	279767	42.8805	ug/L	100
19) Acrylonitrile	2.773	53	37893	46.4375	ug/L	99
20) Vinyl Acetate	2.990	86	16034	49.8185	ug/L	89
21) cis-1,2-Dichloroethene	3.271	96	163299	42.5912	ug/L	97
22) 2,2-Dichloropropane	3.375	77	237007	44.7901	ug/L	98
23) Cyclohexane	3.476	56	282821	53.4712	ug/L	98
24) Bromochloromethane	3.488	130	102726	42.6505	ug/L	98
25) Chloroform	3.604	83	276522	43.1090	ug/L	99
26) Carbon Tetrachloride	3.734	117	214144	41.8537	ug/L	99
28) 1,1,1-Trichloroethane	3.824	97	236215	40.8018	ug/L	99
29) 1,1-Dichloropropene	3.997	75	199326	41.3541	ug/L	99
30) 2-Butanone	4.006	43	45578	41.4072	ug/L	100
31) Benzene	4.319	78	598608	41.5675	ug/L	99
33) 1,2-Dichloroethane	4.582	62	190289	44.3009	ug/L	99
34) Trichloroethene	5.037	130	159903	38.4134	ug/L	94
35) Dibromomethane	5.474	93	88939	42.5560	ug/L	100
36) 1,2-Dichloropropane	5.578	63	174252	44.2818	ug/L	98
37) Bromodichloromethane	5.680	83	215752	44.0552	ug/L	100
38) 1,4-Dioxane	5.882	88	2089	81.0697	ug/L	100
39) 2-Chloroethyl Vinyl Ether	6.276	63	86225	43.9279	ug/L	100
40) cis-1,3-Dichloropropene	6.296	75	260416	44.5284	ug/L	99
41) 4-Methyl-2-Pentanone	6.884	58	40097	40.5561	ug/L	99
42) trans-1,3-Dichloropropene	6.910	75	224616	44.0799	ug/L	99
45) Toluene	6.508	91	670591	43.7894	ug/L	99
46) Tetrachloroethene	6.849	166	171583	40.9830	ug/L	97
47) 1,1,2-Trichloroethane	7.043	97	119550	42.3836	ug/L	99
48) Dibromochloromethane	7.185	129	161854	43.5615	ug/L	99
49) 1,3-Dichloropropane	7.269	76	202536	43.4237	ug/L	97

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

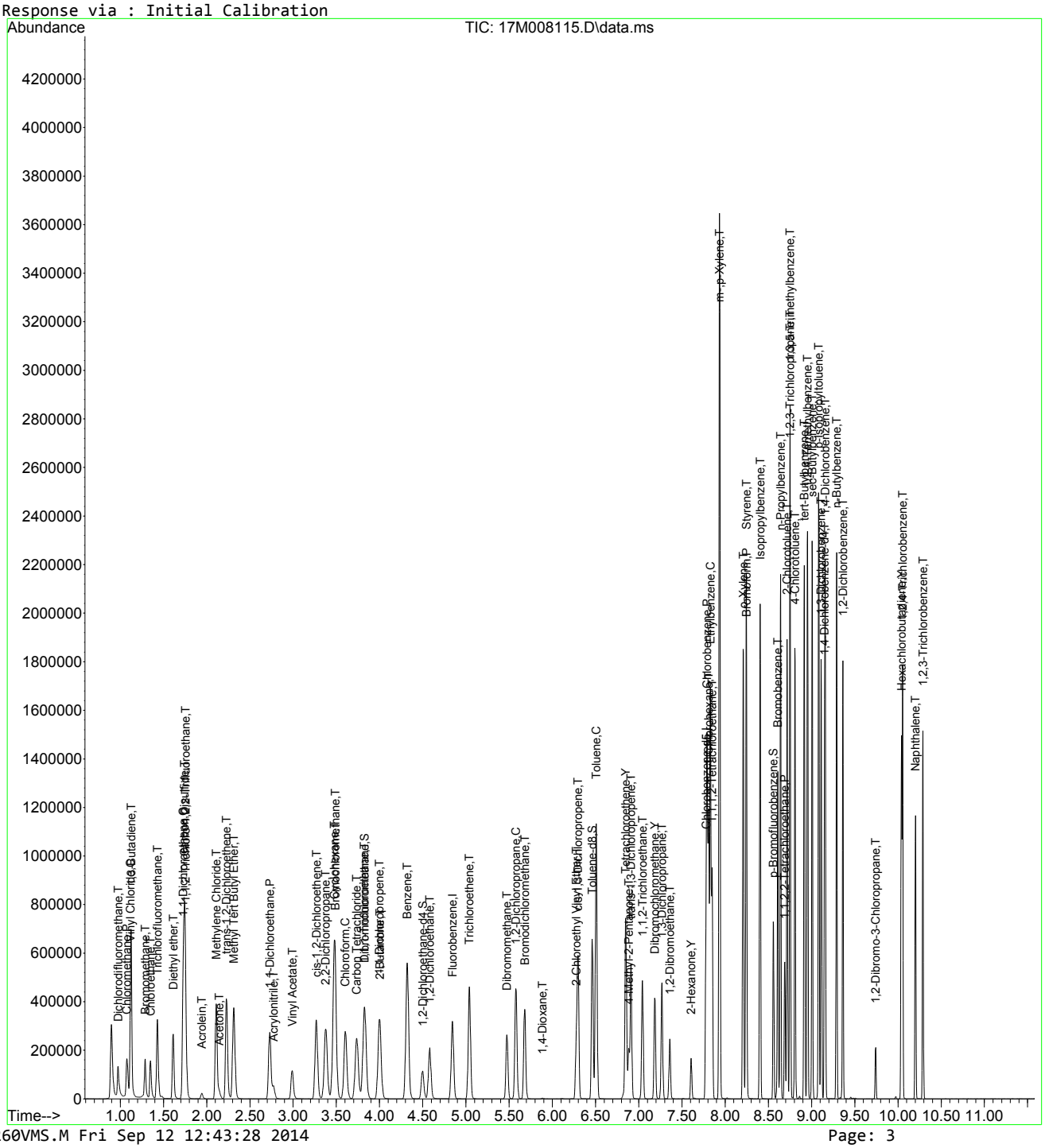
Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.359	107	121637	43.6396	ug/L	99
51) 2-Hexanone	7.605	43	73870	42.3364	ug/L	98
52) Chlorobenzene	7.790	112	440385	44.2970	ug/L	98
53) 1-Chlorohexane	7.808	69	43930	49.2337	ug/L	88
54) Ethylbenzene	7.831	106	235807	43.9608	ug/L	96
55) 1,1,1,2-Tetrachloroethane	7.848	131	164730	44.0903	ug/L	99
56) m-,p-Xylene	7.935	106	582425	91.0386	ug/L	99
57) o-Xylene	8.210	106	284355	45.0193	ug/L	98
58) Styrene	8.245	104	469127	46.6872	ug/L	99
59) Bromoform	8.248	173	110310	42.0230	ug/L	99
60) Isopropylbenzene	8.404	105	730517	45.0267	ug/L	99
62) 1,3,5-Trimethylbenzene	8.752	105	639493	48.2876	ug/L	99
64) Bromobenzene	8.610	156	192687	45.6386	ug/L	97
65) n-Propylbenzene	8.642	91	874456	49.3022	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.688	83	147793	47.1697	ug/L	100
67) 2-Chlorotoluene	8.717	91	513258	48.3703	ug/L	99
68) 1,2,3-Trichloropropane	8.749	110	37547	43.8423	ug/L	93
69) 1,2,4-Trimethylbenzene	8.954	105	641729	48.5640	ug/L	100
70) 4-Chlorotoluene	8.807	91	532733	48.9384	ug/L	99
71) tert-Butylbenzene	8.917	134	114698	45.7510	ug/L	100
72) sec-Butylbenzene	9.006	105	798764	48.5860	ug/L	99
73) p-Isopropyltoluene	9.082	119	675157	48.6640	ug/L	100
74) 1,3-Dichlorobenzene	9.111	146	359105	47.1464	ug/L	99
75) 1,4-Dichlorobenzene	9.157	146	362494	45.9262	ug/L	100
76) n-Butylbenzene	9.290	91	622904	52.0888	ug/L	98
77) 1,2-Dichlorobenzene	9.362	146	343408	46.2420	ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.742	75	25524	45.1735	ug/L	95
79) Hexachlorobutadiene	10.040	225	137690	42.0032	ug/L	100
80) 1,2,4-Trichlorobenzene	10.054	180	254161	48.1529	ug/L	100
81) Naphthalene	10.202	128	424809	44.7342	ug/L	99
82) 1,2,3-Trichlorobenzene	10.289	180	222109	46.3301	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	85	0.000
2	T	Dichlorodifluoromethane	0.234	0.167	28.6#	57	0.000
3	P	Chloromethane	0.298	0.240	19.5	69	0.000
4	C	Vinyl Chloride	0.318	0.262	17.6#	70	0.000
5	T	1,3-Butadiene	0.215	0.267	-24.2	102	0.000
6	T	Bromomethane	0.156	0.123	21.2	65	0.000
7	T	Chloroethane	0.178	0.160	10.1	73	0.000
8	T	Trichlorofluoromethane	0.411	0.352	14.4	71	0.000
9	T	Diethyl ether	0.176	0.192	-9.1	93	0.000
10	C	1,1-Dichloroethene	0.427	0.357	16.4#	72	0.000
11	T	Carbon Disulfide	0.729	0.824	-13.0	98	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.266	0.218	18.0	71	0.000
13	T	Acrolein	0.026	0.028	-7.7	92	0.000
14	T	Methylene Chloride	0.301	0.259	14.0	74	0.000
15	T	Acetone	0.056	0.047	16.1	73	0.000
16	T	trans-1,2-Dichloroethene	0.280	0.233	16.8	71	0.000
17	T	Methyl Tert Butyl Ether	0.738	0.605	18.0	70	0.000
18	P	1,1-Dichloroethane	0.536	0.460	14.2	74	0.000
19	T	Acrylonitrile	0.067	0.062	7.5	76	0.000
20	T	Vinyl Acetate	0.026	0.026	0.0	84	0.000
21	T	cis-1,2-Dichloroethene	0.315	0.268	14.9	76	0.000
22	T	2,2-Dichloropropane	0.435	0.389	10.6	77	-0.012
23	T	Cyclohexane	0.434	0.465	-7.1	90	0.000
24	T	Bromochloromethane	0.198	0.169	14.6	70	0.000
25	C	Chloroform	0.527	0.454	13.9#	74	0.000
26	T	Carbon Tetrachloride	0.420	0.352	16.2	70	-0.012
27	S	Dibromofluoromethane	0.328	0.323	1.5	88	-0.011
28	T	1,1,1-Trichloroethane	0.476	0.388	18.5	70	0.000
29	T	1,1-Dichloropropene	0.396	0.327	17.4	74	-0.015
30	T	2-Butanone	0.090	0.075	16.7	75	0.000
31	T	Benzene	1.183	0.983	16.9	73	-0.012
32	S	1,2-Dichloroethane-d4	0.327	0.309	5.5	86	0.000
33	T	1,2-Dichloroethane	0.353	0.313	11.3	76	0.000
34	T	Trichloroethene	0.342	0.263	23.1	67	-0.012
35	T	Dibromomethane	0.172	0.146	15.1	73	0.000
36	C	1,2-Dichloropropane	0.323	0.286	11.5#	80	0.000
37	T	Bromodichloromethane	0.402	0.354	11.9	76	0.000
38	T	1,4-Dioxane	0.002	0.002	0.0	75	0.000
39	T	2-Chloroethyl Vinyl Ether	0.161	0.142	11.8	75	0.000
40	T	cis-1,3-Dichloropropene	0.480	0.428	10.8	75	0.000
41	T	4-Methyl-2-Pentanone	0.081	0.066	18.5	70	0.000
42	T	trans-1,3-Dichloropropene	0.419	0.369	11.9	74	0.000
43	I	Chlorobenzene-d5	1.000	1.000	0.0	81	0.000
44	S	Toluene-d8	1.557	1.628	-4.6	90	0.000
45	C	Toluene	1.704	1.492	12.4#	73	0.000
46	Y	Tetrachloroethene	0.466	0.382	18.0	69	0.000
47	T	1,1,2-Trichloroethane	0.314	0.266	15.3	71	0.000
48	Y	Dibromochloromethane	0.413	0.360	12.8	70	0.000
49	T	1,3-Dichloropropane	0.519	0.451	13.1	72	0.000
50	T	1,2-Dibromoethane	0.310	0.271	12.6	72	0.000
51	Y	2-Hexanone	0.194	0.164	15.5	71	0.000
52	P	Chlorobenzene	1.106	0.980	11.4	74	0.000
53	T	1-Chlorohexane	0.099	0.098	1.0	78	0.000
54	C	Ethylbenzene	0.597	0.525	12.1#	73	0.000
55	T	1,1,1,2-Tetrachloroethane	0.416	0.366	12.0	72	0.000

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	T	m-,p-Xylene	0.712	0.648	9.0	74	0.000
57	T	o-Xylene	0.703	0.633	10.0	73	0.000
58	T	Styrene	1.118	1.044	6.6	74	0.000
59	P	Bromoform	0.292	0.245	16.1	66	0.000
60	T	Isopropylbenzene	1.805	1.625	10.0	72	0.000
61	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	77	0.000
62	T	1,3,5-Trimethylbenzene	3.073	2.967	3.4	75	0.000
63	S	p-Bromofluorobenzene	1.050	1.163	-10.8	88	0.000
64	T	Bromobenzene	0.980	0.894	8.8	72	0.000
65	T	n-Propylbenzene	4.115	4.058	1.4	75	0.000
66	P	1,1,2,2-Tetrachloroethane	0.727	0.686	5.6	75	0.000
67	T	2-Chlorotoluene	2.462	2.382	3.2	77	0.000
68	T	1,2,3-Trichloropropane	0.199	0.174	12.6	69	0.000
69	T	1,2,4-Trimethylbenzene	3.066	2.978	2.9	76	0.000
70	T	4-Chlorotoluene	2.526	2.472	2.1	77	0.000
71	T	tert-Butylbenzene	0.582	0.532	8.6	73	0.000
72	T	sec-Butylbenzene	3.814	3.707	2.8	74	0.000
73	T	p-Isopropyltoluene	3.219	3.133	2.7	74	0.000
74	T	1,3-Dichlorobenzene	1.767	1.666	5.7	73	0.000
75	T	1,4-Dichlorobenzene	1.831	1.682	8.1	74	0.000
76	T	n-Butylbenzene	2.775	2.890	-4.1	76	0.000
77	T	1,2-Dichlorobenzene	1.723	1.594	7.5	75	0.000
78	T	1,2-Dibromo-3-Chloropropane	0.131	0.118	9.9	67	0.000
79	Y	Hexachlorobutadiene	0.761	0.639	16.0	65	0.000
80	T	1,2,4-Trichlorobenzene	1.225	1.179	3.8	71	0.000
81	T	Naphthalene	2.203	1.971	10.5	63	0.000
82	T	1,2,3-Trichlorobenzene	1.112	1.031	7.3	67	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	85	0.000
2	T	Dichlorodifluoromethane	50.000	35.650	28.7#	57	0.000
3	P	Chloromethane	50.000	40.283	19.4	69	0.000
4	C	Vinyl Chloride	50.000	41.191	17.6#	70	0.000
5	T	1,3-Butadiene	50.000	61.864	-23.7	102	0.000
6	T	Bromomethane	50.000	33.729	32.5#	65	0.000
7	T	Chloroethane	50.000	44.992	10.0	73	0.000
8	T	Trichlorofluoromethane	50.000	42.760	14.5	71	0.000
9	T	Diethyl ether	50.000	54.465	-8.9	93	0.000
10	C	1,1-Dichloroethene	50.000	41.831	16.3#	72	0.000
11	T	Carbon Disulfide	50.000	56.532	-13.1	98	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.000	40.844	18.3	71	0.000
13	T	Acrolein	50.000	55.508	-11.0	92	0.000
14	T	Methylene Chloride	50.000	42.956	14.1	74	0.000
15	T	Acetone	50.000	41.686	16.6	73	0.000
16	T	trans-1,2-Dichloroethene	50.000	41.478	17.0	71	0.000
17	T	Methyl Tert Butyl Ether	50.000	40.936	18.1	70	0.000
18	P	1,1-Dichloroethane	50.000	42.881	14.2	74	0.000
19	T	Acrylonitrile	50.000	46.438	7.1	76	0.000
20	T	Vinyl Acetate	50.000	49.818	0.4	84	0.000
21	T	cis-1,2-Dichloroethene	50.000	42.591	14.8	76	0.000
22	T	2,2-Dichloropropane	50.000	44.790	10.4	77	-0.012
23	T	Cyclohexane	50.000	53.471	-6.9	90	0.000
24	T	Bromochloromethane	50.000	42.651	14.7	70	0.000
25	C	Chloroform	50.000	43.109	13.8#	74	0.000
26	T	Carbon Tetrachloride	50.000	41.854	16.3	70	-0.012
27	S	Dibromofluoromethane	25.000	24.610	1.6	88	-0.011
28	T	1,1,1-Trichloroethane	50.000	40.802	18.4	70	0.000
29	T	1,1-Dichloropropene	50.000	41.354	17.3	74	-0.015
30	T	2-Butanone	50.000	41.407	17.2	75	0.000
31	T	Benzene	50.000	41.568	16.9	73	-0.012
32	S	1,2-Dichloroethane-d4	25.000	23.638	5.4	86	0.000
33	T	1,2-Dichloroethane	50.000	44.301	11.4	76	0.000
34	T	Trichloroethene	50.000	38.413	23.2	67	-0.012
35	T	Dibromomethane	50.000	42.556	14.9	73	0.000
36	C	1,2-Dichloropropane	50.000	44.282	11.4#	80	0.000
37	T	Bromodichloromethane	50.000	44.055	11.9	76	0.000
38	T	1,4-Dioxane	100.000	81.070	18.9	75	0.000
39	T	2-Chloroethyl Vinyl Ether	50.000	43.928	12.1	75	0.000
40	T	cis-1,3-Dichloropropene	50.000	44.528	10.9	75	0.000
41	T	4-Methyl-2-Pentanone	50.000	40.556	18.9	70	0.000
42	T	trans-1,3-Dichloropropene	50.000	44.080	11.8	74	0.000
43	I	Chlorobenzene-d5	25.000	25.000	0.0	81	0.000
44	S	Toluene-d8	25.000	26.136	-4.5	90	0.000
45	C	Toluene	50.000	43.789	12.4#	73	0.000
46	Y	Tetrachloroethene	50.000	40.983	18.0	69	0.000
47	T	1,1,2-Trichloroethane	50.000	42.384	15.2	71	0.000
48	Y	Dibromochloromethane	50.000	43.562	12.9	70	0.000
49	T	1,3-Dichloropropane	50.000	43.424	13.2	72	0.000
50	T	1,2-Dibromoethane	50.000	43.640	12.7	72	0.000
51	Y	2-Hexanone	50.000	42.336	15.3	71	0.000
52	P	Chlorobenzene	50.000	44.297	11.4	74	0.000
53	T	1-Chlorohexane	50.000	49.234	1.5	78	0.000
54	C	Ethylbenzene	50.000	43.961	12.1#	73	0.000
55	T	1,1,1,2-Tetrachloroethane	50.000	44.090	11.8	72	0.000

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008115.D
Acq On : 10 Sep 2014 11:38
Operator : FJB
Sample : WG491745-02 50ug/L CCV 8260
Misc : 1,1 STD66320
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 12:43:27 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	m-,p-Xylene	100.000	91.039	9.0	74	0.000
57	T	o-Xylene	50.000	45.019	10.0	73	0.000
58	T	Styrene	50.000	46.687	6.6	74	0.000
59	P	Bromoform	50.000	42.023	16.0	66	0.000
60	T	Isopropylbenzene	50.000	45.027	9.9	72	0.000
61	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	77	0.000
62	T	1,3,5-Trimethylbenzene	50.000	48.288	3.4	75	0.000
63	S	p-Bromofluorobenzene	25.000	27.690	-10.8	88	0.000
64	T	Bromobenzene	50.000	45.639	8.7	72	0.000
65	T	n-Propylbenzene	50.000	49.302	1.4	75	0.000
66	P	1,1,2,2-Tetrachloroethane	50.000	47.170	5.7	75	0.000
67	T	2-Chlorotoluene	50.000	48.370	3.3	77	0.000
68	T	1,2,3-Trichloropropane	50.000	43.842	12.3	69	0.000
69	T	1,2,4-Trimethylbenzene	50.000	48.564	2.9	76	0.000
70	T	4-Chlorotoluene	50.000	48.938	2.1	77	0.000
71	T	tert-Butylbenzene	50.000	45.751	8.5	73	0.000
72	T	sec-Butylbenzene	50.000	48.586	2.8	74	0.000
73	T	p-Isopropyltoluene	50.000	48.664	2.7	74	0.000
74	T	1,3-Dichlorobenzene	50.000	47.146	5.7	73	0.000
75	T	1,4-Dichlorobenzene	50.000	45.926	8.1	74	0.000
76	T	n-Butylbenzene	50.000	52.089	-4.2	76	0.000
77	T	1,2-Dichlorobenzene	50.000	46.242	7.5	75	0.000
78	T	1,2-Dibromo-3-Chloropropane	50.000	45.174	9.7	67	0.000
79	Y	Hexachlorobutadiene	50.000	42.003	16.0	65	0.000
80	T	1,2,4-Trichlorobenzene	50.000	48.153	3.7	71	0.000
81	T	Naphthalene	50.000	44.734	10.5	63	0.000
82	T	1,2,3-Trichlorobenzene	50.000	46.330	7.3	67	0.000

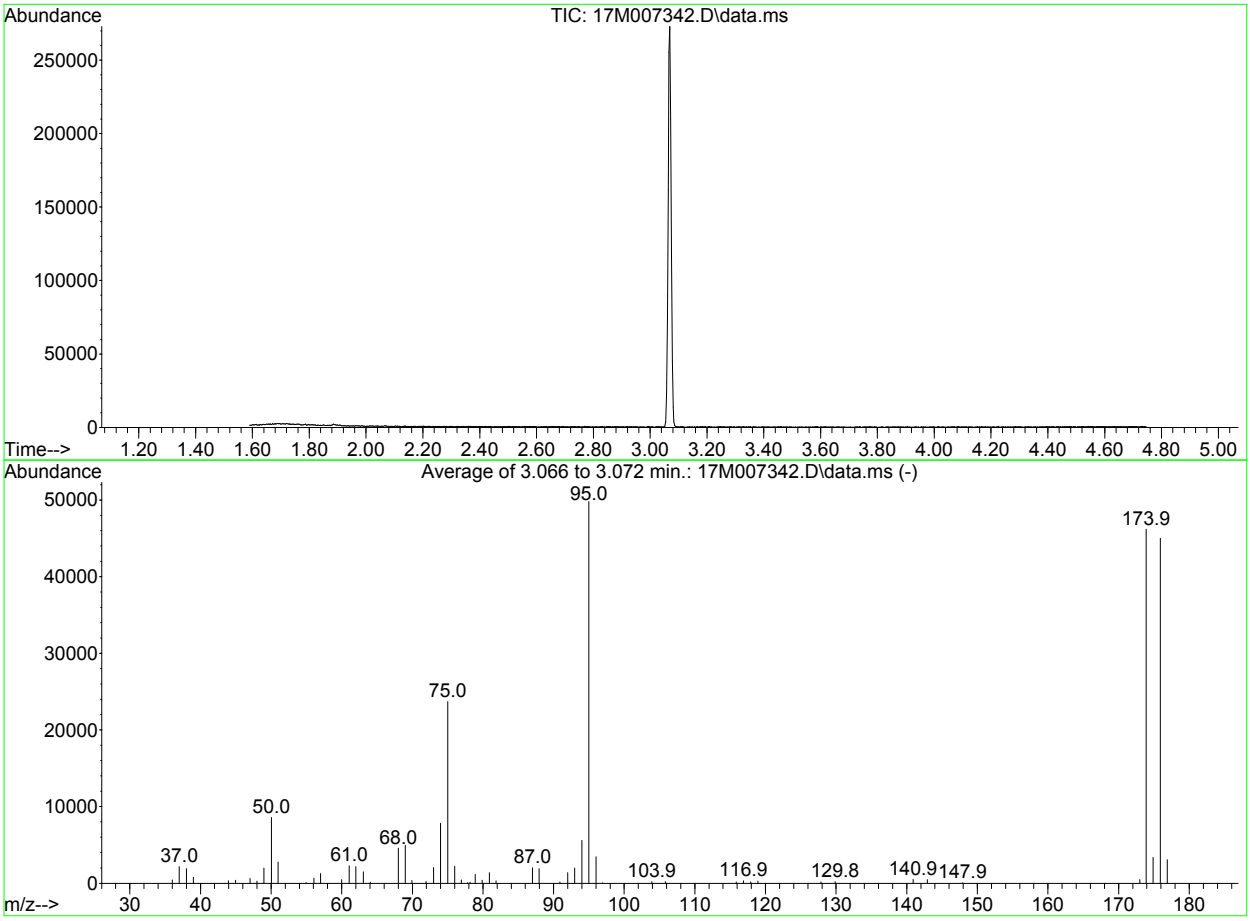
(#) = Out of Range SPCC's out = 0 CCC's out = 6

2.1.1.5 Raw QC Data

Data Path : D:\MassHunter\GCMS\1\data\081214\
Data File : 17M007342.D
Acq On : 12 Aug 2014 14:16
Operator : ADC
Sample : WG487972-01 50ng BFB 8260
Misc : 1,1 STD65934
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
Last Update : Wed Aug 13 09:32:02 2014



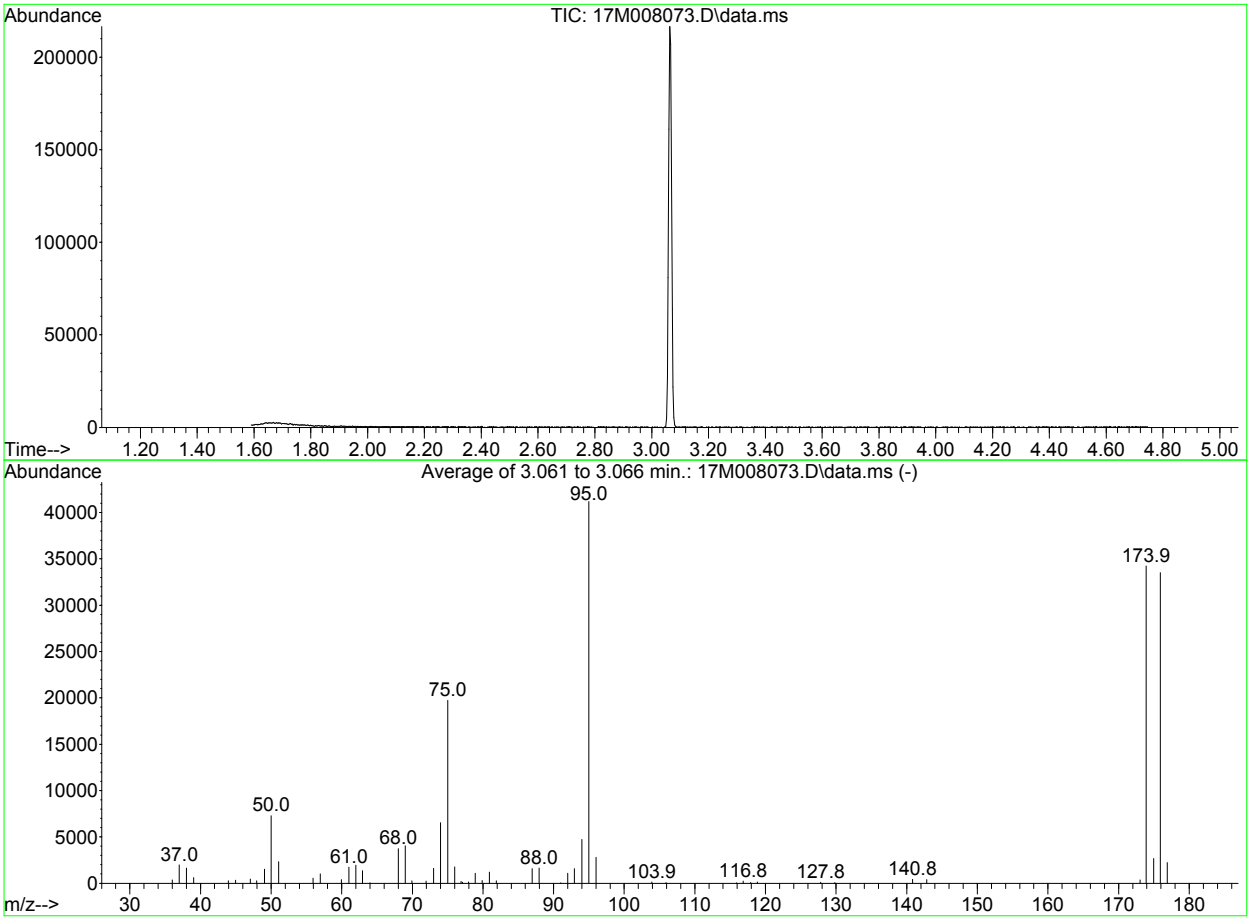
AutoFind: Scans 511, 512, 513; Background Corrected with Scan 502

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	8576	PASS
75	95	30	60	47.6	23704	PASS
95	95	100	100	100.0	49819	PASS
96	95	5	9	6.9	3435	PASS
173	174	0.00	2	1.0	482	PASS
174	95	50	100	92.7	46200	PASS
175	174	5	9	7.3	3392	PASS
176	174	95	101	97.4	45013	PASS
177	176	5	9	6.9	3088	PASS

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008073.D
Acq On : 09 Sep 2014 13:18
Operator : adc
Sample : WG491620-01 50ng BFB STD
Misc : 1,1 STD66239
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
Last Update : Fri Aug 15 15:53:53 2014



AutoFind: Scans 509, 510, 511; Background Corrected with Scan 500

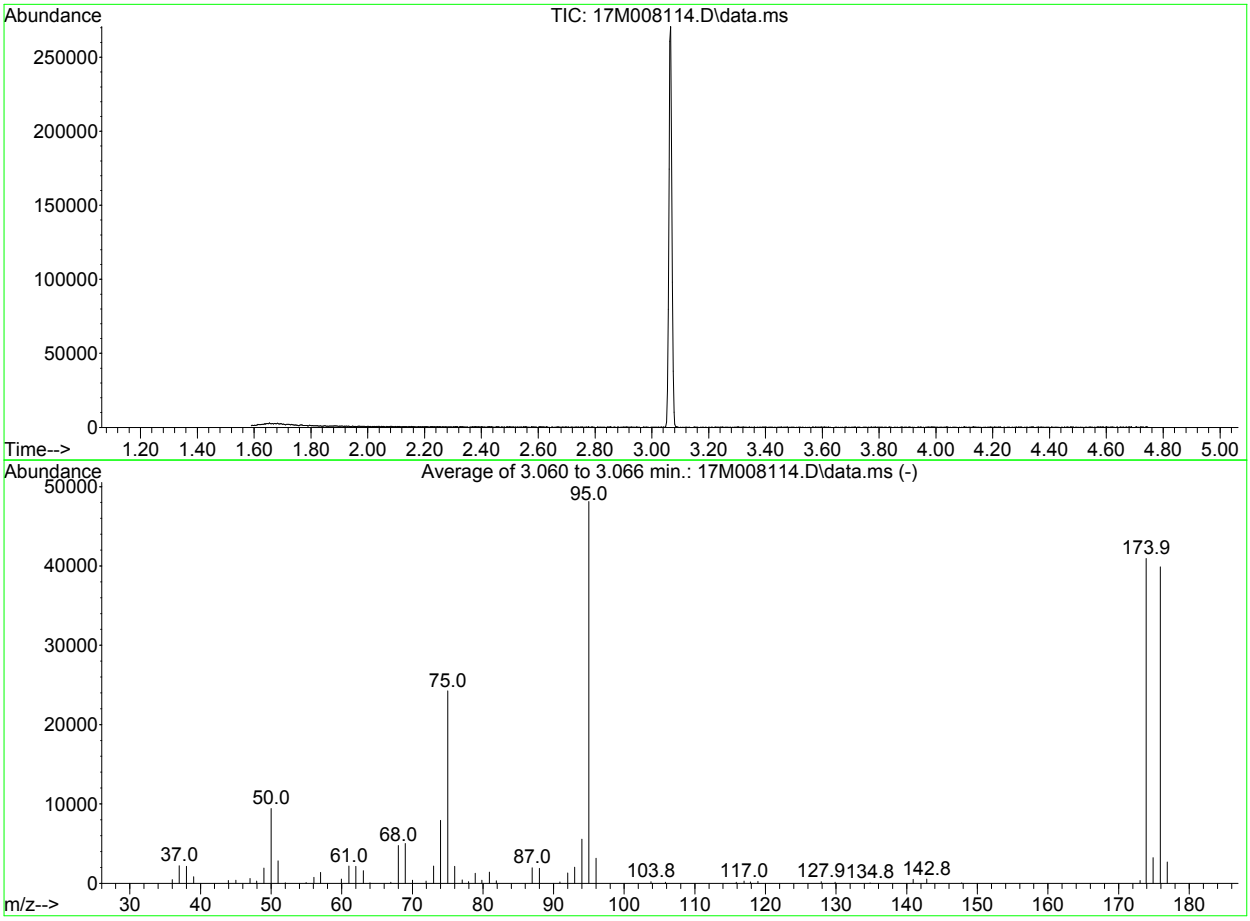
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	7293	PASS
75	95	30	60	47.9	19728	PASS
95	95	100	100	100.0	41205	PASS
96	95	5	9	6.8	2788	PASS
173	174	0.00	2	1.1	360	PASS
174	95	50	100	83.1	34221	PASS
175	174	5	9	7.8	2682	PASS
176	174	95	101	98.0	33531	PASS
177	176	5	9	6.6	2226	PASS

8260VMS.M Wed Sep 10 09:33:18 2014 Page: 1

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008114.D
Acq On : 10 Sep 2014 11:20
Operator : FJB
Sample : WG491745-01 BFB 50ng STD
Misc : 1,1 STD66239
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
Last Update : Fri Aug 15 15:53:53 2014



AutoFind: Scans 509, 510, 511; Background Corrected with Scan 500

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	9411	PASS
75	95	30	60	50.4	24261	PASS
95	95	100	100	100.0	48139	PASS
96	95	5	9	6.6	3157	PASS
173	174	0.00	2	0.9	363	PASS
174	95	50	100	85.0	40936	PASS
175	174	5	9	7.9	3217	PASS
176	174	95	101	97.5	39904	PASS
177	176	5	9	6.7	2690	PASS

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008102.D
Acq On : 09 Sep 2014 22:49
Operator : adc
Sample : WG491672-01 VBLK 0909 8260
Misc : 1,1
ALS Vial : 29 Sample Multiplier: 1

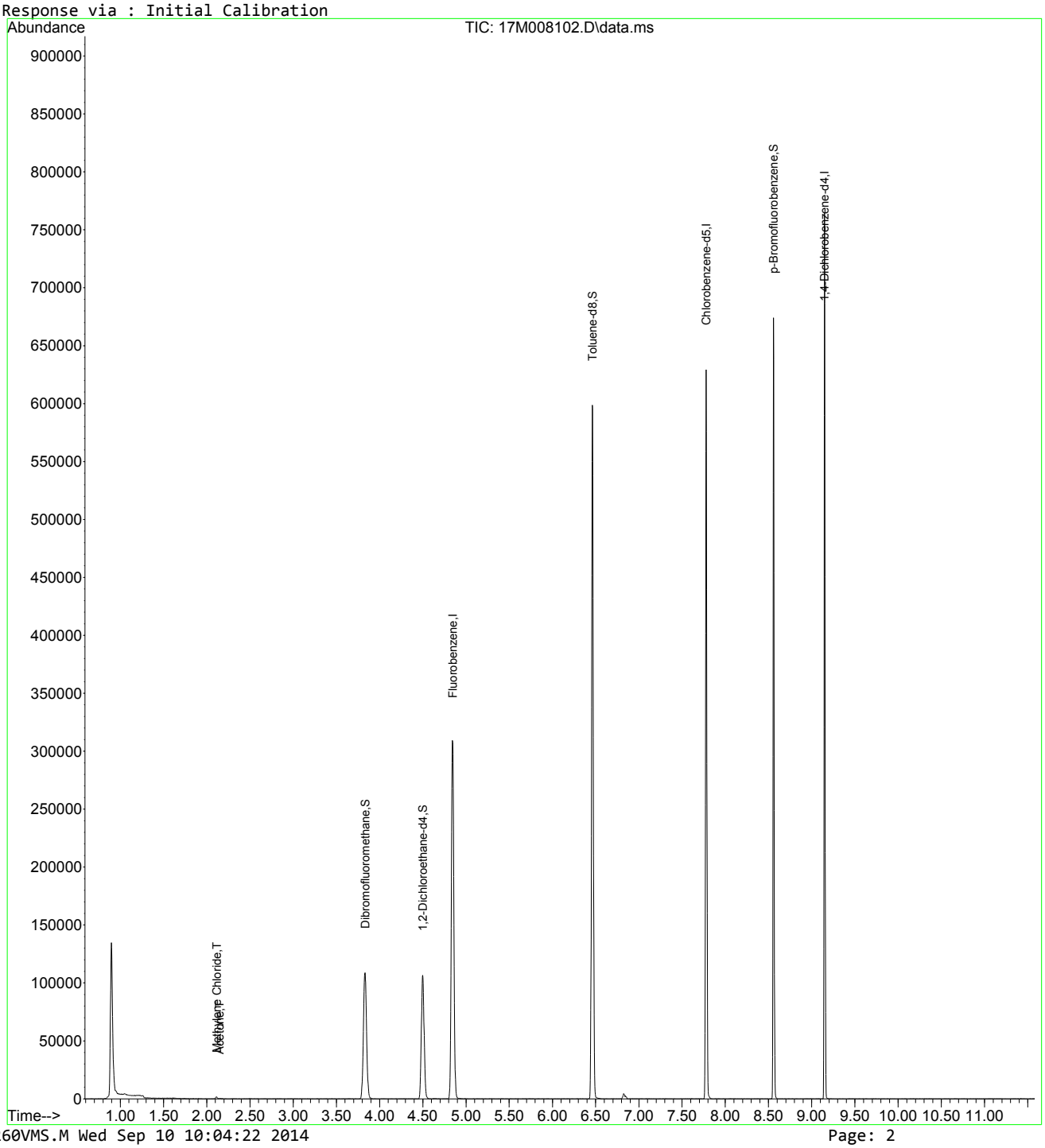
Quant Time: Sep 10 10:04:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.846	96	294980	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	214811	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.148	152	97050	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.832	111	87801	22.6687	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 90.675%			
32) 1,2-Dichloroethane-d4	4.498	65	89216	23.1288	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.515%			
44) Toluene-d8	6.461	98	332638	24.8621	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.448%			
63) p-Bromofluorobenzene	8.558	95	111422	27.3451	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 109.380%			
Target Compounds						Qvalue
14) Methylene Chloride	2.115	84	651	0.1833	ug/L #	78
15) Acetone	2.147	43	485	0.7367	ug/L #	43

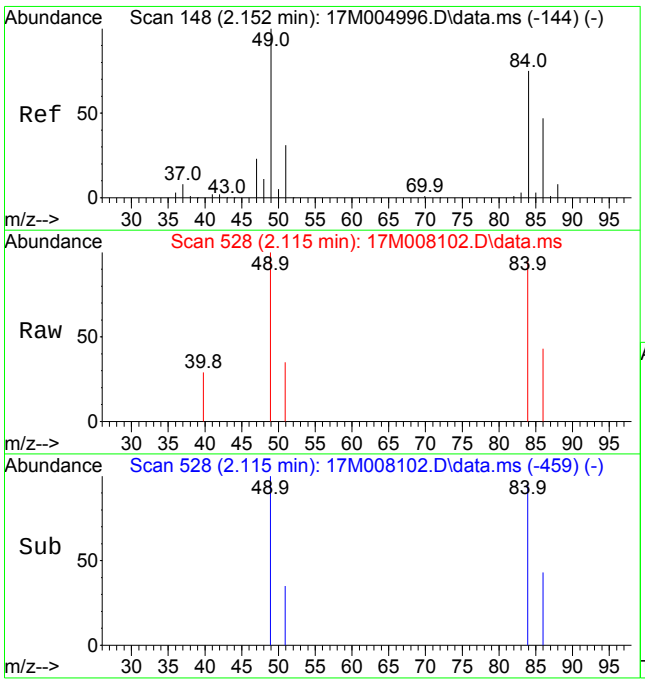
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008102.D
Acq On : 09 Sep 2014 22:49
Operator : adc
Sample : WG491672-01 VBLK 0909 8260
Misc : 1,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 10 10:04:21 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



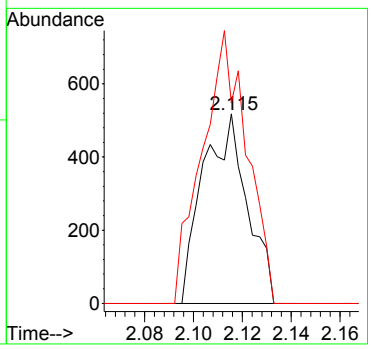
8260VMS.M Wed Sep 10 10:04:22 2014 Page: 2

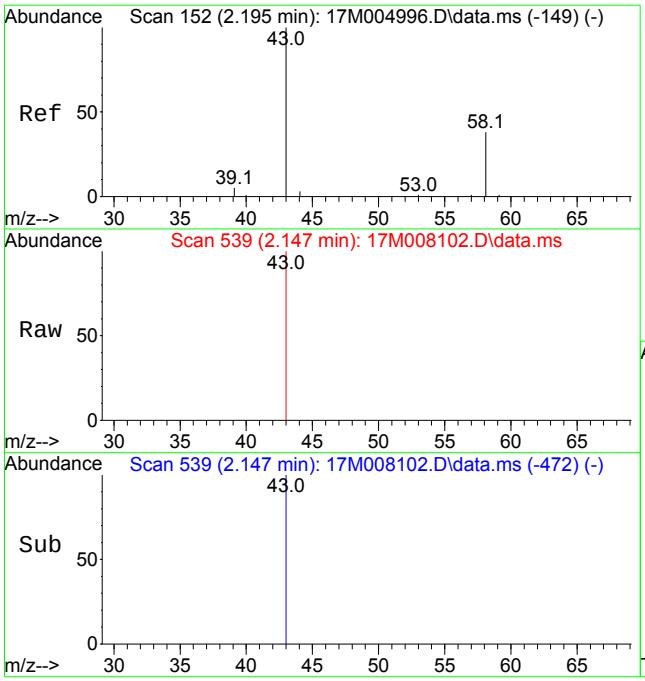


#14
Methylene Chloride
Concen: 0.1833 ug/L
RT: 2.115 min Scan# 528
Delta R.T. -0.001 min
Lab File: 17M008102.D
Acq: 09 Sep 2014 22:49

Tgt Ion: 84 Resp: 651

Ion	Ratio	Lower	Upper
84	100		
49	146.1	97.1	145.7#

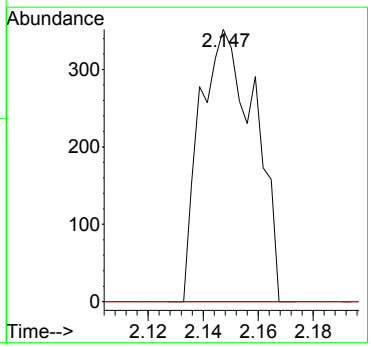




#15
Acetone
Concen: 0.7367 ug/L
RT: 2.147 min Scan# 539
Delta R.T. -0.006 min
Lab File: 17M008102.D
Acq: 09 Sep 2014 22:49

Tgt Ion: 43 Resp: 485

Ion	Ratio	Lower	Upper
43	100		
58	0.0	18.7	43.7#



Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008117.D
Acq On : 10 Sep 2014 12:23
Operator : FJB
Sample : WG491746-01 VBLK0910 BLANK 8260
Misc : 1,1
ALS Vial : 3 Sample Multiplier: 1

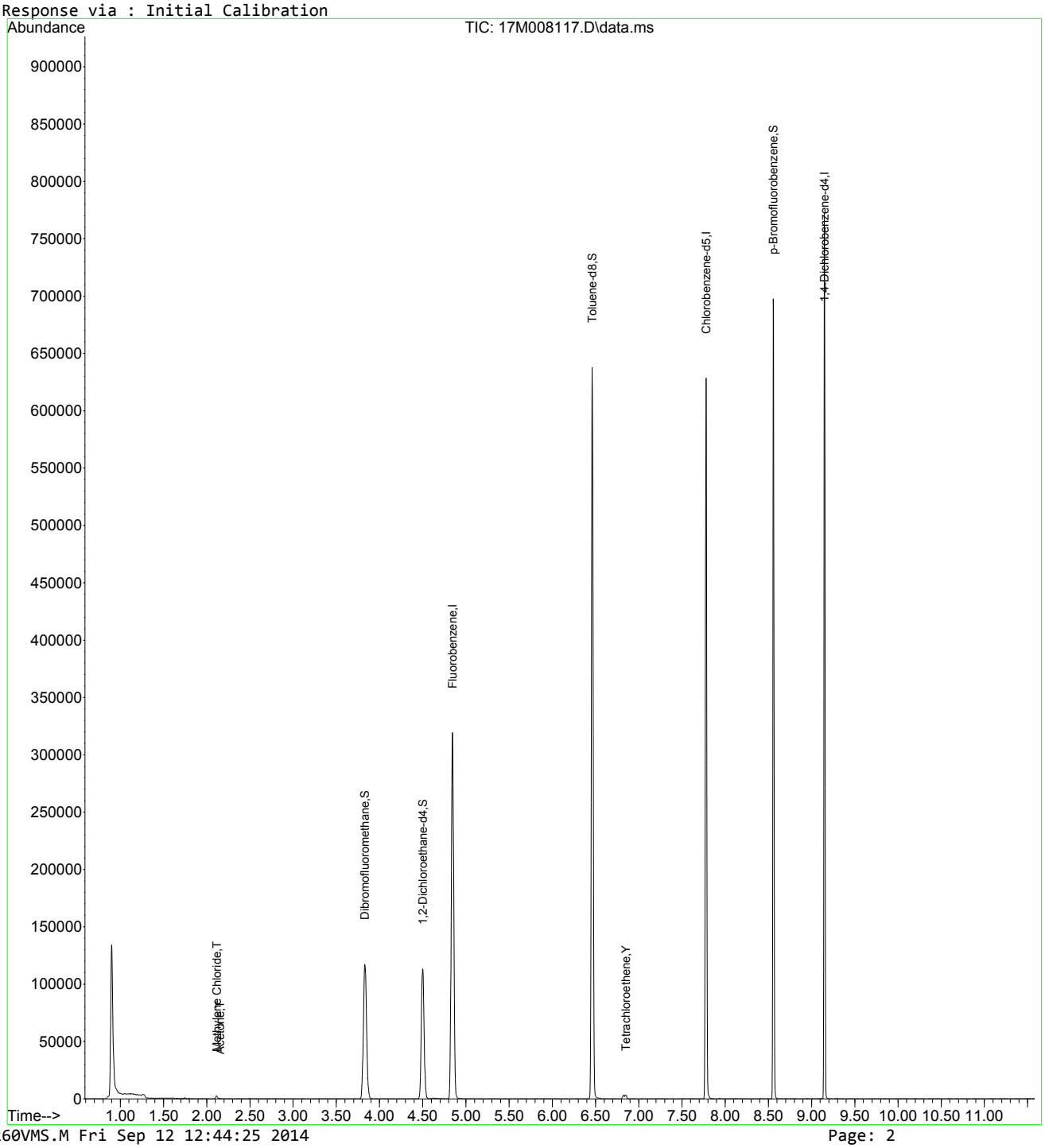
Quant Time: Sep 12 12:44:24 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

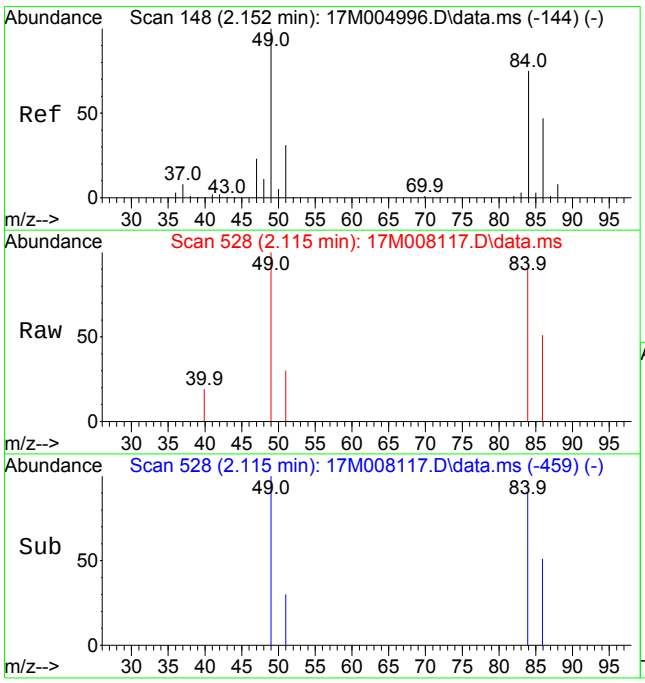
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.846	96	305533	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	222048	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.151	152	101153	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.829	111	94962	23.6707	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.683%			
32) 1,2-Dichloroethane-d4	4.498	65	95840	23.9878	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.951%			
44) Toluene-d8	6.461	98	352452	25.4844	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.938%			
63) p-Bromofluorobenzene	8.558	95	119787	28.2055	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.822%			
Target Compounds						Qvalue
14) Methylene Chloride	2.115	84	1029	0.2797	ug/L	93
15) Acetone	2.153	43	372	0.5455	ug/L #	43
46) Tetrachloroethene	6.852	166	777	0.1878	ug/L #	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008117.D
Acq On : 10 Sep 2014 12:23
Operator : FJB
Sample : WG491746-01 VBLK0910 BLANK 8260
Misc : 1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 12:44:24 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

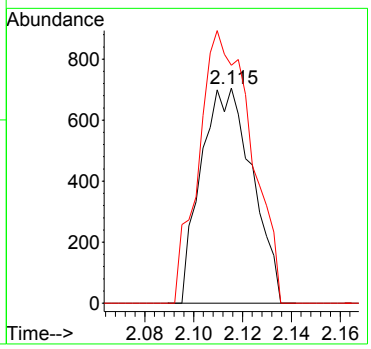


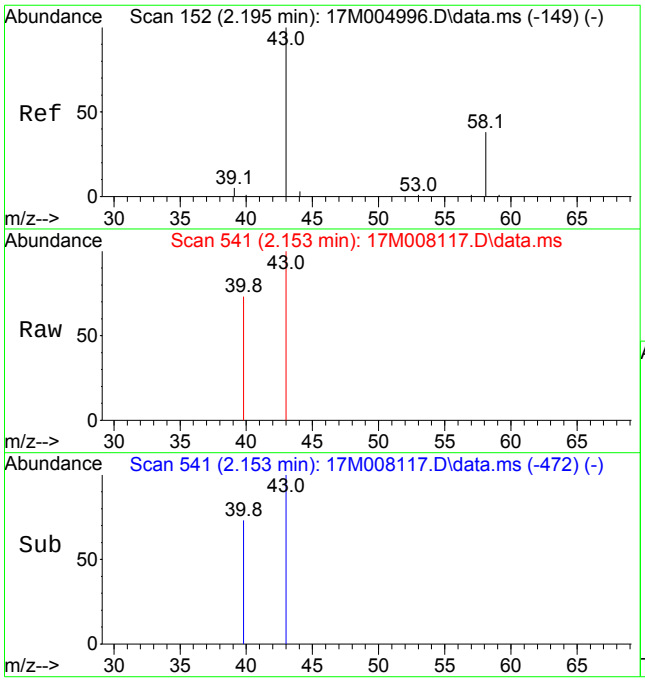


#14
Methylene Chloride
Concen: 0.2797 ug/L
RT: 2.115 min Scan# 528
Delta R.T. -0.001 min
Lab File: 17M008117.D
Acq: 10 Sep 2014 12:23

Tgt Ion: 84 Resp: 1029

Ion	Ratio	Lower	Upper
84	100		
49	129.5	97.1	145.7

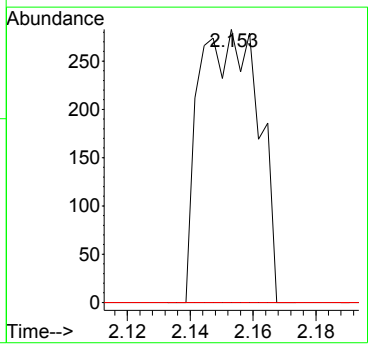


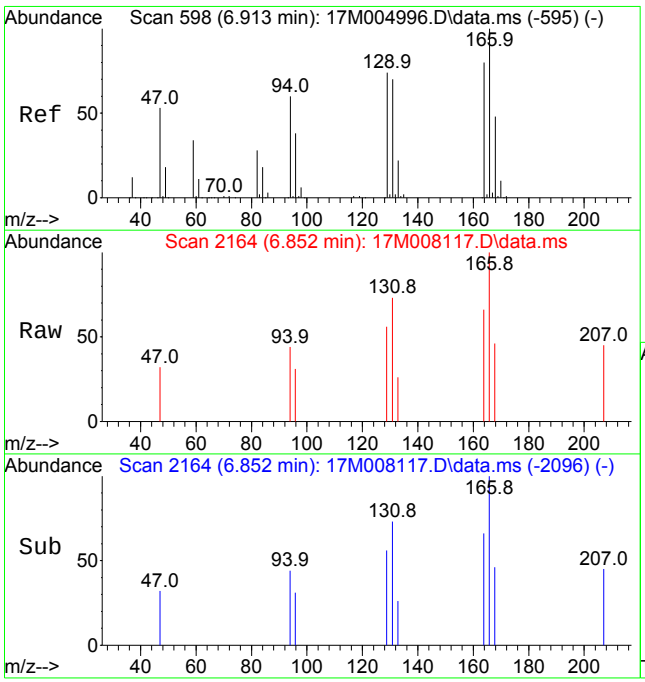


#15
Acetone
Concen: 0.5455 ug/L
RT: 2.153 min Scan# 541
Delta R.T. 0.000 min
Lab File: 17M008117.D
Acq: 10 Sep 2014 12:23

Tgt Ion: 43 Resp: 372

Ion	Ratio	Lower	Upper
43	100		
58	0.0	18.7	43.7#

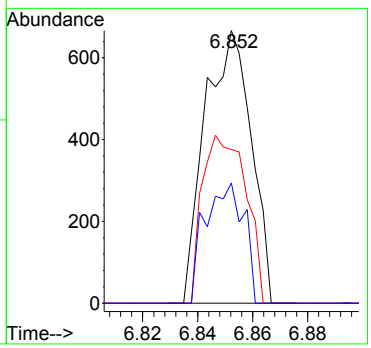




#46
Tetrachloroethene
Concen: 0.1878 ug/L
RT: 6.852 min Scan# 2164
Delta R.T. -0.003 min
Lab File: 17M008117.D
Acq: 10 Sep 2014 12:23

Tgt Ion:166 Resp: 777

Ion	Ratio	Lower	Upper
166	100		
129	58.3	59.0	88.4#
94	36.8	31.3	46.9



Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008103.D
Acq On : 09 Sep 2014 23:09
Operator : adc
Sample : WG491672-02 20ug/L LCS 8260
Misc : 1,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Sep 09 23:21:04 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.843	96	287489	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	214123	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.148	152	105019	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.830	111	89613	23.7394	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.958%			
32) 1,2-Dichloroethane-d4	4.495	65	88843	23.6322	ug/L	-0.0115
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.529%			
44) Toluene-d8	6.461	98	335257	25.1383	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.553%			
63) p-Bromofluorobenzene	8.558	95	116517	26.4256	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.702%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.972	85	69033	25.6669	ug/L	99
3) Chloromethane	1.079	50	70785	20.6253	ug/L	99
4) Vinyl Chloride	1.117	62	73047	19.9668	ug/L	100
5) 1,3-Butadiene	1.125	54	56026	22.6172	ug/L	100
6) Bromomethane	1.285	94	29391	14.4498	ug/L	100
7) Chloroethane	1.345	64	42186	20.5951	ug/L	91
8) Trichlorofluoromethane	1.415	101	94300	19.9324	ug/L	98
9) Diethyl ether	1.615	59	235858	116.5020	ug/L	99
10) 1,1-Dichloroethene	1.719	61	86825	17.7014	ug/L	99
11) Carbon Disulfide	1.733	76	112630	13.4337	ug/L	98
12) 1,1,2-Trichloro-1,2,2-...	1.745	101	57739	18.8445	ug/L	95
13) Acrolein	1.945	56	31622	107.1576	ug/L	98
14) Methylene Chloride	2.107	84	63232	18.2646	ug/L	94
15) Acetone	2.153	43	14833	23.1169	ug/L	96
16) trans-1,2-Dichloroethene	2.223	96	59351	18.4110	ug/L	97
17) Methyl Tert Butyl Ether	2.318	73	162721	19.1641	ug/L	100
18) 1,1-Dichloroethane	2.726	63	111561	18.1010	ug/L	100
19) Acrylonitrile	2.773	53	4338	5.6277	ug/L	99
20) Vinyl Acetate	2.987	86	5000	16.4455	ug/L	89
21) cis-1,2-Dichloroethene	3.265	96	67072	18.5185	ug/L	98
22) 2,2-Dichloropropane	3.375	77	73659	14.7358	ug/L	95
23) Cyclohexane	3.471	56	106072	21.2294	ug/L #	75
24) Bromochloromethane	3.482	130	41537	18.2561	ug/L	99
25) Chloroform	3.604	83	112445	18.5569	ug/L	99
26) Carbon Tetrachloride	3.734	117	89815	18.5825	ug/L	99
28) 1,1,1-Trichloroethane	3.821	97	100914	18.4523	ug/L	99
29) 1,1-Dichloropropene	3.995	75	83465	18.3310	ug/L	99
30) 2-Butanone	4.003	43	20434	19.6518	ug/L	98
31) Benzene	4.319	78	250421	18.4081	ug/L	98
33) 1,2-Dichloroethane	4.577	62	79753	19.6550	ug/L	99
34) Trichloroethene	5.037	130	71758	18.2484	ug/L	94
35) Dibromomethane	5.474	93	36634	18.5558	ug/L	100
36) 1,2-Dichloropropane	5.578	63	70590	18.9897	ug/L	98
37) Bromodichloromethane	5.680	83	85365	18.4523	ug/L	100
38) 1,4-Dioxane	5.888	88	4566	187.5788	ug/L	98
39) 2-Chloroethyl Vinyl Ether	6.276	63	32935	17.7620	ug/L	100
40) cis-1,3-Dichloropropene	6.296	75	102049	18.4717	ug/L	99
41) 4-Methyl-2-Pentanone	6.884	58	17662	18.9109	ug/L	95
42) trans-1,3-Dichloropropene	6.910	75	82274	17.0919	ug/L	99
45) Toluene	6.508	91	278417	19.0817	ug/L	99
46) Tetrachloroethene	6.846	166	70441	17.6590	ug/L	97
47) 1,1,2-Trichloroethane	7.040	97	50391	18.7505	ug/L	99
48) Dibromochloromethane	7.185	129	66315	18.7328	ug/L	99
49) 1,3-Dichloropropane	7.266	76	85495	19.2387	ug/L	98

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008103.D
Acq On : 09 Sep 2014 23:09
Operator : adc
Sample : WG491672-02 20ug/L LCS 8260
Misc : 1,1
ALS Vial : 30 Sample Multiplier: 1

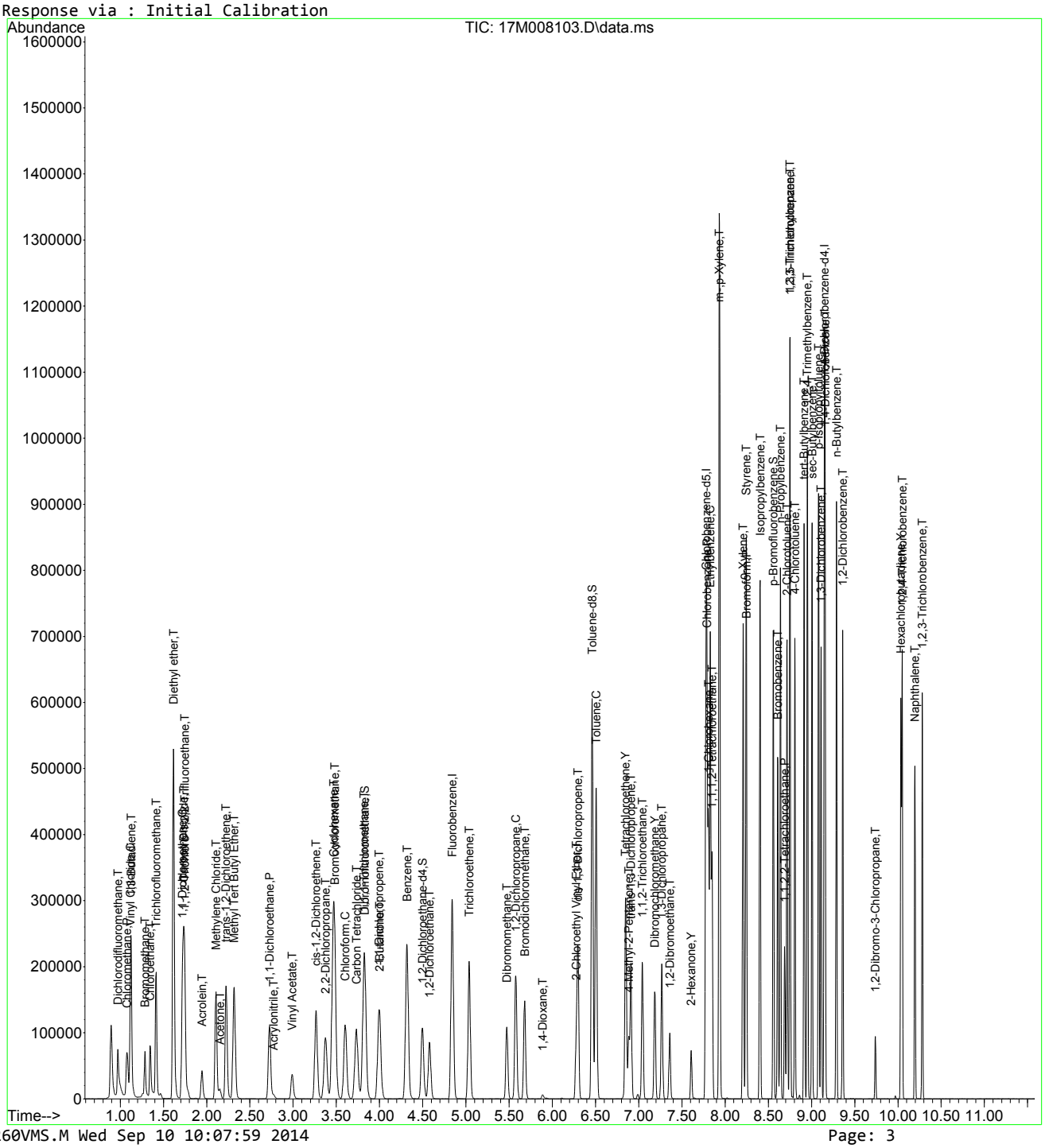
Quant Time: Sep 09 23:21:04 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.359	107	50053	18.8476	ug/L	99
51) 2-Hexanone	7.608	43	32230	19.3873	ug/L	97
52) Chlorobenzene	7.790	112	168369	17.7752	ug/L	98
53) 1-Chlorohexane	7.808	69	15886	18.6865	ug/L	83
54) Ethylbenzene	7.828	106	97337	19.0457	ug/L	100
55) 1,1,1,2-Tetrachloroethane	7.848	131	65975	18.5336	ug/L	99
56) m-,p-Xylene	7.932	106	227187	37.2718	ug/L	98
57) o-Xylene	8.207	106	107995	17.9454	ug/L	98
58) Styrene	8.242	104	185933	19.4211	ug/L	98
59) Bromoform	8.248	173	46763	18.6976	ug/L	99
60) Isopropylbenzene	8.404	105	282810	18.2956	ug/L	100
62) 1,3,5-Trimethylbenzene	8.752	105	265723	20.5865	ug/L	99
64) Bromobenzene	8.610	156	78111	18.9821	ug/L	96
65) n-Propylbenzene	8.639	91	327314	18.9342	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.688	83	58164	19.0466	ug/L	100
67) 2-Chlorotoluene	8.717	91	197690	19.1153	ug/L	99
68) 1,2,3-Trichloropropane	8.749	110	16467	19.7282	ug/L	92
69) 1,2,4-Trimethylbenzene	8.951	105	263269	20.4416	ug/L	100
70) 4-Chlorotoluene	8.807	91	196514	18.5220	ug/L	99
71) tert-Butylbenzene	8.914	134	44919	18.3835	ug/L	99
72) sec-Butylbenzene	9.006	105	305380	19.0584	ug/L	99
73) p-Isopropyltoluene	9.082	119	254134	18.7940	ug/L	99
74) 1,3-Dichlorobenzene	9.111	146	133942	18.0425	ug/L	99
75) 1,4-Dichlorobenzene	9.157	146	145103	18.8621	ug/L	100
76) n-Butylbenzene	9.287	91	242098	20.7715	ug/L	98
77) 1,2-Dichlorobenzene	9.360	146	132340	18.2840	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.739	75	11412	20.7229	ug/L	94
79) Hexachlorobutadiene	10.034	225	56037	17.5391	ug/L	100
80) 1,2,4-Trichlorobenzene	10.049	180	100026	19.4437	ug/L	99
81) Naphthalene	10.196	128	177005	19.1243	ug/L	99
82) 1,2,3-Trichlorobenzene	10.280	180	91095	19.4960	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008103.D
Acq On : 09 Sep 2014 23:09
Operator : adc
Sample : WG491672-02 20ug/L LCS 8260
Misc : 1,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Sep 09 23:21:04 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008118.D
Acq On : 10 Sep 2014 12:43
Operator : FJB
Sample : WG491746-02 20ug/L LCS 8260
Misc : 1,1 STD66321
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 12:43:33 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.840	96	302992	25.00000	ug/L	-0.0121
43) Chlorobenzene-d5	7.779	117	223093	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.151	152	107069	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.827	111	95093	23.9021	ug/L	-0.0115
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.608%			
32) 1,2-Dichloroethane-d4	4.498	65	93596	23.6226	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.490%			
44) Toluene-d8	6.461	98	350642	25.2348	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.939%			
63) p-Bromofluorobenzene	8.557	95	120571	26.8215	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 107.286%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.972	85	71013	25.0522	ug/L	99
3) Chloromethane	1.079	50	74490	20.5943	ug/L	100
4) Vinyl Chloride	1.116	62	77427	20.0811	ug/L	100
5) 1,3-Butadiene	1.125	54	57508	22.0276	ug/L	99
6) Bromomethane	1.284	94	30816	14.3788	ug/L	100
7) Chloroethane	1.345	64	42064	19.4848	ug/L	91
8) Trichlorofluoromethane	1.415	101	94885	19.0299	ug/L	99
9) Diethyl ether	1.614	59	251629	117.9325	ug/L	99
10) 1,1-Dichloroethene	1.719	61	90933	17.5904	ug/L	100
11) Carbon Disulfide	1.733	76	122351	13.8464	ug/L	98
12) 1,1,2-Trichloro-1,2,2-...	1.745	101	60370	18.6950	ug/L	95
13) Acrolein	1.945	56	38774	124.6707	ug/L	98
14) Methylene Chloride	2.110	84	67036	18.3727	ug/L	95
15) Acetone	2.153	43	14956	22.1160	ug/L	95
16) trans-1,2-Dichloroethene	2.222	96	62218	18.3128	ug/L	97
17) Methyl Tert Butyl Ether	2.315	73	178735	19.9730	ug/L	100
18) 1,1-Dichloroethane	2.726	63	117717	18.1226	ug/L	100
19) Acrylonitrile	2.778	53	4929	6.0672	ug/L	98
20) Vinyl Acetate	2.990	86	9081	28.3400	ug/L	85
21) cis-1,2-Dichloroethene	3.265	96	70315	18.4205	ug/L	98
22) 2,2-Dichloropropane	3.375	77	97249	18.4597	ug/L	97
23) Cyclohexane	3.470	56	111698	21.2115	ug/L #	76
24) Bromochloromethane	3.482	130	44170	18.4200	ug/L	100
25) Chloroform	3.604	83	117566	18.4093	ug/L	99
26) Carbon Tetrachloride	3.737	117	93316	18.3190	ug/L	98
28) 1,1,1-Trichloroethane	3.821	97	104171	18.0732	ug/L	98
29) 1,1-Dichloropropene	3.997	75	87374	18.2077	ug/L	99
30) 2-Butanone	4.009	43	22073	20.1419	ug/L	98
31) Benzene	4.316	78	262516	18.3099	ug/L	99
33) 1,2-Dichloroethane	4.576	62	83254	19.4680	ug/L	99
34) Trichloroethene	5.037	130	70475	17.0051	ug/L	95
35) Dibromomethane	5.474	93	38641	18.5710	ug/L	100
36) 1,2-Dichloropropane	5.578	63	73918	18.8675	ug/L	99
37) Bromodichloromethane	5.677	83	89952	18.4489	ug/L	100
38) 1,4-Dioxane	5.891	88	4022	156.7762	ug/L	99
39) 2-Chloroethyl Vinyl Ether	6.276	63	37601	19.2408	ug/L	99
40) cis-1,3-Dichloropropene	6.296	75	111362	19.1260	ug/L	99
41) 4-Methyl-2-Pentanone	6.884	58	19134	19.4387	ug/L	97
42) trans-1,3-Dichloropropene	6.910	75	91176	17.9721	ug/L	99
45) Toluene	6.508	91	292707	19.2545	ug/L	99
46) Tetrachloroethene	6.849	166	73983	17.8012	ug/L	98
47) 1,1,2-Trichloroethane	7.043	97	53300	19.0355	ug/L	100
48) Dibromochloromethane	7.185	129	70094	19.0042	ug/L	99
49) 1,3-Dichloropropane	7.266	76	89526	19.3358	ug/L	97

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008118.D
Acq On : 10 Sep 2014 12:43
Operator : FJB
Sample : WG491746-02 20ug/L LCS 8260
Misc : 1,1 STD66321
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 12:43:33 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

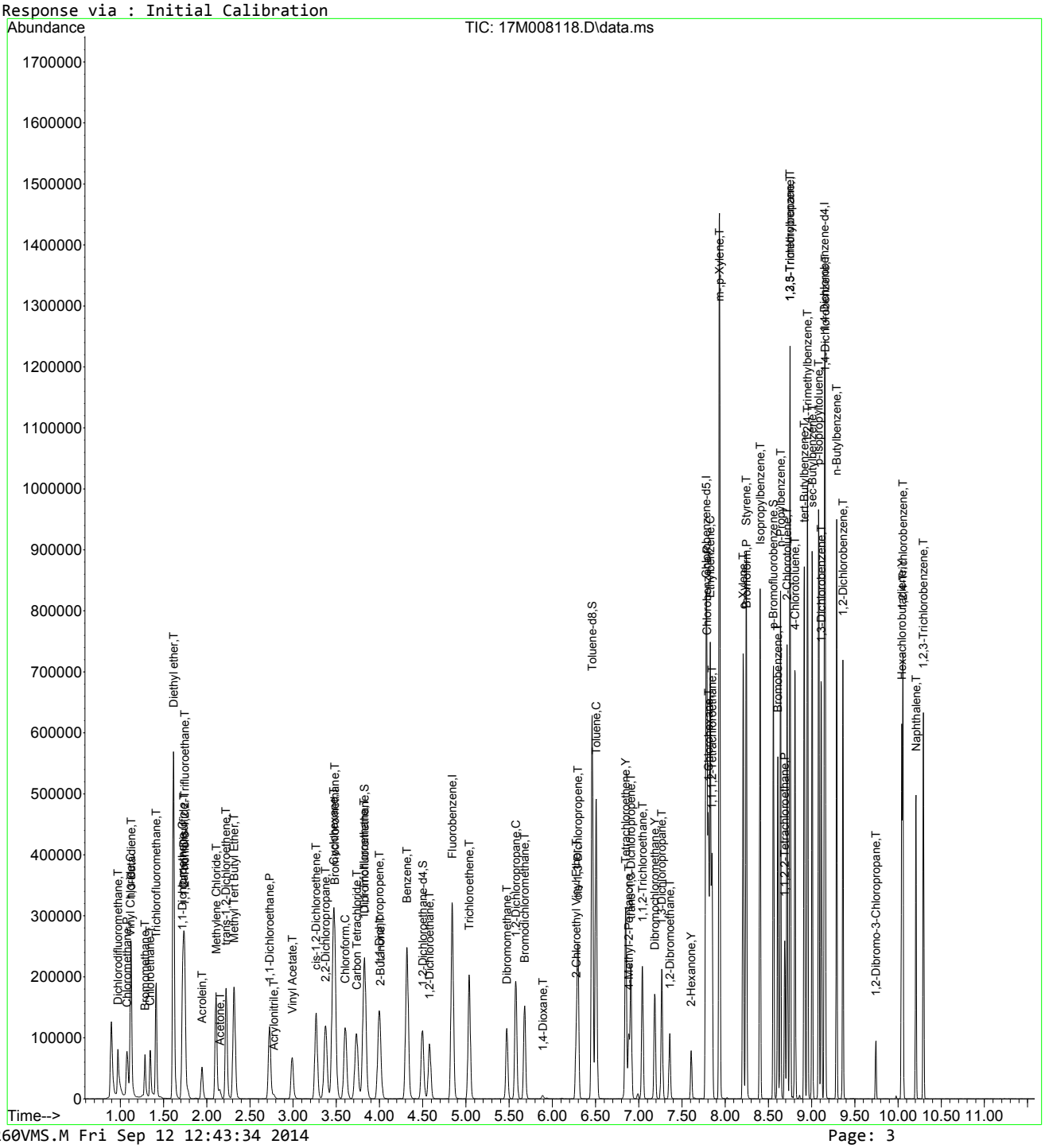
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.359	107	53339	19.2774	ug/L	99
51) 2-Hexanone	7.608	43	35382	20.4276	ug/L	97
52) Chlorobenzene	7.790	112	175992	17.8329	ug/L	98
53) 1-Chlorohexane	7.808	69	17251	19.4762	ug/L	94
54) Ethylbenzene	7.828	106	101085	18.9838	ug/L	99
55) 1,1,1,2-Tetrachloroethane	7.848	131	69038	18.6143	ug/L	98
56) m-,p-Xylene	7.935	106	237509	37.3985	ug/L	98
57) o-Xylene	8.207	106	113213	18.0561	ug/L	98
58) Styrene	8.242	104	195310	19.5803	ug/L	99
59) Bromoform	8.248	173	49515	19.0019	ug/L	99
60) Isopropylbenzene	8.404	105	295699	18.3602	ug/L	99
62) 1,3,5-Trimethylbenzene	8.751	105	278417	21.1570	ug/L	99
64) Bromobenzene	8.610	156	82623	19.6942	ug/L	98
65) n-Propylbenzene	8.641	91	341678	19.3866	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.691	83	67030	21.5296	ug/L	99
67) 2-Chlorotoluene	8.717	91	205170	19.4587	ug/L	99
68) 1,2,3-Trichloropropane	8.751	110	17580	20.6583	ug/L	97
69) 1,2,4-Trimethylbenzene	8.954	105	276187	21.0341	ug/L	99
70) 4-Chlorotoluene	8.809	91	204742	18.9280	ug/L	100
71) tert-Butylbenzene	8.917	134	46493	18.6633	ug/L	98
72) sec-Butylbenzene	9.006	105	316230	19.3577	ug/L	99
73) p-Isopropyltoluene	9.082	119	265533	19.2610	ug/L	99
74) 1,3-Dichlorobenzene	9.113	146	140349	18.5436	ug/L	98
75) 1,4-Dichlorobenzene	9.157	146	151436	19.3084	ug/L	100
76) n-Butylbenzene	9.290	91	254675	21.4322	ug/L	98
77) 1,2-Dichlorobenzene	9.362	146	139053	18.8436	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.745	75	11838	21.0849	ug/L	95
79) Hexachlorobutadiene	10.043	225	58341	17.9106	ug/L	100
80) 1,2,4-Trichlorobenzene	10.057	180	104407	19.9068	ug/L	100
81) Naphthalene	10.208	128	182250	19.3140	ug/L	99
82) 1,2,3-Trichlorobenzene	10.295	180	95139	19.9716	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008118.D
Acq On : 10 Sep 2014 12:43
Operator : FJB
Sample : WG491746-02 20ug/L LCS 8260
Misc : 1,1 STD66321
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 12:43:33 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



8260VMS.M Fri Sep 12 12:43:34 2014 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008104.D
Acq On : 09 Sep 2014 23:29
Operator : adc
Sample : WG491672-03 20ug/L LCSDUP 8260
Misc : 1,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Sep 09 23:40:43 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.843	96	281385	25.00000	ug/L	0.0000
43) Chlorobenzene-d5	7.779	117	206696	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.148	152	100352	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.827	111	89300	24.1696	ug/L	-0.0115
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.678%			
32) 1,2-Dichloroethane-d4	4.495	65	89201	24.2421	ug/L	-0.0116
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.968%			
44) Toluene-d8	6.461	98	333664	25.9179	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.672%			
63) p-Bromofluorobenzene	8.558	95	115948	27.5195	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.078%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.972	85	67607	25.6820	ug/L	99
3) Chloromethane	1.079	50	71497	21.2846	ug/L	100
4) Vinyl Chloride	1.117	62	72767	20.3217	ug/L	99
5) 1,3-Butadiene	1.125	54	55978	23.0880	ug/L	100
6) Bromomethane	1.284	94	32654	16.3062	ug/L	99
7) Chloroethane	1.345	64	40789	20.3450	ug/L	91
8) Trichlorofluoromethane	1.415	101	89628	19.3559	ug/L	98
9) Diethyl ether	1.615	59	234145	118.1648	ug/L	99
10) 1,1-Dichloroethene	1.719	61	84641	17.6305	ug/L	99
11) Carbon Disulfide	1.733	76	110673	13.4866	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.742	101	55822	18.6140	ug/L	95
13) Acrolein	1.945	56	31601	109.4094	ug/L	100
14) Methylene Chloride	2.107	84	62811	18.5366	ug/L	94
15) Acetone	2.153	43	15270	24.3142	ug/L	96
16) trans-1,2-Dichloroethene	2.225	96	59150	18.7467	ug/L	98
17) Methyl Tert Butyl Ether	2.318	73	164299	19.7696	ug/L	100
18) 1,1-Dichloroethane	2.726	63	110457	18.3107	ug/L	100
19) Acrylonitrile	2.773	53	4557	6.0400	ug/L	97
20) Vinyl Acetate	2.990	86	5223	17.5516	ug/L	94
21) cis-1,2-Dichloroethene	3.268	96	66143	18.6581	ug/L	97
22) 2,2-Dichloropropane	3.375	77	72278	14.7732	ug/L	95
23) Cyclohexane	3.473	56	103350	21.1333	ug/L #	75
24) Bromochloromethane	3.485	130	41739	18.7428	ug/L	100
25) Chloroform	3.606	83	111022	18.7195	ug/L	99
26) Carbon Tetrachloride	3.734	117	87445	18.4847	ug/L	99
28) 1,1,1-Trichloroethane	3.821	97	97940	18.2970	ug/L	98
29) 1,1-Dichloropropene	3.994	75	81624	18.3156	ug/L	99
30) 2-Butanone	4.003	43	20862	20.4986	ug/L	96
31) Benzene	4.316	78	247006	18.5510	ug/L	99
33) 1,2-Dichloroethane	4.576	62	79157	19.9313	ug/L	99
34) Trichloroethene	5.037	130	70748	18.3818	ug/L	94
35) Dibromomethane	5.471	93	36856	19.0733	ug/L	100
36) 1,2-Dichloropropane	5.578	63	69774	19.1774	ug/L	99
37) Bromodichloromethane	5.680	83	83961	18.5425	ug/L	100
38) 1,4-Dioxane	5.888	88	4918	206.4223	ug/L	97
39) 2-Chloroethyl Vinyl Ether	6.276	63	33338	18.3694	ug/L	100
40) cis-1,3-Dichloropropene	6.296	75	101162	18.7083	ug/L	99
41) 4-Methyl-2-Pentanone	6.884	58	18191	19.8998	ug/L	95
42) trans-1,3-Dichloropropene	6.910	75	83069	17.6314	ug/L	99
45) Toluene	6.508	91	275696	19.5742	ug/L	99
46) Tetrachloroethene	6.849	166	69368	18.0149	ug/L	97
47) 1,1,2-Trichloroethane	7.040	97	50962	19.6443	ug/L	99
48) Dibromochloromethane	7.185	129	65641	19.2087	ug/L	99
49) 1,3-Dichloropropane	7.266	76	86762	20.2254	ug/L	98

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008104.D
Acq On : 09 Sep 2014 23:29
Operator : adc
Sample : WG491672-03 20ug/L LCSDUP 8260
Misc : 1,1
ALS Vial : 31 Sample Multiplier: 1

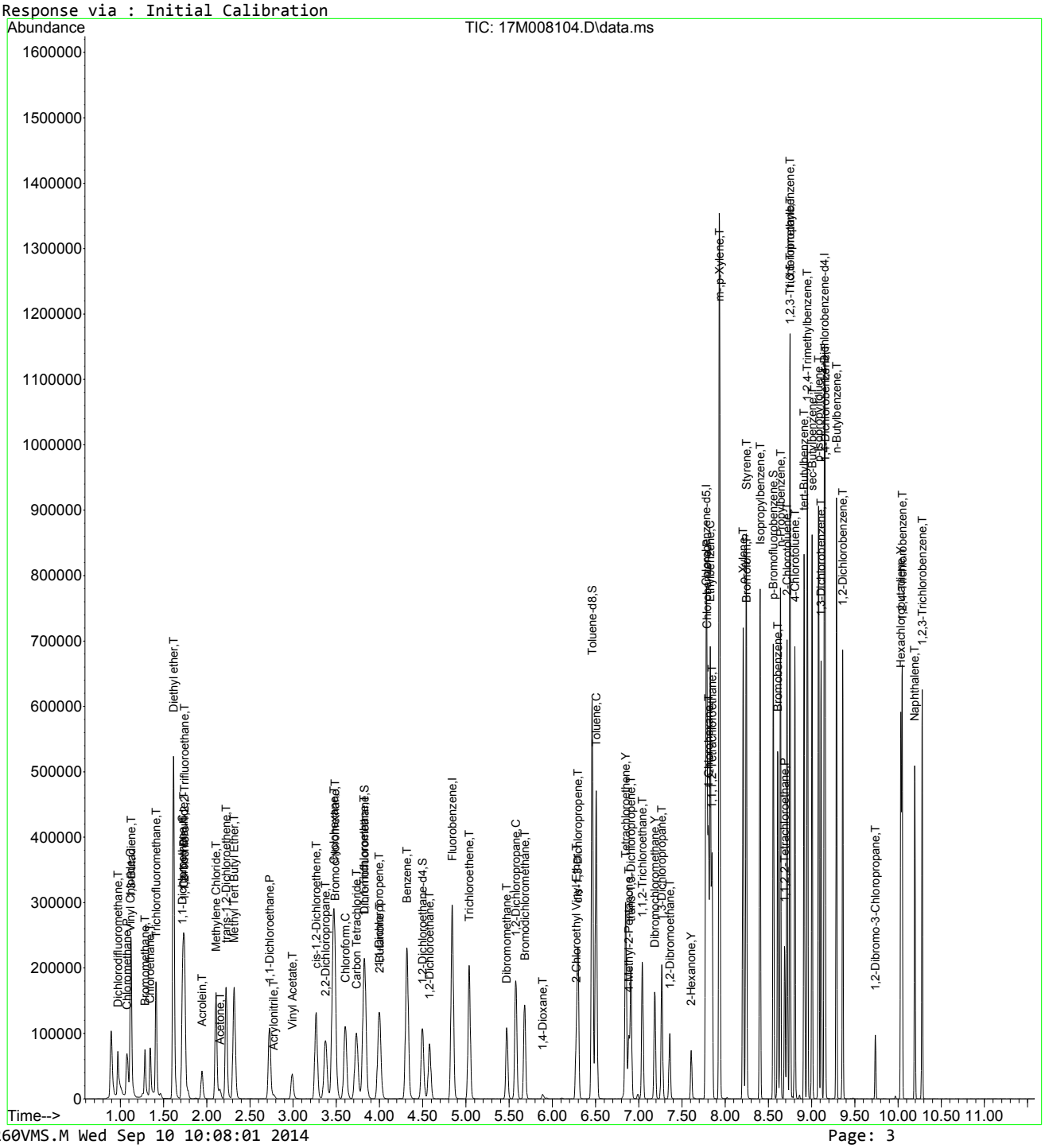
Quant Time: Sep 09 23:40:43 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.359	107	50379	19.6520	ug/L	100
51) 2-Hexanone	7.608	43	32802	20.4404	ug/L	98
52) Chlorobenzene	7.790	112	164896	18.0341	ug/L	97
53) 1-Chlorohexane	7.808	69	15492	18.8778	ug/L	83
54) Ethylbenzene	7.828	106	95429	19.3433	ug/L	100
55) 1,1,1,2-Tetrachloroethane	7.848	131	65090	18.9420	ug/L	99
56) m-,p-Xylene	7.935	106	223860	38.0456	ug/L	98
57) o-Xylene	8.207	106	105826	18.2168	ug/L	98
58) Styrene	8.245	104	184545	19.9688	ug/L	99
59) Bromoform	8.248	173	46397	19.2178	ug/L	98
60) Isopropylbenzene	8.404	105	277864	18.6215	ug/L	100
62) 1,3,5-Trimethylbenzene	8.752	105	262082	21.2487	ug/L	99
64) Bromobenzene	8.610	156	78239	19.8975	ug/L	97
65) n-Propylbenzene	8.642	91	321382	19.4556	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.688	83	59336	20.3340	ug/L	99
67) 2-Chlorotoluene	8.717	91	195022	19.7343	ug/L	99
68) 1,2,3-Trichloropropane	8.749	110	16589	20.7986	ug/L	93
69) 1,2,4-Trimethylbenzene	8.951	105	260420	21.1608	ug/L	99
70) 4-Chlorotoluene	8.807	91	193201	19.0566	ug/L	99
71) tert-Butylbenzene	8.914	134	44298	18.9725	ug/L	99
72) sec-Butylbenzene	9.006	105	299024	19.5296	ug/L	99
73) p-Isopropyltoluene	9.082	119	249194	19.2857	ug/L	99
74) 1,3-Dichlorobenzene	9.111	146	132346	18.6566	ug/L	99
75) 1,4-Dichlorobenzene	9.157	146	143175	19.4770	ug/L	99
76) n-Butylbenzene	9.287	91	238875	21.4481	ug/L	98
77) 1,2-Dichlorobenzene	9.360	146	131810	19.0577	ug/L	99
78) 1,2-Dibromo-3-Chloropr...	9.739	75	11625	22.0914	ug/L	93
79) Hexachlorobutadiene	10.034	225	55438	18.1586	ug/L	99
80) 1,2,4-Trichlorobenzene	10.049	180	99048	20.1490	ug/L	99
81) Naphthalene	10.193	128	183599	20.7593	ug/L	100
82) 1,2,3-Trichlorobenzene	10.280	180	91188	20.4235	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\090914\
Data File : 17M008104.D
Acq On : 09 Sep 2014 23:29
Operator : adc
Sample : WG491672-03 20ug/L LCSDUP 8260
Misc : 1,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Sep 09 23:40:43 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008119.D
Acq On : 10 Sep 2014 13:03
Operator : FJB
Sample : WG491746-03 20ug/L LCSDUP 8260
Misc : 1,1 STD66321
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 12:43:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	4.840	96	306269	25.00000	ug/L	-0.0119
43) Chlorobenzene-d5	7.779	117	227635	25.00000	ug/L	0.0000
61) 1,4-Dichlorobenzene-d4	9.151	152	111978	25.00000	ug/L	0.0000
System Monitoring Compounds						
27) Dibromofluoromethane	3.827	111	94627	23.5305	ug/L	-0.0112
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.122%			
32) 1,2-Dichloroethane-d4	4.496	65	93262	23.2865	ug/L	-0.0114
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.146%			
44) Toluene-d8	6.462	98	351895	24.8197	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.279%			
63) p-Bromofluorobenzene	8.558	95	119666	25.4532	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.813%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.972	85	68716	23.9824	ug/L	99
3) Chloromethane	1.079	50	74274	20.3148	ug/L	100
4) Vinyl Chloride	1.117	62	74963	19.2340	ug/L	100
5) 1,3-Butadiene	1.125	54	59631	22.5964	ug/L	100
6) Bromomethane	1.285	94	32790	15.0987	ug/L	99
7) Chloroethane	1.345	64	40149	18.3987	ug/L	91
8) Trichlorofluoromethane	1.412	101	90687	17.9933	ug/L	100
9) Diethyl ether	1.615	59	241496	111.9724	ug/L	99
10) 1,1-Dichloroethene	1.719	61	88440	16.9251	ug/L	99
11) Carbon Disulfide	1.733	76	118927	13.3149	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.742	101	58166	17.8198	ug/L	95
13) Acrolein	1.945	56	37345	118.7912	ug/L	99
14) Methylene Chloride	2.107	84	65124	17.6577	ug/L	95
15) Acetone	2.150	43	13972	20.4398	ug/L	99
16) trans-1,2-Dichloroethene	2.223	96	60603	17.6466	ug/L	96
17) Methyl Tert Butyl Ether	2.318	73	169926	18.7855	ug/L	100
18) 1,1-Dichloroethane	2.727	63	113717	17.3195	ug/L	99
19) Acrylonitrile	2.776	53	4629	5.6369	ug/L	97
20) Vinyl Acetate	2.990	86	9000	27.7867	ug/L	90
21) cis-1,2-Dichloroethene	3.265	96	68566	17.7701	ug/L	98
22) 2,2-Dichloropropane	3.372	77	92512	17.3726	ug/L	97
23) Cyclohexane	3.474	56	107646	20.2233	ug/L #	75
24) Bromochloromethane	3.482	130	42937	17.7142	ug/L	100
25) Chloroform	3.601	83	113822	17.6323	ug/L	99
26) Carbon Tetrachloride	3.731	117	90379	17.5526	ug/L	99
28) 1,1,1-Trichloroethane	3.824	97	101833	17.4786	ug/L	99
29) 1,1-Dichloropropene	3.995	75	84586	17.4381	ug/L	99
30) 2-Butanone	4.006	43	21221	19.1572	ug/L	98
31) Benzene	4.319	78	255474	17.6280	ug/L	99
33) 1,2-Dichloroethane	4.582	62	80220	18.5578	ug/L	99
34) Trichloroethene	5.037	130	68907	16.4488	ug/L	94
35) Dibromomethane	5.471	93	37600	17.8773	ug/L	100
36) 1,2-Dichloropropane	5.576	63	71564	18.0712	ug/L	99
37) Bromodichloromethane	5.680	83	86585	17.5684	ug/L	100
38) 1,4-Dioxane	5.885	88	4065	156.7569	ug/L	97
39) 2-Chloroethyl Vinyl Ether	6.276	63	35215	17.8271	ug/L	98
40) cis-1,3-Dichloropropene	6.296	75	108742	18.4762	ug/L	98
41) 4-Methyl-2-Pentanone	6.884	58	18174	18.2659	ug/L	99
42) trans-1,3-Dichloropropene	6.910	75	87573	17.0772	ug/L	99
45) Toluene	6.508	91	283507	18.2772	ug/L	99
46) Tetrachloroethene	6.849	166	71352	16.8256	ug/L	97
47) 1,1,2-Trichloroethane	7.041	97	51618	18.0669	ug/L	99
48) Dibromochloromethane	7.185	129	67605	17.9636	ug/L	99
49) 1,3-Dichloropropane	7.266	76	86871	18.3880	ug/L	98

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008119.D
Acq On : 10 Sep 2014 13:03
Operator : FJB
Sample : WG491746-03 20ug/L LCSDUP 8260
Misc : 1,1 STD66321
ALS Vial : 5 Sample Multiplier: 1

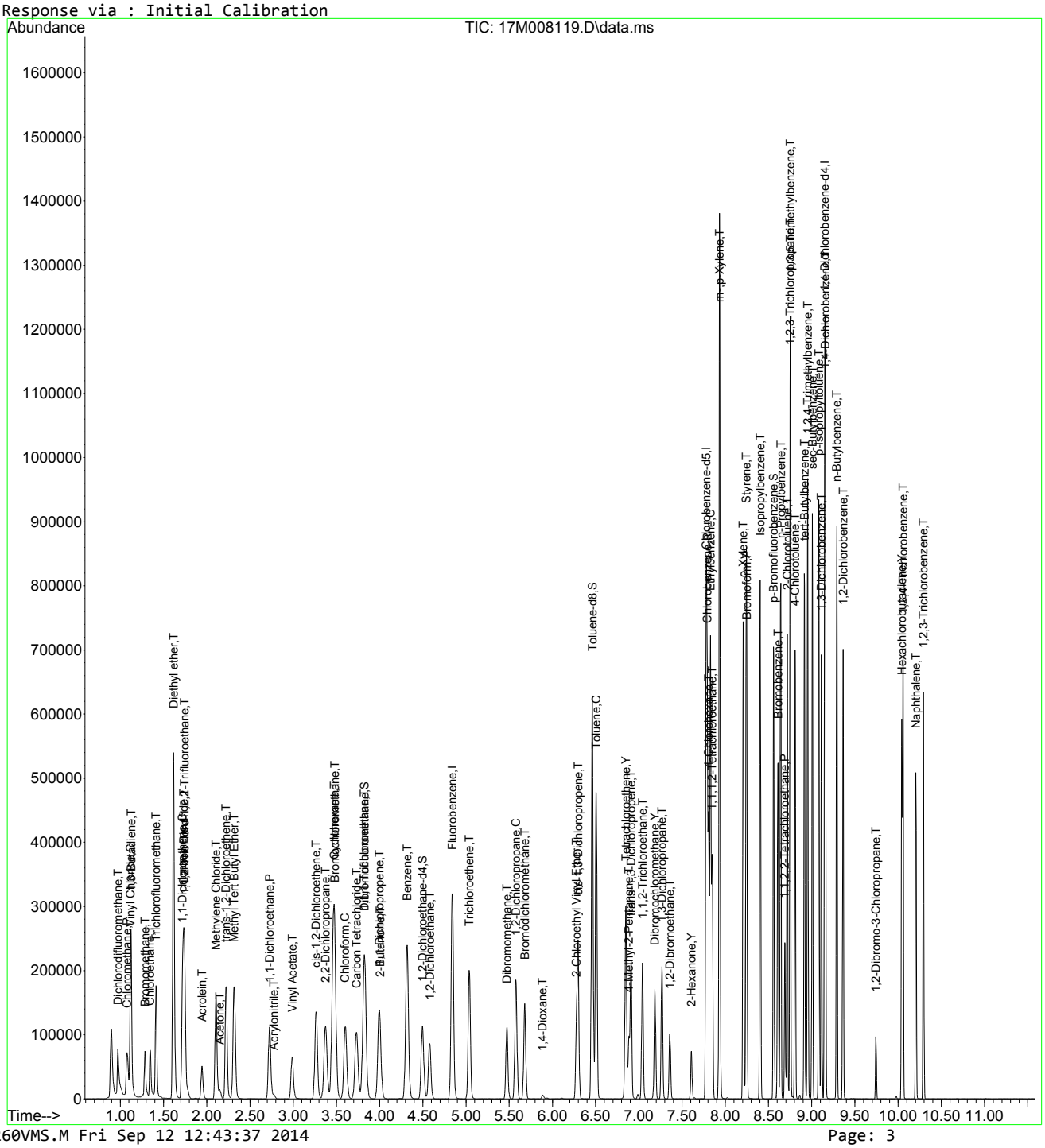
Quant Time: Sep 12 12:43:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) 1,2-Dibromoethane	7.359	107	51447	18.2226	ug/L	98
51) 2-Hexanone	7.608	43	33544	18.9800	ug/L	98
52) Chlorobenzene	7.790	112	171218	17.0030	ug/L	97
53) 1-Chlorohexane	7.805	69	16606	18.3739	ug/L	92
54) Ethylbenzene	7.828	106	97971	18.0319	ug/L	99
55) 1,1,1,2-Tetrachloroethane	7.848	131	67425	17.8167	ug/L	99
56) m-,p-Xylene	7.932	106	231196	35.6781	ug/L	99
57) o-Xylene	8.207	106	109715	17.1490	ug/L	98
58) Styrene	8.242	104	189474	18.6163	ug/L	99
59) Bromoform	8.248	173	47489	17.8608	ug/L	99
60) Isopropylbenzene	8.404	105	286120	17.4110	ug/L	99
62) 1,3,5-Trimethylbenzene	8.752	105	269542	19.5846	ug/L	99
64) Bromobenzene	8.610	156	80182	18.2745	ug/L	98
65) n-Propylbenzene	8.642	91	331496	17.9844	ug/L	99
66) 1,1,2,2-Tetrachloroethane	8.688	83	63801	19.5941	ug/L	100
67) 2-Chlorotoluene	8.717	91	200939	18.2220	ug/L	99
68) 1,2,3-Trichloropropane	8.749	110	16642	18.6988	ug/L	95
69) 1,2,4-Trimethylbenzene	8.954	105	267530	19.4816	ug/L	100
70) 4-Chlorotoluene	8.807	91	199132	17.6023	ug/L	99
71) tert-Butylbenzene	8.917	134	45094	17.3082	ug/L	98
72) sec-Butylbenzene	9.007	105	306073	17.9146	ug/L	99
73) p-Isopropyltoluene	9.082	119	258329	17.9170	ug/L	99
74) 1,3-Dichlorobenzene	9.111	146	136491	17.2433	ug/L	98
75) 1,4-Dichlorobenzene	9.157	146	148213	18.0690	ug/L	100
76) n-Butylbenzene	9.290	91	246926	19.8691	ug/L	98
77) 1,2-Dichlorobenzene	9.363	146	134362	17.4097	ug/L	100
78) 1,2-Dibromo-3-Chloropr...	9.742	75	11716	19.9528	ug/L	94
79) Hexachlorobutadiene	10.043	225	56380	16.5498	ug/L	100
80) 1,2,4-Trichlorobenzene	10.058	180	102968	18.7717	ug/L	100
81) Naphthalene	10.205	128	180601	18.3002	ug/L	99
82) 1,2,3-Trichlorobenzene	10.292	180	92193	18.5047	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\091014\
Data File : 17M008119.D
Acq On : 10 Sep 2014 13:03
Operator : FJB
Sample : WG491746-03 20ug/L LCSDUP 8260
Misc : 1,1 STD66321
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 12:43:36 2014
Quant Method : D:\MassHunter\GCMS\1\methods\8260VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 08/12/14 HPMS17
QLast Update : Fri Aug 15 15:53:53 2014
Response via : Initial Calibration



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
September 12, 2014

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	ADC – ANTHONY D. CANTER
ADG – APRIL D. GREENE	ALS – ADRIANE L. STEED
AWE – ANDREW W. ESSIG	AZH – AFTER HOURS
BJO – BRIAN J. OGDEN	BKT – BRENDAN TORRENCE
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CEB – CHAD E. BARNES	CJR – COURTNEY J. REXROAD
CLC – CHRYS L. CRAWFORD	CLS – CARA L. STRICKLER
CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DAK – DEAN A. KETELSEN
DCM – DAVID C. MERCKLE	DEV – DAVID E. VANDENBERG
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER
DLP – DOROTHY L. PAYNE	DSM – DAVID S. MOSSOR
ECL – ERIC C. LAWSON	ENY – EMILY N. YOAK
EPT – ETHAN P. TIDD	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JJS – JOHN J. STE MARIE	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KDW – KATHRYN D. WELCH	KEB – KATIE E. BARNES
KHR – KIM H. RHODES	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LEC – LAURA E. CARPENTER	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
MBK – MORGAN B. KNOWLTON	MDA – MIKE D. ALBERTSON
MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MLB – MEGAN L. BACHE	MMB – MAREN M. BEERY
MRT – MICHELLE R. TAYLOR	MSW – MATT S. WILSON
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
PRL – PAIGE R. LAMB	PSW – PEGGY S. WEBB
QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN
RM – RAYMOND MALEKE	RNP – RICK N. PETTY
SAV – SARAH A. VANDENBERG	SDC – SHALYN D. CONLEY
SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TB – TODD BOYLE	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WJB – WILL J. BEASLEY	WRR – WESLEY R. RICHARDS
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
September 12, 2014

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL/MDL).
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, H1	Not detected; Sample analysis performed past holding time.
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,H1	Not detected; Sample analysis performed past holding time.

Microbac Laboratories Inc.
List of Valid Qualifiers
September 12, 2014

Qualkey: DOD

UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L14090460 / Revision: 0 / 196 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Kathy Albertson	Project Manager: Dave Wacker	Mail to: Linda Raabe
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400
Marietta, OH 45750	Sampler (print): Brian Ho 805-233-0569	San Antonio, TX 78205
Phone: 1-800-373-4071		210-296-2000
Client: AECOM	Signature: Brian Ho	Fed Ex Airbill No:
Address: 112 East Pecan Ste. 400		
San Antonio, TX 78205		
Turn Around Time:	pH:	Program:
Project Name/Location: Longhorn		
Project Number: 60274185-0011DA01		

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	Perchlorate	VOCs 8260B		24 hr TAT	Standard TAT				SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
	18CPTMW035W(70)060914			9/6/14	15:30		X	Soil	1	X				X								
	12WW25(30)080914			9/8/14	12:40		X	Water	3		X		X									
	12TB080914			9/8/14	—			Water	1		X		X									

ERPIMS REQUIRED FIELDS

Comments:

S

(Signature) Brian Ho	Date 9/8/14	Time 1540	Received by: (Signature) Scott Beesinger	Rec	
Relinquished by: (Signature) Scott Beesinger	Date 9/8/14	Time 1600	Received for Laboratory by: (Signature)		

Microbac OVD
Received: 09/09/2014 09:37
By: COURTNEY REXROAD
221000059231
Courtney Rexroad

*Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

00747156

Generated: 09/12/2014 16:32

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L14090460
Account: 2551
Project: 2551.096
Samples: 2
Due Date: 10-SEP-2014

Samplenum	Container ID	Products
L14090460-01	432869	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	09-SEP-2014 11:10	CLS		<2
2	ANALYZ	V1	ORG4	09-SEP-2014 11:14	JLL	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	09-SEP-2014 11:10	CLS		<2
2	ANALYZ	V1	ORG4	09-SEP-2014 11:14	JLL	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		09-SEP-2014 11:10	CLS		<2

Samplenum	Container ID	Products
L14090460-02	432870	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	09-SEP-2014 11:10	CLS		<2
2	ANALYZ	V1	ORG4	09-SEP-2014 11:14	JLL	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - May 22, 2014

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Thiodiglycol (TDG-LCMS)
Acetate (HPLC-UV)
Formate (HPLC-UV)
Acetaldehyde (HPLC-UV)
Propionaldehyde (HPLC-UV)
Fluoroborate (ISE)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam

Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL MSV0I/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK0I/GC-FID

Isobutane
n-Butane
Propane
Propylene
Propyne

OVL HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

SOLID AND HAZARDOUS CHEMICALS

OVL MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVL MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
lsoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Microbac

Laboratory Report Number: L15010566

Kayla Teague
AECOM Technical Services, Inc.
16000 Dallas Parkway
Dallas, TX 75248

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on January 26 2015

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0019790	H	3.0		J2317160353	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
12WW24-010915	L15010566-01	01/09/2015 07:45	01/13/2015 10:00
12WW20-010915	L15010566-02	01/09/2015 08:40	01/13/2015 10:00
12WW21-010915	L15010566-03	01/09/2015 09:50	01/13/2015 10:00
12WW21FD-010915	L15010566-04	01/09/2015 09:50	01/13/2015 10:00
12WW23-010915	L15010566-05	01/09/2015 10:50	01/13/2015 10:00
12WW22-010915	L15010566-06	01/09/2015 13:40	01/13/2015 10:00
TRIP BLANK	L15010566-07	01/09/2015 00:01	01/13/2015 10:00

Microbac REPORT L15010566
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 13
2.0 Full Sample Data Package 31
2.1 Volatiles Data 32
2.1.1 Volatiles GCMS Data (8260) 33
2.1.1.1 Summary Data 34
2.1.1.2 QC Summary Data 52
2.1.1.3 Sample Data 82
2.1.1.4 Standards Data 111
2.1.1.5 Raw QC Data 185
3.0 Attachments 205

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15010566
Project Name:		**Method:**	8260
Prep Batch Number(s):	508006	**Reviewer Name:**	Michael Albertson
LRC Date:	2015-01-23 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Michael Albertson		Volatiles Supervisor	2015-01-23 22:54:27

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15010566
Project Name:		**Method:**	8260
Prep Batch Number(s):	508006	**Reviewer Name:**	Michael Albertson
LRC Date:	2015-01-23 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15010566
Project Name:		**Method:**	8260
Prep Batch Number(s):	508006	**Reviewer Name:**	Michael Albertson
LRC Date:	2015-01-23 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15010566
Project Name:		**Method:**	8260
Prep Batch Number(s):	508006	**Reviewer Name:**	Michael Albertson
LRC Date:	2015-01-23 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?		X			1
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15010566
Project Name:		**Method:**	8260
Prep Batch Number(s):	508006	**Reviewer Name:**	Michael Albertson
LRC Date:	2015-01-23 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15010566
Project Name:		**Method:**	8260
Prep Batch Number(s):	508006	**Reviewer Name:**	Michael Albertson
LRC Date:	2015-01-23 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1) Dichlorodifluoromethane exceeded the UCL.

1.2 Certificate of Analysis

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW24-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 23:41
Collect Date:	01/09/2015 07:45	**Dilution:**	2.5	**File ID:**	8M402308
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	12.5	U	25.0	12.5	6.25
Benzene	71-43-2	0.649	J	2.50	0.626	0.313
Bromobenzene	108-86-1	0.626	U	2.50	0.626	0.313
Bromochloromethane	74-97-5	1.00	U	2.50	1.00	0.500
Bromodichloromethane	75-27-4	1.25	U	2.50	1.25	0.625
Bromoform	75-25-2	2.50	U	5.00	2.50	1.25
Bromomethane	74-83-9	2.50	U	5.00	2.50	1.25
2-Butanone	78-93-3	12.5	U	25.0	12.5	6.25
n-Butylbenzene	104-51-8	1.25	U	2.50	1.25	0.625
sec-Butylbenzene	135-98-8	1.25	U	2.50	1.25	0.625
tert-Butylbenzene	98-06-6	1.25	U	2.50	1.25	0.625
Carbon disulfide	75-15-0	2.50	U	5.00	2.50	1.25
Carbon tetrachloride	56-23-5	1.25	U	2.50	1.25	0.625
Chlorobenzene	108-90-7	7.64		2.50	0.626	0.313
Chlorodibromomethane	124-48-1	1.25	U	2.50	1.25	0.625
Chloroethane	75-00-3	2.50	U	5.00	2.50	1.25
Chloroform	67-66-3	0.626	U	2.50	0.626	0.313
Chloromethane	74-87-3	2.50	U	5.00	2.50	1.25
2-Chlorotoluene	95-49-8	0.626	U	2.50	0.626	0.313
4-Chlorotoluene	106-43-4	1.25	U	2.50	1.25	0.625
1,2-Dibromo-3-chloropropane	96-12-8	5.00	U	12.5	5.00	2.50
1,2-Dibromoethane	106-93-4	1.25	U	2.50	1.25	0.625
Dibromomethane	74-95-3	1.25	U	2.50	1.25	0.625
1,2-Dichlorobenzene	95-50-1	0.626	U	2.50	0.626	0.313
1,3-Dichlorobenzene	541-73-1	1.25	U	2.50	1.25	0.625
1,4-Dichlorobenzene	106-46-7	3.25		2.50	0.626	0.313
Dichlorodifluoromethane	75-71-8	1.25	U	2.50	1.25	0.625
1,1-Dichloroethane	75-34-3	0.768	J	2.50	0.626	0.313
1,2-Dichloroethane	107-06-2	1.25	U	2.50	1.25	0.625
1,1-Dichloroethene	75-35-4	2.50	U	5.00	2.50	1.25
cis-1,2-Dichloroethene	156-59-2	70.8		2.50	1.25	0.625
trans-1,2-Dichloroethene	156-60-5	1.25	U	2.50	1.25	0.625

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	1.00	U	2.50	1.00	0.500
1,3-Dichloropropane	142-28-9	1.00	U	2.50	1.00	0.500
2,2-Dichloropropane	594-20-7	1.25	U	2.50	1.25	0.625
cis-1,3-Dichloropropene	10061-01-5	1.25	U	2.50	1.25	0.625
trans-1,3-Dichloropropene	10061-02-6	2.50	U	5.00	2.50	1.25
1,1-Dichloropropene	563-58-6	1.25	U	2.50	1.25	0.625
Ethylbenzene	100-41-4	1.25	U	2.50	1.25	0.625
2-Hexanone	591-78-6	12.5	U	25.0	12.5	6.25
Hexachlorobutadiene	87-68-3	1.25	U	2.50	1.25	0.625
Isopropylbenzene	98-82-8	1.25	U	2.50	1.25	0.625
p-Isopropyltoluene	99-87-6	1.25	U	2.50	1.25	0.625
4-Methyl-2-pentanone	108-10-1	12.5	U	25.0	12.5	6.25
Methylene chloride	75-09-2	1.25	U	2.50	1.25	0.625
Naphthalene	91-20-3	1.00	U	2.50	1.00	0.500
n-Propylbenzene	103-65-1	0.626	U	2.50	0.626	0.313
Styrene	100-42-5	0.626	U	2.50	0.626	0.313
1,1,1,2-Tetrachloroethane	630-20-6	1.25	U	2.50	1.25	0.625
1,1,2,2-Tetrachloroethane	79-34-5	1.00	U	2.50	1.00	0.500
Tetrachloroethene	127-18-4	1.87	J	2.50	1.25	0.625
Toluene	108-88-3	1.25	U	2.50	1.25	0.625
1,2,3-Trichlorobenzene	87-61-6	0.750	U	2.50	0.750	0.375
1,2,4-Trichlorobenzene	120-82-1	1.00	U	2.50	1.00	0.500
1,1,1-Trichloroethane	71-55-6	1.25	U	2.50	1.25	0.625
1,1,2-Trichloroethane	79-00-5	1.25	U	2.50	1.25	0.625
Trichloroethene	79-01-6	353		2.50	1.25	0.625
Trichlorofluoromethane	75-69-4	1.25	U	2.50	1.25	0.625
1,2,3-Trichloropropane	96-18-4	2.50	U	5.00	2.50	1.25
1,2,4-Trimethylbenzene	95-63-6	1.25	U	2.50	1.25	0.625
1,3,5-Trimethylbenzene	108-67-8	1.25	U	2.50	1.25	0.625
Vinyl chloride	75-01-4	1.25	U	2.50	1.25	0.625
o-Xylene	95-47-6	1.25	U	2.50	1.25	0.625
m-,p-Xylene	179601-23-1	2.50	U	5.00	2.50	1.25

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	97.5	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 21:15
Collect Date:	01/09/2015 08:40	**Dilution:**	1	**File ID:**	8M402303
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.293	J	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	97.0	70	120	
Toluene-d8	99.6	85	120	
4-Bromofluorobenzene	100	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 21:45
Collect Date:	01/09/2015 09:50	**Dilution:**	1	**File ID:**	8M402304
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	85	115	
1,2-Dichloroethane-d4	99.9	70	120	
Toluene-d8	99.9	85	120	
4-Bromofluorobenzene	100	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21FD-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 22:13
Collect Date:	01/09/2015 09:50	**Dilution:**	1	**File ID:**	8M402305
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	85	115	
1,2-Dichloroethane-d4	97.8	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	100	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW23-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 22:42
Collect Date:	01/09/2015 10:50	**Dilution:**	1	**File ID:**	8M402306
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.538	J	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW22-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 23:12
Collect Date:	01/09/2015 13:40	**Dilution:**	1	**File ID:**	8M402307
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	96.3	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 20:16
Collect Date:	01/09/2015 00:01	**Dilution:**	1	**File ID:**	8M402301
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	100	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	100	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW24-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 23:41
Collect Date:	01/09/2015 07:45	**Dilution:**	2.5	**File ID:**	8M402308
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	12.5	U	25.0	12.5	6.25
Benzene	71-43-2	0.649	J	2.50	0.626	0.313
Bromobenzene	108-86-1	0.626	U	2.50	0.626	0.313
Bromochloromethane	74-97-5	1.00	U	2.50	1.00	0.500
Bromodichloromethane	75-27-4	1.25	U	2.50	1.25	0.625
Bromoform	75-25-2	2.50	U	5.00	2.50	1.25
Bromomethane	74-83-9	2.50	U	5.00	2.50	1.25
2-Butanone	78-93-3	12.5	U	25.0	12.5	6.25
n-Butylbenzene	104-51-8	1.25	U	2.50	1.25	0.625
sec-Butylbenzene	135-98-8	1.25	U	2.50	1.25	0.625
tert-Butylbenzene	98-06-6	1.25	U	2.50	1.25	0.625
Carbon disulfide	75-15-0	2.50	U	5.00	2.50	1.25
Carbon tetrachloride	56-23-5	1.25	U	2.50	1.25	0.625
Chlorobenzene	108-90-7	7.64		2.50	0.626	0.313
Chlorodibromomethane	124-48-1	1.25	U	2.50	1.25	0.625
Chloroethane	75-00-3	2.50	U	5.00	2.50	1.25
Chloroform	67-66-3	0.626	U	2.50	0.626	0.313
Chloromethane	74-87-3	2.50	U	5.00	2.50	1.25
2-Chlorotoluene	95-49-8	0.626	U	2.50	0.626	0.313
4-Chlorotoluene	106-43-4	1.25	U	2.50	1.25	0.625
1,2-Dibromo-3-chloropropane	96-12-8	5.00	U	12.5	5.00	2.50
1,2-Dibromoethane	106-93-4	1.25	U	2.50	1.25	0.625
Dibromomethane	74-95-3	1.25	U	2.50	1.25	0.625
1,2-Dichlorobenzene	95-50-1	0.626	U	2.50	0.626	0.313
1,3-Dichlorobenzene	541-73-1	1.25	U	2.50	1.25	0.625
1,4-Dichlorobenzene	106-46-7	3.25		2.50	0.626	0.313
Dichlorodifluoromethane	75-71-8	1.25	U	2.50	1.25	0.625
1,1-Dichloroethane	75-34-3	0.768	J	2.50	0.626	0.313
1,2-Dichloroethane	107-06-2	1.25	U	2.50	1.25	0.625
1,1-Dichloroethene	75-35-4	2.50	U	5.00	2.50	1.25
cis-1,2-Dichloroethene	156-59-2	70.8		2.50	1.25	0.625
trans-1,2-Dichloroethene	156-60-5	1.25	U	2.50	1.25	0.625

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	1.00	U	2.50	1.00	0.500
1,3-Dichloropropane	142-28-9	1.00	U	2.50	1.00	0.500
2,2-Dichloropropane	594-20-7	1.25	U	2.50	1.25	0.625
cis-1,3-Dichloropropene	10061-01-5	1.25	U	2.50	1.25	0.625
trans-1,3-Dichloropropene	10061-02-6	2.50	U	5.00	2.50	1.25
1,1-Dichloropropene	563-58-6	1.25	U	2.50	1.25	0.625
Ethylbenzene	100-41-4	1.25	U	2.50	1.25	0.625
2-Hexanone	591-78-6	12.5	U	25.0	12.5	6.25
Hexachlorobutadiene	87-68-3	1.25	U	2.50	1.25	0.625
Isopropylbenzene	98-82-8	1.25	U	2.50	1.25	0.625
p-Isopropyltoluene	99-87-6	1.25	U	2.50	1.25	0.625
4-Methyl-2-pentanone	108-10-1	12.5	U	25.0	12.5	6.25
Methylene chloride	75-09-2	1.25	U	2.50	1.25	0.625
Naphthalene	91-20-3	1.00	U	2.50	1.00	0.500
n-Propylbenzene	103-65-1	0.626	U	2.50	0.626	0.313
Styrene	100-42-5	0.626	U	2.50	0.626	0.313
1,1,1,2-Tetrachloroethane	630-20-6	1.25	U	2.50	1.25	0.625
1,1,2,2-Tetrachloroethane	79-34-5	1.00	U	2.50	1.00	0.500
Tetrachloroethene	127-18-4	1.87	J	2.50	1.25	0.625
Toluene	108-88-3	1.25	U	2.50	1.25	0.625
1,2,3-Trichlorobenzene	87-61-6	0.750	U	2.50	0.750	0.375
1,2,4-Trichlorobenzene	120-82-1	1.00	U	2.50	1.00	0.500
1,1,1-Trichloroethane	71-55-6	1.25	U	2.50	1.25	0.625
1,1,2-Trichloroethane	79-00-5	1.25	U	2.50	1.25	0.625
Trichloroethene	79-01-6	353		2.50	1.25	0.625
Trichlorofluoromethane	75-69-4	1.25	U	2.50	1.25	0.625
1,2,3-Trichloropropane	96-18-4	2.50	U	5.00	2.50	1.25
1,2,4-Trimethylbenzene	95-63-6	1.25	U	2.50	1.25	0.625
1,3,5-Trimethylbenzene	108-67-8	1.25	U	2.50	1.25	0.625
Vinyl chloride	75-01-4	1.25	U	2.50	1.25	0.625
o-Xylene	95-47-6	1.25	U	2.50	1.25	0.625
m-,p-Xylene	179601-23-1	2.50	U	5.00	2.50	1.25

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	97.5	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 21:15
Collect Date:	01/09/2015 08:40	**Dilution:**	1	**File ID:**	8M402303
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.293	J	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	97.0	70	120	
Toluene-d8	99.6	85	120	
4-Bromofluorobenzene	100	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 21:45
Collect Date:	01/09/2015 09:50	**Dilution:**	1	**File ID:**	8M402304
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	85	115	
1,2-Dichloroethane-d4	99.9	70	120	
Toluene-d8	99.9	85	120	
4-Bromofluorobenzene	100	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21FD-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 22:13
Collect Date:	01/09/2015 09:50	**Dilution:**	1	**File ID:**	8M402305
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	85	115	
1,2-Dichloroethane-d4	97.8	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	100	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW23-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 22:42
Collect Date:	01/09/2015 10:50	**Dilution:**	1	**File ID:**	8M402306
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.538	J	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW22-010915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 23:12
Collect Date:	01/09/2015 13:40	**Dilution:**	1	**File ID:**	8M402307
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	96.3	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15010566-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	01/13/2015 13:31
Workgroup #:	WG508006	**Analyst:**	TMB	**Run Date:**	01/14/2015 20:16
Collect Date:	01/09/2015 00:01	**Dilution:**	1	**File ID:**	8M402301
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	100	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	100	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15010566
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 100214
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 19
Method: 624 SOP: MSV10 Rev: 12
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 16
Maintenance Log ID: 51878

Internal Standard: STD66600 Surrogate Standard: STD66600
CCV: STD66818; STD66687 LCS: STD66693; STD66677 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG494714; WG494980

Comments: File # 8m400369 and 70 were skipped and not used.

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M400354	RINSE	NA	1	1		10/02/14 10:24
8M400355	WG494714-01 50ng BFB STD 8260	NA	1	1	STD66476	10/02/14 11:16
8M400356	WG494714-01 50ng BFB STD 8260	NA	1	1	STD66476	10/02/14 11:33
8M400357	WG494714-01 50ng BFB STD 8260	NA	1	1	STD66476	10/02/14 11:58
8M400358	WG494714-02 5ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 12:24
8M400359	WG494714-03 20ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 12:53
8M400360	WG494714-04 50ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 13:22
8M400361	WG494714-05 100ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 13:51
8M400362	WG494714-06 200ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 14:19
8M400363	WG494714-07 300ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 14:48
8M400364	WG494714-08 400ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 15:16
8M400365	WG494714-09 500ug/L STD A9/FOO	NA	1	1	STD66818	10/02/14 15:45
8M400366	RINSE	NA	1	1		10/02/14 16:14
8M400367	WG494714-10 100ug/L ALT SRC STD A9/F	NA	1	1	STD66677	10/02/14 16:47
8M400368	WG494979-01 50ug/L CCV STD 8260	NA	1	1	STD66687	10/02/14 17:22
8M400371	WG494980-02 20ug/L LCS STD 624	NA	2	1	STD66693	10/02/14 17:51
8M400372	WG494980-03 20ug/L LCSDUP STD 624	NA	2	1	STD66693	10/02/14 18:20
8M400373	RINSE	NA	2	1		10/02/14 18:49
8M400374	WG494980-01 VBLK1002 BLANK STD 624	NA	2	1		10/02/14 19:18
8M400375	L14100004-01 LOD 826-SPE A9/FOO	NA	1	1		10/02/14 19:47
8M400376	L14100006-01 LOQ 826-SPE A9/FOO	NA	1	1		10/02/14 20:16
8M400377	L14100004-01 LOD 826-SPE	NA	1	1		10/02/14 20:45
8M400378	L14100006-01 LOQ 826-SPE	NA	1	1		10/02/14 21:14
8M400379	L14100004-01 LOD 826-SPE	NA	1	1		10/02/14 21:42
8M400380	L14100006-01 LOQ 826-SPE	NA	1	1		10/02/14 22:12
8M400381	L14100098-10 A 624-SPE	5	2	1		10/02/14 22:40
8M400382	L14100089-02 A 624-SPE	5	2	1		10/02/14 23:09
8M400383	L14100098-04 A 624-SPE	<2	2	1		10/02/14 23:38
8M400384	L14100098-05 A 624-SPE	<2	2	1		10/03/14 00:06
8M400385	L14100098-06 A 624-SPE	<2	2	1		10/03/14 00:36
8M400386	L14100098-07 A 624-SPE	<2	2	1		10/03/14 01:06
8M400387	L14100098-08 A 624-SPE	<2	2	1		10/03/14 01:34
8M400388	L14100098-09 A 624-SPE	<2	2	1		10/03/14 02:04
8M400389	L14100110-01 A 624-SPE2	<2	2	1		10/03/14 02:32

Approved: October 03, 2014

Microbac

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 100214

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 19

Method: 624 SOP: MSV10 Rev: 12

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 16

Maintenance Log ID: 51878

Internal Standard: STD66600 Surrogate Standard: STD66600

CCV: STD66818; STD66687 LCS: STD66693; STD66677 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG494714; WG494980

Comments: File # 8m400369 and 70 were skipped and not used.

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M400390	L14100110-02 A 624-SPE1	<2	2	1		10/03/14 03:02
8M400391	RINSE	NA	1	1		10/03/14 03:30
8M400392	RINSE	NA	1	1		10/03/14 03:59

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 8M400355				
	Tune failed, DNR.			
3	X			
File ID: 8M400356				
	Tune failed, DNR.			
4				
File ID: 8M400357				
	Purged BFB.			
30	X	100	Over Calibration Range	TCE
File ID: 8M400385				
31	X	1	Carry-over contamination	
File ID: 8M400386				
	DNR.			
32	X	1	Carry-over contamination	
File ID: 8M400387				
	DNR.			
33	X	50	Over Calibration Range	TCE
File ID: 8M400388				
34	X	1	Carry-over contamination	
File ID: 8M400389				
	DNR.			

Approved: October 03, 2014

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 011315
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 20
Method: 624 SOP: MSV10 Rev: 13
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 17
Maintenance Log ID: 52680

Internal Standard: STD68017 Surrogate Standard: STD68017
CCV: STD68339 LCS: STD68251 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG507785; WG507883

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M402259	WG507785-01 50ng BFB STD 8260	NA	1	1	STD68036	01/13/15 08:44
8M402260	WG507785-02 0.3ug/L STD 8260	NA	1	1	STD68339	01/13/15 09:07
8M402261	WG507785-03 0.4ug/L STD 8260	NA	1	1	STD68339	01/13/15 09:36
8M402262	WG507785-04 1ug/L STD 8260	NA	1	1	STD68339	01/13/15 10:08
8M402263	WG507785-05 2ug/L STD 8260	NA	1	1	STD68339	01/13/15 10:37
8M402264	WG507785-06 5ug/L STD 8260	NA	1	1	STD68339	01/13/15 11:06
8M402265	WG507785-07 20ug/L STD 8260	NA	1	1	STD68339	01/13/15 11:35
8M402266	WG507785-08 50ug/L STD 8260	NA	1	1	STD68339	01/13/15 12:04
8M402267	WG507785-09 100ug/L STD 8260	NA	1	1	STD68339	01/13/15 12:33
8M402268	WG507785-10 200ug/L STD 8260	NA	1	1	STD68339	01/13/15 13:02
8M402269	WG507785-11 300ug/L STD 8260	NA	1	1	STD68339	01/13/15 13:31
8M402270	RINSE	NA	1	1		01/13/15 14:03
8M402271	RINSE	NA	1	1		01/13/15 14:32
8M402272	WG507785-12 50ug/L ALT SRC STD 8260	NA	1	1	STD68251	01/13/15 15:02
8M402273	RINSE	NA	1	1		01/13/15 15:31
8M402274	RINSE	NA	1	1		01/13/15 16:00
8M402275	L15010006-01 826-SPE	NA	1	1	STD68359	01/13/15 16:29
8M402276	L15010006-02 826-SPE	NA	1	1	STD68359	01/13/15 16:59
8M402277	L15010006-03 826-SPE	NA	1	1	STD68359	01/13/15 17:28
8M402278	L15010006-04 826-SPE	NA	1	1	STD68359	01/13/15 17:57
8M402279	L15010006-05 826-SPE	NA	1	1	STD68359	01/13/15 18:27
8M402280	L15010006-06 826-SPE	NA	1	1	STD68359	01/13/15 18:55
8M402281	L15010006-07 826-SPE	NA	1	1	STD68359	01/13/15 19:25
8M402282	RINSE	NA	1	1		01/13/15 19:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17	X			
File ID: 8M402275				
Rerun all 7 reps of 006 for DCDF, 1,3-butadiene, 1-bromopropane, and A9/FOO.				

Approved: January 14, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 011415

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 20

Method: 624 SOP: MSV10 Rev: 13

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 17

Maintenance Log ID:

Internal Standard: STD68017 Surrogate Standard: STD68017

CCV: STD68339; STD68288 LCS: STD68251 MS/MSD: STD68251

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG508006

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M402283	WG508005-01 50ng BFB STD 8260	NA	1	1	STD68036	01/14/15 11:51
8M402284	WG508005-01 50ng BFB STD 8260	NA	1	1	STD68036	01/14/15 12:06
8M402285	WG508005-02 50ug/L CCV STD 8260	NA	1	1	STD68339	01/14/15 12:29
8M402286	WG508018-01 100ug/L A9 CCV STD 8260	NA	1	1	STD68288	01/14/15 12:58
8M402287	WG508006-01 VBLK0114 BLANK STD 826	NA	1	1		01/14/15 13:27
8M402288	WG508006-02 20ug/L LCS STD 8260	NA	1	1	STD68251	01/14/15 13:56
8M402289	L15010532-02 A MS 826-SPE	6	1	1	STD68251	01/14/15 14:26
8M402290	L15010532-03 A MSD 826-SPE	6	1	1	STD68251	01/14/15 14:55
8M402291	L15010006-01 826-SPE	NA	1	1	STD68384	01/14/15 15:25
8M402292	L15010006-02 826-SPE	NA	1	1	STD68384	01/14/15 15:54
8M402293	L15010006-03 826-SPE	NA	1	1	STD68384	01/14/15 16:24
8M402294	L15010006-04 826-SPE	NA	1	1	STD68384	01/14/15 16:53
8M402295	L15010006-05 826-SPE	NA	1	1	STD68384	01/14/15 17:22
8M402296	L15010006-06 826-SPE	NA	1	1	STD68384	01/14/15 17:51
8M402297	L15010006-07 826-SPE	NA	1	1	STD68384	01/14/15 18:21
8M402298	L15010001-01 LOD 826-SPE	NA	1	1	STD68384	01/14/15 18:49
8M402299	L15010003-01 LOQ 826-SPE	NA	1	1	STD68384	01/14/15 19:19
8M402300	L15010532-04 A TB 826-SPE	5	1	1		01/14/15 19:47
8M402301	L15010566-07 A TB 826-LOW	<2	1	1		01/14/15 20:16
8M402302	L15010532-01 A REF 826-SPE	6	1	1		01/14/15 20:47
8M402303	L15010566-02 A 826-LOW	<2	1	1		01/14/15 21:15
8M402304	L15010566-03 A 826-LOW	<2	1	1		01/14/15 21:45
8M402305	L15010566-04 A 826-LOW	<2	1	1		01/14/15 22:13
8M402306	L15010566-05 A 826-LOW	<2	1	1		01/14/15 22:42
8M402307	L15010566-06 A 826-LOW	<2	1	1		01/14/15 23:12
8M402308	L15010566-01 A 2.5X 826-LOW	<2	1	2.5		01/14/15 23:41
8M402309	RINSE	NA	1	1		01/15/15 00:10
8M402310	WG508006-06 VBLK0114 BLANK STD 624	NA	2	1		01/15/15 00:39
8M402311	L15010530-17 A 624-SPE	8	2	1		01/15/15 01:08
8M402312	L15010530-18 A 624-SPE	8	2	1		01/15/15 01:37
8M402313	L15010530-19 A 624-SPE	8	2	1		01/15/15 02:06
8M402314	L15010530-20 A 624-SPE	4	2	1		01/15/15 02:34
8M402315	L15010530-21 A 624-SPE	8	2	1		01/15/15 03:04
8M402316	L15010530-22 A 624-SPE	8	2	1		01/15/15 03:33

Approved: January 21, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 011415

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 20

Method: 624 SOP: MSV10 Rev: 13

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 17

Maintenance Log ID:

Internal Standard: STD68017 Surrogate Standard: STD68017

CCV: STD68339; STD68288 LCS: STD68251 MS/MSD: STD68251

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG508006

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M402317	L15010530-23 A 624-SPE	8	2	1		01/15/15 04:02
8M402318	L15010530-24 A 624-SPE	5	2	1		01/15/15 04:31
8M402319	L15010530-25 A 624-SPE	8	2	1		01/15/15 04:59
8M402320	CCV	NA	1	1		01/15/15 05:28
8M402321	RINSE	NA	1	1		01/15/15 05:58

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 8M402283				
			Tune failed, DNR.	
9	X			
File ID: 8M402291				
			Rerun all 006's for Isobutyl alcohol, and 1-butanol.	
16	X			
File ID: 8M402298				
			Rerun for DCDF, Isobutyl alcohol, and 1-butanol.	
17	X			
File ID: 8M402299				
			Rerun for DCDF, Isobutyl alcohol, and 1-butanol.	

Approved: January 21, 2015

Page: 2

Microbac Laboratories Inc.

Data Checklist

Date: 02-OCT-2014
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 63840
Analytical Workgroups: WG494714; WG494980

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
03-OCT-2014
Tiffany Bailey

Secondary Reviewer:
03-OCT-2014

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-03-2014 13:21:54

Microbac Laboratories Inc.

Data Checklist

Date: 13-JAN-2015
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 65707
Analytical Workgroups: WG507785, WG507883

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	X
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
14-JAN-2015
Tiffany Bailey

Secondary Reviewer:
14-JAN-2015

CHECKLIST1 - Modified 03/05/2008
Generated: JAN-14-2015 15:38:42

Microbac Laboratories Inc.

Data Checklist

Date: 14-JAN-2015
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 65742
Analytical Workgroups: WG508006

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	WTD
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
15-JAN-2015
Tiffany Bailey

Secondary Reviewer:
21-JAN-2015
Wade T. Dy

CHECKLIST1 - Modified 03/05/2008
Generated: JAN-21-2015 11:17:05

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG508006

Login Number: L15010566

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
12WW24-010915	01	01/09/15					01/14/2015	5.7	14		01/14/15	5.7	14	
12WW20-010915	02	01/09/15					01/14/2015	5.5	14		01/14/15	5.5	14	
12WW21-010915	03	01/09/15					01/14/2015	5.5	14		01/14/15	5.5	14	
12WW21FD-010915	04	01/09/15					01/14/2015	5.5	14		01/14/15	5.5	14	
12WW23-010915	05	01/09/15					01/14/2015	5.5	14		01/14/15	5.5	14	
12WW22-010915	06	01/09/15					01/14/2015	5.4	14		01/14/15	5.4	14	
TRIP BLANK	07	01/09/15					01/14/2015	5.8	14		01/14/15	5.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3964121
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L15010566
Instrument Id: HPMS8
Workgroup (AAB#): WG508006

Method: 8260
CAL ID: HPMS8-13-JAN-15
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L15010566-01	2.50	DL01	97.5	101	101	101
L15010566-02	1.00	01	97.0	102	100	99.6
L15010566-03	1.00	01	99.9	103	100	99.9
L15010566-04	1.00	01	97.8	103	100	100
L15010566-05	1.00	01	98.0	103	101	101
L15010566-06	1.00	01	96.3	102	101	100
L15010566-07	1.00	01	100	102	100	100
WG508006-01	1.00	01	95.0	102	100	99.5
WG508006-02	1.00	01	97.2	97.9	101	99.9
WG508006-06	1.00	01	99.6	102	101	99.3

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	70 - 120
2 - Dibromofluoromethane	85 - 115
3 - 4-Bromofluorobenzene	75 - 120
4 - Toluene-d8	85 - 120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 3964127
Report generated: 01/23/2015 17:48

METHOD BLANK SUMMARY

Login Number: L15010566
Work Group: WG508006
Blank File ID: 8M402287
Blank Sample ID: WG508006-01
Prep Date: 01/14/15 13:27
Instrument ID: HPMS8
Analyzed Date: 01/14/15 13:27
Method: 8260B
Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG508006-02	8M402288	01/14/15 13:56	01
TRIP BLANK	L15010566-07	8M402301	01/14/15 20:16	01
12WW20-010915	L15010566-02	8M402303	01/14/15 21:15	01
12WW21-010915	L15010566-03	8M402304	01/14/15 21:45	01
12WW21FD-010915	L15010566-04	8M402305	01/14/15 22:13	01
12WW23-010915	L15010566-05	8M402306	01/14/15 22:42	01
12WW22-010915	L15010566-06	8M402307	01/14/15 23:12	01
12WW24-010915	L15010566-01	8M402308	01/14/15 23:41	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 3975270
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L15010566 Prep Date:01/14/15 13:27 Sample ID:WG508006-01
Instrument ID:HPMS8 Run Date:01/14/15 13:27 Prep Method:5030B/5030C/503
File ID:8M402287 Analyst:TMB Method:8260B
Workgroup (AAB#):WG508006 Matrix:Water Units:ug/L
Contract #: Cal ID: HPMS8-13-JAN-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 3975271
23-JAN-2015 17:48

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15010566 Prep Date: 01/14/15 13:27 Sample ID: WG508006-01
Instrument ID: HPMS8 Run Date: 01/14/15 13:27 Prep Method: 5030B/5030C/503
File ID: 8M402287 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG508006 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-13-JAN-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	102	85 - 115	PASS
1,2-Dichloroethane-d4	95.0	70 - 120	PASS
Toluene-d8	99.5	85 - 120	PASS
4-Bromofluorobenzene	100	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3975271
23-JAN-2015 17:48

Login Number: L15010566 Run Date: 01/14/2015 Sample ID: WG508006-02
Instrument ID: HPMS8 Run Time: 13:56 Prep Method: 5030B/5030C/503
File ID: 8M402288 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG508006 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD68251 Cal ID: HPMS8-13-JAN-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	22.6	113	40 - 140	
Benzene	20.0	21.0	105	80 - 120	
Bromobenzene	20.0	18.4	91.9	75 - 125	
Bromochloromethane	20.0	20.8	104	65 - 130	
Bromodichloromethane	20.0	20.8	104	75 - 120	
Bromoform	20.0	17.3	86.6	70 - 130	
Bromomethane	20.0	19.1	95.7	30 - 145	
2-Butanone	20.0	23.2	116	30 - 150	
n-Butylbenzene	20.0	19.4	96.9	70 - 135	
sec-Butylbenzene	20.0	21.1	106	70 - 125	
tert-Butylbenzene	20.0	20.0	99.8	70 - 130	
Carbon disulfide	20.0	17.9	89.6	35 - 160	
Carbon tetrachloride	20.0	21.0	105	65 - 140	
Chlorobenzene	20.0	21.0	105	80 - 120	
Chlorodibromomethane	20.0	19.1	95.6	60 - 135	
Chloroethane	20.0	21.8	109	60 - 135	
Chloroform	20.0	20.9	104	65 - 135	
Chloromethane	20.0	20.2	101	40 - 125	
2-Chlorotoluene	20.0	24.3	121	75 - 125	
4-Chlorotoluene	20.0	18.0	90.0	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.3	91.7	50 - 130	
1,2-Dibromoethane	20.0	20.4	102	80 - 120	
Dibromomethane	20.0	21.0	105	75 - 125	
1,2-Dichlorobenzene	20.0	19.4	96.9	70 - 120	
1,3-Dichlorobenzene	20.0	19.7	98.7	75 - 125	
1,4-Dichlorobenzene	20.0	17.7	88.6	75 - 125	
Dichlorodifluoromethane	20.0	21.7	109	30 - 155	
1,1-Dichloroethane	20.0	20.9	104	70 - 135	
1,2-Dichloroethane	20.0	20.8	104	70 - 130	
1,1-Dichloroethene	20.0	20.0	100	70 - 130	
cis-1,2-Dichloroethene	20.0	20.0	99.9	70 - 125	
trans-1,2-Dichloroethene	20.0	20.0	99.9	60 - 140	
1,2-Dichloropropane	20.0	20.9	105	75 - 125	
1,3-Dichloropropane	20.0	20.5	103	75 - 125	
2,2-Dichloropropane	20.0	20.9	104	70 - 135	
cis-1,3-Dichloropropene	20.0	22.2	111	70 - 130	
trans-1,3-Dichloropropene	20.0	19.1	95.5	55 - 140	
1,1-Dichloropropene	20.0	20.5	102	75 - 130	
Ethylbenzene	20.0	19.8	98.8	75 - 125	
2-Hexanone	20.0	21.0	105	55 - 130	
Hexachlorobutadiene	20.0	18.5	92.6	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 3964122
Report generated: 01/23/2015 17:48

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15010566 Run Date: 01/14/2015 Sample ID: WG508006-02
Instrument ID: HPMS8 Run Time: 13:56 Prep Method: 5030B/5030C/503
File ID: 8M402288 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG508006 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD68251 Cal ID: HPMS8-13-JAN-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.1	105	75 - 125	
p-Isopropyltoluene	20.0	20.6	103	75 - 130	
4-Methyl-2-pentanone	20.0	20.3	102	60 - 135	
Methylene chloride	20.0	19.4	97.0	55 - 140	
Naphthalene	20.0	20.3	102	55 - 140	
n-Propylbenzene	20.0	21.0	105	70 - 130	
Styrene	20.0	21.0	105	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	19.6	97.9	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.7	98.3	65 - 130	
Tetrachloroethene	20.0	19.7	98.7	45 - 150	
Toluene	20.0	20.3	101	75 - 120	
1,2,3-Trichlorobenzene	20.0	18.6	92.8	55 - 140	
1,2,4-Trichlorobenzene	20.0	19.3	96.6	65 - 135	
1,1,1-Trichloroethane	20.0	21.6	108	65 - 130	
1,1,2-Trichloroethane	20.0	20.5	103	75 - 125	
Trichloroethene	20.0	21.2	106	70 - 125	
Trichlorofluoromethane	20.0	19.9	99.4	60 - 145	
1,2,3-Trichloropropane	20.0	19.1	95.4	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.0	100	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.7	104	75 - 130	
Vinyl chloride	20.0	21.0	105	50 - 145	
o-Xylene	20.0	20.7	104	80 - 120	
m-,p-Xylene	40.0	42.3	106	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	97.9	85 - 115	PASS
1,2-Dichloroethane-d4	97.2	70 - 120	PASS
Toluene-d8	99.9	85 - 120	PASS
4-Bromofluorobenzene	101	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 3964122
Report generated: 01/23/2015 17:48

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15010566
Instrument: HPMS8
Analyst: TMB
Workgroup: WG494714

Tune ID: WG494714-01
Run Date: 10/02/2014
Run Time: 11:58
File ID: 8M400357
Cal ID: HPMS8-02-OCT-14

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.7	5158	PASS
75.0	95.0	30.0	60.0	51.7	12312	PASS
95.0	95.0	100	100	100	23818	PASS
96.0	95.0	5.00	9.00	7.56	1800	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	69.7	16590	PASS
175	174	5.00	9.00	7.78	1290	PASS
176	174	95.0	101	97.3	16145	PASS
177	176	5.00	9.00	6.34	1023	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG494714-02	STD	01	10/02/2014 12:24	
WG494714-03	STD	01	10/02/2014 12:53	
WG494714-04	STD	01	10/02/2014 13:22	
WG494714-05	STD	01	10/02/2014 13:51	
WG494714-06	STD	01	10/02/2014 14:19	
WG494714-07	STD	01	10/02/2014 14:48	
WG494714-08	STD	01	10/02/2014 15:16	
WG494714-09	STD	01	10/02/2014 15:45	
WG494714-10	SSCV	01	10/02/2014 16:47	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3975272
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15010566
Instrument: HPMS8
Analyst: TMB
Workgroup: WG507785

Tune ID: WG507785-01
Run Date: 01/13/2015
Run Time: 08:44
File ID: 8M402259
Cal ID: HPMS8-13-JAN-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.5	8667	PASS
75.0	95.0	30.0	60.0	49.6	21011	PASS
95.0	95.0	100	100	100	42344	PASS
96.0	95.0	5.00	9.00	6.93	2935	PASS
173	174	0	2.00	0.359	107	PASS
174	95.0	50.0	100	70.4	29790	PASS
175	174	5.00	9.00	7.95	2369	PASS
176	174	95.0	101	97.0	28892	PASS
177	176	5.00	9.00	6.43	1859	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG507785-02	STD	01	01/13/2015 09:07	
WG507785-03	STD	01	01/13/2015 09:36	
WG507785-04	STD	01	01/13/2015 10:08	
WG507785-05	STD	01	01/13/2015 10:37	
WG507785-06	STD	01	01/13/2015 11:06	
WG507785-07	STD	01	01/13/2015 11:35	
WG507785-08	STD-CCV	01	01/13/2015 12:04	
WG507785-09	STD	01	01/13/2015 12:33	
WG507785-10	STD	01	01/13/2015 13:02	
WG507785-11	STD	01	01/13/2015 13:31	
WG507785-12	SSCV	01	01/13/2015 15:02	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3975272
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15010566
Instrument: HPMS8
Analyst: TMB
Workgroup: WG508005

Tune ID: WG508005-01
Run Date: 01/14/2015
Run Time: 12:06
File ID: 8M402284
Cal ID: HPMS8-13-JAN-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.7	7648	PASS
75.0	95.0	30.0	60.0	48.2	18725	PASS
95.0	95.0	100	100	100	38858	PASS
96.0	95.0	5.00	9.00	6.84	2657	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.0	28768	PASS
175	174	5.00	9.00	7.61	2188	PASS
176	174	95.0	101	96.2	27667	PASS
177	176	5.00	9.00	6.36	1760	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG508005-02	CCV	01	01/14/2015 12:29	
WG508018-01	CCV	01	01/14/2015 12:58	
WG508006-01	BLANK	01	01/14/2015 13:27	
WG508006-02	LCS	01	01/14/2015 13:56	
L15010566-07	TRIP BLANK	01	01/14/2015 20:16	
L15010566-02	12WW20-010915	01	01/14/2015 21:15	
L15010566-03	12WW21-010915	01	01/14/2015 21:45	
L15010566-04	12WW21FD-010915	01	01/14/2015 22:13	
L15010566-05	12WW23-010915	01	01/14/2015 22:42	
L15010566-06	12WW22-010915	01	01/14/2015 23:12	
L15010566-01	12WW24-010915	DL01	01/14/2015 23:41	
WG508006-06	BLANK2	01	01/15/2015 00:39	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 3975272
Report generated 01/23/2015 17:48

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Calibration: Fri Oct 03 12:32:07 2014
Curve: WG494714
Calibration Files

	Compound	5 8M400358.D	20 8M400359.D	50 8M400360.D	100 8M400361.D	200 8M400362.D	300 8M400363.D	400 8M400364.D	500 8M400365.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD											
T	Acetonitrile	0.015	0.015	0.015	0.016	0.017	0.016	0.015	0.016	0.016	4.015		
T	3-Chloro-1-propene	0.416	0.403	0.416	0.438	0.434	0.423	0.407	0.394	0.416	3.619		
T	2-Chloro-1,3-butadiene	0.467	0.479	0.496	0.520	0.522	0.508	0.485	0.462	0.493	4.640		
T	Ethyl Acetate	0.104	0.115	0.123	0.133	0.135	0.133	0.126	0.130	0.125	8.569		
T	Methacrylonitrile	0.062	0.065	0.072	0.077	0.080	0.080	0.077	0.081	0.074	9.397		
T	Isobutyl Alcohol			0.004	0.005	0.005	0.005	0.005	0.005	0.005	9.693		
T	1-Butanol			0.002	0.002	0.003	0.003	0.003	0.003	0.003	21.690	0.995	
T	Methyl methacrylate	0.115	0.123	0.137	0.147	0.154	0.151	0.145	0.150	0.140	10.193		
T	2-Nitropropane	0.032	0.035	0.039	0.043	0.047	0.046	0.046	0.048	0.042	14.057		
I	Chlorobenzene-d5	ISTD											
I	1,4-Dichlorobenzene-d4	ISTD											
T	Cyclohexanone			0.039	0.043	0.037	0.043	0.036	0.038	0.039	7.787		

Fri Oct 03 12:35:36 2014

Calibration Table Report
Method: 8260WT.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Calibration: Tue Jan 13 14:15:47 2015
Curve: WG507785
Calibration Files

	Compound	0.3 8M402260.D	0.4 8M402261.D	1 8M402262.D	2 8M402263.D	5 8M402264.D	20 8M402265.D	50 8M402266.D	100 8M402267.D	200 8M402268.D	300 8M402269.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.343	0.331	0.296	0.345	0.363	0.339	0.333	0.307	0.332	6.464		
P	Chloromethane			0.359	0.294	0.294	0.299	0.302	0.279	0.272	0.255	0.294	10.435		
C	Vinyl Chloride		0.306	0.287	0.273	0.264	0.278	0.278	0.258	0.249	0.228	0.269	8.398		
T	1,3-Butadiene				0.226	0.213	0.216	0.228	0.212	0.187	0.161	0.206	11.747		
T	Bromomethane			0.239	0.229	0.221	0.207	0.213	0.208	0.214	0.212	0.218	5.121		
T	Chloroethane			0.199	0.204	0.203	0.207	0.209	0.201	0.199	0.192	0.201	2.654		
T	Trichlorofluoromethane		0.460	0.437	0.424	0.421	0.437	0.460	0.437	0.432	0.412	0.436	3.744		
T	Diethyl ether			0.156	0.152	0.159	0.167	0.162	0.165		0.154	0.159	3.572		
T	Isoprene					0.333	0.350	0.379	0.370	0.358	0.334	0.354	5.258		
T	Acrolein				0.017	0.017	0.019	0.019	0.020		0.019	0.018	5.525		
T	1,1,2-Trichloro-1,2,2-Trifluoroethane			0.262	0.259	0.255	0.254	0.269	0.256	0.261	0.251	0.258	2.202		
T	Acetone					0.026	0.026	0.026	0.027	0.028	0.027	0.027	2.945		
C	1,1-Dichloroethene		0.404	0.402	0.383	0.388	0.401	0.414	0.393	0.389	0.365	0.393	3.643		
T	Tert-Butyl Alcohol				0.002	0.003	0.005	0.004	0.004		0.003	0.004	31.129		
T	Dimethyl Sulfide				0.264	0.289	0.284	0.292	0.292	0.282	0.268	0.281	4.063		
T	Iodomethane			0.140	0.161	0.193	0.245	0.288	0.294	0.284	0.263	0.233	25.916	0.997	
T	Methyl acetate				0.132	0.134	0.136	0.130	0.141	0.132	0.128	0.133	3.244		
T	Methylene Chloride			0.297	0.255	0.261	0.259	0.257	0.249	0.244	0.234	0.257	7.223		
T	Carbon Disulfide			0.874	0.848	0.843	0.837	0.864	0.820	0.732	0.638	0.807	10.061		
T	Acrylonitrile			0.037	0.040	0.042	0.047	0.048	0.051		0.053	0.046	12.703		
T	Methyl Tert Butyl Ether			0.439	0.412	0.457	0.509	0.497	0.507	0.480	0.456	0.470	7.367		
T	trans-1,2-Dichloroethene		0.365	0.409	0.399	0.389	0.398	0.405	0.387	0.374	0.348	0.386	5.230		
T	n-Hexane					0.356	0.361	0.388	0.383	0.370	0.343	0.367	4.623		
T	Diisopropyl ether			0.792	0.789	0.796	0.821	0.802	0.763		0.680	0.778	5.986		
T	Vinyl Acetate					0.155	0.149	0.144	0.150	0.136	0.138	0.146	5.042		
P	1,1-Dichloroethane		0.483	0.498	0.501	0.509	0.501	0.504	0.482	0.464	0.428	0.486	5.336		
T	Ethyl-Tert-Butyl ether			0.637	0.648	0.661	0.696	0.681	0.667		0.600	0.656	4.796		
T	2-Butanone					0.034	0.043	0.043	0.048	0.046	0.044	0.043	11.104		
T	Propionitrile				0.010	0.011	0.013	0.012	0.013		0.013	0.012	9.908		
T	2,2-Dichloropropane		0.373	0.431	0.375	0.396	0.397	0.405	0.390	0.381	0.361	0.390	5.289		
T	cis-1,2-Dichloroethene		0.289	0.280	0.282	0.276	0.291	0.288	0.278	0.273	0.258	0.279	3.602		
C	Chloroform	0.490	0.461	0.468	0.461	0.465	0.475	0.477	0.457	0.435	0.399	0.459	5.534		
T	1-Bromopropane			0.052	0.050	0.054	0.056	0.057	0.058	0.058	0.056	0.055	5.486		
T	Bromochloromethane		0.138	0.141	0.133	0.146	0.153	0.151	0.149	0.144	0.137	0.143	4.810		
T	Tetrahydrofuran			0.030	0.026	0.028	0.032	0.029	0.033		0.030	0.030	7.603		
S	Dibromofluoromethane			0.233	0.230	0.238	0.242	0.245	0.250	0.246	0.245	0.241	2.889		
T	1,1,1-Trichloroethane		0.370	0.389	0.369	0.378	0.410	0.422	0.409	0.402	0.377	0.392	4.968		
T	Cyclohexane			0.482	0.456	0.445	0.458	0.495	0.482	0.465	0.427	0.464	4.790		
T	1,1-Dichloropropene			0.359	0.347	0.351	0.371	0.387	0.369	0.359	0.334	0.359	4.536		
T	Tert-Amyl-Methyl ether			0.491	0.486	0.492	0.518	0.509	0.517		0.469	0.497	3.613		
T	Carbon Tetrachloride		0.284	0.327	0.315	0.311	0.341	0.363	0.354	0.355	0.336	0.3317	7.63845		
S	1,2-Dichloroethane-d4			0.233	0.225	0.238	0.25	0.242	0.252	0.24	0.236	0.2395	3.67284		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.272	0.296	0.292	0.302	0.32	0.316	0.31	0.297	0.278	0.2982	5.45816		
T	Benzene	1.153	1.046	1.021	1.002	1.03	1.04	1.034	0.953	0.809	0.674	0.9762	14.0387		
T	Trichloroethene		0.227	0.247	0.223	0.237	0.258	0.265	0.259	0.258	0.244	0.2464	6.04404		
T	Methylcyclohexane					0.397	0.405	0.442	0.44	0.425	0.393	0.417	5.20682		
C	1,2-Dichloropropane		0.224	0.255	0.257	0.268	0.276	0.284	0.275	0.268	0.254	0.2624	6.7416		
T	Bromodichloromethane		0.271	0.315	0.296	0.308	0.34	0.346	0.346	0.331	0.308	0.318	7.99298		
T	1,4-Dioxane					0	0.001	0.001	0.001		0	0.0005	34.2603		
T	Dibromomethane		0.109	0.117	0.106	0.118	0.127	0.125	0.127	0.122	0.12	0.119	6.15338		
T	2-Chloroethyl Vinyl Ether				0.092	0.095	0.105	0.108	0.114	0.109	0.107	0.1043	7.57607		
T	4-Methyl-2-Pentanone					0.043	0.044	0.044	0.048	0.045	0.043	0.0443	3.8975		
T	cis-1,3-Dichloropropene		0.297	0.344	0.332	0.363	0.392	0.396	0.392	0.37	0.338	0.3583	9.27012		

T	Dimethyl Disulfide					0.279	0.328	0.371	0.397	0.387	0.361	0.3536	12.3924	
I	Chlorobenzene-d5	ISTD												
S	Toluene-d8			1.152	1.131	1.185	1.228	1.226	1.208	1.134	1.042	1.1633	5.38174	
C	Toluene		1.524	1.433	1.437	1.479	1.502	1.496	1.337	1.101		1.4137	9.85584	
T	Ethyl Methacrylate			0.24	0.245	0.277	0.298	0.31	0.309	0.289	0.263	0.2789	9.84802	
T	Paraldehyde											0	0	
T	trans-1,3-Dichloropropene			0.365	0.366	0.416	0.457	0.475	0.472	0.442	0.399	0.4241	10.5065	
T	1,1,2-Trichloroethane		0.163	0.198	0.189	0.213	0.234	0.234	0.238	0.225	0.211	0.2118	11.7598	
T	2-Hexanone					0.045	0.053	0.053	0.057	0.054	0.05	0.0519	7.65528	
T	1,3-Dichloropropane		0.3	0.361	0.349	0.397	0.42	0.429	0.419	0.394	0.358	0.3807	11.0611	
T	Tetrachloroethene		0.292	0.3	0.299	0.291	0.302	0.319	0.309	0.307	0.29	0.301	3.13486	
T	Dibromochloromethane		0.186	0.224	0.218	0.256	0.287	0.304	0.31	0.301	0.282	0.2632	16.8344	0.998
T	1,2-Dibromoethane		0.157	0.203	0.18	0.209	0.231	0.234	0.24	0.227	0.214	0.2105	12.9112	
T	1-Chlorohexane		0.467	0.479	0.459	0.473	0.483	0.522	0.503	0.476	0.425	0.4763	5.66985	
P	Chlorobenzene		1	0.956	0.948	0.961	0.981	0.988	0.924	0.818	0.679	0.9173	11.3732	
T	1,1,1,2-Tetrachloroethane		0.237	0.265	0.259	0.296	0.33	0.35	0.353	0.347	0.319	0.306	14.32	
C	Ethylbenzene		0.525	0.527	0.547	0.532	0.537	0.563	0.541	0.521	0.464	0.5285	5.18585	
T	m-,p-Xylene		0.66	0.647	0.622	0.648	0.655	0.662	0.6	0.505	0.404	0.6003	14.7945	
T	o-Xylene			0.618	0.586	0.632	0.637	0.66	0.628	0.591	0.524	0.6096	6.92629	
T	Styrene		0.928	0.966	0.971	1.051	1.085	1.103	1.019	0.882	0.723	0.9698	12.0992	
P	Bromoform			0.109	0.107	0.129	0.162	0.173	0.188	0.186	0.175	0.1537	21.9592	0.998
T	Isopropylbenzene		1.611	1.629	1.592	1.599	1.646	1.656	1.452	1.174		1.5449	10.5295	
I	1,4-Dichlorobenzene-d4	ISTD												
P	1,1,2,2-Tetrachloroethane		0.341	0.447	0.434	0.468	0.489	0.493	0.507	0.476	0.454	0.4564	10.8111	
S	p-Bromofluorobenzene			0.85	0.838	0.892	0.964	0.958	0.963	0.932	0.923	0.915	5.48167	
T	1,2,3-Trichloropropane			0.112	0.099	0.128	0.134	0.137	0.142	0.135	0.131	0.1272	11.4146	
T	trans-1,4-Dichloro-2-Butene			0.096	0.104	0.122	0.151	0.147	0.167	0.16	0.155	0.1377	19.4136	0.999
T	n-Propylbenzene		4.181	4.004	4.054	4.115	4.06	4.058	3.418	2.6		3.8112	14.2625	
T	Bromobenzene	1.063	0.81	0.716	0.735	0.769	0.8	0.809	0.782	0.757	0.711	0.7953	12.6697	
T	1,3,5-Trimethylbenzene	3.062	2.552	2.607	2.686	2.821	2.796	2.845	2.585	2.142	1.771	2.5867	14.496	
T	2-Chlorotoluene		2.503	2.455	2.389	2.581	2.54	2.502	2.173	2.086	1.695	2.3249	12.4703	
T	4-Chlorotoluene		2.373	2.453	2.524	2.407	2.462	2.547	2.306	1.592		2.333	13.2704	
T	a-Methylstyrene					1.435	1.473	1.6	1.557	1.424	1.262	1.4587	8.12348	
T	tert-Butylbenzene			0.533	0.558	0.564	0.577	0.607	0.583	0.578	0.556	0.5697	3.86973	
T	1,2,4-Trimethylbenzene			2.761	2.822	2.881	2.825	2.86	2.576	2.124		2.6928	10.0553	
T	sec-Butylbenzene			3.483	3.438	3.443	3.545	3.581	3.112	2.468		3.2958	12.0025	
T	p-Isopropyltoluene		2.853	2.888	2.815	2.812	2.85	2.929	2.647	2.174	1.79	2.6398	14.8776	
T	1,3-Dichlorobenzene		1.63	1.535	1.547	1.543	1.548	1.609	1.521	1.369	1.213	1.5015	8.69741	
T	1,4-Dichlorobenzene	2.538	1.642	1.562	1.551	1.569	1.538	1.581	1.499	1.342	1.188	1.6009	22.2017	1.000
T	n-Butylbenzene		3.018	2.82	2.873	2.877	2.859	2.899	2.574	2.097		2.7522	10.6373	
T	1,2-Dichlorobenzene	1.853	1.291	1.316	1.288	1.362	1.377	1.404	1.348	1.221	1.107	1.3567	14.3328	
T	1,2-Dibromo-3-Chloropropane				0.048	0.071	0.079	0.082	0.085	0.082	0.08	0.0753	17.1434	0.999
T	1,2,4-Trichlorobenzene		1.095	1.086	1.061	1.077	1.11	1.149	1.085	1.035	0.945	1.0715	5.31039	
T	Hexachlorobutadiene		0.623	0.567	0.591	0.605	0.611	0.658	0.635	0.637	0.617	0.616	4.35375	
T	Naphthalene		1.37	1.371	1.311	1.435	1.591	1.643	1.572	1.421	1.233	1.4385	9.54505	
T	1,2,3-Trichlorobenzene	1.214	0.941	0.956	0.893	0.927	0.966	0.984	0.954	0.912	0.848	0.9595	10.1978	

Wed Jan 14 08:43:19 2015

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15010566 Run Date: 01/13/2015 Sample ID: WG507785-12
Instrument ID: HPMS8 Run Time: 15:02 Method: 8260B
File ID: 8M402272 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG507785 Cal ID: HPMS8 - 13-JAN-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.2	ug/L	0.460	0.300	20	
1,1-Dichloroethene	CCC	50.0	48.0	ug/L	0.378	4.00	20	
1,2-Dichloropropane	CCC	50.0	51.0	ug/L	0.268	2.00	20	
Ethylbenzene	CCC	50.0	48.8	ug/L	0.516	2.30	20	
Toluene	CCC	50.0	48.6	ug/L	1.37	2.90	20	
Vinyl Chloride	CCC	50.0	51.0	ug/L	0.274	2.10	20	
Bromoform	SPCC	50.0	46.6	ug/L	0.166	6.90	20	
Chlorobenzene	SPCC	50.0	51.6	ug/L	0.946	3.10	20	
Chloromethane	SPCC	50.0	50.9	ug/L	0.300	1.80	20	
1,1-Dichloroethane	SPCC	50.0	50.0	ug/L	0.486	0.100	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.9	ug/L	0.437	4.20	20	
Acetone		50.0	50.8	ug/L	0.0273	1.50	20	
Benzene		50.0	50.4	ug/L	0.984	0.800	20	
Bromobenzene		50.0	45.2	ug/L	0.719	9.60	20	
Bromochloromethane		50.0	51.3	ug/L	0.147	2.50	20	
Bromodichloromethane		50.0	51.8	ug/L	0.329	3.60	20	
Bromomethane		50.0	46.5	ug/L	0.203	7.00	20	
2-Butanone		50.0	54.6	ug/L	0.0472	9.10	20	
n-Butylbenzene		50.0	46.1	ug/L	2.54	7.80	20	
sec-Butylbenzene		50.0	49.5	ug/L	3.26	1.10	20	
tert-Butylbenzene		50.0	48.8	ug/L	0.556	2.50	20	
Carbon Disulfide		50.0	41.3	ug/L	0.667	17.3	20	
Carbon Tetrachloride		50.0	53.2	ug/L	0.353	6.40	20	
Dibromochloromethane		50.0	48.7	ug/L	0.285	2.60	20	
Chloroethane		50.0	53.2	ug/L	0.215	6.50	20	
2-Chlorotoluene		50.0	51.6	ug/L	2.40	3.10	20	
4-Chlorotoluene		50.0	47.8	ug/L	2.23	4.50	20	
1,2-Dibromo-3-Chloropropane		50.0	46.0	ug/L	0.0741	8.00	20	
1,2-Dibromoethane		50.0	51.9	ug/L	0.219	3.80	20	
Dibromomethane		50.0	52.1	ug/L	0.124	4.10	20	
1,2-Dichlorobenzene		50.0	47.5	ug/L	1.29	5.10	20	
1,3-Dichlorobenzene		50.0	48.3	ug/L	1.45	3.40	20	
1,4-Dichlorobenzene		50.0	44.2	ug/L	1.39	11.6	20	
Dichlorodifluoromethane		50.0	62.7	ug/L	0.416	25.3	20	*
1,2-Dichloroethane		50.0	49.8	ug/L	0.297	0.300	20	
cis-1,2-Dichloroethene		50.0	49.0	ug/L	0.274	2.10	20	
trans-1,2-Dichloroethene		50.0	48.6	ug/L	0.375	2.90	20	
1,3-Dichloropropane		50.0	51.8	ug/L	0.395	3.60	20	
2,2-Dichloropropane		50.0	51.7	ug/L	0.403	3.40	20	
cis-1,3-Dichloropropene		50.0	54.8	ug/L	0.393	9.50	20	
trans-1,3-Dichloropropene		50.0	49.5	ug/L	0.420	0.900	20	
1,1-Dichloropropene		50.0	49.2	ug/L	0.354	1.60	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 3964124
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15010566 Run Date: 01/13/2015 Sample ID: WG507785-12
Instrument ID: HPMS8 Run Time: 15:02 Method: 8260B
File ID: 8M402272 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG507785 Cal ID: HPMS8 - 13-JAN-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	52.5	ug/L	0.0546	5.10	20	
Hexachlorobutadiene		50.0	46.2	ug/L	0.569	7.70	20	
Isopropylbenzene		50.0	51.1	ug/L	1.58	2.10	20	
p-Isopropyltoluene		50.0	49.6	ug/L	2.62	0.800	20	
4-Methyl-2-Pentanone		50.0	50.3	ug/L	0.0446	0.500	20	
Methylene Chloride		50.0	46.8	ug/L	0.241	6.40	20	
Naphthalene		50.0	49.9	ug/L	1.44	0.200	20	
n-Propylbenzene		50.0	48.2	ug/L	3.67	3.70	20	
Styrene		50.0	52.3	ug/L	1.01	4.50	20	
1,1,1,2-Tetrachloroethane		50.0	51.7	ug/L	0.317	3.50	20	
Tetrachloroethene		50.0	50.1	ug/L	0.302	0.300	20	
1,2,3-Trichlorobenzene		50.0	45.4	ug/L	0.871	9.30	20	
1,2,4-Trichlorobenzene		50.0	46.9	ug/L	1.00	6.30	20	
1,1,1-Trichloroethane		50.0	52.4	ug/L	0.410	4.70	20	
1,1,2-Trichloroethane		50.0	51.8	ug/L	0.219	3.50	20	
Trichloroethene		50.0	53.0	ug/L	0.261	6.00	20	
Trichlorofluoromethane		50.0	48.8	ug/L	0.425	2.40	20	
1,2,3-Trichloropropane		50.0	46.9	ug/L	0.119	6.30	20	
1,2,4-Trimethylbenzene		50.0	47.0	ug/L	2.53	6.10	20	
1,3,5-Trimethylbenzene		50.0	49.5	ug/L	2.56	1.10	20	
o-Xylene		50.0	51.8	ug/L	0.631	3.50	20	
m-,p-Xylene		100	104	ug/L	0.624	4.00	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 3964124
Report generated 01/23/2015 17:48

Login Number: L15010566 Run Date: 01/14/2015 Sample ID: WG508005-02
Instrument ID: HPMS8 Run Time: 12:29 Method: 8260B
File ID: 8M402285 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG508006 Cal ID: HPMS8 - 13-JAN-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	52.7	ug/L	0.484	5.43	20	
1,1-Dichloroethene	CCC	50.0	54.2	ug/L	0.426	8.31	20	
1,2-Dichloropropane	CCC	50.0	53.4	ug/L	0.280	6.77	20	
Ethylbenzene	CCC	50.0	53.3	ug/L	0.564	6.69	20	
Toluene	CCC	50.0	53.3	ug/L	1.51	6.69	20	
Vinyl Chloride	CCC	50.0	53.3	ug/L	0.286	6.51	20	
Bromoform	SPCC	50.0	42.4	ug/L	0.151	15.2	20	
Chlorobenzene	SPCC	50.0	53.4	ug/L	0.980	6.79	20	
Chloromethane	SPCC	50.0	51.2	ug/L	0.301	2.30	20	
1,1-Dichloroethane	SPCC	50.0	53.5	ug/L	0.519	6.94	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.6	ug/L	0.435	4.76	20	
Xylenes		150	165	ug/L	0.662	9.96	20	
Acetone		50.0	52.2	ug/L	0.0281	4.44	20	
Benzene		50.0	54.1	ug/L	1.06	8.17	20	
Bromobenzene		50.0	47.9	ug/L	0.763	4.12	20	
Bromochloromethane		50.0	49.1	ug/L	0.141	1.87	20	
Bromodichloromethane		50.0	53.1	ug/L	0.338	6.15	20	
Bromomethane		50.0	49.2	ug/L	0.214	1.67	20	
2-Butanone		50.0	47.7	ug/L	0.0413	4.57	20	
n-Butylbenzene		50.0	54.0	ug/L	2.97	8.02	20	
sec-Butylbenzene		50.0	55.1	ug/L	3.63	10.1	20	
tert-Butylbenzene		50.0	53.3	ug/L	0.607	6.62	20	
Carbon Disulfide		50.0	56.5	ug/L	0.913	13.1	20	
Carbon Tetrachloride		50.0	55.4	ug/L	0.368	10.8	20	
Dibromochloromethane		50.0	46.4	ug/L	0.272	7.20	20	
Chloroethane		50.0	53.3	ug/L	0.215	6.58	20	
2-Chlorotoluene		50.0	54.7	ug/L	2.54	9.38	20	
4-Chlorotoluene		50.0	53.6	ug/L	2.50	7.18	20	
1,2-Dibromo-3-Chloropropane		50.0	43.6	ug/L	0.0702	12.9	20	
1,2-Dibromoethane		50.0	49.5	ug/L	0.209	0.927	20	
Dibromomethane		50.0	49.2	ug/L	0.117	1.69	20	
1,2-Dichlorobenzene		50.0	48.0	ug/L	1.30	4.08	20	
1,3-Dichlorobenzene		50.0	52.0	ug/L	1.56	3.97	20	
1,4-Dichlorobenzene		50.0	48.6	ug/L	1.52	2.87	20	
Dichlorodifluoromethane		50.0	51.5	ug/L	0.342	3.03	20	
1,2-Dichloroethane		50.0	50.4	ug/L	0.301	0.825	20	
cis-1,2-Dichloroethene		50.0	52.1	ug/L	0.291	4.16	20	
trans-1,2-Dichloroethene		50.0	54.1	ug/L	0.418	8.25	20	
1,3-Dichloropropane		50.0	50.8	ug/L	0.387	1.56	20	
2,2-Dichloropropane		50.0	55.8	ug/L	0.435	11.6	20	
cis-1,3-Dichloropropene		50.0	53.5	ug/L	0.383	7.01	20	
trans-1,3-Dichloropropene		50.0	52.3	ug/L	0.443	4.55	20	

CCV - Modified 03/05/2008
PDF File ID: 3964125
Report generated 01/23/2015 17:48

Login Number: L15010566 Run Date: 01/14/2015 Sample ID: WG508005-02
Instrument ID: HPMS8 Run Time: 12:29 Method: 8260B
File ID: 8M402285 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG508006 Cal ID: HPMS8 - 13-JAN-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	55.1	ug/L	0.397	10.3	20	
2-Hexanone		50.0	44.8	ug/L	0.0465	10.5	20	
Hexachlorobutadiene		50.0	53.8	ug/L	0.662	7.50	20	
Isopropylbenzene		50.0	53.9	ug/L	1.67	7.84	20	
p-Isopropyltoluene		50.0	55.9	ug/L	2.95	11.8	20	
4-Methyl-2-Pentanone		50.0	42.6	ug/L	0.0378	14.7	20	
Methylene Chloride		50.0	50.2	ug/L	0.258	0.375	20	
Naphthalene		50.0	48.0	ug/L	1.38	3.97	20	
n-Propylbenzene		50.0	54.2	ug/L	4.13	8.32	20	
Styrene		50.0	55.4	ug/L	1.08	10.9	20	
1,1,1,2-Tetrachloroethane		50.0	54.3	ug/L	0.332	8.55	20	
Tetrachloroethene		50.0	53.2	ug/L	0.321	6.47	20	
1,2,3-Trichlorobenzene		50.0	46.0	ug/L	0.883	7.98	20	
1,2,4-Trichlorobenzene		50.0	49.6	ug/L	1.06	0.845	20	
1,1,1-Trichloroethane		50.0	55.5	ug/L	0.435	11.1	20	
1,1,2-Trichloroethane		50.0	49.7	ug/L	0.210	0.662	20	
Trichloroethene		50.0	54.2	ug/L	0.267	8.35	20	
Trichlorofluoromethane		50.0	53.8	ug/L	0.469	7.62	20	
1,2,3-Trichloropropane		50.0	46.8	ug/L	0.119	6.39	20	
1,2,4-Trimethylbenzene		50.0	53.4	ug/L	2.87	6.76	20	
1,3,5-Trimethylbenzene		50.0	55.4	ug/L	2.87	10.8	20	
o-Xylene		50.0	54.1	ug/L	0.659	8.14	20	
m-,p-Xylene		100	111	ug/L	0.666	10.9	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 3964125
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L15010566
Instrument ID: HPMS8
Workgroup (AAB#): WG508006

ICAL CCV Number: WG507785-08
CAL ID: HPMS8-13-JAN-15
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG507785-08	NA	NA	324712	652034	939939
Upper Limit	NA	NA	649424	1304068	1879878
Lower Limit	NA	NA	162356	326017	469970
L15010566-01	2.50	DL01	288826	576386	766578
L15010566-02	1.00	01	292898	584952	765389
L15010566-03	1.00	01	300254	595637	781891
L15010566-04	1.00	01	290872	581779	753556
L15010566-05	1.00	01	287045	568890	747517
L15010566-06	1.00	01	286622	578059	749548
L15010566-07	1.00	01	296120	581365	766726
WG508006-01	1.00	01	313621	625943	821761
WG508006-02	1.00	01	318452	637316	874039

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 3975273
Report generated 01/23/2015 17:48

Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L15010566
Instrument ID: HPMS8
Workgroup (AAB#): WG508006

ICAL CCV Number: WG507785-08
CAL ID: HPMS8-13-JAN-15
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG507785-08	NA	NA	17.72	14.69	10.82
Upper Limit	NA	NA	18.22	15.19	11.32
Lower Limit	NA	NA	17.22	14.19	10.32
L15010566-01	2.50	DL01	17.71	14.69	10.83
L15010566-02	1.00	01	17.72	14.69	10.82
L15010566-03	1.00	01	17.72	14.69	10.82
L15010566-04	1.00	01	17.71	14.69	10.83
L15010566-05	1.00	01	17.72	14.69	10.82
L15010566-06	1.00	01	17.71	14.69	10.82
L15010566-07	1.00	01	17.71	14.69	10.83
WG508006-01	1.00	01	17.71	14.69	10.82
WG508006-02	1.00	01	17.72	14.69	10.82

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 3975274
Report generated: 01/23/2015 17:49

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402308.D Vial: 25
Acq On : 14 Jan 2015 23:41 Operator: TMB
Sample : L15010566-01 A 2.5X 826-LOW Inst : HPMS8
Misc : 1,2.5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:30:03 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

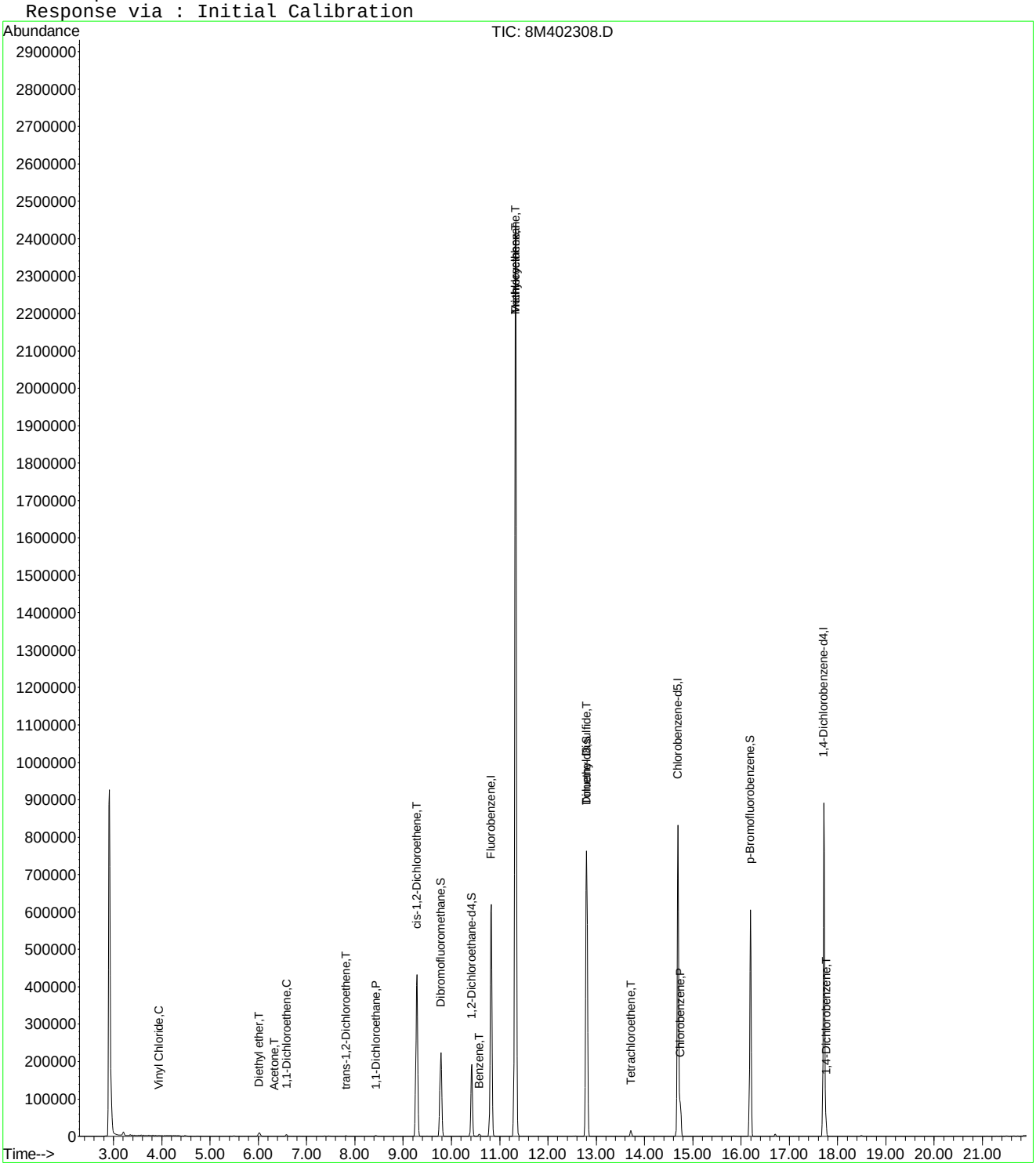
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	766578	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	576386	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	288826	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	187412	25.3586	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.44%			
43) 1,2-Dichloroethane-d4	10.42	65	179065	24.3861	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.56%			
58) Toluene-d8	12.80	98	673857	25.1253	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.52%			
80) p-Bromofluorobenzene	16.19	95	267753	25.3290	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.32%			
Target Compounds						Qvalue
4) Vinyl Chloride	3.94	62	1943	0.2357	ug/L #	67
9) Diethyl ether	6.02	59	9445	1.9331	ug/L	91
13) Acetone	6.34	43	205	0.2484	ug/L #	1
14) 1,1-Dichloroethene	6.59	61	5550	0.4603	ug/L	86
23) trans-1,2-Dichloroethene	7.82	61	1530	0.1292	ug/L	94
27) 1,1-Dichloroethane	8.44	63	4571	0.3070	ug/L #	84
32) cis-1,2-Dichloroethene	9.29	96	242826	28.3384	ug/L	78
46) Benzene	10.58	78	7766	0.2595	ug/L	89
47) Trichloroethene	11.33	130	1066925	141.2174	ug/L	100
48) Methylcyclohexane	11.33	83	14471	1.1319	ug/L #	1
56) Dimethyl Disulfide	12.80	94	18508	1.7069	ug/L #	26
66) Tetrachloroethene	13.72	164	5191	0.7480	ug/L	94
70) Chlorobenzene	14.74	112	64671	3.0579	ug/L	93
94) 1,4-Dichlorobenzene	17.76	146	25542	1.3009	ug/L	77

(#) = qualifier out of range (m) = manual integration
8M402308.D 8260WT.M Thu Jan 15 08:30:04 2015 Page 1

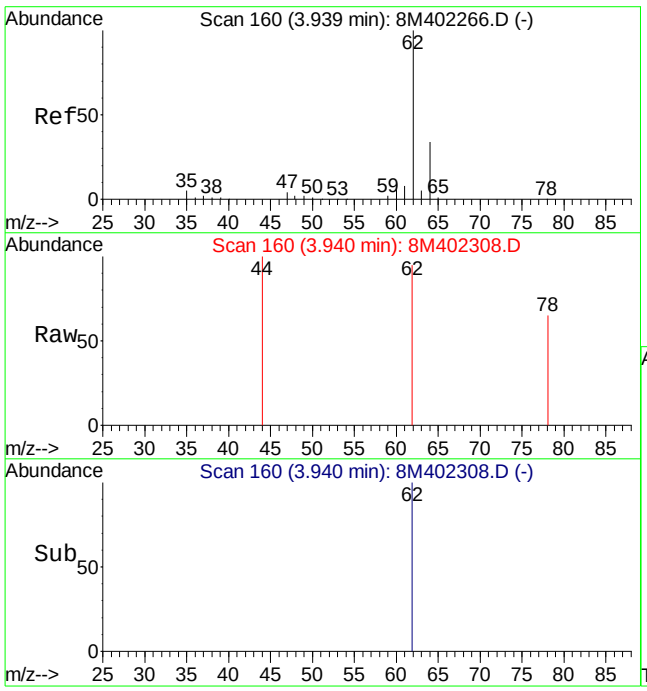
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402308.D Vial: 25
Acq On : 14 Jan 2015 23:41 Operator: TMB
Sample : L15010566-01 A 2.5X 826-LOW Inst : HPMS8
Misc : 1,2.5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:30 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



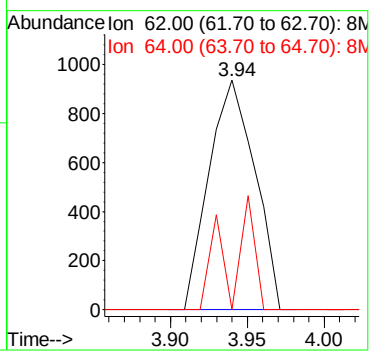
8M402308.D 8260WT.M Thu Jan 15 08:30:04 2015 Page 2

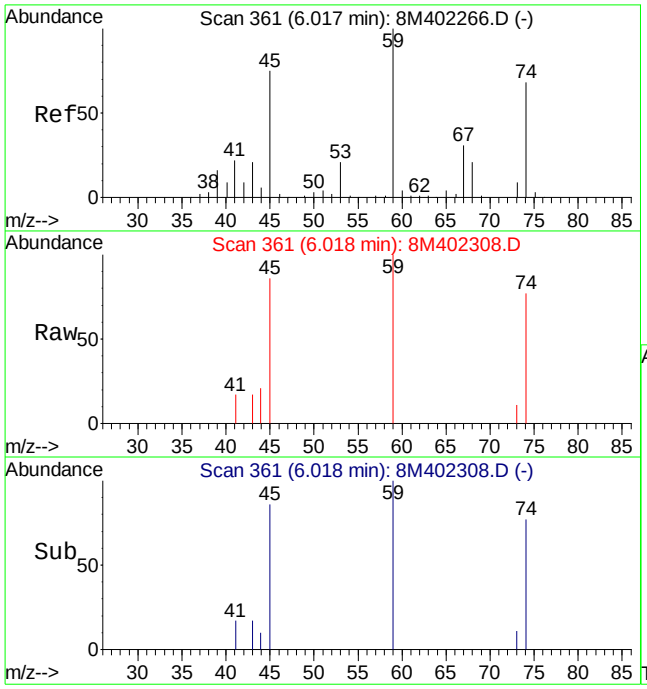


#4
Vinyl Chloride
Concen: 0.24 ug/L
RT: 3.94 min Scan# 160
Delta R.T. 0.00 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 62 Resp: 1943

Ion	Ratio	Lower	Upper
62	100		
64	12.4	18.2	42.6#

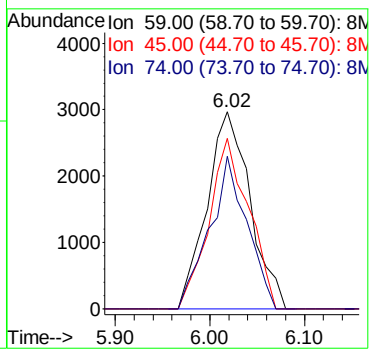


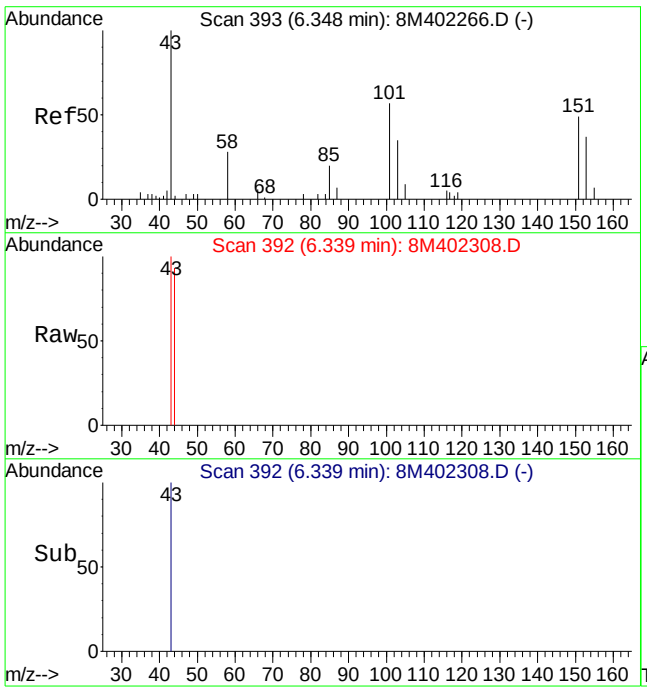


#9
Diethyl ether
Concen: 1.93 ug/L
RT: 6.02 min Scan# 361
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 59 Resp: 9445

Ion	Ratio	Lower	Upper
59	100		
45	79.7	43.3	100.9
74	67.2	35.9	83.7

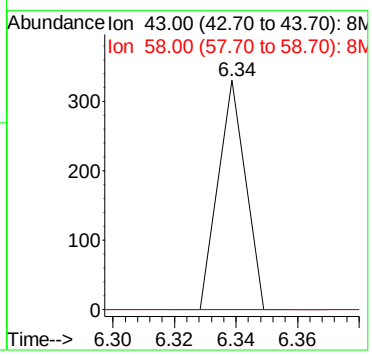


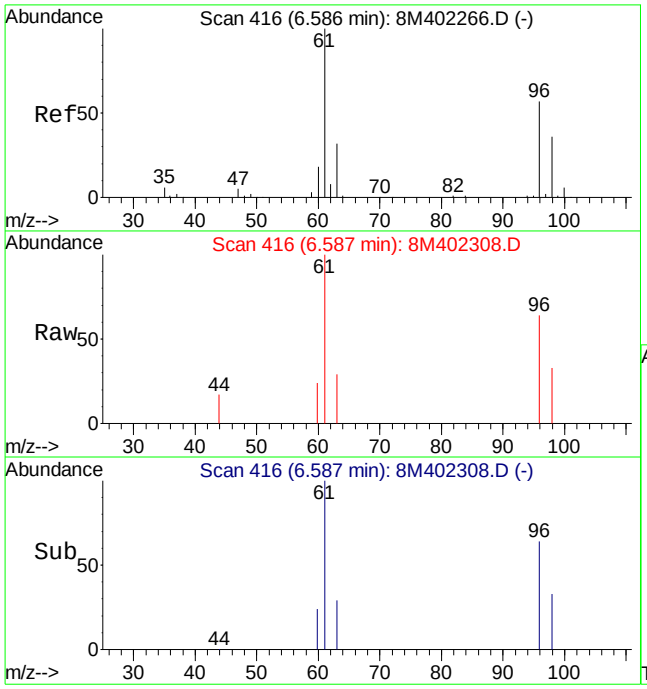


#13
Acetone
Concen: 0.25 ug/L
RT: 6.34 min Scan# 392
Delta R.T. -0.02 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 43 Resp: 205

Ion	Ratio	Lower	Upper
43	100		
58	0.0	61.9	144.5#

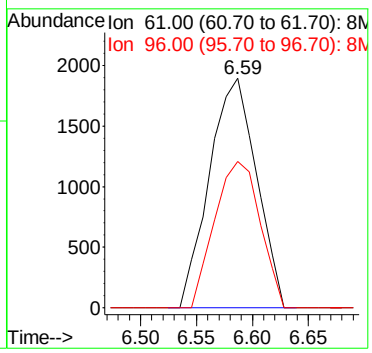


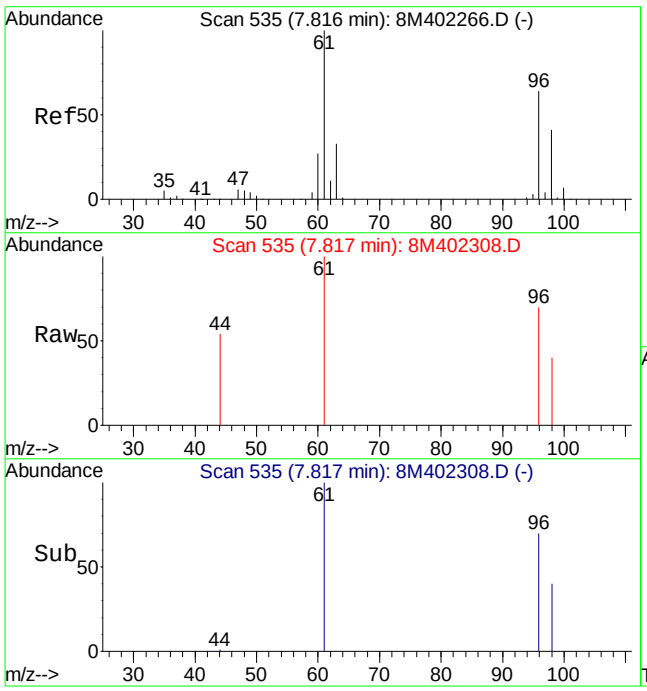


#14
1,1-Dichloroethene
Concen: 0.46 ug/L
RT: 6.59 min Scan# 416
Delta R.T. 0.00 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 61 Resp: 5550

Ion	Ratio	Lower	Upper
61	100		
96	61.4	30.8	72.0

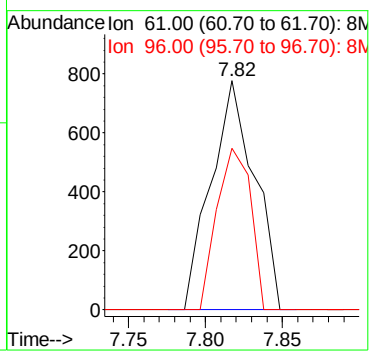


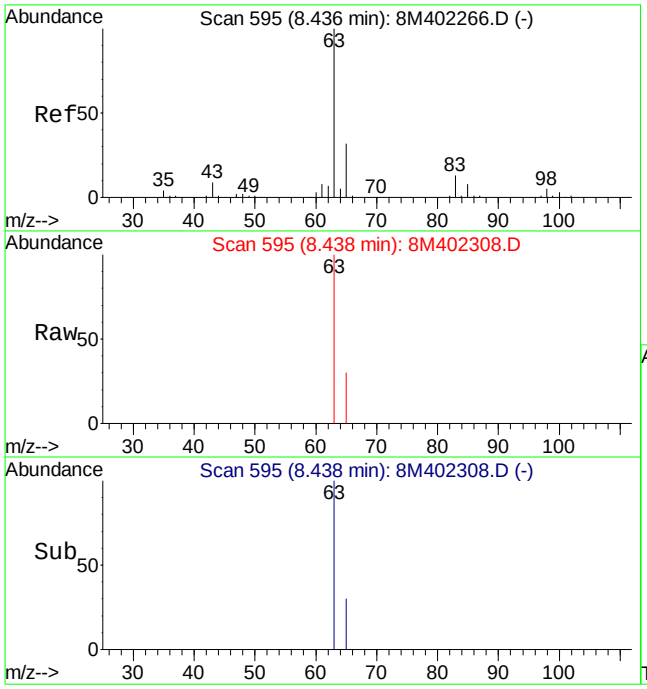


#23
trans-1,2-Dichloroethene
Concen: 0.13 ug/L
RT: 7.82 min Scan# 535
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 61 Resp: 1530

Ion	Ratio	Lower	Upper
61	100		
96	54.4	35.3	82.5

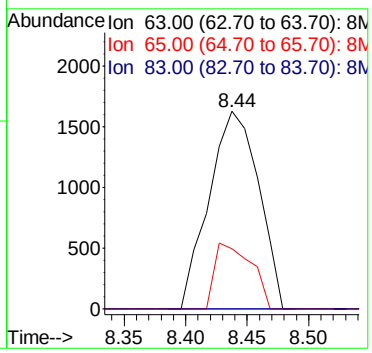


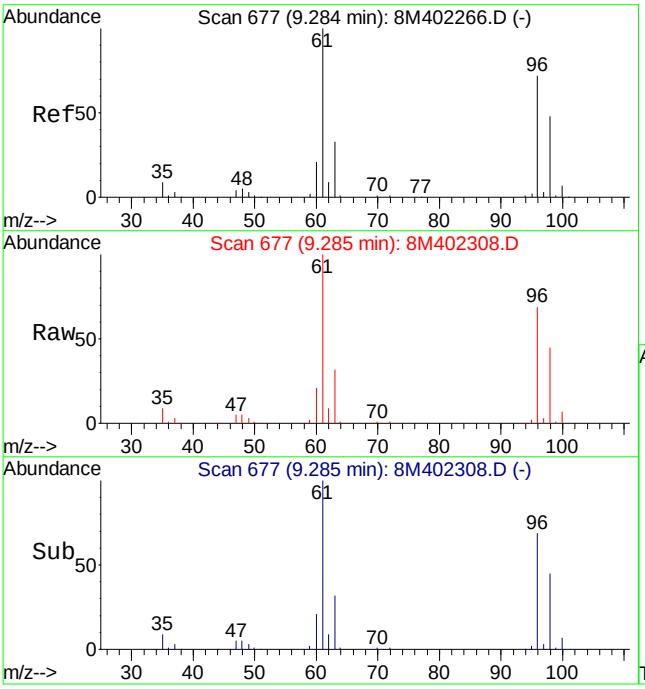


#27
1,1-Dichloroethane
Concen: 0.31 ug/L
RT: 8.44 min Scan# 595
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 63 Resp: 4571

Ion	Ratio	Lower	Upper
63	100		
65	24.4	18.3	42.7
83	0.0	7.0	16.4#

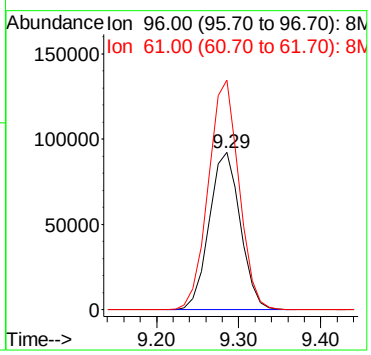


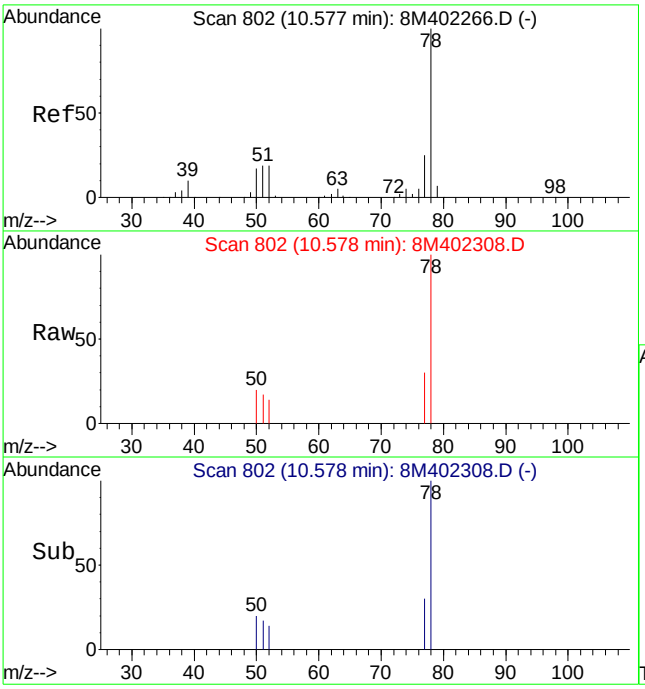


#32
cis-1,2-Dichloroethene
Concen: 28.34 ug/L
RT: 9.29 min Scan# 677
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 96 Resp: 242826

Ion	Ratio	Lower	Upper
96	100		
61	143.6	104.6	244.0

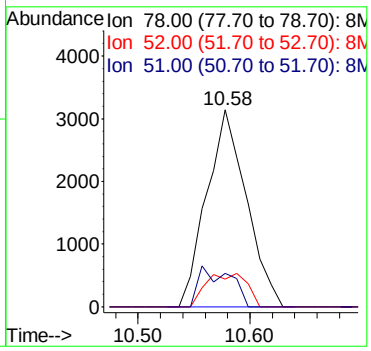


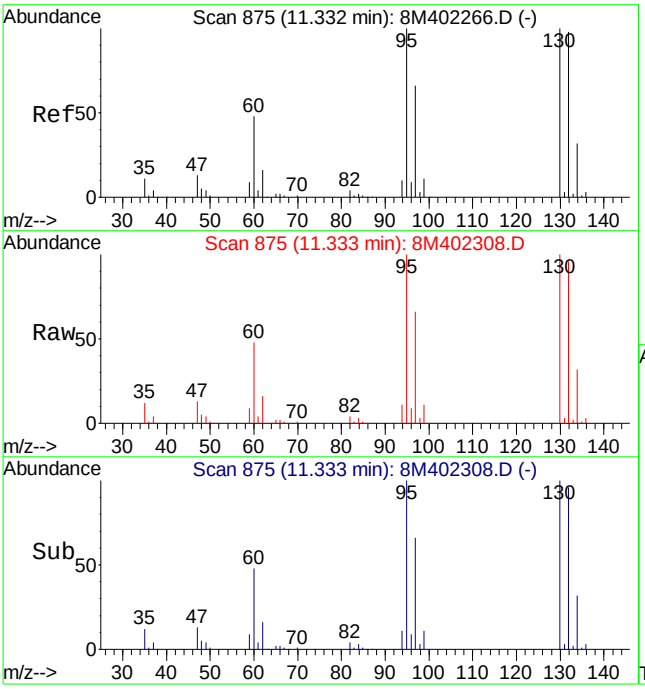


#46
Benzene
Concen: 0.26 ug/L
RT: 10.58 min Scan# 802
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 78 Resp: 7766

Ion	Ratio	Lower	Upper
78	100		
52	17.2	12.1	28.3
51	16.3	14.2	33.2

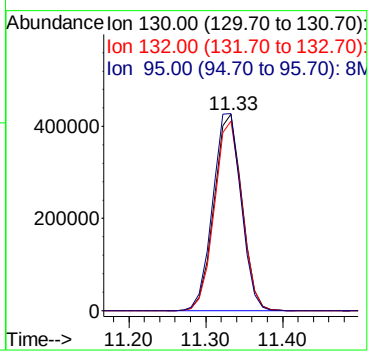


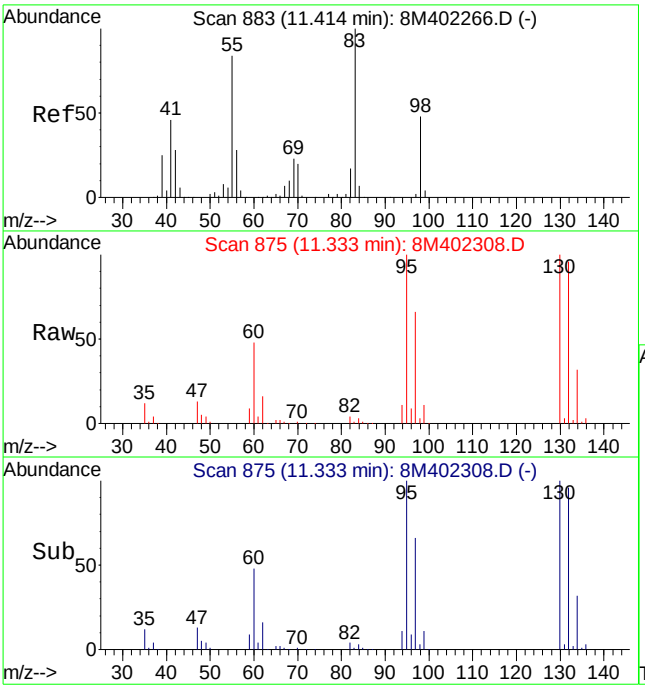


#47
Trichloroethene
Concen: 141.22 ug/L
RT: 11.33 min Scan# 875
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion:130 Resp: 1066925

Ion	Ratio	Lower	Upper
130	100		
132	95.7	57.7	134.5
95	102.6	61.8	144.2

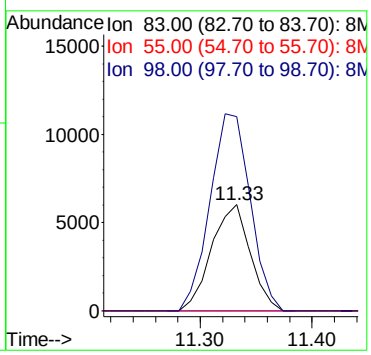


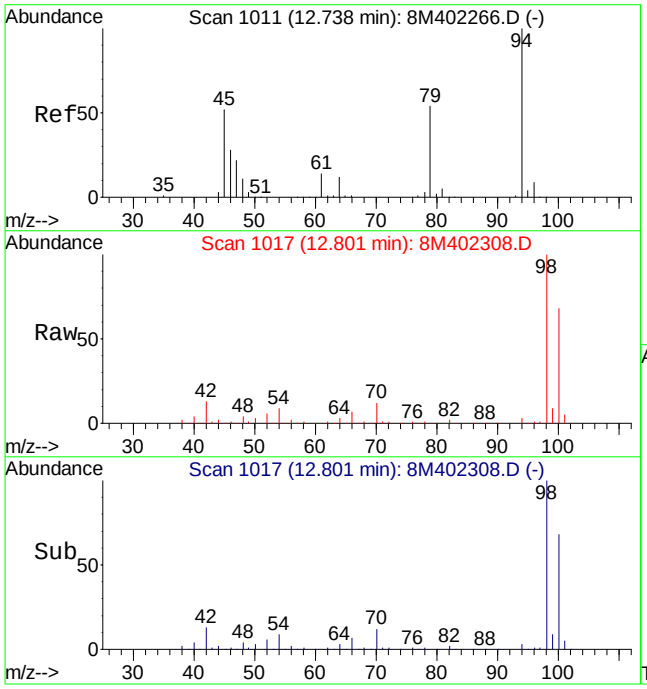


#48
Methylcyclohexane
Concen: 1.13 ug/L
RT: 11.33 min Scan# 875
Delta R.T. -0.09 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 83 Resp: 14471

Ion	Ratio	Lower	Upper
83	100		
55	0.0	59.4	138.6#
98	192.7	28.4	66.2#

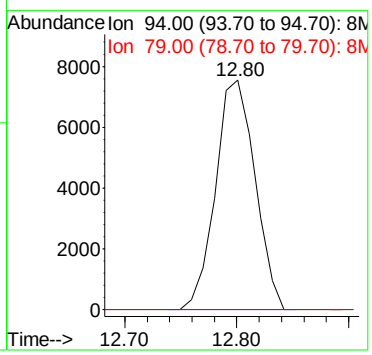


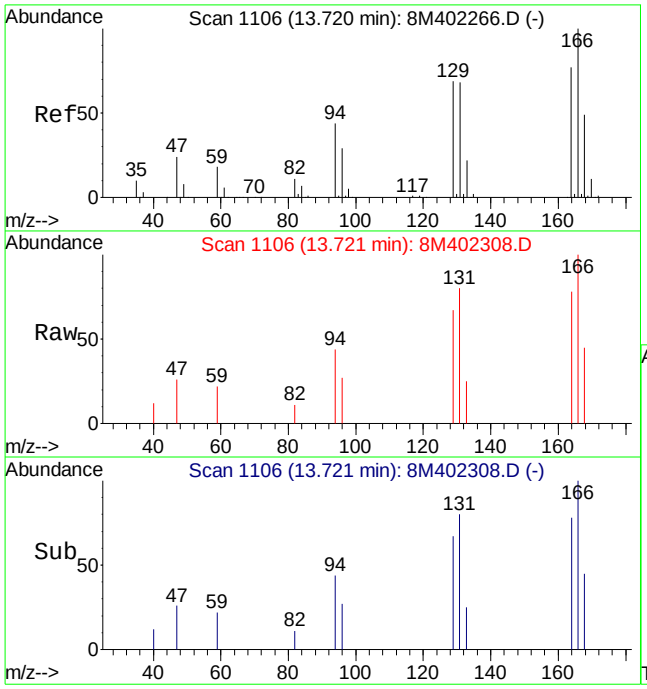


#56
Dimethyl Disulfide
Concen: 1.71 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.05 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion: 94 Resp: 18508

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#

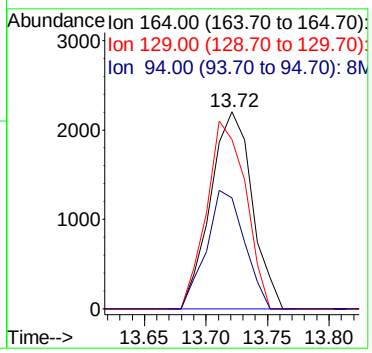


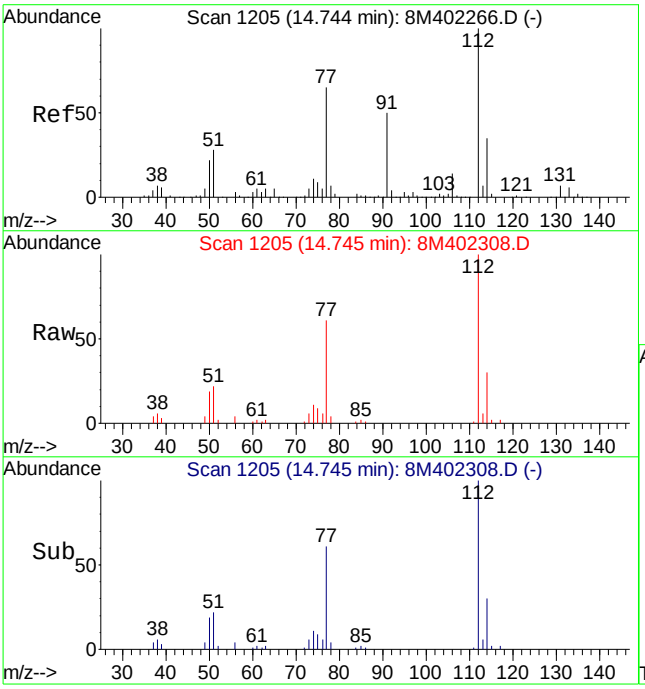


#66
Tetrachloroethene
Concen: 0.75 ug/L
RT: 13.72 min Scan# 1106
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion:164 Resp: 5191

Ion	Ratio	Lower	Upper
164	100		
129	89.2	56.6	132.0
94	54.7	36.1	84.1

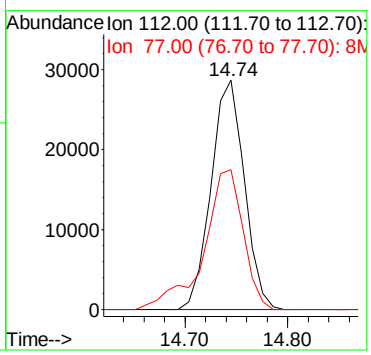


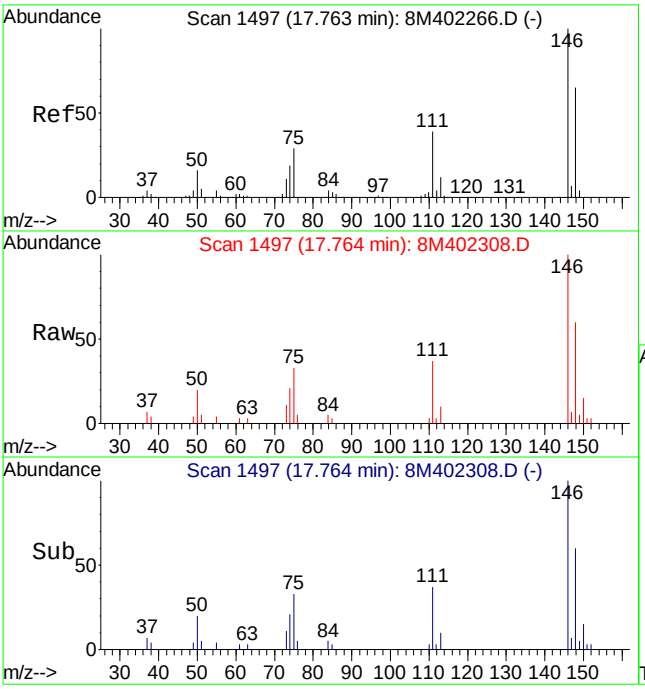


#70
Chlorobenzene
Concen: 3.06 ug/L
RT: 14.74 min Scan# 1205
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion:112 Resp: 64671

Ion	Ratio	Lower	Upper
112	100		
77	72.2	46.9	109.5

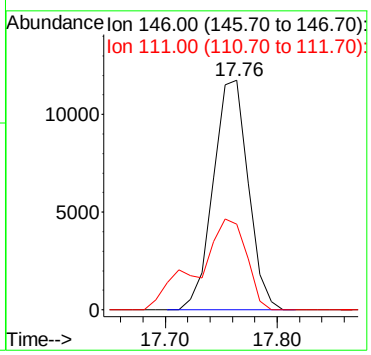




#94
1,4-Dichlorobenzene
Concen: 1.30 ug/L
RT: 17.76 min Scan# 1497
Delta R.T. -0.01 min
Lab File: 8M402308.D
Acq: 14 Jan 2015 23:41

Tgt Ion:146 Resp: 25542

Ion	Ratio	Lower	Upper
146	100		
111	55.7	24.6	57.4



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402303.D Vial: 20
Acq On : 14 Jan 2015 21:15 Operator: TMB
Sample : L15010566-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:29:58 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

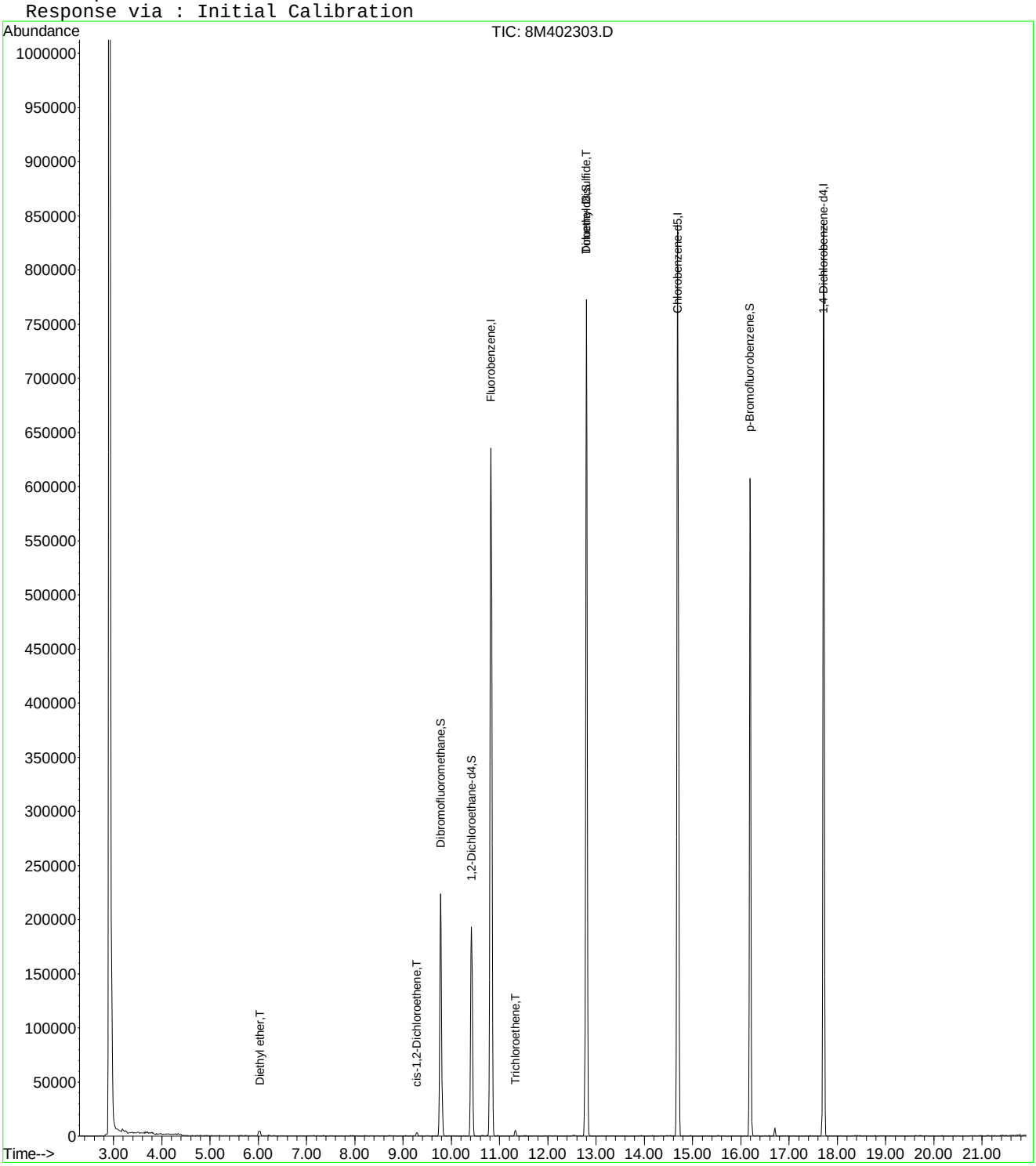
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	765389	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	584952	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	292898	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	188282	25.5159	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.08%			
43) 1,2-Dichloroethane-d4	10.42	65	177704	24.2383	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.96%			
58) Toluene-d8	12.80	98	677731	24.8997	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.60%			
80) p-Bromofluorobenzene	16.19	95	268960	25.0895	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.36%			
Target Compounds						Qvalue
9) Diethyl ether	6.04	59	4603	0.9436	ug/L	90
32) cis-1,2-Dichloroethene	9.28	96	1964	0.2296	ug/L	77
47) Trichloroethene	11.33	130	2214	0.2935	ug/L	91
56) Dimethyl Disulfide	12.80	94	18058	1.6680	ug/L #	26

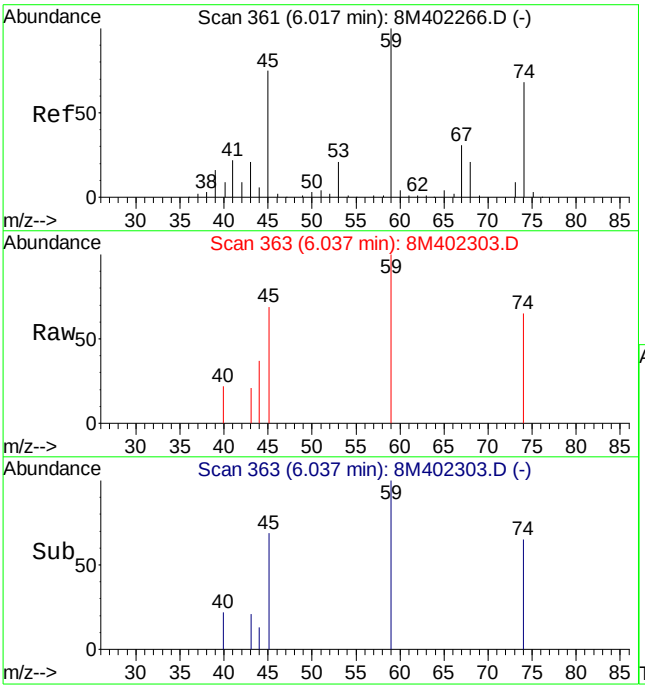
(#) = qualifier out of range (m) = manual integration
8M402303.D 8260WT.M Thu Jan 15 08:29:58 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402303.D Vial: 20
Acq On : 14 Jan 2015 21:15 Operator: TMB
Sample : L15010566-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:29 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

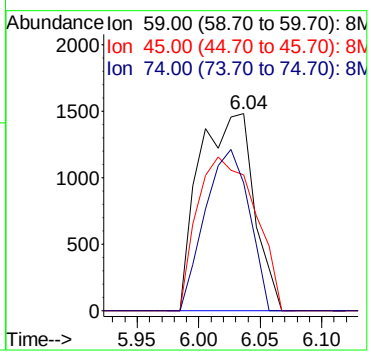


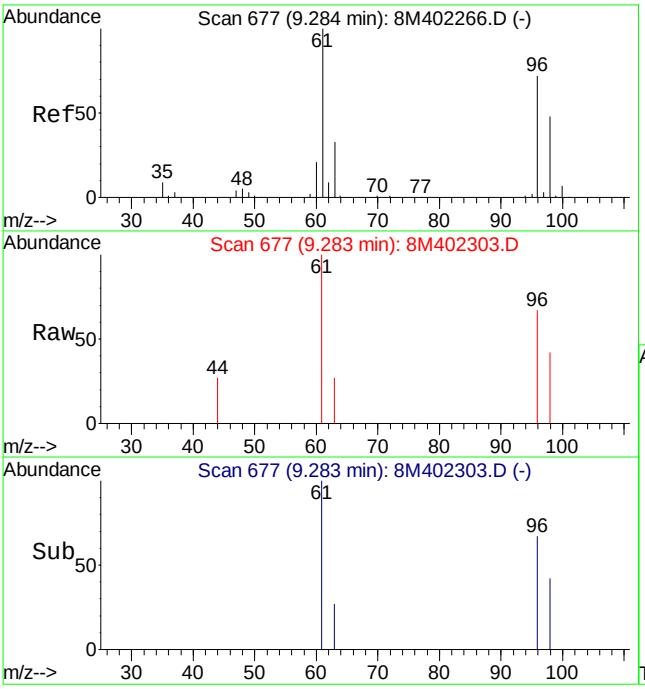


#9
Diethyl ether
Concen: 0.94 ug/L
RT: 6.04 min Scan# 363
Delta R.T. 0.01 min
Lab File: 8M402303.D
Acq: 14 Jan 2015 21:15

Tgt Ion: 59 Resp: 4603

Ion	Ratio	Lower	Upper
59	100		
45	82.3	43.3	100.9
74	65.7	35.9	83.7

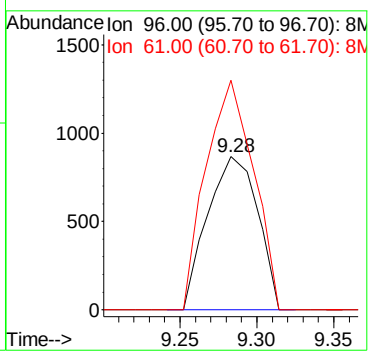


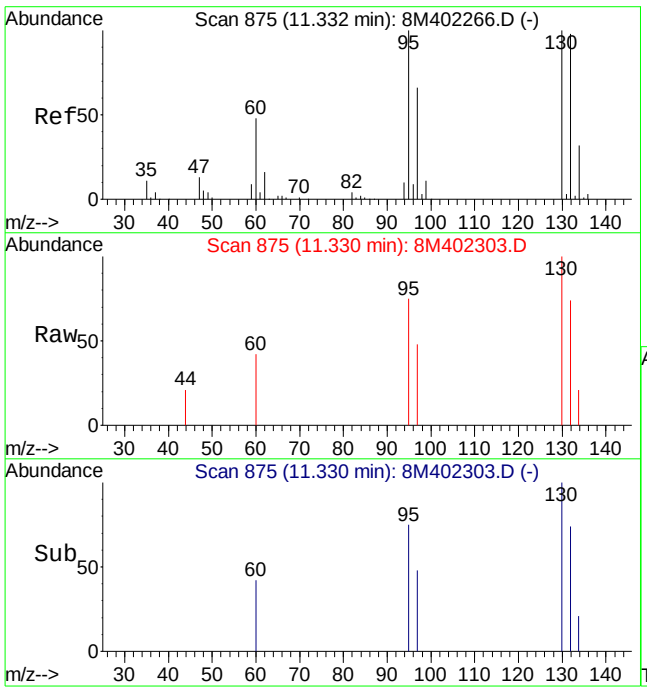


#32
cis-1,2-Dichloroethene
Concen: 0.23 ug/L
RT: 9.28 min Scan# 677
Delta R.T. -0.01 min
Lab File: 8M402303.D
Acq: 14 Jan 2015 21:15

Tgt Ion: 96 Resp: 1964

Ion	Ratio	Lower	Upper
96	100		
61	142.1	104.6	244.0

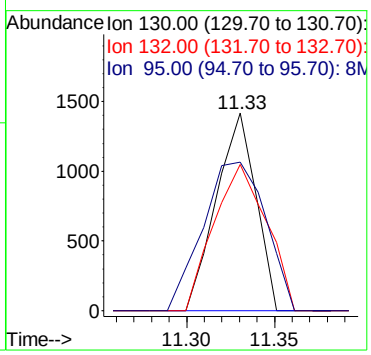


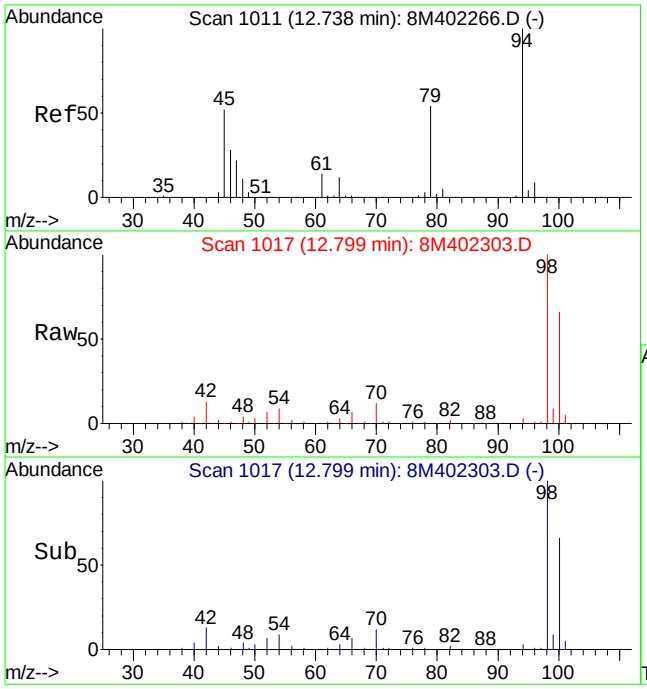


#47
Trichloroethene
Concen: 0.29 ug/L
RT: 11.33 min Scan# 875
Delta R.T. -0.01 min
Lab File: 8M402303.D
Acq: 14 Jan 2015 21:15

Tgt Ion:130 Resp: 2214

Ion	Ratio	Lower	Upper
130	100		
132	98.2	57.7	134.5
95	119.5	61.8	144.2

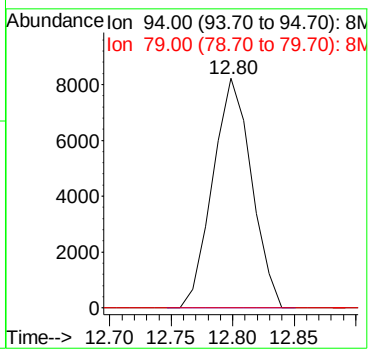




#56
Dimethyl Disulfide
Concen: 1.67 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.05 min
Lab File: 8M402303.D
Acq: 14 Jan 2015 21:15

Tgt Ion: 94 Resp: 18058

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402304.D Vial: 21
Acq On : 14 Jan 2015 21:45 Operator: TMB
Sample : L15010566-03 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:29:59 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

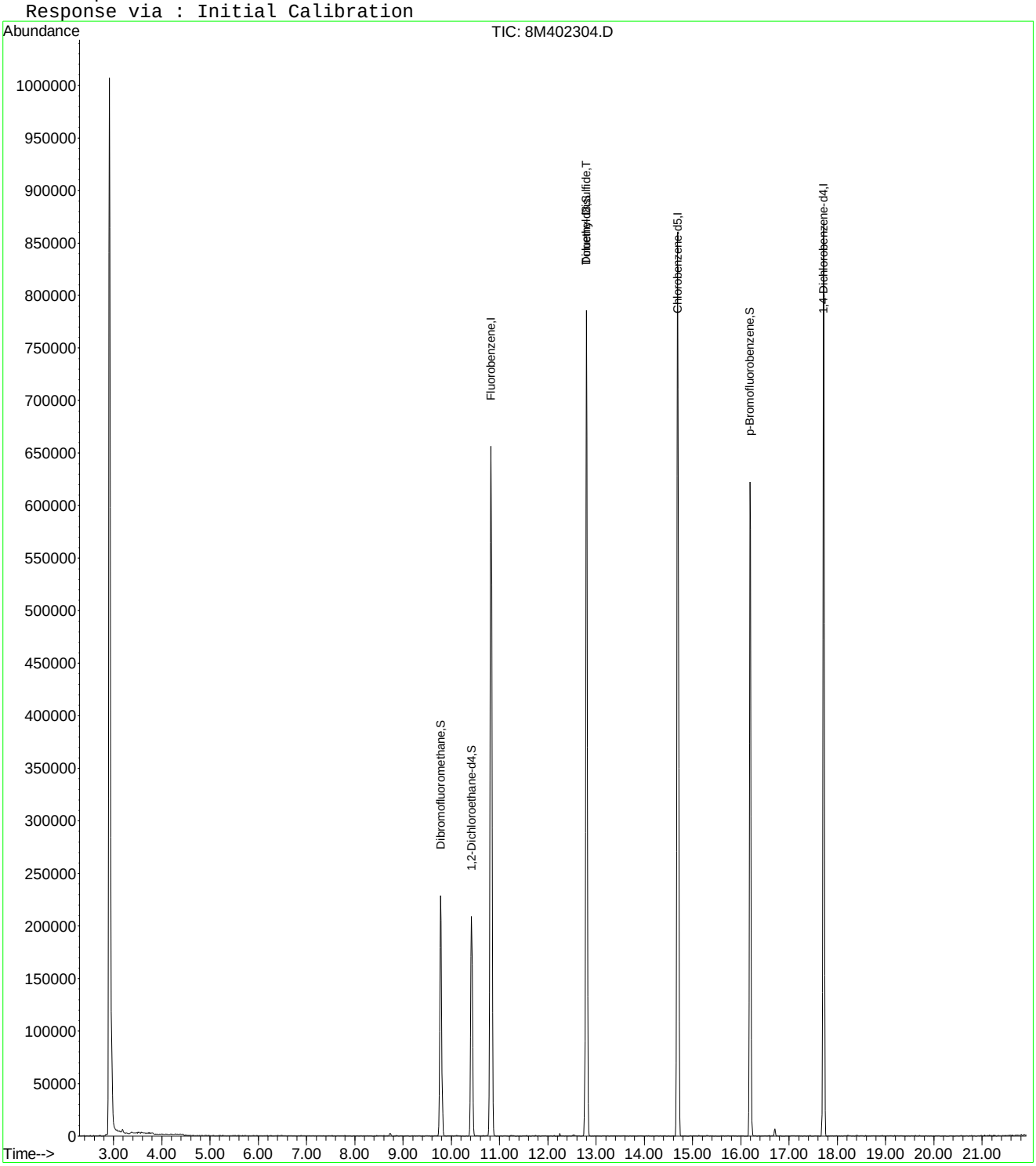
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	781891	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	595637	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	300254	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	194403	25.7894	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 103.16%			
43) 1,2-Dichloroethane-d4	10.42	65	187101	24.9815	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.92%			
58) Toluene-d8	12.80	98	692461	24.9845	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.92%			
80) p-Bromofluorobenzene	16.19	95	275565	25.0758	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.32%			
Target Compounds						Qvalue
56) Dimethyl Disulfide	12.80	94	19546	1.7673	ug/L #	26

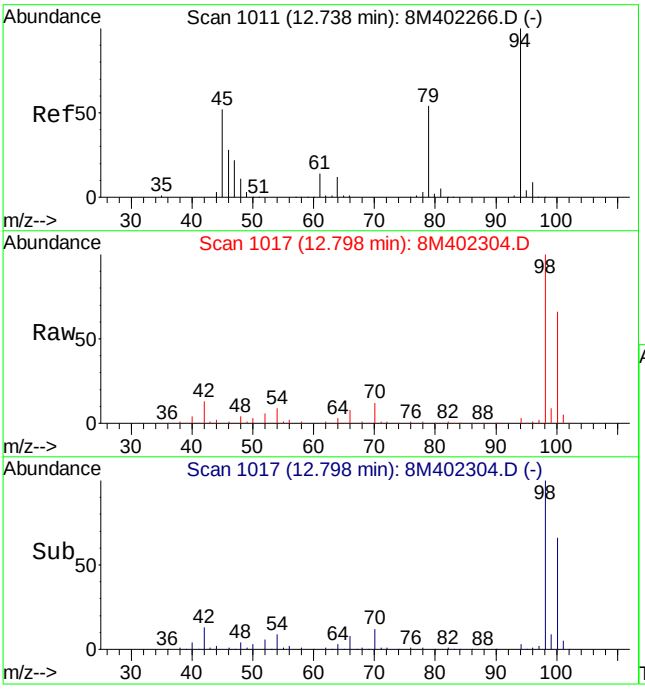
(#) = qualifier out of range (m) = manual integration
8M402304.D 8260WT.M Thu Jan 15 08:30:00 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402304.D Vial: 21
Acq On : 14 Jan 2015 21:45 Operator: TMB
Sample : L15010566-03 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:29 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

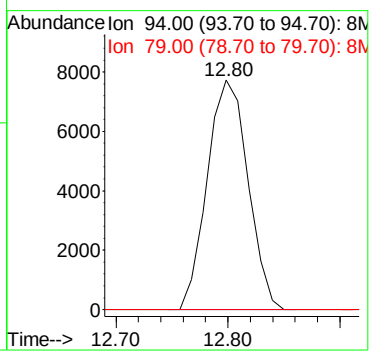




#56
Dimethyl Disulfide
Concen: 1.77 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.05 min
Lab File: 8M402304.D
Acq: 14 Jan 2015 21:45

Tgt Ion: 94 Resp: 19546

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402305.D Vial: 22
Acq On : 14 Jan 2015 22:13 Operator: TMB
Sample : L15010566-04 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:30:00 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

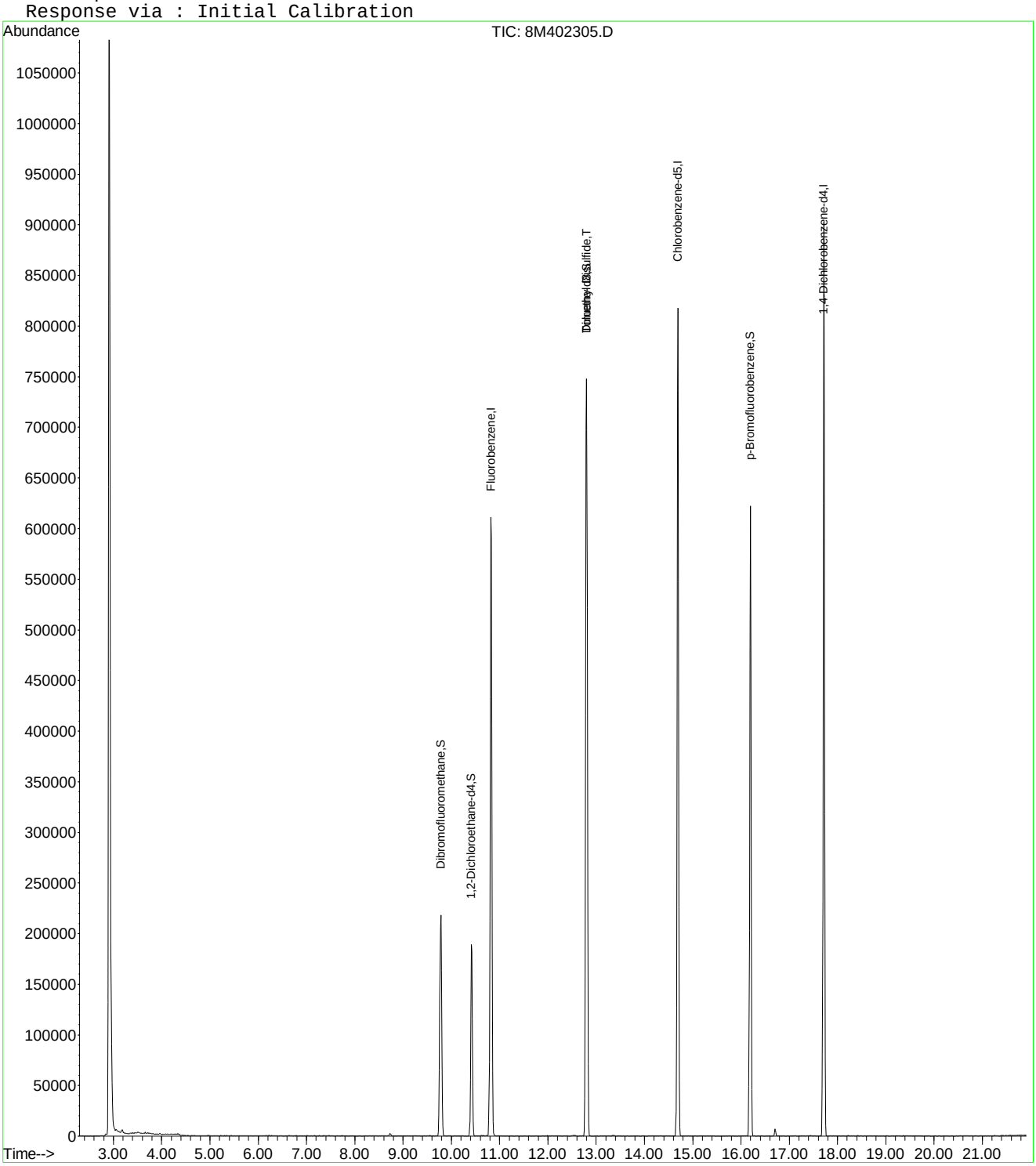
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	753556	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	581779	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	290872	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	186467	25.6668	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.68%			
43) 1,2-Dichloroethane-d4	10.41	65	176566	24.4613	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.84%			
58) Toluene-d8	12.80	98	676656	24.9958	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.00%			
80) p-Bromofluorobenzene	16.19	95	267181	25.0971	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.40%			
Target Compounds						Qvalue
56) Dimethyl Disulfide	12.80	94	18292	1.7161	ug/L #	26

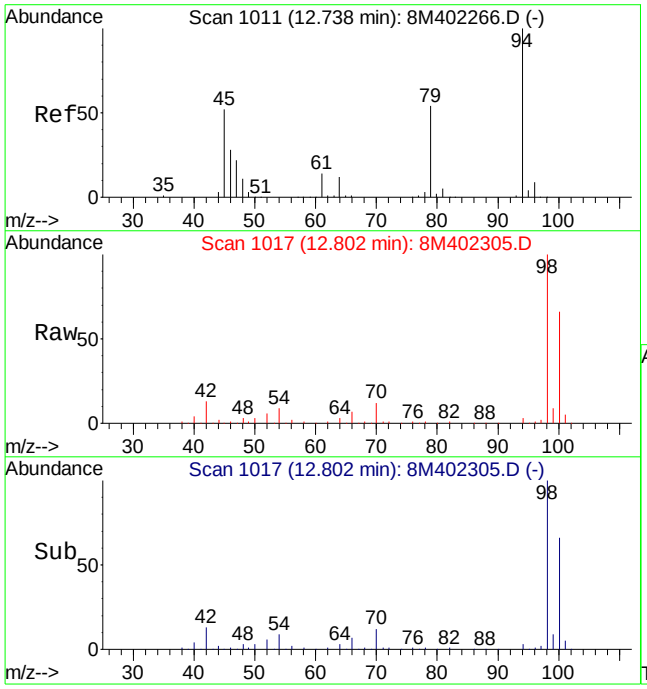
(#) = qualifier out of range (m) = manual integration
8M402305.D 8260WT.M Thu Jan 15 08:30:01 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402305.D Vial: 22
Acq On : 14 Jan 2015 22:13 Operator: TMB
Sample : L15010566-04 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:30 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

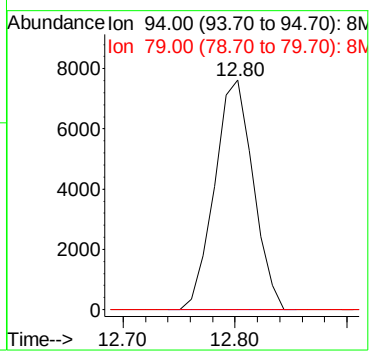




#56
Dimethyl Disulfide
Concen: 1.72 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.06 min
Lab File: 8M402305.D
Acq: 14 Jan 2015 22:13

Tgt Ion: 94 Resp: 18292

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402306.D Vial: 23
Acq On : 14 Jan 2015 22:42 Operator: TMB
Sample : L15010566-05 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:30:01 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

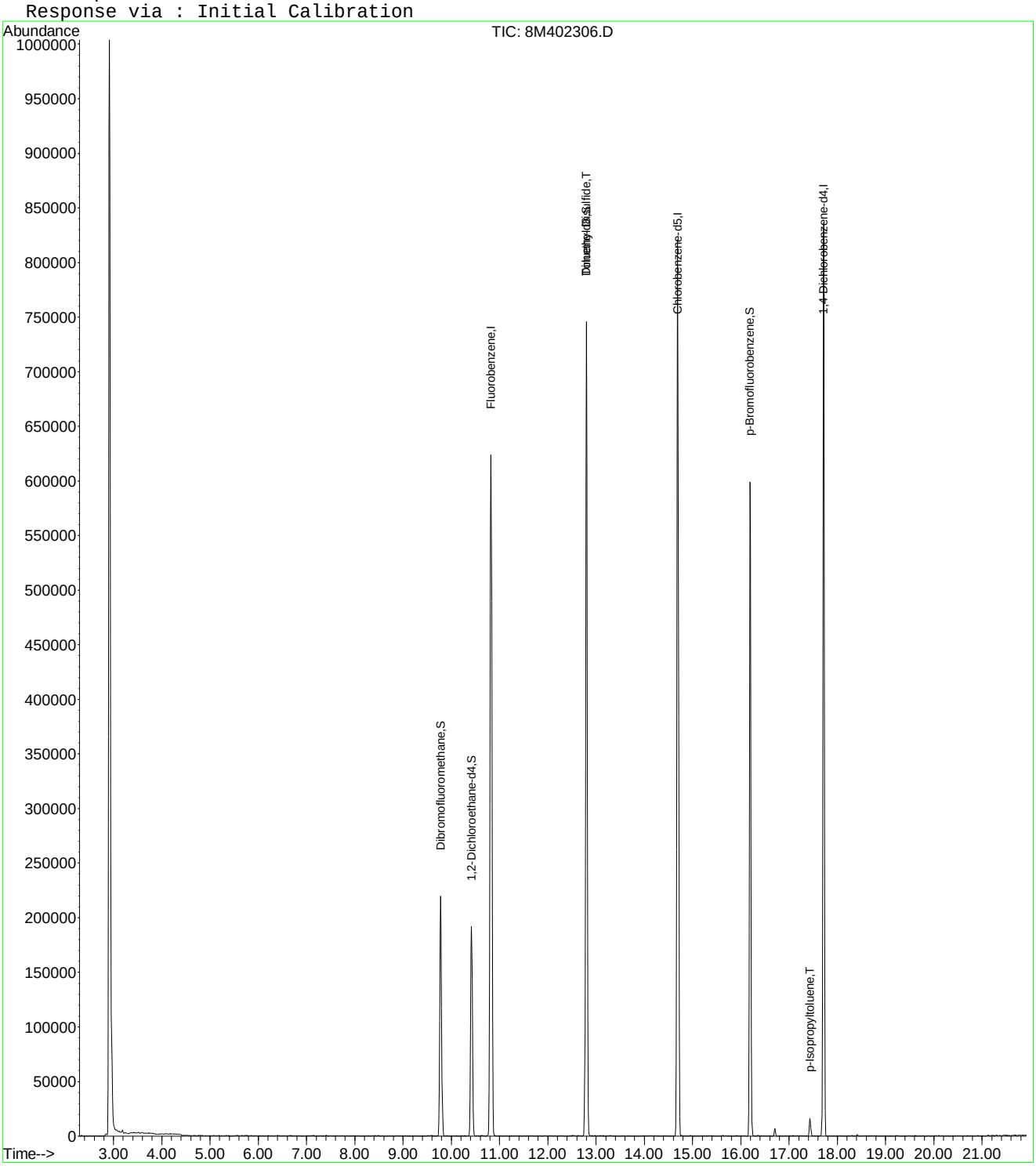
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	747517	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	568890	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	287045	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	184821	25.6457	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.60%			
43) 1,2-Dichloroethane-d4	10.42	65	175502	24.5103	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.04%			
58) Toluene-d8	12.80	98	665149	25.1274	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.52%			
80) p-Bromofluorobenzene	16.19	95	265053	25.2292	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.92%			
Target Compounds						Qvalue
56) Dimethyl Disulfide	12.80	94	18749	1.7732	ug/L #	26
92) p-Isopropyltoluene	17.43	119	16314	0.5382	ug/L	93

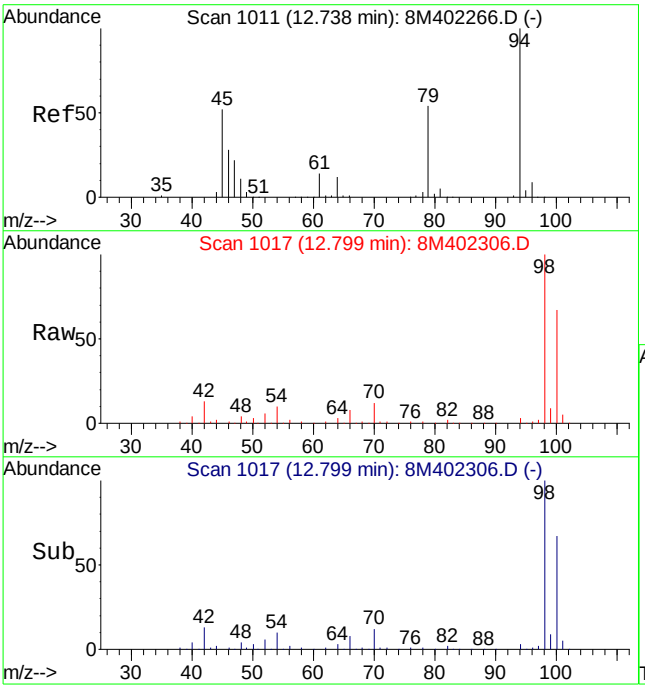
(#) = qualifier out of range (m) = manual integration
8M402306.D 8260WT.M Thu Jan 15 08:30:02 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402306.D Vial: 23
Acq On : 14 Jan 2015 22:42 Operator: TMB
Sample : L15010566-05 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:30 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

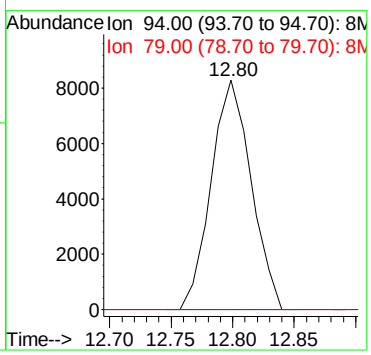


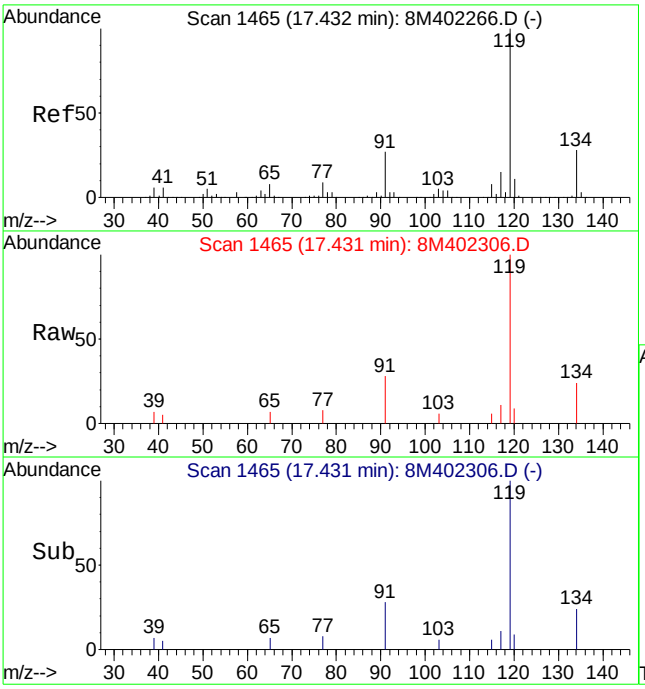


#56
Dimethyl Disulfide
Concen: 1.77 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.05 min
Lab File: 8M402306.D
Acq: 14 Jan 2015 22:42

Tgt Ion: 94 Resp: 18749

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#

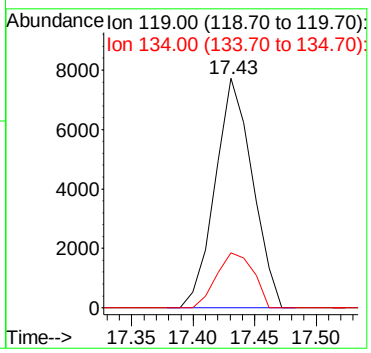




#92
p-Isopropyltoluene
Concen: 0.54 ug/L
RT: 17.43 min Scan# 1465
Delta R.T. -0.01 min
Lab File: 8M402306.D
Acq: 14 Jan 2015 22:42

Tgt Ion:119 Resp: 16314

Ion	Ratio	Lower	Upper
119	100		
134	23.6	16.4	38.2



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402307.D Vial: 24
Acq On : 14 Jan 2015 23:12 Operator: TMB
Sample : L15010566-06 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:30:02 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

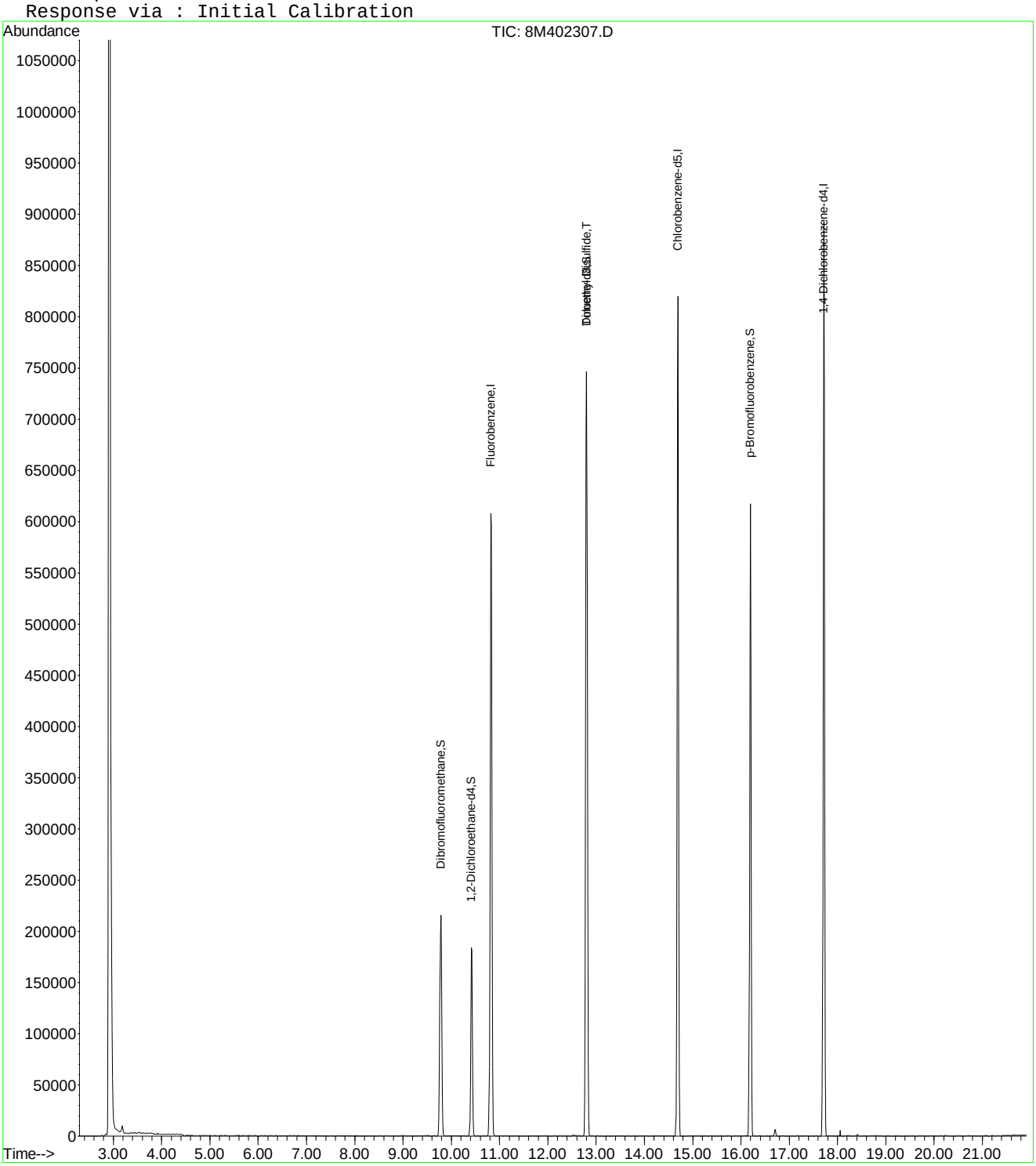
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	749548	25.00	ug/L	-0.02
57) Chlorobenzene-d5	14.69	117	578059	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	286622	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	184939	25.5926	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.36%			
43) 1,2-Dichloroethane-d4	10.41	65	172794	24.0667	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.28%			
58) Toluene-d8	12.80	98	672592	25.0055	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.04%			
80) p-Bromofluorobenzene	16.19	95	265741	25.3320	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.32%			
Target Compounds						Qvalue
56) Dimethyl Disulfide	12.80	94	18045	1.7020	ug/L #	26

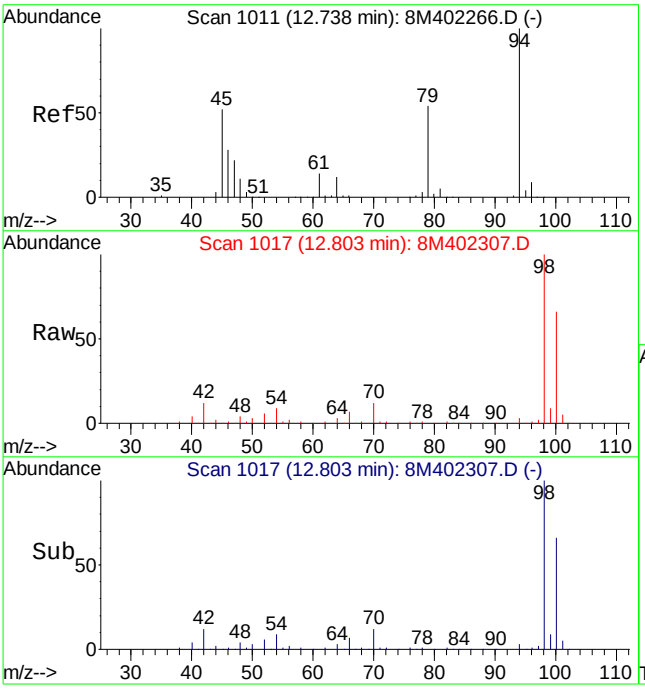
(#) = qualifier out of range (m) = manual integration
8M402307.D 8260WT.M Thu Jan 15 08:30:03 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402307.D Vial: 24
Acq On : 14 Jan 2015 23:12 Operator: TMB
Sample : L15010566-06 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:30 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

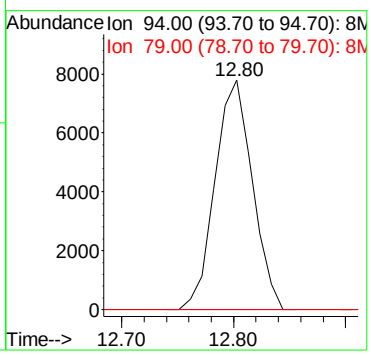




#56
Dimethyl Disulfide
Concen: 1.70 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.06 min
Lab File: 8M402307.D
Acq: 14 Jan 2015 23:12

Tgt Ion: 94 Resp: 18045

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402301.D Vial: 18
Acq On : 14 Jan 2015 20:16 Operator: TMB
Sample : L15010566-07 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:29:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

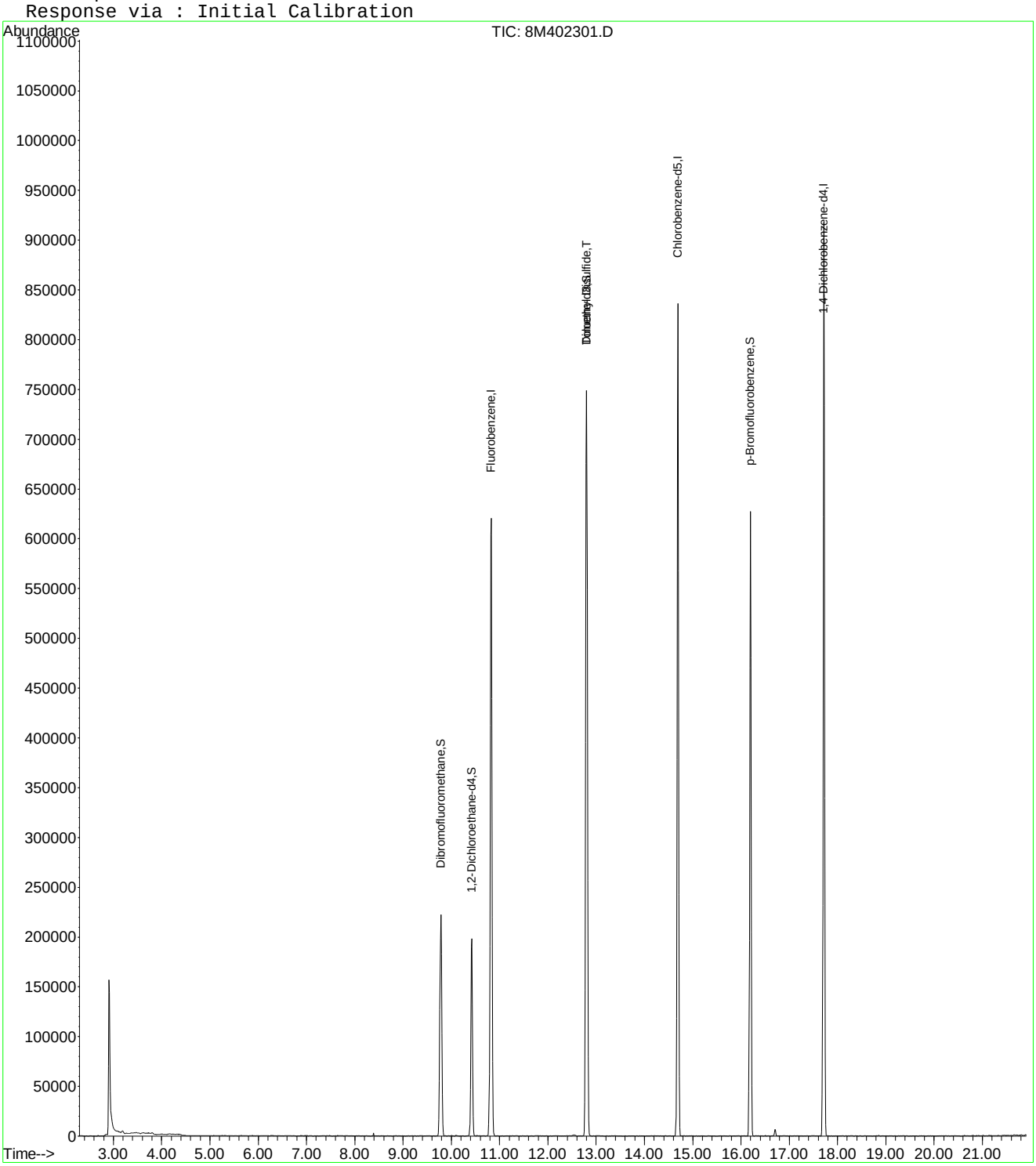
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	766726	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	581365	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	296120	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	188416	25.4895	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.96%			
43) 1,2-Dichloroethane-d4	10.42	65	183657	25.0066	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.04%			
58) Toluene-d8	12.80	98	678653	25.0874	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.36%			
80) p-Bromofluorobenzene	16.19	95	272137	25.1096	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.44%			
Target Compounds						Qvalue
56) Dimethyl Disulfide	12.80	94	18630	1.7178	ug/L #	26

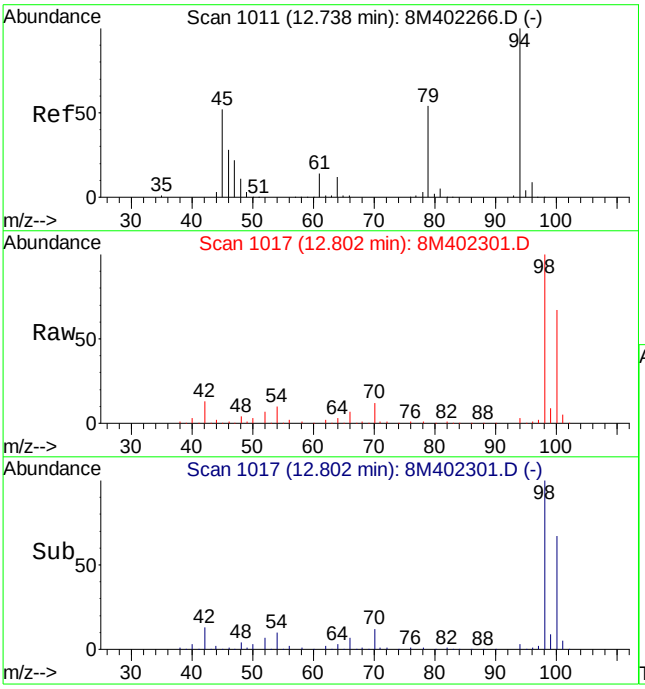
(#) = qualifier out of range (m) = manual integration
8M402301.D 8260WT.M Thu Jan 15 08:29:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402301.D Vial: 18
Acq On : 14 Jan 2015 20:16 Operator: TMB
Sample : L15010566-07 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:29 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

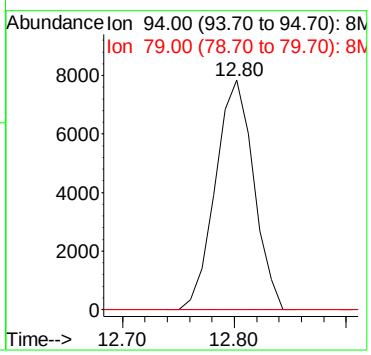




#56
Dimethyl Disulfide
Concen: 1.72 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.06 min
Lab File: 8M402301.D
Acq: 14 Jan 2015 20:16

Tgt Ion: 94 Resp: 18630

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400358.D Vial: 2
Acq On : 2 Oct 2014 12:24 Operator: TMB
Sample : WG494714-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:40 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

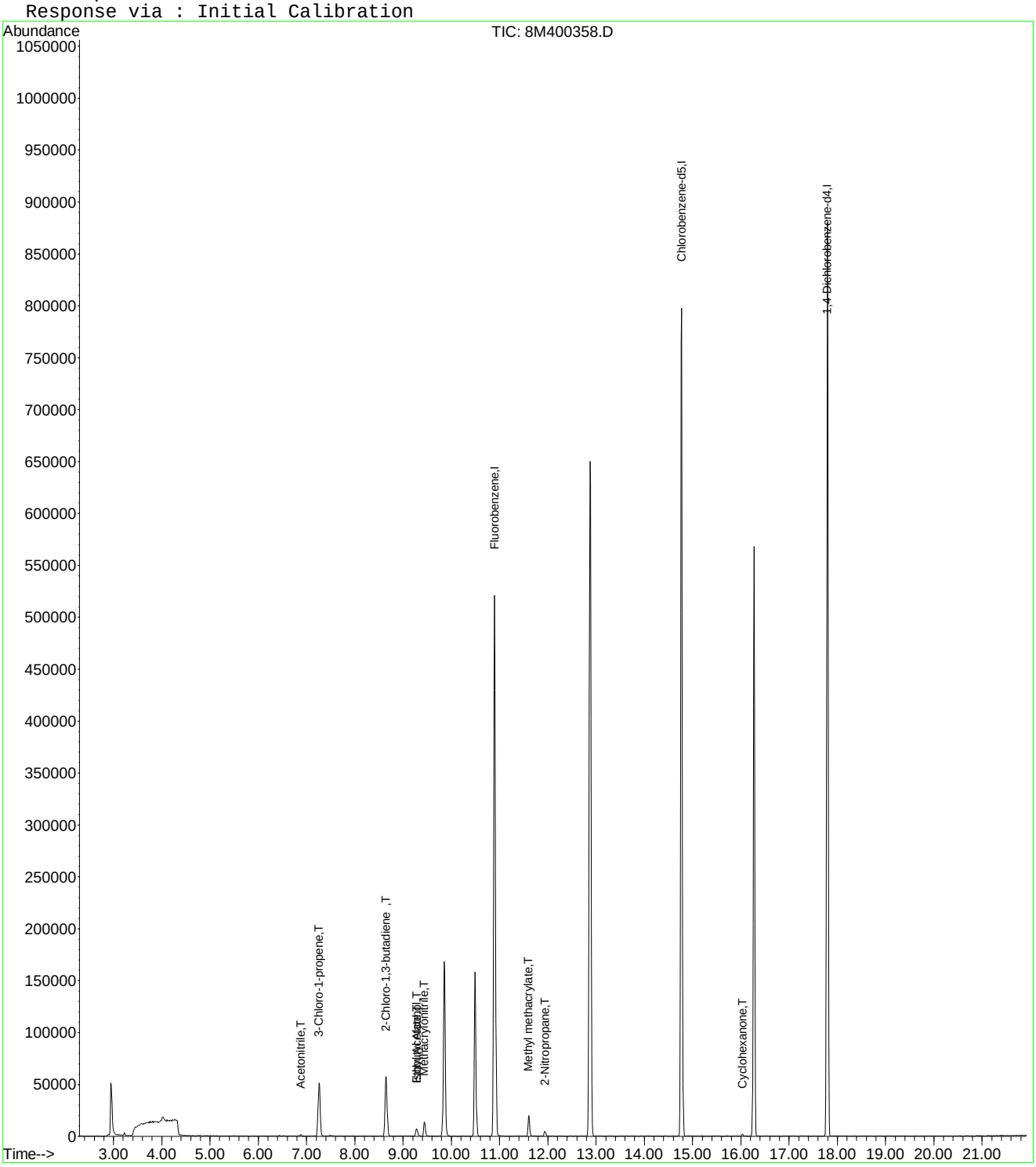
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	619208	25.00	ug/L		-0.03
11) Chlorobenzene-d5	14.77	117	544510	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	254129	25.00	ug/L		-0.04
Target Compounds							Qvalue
2) Acetonitrile	6.88	41	1884	4.8234	ug/L	#	23
3) 3-Chloro-1-propene	7.26	41	51461	4.9911	ug/L		88
4) 2-Chloro-1,3-butadiene	8.64	53	57885	4.7445	ug/L		89
5) Ethyl Acetate	9.28	43	12831	4.1474	ug/L		98
6) Methacrylonitrile	9.44	67	7738	4.2085	ug/L	#	61
7) Isobutyl Alcohol	9.28	43	12831	104.0280	ug/L	#	12
9) Methyl methacrylate	11.60	41	14247	4.0960	ug/L		83
10) 2-Nitropropane	11.94	43	3986	3.8294	ug/L		98
13) Cyclohexanone	16.03	55	1559	3.8882	ug/L	#	43

(#) = qualifier out of range (m) = manual integration
8M400358.D A9FOOWTR.M Fri Oct 03 12:32:40 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400358.D Vial: 2
Acq On : 2 Oct 2014 12:24 Operator: TMB
Sample : WG494714-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400359.D Vial: 3
Acq On : 2 Oct 2014 12:53 Operator: TMB
Sample : WG494714-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:41 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

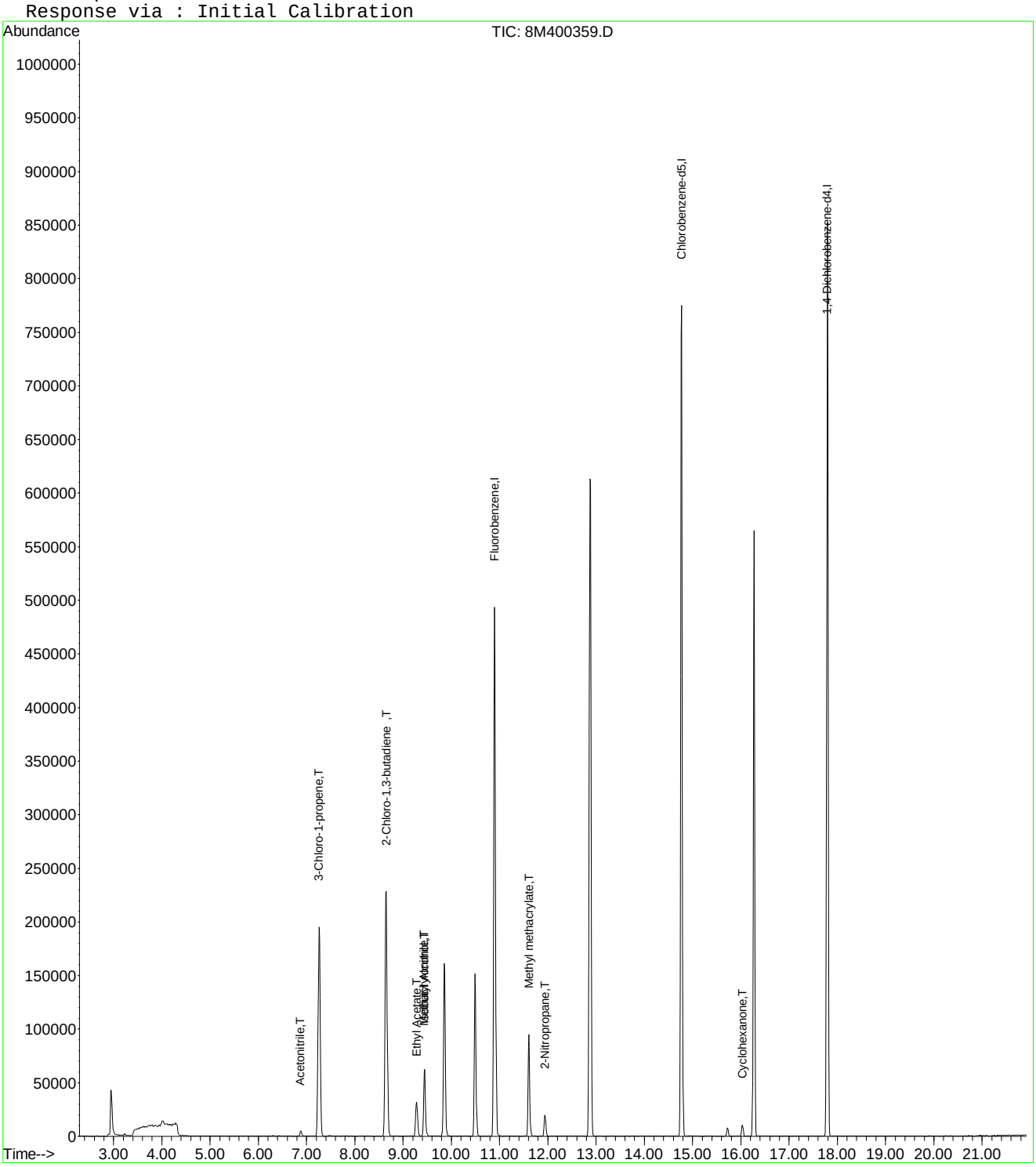
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	590707	25.00	ug/L		-0.03
11) Chlorobenzene-d5	14.77	117	530005	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	246254	25.00	ug/L		-0.04
Target Compounds							Qvalue
2) Acetonitrile	6.87	41	7263	19.4920	ug/L		97
3) 3-Chloro-1-propene	7.26	41	190581	19.3757	ug/L		90
4) 2-Chloro-1,3-butadiene	8.65	53	226534	19.4636	ug/L		90
5) Ethyl Acetate	9.28	43	54503	18.4670	ug/L		94
6) Methacrylonitrile	9.44	67	30898	17.6155	ug/L	#	65
7) Isobutyl Alcohol	9.45	43	3143	26.7115	ug/L	#	95
9) Methyl methacrylate	11.61	41	58234	17.5500	ug/L		72
10) 2-Nitropropane	11.94	43	16687	16.8050	ug/L		98
13) Cyclohexanone	16.03	55	7124	18.3357	ug/L		88

(#) = qualifier out of range (m) = manual integration
8M400359.D A9FOOWTR.M Fri Oct 03 12:32:41 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400359.D Vial: 3
Acq On : 2 Oct 2014 12:53 Operator: TMB
Sample : WG494714-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400360.D Vial: 4
Acq On : 2 Oct 2014 13:22 Operator: TMB
Sample : WG494714-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:42 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

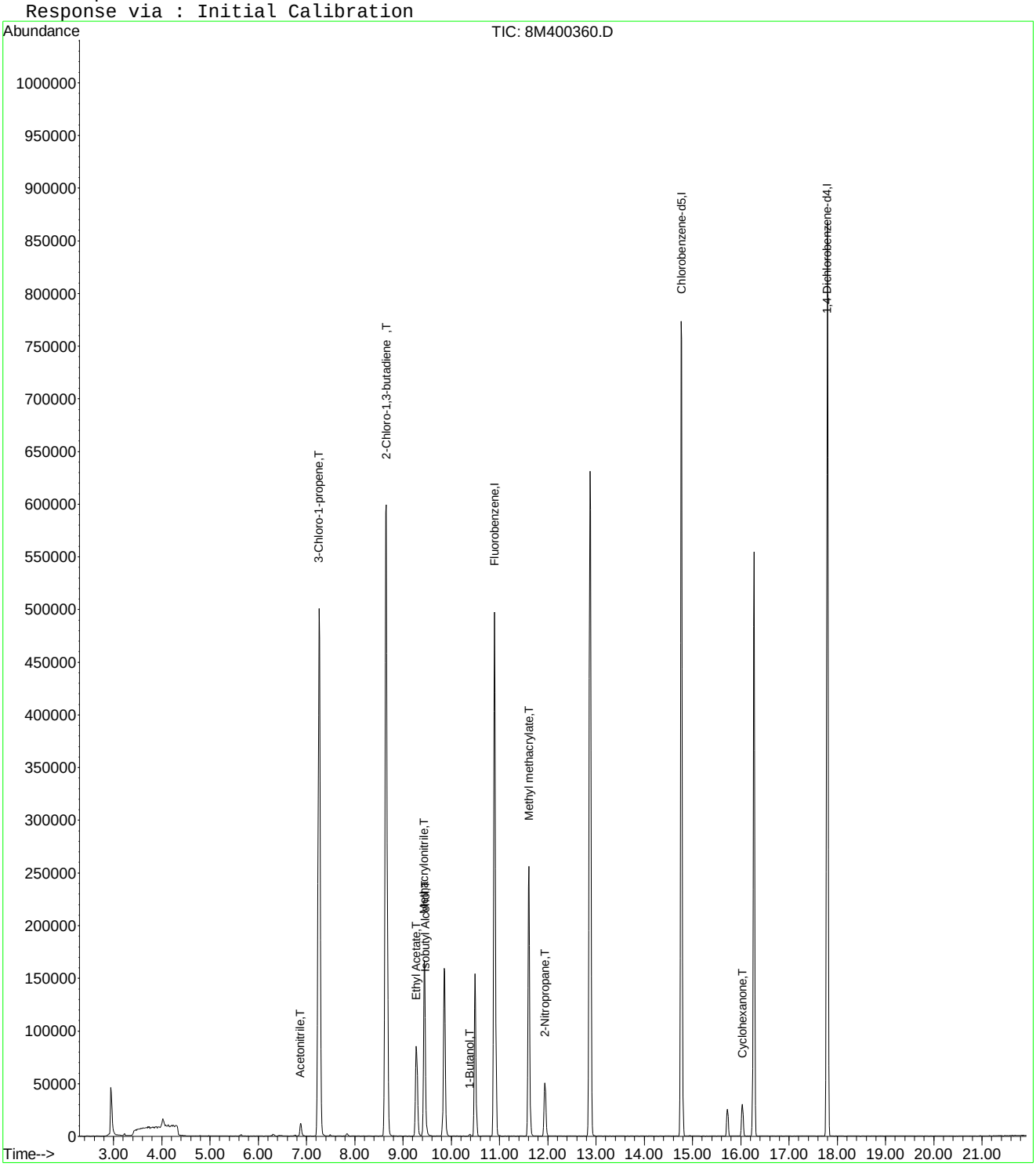
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	590667	25.00	ug/L		-0.03
11) Chlorobenzene-d5	14.77	117	524443	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	249595	25.00	ug/L		-0.04
Target Compounds							Qvalue
2) Acetonitrile	6.88	41	17698	47.5001	ug/L		100
3) 3-Chloro-1-propene	7.26	41	491365	49.9588	ug/L		90
4) 2-Chloro-1,3-butadiene	8.65	53	586258	50.3743	ug/L		90
5) Ethyl Acetate	9.27	43	145862	49.4250	ug/L		93
6) Methacrylonitrile	9.44	67	84924	48.4200	ug/L	#	62
7) Isobutyl Alcohol	9.46	43	9563	81.2789	ug/L	#	95
8) 1-Butanol	10.38	56	1895	48.4971	ug/L		87
9) Methyl methacrylate	11.61	41	161451	48.6599	ug/L		75
10) 2-Nitropropane	11.94	43	45766	46.0929	ug/L		98
13) Cyclohexanone	16.04	55	19698	50.0200	ug/L		89

(#) = qualifier out of range (m) = manual integration
8M400360.D A9FOOWTR.M Fri Oct 03 12:32:42 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400360.D Vial: 4
Acq On : 2 Oct 2014 13:22 Operator: TMB
Sample : WG494714-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400361.D Vial: 5
Acq On : 2 Oct 2014 13:51 Operator: TMB
Sample : WG494714-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:43 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

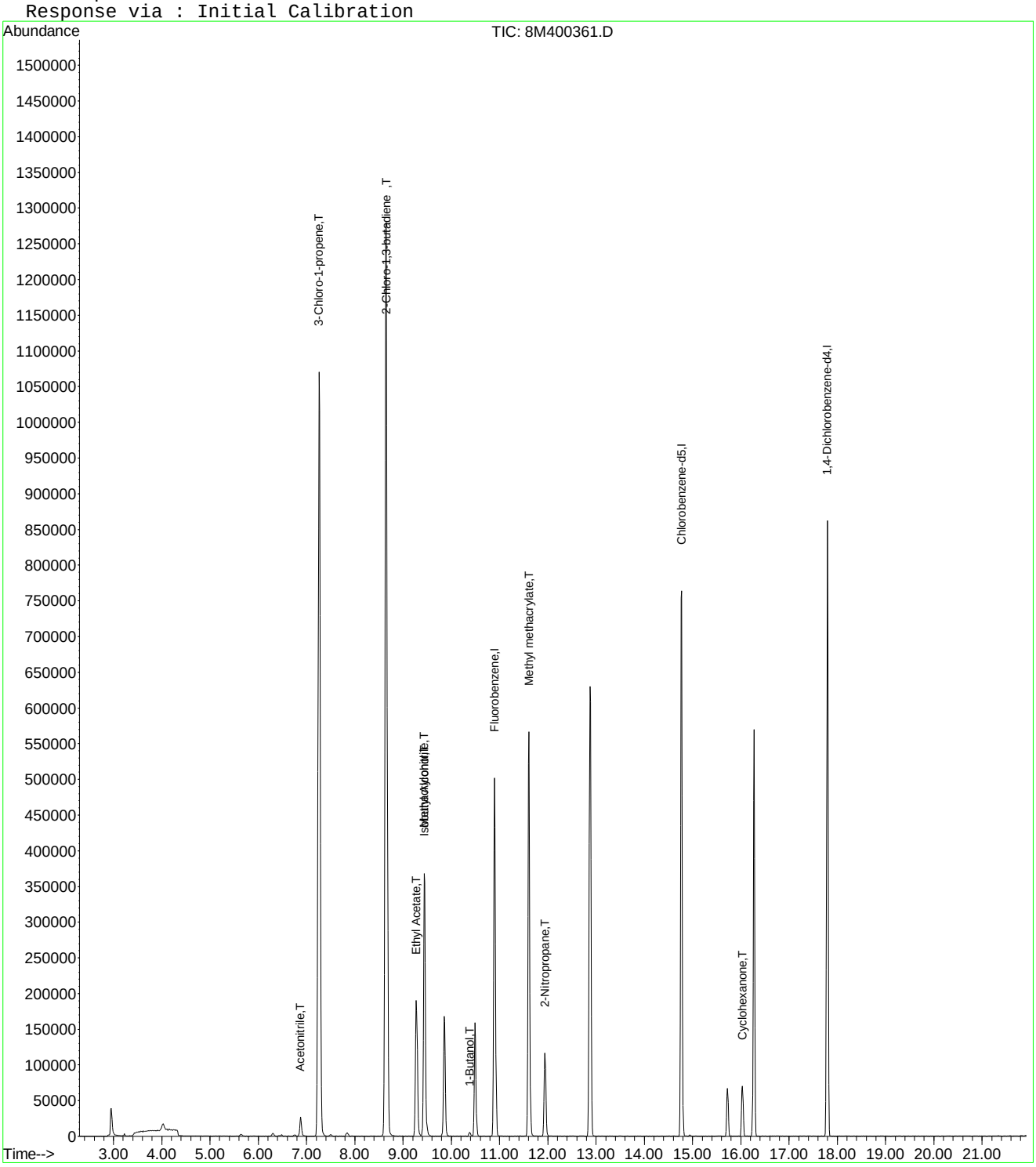
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	595542	25.00	ug/L		-0.03
11) Chlorobenzene-d5	14.77	117	525736	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	251203	25.00	ug/L		-0.04
Target Compounds							Qvalue
2) Acetonitrile	6.87	41	38265	101.8596	ug/L		98
3) 3-Chloro-1-propene	7.26	41	1042545	105.1315	ug/L		90
4) 2-Chloro-1,3-butadiene	8.65	53	1239135	105.6013	ug/L		88
5) Ethyl Acetate	9.27	43	315872	106.1564	ug/L		93
6) Methacrylonitrile	9.44	67	182857	103.4038	ug/L	#	63
7) Isobutyl Alcohol	9.45	43	23247	195.9661	ug/L	#	92
8) 1-Butanol	10.38	56	5482	96.3312	ug/L		88
9) Methyl methacrylate	11.61	41	351287	105.0082	ug/L		73
10) 2-Nitropropane	11.94	43	103249	103.1352	ug/L		99
13) Cyclohexanone	16.04	55	43523	109.8125	ug/L		88

(#) = qualifier out of range (m) = manual integration
8M400361.D A9FOOWTR.M Fri Oct 03 12:32:43 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400361.D Vial: 5
Acq On : 2 Oct 2014 13:51 Operator: TMB
Sample : WG494714-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400362.D Vial: 6
Acq On : 2 Oct 2014 14:19 Operator: TMB
Sample : WG494714-06 200ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:43 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

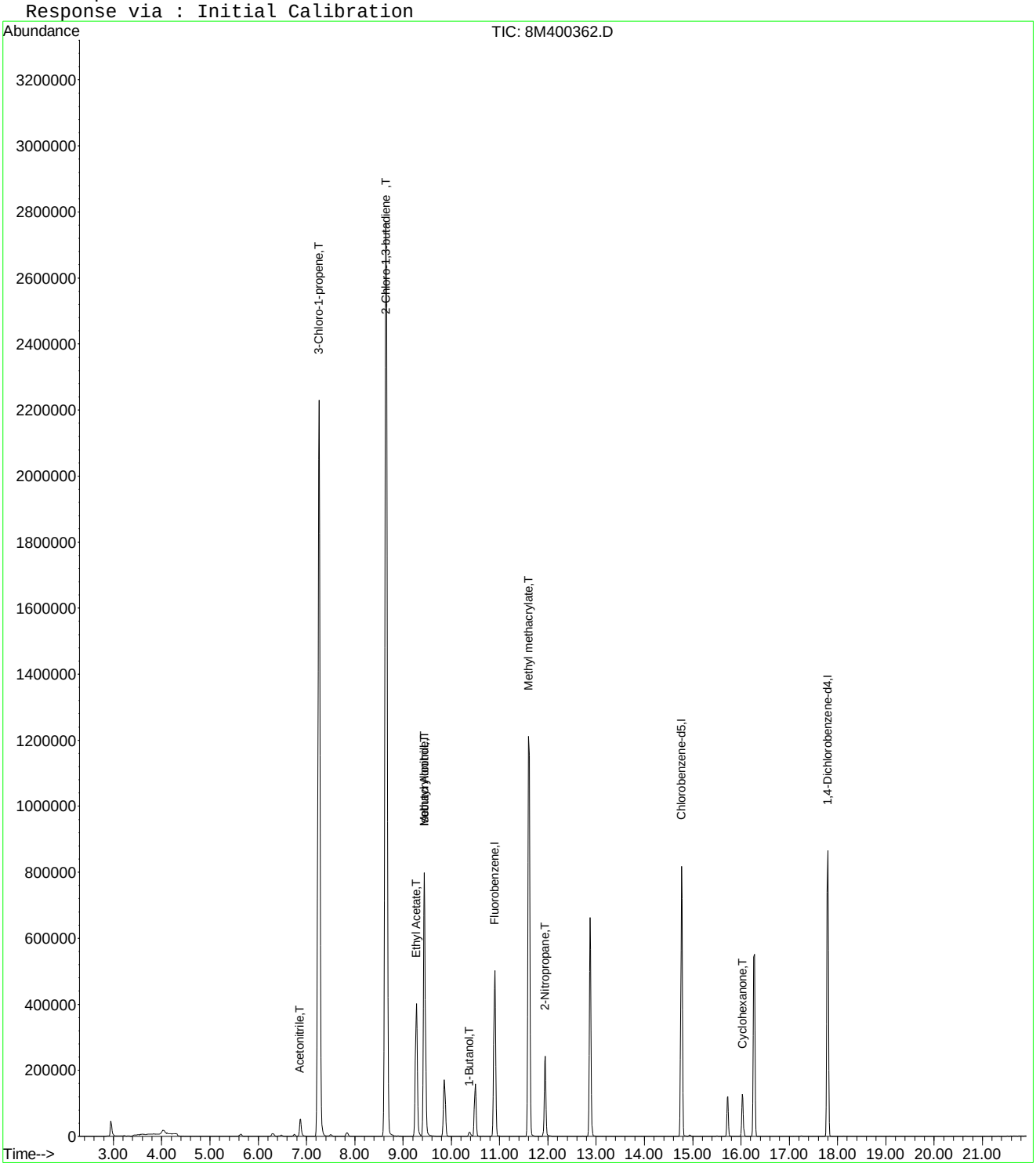
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.90	96	605985	25.00	ug/L	-0.02
11) Chlorobenzene-d5	14.77	117	543073	25.00	ug/L	-0.03
12) 1,4-Dichlorobenzene-d4	17.80	152	256990	25.00	ug/L	-0.03
Target Compounds						Qvalue
2) Acetonitrile	6.87	41	81322	212.7447	ug/L	93
3) 3-Chloro-1-propene	7.26	41	2105378	208.6501	ug/L	89
4) 2-Chloro-1,3-butadiene	8.65	53	2530154	211.9083	ug/L	84
5) Ethyl Acetate	9.28	43	654842	216.2828	ug/L	92
6) Methacrylonitrile	9.44	67	386897	215.0159	ug/L #	62
7) Isobutyl Alcohol	9.44	43	51188	424.0654	ug/L	97
8) 1-Butanol	10.37	56	13189	196.5131	ug/L	88
9) Methyl methacrylate	11.60	41	747593	219.6225	ug/L	71
10) 2-Nitropropane	11.94	43	227212	223.0503	ug/L	99
13) Cyclohexanone	16.03	55	76140	187.7821	ug/L	85

(#) = qualifier out of range (m) = manual integration
8M400362.D A9FOOWTR.M Fri Oct 03 12:32:44 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400362.D Vial: 6
Acq On : 2 Oct 2014 14:19 Operator: TMB
Sample : WG494714-06 200ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400363.D Vial: 7
Acq On : 2 Oct 2014 14:48 Operator: TMB
Sample : WG494714-07 300ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:45 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

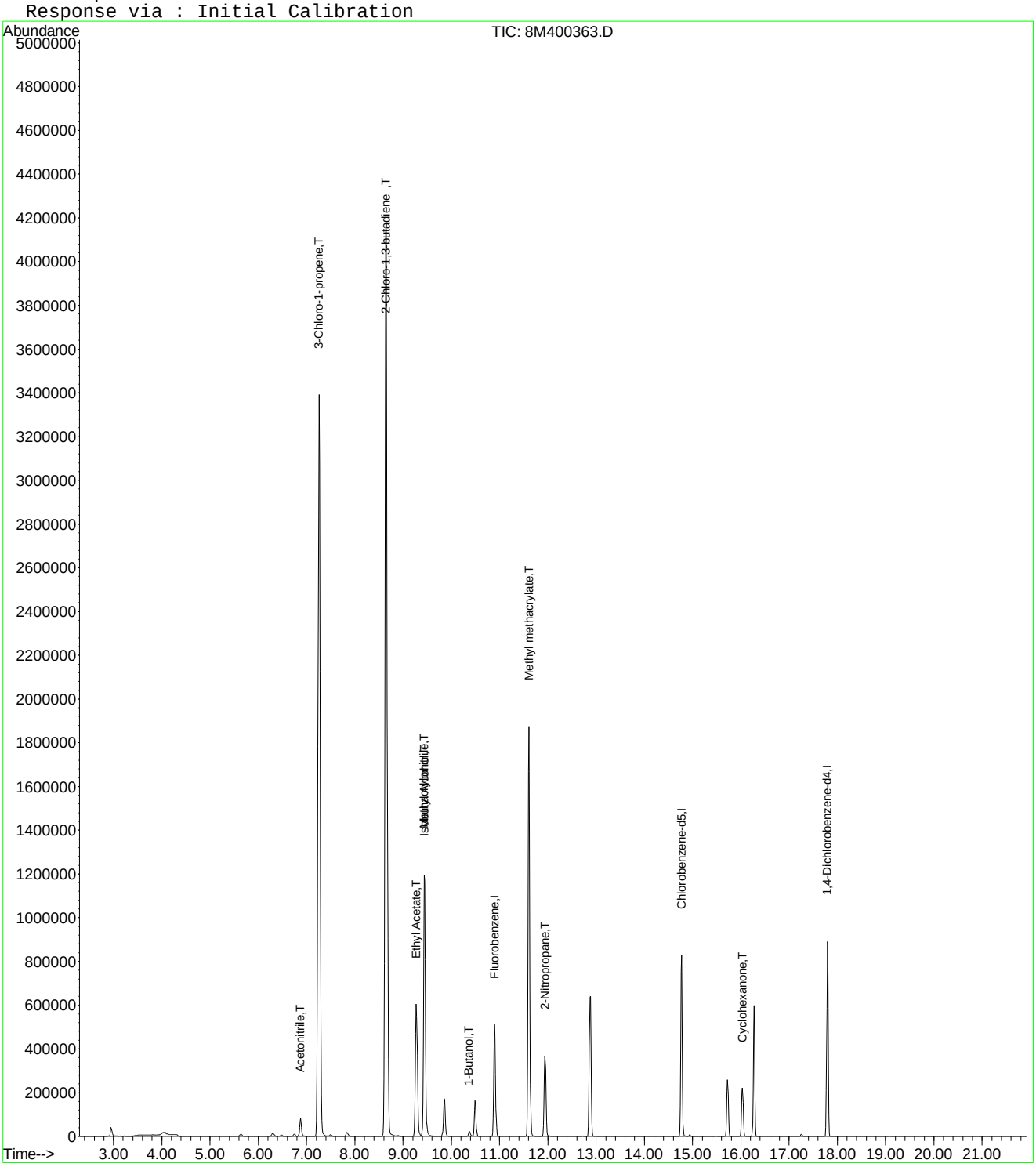
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	617316	25.00	ug/L		-0.03
11) Chlorobenzene-d5	14.77	117	555877	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	259867	25.00	ug/L		-0.04
Target Compounds							Qvalue
2) Acetonitrile	6.87	41	120718	310.0110	ug/L		94
3) 3-Chloro-1-propene	7.26	41	3133181	304.8093	ug/L		86
4) 2-Chloro-1,3-butadiene	8.64	53	3764580	309.5080	ug/L		79
5) Ethyl Acetate	9.27	43	984728	319.2685	ug/L		92
6) Methacrylonitrile	9.44	67	589378	321.5315	ug/L	#	62
7) Isobutyl Alcohol	9.45	43	76604	622.9747	ug/L		98
8) 1-Butanol	10.37	56	23186	322.5015	ug/L		89
9) Methyl methacrylate	11.61	41	1120843	323.2293	ug/L		70
10) 2-Nitropropane	11.94	43	340074	327.7172	ug/L		99
13) Cyclohexanone	16.03	55	133635	325.9318	ug/L		85

(#) = qualifier out of range (m) = manual integration
8M400363.D A9FOOWTR.M Fri Oct 03 12:32:45 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400363.D Vial: 7
Acq On : 2 Oct 2014 14:48 Operator: TMB
Sample : WG494714-07 300ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400364.D Vial: 8
Acq On : 2 Oct 2014 15:16 Operator: TMB
Sample : WG494714-08 400ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:46 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

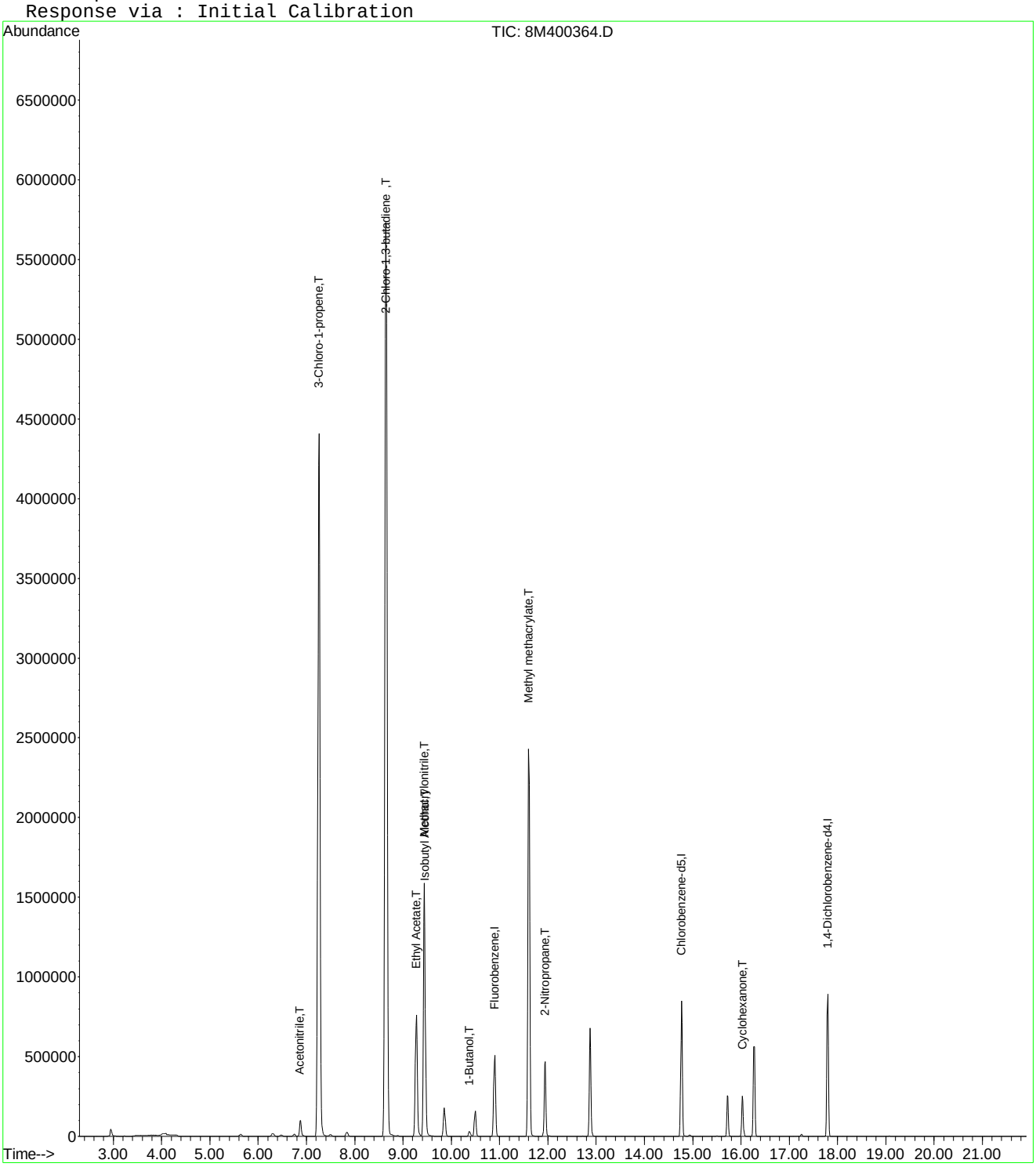
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	618926	25.00	ug/L		-0.02
11) Chlorobenzene-d5	14.77	117	559909	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.80	152	262346	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	6.87	41	151708	388.5818	ug/L		95
3) 3-Chloro-1-propene	7.26	41	4028272	390.8682	ug/L		83
4) 2-Chloro-1,3-butadiene	8.65	53	4802050	393.7774	ug/L		74
5) Ethyl Acetate	9.28	43	1250397	404.3491	ug/L		91
6) Methacrylonitrile	9.44	67	762998	415.1660	ug/L	#	61
7) Isobutyl Alcohol	9.45	43	102436	830.8840	ug/L	#	97
8) 1-Butanol	10.37	56	28243	386.8957	ug/L		89
9) Methyl methacrylate	11.60	41	1436773	413.2595	ug/L		68
10) 2-Nitropropane	11.94	43	451706	434.1607	ug/L		98
13) Cyclohexanone	16.03	55	150327	363.1785	ug/L		84

(#) = qualifier out of range (m) = manual integration
8M400364.D A9FOOWTR.M Fri Oct 03 12:32:46 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400364.D Vial: 8
Acq On : 2 Oct 2014 15:16 Operator: TMB
Sample : WG494714-08 400ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



8M400364.D A9FOOWTR.M Fri Oct 03 12:32:47 2014 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400365.D Vial: 9
Acq On : 2 Oct 2014 15:45 Operator: TMB
Sample : WG494714-09 500ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:47 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

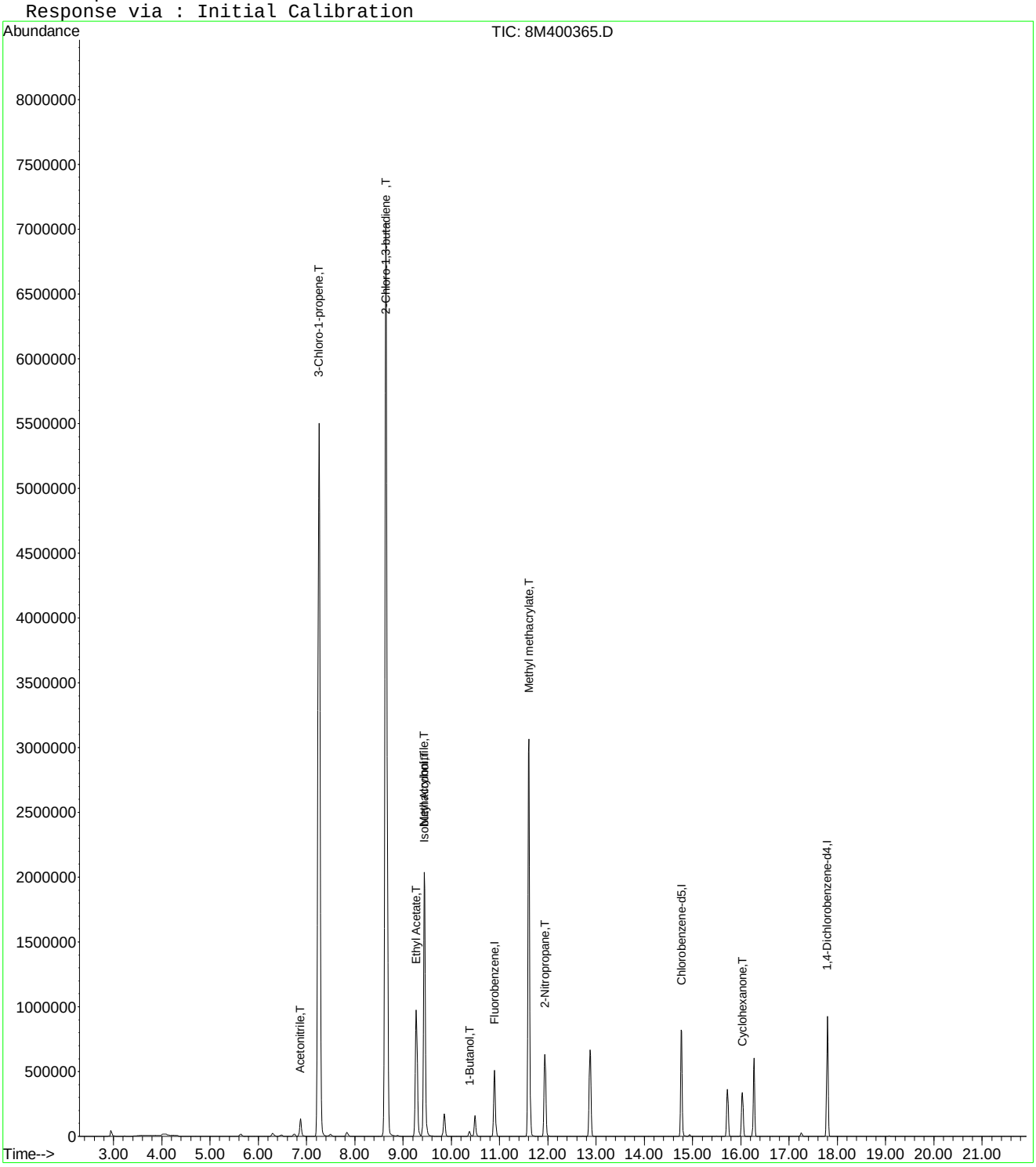
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.90	96	611679	25.00	ug/L	-0.03
11) Chlorobenzene-d5	14.77	117	574048	25.00	ug/L	-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	266141	25.00	ug/L	-0.04
Target Compounds						Qvalue
2) Acetonitrile	6.87	41	197468	511.7830	ug/L	95
3) 3-Chloro-1-propene	7.26	41	4817953	473.0307	ug/L	79
4) 2-Chloro-1,3-butadiene	8.64	53	5656851	469.3686	ug/L	68
5) Ethyl Acetate	9.27	43	1590123	520.3008	ug/L	90
6) Methacrylonitrile	9.44	67	990168	545.1581	ug/L #	61
7) Isobutyl Alcohol	9.45	43	130410	1070.3205	ug/L	98
8) 1-Butanol	10.38	56	36529	499.2614	ug/L	87
9) Methyl methacrylate	11.61	41	1840524	535.6626	ug/L	68
10) 2-Nitropropane	11.94	43	590003	573.8046	ug/L	98
13) Cyclohexanone	16.04	55	203273	484.0894	ug/L	84

(#) = qualifier out of range (m) = manual integration
8M400365.D A9FOOWTR.M Fri Oct 03 12:32:47 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400365.D Vial: 9
Acq On : 2 Oct 2014 15:45 Operator: TMB
Sample : WG494714-09 500ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66818 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400367.D Vial: 11
Acq On : 2 Oct 2014 16:47 Operator: TMB
Sample : WG494714-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66677 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 03 12:32:48 2014 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration
DataAcq Meth : 8260WTR

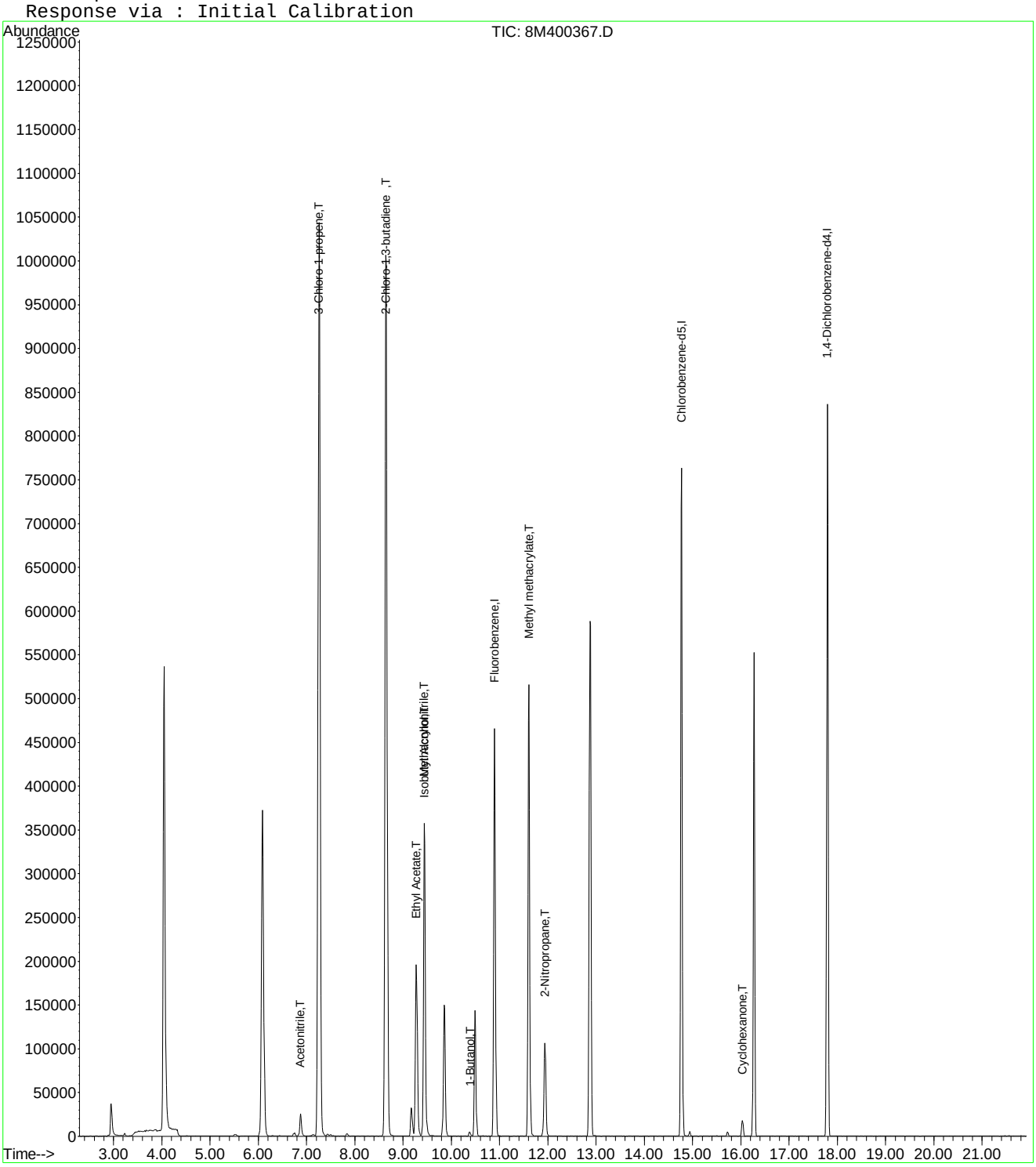
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.90	96	548066	25.00	ug/L		-0.03
11) Chlorobenzene-d5	14.77	117	508831	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	17.79	152	240116	25.00	ug/L		-0.04
Target Compounds							Qvalue
2) Acetonitrile	6.87	41	36847	106.5815	ug/L		98
3) 3-Chloro-1-propene	7.26	41	1001386	109.7284	ug/L		90
4) 2-Chloro-1,3-butadiene	8.64	53	982184	90.9542	ug/L		89
5) Ethyl Acetate	9.27	43	328991	120.1430	ug/L		94
6) Methacrylonitrile	9.44	67	174278	107.0895	ug/L	#	64
7) Isobutyl Alcohol	9.45	43	21185	194.0538	ug/L		99
8) 1-Butanol	10.39	56	5303	100.0865	ug/L		77
9) Methyl methacrylate	11.61	41	317777	103.2198	ug/L		73
10) 2-Nitropropane	11.94	43	95761	103.9416	ug/L		99
13) Cyclohexanone	16.03	55	11614	30.6562	ug/L		97

(#) = qualifier out of range (m) = manual integration
8M400367.D A9FOOWTR.M Fri Oct 03 12:32:49 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100214\8M400367.D Vial: 11
Acq On : 2 Oct 2014 16:47 Operator: TMB
Sample : WG494714-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66677 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 3 12:32 2014 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100214\8M400367.D Vial: 11
Acq On : 2 Oct 2014 16:47 Operator: TMB
Sample : WG494714-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD66677 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Fri Oct 03 12:32:07 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	92	-0.03
2	T	Acetonitrile	100.0000	106.5815	-6.6	96	-0.02
3	T	3-Chloro-1-propene	100.0000	109.7284	-9.7	96	-0.03
4	T	2-Chloro-1,3-butadiene	100.0000	90.9542	9.0	79	-0.03
5	T	Ethyl Acetate	100.0000	120.1430	-20.1	104	-0.02
6	T	Methacrylonitrile	100.0000	107.0895	-7.1	95	-0.03
7	T	Isobutyl Alcohol	200.0000	194.0538	3.0	91	-0.02
8	T	1-Butanol	100.0000	100.0865	-0.1	97	0.00
9	T	Methyl methacrylate	100.0000	103.2198	-3.2	90	-0.02
10	T	2-Nitropropane	100.0000	103.9416	-3.9	93	-0.03
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	97	-0.03
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	96	-0.04
13	T	Cyclohexanone	100.0000	30.6562	69.3	27	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M400367.D A9FOOWTR.M Fri Oct 03 12:33:23 2014 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402260.D Vial: 2
Acq On : 13 Jan 2015 9:07 Operator: TMB
Sample : WG507785-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:06 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	885036	25.00	ug/L	-0.02
57) Chlorobenzene-d5	14.69	117	644577	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	310837	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	10.41	65	212	0.0250	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.12%#		
58) Toluene-d8	12.80	98	1606	0.0535	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.20%#		
80) p-Bromofluorobenzene	16.19	95	2804	0.2465	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	3395	0.2889	ug/L	90
3) Chloromethane	3.70	50	5340	0.5126	ug/L	97
4) Vinyl Chloride	3.94	62	4307	0.4526	ug/L	98
5) 1,3-Butadiene	3.99	54	2524	0.3458	ug/L #	43
6) Bromomethane	4.84	94	2834	0.3672	ug/L	100
7) Chloroethane	5.00	64	2475	0.3470	ug/L #	45
8) Trichlorofluoromethane	5.48	101	5130	0.3327	ug/L #	89
10) Isoprene	6.05	67	2645	0.2110	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	2737	0.2991	ug/L	84
13) Acetone	6.34	43	1877	1.9700	ug/L #	1
14) 1,1-Dichloroethene	6.58	61	5678	0.4079	ug/L	100
16) Dimethyl Sulfide	6.84	62	2610	0.2620	ug/L	92
17) Iodomethane	7.09	142	416	0.7340	ug/L #	32
19) Methylene Chloride	7.37	84	3997	0.4393	ug/L	94
20) Carbon Disulfide	7.40	76	12056	0.4220	ug/L	95
22) Methyl Tert Butyl Ether	7.58	73	3453	0.2077	ug/L #	48
23) trans-1,2-Dichloroethene	7.82	61	6870	0.5026	ug/L	90
24) n-Hexane	7.90	57	4016	0.3094	ug/L	89
26) Vinyl Acetate	8.42	43	871	0.1690	ug/L #	76
27) 1,1-Dichloroethane	8.44	63	5499	0.3199	ug/L #	87
31) 2,2-Dichloropropane	9.21	77	3852	0.2792	ug/L #	73
32) cis-1,2-Dichloroethene	9.28	96	3592	0.3631	ug/L	97
33) Chloroform	9.48	83	5204	0.3203	ug/L	97
35) Bromochloromethane	9.72	130	1685	0.3321	ug/L	86
36) Tetrahydrofuran	9.74	42	24990	23.6646	ug/L	99
38) 1,1,1-Trichloroethane	10.02	97	4069	0.2934	ug/L	93
39) Cyclohexane	10.06	56	4125	0.2512	ug/L	94
40) 1,1-Dichloropropene	10.22	75	5312	0.4174	ug/L	90
42) Carbon Tetrachloride	10.36	117	2754	0.2345	ug/L #	88
45) 1,2-Dichloroethane	10.54	62	3003	0.2845	ug/L	91
46) Benzene	10.58	78	12246	0.3544	ug/L	92
47) Trichloroethene	11.32	130	3685	0.4225	ug/L	96
48) Methylcyclohexane	11.42	83	4016	0.2721	ug/L	79
49) 1,2-Dichloropropane	11.54	63	2436	0.2623	ug/L	94
50) Bromodichloromethane	11.84	83	3078	0.2735	ug/L #	94
52) Dibromomethane	11.93	93	1466	0.3480	ug/L	86
53) 2-Chloroethyl Vinyl Ether	12.13	63	536	0.1451	ug/L #	52
55) cis-1,3-Dichloropropene	12.47	75	4689	0.3697	ug/L	100
56) Dimethyl Disulfide	12.74	94	2574	0.2056	ug/L	83
59) Toluene	12.90	91	13866	0.3804	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M402260.D 8260WT.M Tue Jan 13 16:23:07 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402260.D Vial: 2
Acq On : 13 Jan 2015 9:07 Operator: TMB
Sample : WG507785-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:06 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

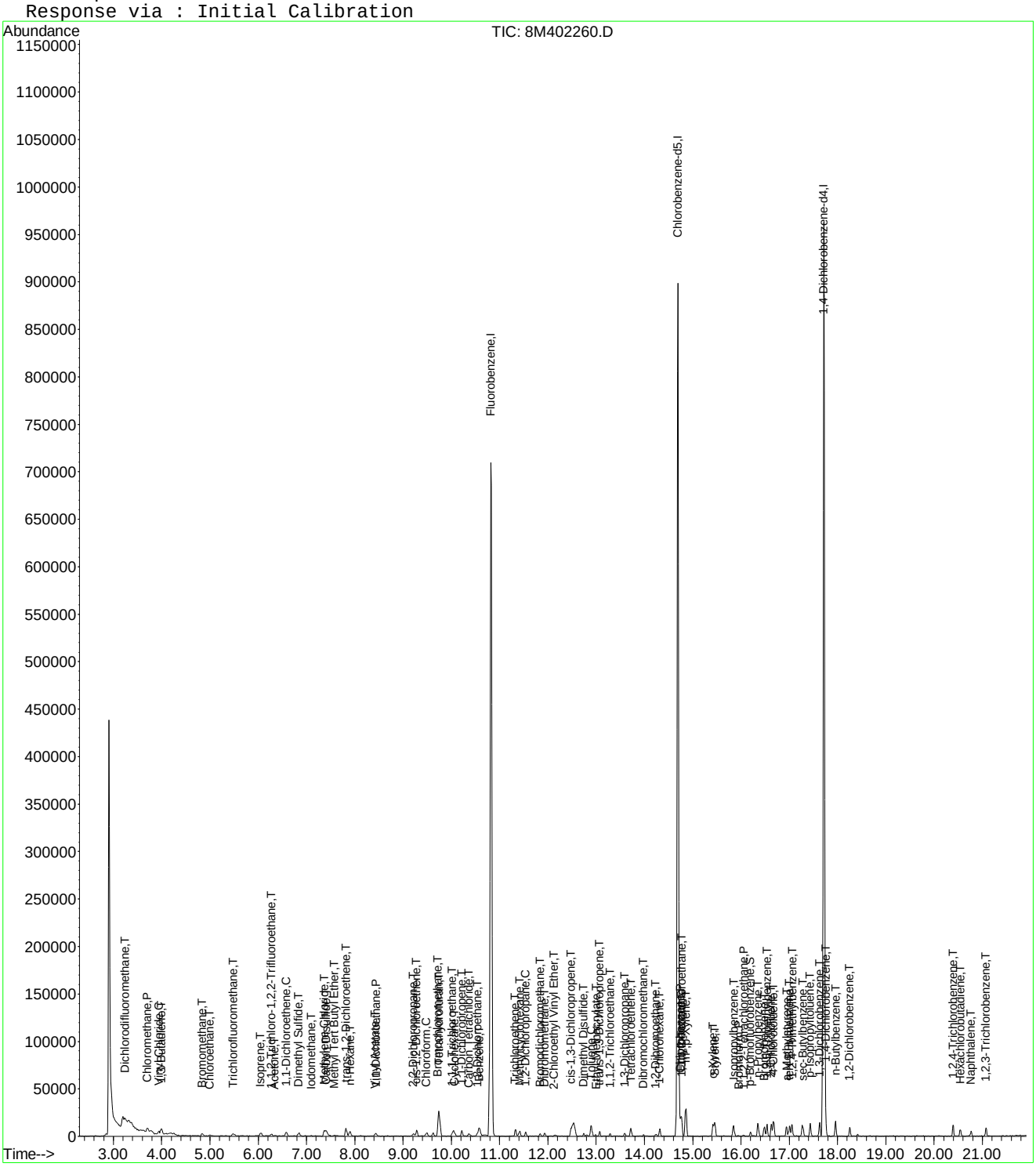
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
60)	Ethyl Methacrylate	13.00	69	1076	0.1497	ug/L		90
62)	trans-1,3-Dichloropropene	13.07	75	4435	0.4056	ug/L		79
63)	1,1,2-Trichloroethane	13.29	97	1447	0.2649	ug/L		69
65)	1,3-Dichloropropane	13.59	76	2785	0.2837	ug/L		88
66)	Tetrachloroethene	13.72	164	3137	0.4042	ug/L		85
67)	Dibromochloromethane	13.98	129	1640	0.4361	ug/L		85
68)	1,2-Dibromoethane	14.23	107	2148	0.3958	ug/L		68
69)	1-Chlorohexane	14.31	91	3895	0.3172	ug/L		87
70)	Chlorobenzene	14.75	112	10433	0.4411	ug/L		90
71)	1,1,1,2-Tetrachloroethane	14.78	131	1798	0.2279	ug/L		86
72)	Ethylbenzene	14.77	106	4582	0.3362	ug/L		93
73)	m-,p-Xylene	14.86	106	12228	0.7901	ug/L		97
74)	o-Xylene	15.42	106	5213	0.3317	ug/L		93
75)	Styrene	15.46	104	9722	0.3888	ug/L		100
76)	Bromoform	15.96	173	742	0.8266	ug/L	#	27
77)	Isopropylbenzene	15.85	105	13424	0.3370	ug/L		95
79)	1,1,2,2-Tetrachloroethane	16.06	83	1174	0.2069	ug/L	#	92
83)	n-Propylbenzene	16.35	91	17872	0.3772	ug/L		98
84)	Bromobenzene	16.48	156	3965	0.4010	ug/L		90
85)	1,3,5-Trimethylbenzene	16.53	105	11422	0.3551	ug/L		98
86)	2-Chlorotoluene	16.63	91	11783	0.4076	ug/L		90
87)	4-Chlorotoluene	16.67	91	13195	0.4549	ug/L		97
88)	a-Methylstyrene	16.95	118	5599	0.3087	ug/L		82
89)	tert-Butylbenzene	17.00	134	2212	0.3123	ug/L		80
90)	1,2,4-Trimethylbenzene	17.06	105	11837	0.3535	ug/L		98
91)	sec-Butylbenzene	17.28	105	15201	0.3709	ug/L		91
92)	p-Isopropyltoluene	17.43	119	11626	0.3542	ug/L		98
93)	1,3-Dichlorobenzene	17.63	146	9323	0.4994	ug/L		99
94)	1,4-Dichlorobenzene	17.75	146	9466	0.4114	ug/L		94
95)	n-Butylbenzene	17.96	91	13586	0.3970	ug/L		94
96)	1,2-Dichlorobenzene	18.25	146	6911	0.4097	ug/L		93
98)	1,2,4-Trichlorobenzene	20.39	180	6224	0.4672	ug/L		96
99)	Hexachlorobutadiene	20.55	225	2829	0.3694	ug/L		97
100)	Naphthalene	20.76	128	7381	0.4127	ug/L		95
101)	1,2,3-Trichlorobenzene	21.07	180	4529	0.3796	ug/L		90

(#) = qualifier out of range (m) = manual integration
8M402260.D 8260WT.M Tue Jan 13 16:23:07 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402260.D Vial: 2
Acq On : 13 Jan 2015 9:07 Operator: TMB
Sample : WG507785-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402261.D Vial: 3
Acq On : 13 Jan 2015 9:36 Operator: TMB
Sample : WG507785-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:07 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	871219	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	645871	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	313255	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.00%#		
80) p-Bromofluorobenzene	16.19	95	210	0.0183	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.08%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	4253	0.3676	ug/L	94
3) Chloromethane	3.70	50	5588	0.5449	ug/L	92
4) Vinyl Chloride	3.94	62	4260	0.4547	ug/L	90
5) 1,3-Butadiene	4.00	54	3250	0.4523	ug/L #	48
6) Bromomethane	4.84	94	3605	0.4745	ug/L	89
7) Chloroethane	4.99	64	3045	0.4337	ug/L #	45
8) Trichlorofluoromethane	5.48	101	6416	0.4227	ug/L #	89
10) Isoprene	6.06	67	4810	0.3898	ug/L	81
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	3336	0.3703	ug/L	93
13) Acetone	6.36	43	472	0.5032	ug/L #	1
14) 1,1-Dichloroethene	6.57	61	5632	0.4110	ug/L	85
16) Dimethyl Sulfide	6.85	62	4245	0.4329	ug/L	88
17) Iodomethane	7.10	142	1615	0.8593	ug/L #	32
18) Methyl acetate	7.10	43	1426	0.3072	ug/L #	64
19) Methylene Chloride	7.37	84	3917	0.4373	ug/L	87
20) Carbon Disulfide	7.41	76	13095	0.4656	ug/L	93
22) Methyl Tert Butyl Ether	7.59	73	5286	0.3230	ug/L #	56
23) trans-1,2-Dichloroethene	7.83	61	5085	0.3779	ug/L	81
24) n-Hexane	7.91	57	5175	0.4050	ug/L	85
26) Vinyl Acetate	8.39	43	1431	0.2821	ug/L #	76
27) 1,1-Dichloroethane	8.45	63	6728	0.3976	ug/L #	93
31) 2,2-Dichloropropane	9.21	77	5200	0.3828	ug/L	100
32) cis-1,2-Dichloroethene	9.28	96	4024	0.4132	ug/L	78
33) Chloroform	9.49	83	6421	0.4015	ug/L	94
35) Bromochloromethane	9.72	130	1926	0.3856	ug/L	86
38) 1,1,1-Trichloroethane	10.02	97	5155	0.3776	ug/L	98
39) Cyclohexane	10.06	56	6524	0.4037	ug/L	89
40) 1,1-Dichloropropene	10.22	75	4818	0.3846	ug/L	100
42) Carbon Tetrachloride	10.37	117	3962	0.3427	ug/L #	87
45) 1,2-Dichloroethane	10.53	62	3793	0.3650	ug/L #	79
46) Benzene	10.59	78	14587	0.4288	ug/L	87
47) Trichloroethene	11.33	130	3171	0.3693	ug/L	93
48) Methylcyclohexane	11.41	83	5709	0.3929	ug/L	85
49) 1,2-Dichloropropane	11.54	63	3122	0.3415	ug/L	96
50) Bromodichloromethane	11.84	83	3778	0.3410	ug/L #	87
52) Dibromomethane	11.92	93	1524	0.3675	ug/L	85
53) 2-Chloroethyl Vinyl Ether	12.14	63	790	0.2173	ug/L #	52
55) cis-1,3-Dichloropropene	12.48	75	4142	0.3317	ug/L	98
56) Dimethyl Disulfide	12.74	94	3037	0.2464	ug/L	74
59) Toluene	12.90	91	15748	0.4312	ug/L	93

(#) = qualifier out of range (m) = manual integration
8M402261.D 8260WT.M Tue Jan 13 16:23:08 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402261.D Vial: 3
Acq On : 13 Jan 2015 9:36 Operator: TMB
Sample : WG507785-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:07 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

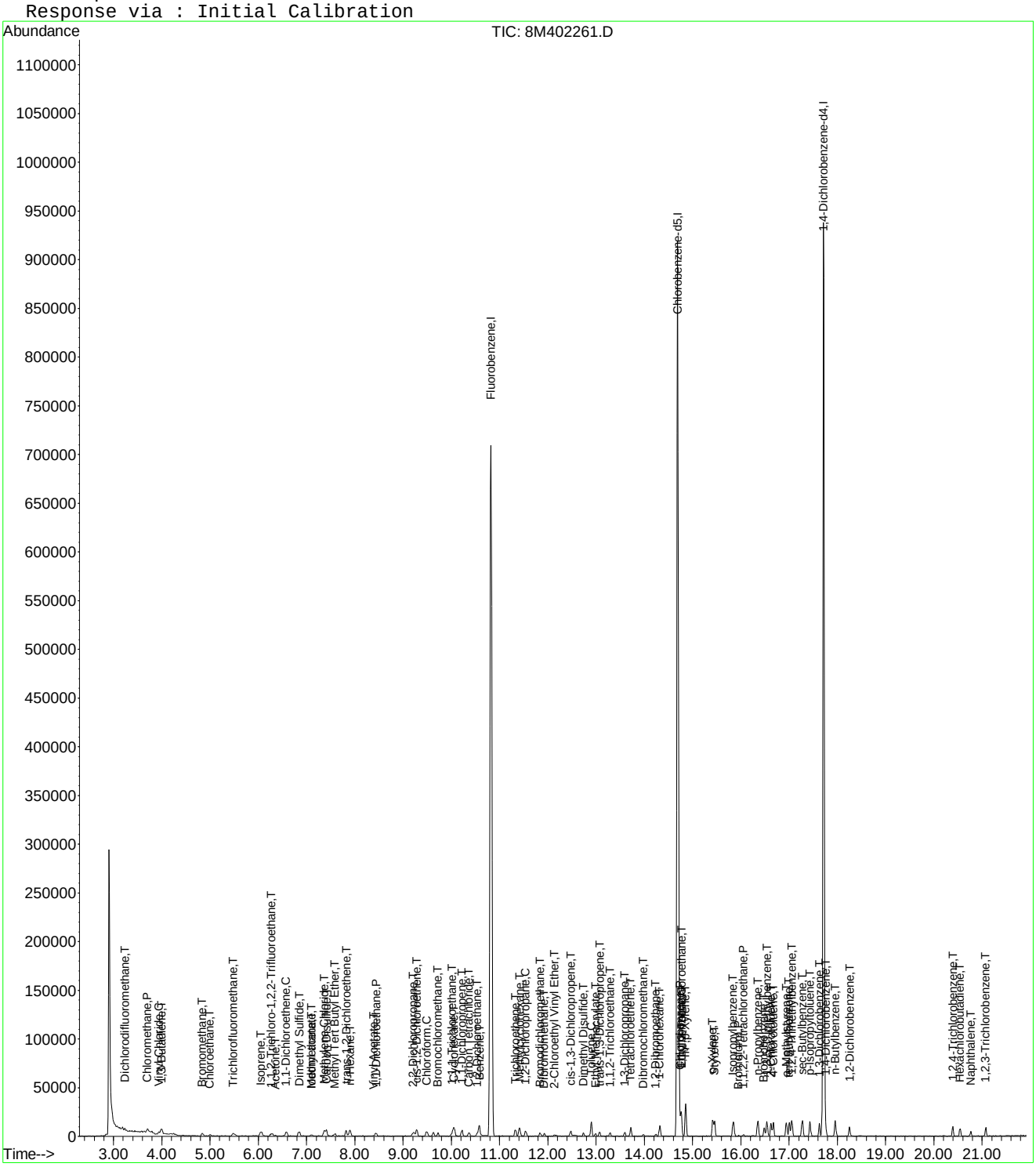
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
60)	Ethyl Methacrylate	13.00	69	2160	0.2998 ug/L		88
62)	trans-1,3-Dichloropropene	13.08	75	3258	0.2974 ug/L		95
63)	1,1,2-Trichloroethane	13.30	97	1687	0.3082 ug/L		84
65)	1,3-Dichloropropane	13.60	76	3099	0.3151 ug/L		93
66)	Tetrachloroethene	13.72	164	3019	0.3882 ug/L		95
67)	Dibromochloromethane	13.98	129	1925	0.4732 ug/L		91
68)	1,2-Dibromoethane	14.24	107	1626	0.2990 ug/L		90
69)	1-Chlorohexane	14.32	91	4821	0.3918 ug/L		91
70)	Chlorobenzene	14.74	112	10332	0.4360 ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.77	131	2444	0.3091 ug/L		96
72)	Ethylbenzene	14.77	106	5422	0.3971 ug/L		84
73)	m-,p-Xylene	14.86	106	13641	0.8796 ug/L		98
74)	o-Xylene	15.41	106	6213	0.3945 ug/L		92
75)	Styrene	15.46	104	9586	0.3826 ug/L		99
76)	Bromoform	15.95	173	542	0.7835 ug/L	#	27
77)	Isopropylbenzene	15.84	105	16648	0.4171 ug/L		96
79)	1,1,2,2-Tetrachloroethane	16.06	83	1707	0.2985 ug/L	#	85
83)	n-Propylbenzene	16.36	91	20954	0.4388 ug/L		94
84)	Bromobenzene	16.48	156	4059	0.4073 ug/L		93
85)	1,3,5-Trimethylbenzene	16.54	105	12790	0.3946 ug/L		95
86)	2-Chlorotoluene	16.62	91	12547	0.4307 ug/L		96
87)	4-Chlorotoluene	16.68	91	11896	0.4069 ug/L		98
88)	a-Methylstyrene	16.95	118	6970	0.3813 ug/L		86
89)	tert-Butylbenzene	17.00	134	2401	0.3364 ug/L		75
90)	1,2,4-Trimethylbenzene	17.06	105	14125	0.4186 ug/L		93
91)	sec-Butylbenzene	17.28	105	17900	0.4334 ug/L		99
92)	p-Isopropyltoluene	17.43	119	14297	0.4322 ug/L		94
93)	1,3-Dichlorobenzene	17.63	146	8171	0.4343 ug/L		98
94)	1,4-Dichlorobenzene	17.76	146	8231	0.3474 ug/L	#	73
95)	n-Butylbenzene	17.96	91	15127	0.4386 ug/L		96
96)	1,2-Dichlorobenzene	18.26	146	6472	0.3807 ug/L		92
98)	1,2,4-Trichlorobenzene	20.40	180	5487	0.4087 ug/L		93
99)	Hexachlorobutadiene	20.54	225	3122	0.4045 ug/L		91
100)	Naphthalene	20.77	128	6868	0.3810 ug/L	#	83
101)	1,2,3-Trichlorobenzene	21.07	180	4715	0.3922 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402261.D Vial: 3
Acq On : 13 Jan 2015 9:36 Operator: TMB
Sample : WG507785-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402262.D Vial: 4
Acq On : 13 Jan 2015 10:08 Operator: TMB
Sample : WG507785-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:08 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	886091	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	652393	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	326370	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	4128	0.4832	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.92%#		
43) 1,2-Dichloroethane-d4	10.42	65	4133	0.4869	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.96%#		
58) Toluene-d8	12.80	98	15031	0.4951	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.00%#		
80) p-Bromofluorobenzene	16.19	95	5551	0.4647	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.84%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.25	85	12167	1.0340	ug/L	91
3) Chloromethane	3.71	50	12737	1.2212	ug/L	100
4) Vinyl Chloride	3.94	62	10179	1.0683	ug/L	97
5) 1,3-Butadiene	3.99	54	8690	1.1891	ug/L #	75
6) Bromomethane	4.84	94	8483	1.0978	ug/L	99
7) Chloroethane	5.00	64	7040	0.9858	ug/L	87
8) Trichlorofluoromethane	5.49	101	15491	1.0034	ug/L	97
9) Diethyl ether	6.02	59	27711	4.9066	ug/L	92
10) Isoprene	6.06	67	12780	1.0182	ug/L	80
11) Acrolein	6.25	56	1398	2.1421	ug/L #	50
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	9275	1.0124	ug/L	94
13) Acetone	6.35	43	595	0.6237	ug/L #	1
14) 1,1-Dichloroethene	6.59	61	14232	1.0212	ug/L	89
16) Dimethyl Sulfide	6.84	62	10244	1.0270	ug/L	100
17) Iodomethane	7.10	142	4966	1.1988	ug/L	91
18) Methyl acetate	7.12	43	4731	1.0021	ug/L #	79
19) Methylene Chloride	7.37	84	10534	1.1563	ug/L	81
20) Carbon Disulfide	7.41	76	30990	1.0833	ug/L	99
21) Acrylonitrile	7.55	53	3278	2.0324	ug/L	88
22) Methyl Tert Butyl Ether	7.59	73	15566	0.9352	ug/L	91
23) trans-1,2-Dichloroethene	7.82	61	14503	1.0598	ug/L	88
24) n-Hexane	7.90	57	13252	1.0197	ug/L	90
25) Diisopropyl ether	8.24	45	140283	5.0905	ug/L	99
26) Vinyl Acetate	8.40	43	4685	0.9079	ug/L #	90
27) 1,1-Dichloroethane	8.44	63	17644	1.0252	ug/L	97
28) Ethyl-Tert-Butyl ether	8.82	59	112818	4.8555	ug/L	95
29) 2-Butanone	9.00	43	854	0.5573	ug/L #	55
30) Propionitrile	9.10	54	1709	4.0713	ug/L #	56
31) 2,2-Dichloropropane	9.21	77	15260	1.1046	ug/L	95
32) cis-1,2-Dichloroethene	9.28	96	9918	1.0013	ug/L	94
33) Chloroform	9.49	83	16596	1.0204	ug/L	96
34) 1-Bromopropane	9.64	122	1850	0.9444	ug/L	93
35) Bromochloromethane	9.73	130	4983	0.9808	ug/L	94
36) Tetrahydrofuran	9.75	42	5317	5.0290	ug/L	97
38) 1,1,1-Trichloroethane	10.03	97	13804	0.9942	ug/L	99
39) Cyclohexane	10.05	56	17090	1.0397	ug/L	87
40) 1,1-Dichloropropene	10.21	75	12708	0.9974	ug/L	97
41) Tert-Amyl-Methyl ether	10.32	73	87007	4.9348	ug/L	95
42) Carbon Tetrachloride	10.37	117	11574	0.9844	ug/L	96
45) 1,2-Dichloroethane	10.53	62	10484	0.9920	ug/L	95

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\2\DATA\011315\8M402262.D Vial: 4
Acq On : 13 Jan 2015 10:08 Operator: TMB
Sample : WG507785-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:08 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

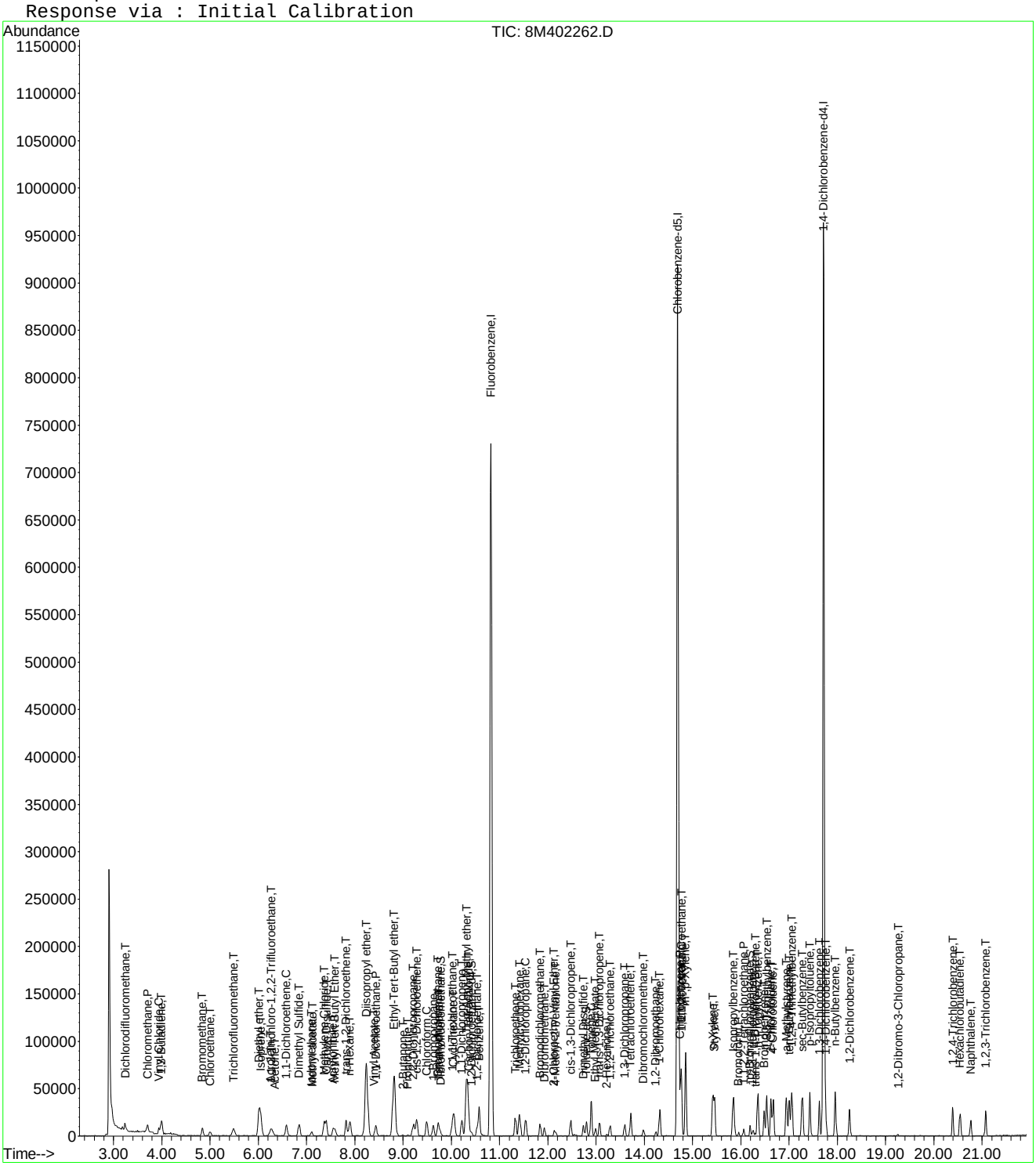
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Benzene	10.58	78	36199	1.0462	ug/L		93
47)	Trichloroethene	11.33	130	8738	1.0006	ug/L		97
48)	Methylcyclohexane	11.41	83	14471	0.9792	ug/L		89
49)	1,2-Dichloropropane	11.54	63	9053	0.9735	ug/L		95
50)	Bromodichloromethane	11.84	83	11176	0.9917	ug/L		95
52)	Dibromomethane	11.93	93	4131	0.9794	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.13	63	3089	0.8355	ug/L	#	80
54)	4-Methyl-2-Pentanone	12.16	58	720	0.4583	ug/L	#	42
55)	cis-1,3-Dichloropropene	12.48	75	12201	0.9607	ug/L		95
56)	Dimethyl Disulfide	12.74	94	8740	0.6973	ug/L		94
59)	Toluene	12.90	91	37406	1.0140	ug/L		99
60)	Ethyl Methacrylate	12.99	69	6256	0.8597	ug/L		100
62)	trans-1,3-Dichloropropene	13.07	75	9528	0.8610	ug/L		98
63)	1,1,2-Trichloroethane	13.30	97	5167	0.9347	ug/L		97
64)	2-Hexanone	13.22	58	928	0.6848	ug/L	#	10
65)	1,3-Dichloropropane	13.60	76	9425	0.9486	ug/L		96
66)	Tetrachloroethene	13.72	164	7830	0.9968	ug/L		92
67)	Dibromochloromethane	13.98	129	5853	0.9828	ug/L		98
68)	1,2-Dibromoethane	14.24	107	5288	0.9626	ug/L		94
69)	1-Chlorohexane	14.32	91	12490	1.0049	ug/L		91
70)	Chlorobenzene	14.74	112	24943	1.0420	ug/L		71
71)	1,1,1,2-Tetrachloroethane	14.77	131	6916	0.8660	ug/L		96
72)	Ethylbenzene	14.76	106	13742	0.9964	ug/L		94
73)	m-,p-Xylene	14.86	106	33781	2.1566	ug/L		94
74)	o-Xylene	15.43	106	16133	1.0142	ug/L		100
75)	Styrene	15.46	104	25212	0.9962	ug/L		97
76)	Bromoform	15.95	173	2835	1.2688	ug/L		84
77)	Isopropylbenzene	15.85	105	42509	1.0544	ug/L		97
79)	1,1,2,2-Tetrachloroethane	16.07	83	5830	0.9784	ug/L	#	94
81)	1,2,3-Trichloropropane	16.24	110	1466	0.8830	ug/L		73
82)	trans-1,4-Dichloro-2-Buten	16.30	53	1259	1.1850	ug/L		51
83)	n-Propylbenzene	16.36	91	52268	1.0505	ug/L		97
84)	Bromobenzene	16.49	156	9352	0.9008	ug/L		95
85)	1,3,5-Trimethylbenzene	16.54	105	34031	1.0078	ug/L		99
86)	2-Chlorotoluene	16.62	91	32055	1.0561	ug/L		89
87)	4-Chlorotoluene	16.67	91	32026	1.0515	ug/L		89
88)	a-Methylstyrene	16.95	118	17333	0.9102	ug/L		99
89)	tert-Butylbenzene	17.01	134	6962	0.9361	ug/L		92
90)	1,2,4-Trimethylbenzene	17.06	105	36043	1.0253	ug/L		99
91)	sec-Butylbenzene	17.28	105	45475	1.0569	ug/L		96
92)	p-Isopropyltoluene	17.43	119	37707	1.0942	ug/L		94
93)	1,3-Dichlorobenzene	17.63	146	20034	1.0220	ug/L		99
94)	1,4-Dichlorobenzene	17.76	146	20395	0.9027	ug/L	#	66
95)	n-Butylbenzene	17.96	91	36819	1.0248	ug/L		97
96)	1,2-Dichlorobenzene	18.26	146	17180	0.9700	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	19.26	75	1128	1.7651	ug/L	#	56
98)	1,2,4-Trichlorobenzene	20.40	180	14178	1.0135	ug/L		98
99)	Hexachlorobutadiene	20.54	225	7408	0.9212	ug/L		90
100)	Naphthalene	20.77	128	17894	0.9529	ug/L		95
101)	1,2,3-Trichlorobenzene	21.08	180	12482	0.9965	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M402262.D 8260WT.M Tue Jan 13 16:23:09 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402262.D Vial: 4
Acq On : 13 Jan 2015 10:08 Operator: TMB
Sample : WG507785-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\011315\8M402263.D Vial: 5
Acq On : 13 Jan 2015 10:37 Operator: TMB
Sample : WG507785-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:09 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	891484	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	646794	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	313632	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	8184	0.9522	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.80%#		
43) 1,2-Dichloroethane-d4	10.42	65	8013	0.9384	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.76%#		
58) Toluene-d8	12.80	98	29260	0.9722	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.88%#		
80) p-Bromofluorobenzene	16.19	95	10509	0.9155	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	3.68%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	23603	1.9937	ug/L	95
3) Chloromethane	3.70	50	20984	1.9997	ug/L	95
4) Vinyl Chloride	3.94	62	19460	2.0300	ug/L	99
5) 1,3-Butadiene	4.00	54	16152	2.1968	ug/L #	77
6) Bromomethane	4.84	94	16314	2.0984	ug/L	100
7) Chloroethane	5.00	64	14526	2.0217	ug/L	95
8) Trichlorofluoromethane	5.49	101	30255	1.9479	ug/L	99
9) Diethyl ether	6.03	59	135618	23.8677	ug/L	91
10) Isoprene	6.06	67	22641	1.7930	ug/L	89
11) Acrolein	6.25	56	7620	11.6050	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	18505	2.0076	ug/L	86
13) Acetone	6.36	43	1998	2.0818	ug/L #	1
14) 1,1-Dichloroethene	6.59	61	27281	1.9456	ug/L	95
15) Tert-Butyl Alcohol	6.69	59	3599	27.9827	ug/L #	59
16) Dimethyl Sulfide	6.84	62	18810	1.8744	ug/L	95
17) Iodomethane	7.11	142	11506	1.8598	ug/L	96
18) Methyl acetate	7.11	43	9393	1.9775	ug/L #	86
19) Methylene Chloride	7.37	84	18217	1.9876	ug/L	95
20) Carbon Disulfide	7.41	76	60489	2.1018	ug/L	100
21) Acrylonitrile	7.55	53	17987	11.0848	ug/L	92
22) Methyl Tert Butyl Ether	7.58	73	29367	1.7536	ug/L	92
23) trans-1,2-Dichloroethene	7.83	61	28488	2.0691	ug/L	92
24) n-Hexane	7.91	57	24777	1.8950	ug/L	90
25) Diisopropyl ether	8.24	45	703272	25.3654	ug/L	98
26) Vinyl Acetate	8.42	43	10079	1.9415	ug/L #	76
27) 1,1-Dichloroethane	8.45	63	35740	2.0642	ug/L	100
28) Ethyl-Tert-Butyl ether	8.82	59	577297	24.6955	ug/L	96
29) 2-Butanone	8.99	43	2188	1.4193	ug/L #	55
30) Propionitrile	9.11	54	9026	21.3722	ug/L	92
31) 2,2-Dichloropropane	9.21	77	26763	1.9255	ug/L	98
32) cis-1,2-Dichloroethene	9.28	96	20131	2.0202	ug/L	87
33) Chloroform	9.49	83	32853	2.0077	ug/L	98
34) 1-Bromopropane	9.62	122	3571	1.8119	ug/L	99
35) Bromochloromethane	9.73	130	9450	1.8488	ug/L	96
36) Tetrahydrofuran	9.75	42	23557	22.1463	ug/L	99
38) 1,1,1-Trichloroethane	10.03	97	26347	1.8860	ug/L	95
39) Cyclohexane	10.06	56	32538	1.9675	ug/L	86
40) 1,1-Dichloropropene	10.22	75	24734	1.9296	ug/L	99
41) Tert-Amyl-Methyl ether	10.33	73	433502	24.4384	ug/L	96
42) Carbon Tetrachloride	10.36	117	22454	1.8983	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\2\DATA\011315\8M402263.D Vial: 5
Acq On : 13 Jan 2015 10:37 Operator: TMB
Sample : WG507785-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:09 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

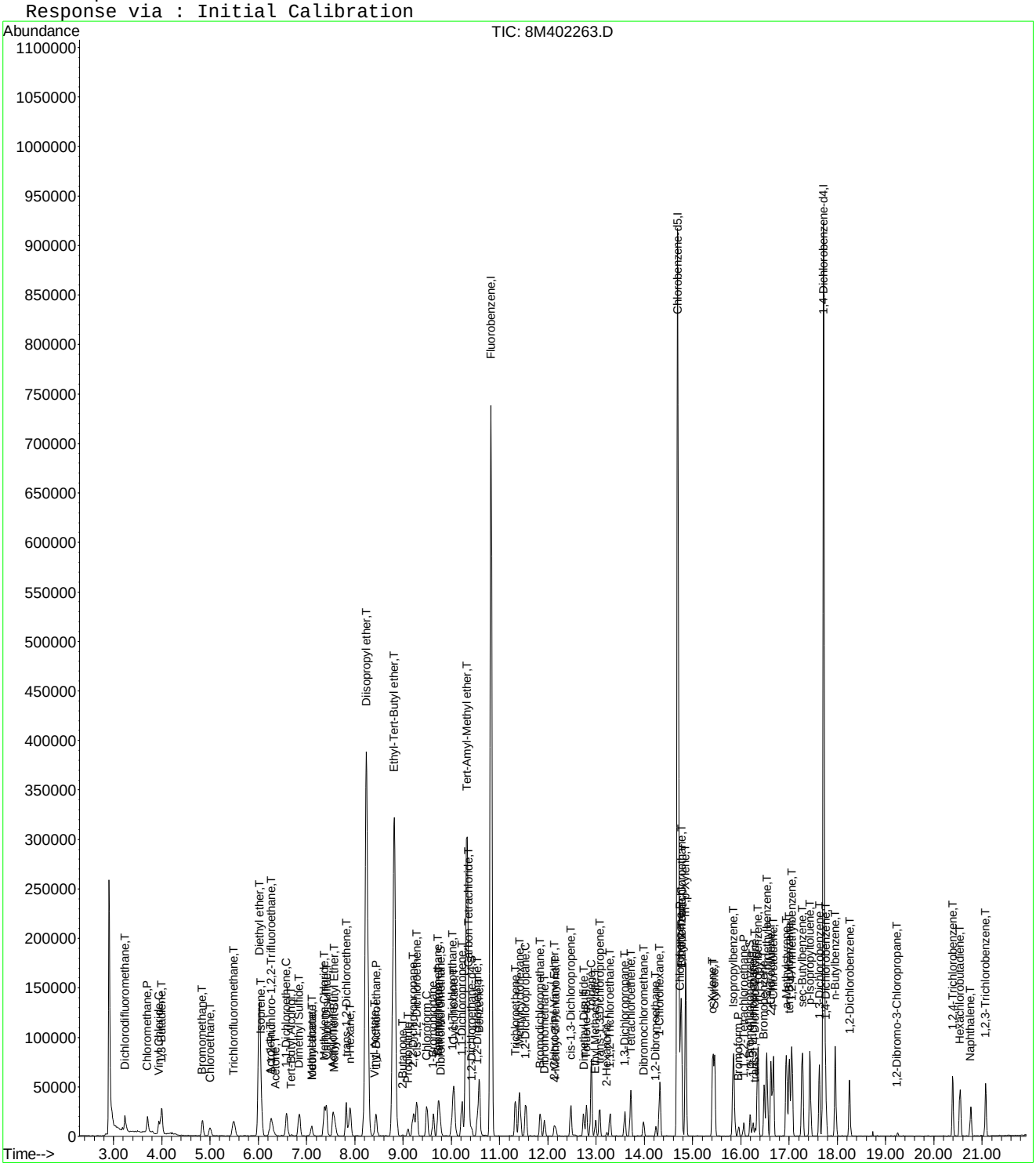
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.55	62	20791	1.9553	ug/L		98
46)	Benzene	10.58	78	71430	2.0520	ug/L		93
47)	Trichloroethene	11.33	130	15885	1.8079	ug/L		96
48)	Methylcyclohexane	11.41	83	28734	1.9326	ug/L		87
49)	1,2-Dichloropropane	11.54	63	18336	1.9598	ug/L		97
50)	Bromodichloromethane	11.84	83	21082	1.8594	ug/L		98
52)	Dibromomethane	11.93	93	7594	1.7896	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.14	63	6566	1.7652	ug/L		91
54)	4-Methyl-2-Pentanone	12.16	58	2559	1.6192	ug/L	#	70
55)	cis-1,3-Dichloropropene	12.48	75	23709	1.8556	ug/L		97
56)	Dimethyl Disulfide	12.75	94	16821	1.3339	ug/L		100
59)	Toluene	12.90	91	74352	2.0329	ug/L		99
60)	Ethyl Methacrylate	12.99	69	12669	1.7560	ug/L		94
62)	trans-1,3-Dichloropropene	13.08	75	18931	1.7256	ug/L		99
63)	1,1,2-Trichloroethane	13.29	97	9774	1.7834	ug/L		100
64)	2-Hexanone	13.22	58	2112	1.5720	ug/L	#	32
65)	1,3-Dichloropropane	13.60	76	18037	1.8311	ug/L		95
66)	Tetrachloroethene	13.73	164	15495	1.9897	ug/L		91
67)	Dibromochloromethane	13.99	129	11273	1.7021	ug/L		100
68)	1,2-Dibromoethane	14.24	107	9325	1.7122	ug/L		99
69)	1-Chlorohexane	14.32	91	23752	1.9276	ug/L		91
70)	Chlorobenzene	14.74	112	49076	2.0679	ug/L		89
71)	1,1,1,2-Tetrachloroethane	14.77	131	13380	1.6898	ug/L		97
72)	Ethylbenzene	14.77	106	28310	2.0704	ug/L		99
73)	m-,p-Xylene	14.86	106	64372	4.1450	ug/L		92
74)	o-Xylene	15.42	106	30328	1.9231	ug/L		95
75)	Styrene	15.46	104	50260	2.0032	ug/L		100
76)	Bromoform	15.95	173	5536	1.8520	ug/L		94
77)	Isopropylbenzene	15.85	105	82388	2.0612	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.07	83	10889	1.9016	ug/L		99
81)	1,2,3-Trichloropropane	16.25	110	2474	1.5507	ug/L		71
82)	trans-1,4-Dichloro-2-Buten	16.29	53	2602	1.8873	ug/L		64
83)	n-Propylbenzene	16.36	91	101712	2.1273	ug/L		97
84)	Bromobenzene	16.48	156	18433	1.8476	ug/L		98
85)	1,3,5-Trimethylbenzene	16.54	105	67391	2.0767	ug/L		100
86)	2-Chlorotoluene	16.62	91	59945	2.0552	ug/L		99
87)	4-Chlorotoluene	16.68	91	63317	2.1634	ug/L		99
88)	a-Methylstyrene	16.95	118	34299	1.8743	ug/L		100
89)	tert-Butylbenzene	17.01	134	13998	1.9586	ug/L		97
90)	1,2,4-Trimethylbenzene	17.06	105	70814	2.0962	ug/L		97
91)	sec-Butylbenzene	17.28	105	86254	2.0861	ug/L		100
92)	p-Isopropyltoluene	17.43	119	70636	2.1329	ug/L		97
93)	1,3-Dichlorobenzene	17.63	146	38806	2.0601	ug/L		98
94)	1,4-Dichlorobenzene	17.76	146	38907	1.8481	ug/L		87
95)	n-Butylbenzene	17.96	91	72094	2.0880	ug/L		97
96)	1,2-Dichlorobenzene	18.26	146	32329	1.8994	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.24	75	1200	1.8781	ug/L		75
98)	1,2,4-Trichlorobenzene	20.39	180	26610	1.9795	ug/L		97
99)	Hexachlorobutadiene	20.54	225	14821	1.9179	ug/L		94
100)	Naphthalene	20.76	128	32895	1.8229	ug/L		99
101)	1,2,3-Trichlorobenzene	21.07	180	22417	1.8623	ug/L		97

(#) = qualifier out of range (m) = manual integration
8M402263.D 8260WT.M Tue Jan 13 16:23:10 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402263.D Vial: 5
Acq On : 13 Jan 2015 10:37 Operator: TMB
Sample : WG507785-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402263.D 8260WT.M Tue Jan 13 16:23:10 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402264.D Vial: 6
Acq On : 13 Jan 2015 11:06 Operator: TMB
Sample : WG507785-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:10 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	912238	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	647784	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	319389	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	21751	2.4732	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.88%#		
43) 1,2-Dichloroethane-d4	10.41	65	21719	2.4855	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.96%#		
58) Toluene-d8	12.80	98	76793	2.5477	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	10.20%#		
80) p-Bromofluorobenzene	16.19	95	28477	2.4361	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	9.76%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	53994	4.4570	ug/L	99
3) Chloromethane	3.70	50	53555	4.9874	ug/L	99
4) Vinyl Chloride	3.94	62	48147	4.9083	ug/L	95
5) 1,3-Butadiene	3.99	54	38908	5.1713	ug/L	81
6) Bromomethane	4.84	94	40388	5.0768	ug/L	98
7) Chloroethane	5.00	64	36954	5.0262	ug/L	96
8) Trichlorofluoromethane	5.48	101	76777	4.8306	ug/L	99
9) Diethyl ether	6.02	59	290331	49.9335	ug/L	92
10) Isoprene	6.05	67	60746	4.7012	ug/L	89
11) Acrolein	6.25	56	15839	23.5734	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	46560	4.9364	ug/L	90
13) Acetone	6.36	43	4834	4.9223	ug/L #	17
14) 1,1-Dichloroethene	6.58	61	70795	4.9341	ug/L	92
15) Tert-Butyl Alcohol	6.69	59	12596	95.7075	ug/L #	81
16) Dimethyl Sulfide	6.85	62	52656	5.1278	ug/L	98
17) Iodomethane	7.11	142	35273	4.1916	ug/L	98
18) Methyl acetate	7.11	43	24507	5.0420	ug/L	98
19) Methylene Chloride	7.37	84	47678	5.0837	ug/L	89
20) Carbon Disulfide	7.42	76	153840	5.2237	ug/L	99
21) Acrylonitrile	7.55	53	38641	23.2714	ug/L	91
22) Methyl Tert Butyl Ether	7.58	73	83417	4.8679	ug/L	94
23) trans-1,2-Dichloroethene	7.82	61	70963	5.0369	ug/L	92
24) n-Hexane	7.90	57	65013	4.8591	ug/L	91
25) Diisopropyl ether	8.24	45	1452441	51.1943	ug/L	98
26) Vinyl Acetate	8.41	43	28358	5.3381	ug/L	94
27) 1,1-Dichloroethane	8.44	63	92926	5.2449	ug/L	99
28) Ethyl-Tert-Butyl ether	8.81	59	1205634	50.4011	ug/L	96
29) 2-Butanone	9.00	43	6232	3.9506	ug/L	100
30) Propionitrile	9.10	54	19641	45.4489	ug/L	99
31) 2,2-Dichloropropane	9.21	77	72303	5.0836	ug/L	100
32) cis-1,2-Dichloroethene	9.29	96	50275	4.9304	ug/L	90
33) Chloroform	9.49	83	84885	5.0693	ug/L	100
34) 1-Bromopropane	9.63	122	9792	4.8554	ug/L	99
35) Bromochloromethane	9.73	130	26558	5.0776	ug/L	93
36) Tetrahydrofuran	9.75	42	51025	46.8780	ug/L	97
38) 1,1,1-Trichloroethane	10.02	97	69015	4.8279	ug/L	97
39) Cyclohexane	10.05	56	81230	4.8000	ug/L	85
40) 1,1-Dichloropropene	10.22	75	63988	4.8783	ug/L	100
41) Tert-Amyl-Methyl ether	10.32	73	897262	49.4318	ug/L	96
42) Carbon Tetrachloride	10.36	117	56700	4.6845	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M402264.D 8260WT.M Tue Jan 13 16:23:11 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402264.D Vial: 6
Acq On : 13 Jan 2015 11:06 Operator: TMB
Sample : WG507785-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:10 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

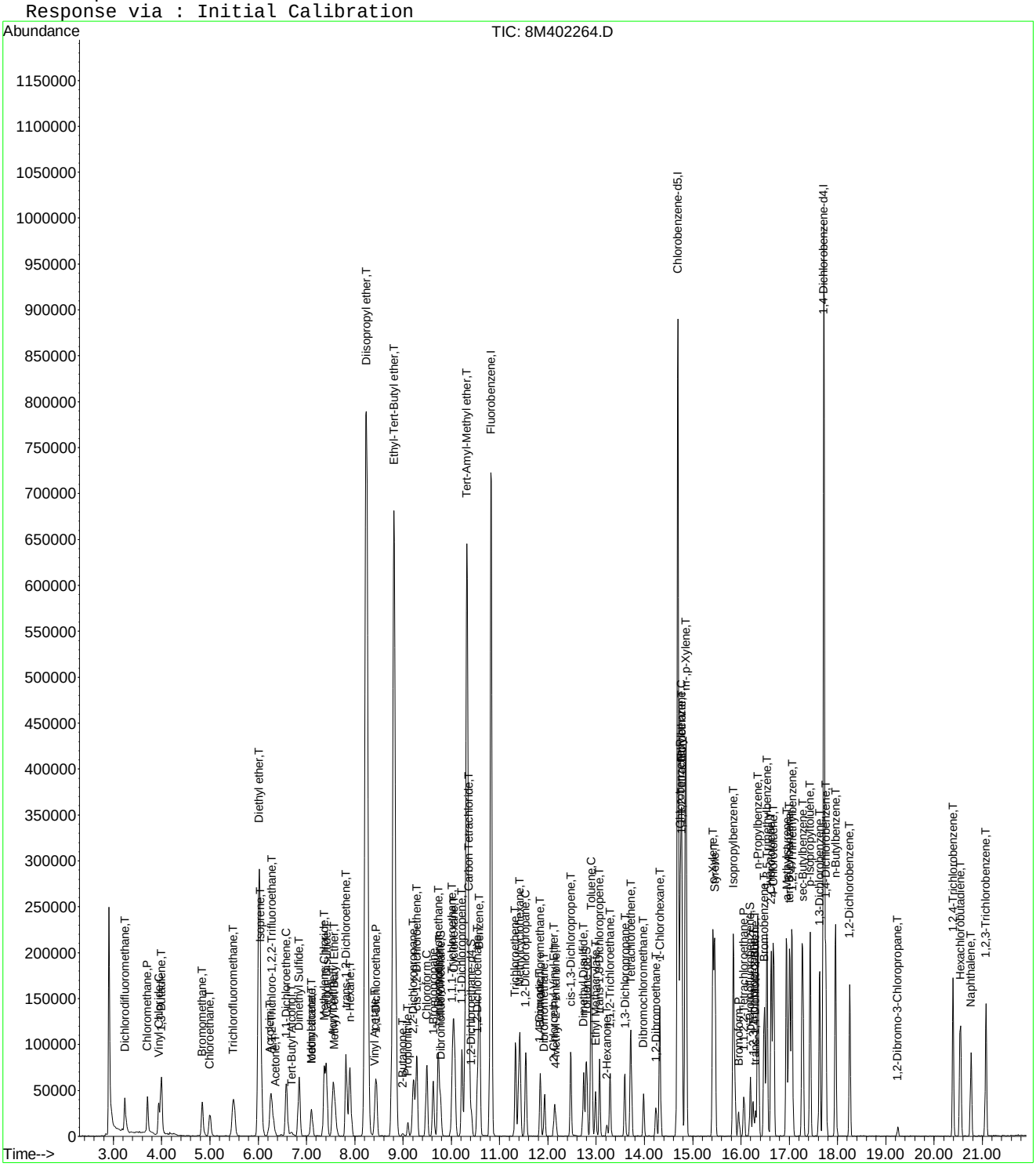
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.54	62	55167	5.0702	ug/L		97
46)	Benzene	10.58	78	187877	5.2745	ug/L		93
47)	Trichloroethene	11.32	130	43278	4.8136	ug/L		97
48)	Methylcyclohexane	11.42	83	72410	4.7593	ug/L		89
49)	1,2-Dichloropropane	11.54	63	48905	5.1082	ug/L		99
50)	Bromodichloromethane	11.84	83	56202	4.8442	ug/L		98
51)	1,4-Dioxane	11.83	88	1045	55.4920	ug/L	#	64
52)	Dibromomethane	11.92	93	21488	4.9487	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.13	63	17300	4.5451	ug/L		98
54)	4-Methyl-2-Pentanone	12.16	58	7812	4.8305	ug/L		96
55)	cis-1,3-Dichloropropene	12.47	75	66275	5.0689	ug/L		99
56)	Dimethyl Disulfide	12.74	94	50874	3.9426	ug/L		98
59)	Toluene	12.90	91	191641	5.2318	ug/L		99
60)	Ethyl Methacrylate	12.99	69	35925	4.9719	ug/L		93
62)	trans-1,3-Dichloropropene	13.07	75	53902	4.9056	ug/L		97
63)	1,1,2-Trichloroethane	13.29	97	27616	5.0311	ug/L		96
64)	2-Hexanone	13.23	58	5881	4.3707	ug/L		76
65)	1,3-Dichloropropane	13.60	76	51467	5.2170	ug/L		92
66)	Tetrachloroethene	13.72	164	37723	4.8366	ug/L		95
67)	Dibromochloromethane	13.98	129	33226	4.5820	ug/L		99
68)	1,2-Dibromoethane	14.24	107	27067	4.9624	ug/L		100
69)	1-Chlorohexane	14.32	91	61334	4.9701	ug/L		89
70)	Chlorobenzene	14.75	112	124555	5.2403	ug/L		95
71)	1,1,1,2-Tetrachloroethane	14.78	131	38353	4.8364	ug/L		100
72)	Ethylbenzene	14.77	106	68869	5.0289	ug/L		93
73)	m-,p-Xylene	14.86	106	167843	10.7912	ug/L		97
74)	o-Xylene	15.42	106	81841	5.1816	ug/L		99
75)	Styrene	15.46	104	136103	5.4162	ug/L		100
76)	Bromoform	15.96	173	16743	4.2449	ug/L		99
77)	Isopropylbenzene	15.84	105	207131	5.1742	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.06	83	29879	5.1238	ug/L		97
81)	1,2,3-Trichloropropane	16.26	110	8155	5.0194	ug/L		50
82)	trans-1,4-Dichloro-2-Buten	16.30	53	7788	4.4325	ug/L		51
83)	n-Propylbenzene	16.35	91	262846	5.3984	ug/L		97
84)	Bromobenzene	16.48	156	49115	4.8343	ug/L		97
85)	1,3,5-Trimethylbenzene	16.53	105	180203	5.4530	ug/L		96
86)	2-Chlorotoluene	16.63	91	164855	5.5502	ug/L		90
87)	4-Chlorotoluene	16.67	91	153738	5.1582	ug/L		91
88)	a-Methylstyrene	16.95	118	91690	4.9201	ug/L		99
89)	tert-Butylbenzene	17.00	134	36058	4.9543	ug/L		98
90)	1,2,4-Trimethylbenzene	17.06	105	184051	5.3501	ug/L		98
91)	sec-Butylbenzene	17.28	105	219930	5.2232	ug/L		97
92)	p-Isopropyltoluene	17.43	119	179596	5.3254	ug/L		98
93)	1,3-Dichlorobenzene	17.63	146	98550	5.1374	ug/L		100
94)	1,4-Dichlorobenzene	17.75	146	100194	4.7707	ug/L		96
95)	n-Butylbenzene	17.96	91	183786	5.2270	ug/L		97
96)	1,2-Dichlorobenzene	18.25	146	86999	5.0194	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.24	75	4530	5.0416	ug/L		85
98)	1,2,4-Trichlorobenzene	20.39	180	68792	5.0252	ug/L		99
99)	Hexachlorobutadiene	20.55	225	38637	4.9096	ug/L		95
100)	Naphthalene	20.76	128	91665	4.9880	ug/L		99
101)	1,2,3-Trichlorobenzene	21.07	180	59206	4.8300	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M402264.D 8260WT.M Tue Jan 13 16:23:11 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402264.D Vial: 6
Acq On : 13 Jan 2015 11:06 Operator: TMB
Sample : WG507785-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402264.D 8260WT.M Tue Jan 13 16:23:11 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402265.D Vial: 7
Acq On : 13 Jan 2015 11:35 Operator: TMB
Sample : WG507785-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:12 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.83	96	936975	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.69	117	660791	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	329605	25.00 ug/L	-0.02
System Monitoring Compounds					
37) Dibromofluoromethane	9.78	111	90592	10.0287 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.12%#		
43) 1,2-Dichloroethane-d4	10.42	65	93715	10.4416 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.76%#		
58) Toluene-d8	12.80	98	324686	10.5598 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 42.24%#		
80) p-Bromofluorobenzene	16.19	95	127051	10.5318 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 42.12%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.24	85	258336	20.7618 ug/L	100
3) Chloromethane	3.70	50	224322	20.3389 ug/L	100
4) Vinyl Chloride	3.94	62	208081	20.6524 ug/L	99
5) 1,3-Butadiene	3.99	54	161878	20.9474 ug/L	80
6) Bromomethane	4.84	94	155153	18.9881 ug/L	98
7) Chloroethane	4.99	64	154838	20.5038 ug/L	98
8) Trichlorofluoromethane	5.49	101	327698	20.0737 ug/L	99
9) Diethyl ether	6.02	59	501046	83.8989 ug/L	92
10) Isoprene	6.06	67	262334	19.7663 ug/L	90
11) Acrolein	6.26	56	27835	40.3335 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	190338	19.6472 ug/L	92
13) Acetone	6.35	43	19649	19.4795 ug/L #	27
14) 1,1-Dichloroethene	6.59	61	300778	20.4095 ug/L	92
15) Tert-Butyl Alcohol	6.68	59	30463	225.3545 ug/L	97
16) Dimethyl Sulfide	6.85	62	213221	20.2160 ug/L	100
17) Iodomethane	7.10	142	183641	18.4329 ug/L	100
18) Methyl acetate	7.10	43	102057	20.4426 ug/L	99
19) Methylene Chloride	7.36	84	194201	20.1599 ug/L	87
20) Carbon Disulfide	7.41	76	627258	20.7367 ug/L	100
21) Acrylonitrile	7.55	53	70523	41.3509 ug/L	96
22) Methyl Tert Butyl Ether	7.58	73	381320	21.6650 ug/L	94
23) trans-1,2-Dichloroethene	7.82	61	298622	20.6365 ug/L	92
24) n-Hexane	7.90	57	270406	19.6768 ug/L	94
25) Diisopropyl ether	8.24	45	2462678	84.5105 ug/L	97
26) Vinyl Acetate	8.41	43	112045	20.5346 ug/L	99
27) 1,1-Dichloroethane	8.44	63	375905	20.6565 ug/L	97
28) Ethyl-Tert-Butyl ether	8.81	59	2088237	84.9933 ug/L	96
29) 2-Butanone	9.00	43	32436	20.0192 ug/L	98
30) Propionitrile	9.10	54	37676	84.8799 ug/L	100
31) 2,2-Dichloropropane	9.21	77	297258	20.3484 ug/L	100
32) cis-1,2-Dichloroethene	9.29	96	218373	20.8500 ug/L	87
33) Chloroform	9.49	83	356138	20.7070 ug/L	99
34) 1-Bromopropane	9.63	122	41717	20.1394 ug/L	96
35) Bromochloromethane	9.72	130	114420	21.2984 ug/L	91
36) Tetrahydrofuran	9.74	42	95954	85.8280 ug/L	97
38) 1,1,1-Trichloroethane	10.02	97	307234	20.9251 ug/L	100
39) Cyclohexane	10.06	56	343092	19.7385 ug/L	85
40) 1,1-Dichloropropene	10.22	75	277920	20.6286 ug/L	100
41) Tert-Amyl-Methyl ether	10.32	73	1554341	83.3708 ug/L	96
42) Carbon Tetrachloride	10.37	117	255864	20.5811 ug/L	98

(#) = qualifier out of range (m) = manual integration
8M402265.D 8260WT.M Tue Jan 13 16:23:12 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402265.D Vial: 7
Acq On : 13 Jan 2015 11:35 Operator: TMB
Sample : WG507785-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:12 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

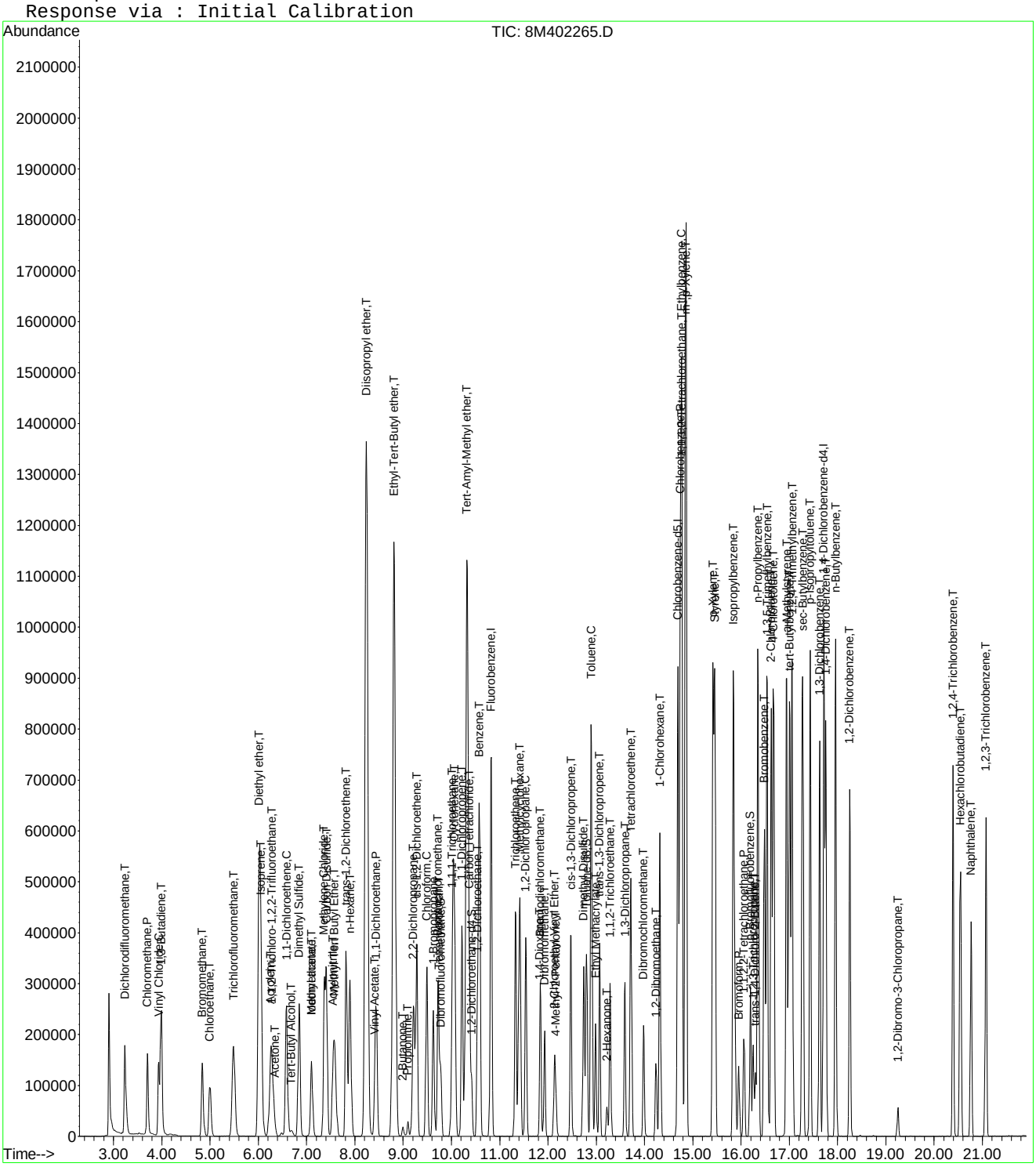
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.54	62	240143	21.4881	ug/L		98
46)	Benzene	10.58	78	779698	21.3115	ug/L		94
47)	Trichloroethene	11.33	130	193020	20.9019	ug/L		98
48)	Methylcyclohexane	11.42	83	303476	19.4199	ug/L		89
49)	1,2-Dichloropropane	11.54	63	206986	21.0492	ug/L		96
50)	Bromodichloromethane	11.84	83	255080	21.4057	ug/L		100
51)	1,4-Dioxane	11.83	88	3624	187.3625	ug/L		89
52)	Dibromomethane	11.93	93	95215	21.3491	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.14	63	79057	20.2217	ug/L		99
54)	4-Methyl-2-Pentanone	12.16	58	32665	19.6649	ug/L		94
55)	cis-1,3-Dichloropropene	12.48	75	293714	21.8712	ug/L		99
56)	Dimethyl Disulfide	12.74	94	245543	18.5266	ug/L		98
59)	Toluene	12.89	91	793840	21.2451	ug/L		100
60)	Ethyl Methacrylate	12.99	69	157550	21.3753	ug/L		91
62)	trans-1,3-Dichloropropene	13.07	75	241736	21.5674	ug/L		100
63)	1,1,2-Trichloroethane	13.29	97	123861	22.1210	ug/L		97
64)	2-Hexanone	13.22	58	27771	20.2328	ug/L	#	42
65)	1,3-Dichloropropane	13.60	76	221919	22.0520	ug/L		93
66)	Tetrachloroethene	13.72	164	159453	20.0417	ug/L		97
67)	Dibromochloromethane	13.98	129	151594	19.7311	ug/L		99
68)	1,2-Dibromoethane	14.24	107	121891	21.9074	ug/L		99
69)	1-Chlorohexane	14.32	91	255352	20.2846	ug/L		89
70)	Chlorobenzene	14.74	112	518838	21.3989	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.78	131	174668	21.5926	ug/L		98
72)	Ethylbenzene	14.77	106	284051	20.3333	ug/L		95
73)	m-,p-Xylene	14.86	106	692852	43.6691	ug/L		99
74)	o-Xylene	15.42	106	336982	20.9154	ug/L		97
75)	Styrene	15.46	104	573614	22.3777	ug/L		100
76)	Bromoform	15.95	173	85409	18.5578	ug/L		99
77)	Isopropylbenzene	15.84	105	870281	21.3121	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.06	83	128970	21.4310	ug/L		98
81)	1,2,3-Trichloropropane	16.25	110	35231	21.0124	ug/L		50
82)	trans-1,4-Dichloro-2-Buten	16.30	53	39804	19.6805	ug/L	#	39
83)	n-Propylbenzene	16.35	91	1070615	21.3070	ug/L		99
84)	Bromobenzene	16.48	156	210985	20.1231	ug/L		94
85)	1,3,5-Trimethylbenzene	16.54	105	737312	21.6198	ug/L		99
86)	2-Chlorotoluene	16.63	91	669734	21.8493	ug/L		91
87)	4-Chlorotoluene	16.67	91	649143	21.1048	ug/L		90
88)	a-Methylstyrene	16.95	118	388355	20.1931	ug/L		100
89)	tert-Butylbenzene	17.01	134	152181	20.2612	ug/L		98
90)	1,2,4-Trimethylbenzene	17.06	105	744994	20.9846	ug/L		100
91)	sec-Butylbenzene	17.28	105	934835	21.5137	ug/L		99
92)	p-Isopropyltoluene	17.43	119	751488	21.5924	ug/L		99
93)	1,3-Dichlorobenzene	17.63	146	408126	20.6160	ug/L		100
94)	1,4-Dichlorobenzene	17.75	146	405664	19.1275	ug/L		100
95)	n-Butylbenzene	17.96	91	753762	20.7730	ug/L		99
96)	1,2-Dichlorobenzene	18.25	146	363174	20.3037	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.25	75	20939	20.1132	ug/L		93
98)	1,2,4-Trichlorobenzene	20.39	180	292813	20.7270	ug/L		99
99)	Hexachlorobutadiene	20.55	225	161168	19.8448	ug/L		95
100)	Naphthalene	20.76	128	419549	22.1225	ug/L		99
101)	1,2,3-Trichlorobenzene	21.07	180	254728	20.1366	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402265.D Vial: 7
Acq On : 13 Jan 2015 11:35 Operator: TMB
Sample : WG507785-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402265.D 8260WT.M Tue Jan 13 16:23:12 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402266.D Vial: 8
Acq On : 13 Jan 2015 12:04 Operator: TMB
Sample : WG507785-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:13 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.82	96	939939	25.00 ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	652034	25.00 ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	324712	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.78	111	230501	25.4365 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.76%		
43) 1,2-Dichloroethane-d4	10.42	65	227696	25.2897 ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 101.16%		
58) Toluene-d8	12.80	98	799153	26.3400 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.36%		
80) p-Bromofluorobenzene	16.19	95	311156	26.1818 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.72%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.24	85	681521	54.5994 ug/L	100
3) Chloromethane	3.70	50	567120	51.2577 ug/L	99
4) Vinyl Chloride	3.94	62	522415	51.6871 ug/L	96
5) 1,3-Butadiene	3.99	54	428440	55.2663 ug/L	82
6) Bromomethane	4.84	94	401144	48.9385 ug/L	99
7) Chloroethane	4.99	64	393103	51.8910 ug/L	98
8) Trichlorofluoromethane	5.49	101	864511	52.7900 ug/L	99
9) Diethyl ether	6.02	59	608164	101.5144 ug/L	92
10) Isoprene	6.06	67	712287	53.5001 ug/L	89
11) Acrolein	6.25	56	35369	51.0888 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	506092	52.0754 ug/L	95
13) Acetone	6.35	43	49693	49.1090 ug/L #	25
14) 1,1-Dichloroethene	6.59	61	778909	52.6868 ug/L	92
15) Tert-Butyl Alcohol	6.69	59	31514	232.3943 ug/L	96
16) Dimethyl Sulfide	6.84	62	549286	51.9150 ug/L	100
17) Iodomethane	7.10	142	541080	52.7998 ug/L	99
18) Methyl acetate	7.11	43	244374	48.7952 ug/L	96
19) Methylene Chloride	7.37	84	482221	49.9014 ug/L	87
20) Carbon Disulfide	7.41	76	1624755	53.5437 ug/L	100
21) Acrylonitrile	7.55	53	90483	52.8870 ug/L	97
22) Methyl Tert Butyl Ether	7.58	73	933676	52.8802 ug/L	94
23) trans-1,2-Dichloroethene	7.82	61	760686	52.4021 ug/L	92
24) n-Hexane	7.90	57	729105	52.8878 ug/L	93
25) Diisopropyl ether	8.24	45	3015150	103.1431 ug/L	97
26) Vinyl Acetate	8.41	43	271315	49.5675 ug/L	98
27) 1,1-Dichloroethane	8.44	63	947227	51.8872 ug/L	97
28) Ethyl-Tert-Butyl ether	8.81	59	2558860	103.8197 ug/L	95
29) 2-Butanone	8.99	43	81498	50.1411 ug/L	98
30) Propionitrile	9.10	54	44699	100.3844 ug/L	96
31) 2,2-Dichloropropane	9.22	77	761660	51.9740 ug/L	100
32) cis-1,2-Dichloroethene	9.28	96	541646	51.5528 ug/L	89
33) Chloroform	9.49	83	896908	51.9848 ug/L	100
34) 1-Bromopropane	9.63	122	107690	51.8248 ug/L	97
35) Bromochloromethane	9.72	130	283963	52.6908 ug/L	90
36) Tetrahydrofuran	9.75	42	110211	98.2696 ug/L	98
38) 1,1,1-Trichloroethane	10.02	97	793639	53.8828 ug/L	99
39) Cyclohexane	10.06	56	930846	53.3839 ug/L	85
40) 1,1-Dichloropropene	10.21	75	727532	53.8307 ug/L	100
41) Tert-Amyl-Methyl ether	10.32	73	1913580	102.3157 ug/L	95
42) Carbon Tetrachloride	10.37	117	683226	54.7839 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M402266.D 8260WT.M Tue Jan 13 16:23:13 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402266.D Vial: 8
Acq On : 13 Jan 2015 12:04 Operator: TMB
Sample : WG507785-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:13 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

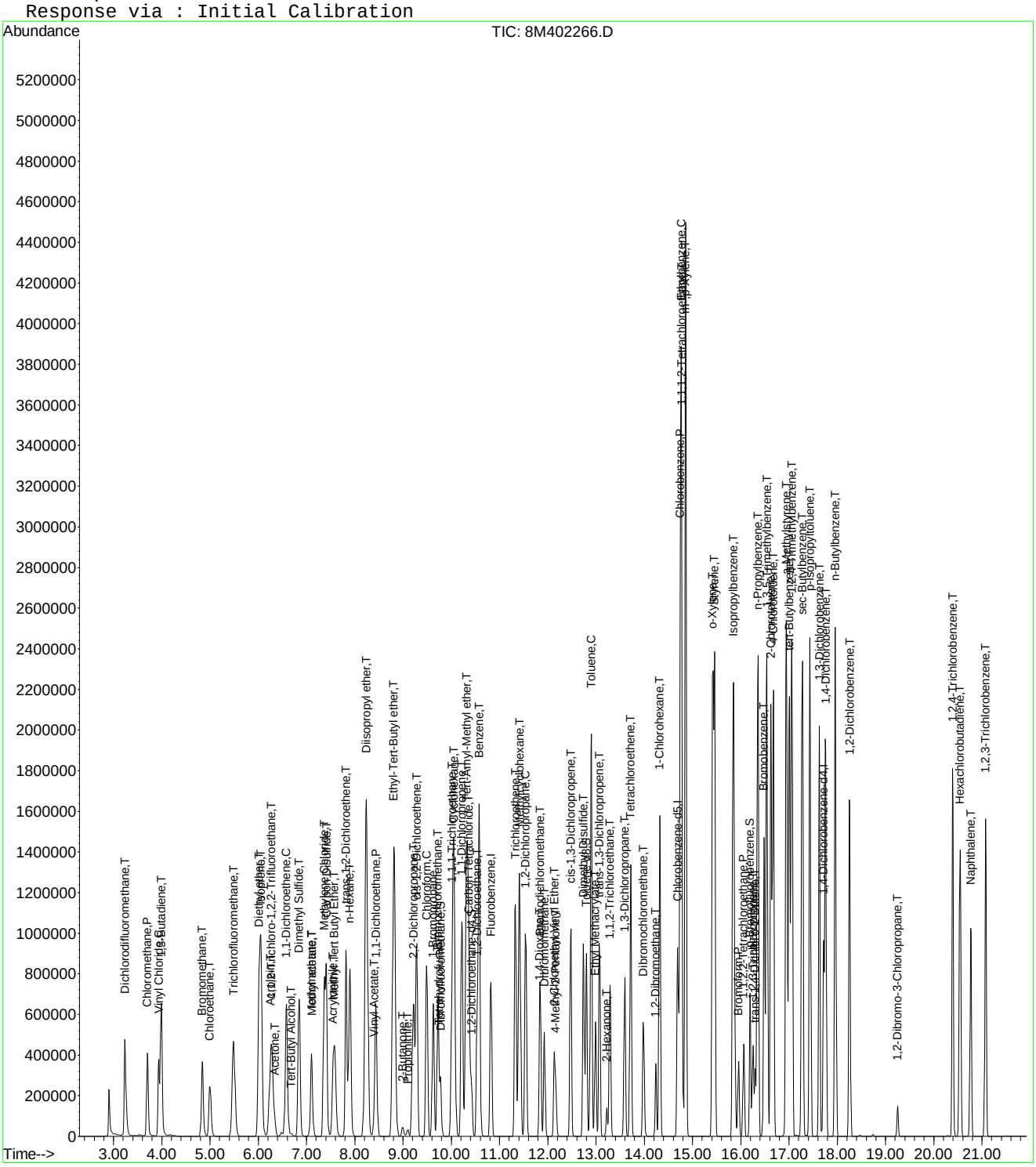
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.54	62	594686	53.0449	ug/L		98
46)	Benzene	10.58	78	1942855	52.9365	ug/L		95
47)	Trichloroethene	11.33	130	499057	53.8718	ug/L		100
48)	Methylcyclohexane	11.41	83	831085	53.0146	ug/L		89
49)	1,2-Dichloropropane	11.54	63	533664	54.0992	ug/L		97
50)	Bromodichloromethane	11.84	83	650821	54.4431	ug/L		99
51)	1,4-Dioxane	11.83	88	5549	285.9812	ug/L		76
52)	Dibromomethane	11.93	93	235001	52.5257	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.14	63	202365	51.5989	ug/L		97
54)	4-Methyl-2-Pentanone	12.16	58	82639	49.5932	ug/L		94
55)	cis-1,3-Dichloropropene	12.48	75	743922	55.2209	ug/L		99
56)	Dimethyl Disulfide	12.74	94	696670	52.3992	ug/L		99
59)	Toluene	12.90	91	1951537	52.9294	ug/L		99
60)	Ethyl Methacrylate	12.99	69	404314	55.5914	ug/L		91
62)	trans-1,3-Dichloropropene	13.07	75	619508	56.0141	ug/L		99
63)	1,1,2-Trichloroethane	13.29	97	305761	55.3408	ug/L		99
64)	2-Hexanone	13.22	58	68807	50.8032	ug/L		90
65)	1,3-Dichloropropane	13.60	76	559261	56.3200	ug/L		92
66)	Tetrachloroethene	13.72	164	415840	52.9691	ug/L		96
67)	Dibromochloromethane	13.98	129	396013	51.8743	ug/L		100
68)	1,2-Dibromoethane	14.24	107	304959	55.5462	ug/L		100
69)	1-Chlorohexane	14.32	91	680275	54.7652	ug/L		88
70)	Chlorobenzene	14.74	112	1288826	53.8701	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.77	131	455792	57.1022	ug/L		99
72)	Ethylbenzene	14.76	106	734328	53.2716	ug/L		99
73)	m-,p-Xylene	14.86	106	1725422	110.2104	ug/L		93
74)	o-Xylene	15.42	106	860665	54.1363	ug/L		98
75)	Styrene	15.46	104	1437928	56.8496	ug/L		99
76)	Bromoform	15.95	173	225868	48.6149	ug/L		99
77)	Isopropylbenzene	15.85	105	2159559	53.5951	ug/L		98
79)	1,1,2,2-Tetrachloroethane	16.06	83	320318	54.0295	ug/L		99
81)	1,2,3-Trichloropropane	16.25	110	88686	53.6911	ug/L		48
82)	trans-1,4-Dichloro-2-Buten	16.29	53	95602	47.1549	ug/L	#	40
83)	n-Propylbenzene	16.36	91	2635154	53.2343	ug/L		98
84)	Bromobenzene	16.48	156	525601	50.8855	ug/L		96
85)	1,3,5-Trimethylbenzene	16.54	105	1847469	54.9887	ug/L		98
86)	2-Chlorotoluene	16.63	91	1624651	53.8009	ug/L		92
87)	4-Chlorotoluene	16.68	91	1654373	54.5971	ug/L		89
88)	a-Methylstyrene	16.95	118	1039314	54.8550	ug/L		97
89)	tert-Butylbenzene	17.01	134	394517	53.3170	ug/L		97
90)	1,2,4-Trimethylbenzene	17.06	105	1857182	53.1004	ug/L		98
91)	sec-Butylbenzene	17.28	105	2325685	54.3283	ug/L		99
92)	p-Isopropyltoluene	17.43	119	1902277	55.4816	ug/L		100
93)	1,3-Dichlorobenzene	17.63	146	1044993	53.5820	ug/L		100
94)	1,4-Dichlorobenzene	17.76	146	1026787	50.6999	ug/L		100
95)	n-Butylbenzene	17.96	91	1882807	52.6704	ug/L		100
96)	1,2-Dichlorobenzene	18.26	146	911498	51.7263	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.25	75	53205	50.7564	ug/L		98
98)	1,2,4-Trichlorobenzene	20.39	180	746342	53.6264	ug/L		99
99)	Hexachlorobutadiene	20.54	225	427449	53.4255	ug/L		95
100)	Naphthalene	20.77	128	1066824	57.1005	ug/L		100
101)	1,2,3-Trichlorobenzene	21.07	180	639252	51.2951	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402266.D Vial: 8
Acq On : 13 Jan 2015 12:04 Operator: TMB
Sample : WG507785-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402266.D 8260WT.M Tue Jan 13 16:23:13 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402267.D Vial: 9
Acq On : 13 Jan 2015 12:33 Operator: TMB
Sample : WG507785-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:14 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	955930	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	674280	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	335365	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	478115	51.8789	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 207.52%#			
43) 1,2-Dichloroethane-d4	10.42	65	481178	52.5494	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 210.20%#			
58) Toluene-d8	12.80	98	1629392	51.9328	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 207.72%#			
80) p-Bromofluorobenzene	16.19	95	646039	52.6334	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 210.52%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	1297507	102.2097	ug/L	99
3) Chloromethane	3.70	50	1068125	94.9249	ug/L	100
4) Vinyl Chloride	3.94	62	985290	95.8527	ug/L	96
5) 1,3-Butadiene	3.98	54	811673	102.9497	ug/L	86
6) Bromomethane	4.84	94	795886	95.4717	ug/L	99
7) Chloroethane	5.00	64	767926	99.6733	ug/L	98
8) Trichlorofluoromethane	5.49	101	1669547	100.2429	ug/L	99
9) Diethyl ether	6.02	59	1263756	207.4168	ug/L	92
10) Isoprene	6.06	67	1414496	104.4661	ug/L	90
11) Acrolein	6.25	56	75794	107.6493	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	979416	99.0931	ug/L	94
13) Acetone	6.36	43	102586	99.6845	ug/L #	29
14) 1,1-Dichloroethene	6.58	61	1503124	99.9732	ug/L	91
15) Tert-Butyl Alcohol	6.70	59	64584	468.2960	ug/L	98
16) Dimethyl Sulfide	6.84	62	1114967	103.6168	ug/L	100
17) Iodomethane	7.10	142	1123042	107.0361	ug/L	99
18) Methyl acetate	7.11	43	538140	105.6552	ug/L	97
19) Methylene Chloride	7.37	84	951900	96.8570	ug/L	86
20) Carbon Disulfide	7.41	76	3136140	101.6225	ug/L	98
21) Acrylonitrile	7.55	53	193983	111.4858	ug/L	97
22) Methyl Tert Butyl Ether	7.58	73	1939479	108.0078	ug/L	94
23) trans-1,2-Dichloroethene	7.82	61	1480316	100.2701	ug/L	91
24) n-Hexane	7.90	57	1464039	104.4220	ug/L	92
25) Diisopropyl ether	8.24	45	5836631	196.3212	ug/L	93
26) Vinyl Acetate	8.40	43	572172	102.7835	ug/L	97
27) 1,1-Dichloroethane	8.45	63	1843449	99.2912	ug/L	96
28) Ethyl-Tert-Butyl ether	8.82	59	5097499	203.3592	ug/L	92
29) 2-Butanone	8.99	43	183691	111.1241	ug/L	97
30) Propionitrile	9.10	54	100672	222.3058	ug/L	99
31) 2,2-Dichloropropane	9.22	77	1489445	99.9362	ug/L	99
32) cis-1,2-Dichloroethene	9.28	96	1061588	99.3496	ug/L	89
33) Chloroform	9.49	83	1749316	99.6942	ug/L	99
34) 1-Bromopropane	9.62	122	223672	105.8394	ug/L	98
35) Bromochloromethane	9.73	130	569101	103.8331	ug/L	91
36) Tetrahydrofuran	9.75	42	253199	221.9881	ug/L	98
38) 1,1,1-Trichloroethane	10.03	97	1562080	104.2807	ug/L	99
39) Cyclohexane	10.06	56	1843110	103.9338	ug/L	85
40) 1,1-Dichloropropene	10.22	75	1410593	102.6250	ug/L	99
41) Tert-Amyl-Methyl ether	10.33	73	3950471	207.6913	ug/L	96
42) Carbon Tetrachloride	10.37	117	1353510	106.7145	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M402267.D 8260WT.M Tue Jan 13 16:23:14 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402267.D Vial: 9
Acq On : 13 Jan 2015 12:33 Operator: TMB
Sample : WG507785-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:14 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

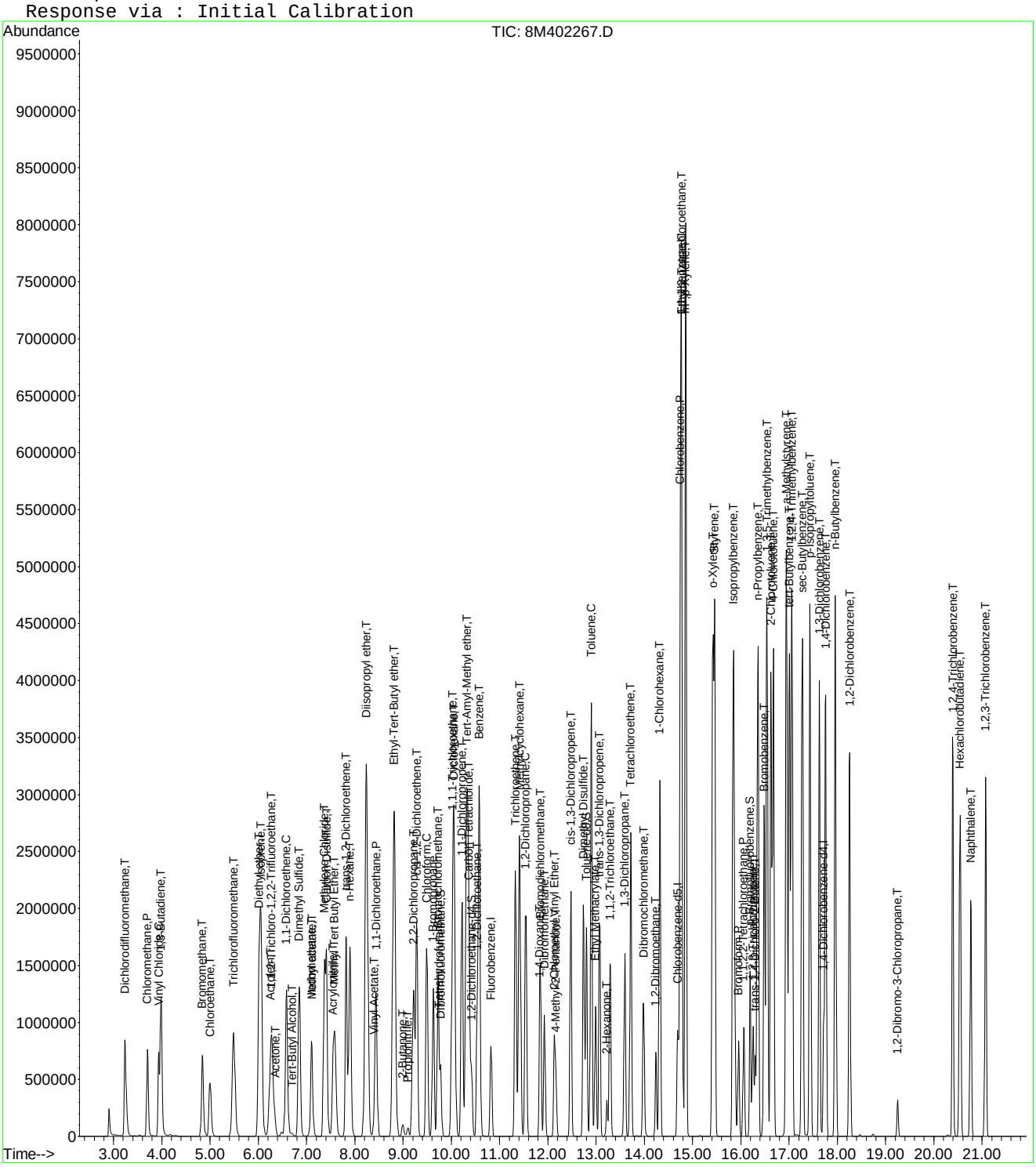
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.53	62	1186403	104.0547 ug/L		98
46)	Benzene	10.58	78	3643604	97.6157 ug/L		97
47)	Trichloroethene	11.33	130	988457	104.9161 ug/L		99
48)	Methylcyclohexane	11.41	83	1682353	105.5214 ug/L		89
49)	1,2-Dichloropropane	11.54	63	1052373	104.8977 ug/L		96
50)	Bromodichloromethane	11.85	83	1323583	108.8695 ug/L		99
51)	1,4-Dioxane	11.83	88	8465	428.9664 ug/L		77
52)	Dibromomethane	11.93	93	484165	106.4067 ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.14	63	435319	109.1406 ug/L		96
54)	4-Methyl-2-Pentanone	12.17	58	181947	107.3633 ug/L		94
55)	cis-1,3-Dichloropropene	12.48	75	1499297	109.4302 ug/L		99
56)	Dimethyl Disulfide	12.74	94	1517693	112.2419 ug/L		100
59)	Toluene	12.90	91	3606637	94.5916 ug/L		95
60)	Ethyl Methacrylate	12.99	69	833354	110.8021 ug/L		92
62)	trans-1,3-Dichloropropene	13.07	75	1274140	111.4031 ug/L		99
63)	1,1,2-Trichloroethane	13.30	97	641732	112.3174 ug/L		99
64)	2-Hexanone	13.22	58	153681	109.7257 ug/L		89
65)	1,3-Dichloropropane	13.60	76	1129837	110.0256 ug/L		93
66)	Tetrachloroethene	13.72	164	833201	102.6305 ug/L		96
67)	Dibromochloromethane	13.99	129	835107	105.5544 ug/L		100
68)	1,2-Dibromoethane	14.24	107	647209	113.9955 ug/L		99
69)	1-Chlorohexane	14.32	91	1356195	105.5778 ug/L		88
70)	Chlorobenzene	14.74	112	2490914	100.6797 ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.77	131	951614	115.2861 ug/L		100
72)	Ethylbenzene	14.77	106	1459968	102.4186 ug/L		84
73)	m-,p-Xylene	14.86	106	3236765	199.9256 ug/L		78
74)	o-Xylene	15.43	106	1694281	103.0551 ug/L		90
75)	Styrene	15.46	104	2749518	105.1179 ug/L		96
76)	Bromoform	15.95	173	508376	105.0257 ug/L		100
77)	Isopropylbenzene	15.85	105	3916153	93.9830 ug/L		94
79)	1,1,2,2-Tetrachloroethane	16.06	83	679564	110.9840 ug/L		100
81)	1,2,3-Trichloropropane	16.25	110	190973	111.9436 ug/L		50
82)	trans-1,4-Dichloro-2-Buten	16.29	53	223486	106.0049 ug/L	#	36
83)	n-Propylbenzene	16.36	91	4585005	89.6821 ug/L		92
84)	Bromobenzene	16.49	156	1048516	98.2865 ug/L		95
85)	1,3,5-Trimethylbenzene	16.54	105	3467421	99.9271 ug/L		94
86)	2-Chlorotoluene	16.62	91	2914579	93.4515 ug/L		93
87)	4-Chlorotoluene	16.68	91	3093213	98.8386 ug/L		94
88)	a-Methylstyrene	16.95	118	2088808	106.7453 ug/L		97
89)	tert-Butylbenzene	17.01	134	782493	102.3909 ug/L		93
90)	1,2,4-Trimethylbenzene	17.06	105	3455646	95.6651 ug/L		93
91)	sec-Butylbenzene	17.28	105	4174467	94.4185 ug/L		95
92)	p-Isopropyltoluene	17.43	119	3550765	100.2716 ug/L		96
93)	1,3-Dichlorobenzene	17.63	146	2040108	101.2837 ug/L		98
94)	1,4-Dichlorobenzene	17.76	146	2010282	100.9521 ug/L		98
95)	n-Butylbenzene	17.96	91	3453246	93.5339 ug/L		95
96)	1,2-Dichlorobenzene	18.26	146	1808502	99.3699 ug/L		98
97)	1,2-Dibromo-3-Chloropropan	19.25	75	114606	105.0885 ug/L		98
98)	1,2,4-Trichlorobenzene	20.40	180	1455894	101.2865 ug/L		99
99)	Hexachlorobutadiene	20.54	225	851568	103.0538 ug/L		96
100)	Naphthalene	20.77	128	2108285	109.2589 ug/L		98
101)	1,2,3-Trichlorobenzene	21.07	180	1279546	99.4124 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402267.D Vial: 9
Acq On : 13 Jan 2015 12:33 Operator: TMB
Sample : WG507785-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402267.D 8260WT.M Tue Jan 13 16:23:15 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402268.D Vial: 10
Acq On : 13 Jan 2015 13:02 Operator: TMB
Sample : WG507785-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:15 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	954724	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	675371	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	334521	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	938023	101.9108	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 407.64%#			
43) 1,2-Dichloroethane-d4	10.42	65	916559	100.2237	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 400.88%#			
58) Toluene-d8	12.80	98	3062603	97.4551	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 389.84%#			
80) p-Bromofluorobenzene	16.19	95	1246930	101.8448	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 407.36%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	2541463	200.4539	ug/L	98
3) Chloromethane	3.70	50	2079042	184.9990	ug/L	99
4) Vinyl Chloride	3.93	62	1898355	184.9124	ug/L	95
5) 1,3-Butadiene	3.98	54	1427592	181.2993	ug/L	90
6) Bromomethane	4.84	94	1635936	196.4890	ug/L	100
7) Chloroethane	5.00	64	1518414	197.3323	ug/L	98
8) Trichlorofluoromethane	5.49	101	3301382	198.4719	ug/L	98
10) Isoprene	6.06	67	2737639	202.4407	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	1995332	202.1342	ug/L	95
13) Acetone	6.36	43	216884	211.0159	ug/L #	29
14) 1,1-Dichloroethene	6.59	61	2969877	197.7770	ug/L	90
15) Tert-Butyl Alcohol	6.69	59	27154	197.1413	ug/L	94
16) Dimethyl Sulfide	6.84	62	2151766	200.2218	ug/L	100
17) Iodomethane	7.10	142	2165813	206.0387	ug/L	100
18) Methyl acetate	7.11	43	1007292	198.0156	ug/L	96
19) Methylene Chloride	7.37	84	1861001	189.5984	ug/L	85
20) Carbon Disulfide	7.41	76	5590246	181.3734	ug/L	95
21) Acrylonitrile	7.58	53	36799	21.1758	ug/L #	31
22) Methyl Tert Butyl Ether	7.58	73	3664452	204.3278	ug/L	95
23) trans-1,2-Dichloroethene	7.82	61	2859459	193.9318	ug/L	89
24) n-Hexane	7.90	57	2822355	201.5576	ug/L	92
26) Vinyl Acetate	8.40	43	1039916	187.0437	ug/L	97
27) 1,1-Dichloroethane	8.44	63	3541220	190.9769	ug/L	94
29) 2-Butanone	8.99	43	352113	213.2802	ug/L	96
30) Propionitrile	9.11	54	727	1.6074	ug/L #	56
31) 2,2-Dichloropropane	9.22	77	2908571	195.4009	ug/L	98
32) cis-1,2-Dichloroethene	9.28	96	2087092	195.5689	ug/L	87
33) Chloroform	9.49	83	3322624	189.5969	ug/L	96
34) 1-Bromopropane	9.62	122	445412	211.0308	ug/L	98
35) Bromochloromethane	9.73	130	1101242	201.1766	ug/L	90
36) Tetrahydrofuran	9.75	42	823	0.7225	ug/L #	38
38) 1,1,1-Trichloroethane	10.03	97	3067689	205.0502	ug/L	97
39) Cyclohexane	10.06	56	3549898	200.4333	ug/L	84
40) 1,1-Dichloropropene	10.22	75	2741948	199.7372	ug/L	97
42) Carbon Tetrachloride	10.37	117	2707779	213.7586	ug/L	100
45) 1,2-Dichloroethane	10.53	62	2266278	199.0173	ug/L	97
46) Benzene	10.58	78	6180380	165.7876	ug/L	95
47) Trichloroethene	11.33	130	1970052	209.3681	ug/L	99
48) Methylcyclohexane	11.41	83	3246420	203.8808	ug/L	89
49) 1,2-Dichloropropane	11.54	63	2045131	204.1106	ug/L	95

(#) = qualifier out of range (m) = manual integration
8M402268.D 8260WT.M Tue Jan 13 16:23:15 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402268.D Vial: 10
Acq On : 13 Jan 2015 13:02 Operator: TMB
Sample : WG507785-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:15 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

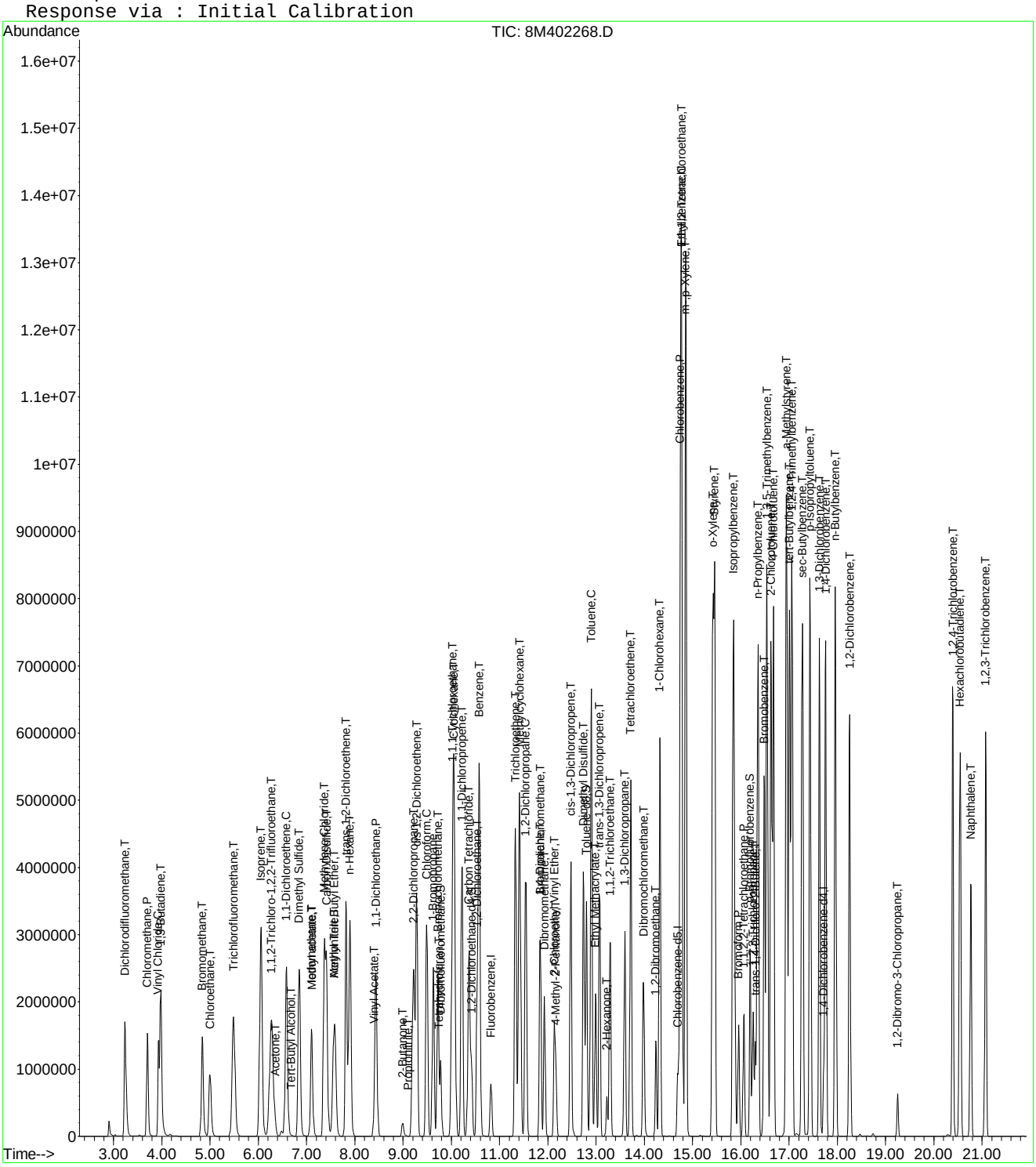
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	Bromodichloromethane	11.85	83	2527543	208.1622 ug/L		97
51)	1,4-Dioxane	11.84	88	10835	549.7604 ug/L		70
52)	Dibromomethane	11.93	93	935445	205.8458 ug/L		96
53)	2-Chloroethyl Vinyl Ether	12.14	63	832930	209.0910 ug/L		95
54)	4-Methyl-2-Pentanone	12.17	58	341698	201.8838 ug/L		92
55)	cis-1,3-Dichloropropene	12.48	75	2823702	206.3557 ug/L		97
56)	Dimethyl Disulfide	12.74	94	2956282	218.9097 ug/L		98
59)	Toluene	12.90	91	5946119	155.6976 ug/L		86
60)	Ethyl Methacrylate	12.99	69	1559892	207.0670 ug/L		92
62)	trans-1,3-Dichloropropene	13.07	75	2385542	208.2405 ug/L		96
63)	1,1,2-Trichloroethane	13.30	97	1218218	212.8709 ug/L		100
64)	2-Hexanone	13.22	58	292614	208.5841 ug/L		92
65)	1,3-Dichloropropane	13.60	76	2127067	206.8031 ug/L		94
66)	Tetrachloroethene	13.72	164	1657016	203.7751 ug/L		97
67)	Dibromochloromethane	13.99	129	1628668	205.3169 ug/L		99
68)	1,2-Dibromoethane	14.24	107	1226779	215.7284 ug/L		100
69)	1-Chlorohexane	14.32	91	2572641	199.9528 ug/L		89
70)	Chlorobenzene	14.74	112	4419889	178.3580 ug/L		93
71)	1,1,1,2-Tetrachloroethane	14.77	131	1873797	226.6400 ug/L		100
72)	Ethylbenzene	14.77	106	2813929	197.0817 ug/L		58
73)	m-,p-Xylene	14.86	106	5455449	336.4229 ug/L		61
74)	o-Xylene	15.43	106	3192987	193.9006 ug/L		75
75)	Styrene	15.46	104	4765274	181.8888 ug/L		88
76)	Bromoform	15.95	173	1004757	206.5887 ug/L		99
77)	Isopropylbenzene	15.85	105	6344302	152.0097 ug/L		82
79)	1,1,2,2-Tetrachloroethane	16.07	83	1274142	208.6133 ug/L		100
81)	1,2,3-Trichloropropane	16.25	110	360821	212.0380 ug/L		50
82)	trans-1,4-Dichloro-2-Buten	16.30	53	428629	203.2919 ug/L	#	35
83)	n-Propylbenzene	16.36	91	6958942	136.4594 ug/L	#	76
84)	Bromobenzene	16.49	156	2026390	190.4304 ug/L		91
85)	1,3,5-Trimethylbenzene	16.54	105	5732571	165.6229 ug/L		83
86)	2-Chlorotoluene	16.62	91	5582765	179.4544 ug/L		94
87)	4-Chlorotoluene	16.68	91	4259189	136.4388 ug/L	#	68
88)	a-Methylstyrene	16.95	118	3811465	195.2704 ug/L		94
89)	tert-Butylbenzene	17.01	134	1545790	202.7802 ug/L		80
90)	1,2,4-Trimethylbenzene	17.06	105	5683402	157.7345 ug/L		80
91)	sec-Butylbenzene	17.28	105	6606112	149.7946 ug/L		83
92)	p-Isopropyltoluene	17.43	119	5817572	164.6994 ug/L		84
93)	1,3-Dichlorobenzene	17.63	146	3664043	182.3649 ug/L		92
94)	1,4-Dichlorobenzene	17.76	146	3591199	200.6928 ug/L		93
95)	n-Butylbenzene	17.96	91	5611021	152.3624 ug/L		85
96)	1,2-Dichlorobenzene	18.26	146	3266470	179.9322 ug/L		94
97)	1,2-Dibromo-3-Chloropropan	19.25	75	218632	200.3340 ug/L		98
98)	1,2,4-Trichlorobenzene	20.40	180	2770043	193.1980 ug/L		98
99)	Hexachlorobutadiene	20.54	225	1703821	206.7106 ug/L		96
100)	Naphthalene	20.77	128	3801867	197.5236 ug/L		95
101)	1,2,3-Trichlorobenzene	21.07	180	2439812	190.0358 ug/L		100

(#) = qualifier out of range (m) = manual integration
8M402268.D 8260WT.M Tue Jan 13 16:23:15 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402268.D Vial: 10
Acq On : 13 Jan 2015 13:02 Operator: TMB
Sample : WG507785-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402268.D 8260WT.M Tue Jan 13 16:23:16 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402269.D Vial: 11
Acq On : 13 Jan 2015 13:31 Operator: TMB
Sample : WG507785-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:16 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	962259	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	697007	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	332387	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	1412487	152.2569	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 609.04%#			
43) 1,2-Dichloroethane-d4	10.42	65	1361265	147.6857	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 590.76%#			
58) Toluene-d8	12.80	98	4357073	134.3427	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 537.36%#			
80) p-Bromofluorobenzene	16.19	95	1841333	151.3591	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 605.44%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	3539579	276.9926	ug/L	96
3) Chloromethane	3.70	50	2939910	259.5530	ug/L	97
4) Vinyl Chloride	3.93	62	2634771	254.6346	ug/L	93
5) 1,3-Butadiene	3.98	54	1853942	233.6007	ug/L	93
6) Bromomethane	4.84	94	2447677	291.6836	ug/L	99
7) Chloroethane	4.99	64	2214301	285.5160	ug/L	97
8) Trichlorofluoromethane	5.49	101	4755578	283.6563	ug/L	98
9) Diethyl ether	6.02	59	1774336	289.3014	ug/L	91
10) Isoprene	6.06	67	3862339	283.3727	ug/L	92
11) Acrolein	6.25	56	108657	153.3092	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	2898479	291.3269	ug/L	96
13) Acetone	6.35	43	313098	302.2412	ug/L #	29
14) 1,1-Dichloroethene	6.59	61	4217283	278.6479	ug/L	89
15) Tert-Butyl Alcohol	6.69	59	61813	445.2557	ug/L	99
16) Dimethyl Sulfide	6.84	62	3089765	285.2513	ug/L	100
17) Iodomethane	7.10	142	3037623	286.4424	ug/L	100
18) Methyl acetate	7.11	43	1473818	287.4575	ug/L	96
19) Methylene Chloride	7.37	84	2702426	273.1667	ug/L	83
20) Carbon Disulfide	7.41	76	7364585	237.0701	ug/L	92
21) Acrylonitrile	7.55	53	305556	174.4539	ug/L	92
22) Methyl Tert Butyl Ether	7.58	73	5270054	291.5542	ug/L	97
23) trans-1,2-Dichloroethene	7.82	61	4017823	270.3596	ug/L	87
24) n-Hexane	7.90	57	3956956	280.3720	ug/L	90
25) Diisopropyl ether	8.24	45	7846706	262.1963	ug/L	89
26) Vinyl Acetate	8.40	43	1599113	285.3710	ug/L	97
27) 1,1-Dichloroethane	8.44	63	4941150	264.3881	ug/L	92
28) Ethyl-Tert-Butyl ether	8.81	59	6931228	274.6951	ug/L	89
29) 2-Butanone	8.99	43	513395	308.5362	ug/L	96
30) Propionitrile	9.10	54	144928	317.9278	ug/L	100
31) 2,2-Dichloropropane	9.22	77	4165939	277.6806	ug/L	96
32) cis-1,2-Dichloroethene	9.28	96	2983491	277.3760	ug/L	86
33) Chloroform	9.49	83	4612163	261.1202	ug/L	94
34) 1-Bromopropane	9.62	122	651945	306.4649	ug/L	98
35) Bromochloromethane	9.73	130	1576372	285.7190	ug/L	89
36) Tetrahydrofuran	9.75	42	346271	301.5908	ug/L	95
38) 1,1,1-Trichloroethane	10.03	97	4348522	288.3875	ug/L	96
39) Cyclohexane	10.06	56	4929466	276.1466	ug/L	82
40) 1,1-Dichloropropene	10.21	75	3856812	278.7495	ug/L	95
41) Tert-Amyl-Methyl ether	10.32	73	5417290	282.9343	ug/L	97
42) Carbon Tetrachloride	10.37	117	3876003	303.5850	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M402269.D 8260WT.M Tue Jan 13 16:23:16 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402269.D Vial: 11
Acq On : 13 Jan 2015 13:31 Operator: TMB
Sample : WG507785-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:16 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

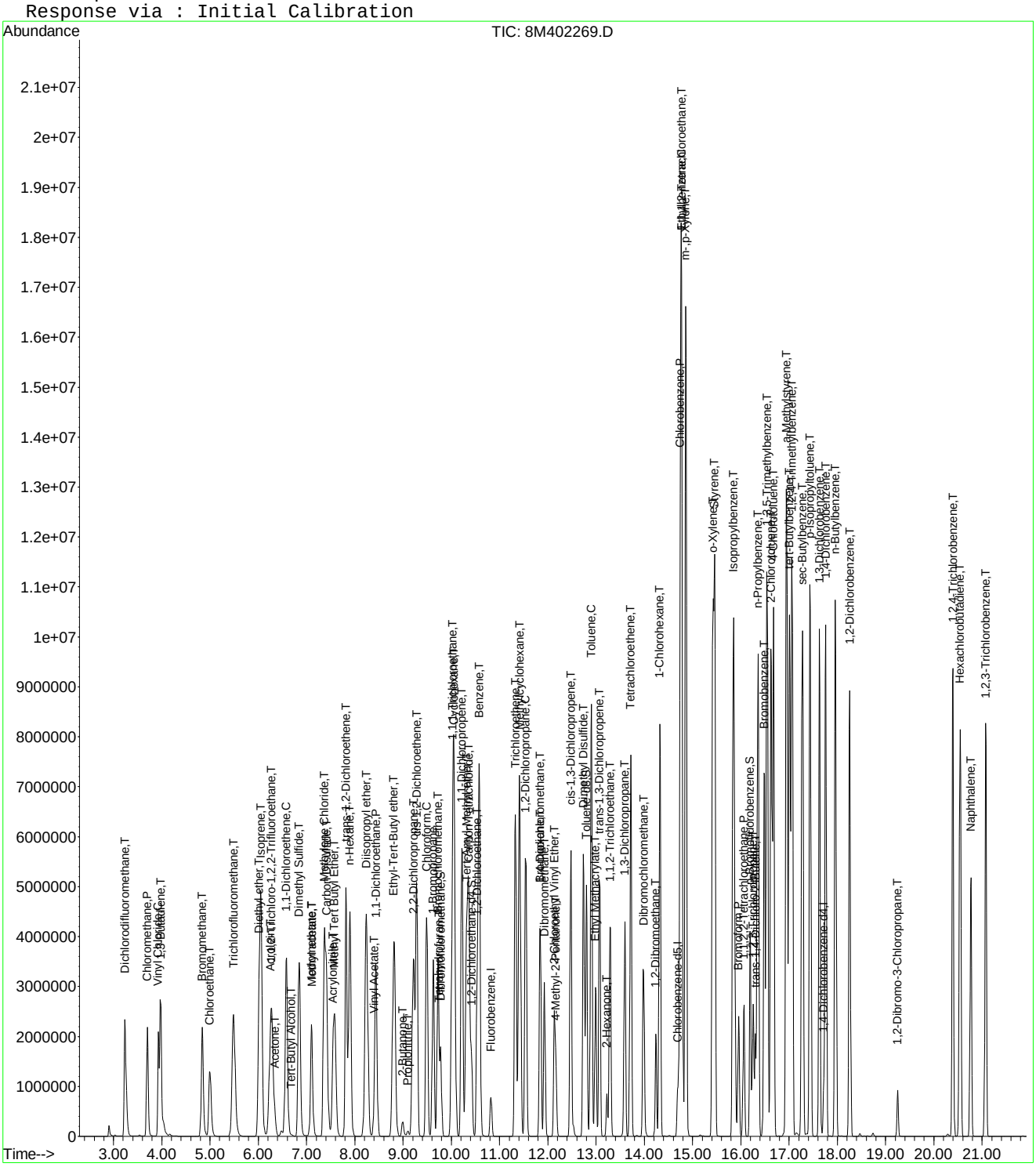
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.53	62	3211923	279.8522	ug/L		95
46)	Benzene	10.58	78	7780392	207.0733	ug/L		88
47)	Trichloroethene	11.33	130	2819432	297.2900	ug/L		99
48)	Methylcyclohexane	11.41	83	4536565	282.6733	ug/L		89
49)	1,2-Dichloropropane	11.54	63	2930749	290.2077	ug/L		93
50)	Bromodichloromethane	11.84	83	3556271	290.5923	ug/L		95
51)	1,4-Dioxane	11.84	88	9198	463.0456	ug/L	#	51
52)	Dibromomethane	11.93	93	1382321	301.7996	ug/L		96
53)	2-Chloroethyl Vinyl Ether	12.14	63	1238789	308.5390	ug/L		95
54)	4-Methyl-2-Pentanone	12.17	58	499357	292.7225	ug/L		91
55)	cis-1,3-Dichloropropene	12.48	75	3907411	283.3170	ug/L		93
56)	Dimethyl Disulfide	12.74	94	4165806	306.0582	ug/L		95
59)	Toluene	12.90	91	7359435	186.7231	ug/L		79
60)	Ethyl Methacrylate	12.99	69	2201637	283.1831	ug/L		93
62)	trans-1,3-Dichloropropene	13.07	75	3338233	282.3579	ug/L		94
63)	1,1,2-Trichloroethane	13.30	97	1765460	298.9196	ug/L		99
64)	2-Hexanone	13.22	58	416090	287.3946	ug/L		91
65)	1,3-Dichloropropane	13.60	76	2998230	282.4529	ug/L		95
66)	Tetrachloroethene	13.72	164	2426420	289.1317	ug/L		97
67)	Dibromochloromethane	13.99	129	2359962	288.1832	ug/L		98
68)	1,2-Dibromoethane	14.24	107	1789495	304.9136	ug/L		100
69)	1-Chlorohexane	14.32	91	3555729	267.7825	ug/L		91
70)	Chlorobenzene	14.74	112	5678689	222.0417	ug/L		87
71)	1,1,1,2-Tetrachloroethane	14.77	131	2665528	312.3939	ug/L		99
72)	Ethylbenzene	14.77	106	3882464	263.4790	ug/L		43
73)	m-,p-Xylene	14.86	106	6750719	403.3763	ug/L		55
74)	o-Xylene	15.43	106	4381360	257.8079	ug/L		64
75)	Styrene	15.46	104	6050518	223.7772	ug/L		80
76)	Bromoform	15.95	173	1466276	291.8472	ug/L		98
77)	Isopropylbenzene	15.85	105	7701402	178.7980	ug/L	#	71
79)	1,1,2,2-Tetrachloroethane	16.07	83	1811290	298.4637	ug/L		99
81)	1,2,3-Trichloropropane	16.25	110	524340	310.1088	ug/L		78
82)	trans-1,4-Dichloro-2-Buten	16.30	53	617229	294.3631	ug/L	#	10
83)	n-Propylbenzene	16.36	91	8222471	162.2714	ug/L	#	63
84)	Bromobenzene	16.49	156	2837718	268.3872	ug/L		88
85)	1,3,5-Trimethylbenzene	16.54	105	7065342	205.4393	ug/L		75
86)	2-Chlorotoluene	16.62	91	6762240	218.7634	ug/L		85
87)	4-Chlorotoluene	16.68	91	5274412	170.0453	ug/L	#	56
88)	a-Methylstyrene	16.95	118	5035347	259.6290	ug/L		90
89)	tert-Butylbenzene	17.01	134	2218996	292.9618	ug/L		68
90)	1,2,4-Trimethylbenzene	17.06	105	6966397	194.5835	ug/L	#	67
91)	sec-Butylbenzene	17.28	105	7971675	181.9195	ug/L	#	71
92)	p-Isopropyltoluene	17.43	119	7141123	203.4680	ug/L	#	74
93)	1,3-Dichlorobenzene	17.63	146	4837011	242.2908	ug/L		87
94)	1,4-Dichlorobenzene	17.76	146	4737702	298.6972	ug/L		86
95)	n-Butylbenzene	17.96	91	6842064	186.9831	ug/L	#	75
96)	1,2-Dichlorobenzene	18.26	146	4415304	244.7768	ug/L		90
97)	1,2-Dibromo-3-Chloropropan	19.25	75	318937	293.7883	ug/L		97
98)	1,2,4-Trichlorobenzene	20.40	180	3770527	264.6656	ug/L		97
99)	Hexachlorobutadiene	20.54	225	2461672	300.5719	ug/L		96
100)	Naphthalene	20.77	128	4917659	257.1341	ug/L		91
101)	1,2,3-Trichlorobenzene	21.08	180	3380707	265.0123	ug/L		99

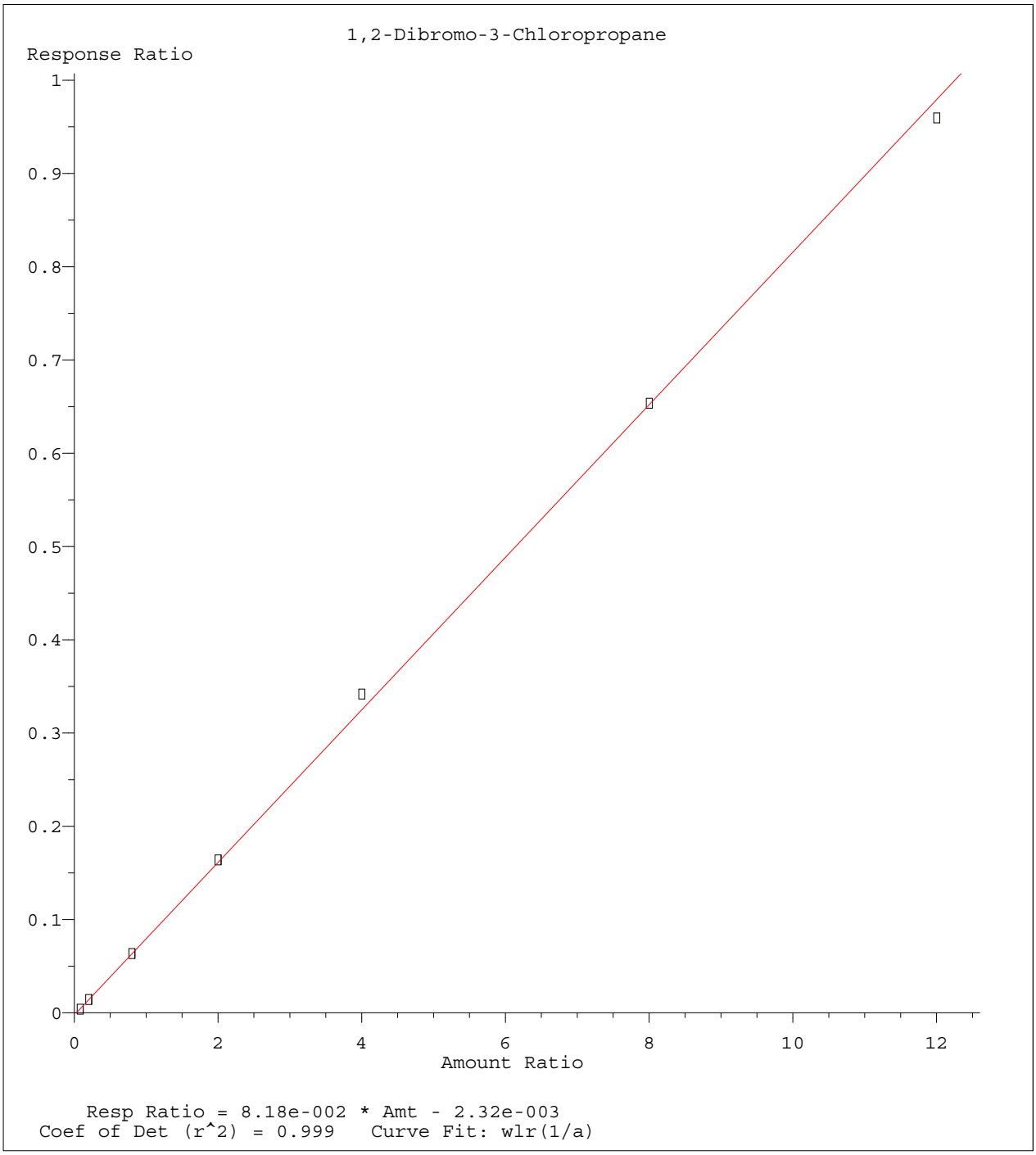
(#) = qualifier out of range (m) = manual integration
8M402269.D 8260WT.M Tue Jan 13 16:23:16 2015 Page 2

Quantitation Report (Not Reviewed)

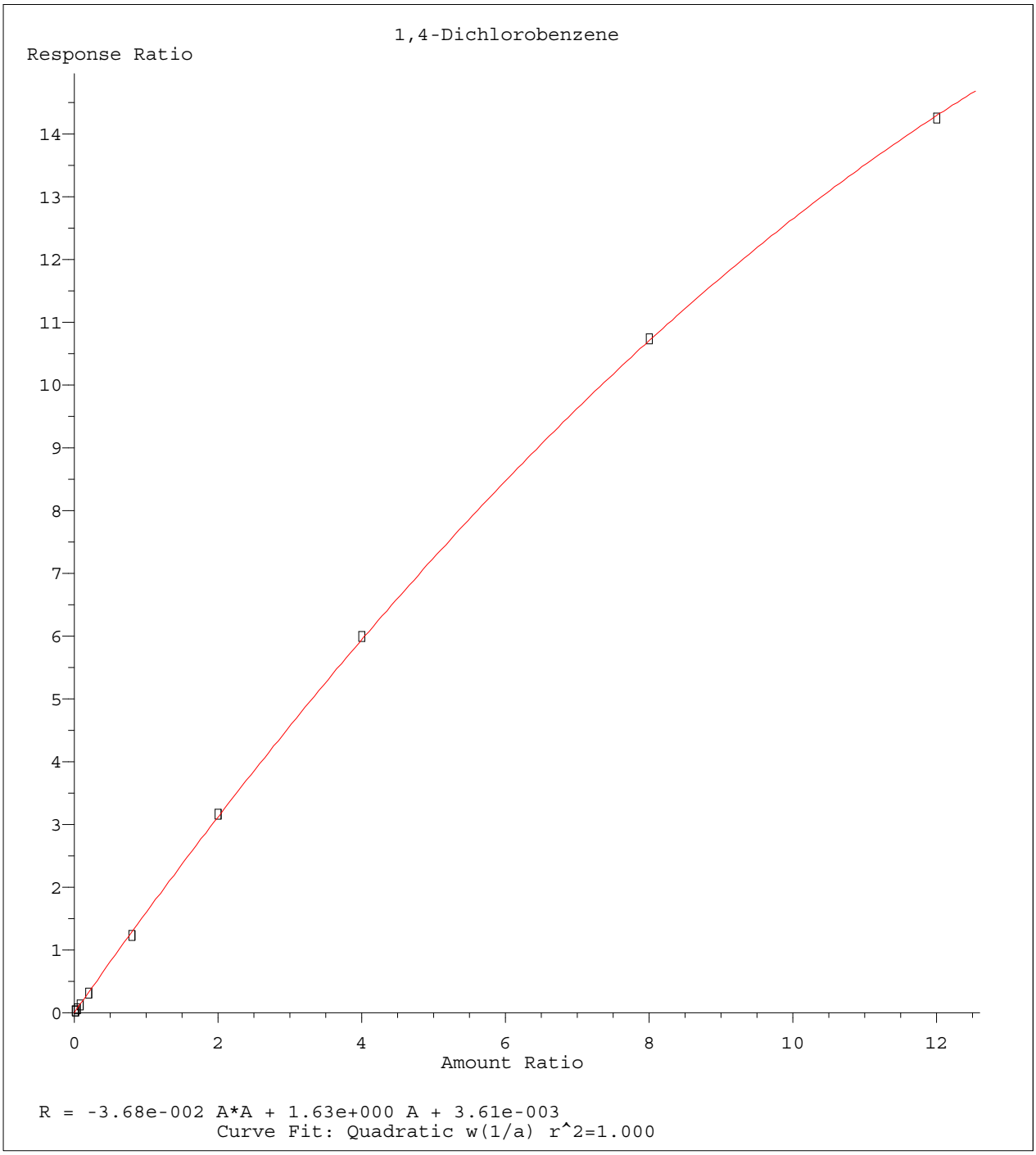
Data File : C:\MSDCHEM\2\DATA\011315\8M402269.D Vial: 11
Acq On : 13 Jan 2015 13:31 Operator: TMB
Sample : WG507785-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

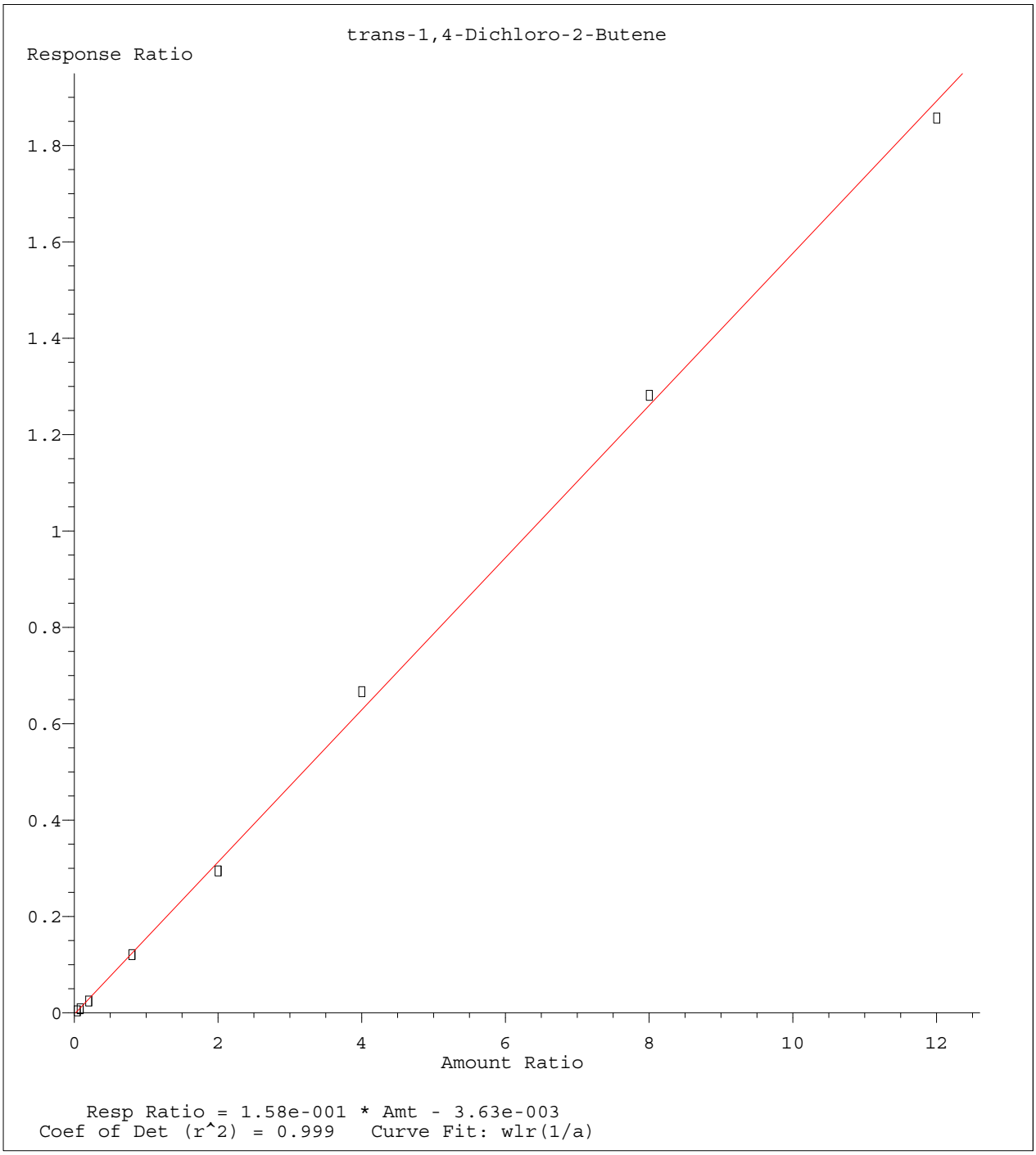




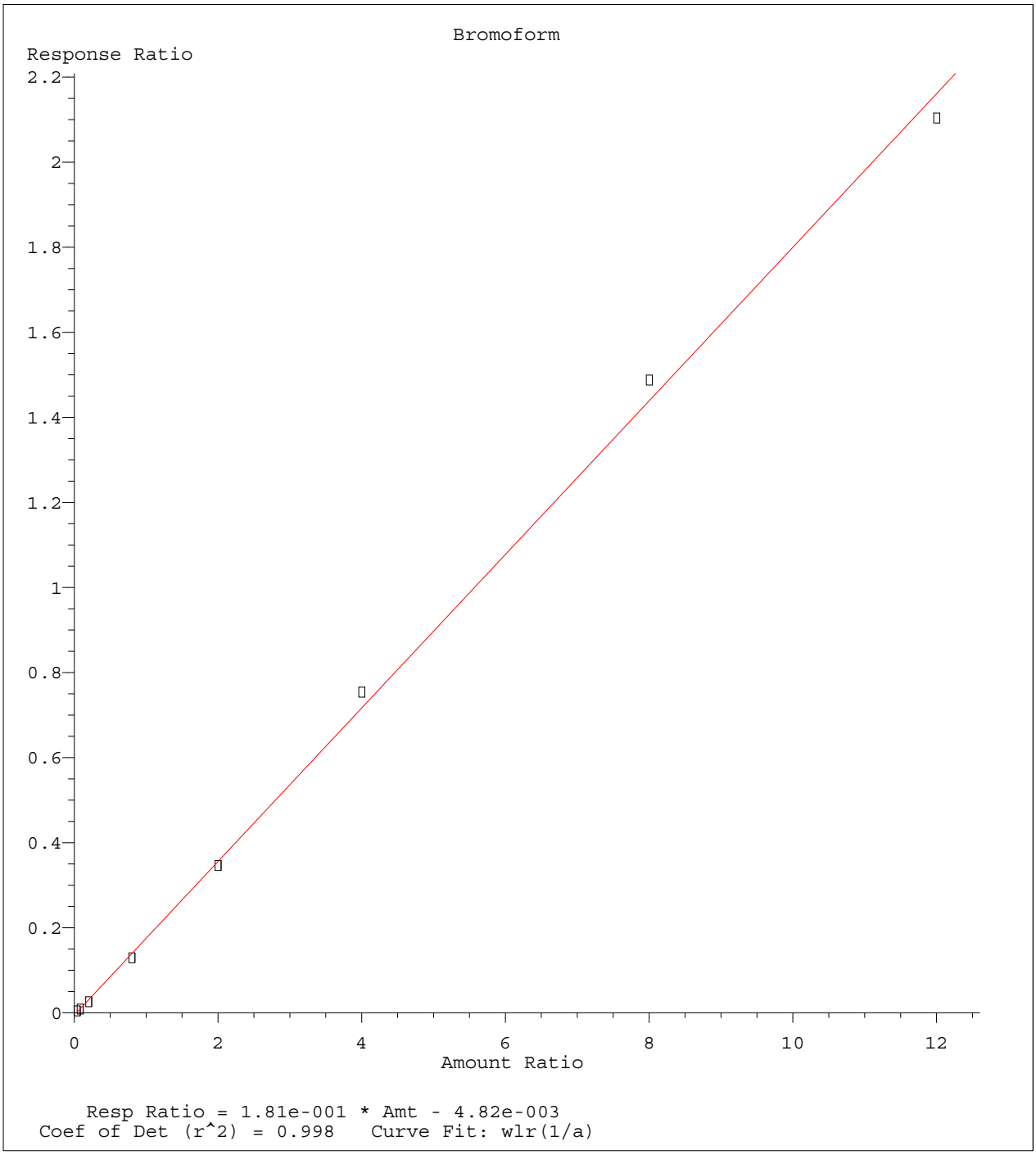
Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Tue Jan 13 14:15:47 2015



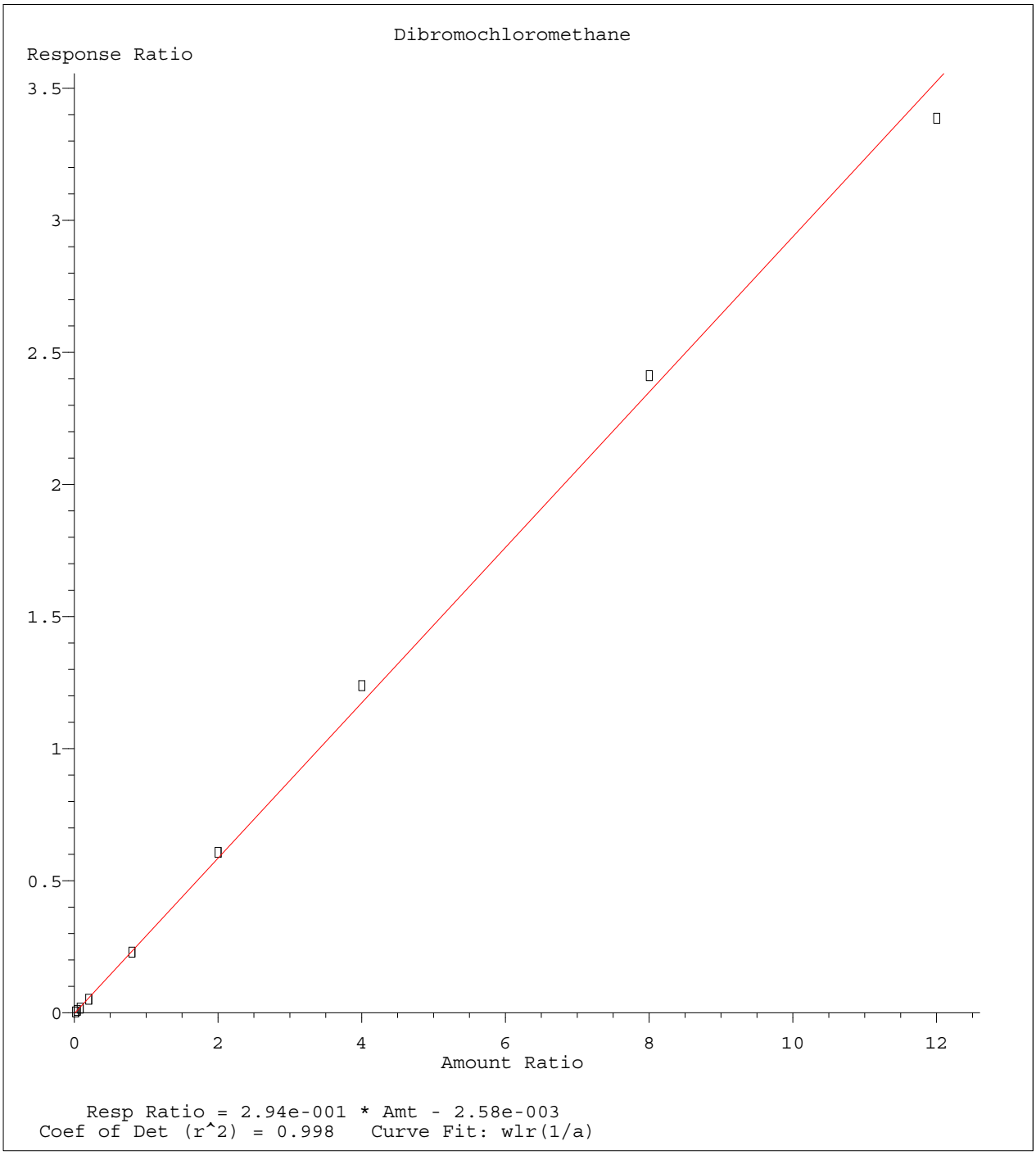
Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Tue Jan 13 14:15:47 2015



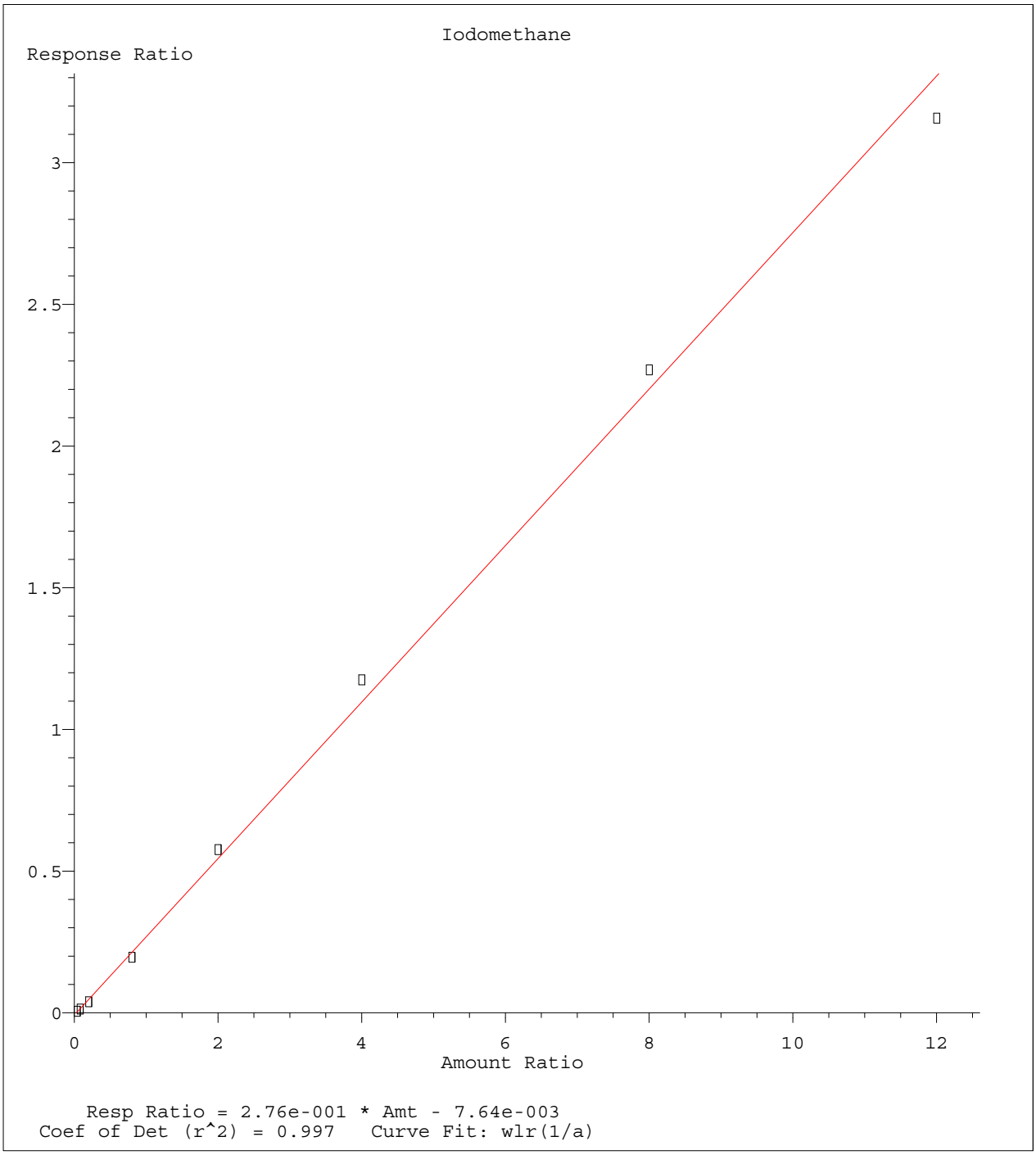
Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Tue Jan 13 14:15:47 2015



Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Tue Jan 13 14:15:47 2015



Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Tue Jan 13 14:15:47 2015



Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Tue Jan 13 14:15:47 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402272.D Vial: 14
Acq On : 13 Jan 2015 15:02 Operator: TMB
Sample : WG507785-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:17 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	926628	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	664690	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	345229	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	217613	24.3593	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.44%			
43) 1,2-Dichloroethane-d4	10.41	65	214748	24.1942	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.76%			
58) Toluene-d8	12.80	98	769488	24.8793	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.52%			
80) p-Bromofluorobenzene	16.19	95	309444	24.4904	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.96%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	771042	62.6587	ug/L	100
3) Chloromethane	3.70	50	555027	50.8853	ug/L	99
4) Vinyl Chloride	3.93	62	508465	51.0296	ug/L	97
5) 1,3-Butadiene	3.98	54	301674	39.4732	ug/L	89
6) Bromomethane	4.84	94	375779	46.5026	ug/L	99
7) Chloroethane	5.00	64	397643	53.2444	ug/L	98
8) Trichlorofluoromethane	5.49	101	788145	48.8182	ug/L	99
9) Diethyl ether	6.02	59	613136	103.8145	ug/L	91
10) Isoprene	6.05	67	664991	50.6652	ug/L	89
11) Acrolein	6.26	56	72824	106.7018	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	466056	48.6447	ug/L	94
13) Acetone	6.35	43	50641	50.7648	ug/L #	28
14) 1,1-Dichloroethene	6.58	61	699726	48.0107	ug/L	92
15) Tert-Butyl Alcohol	6.69	59	23203	173.5643	ug/L	97
16) Dimethyl Sulfide	6.85	62	544594	52.2110	ug/L	99
17) Iodomethane	7.11	142	539569	53.4008	ug/L	98
18) Methyl acetate	7.12	43	172361	34.9104	ug/L	95
19) Methylene Chloride	7.36	84	445895	46.8051	ug/L	86
20) Carbon Disulfide	7.42	76	1236920	41.3482	ug/L	100
21) Acrylonitrile	7.55	53	92687	54.9535	ug/L	98
22) Methyl Tert Butyl Ether	7.58	73	928671	53.3522	ug/L	93
23) trans-1,2-Dichloroethene	7.82	61	694821	48.5524	ug/L	91
24) n-Hexane	7.90	57	629226	46.2985	ug/L	93
25) Diisopropyl ether	8.24	45	3005022	104.2734	ug/L	97
26) Vinyl Acetate	8.41	43	699326	129.5976	ug/L	98
27) 1,1-Dichloroethane	8.44	63	900613	50.0425	ug/L	97
28) Ethyl-Tert-Butyl ether	8.81	59	2550704	104.9754	ug/L	95
29) 2-Butanone	8.99	43	87410	54.5509	ug/L	96
30) Propionitrile	9.10	54	46594	106.1434	ug/L	100
31) 2,2-Dichloropropane	9.21	77	746742	51.6880	ug/L	99
32) cis-1,2-Dichloroethene	9.29	96	507099	48.9580	ug/L	90
33) Chloroform	9.49	83	853027	50.1516	ug/L	99
34) 1-Bromopropane	9.63	122	110958	54.1645	ug/L	98
35) Bromochloromethane	9.72	130	272383	51.2681	ug/L	90
36) Tetrahydrofuran	9.74	42	122450	110.7509	ug/L	98
38) 1,1,1-Trichloroethane	10.02	97	760462	52.3720	ug/L	99
39) Cyclohexane	10.05	56	809328	47.0816	ug/L	85
40) 1,1-Dichloropropene	10.22	75	655212	49.1761	ug/L	99
41) Tert-Amyl-Methyl ether	10.32	73	1962765	106.4531	ug/L	94
42) Carbon Tetrachloride	10.36	117	653792	53.1768	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M402272.D 8260WT.M Tue Jan 13 16:23:17 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402272.D Vial: 14
Acq On : 13 Jan 2015 15:02 Operator: TMB
Sample : WG507785-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23:17 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

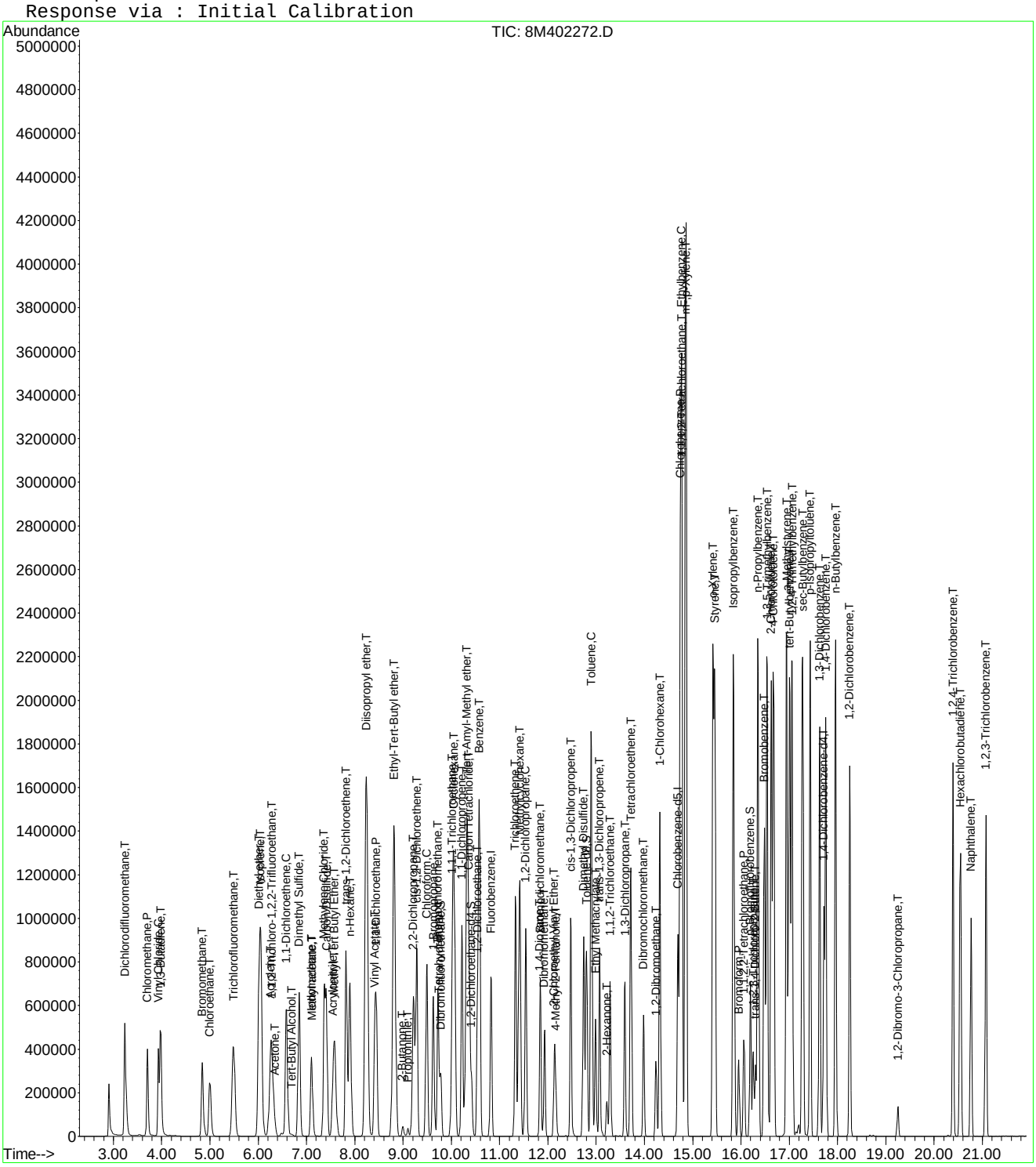
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.54	62	550929	49.8478	ug/L		98
46)	Benzene	10.58	78	1823264	50.3917	ug/L		95
47)	Trichloroethene	11.32	130	483947	52.9911	ug/L		99
48)	Methylcyclohexane	11.42	83	762650	49.3480	ug/L		89
49)	1,2-Dichloropropane	11.54	63	496081	51.0117	ug/L		97
50)	Bromodichloromethane	11.84	83	610492	51.8031	ug/L		99
51)	1,4-Dioxane	11.83	88	1969	102.9349	ug/L		73
52)	Dibromomethane	11.92	93	229579	52.0509	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.13	63	212429	54.9431	ug/L		97
54)	4-Methyl-2-Pentanone	12.16	58	82582	50.2709	ug/L		91
55)	cis-1,3-Dichloropropene	12.47	75	727433	54.7726	ug/L		99
56)	Dimethyl Disulfide	12.74	94	689445	52.6007	ug/L		99
59)	Toluene	12.90	91	1825555	48.5698	ug/L		99
60)	Ethyl Methacrylate	12.99	69	408531	55.1016	ug/L		89
62)	trans-1,3-Dichloropropene	13.07	75	558531	49.5392	ug/L		99
63)	1,1,2-Trichloroethane	13.29	97	291599	51.7727	ug/L		99
64)	2-Hexanone	13.23	58	72534	52.5353	ug/L		87
65)	1,3-Dichloropropane	13.60	76	524485	51.8122	ug/L		93
66)	Tetrachloroethene	13.72	164	401295	50.1431	ug/L		95
67)	Dibromochloromethane	13.98	129	378853	48.6951	ug/L		100
68)	1,2-Dibromoethane	14.24	107	290604	51.9237	ug/L		100
69)	1-Chlorohexane	14.32	91	650283	51.3540	ug/L		88
70)	Chlorobenzene	14.75	112	1257575	51.5630	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.78	131	421065	51.7471	ug/L		100
72)	Ethylbenzene	14.77	106	686310	48.8401	ug/L		97
73)	m-,p-Xylene	14.86	106	1659666	103.9918	ug/L		93
74)	o-Xylene	15.42	106	838950	51.7656	ug/L		97
75)	Styrene	15.46	104	1347446	52.2580	ug/L		100
76)	Bromoform	15.96	173	220423	46.5681	ug/L		99
77)	Isopropylbenzene	15.84	105	2097531	51.0645	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.06	83	301998	47.9120	ug/L		99
81)	1,2,3-Trichloropropane	16.26	110	82309	46.8690	ug/L	#	44
82)	trans-1,4-Dichloro-2-Buten	16.30	53	89641	41.6548	ug/L	#	35
83)	n-Propylbenzene	16.35	91	2534593	48.1598	ug/L		99
84)	Bromobenzene	16.48	156	496117	45.1766	ug/L		94
85)	1,3,5-Trimethylbenzene	16.55	105	1766945	49.4664	ug/L		99
86)	2-Chlorotoluene	16.63	91	1655403	51.5614	ug/L		92
87)	4-Chlorotoluene	16.67	91	1538349	47.7510	ug/L		88
88)	a-Methylstyrene	16.95	118	1007564	50.0188	ug/L		100
89)	tert-Butylbenzene	17.01	134	383679	48.7707	ug/L		96
90)	1,2,4-Trimethylbenzene	17.06	105	1745865	46.9510	ug/L		98
91)	sec-Butylbenzene	17.28	105	2250687	49.4517	ug/L		99
92)	p-Isopropyltoluene	17.43	119	1808310	49.6066	ug/L		100
93)	1,3-Dichlorobenzene	17.63	146	1001472	48.2987	ug/L		100
94)	1,4-Dichlorobenzene	17.75	146	957456	44.1880	ug/L		100
95)	n-Butylbenzene	17.96	91	1751182	46.0769	ug/L		100
96)	1,2-Dichlorobenzene	18.25	146	889416	47.4735	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.25	75	51168	45.9799	ug/L		98
98)	1,2,4-Trichlorobenzene	20.39	180	693289	46.8540	ug/L		99
99)	Hexachlorobutadiene	20.55	225	392752	46.1714	ug/L		96
100)	Naphthalene	20.76	128	991273	49.9035	ug/L		99
101)	1,2,3-Trichlorobenzene	21.07	180	601156	45.3714	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011315\8M402272.D Vial: 14
Acq On : 13 Jan 2015 15:02 Operator: TMB
Sample : WG507785-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 16:23 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\011315\8M402272.D Vial: 14
Acq On : 13 Jan 2015 15:02 Operator: TMB
Sample : WG507785-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	99	0.00
2	T	Dichlorodifluoromethane	50.0000	62.6587	-25.3#	113	0.00
3	P	Chloromethane	50.0000	50.8853	-1.8	98	0.00
4	C	Vinyl Chloride	50.0000	51.0296	-2.1	97	0.00
5	T	1,3-Butadiene	50.0000	39.4732	21.1	70	0.00
6	T	Bromomethane	50.0000	46.5026	7.0	94	0.00
7	T	Chloroethane	50.0000	53.2444	-6.5	101	0.00
8	T	Trichlorofluoromethane	50.0000	48.8182	2.4	91	0.00
9	T	Diethyl ether	100.0000	103.8145	-3.8	101	0.00
10	T	Isoprene	50.0000	50.6652	-1.3	93	0.00
11	T	Acrolein	50.0000	106.7018	-113.4#	206	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	48.6447	2.7	92	0.00
13	T	Acetone	50.0000	50.7647	-1.5	102	0.00
14	C	1,1-Dichloroethene	50.0000	48.0107	4.0	90	0.00
15	T	Tert-Butyl Alcohol	200.0000	173.5643	13.2	74	-0.02
16	T	Dimethyl Sulfide	50.0000	52.2110	-4.4	99	0.00
17	T	Iodomethane	50.0000	53.4008	-6.8	100	0.00
18	T	Methyl acetate	50.0000	34.9104	30.2#	71	0.00
19	T	Methylene Chloride	50.0000	46.8051	6.4	92	0.00
20	T	Carbon Disulfide	50.0000	41.3482	17.3	76	0.00
21	T	Acrylonitrile	50.0000	54.9535	-9.9	102	0.00
22	T	Methyl Tert Butyl Ether	50.0000	53.3522	-6.7	99	0.00
23	T	trans-1,2-Dichloroethene	50.0000	48.5524	2.9	91	0.00
24	T	n-Hexane	50.0000	46.2985	7.4	86	0.00
25	T	Diisopropyl ether	100.0000	104.2733	-4.3	100	0.00
26	T	Vinyl Acetate	50.0000	129.5976	-159.2#	258	0.00
27	P	1,1-Dichloroethane	50.0000	50.0425	-0.1	95	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	104.9754	-5.0	100	0.00
29	T	2-Butanone	50.0000	54.5509	-9.1	107	-0.02
30	T	Propionitrile	100.0000	106.1434	-6.1	104	0.00
31	T	2,2-Dichloropropane	50.0000	51.6880	-3.4	98	0.00
32	T	cis-1,2-Dichloroethene	50.0000	48.9580	2.1	94	0.00
33	C	Chloroform	50.0000	50.1516	-0.3	95	0.00
34		1-Bromopropane	50.0000	54.1645	-8.3	103	0.00
35	T	Bromochloromethane	50.0000	51.2681	-2.5	96	-0.02
36	T	Tetrahydrofuran	100.0000	110.7509	-10.8	111	0.00
37	S	Dibromofluoromethane	25.0000	24.3592	2.6	94	0.00
38	T	1,1,1-Trichloroethane	50.0000	52.3720	-4.7	96	-0.02
39	T	Cyclohexane	50.0000	47.0816	5.8	87	-0.02
40	T	1,1-Dichloropropene	50.0000	49.1761	1.6	90	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	106.4531	-6.5	103	0.00
42	T	Carbon Tetrachloride	50.0000	53.1768	-6.4	96	-0.02
43	S	1,2-Dichloroethane-d4	25.0000	24.1942	3.2	94	-0.02
44		Heptane	-1.0000	0.0000	0.0	0	-2.67#
45	T	1,2-Dichloroethane	50.0000	49.8478	0.3	93	0.00
46	T	Benzene	50.0000	50.3917	-0.8	94	0.00
47	T	Trichloroethene	50.0000	52.9911	-6.0	97	-0.02
48	T	Methylcyclohexane	50.0000	49.3480	1.3	92	0.00
49	C	1,2-Dichloropropane	50.0000	51.0117	-2.0	93	0.00
50	T	Bromodichloromethane	50.0000	51.8031	-3.6	94	0.00
51	T	1,4-Dioxane	200.0000	102.9349	48.5#	35	0.00
52	T	Dibromomethane	50.0000	52.0509	-4.1	98	-0.02
53	T	2-Chloroethyl Vinyl Ether	50.0000	54.9431	-9.9	105	-0.02
54	T	4-Methyl-2-Pentanone	50.0000	50.2709	-0.5	100	-0.02

(#) = Out of Range
8M402272.D 8260WT.M Tue Jan 13 16:27:50 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011315\8M402272.D Vial: 14
Acq On : 13 Jan 2015 15:02 Operator: TMB
Sample : WG507785-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	54.7726	-9.5	98	-0.02
56	T	Dimethyl Disulfide	50.0000	52.6007	-5.2	99	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	102	0.00
58	S	Toluene-d8	25.0000	24.8793	0.5	96	0.00
59	C	Toluene	50.0000	48.5698	2.9	94	-0.02
60	T	Ethyl Methacrylate	50.0000	55.1016	-10.2	101	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.27#
62	T	trans-1,3-Dichloropropene	50.0000	49.5392	0.9	90	0.00
63	T	1,1,2-Trichloroethane	50.0000	51.7727	-3.5	95	-0.02
64	T	2-Hexanone	50.0000	52.5353	-5.1	105	0.00
65	T	1,3-Dichloropropane	50.0000	51.8122	-3.6	94	0.00
66	T	Tetrachloroethene	50.0000	50.1431	-0.3	97	0.00
67	T	Dibromochloromethane	50.0000	48.6951	2.6	96	-0.02
68	T	1,2-Dibromoethane	50.0000	51.9237	-3.8	95	0.00
69	T	1-Chlorohexane	50.0000	51.3539	-2.7	96	0.00
70	P	Chlorobenzene	50.0000	51.5630	-3.1	98	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	51.7471	-3.5	92	0.00
72	C	Ethylbenzene	50.0000	48.8401	2.3	93	-0.02
73	T	m-,p-Xylene	100.0000	103.9918	-4.0	96	-0.02
74	T	o-Xylene	50.0000	51.7656	-3.5	97	-0.02
75	T	Styrene	50.0000	52.2580	-4.5	94	0.00
76	P	Bromoform	50.0000	46.5681	6.9	98	0.00
77	T	Isopropylbenzene	50.0000	51.0645	-2.1	97	-0.02
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	106	-0.02
79	P	1,1,2,2-Tetrachloroethane	50.0000	47.9120	4.2	94	-0.02
80	S	p-Bromofluorobenzene	25.0000	24.4904	2.0	99	0.00
81	T	1,2,3-Trichloropropane	50.0000	46.8689	6.3	93	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	41.6548	16.7	94	-0.02
83	T	n-Propylbenzene	50.0000	48.1598	3.7	96	-0.02
84	T	Bromobenzene	50.0000	45.1766	9.6	94	-0.02
85	T	1,3,5-Trimethylbenzene	50.0000	49.4664	1.1	96	0.00
86	T	2-Chlorotoluene	50.0000	51.5614	-3.1	102	0.00
87	T	4-Chlorotoluene	50.0000	47.7510	4.5	93	-0.02
88	T	a-Methylstyrene	50.0000	50.0188	-0.0	97	0.00
89	T	tert-Butylbenzene	50.0000	48.7707	2.5	97	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	46.9510	6.1	94	0.00
91	T	sec-Butylbenzene	50.0000	49.4517	1.1	97	0.00
92	T	p-Isopropyltoluene	50.0000	49.6066	0.8	95	0.00
93	T	1,3-Dichlorobenzene	50.0000	48.2987	3.4	96	0.00
94	T	1,4-Dichlorobenzene	50.0000	44.1880	11.6	93	-0.02
95	T	n-Butylbenzene	50.0000	46.0769	7.8	93	0.00
96	T	1,2-Dichlorobenzene	50.0000	47.4735	5.1	98	-0.02
97	T	1,2-Dibromo-3-Chloropropane	50.0000	45.9799	8.0	96	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	46.8540	6.3	93	-0.02
99	T	Hexachlorobutadiene	50.0000	46.1714	7.7	92	0.00
100	T	Naphthalene	50.0000	49.9035	0.2	93	-0.02
101	T	1,2,3-Trichlorobenzene	50.0000	45.3714	9.3	94	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M402272.D 8260WT.M Tue Jan 13 16:27:50 2015 Page 2

Data File : C:\MSDchem\2\data\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 12:51:41 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.83	96	905926	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.69	117	637640	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	316003	25.00 ug/L	-0.02
System Monitoring Compounds					
37) Dibromofluoromethane	9.78	111	206129	23.6010 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.40%		
43) 1,2-Dichloroethane-d4	10.41	65	194036	22.3603 ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 89.44%		
58) Toluene-d8	12.80	98	751687	25.3348 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.32%		
80) p-Bromofluorobenzene	16.19	95	292461	25.2870 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.16%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.24	85	619776	51.5170 ug/L	100
3) Chloromethane	3.70	50	545457	51.1507 ug/L	99
4) Vinyl Chloride	3.94	62	518795	53.2561 ug/L	96
5) 1,3-Butadiene	3.99	54	455464	60.9581 ug/L	83
6) Bromomethane	4.84	94	388437	49.1675 ug/L	99
7) Chloroethane	5.00	64	389097	53.2906 ug/L	98
8) Trichlorofluoromethane	5.49	101	849306	53.8087 ug/L	100
9) Diethyl ether	6.02	59	533727	92.4343 ug/L	91
10) Isoprene	6.06	67	717041	55.8793 ug/L	90
11) Acrolein	6.25	56	32891	49.2932 ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	505665	53.9849 ug/L	93
13) Acetone	6.35	43	50931	52.2222 ug/L #	26
14) 1,1-Dichloroethene	6.58	61	771659	54.1561 ug/L	93
15) Tert-Butyl Alcohol	6.69	59	25451	194.7304 ug/L #	94
16) Dimethyl Sulfide	6.85	62	522731	51.2601 ug/L	99
17) Iodomethane	7.10	142	534233	54.0721 ug/L	100
18) Methyl acetate	7.10	43	228032	47.2416 ug/L	98
19) Methylene Chloride	7.36	84	467437	50.1876 ug/L	87
20) Carbon Disulfide	7.41	76	1653850	56.5489 ug/L	100
21) Acrylonitrile	7.55	53	81022	49.1351 ug/L	99
22) Methyl Tert Butyl Ether	7.58	73	806247	47.3774 ug/L	94
23) trans-1,2-Dichloroethene	7.82	61	757287	54.1266 ug/L	92
24) n-Hexane	7.90	57	772513	58.1405 ug/L	92
25) Diisopropyl ether	8.24	45	2834088	100.5893 ug/L	98
26) Vinyl Acetate	8.41	43	255350	48.4023 ug/L	99
27) 1,1-Dichloroethane	8.44	63	940779	53.4688 ug/L	97
28) Ethyl-Tert-Butyl ether	8.81	59	2269119	95.5207 ug/L	96
29) 2-Butanone	8.99	43	74745	47.7129 ug/L	96
30) Propionitrile	9.10	54	45328	105.6190 ug/L	97
31) 2,2-Dichloropropane	9.21	77	788388	55.8177 ug/L	99
32) cis-1,2-Dichloroethene	9.28	96	527393	52.0808 ug/L	92
33) Chloroform	9.49	83	876583	52.7143 ug/L	99
34) 1-Bromopropane	9.63	122	107115	53.4834 ug/L	99
35) Bromochloromethane	9.72	130	254855	49.0651 ug/L	93
36) Tetrahydrofuran	9.74	42	143832	133.0628 ug/L	97
38) 1,1,1-Trichloroethane	10.02	97	788445	55.5399 ug/L	99
39) Cyclohexane	10.06	56	936215	55.7076 ug/L	87
40) 1,1-Dichloropropene	10.22	75	718347	55.1467 ug/L	100
41) Tert-Amyl-Methyl ether	10.32	73	1663428	92.2798 ug/L	96
42) Carbon Tetrachloride	10.36	117	666074	55.4138 ug/L	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDchem\2\data\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 12:51:41 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

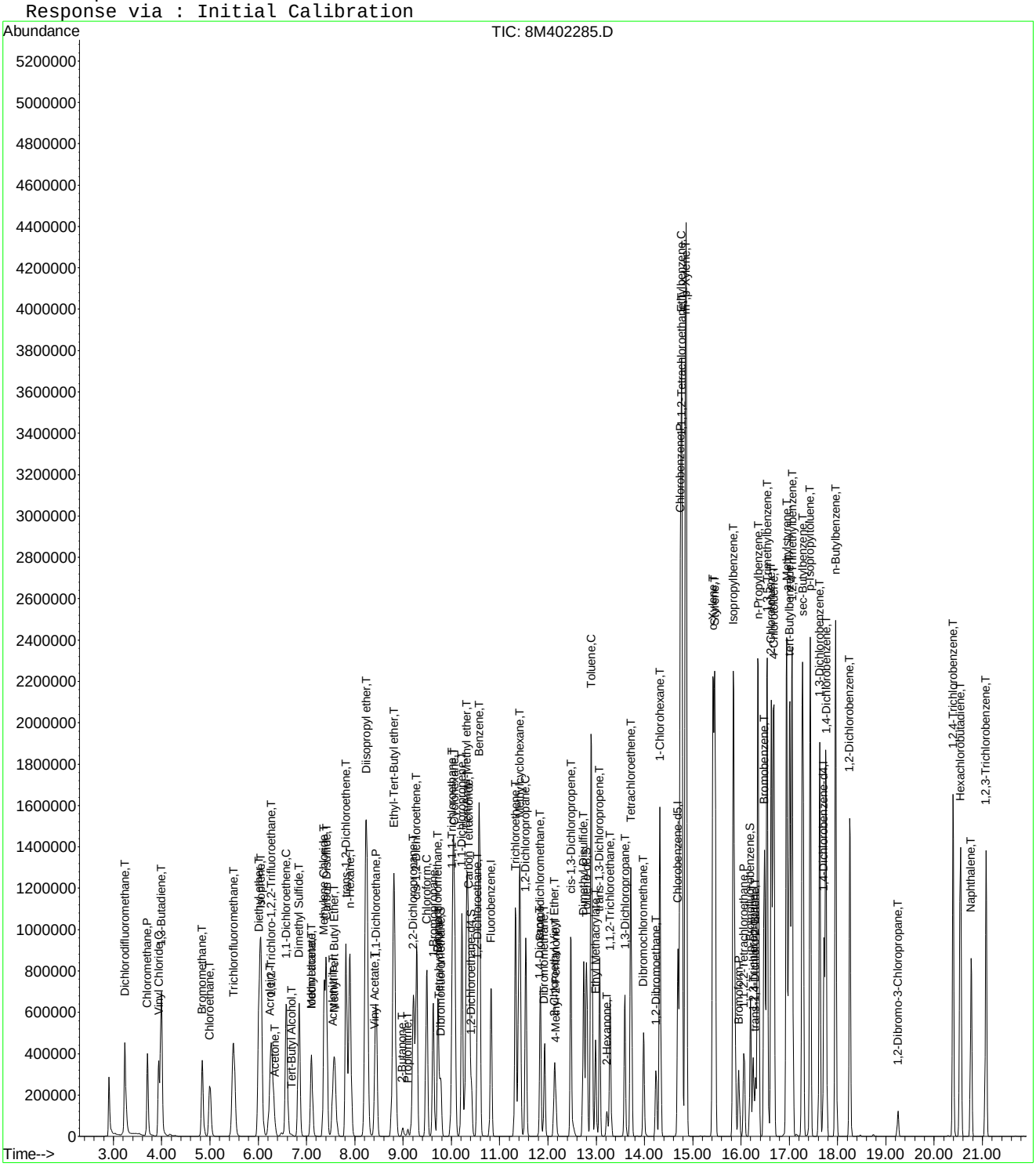
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.54	62	544722	50.4124	ug/L		99
46)	Benzene	10.58	78	1913166	54.0847	ug/L		95
47)	Trichloroethene	11.33	130	483710	54.1755	ug/L		100
48)	Methylcyclohexane	11.42	83	845830	55.9809	ug/L		90
49)	1,2-Dichloropropane	11.54	63	507558	53.3845	ug/L		96
50)	Bromodichloromethane	11.84	83	611503	53.0746	ug/L		99
51)	1,4-Dioxane	11.83	88	2315	123.7886	ug/L		68
52)	Dibromomethane	11.92	93	211961	49.1547	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.14	63	176792	46.7708	ug/L		96
54)	4-Methyl-2-Pentanone	12.16	58	68476	42.6366	ug/L		91
55)	cis-1,3-Dichloropropene	12.48	75	694744	53.5066	ug/L		100
56)	Dimethyl Disulfide	12.74	94	621099	48.4691	ug/L		100
59)	Toluene	12.89	91	1923433	53.3448	ug/L		99
60)	Ethyl Methacrylate	12.99	69	336779	47.3509	ug/L		90
62)	trans-1,3-Dichloropropene	13.07	75	565383	52.2742	ug/L		100
63)	1,1,2-Trichloroethane	13.29	97	268367	49.6692	ug/L		99
64)	2-Hexanone	13.23	58	59297	44.7699	ug/L		90
65)	1,3-Dichloropropane	13.60	76	493102	50.7785	ug/L		93
66)	Tetrachloroethene	13.72	164	408696	53.2343	ug/L		97
67)	Dibromochloromethane	13.98	129	346245	46.4022	ug/L		99
68)	1,2-Dibromoethane	14.24	107	265960	49.5364	ug/L		99
69)	1-Chlorohexane	14.32	91	681905	56.1357	ug/L		89
70)	Chlorobenzene	14.75	112	1249258	53.3950	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.78	131	423672	54.2763	ug/L		100
72)	Ethylbenzene	14.77	106	719095	53.3441	ug/L		98
73)	m-,p-Xylene	14.86	106	1697521	110.8759	ug/L		94
74)	o-Xylene	15.42	106	840658	54.0715	ug/L		98
75)	Styrene	15.46	104	1371083	55.4305	ug/L		98
76)	Bromoform	15.96	173	192311	42.4130	ug/L		99
77)	Isopropylbenzene	15.84	105	2124683	53.9198	ug/L		98
79)	1,1,2,2-Tetrachloroethane	16.06	83	274751	47.6207	ug/L		98
81)	1,2,3-Trichloropropane	16.26	110	75237	46.8043	ug/L		47
82)	trans-1,4-Dichloro-2-Buten	16.30	53	81498	41.3773	ug/L	#	38
83)	n-Propylbenzene	16.36	91	2609061	54.1598	ug/L		98
84)	Bromobenzene	16.48	156	481887	47.9392	ug/L		99
85)	1,3,5-Trimethylbenzene	16.54	105	1812044	55.4207	ug/L		99
86)	2-Chlorotoluene	16.63	91	1607183	54.6893	ug/L		91
87)	4-Chlorotoluene	16.68	91	1580340	53.5912	ug/L		89
88)	a-Methylstyrene	16.95	118	1006664	54.5960	ug/L		97
89)	tert-Butylbenzene	17.01	134	383884	53.3098	ug/L		98
90)	1,2,4-Trimethylbenzene	17.06	105	1816970	53.3824	ug/L		98
91)	sec-Butylbenzene	17.28	105	2293765	55.0594	ug/L		99
92)	p-Isopropyltoluene	17.43	119	1864612	55.8819	ug/L		99
93)	1,3-Dichlorobenzene	17.63	146	986683	51.9865	ug/L		100
94)	1,4-Dichlorobenzene	17.76	146	959151	48.5652	ug/L		100
95)	n-Butylbenzene	17.96	91	1878958	54.0114	ug/L		100
96)	1,2-Dichlorobenzene	18.25	146	822500	47.9621	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.25	75	44345	43.5719	ug/L		96
98)	1,2,4-Trichlorobenzene	20.39	180	671487	49.5776	ug/L		99
99)	Hexachlorobutadiene	20.55	225	418512	53.7501	ug/L		96
100)	Naphthalene	20.76	128	872980	48.0130	ug/L		100
101)	1,2,3-Trichlorobenzene	21.07	180	558036	46.0123	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M402285.D 8260WT.M Wed Jan 14 12:51:42 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 12:51 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS8
Initial cal date: 13 Jan 2015 12:04
CCV date: 14 Jan 2015 12:29
CCV Filename: 8M402285.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	939939	10.82	652034	14.69	324712	17.72
CCV	905926	10.83	637640	14.69	316003	17.71

Data File : C:\MSDCHEM\2\DATA\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	96	0.00
2	T	Dichlorodifluoromethane	0.3320	0.3421	-3.0	91	0.00
3	P	Chloromethane	0.2943	0.3010	-2.3	96	0.00
4	C	Vinyl Chloride	0.2688	0.2863	-6.5	99	0.00
5	T	1,3-Butadiene	0.2062	0.2514	-21.9	106	0.01
6	T	Bromomethane	0.2180	0.2144	1.7	97	0.00
7	T	Chloroethane	0.2015	0.2148	-6.6	99	0.00
8	T	Trichlorofluoromethane	0.4356	0.4688	-7.6	98	0.00
9	T	Diethyl ether	0.1593	0.1473	7.6	88	0.00
10	T	Isoprene	0.3541	0.3957	-11.8	101	0.00
11	T	Acrolein	0.0184	0.0181	1.4	93	-0.02
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2585	0.2791	-8.0	100	0.00
13	T	Acetone	0.0269	0.0281	-4.5	102	0.00
14	C	1,1-Dichloroethene	0.3932	0.4259	-8.3	99	0.00
15	T	Tert-Butyl Alcohol	0.0036	0.0035	2.8	81	-0.02
16	T	Dimethyl Sulfide	0.2814	0.2885	-2.5	95	0.00
17	T	Iodomethane	0.2335	0.2949	-26.3#	99	0.00
18	T	Methyl acetate	0.1332	0.1259	5.5	93	0.00
19	T	Methylene Chloride	0.2570	0.2580	-0.4	97	0.00
20	T	Carbon Disulfide	0.8071	0.9128	-13.1	102	0.00
21	T	Acrylonitrile	0.0455	0.0447	1.7	90	0.00
22	T	Methyl Tert Butyl Ether	0.4696	0.4450	5.2	86	0.00
23	T	trans-1,2-Dichloroethene	0.3861	0.4180	-8.3	100	0.00
24	T	n-Hexane	0.3667	0.4264	-16.3	106	0.00
25	T	Diisopropyl ether	0.7775	0.7821	-0.6	94	0.00
26	T	Vinyl Acetate	0.1456	0.1409	3.2	94	0.00
27	P	1,1-Dichloroethane	0.4855	0.5192	-6.9	99	0.00
28	T	Ethyl-Tert-Butyl ether	0.6555	0.6262	4.5	89	0.00
29	T	2-Butanone	0.0432	0.0413	4.6	92	-0.02
30	T	Propionitrile	0.0118	0.0125	-5.7	101	0.00
31	T	2,2-Dichloropropane	0.3898	0.4351	-11.6	104	0.00
32	T	cis-1,2-Dichloroethene	0.2794	0.2911	-4.2	97	-0.02
33	C	Chloroform	0.4589	0.4838	-5.4	98	0.00
34		1-Bromopropane	0.0553	0.0591	-7.0	99	0.00
35	T	Bromochloromethane	0.1433	0.1407	1.9	90	-0.02
36	T	Tetrahydrofuran	0.0298	0.0397	-33.1#	131	0.00
37	S	Dibromofluoromethane	0.2410	0.2275	5.6	89	0.00
38	T	1,1,1-Trichloroethane	0.3917	0.4352	-11.1	99	-0.02
39	T	Cyclohexane	0.4638	0.5167	-11.4	101	0.00
40	T	1,1-Dichloropropene	0.3595	0.3965	-10.3	99	0.00
41	T	Tert-Amyl-Methyl ether	0.4974	0.4590	7.7	87	0.00
42	T	Carbon Tetrachloride	0.3317	0.3676	-10.8	97	-0.02
43	S	1,2-Dichloroethane-d4	0.2395	0.2142	10.6	85	-0.02
44		Heptane	0.0000	0.0000	0.0	0#	-2.67#
45	T	1,2-Dichloroethane	0.2982	0.3006	-0.8	92	0.00
46	T	Benzene	0.9762	1.0559	-8.2	98	0.00
47	T	Trichloroethene	0.2464	0.2670	-8.4	97	0.00
48	T	Methylcyclohexane	0.4170	0.4668	-12.0	102	0.00
49	C	1,2-Dichloropropane	0.2624	0.2801	-6.8	95	0.00
50	T	Bromodichloromethane	0.3180	0.3375	-6.1	94	0.00
51	T	1,4-Dioxane	0.0005	0.0003	38.5#	42#	0.00
52	T	Dibromomethane	0.1190	0.1170	1.7	90	-0.02
53	T	2-Chloroethyl Vinyl Ether	0.1043	0.0976	6.5	87	0.00
54	T	4-Methyl-2-Pentanone	0.0443	0.0378	14.7	83	-0.02

(#) = Out of Range
8M402285.D 8260WT.M Wed Jan 14 12:52:14 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3583	0.3834	-7.0	93	0.00
56	T	Dimethyl Disulfide	0.3536	0.3428	3.1	89	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	98	0.00
58	S	Toluene-d8	1.1633	1.1789	-1.3	94	0.00
59	C	Toluene	1.4137	1.5082	-6.7	99	-0.02
60	T	Ethyl Methacrylate	0.2789	0.2641	5.3	83	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.27#
62	T	trans-1,3-Dichloropropene	0.4240	0.4433	-4.5	91	0.00
63	T	1,1,2-Trichloroethane	0.2118	0.2104	0.7	88	-0.02
64	T	2-Hexanone	0.0519	0.0465	10.5	86	0.00
65	T	1,3-Dichloropropane	0.3807	0.3867	-1.6	88	0.00
66	T	Tetrachloroethene	0.3010	0.3205	-6.5	98	0.00
67	T	Dibromochloromethane	0.2632	0.2715	-3.2	87	-0.02
68	T	1,2-Dibromoethane	0.2105	0.2086	0.9	87	0.00
69	T	1-Chlorohexane	0.4763	0.5347	-12.3	100	0.00
70	P	Chlorobenzene	0.9173	0.9796	-6.8	97	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3060	0.3322	-8.6	93	0.00
72	C	Ethylbenzene	0.5285	0.5639	-6.7	98	-0.02
73	T	m-,p-Xylene	0.6003	0.6655	-10.9	98	-0.02
74	T	o-Xylene	0.6096	0.6592	-8.1	98	-0.02
75	T	Styrene	0.9698	1.0751	-10.9	95	0.00
76	P	Bromoform	0.1537	0.1508	1.9	85	0.00
77	T	Isopropylbenzene	1.5449	1.6661	-7.8	98	-0.02
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	97	-0.02
79	P	1,1,2,2-Tetrachloroethane	0.4565	0.4347	4.8	86	-0.02
80	S	p-Bromofluorobenzene	0.9150	0.9255	-1.1	94	0.00
81	T	1,2,3-Trichloropropane	0.1272	0.1190	6.4	85	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1377	0.1290	6.4	85	-0.02
83	T	n-Propylbenzene	3.8112	4.1282	-8.3	99	0.00
84	T	Bromobenzene	0.7953	0.7625	4.1	92	-0.02
85	T	1,3,5-Trimethylbenzene	2.5867	2.8671	-10.8	98	0.00
86	T	2-Chlorotoluene	2.3249	2.5430	-9.4	99	0.00
87	T	4-Chlorotoluene	2.3329	2.5005	-7.2	96	0.00
88	T	a-Methylstyrene	1.4587	1.5928	-9.2	97	0.00
89	T	tert-Butylbenzene	0.5697	0.6074	-6.6	97	0.00
90	T	1,2,4-Trimethylbenzene	2.6928	2.8749	-6.8	98	0.00
91	T	sec-Butylbenzene	3.2958	3.6293	-10.1	99	0.00
92	T	p-Isopropyltoluene	2.6398	2.9503	-11.8	98	0.00
93	T	1,3-Dichlorobenzene	1.5015	1.5612	-4.0	94	0.00
94	T	1,4-Dichlorobenzene	1.6009	1.5176	5.2	93	0.00
95	T	n-Butylbenzene	2.7522	2.9730	-8.0	100	0.00
96	T	1,2-Dichlorobenzene	1.3567	1.3014	4.1	90	-0.02
97	T	1,2-Dibromo-3-Chloropropane	0.0753	0.0702	6.8	83	0.00
98	T	1,2,4-Trichlorobenzene	1.0715	1.0625	0.8	90	-0.02
99	T	Hexachlorobutadiene	0.6160	0.6622	-7.5	98	0.00
100	T	Naphthalene	1.4385	1.3813	4.0	82	-0.02
101	T	1,2,3-Trichlorobenzene	0.9595	0.8830	8.0	87	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M402285.D 8260WT.M Wed Jan 14 12:52:15 2015 Page 2

Data File : C:\MSDCHEM\2\DATA\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	96	0.00
2	T	Dichlorodifluoromethane	50.0000	51.5170	-3.0	91	0.00
3	P	Chloromethane	50.0000	51.1507	-2.3	96	0.00
4	C	Vinyl Chloride	50.0000	53.2561	-6.5	99	0.00
5	T	1,3-Butadiene	50.0000	60.9581	-21.9	106	0.01
6	T	Bromomethane	50.0000	49.1675	1.7	97	0.00
7	T	Chloroethane	50.0000	53.2906	-6.6	99	0.00
8	T	Trichlorofluoromethane	50.0000	53.8087	-7.6	98	0.00
9	T	Diethyl ether	100.0000	92.4343	7.6	88	0.00
10	T	Isoprene	50.0000	55.8793	-11.8	101	0.00
11	T	Acrolein	50.0000	49.2932	1.4	93	-0.02
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.9849	-8.0	100	0.00
13	T	Acetone	50.0000	52.2222	-4.4	102	0.00
14	C	1,1-Dichloroethene	50.0000	54.1561	-8.3	99	0.00
15	T	Tert-Butyl Alcohol	200.0000	194.7304	2.6	81	-0.02
16	T	Dimethyl Sulfide	50.0000	51.2601	-2.5	95	0.00
17	T	Iodomethane	50.0000	54.0721	-8.1	99	0.00
18	T	Methyl acetate	50.0000	47.2416	5.5	93	0.00
19	T	Methylene Chloride	50.0000	50.1876	-0.4	97	0.00
20	T	Carbon Disulfide	50.0000	56.5489	-13.1	102	0.00
21	T	Acrylonitrile	50.0000	49.1351	1.7	90	0.00
22	T	Methyl Tert Butyl Ether	50.0000	47.3774	5.2	86	0.00
23	T	trans-1,2-Dichloroethene	50.0000	54.1266	-8.3	100	0.00
24	T	n-Hexane	50.0000	58.1405	-16.3	106	0.00
25	T	Diisopropyl ether	100.0000	100.5893	-0.6	94	0.00
26	T	Vinyl Acetate	50.0000	48.4023	3.2	94	0.00
27	P	1,1-Dichloroethane	50.0000	53.4688	-6.9	99	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	95.5207	4.5	89	0.00
29	T	2-Butanone	50.0000	47.7129	4.6	92	-0.02
30	T	Propionitrile	100.0000	105.6190	-5.6	101	0.00
31	T	2,2-Dichloropropane	50.0000	55.8177	-11.6	104	0.00
32	T	cis-1,2-Dichloroethene	50.0000	52.0808	-4.2	97	-0.02
33	C	Chloroform	50.0000	52.7143	-5.4	98	0.00
34		1-Bromopropane	50.0000	53.4834	-7.0	99	0.00
35	T	Bromochloromethane	50.0000	49.0651	1.9	90	-0.02
36	T	Tetrahydrofuran	100.0000	133.0628	-33.1#	131	0.00
37	S	Dibromofluoromethane	25.0000	23.6010	5.6	89	0.00
38	T	1,1,1-Trichloroethane	50.0000	55.5399	-11.1	99	-0.02
39	T	Cyclohexane	50.0000	55.7076	-11.4	101	0.00
40	T	1,1-Dichloropropene	50.0000	55.1467	-10.3	99	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	92.2798	7.7	87	0.00
42	T	Carbon Tetrachloride	50.0000	55.4138	-10.8	97	-0.02
43	S	1,2-Dichloroethane-d4	25.0000	22.3603	10.6	85	-0.02
44		Heptane	-1.0000	0.0000	0.0	0	-2.67#
45	T	1,2-Dichloroethane	50.0000	50.4124	-0.8	92	0.00
46	T	Benzene	50.0000	54.0847	-8.2	98	0.00
47	T	Trichloroethene	50.0000	54.1755	-8.4	97	0.00
48	T	Methylcyclohexane	50.0000	55.9809	-12.0	102	0.00
49	C	1,2-Dichloropropane	50.0000	53.3845	-6.8	95	0.00
50	T	Bromodichloromethane	50.0000	53.0746	-6.1	94	0.00
51	T	1,4-Dioxane	200.0000	123.7886	38.1#	42	0.00
52	T	Dibromomethane	50.0000	49.1547	1.7	90	-0.02
53	T	2-Chloroethyl Vinyl Ether	50.0000	46.7708	6.5	87	0.00
54	T	4-Methyl-2-Pentanone	50.0000	42.6366	14.7	83	-0.02

(#) = Out of Range
8M402285.D 8260WT.M Wed Jan 14 12:52:16 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\011415\8M402285.D Vial: 2
Acq On : 14 Jan 2015 12:29 Operator: TMB
Sample : WG508005-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68339 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	53.5066	-7.0	93	0.00
56	T	Dimethyl Disulfide	50.0000	48.4691	3.1	89	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	98	0.00
58	S	Toluene-d8	25.0000	25.3348	-1.3	94	0.00
59	C	Toluene	50.0000	53.3448	-6.7	99	-0.02
60	T	Ethyl Methacrylate	50.0000	47.3509	5.3	83	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.27#
62	T	trans-1,3-Dichloropropene	50.0000	52.2742	-4.5	91	0.00
63	T	1,1,2-Trichloroethane	50.0000	49.6692	0.7	88	-0.02
64	T	2-Hexanone	50.0000	44.7698	10.5	86	0.00
65	T	1,3-Dichloropropane	50.0000	50.7784	-1.6	88	0.00
66	T	Tetrachloroethene	50.0000	53.2343	-6.5	98	0.00
67	T	Dibromochloromethane	50.0000	46.4022	7.2	87	-0.02
68	T	1,2-Dibromoethane	50.0000	49.5364	0.9	87	0.00
69	T	1-Chlorohexane	50.0000	56.1357	-12.3	100	0.00
70	P	Chlorobenzene	50.0000	53.3950	-6.8	97	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	54.2764	-8.6	93	0.00
72	C	Ethylbenzene	50.0000	53.3441	-6.7	98	-0.02
73	T	m-,p-Xylene	100.0000	110.8759	-10.9	98	-0.02
74	T	o-Xylene	50.0000	54.0715	-8.1	98	-0.02
75	T	Styrene	50.0000	55.4305	-10.9	95	0.00
76	P	Bromoform	50.0000	42.4130	15.2	85	0.00
77	T	Isopropylbenzene	50.0000	53.9198	-7.8	98	-0.02
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	97	-0.02
79	P	1,1,2,2-Tetrachloroethane	50.0000	47.6207	4.8	86	-0.02
80	S	p-Bromofluorobenzene	25.0000	25.2870	-1.1	94	0.00
81	T	1,2,3-Trichloropropane	50.0000	46.8043	6.4	85	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	41.3773	17.2	85	-0.02
83	T	n-Propylbenzene	50.0000	54.1598	-8.3	99	0.00
84	T	Bromobenzene	50.0000	47.9392	4.1	92	-0.02
85	T	1,3,5-Trimethylbenzene	50.0000	55.4207	-10.8	98	0.00
86	T	2-Chlorotoluene	50.0000	54.6893	-9.4	99	0.00
87	T	4-Chlorotoluene	50.0000	53.5912	-7.2	96	0.00
88	T	a-Methylstyrene	50.0000	54.5960	-9.2	97	0.00
89	T	tert-Butylbenzene	50.0000	53.3098	-6.6	97	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	53.3824	-6.8	98	0.00
91	T	sec-Butylbenzene	50.0000	55.0594	-10.1	99	0.00
92	T	p-Isopropyltoluene	50.0000	55.8819	-11.8	98	0.00
93	T	1,3-Dichlorobenzene	50.0000	51.9865	-4.0	94	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.5652	2.9	93	0.00
95	T	n-Butylbenzene	50.0000	54.0114	-8.0	100	0.00
96	T	1,2-Dichlorobenzene	50.0000	47.9621	4.1	90	-0.02
97	T	1,2-Dibromo-3-Chloropropane	50.0000	43.5719	12.9	83	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	49.5776	0.8	90	-0.02
99	T	Hexachlorobutadiene	50.0000	53.7501	-7.5	98	0.00
100	T	Naphthalene	50.0000	48.0130	4.0	82	-0.02
101	T	1,2,3-Trichlorobenzene	50.0000	46.0123	8.0	87	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M402285.D 8260WT.M Wed Jan 14 12:52:16 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\011415\8M402286.D Vial: 3
Acq On : 14 Jan 2015 12:58 Operator: TMB
Sample : WG508018-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68288 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 13:20:44 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

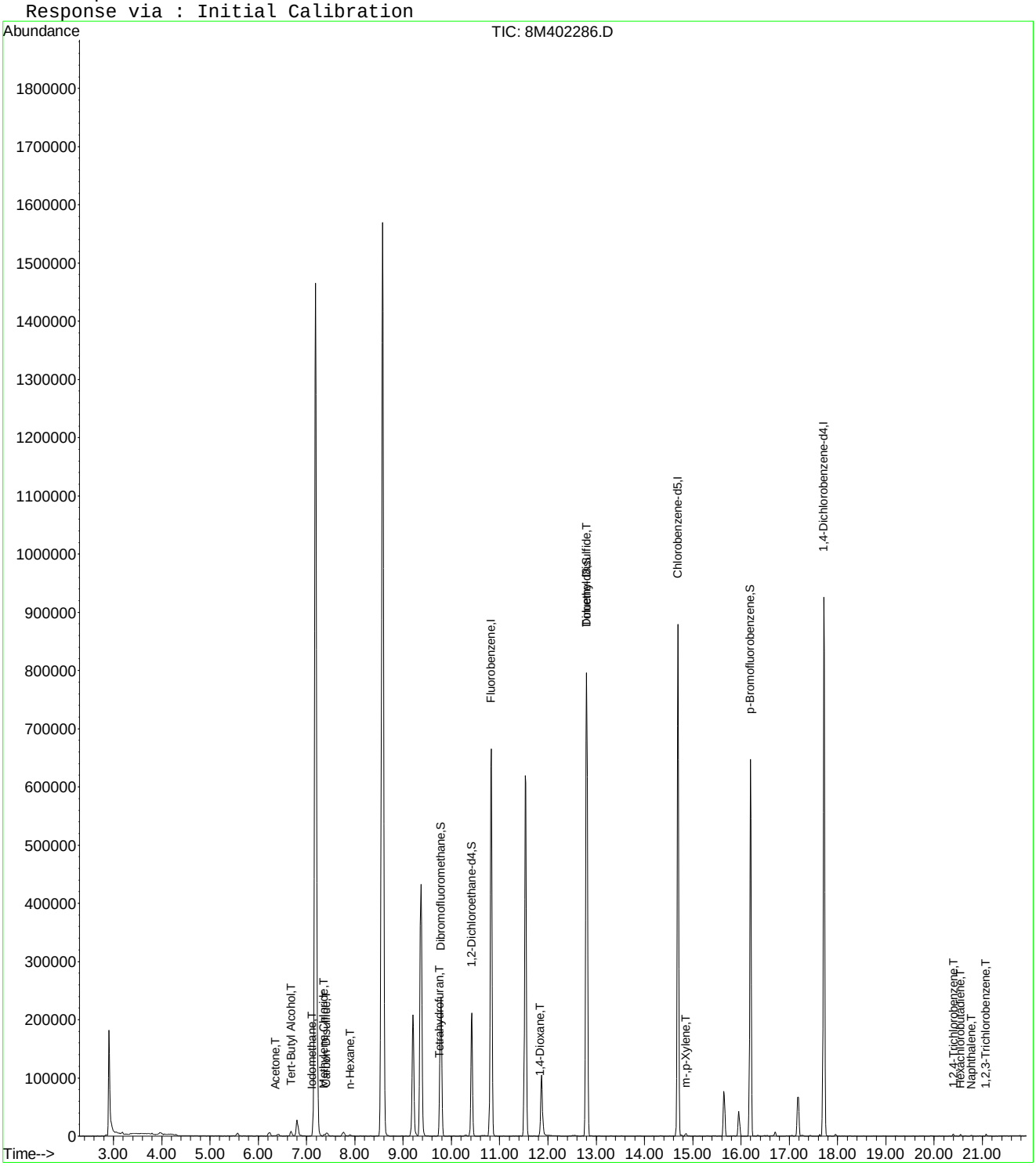
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	823780	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	607446	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	310246	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	199619	25.1348	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.52%			
43) 1,2-Dichloroethane-d4	10.42	65	194939	24.7045	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.80%			
58) Toluene-d8	12.80	98	713180	25.2318	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.92%			
80) p-Bromofluorobenzene	16.19	95	285139	25.1114	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.44%			
Target Compounds						Qvalue
13) Acetone	6.36	43	1441	1.6249	ug/L	# 1
15) Tert-Butyl Alcohol	6.68	59	8223	69.1896	ug/L	# 22
17) Iodomethane	7.11	142	667	0.7648	ug/L	# 32
19) Methylene Chloride	7.36	84	1465	0.1730	ug/L	95
20) Carbon Disulfide	7.40	76	6730	0.2531	ug/L	# 84
24) n-Hexane	7.90	57	1715	0.1419	ug/L	90
36) Tetrahydrofuran	9.75	42	230	0.2340	ug/L	# 38
51) 1,4-Dioxane	11.84	88	2466	145.0121	ug/L	83
56) Dimethyl Disulfide	12.80	94	18682	1.6033	ug/L	# 26
73) m-,p-Xylene	14.86	106	2207	0.1513	ug/L	70
98) 1,2,4-Trichlorobenzene	20.40	180	1990	0.1497	ug/L	93
99) Hexachlorobutadiene	20.55	225	1446	0.1892	ug/L	# 65
100) Naphthalene	20.77	128	2384	0.1336	ug/L	# 68
101) 1,2,3-Trichlorobenzene	21.07	180	1739	0.1460	ug/L	# 77

(#) = qualifier out of range (m) = manual integration
8M402286.D 8260WT.M Wed Jan 14 13:20:44 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\011415\8M402286.D Vial: 3
Acq On : 14 Jan 2015 12:58 Operator: TMB
Sample : WG508018-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68288 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 13:20 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402286.D 8260WT.M Wed Jan 14 13:20:44 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402286.D Vial: 3
Acq On : 14 Jan 2015 12:58 Operator: TMB
Sample : WG508018-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68288 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 08:21:07 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260WT

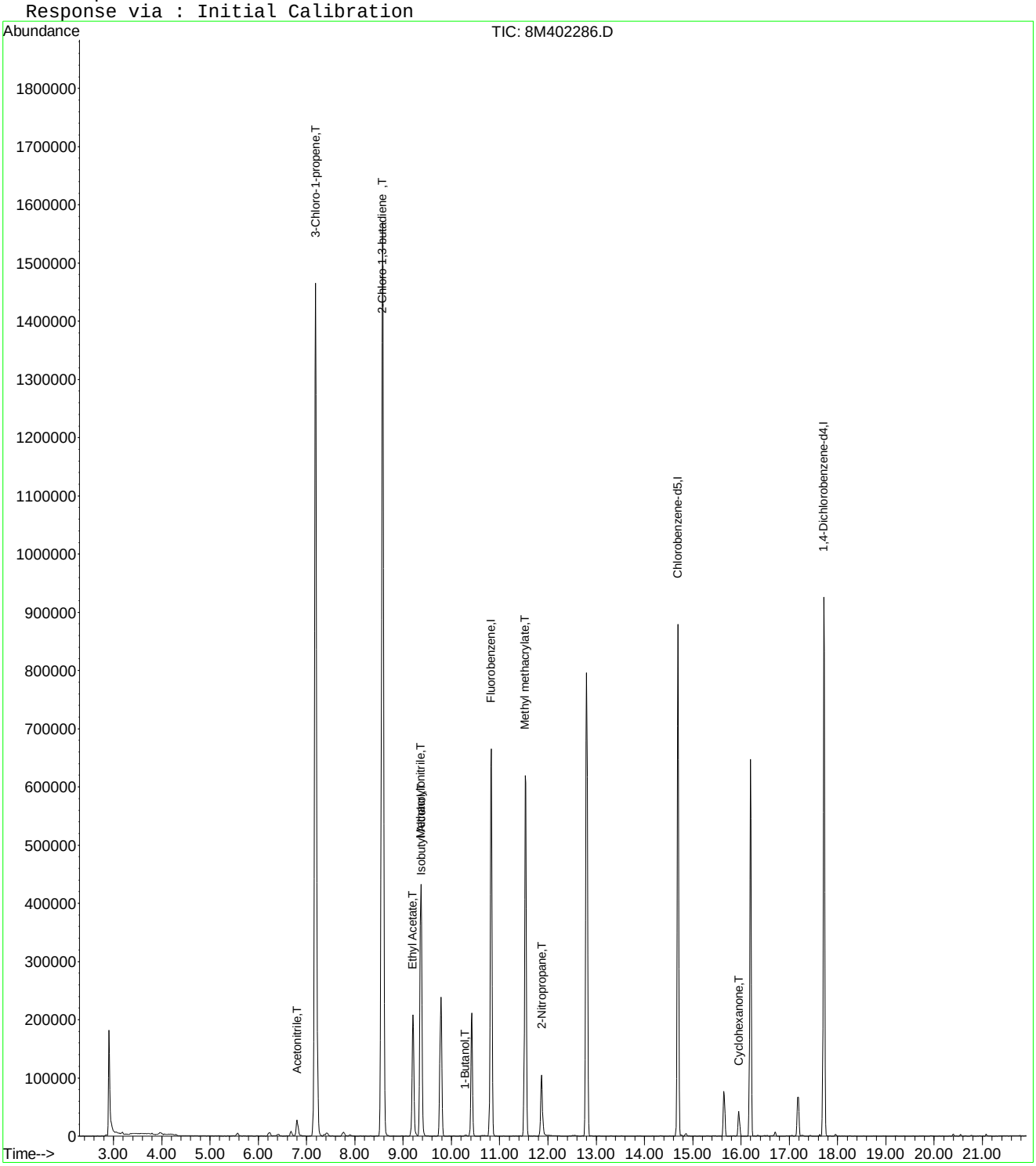
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.83	96	823780	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.69	117	607446	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.71	152	310246	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.80	41	42804	82.3732	ug/L		98
3) 3-Chloro-1-propene	7.19	41	1590538	115.9533	ug/L		96
4) 2-Chloro-1,3-butadiene	8.57	53	1541980	95.0015	ug/L		88
5) Ethyl Acetate	9.20	43	360894	87.6831	ug/L		97
6) Methacrylonitrile	9.37	67	197878	80.8953	ug/L		77
7) Isobutyl Alcohol	9.38	43	10549	64.2875	ug/L	#	43
8) 1-Butanol	10.29	56	1628	38.6701	ug/L		99
9) Methyl methacrylate	11.53	41	433798	93.7454	ug/L		87
10) 2-Nitropropane	11.87	43	82805	59.7969	ug/L		97
13) Cyclohexanone	15.95	55	24248	49.5367	ug/L		82

(#) = qualifier out of range (m) = manual integration
8M402286.D A9FOOWTR.M Thu Jan 15 08:21:07 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402286.D Vial: 3
Acq On : 14 Jan 2015 12:58 Operator: TMB
Sample : WG508018-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68288 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 8:21 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\011415\8M402286.D Vial: 3
Acq On : 14 Jan 2015 12:58 Operator: TMB
Sample : WG508018-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD68288 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

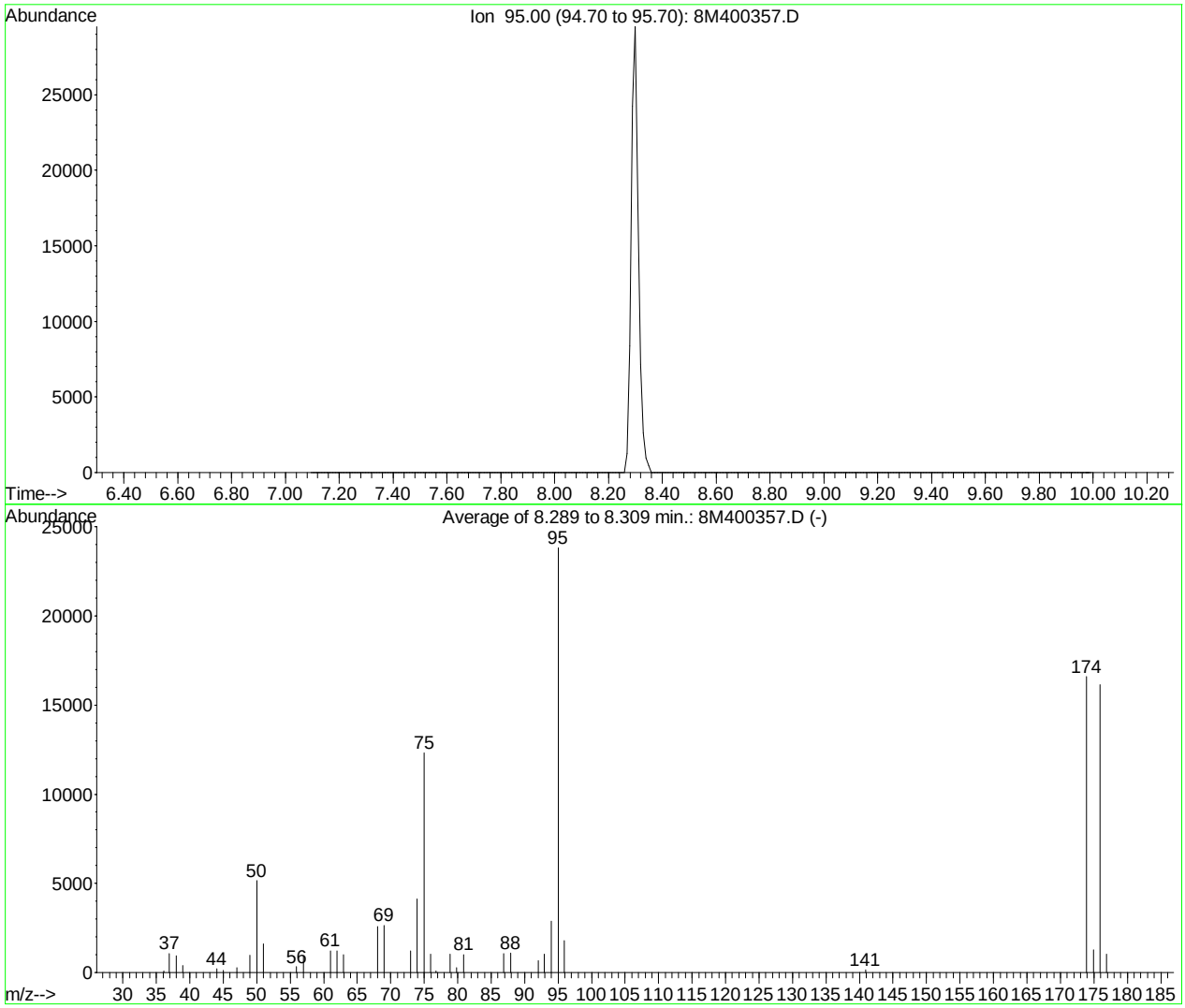
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	138	0.00
2	T	Acetonitrile	100.0000	82.3732	17.6	112	0.01
3	T	3-Chloro-1-propene	100.0000	115.9533	-16.0	153	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	95.0015	5.0	124	0.00
5	T	Ethyl Acetate	100.0000	87.6831	12.3	114	0.01
6	T	Methacrylonitrile	100.0000	80.8953	19.1	108	0.00
7	T	Isobutyl Alcohol	200.0000	64.2875	67.9	45	0.01
8	T	1-Butanol	100.0000	38.6701	61.3	30	0.00
9	T	Methyl methacrylate	100.0000	93.7454	6.3	123	0.00
10	T	2-Nitropropane	100.0000	59.7969	40.2	80	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	116	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	124	-0.02
13	T	Cyclohexanone	100.0000	49.5367	50.5	56	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M402286.D A9FOOWTR.M Thu Jan 15 08:21:10 2015 Page 1

2.1.1.5 Raw QC Data

BFB

```
Data File : C:\MSDCHEM\2\DATA\100214\8M400357.D          Vial: 3
Acq On    :  2 Oct 2014  11:58                    Operator: TMB
Sample    : WG494714-01 50ng BFB STD 8260         Inst    : HPMS8
Misc      : 1,1 STD66476                          Multiplr: 1.00
MS Integration Params: rteint.p
Method    : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title     : SOP:OVL MSV01
```



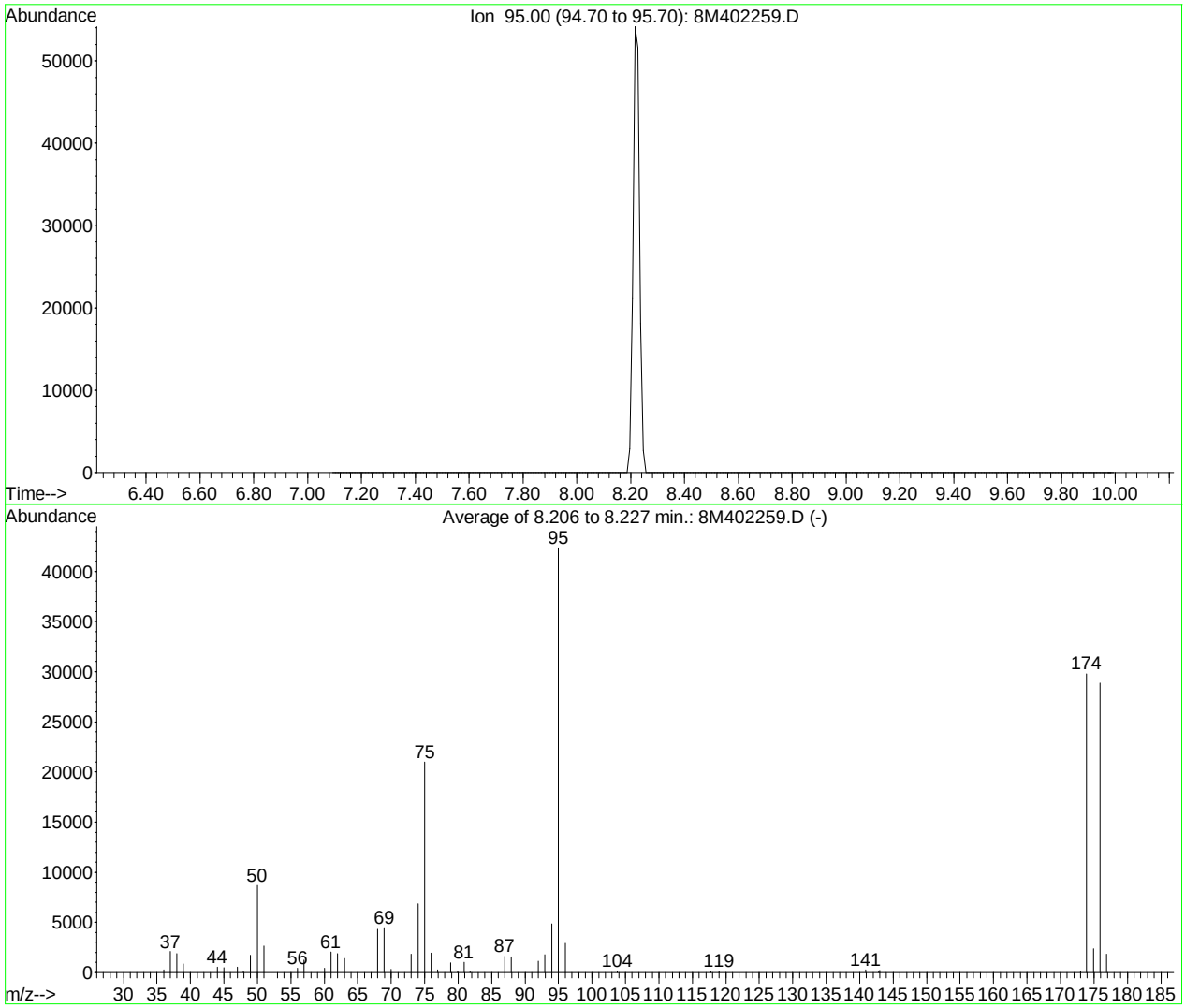
AutoFind: Scans 118, 119, 120; Background Corrected with Scan 113

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	5158	PASS
75	95	30	60	51.7	12312	PASS
95	95	100	100	100.0	23818	PASS
96	95	5	9	7.6	1800	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.7	16590	PASS
175	174	5	9	7.8	1290	PASS
176	174	95	101	97.3	16145	PASS
177	176	5	9	6.3	1023	PASS

8M400357.D BFB.M Thu Oct 02 12:09:27 2014

BFB

```
Data File : C:\MSDCHEM\2\DATA\011315\8M402259.D          Vial: 1
Acq On    : 13 Jan 2015   8:44                    Operator: TMB
Sample    : WG507785-01 50ng BFB STD 8260         Inst    : HPMS8
Misc      : 1,1 STD68036                          Multiplr: 1.00
MS Integration Params: rteint.p
Method    : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title     : SOP:OVL MSV01
```



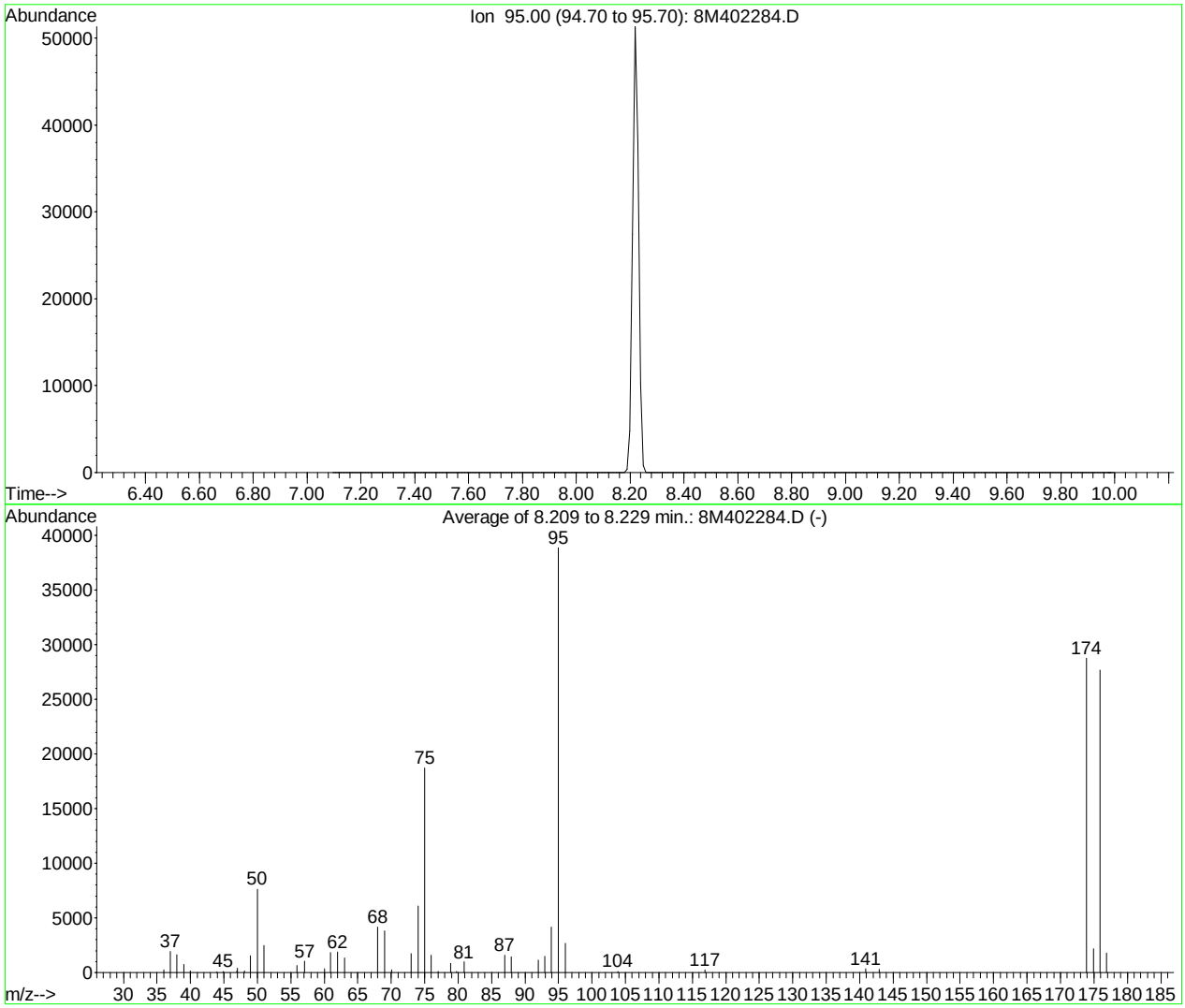
AutoFind: Scans 110, 111, 112; Background Corrected with Scan 106

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.5	8667	PASS
75	95	30	60	49.6	21011	PASS
95	95	100	100	100.0	42344	PASS
96	95	5	9	6.9	2935	PASS
173	174	0.00	2	0.4	107	PASS
174	95	50	100	70.4	29790	PASS
175	174	5	9	8.0	2369	PASS
176	174	95	101	97.0	28892	PASS
177	176	5	9	6.4	1859	PASS

8M402259.D BFB.M Tue Jan 13 08:57:33 2015

BFB

Data File : C:\MSDCHEM\2\DATA\011415\8M402284.D Vial: 2
Acq On : 14 Jan 2015 12:06 Operator: TMB
Sample : WG508005-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD68036 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title : SOP:OVL MSV01



AutoFind: Scans 110, 111, 112; Background Corrected with Scan 105

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	7648	PASS
75	95	30	60	48.2	18725	PASS
95	95	100	100	100.0	38858	PASS
96	95	5	9	6.8	2657	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.0	28768	PASS
175	174	5	9	7.6	2188	PASS
176	174	95	101	96.2	27667	PASS
177	176	5	9	6.4	1760	PASS

8M402284.D BFB.M Wed Jan 14 12:19:36 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402287.D Vial: 4
Acq On : 14 Jan 2015 13:27 Operator: TMB
Sample : WG508006-01 VBLK0114 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:29:54 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

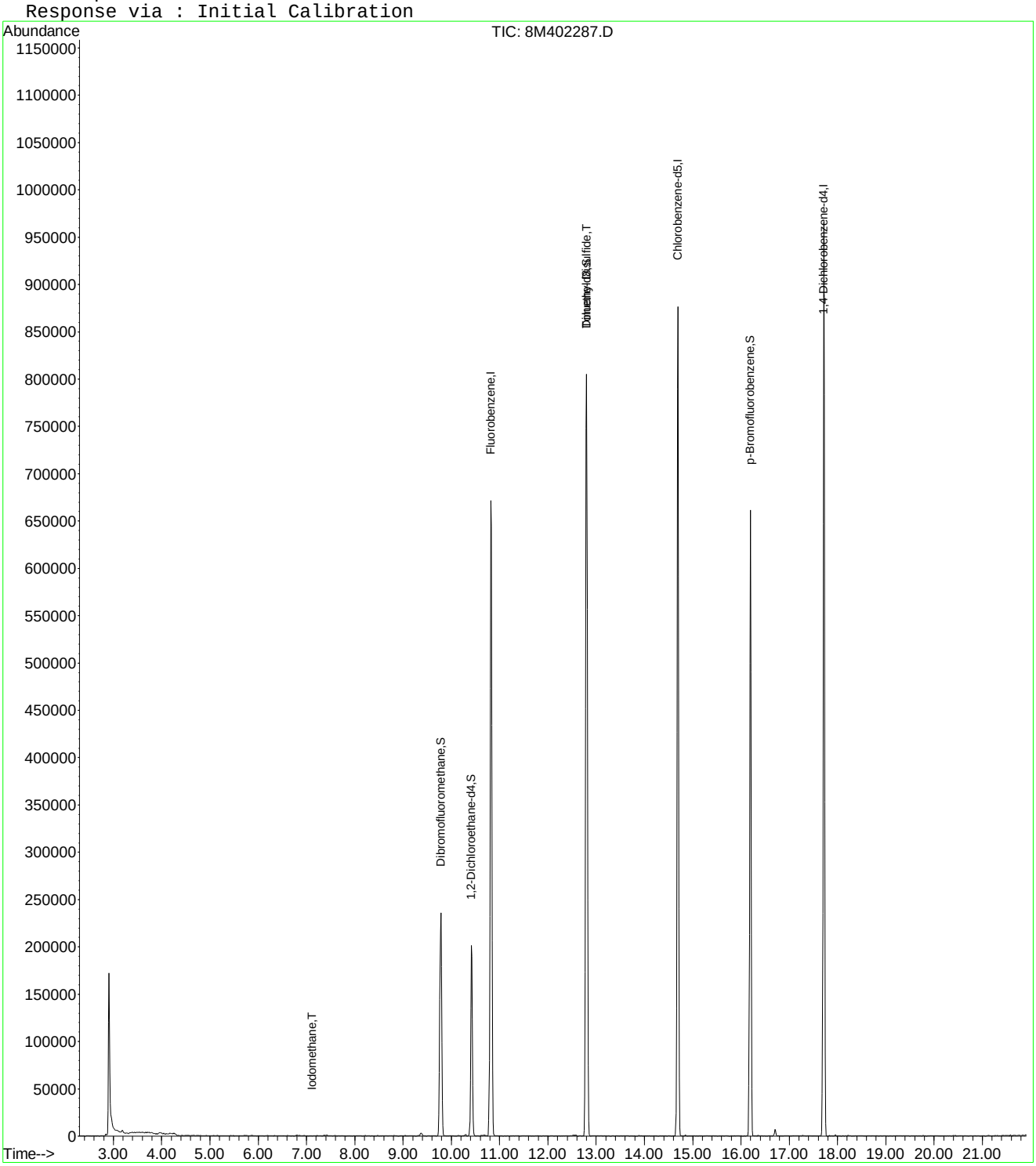
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	821761	25.00	ug/L	-0.02
57) Chlorobenzene-d5	14.69	117	625943	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	313621	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	201284	25.4067	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.64%			
43) 1,2-Dichloroethane-d4	10.41	65	186957	23.7511	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.00%			
58) Toluene-d8	12.80	98	724534	24.8760	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.52%			
80) p-Bromofluorobenzene	16.19	95	287225	25.0229	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.08%			
Target Compounds						Qvalue
17) Iodomethane	7.12	142	204	0.7140	ug/L	# 32
56) Dimethyl Disulfide	12.80	94	20719	1.7825	ug/L	# 26
94) 1,4-Dichlorobenzene	17.75	146	790	Below Cal		# 1

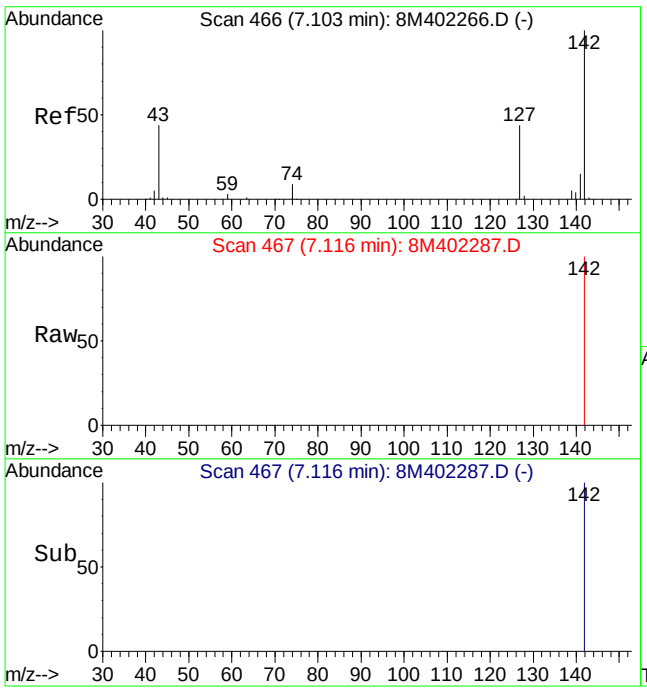
(#) = qualifier out of range (m) = manual integration
8M402287.D 8260WT.M Thu Jan 15 08:29:54 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402287.D Vial: 4
Acq On : 14 Jan 2015 13:27 Operator: TMB
Sample : WG508006-01 VBLK0114 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:29 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

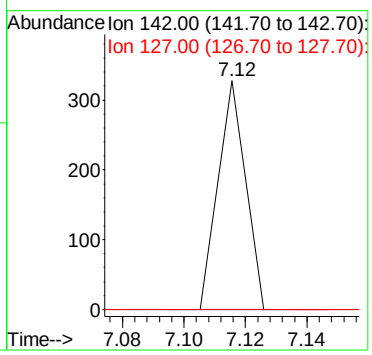


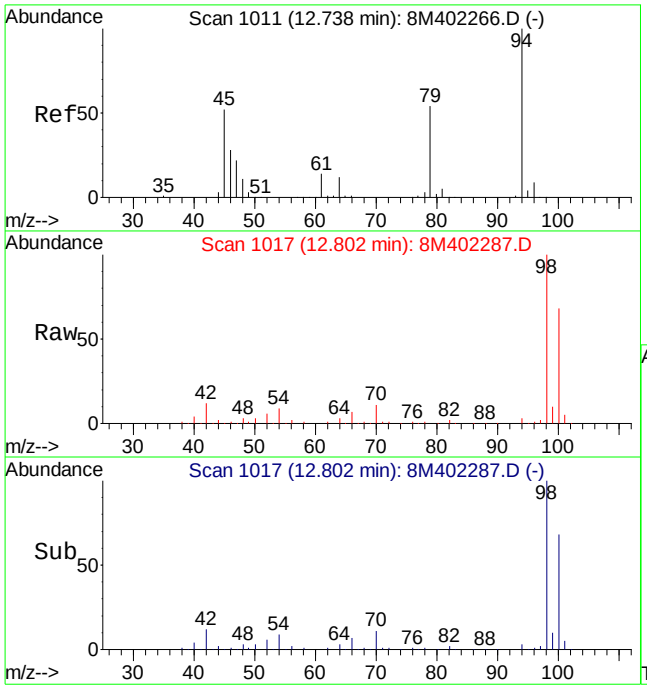


#17
Iodomethane
Concen: 0.71 ug/L
RT: 7.12 min Scan# 467
Delta R.T. 0.00 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

Tgt Ion:142 Resp: 204

Ion	Ratio	Lower	Upper
142	100		
127	0.0	26.5	61.7#

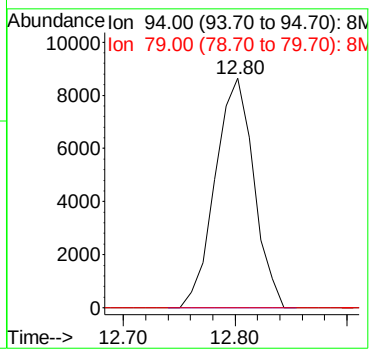


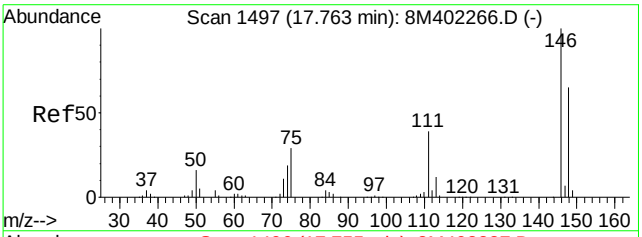


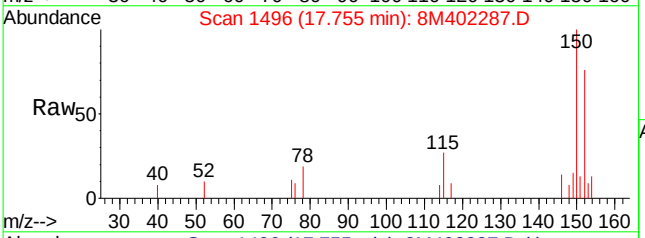
#56
Dimethyl Disulfide
Concen: 1.78 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.06 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

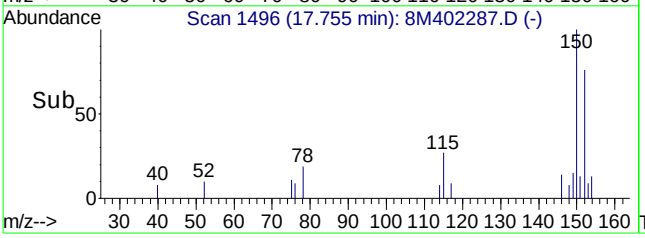
Tgt Ion: 94 Resp: 20719

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#





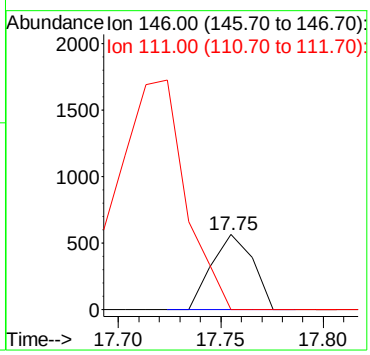




#94
1,4-Dichlorobenzene
Concen: Below Cal
RT: 17.75 min Scan# 1496
Delta R.T. -0.02 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

Tgt Ion:146 Resp: 790

Ion	Ratio	Lower	Upper
146	100		
111	484.7	24.6	57.4#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402287.D Vial: 4
Acq On : 14 Jan 2015 13:27 Operator: TMB
Sample : WG508006-01 VBLK0114 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 08:22:23 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260WT

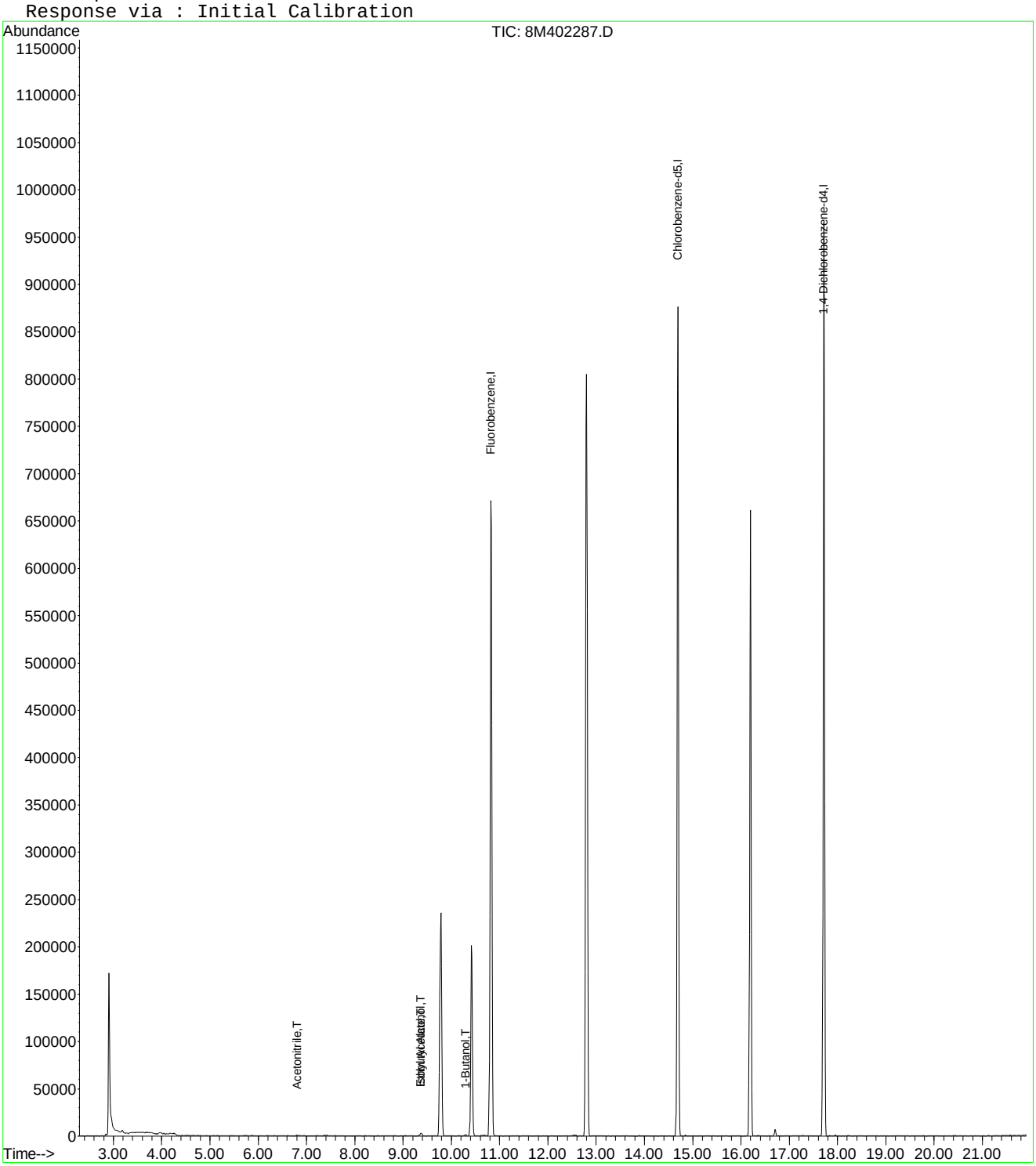
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	821761	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.69	117	625943	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.71	152	313621	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.81	41	455	0.8778	ug/L	# 1
5) Ethyl Acetate	9.37	43	2936	0.7151	ug/L	# 67
7) Isobutyl Alcohol	9.37	43	2936	17.9365	ug/L	# 57
8) 1-Butanol	10.30	56	1300	35.5251	ug/L	# 12

(#) = qualifier out of range (m) = manual integration
8M402287.D A9FOOWTR.M Thu Jan 15 08:22:23 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402287.D Vial: 4
Acq On : 14 Jan 2015 13:27 Operator: TMB
Sample : WG508006-01 VBLK0114 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 8:22 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402287.D Vial: 4
Acq On : 14 Jan 2015 13:27 Operator: TMB
Sample : WG508006-01 VBLK0114 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 08:28:27 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260WT

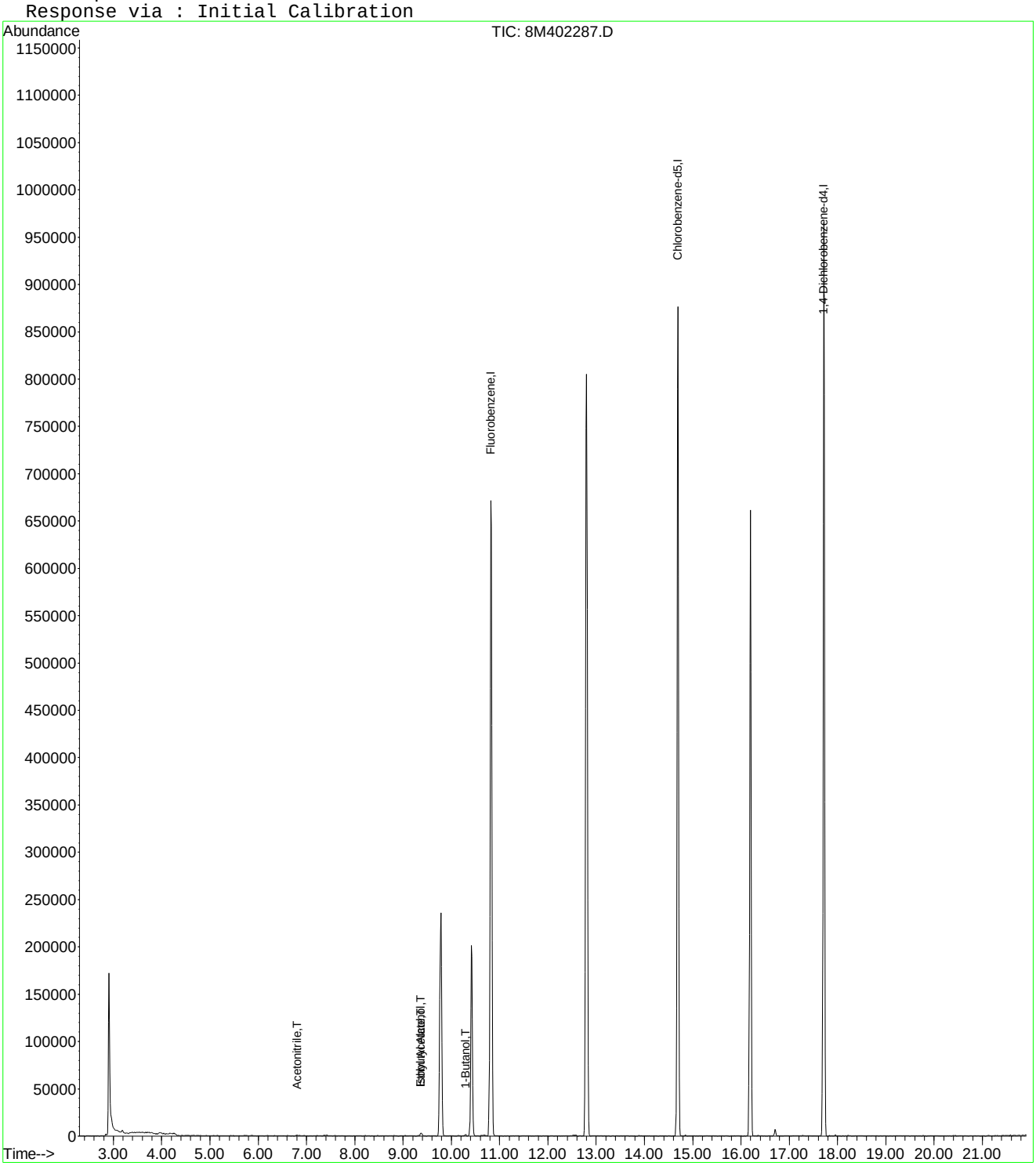
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	821761	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.69	117	625943	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.71	152	313621	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.81	41	455	0.8778	ug/L	# 1
5) Ethyl Acetate	9.37	43	2936	0.7151	ug/L	# 67
7) Isobutyl Alcohol	9.37	43	2936	17.9365	ug/L	# 57
8) 1-Butanol	10.30	56	1300	35.5251	ug/L	# 12

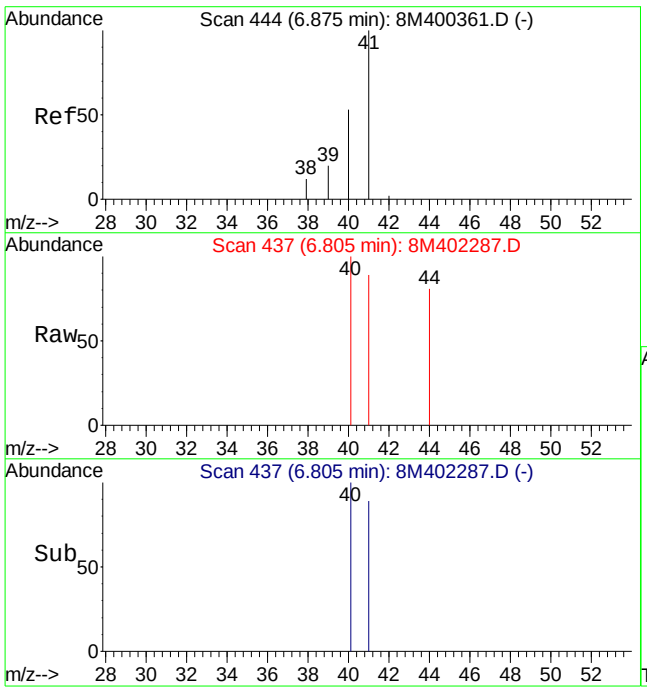
(#) = qualifier out of range (m) = manual integration
8M402287.D A9FOOWTR.M Thu Jan 15 08:28:27 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402287.D Vial: 4
Acq On : 14 Jan 2015 13:27 Operator: TMB
Sample : WG508006-01 VBLK0114 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 8:28 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-02-14 HPMS8
Last Update : Mon Dec 15 15:21:00 2014
Response via : Initial Calibration

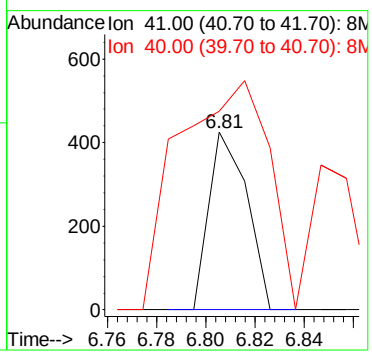


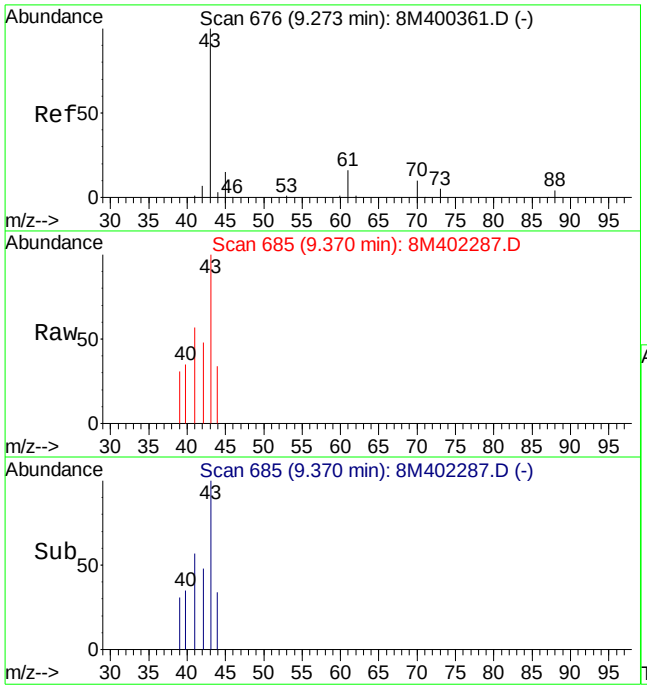


#2
Acetonitrile
Concen: 0.88 ug/L
RT: 6.81 min Scan# 437
Delta R.T. 0.02 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

Tgt Ion: 41 Resp: 455

Ion	Ratio	Lower	Upper
41	100		
40	308.1	16.4	96.4#

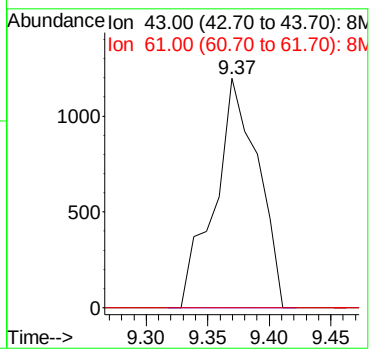


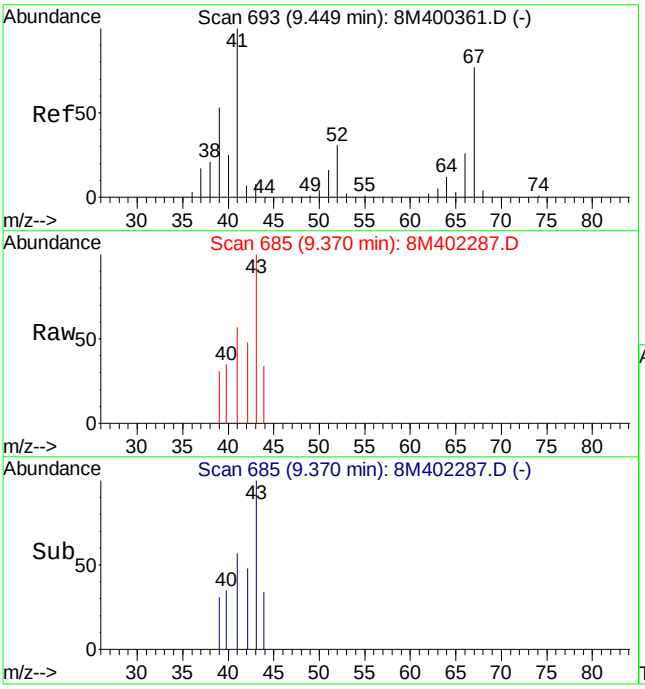


#5
Ethyl Acetate
Concen: 0.72 ug/L
RT: 9.37 min Scan# 685
Delta R.T. 0.18 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

Tgt Ion: 43 Resp: 2936

Ion	Ratio	Lower	Upper
43	100		
61	0.0	7.9	18.5#

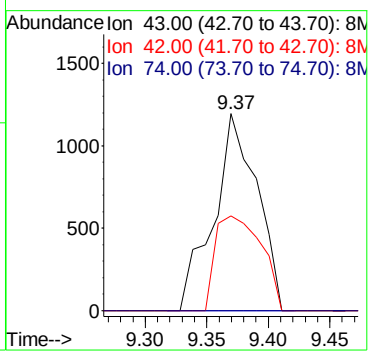


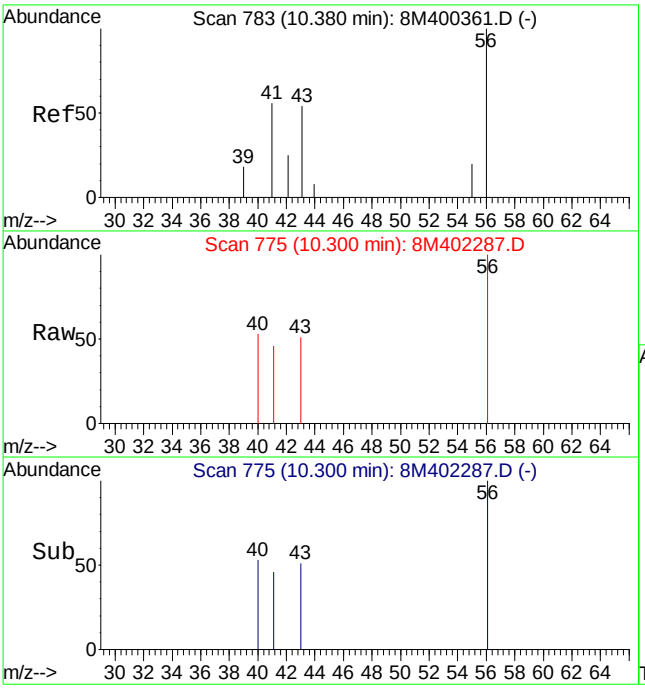


#7
Isobutyl Alcohol
Concen: 17.94 ug/L
RT: 9.37 min Scan# 685
Delta R.T. 0.01 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

Tgt Ion: 43 Resp: 2936

Ion	Ratio	Lower	Upper
43	100		
42	50.9	53.5	133.5#
74	0.0	0.0	46.9

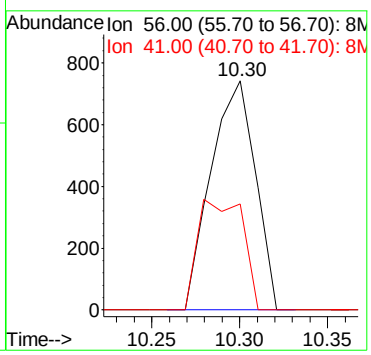




#8
1-Butanol
Concen: 35.53 ug/L
RT: 10.30 min Scan# 775
Delta R.T. 0.02 min
Lab File: 8M402287.D
Acq: 14 Jan 2015 13:27

Tgt Ion: 56 Resp: 1300

Ion	Ratio	Lower	Upper
56	100		
41	0.0	44.5	103.9#



Data File : C:\MSDCHEM\2\DATA\011415\8M402310.D Vial: 27
Acq On : 15 Jan 2015 00:39 Operator: TMB
Sample : WG508006-06 VBLK0114 BLANK STD 624 Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 08:30:06 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

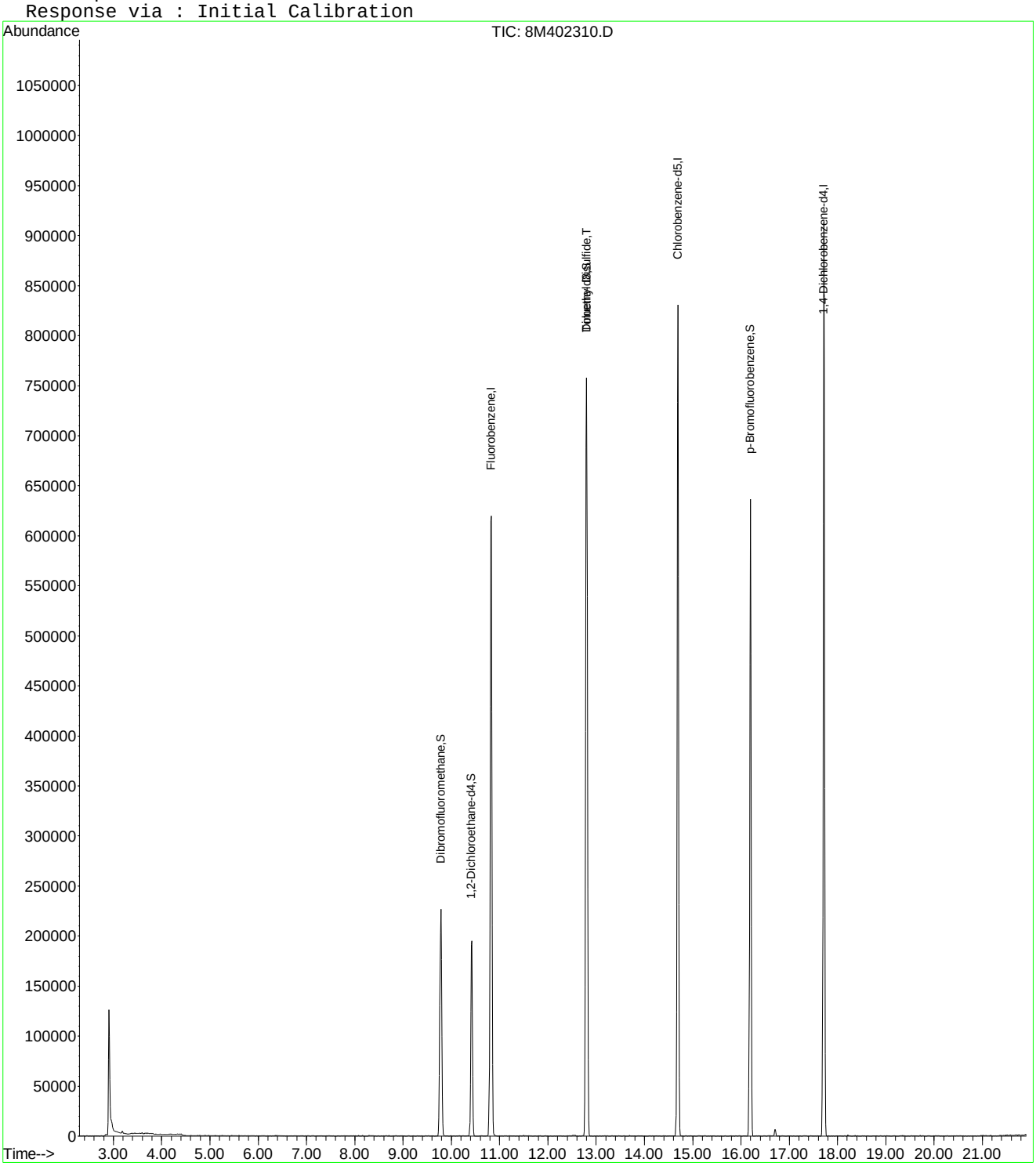
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.83	96	770104	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.69	117	585376	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.71	152	294703	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	188660	25.4106	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.64%			
43) 1,2-Dichloroethane-d4	10.41	65	183657	24.8969	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.60%			
58) Toluene-d8	12.80	98	676448	24.8345	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.32%			
80) p-Bromofluorobenzene	16.19	95	271710	25.1908	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.76%			
Target Compounds						Qvalue
56) Dimethyl Disulfide	12.80	94	18071	1.6589	ug/L #	26

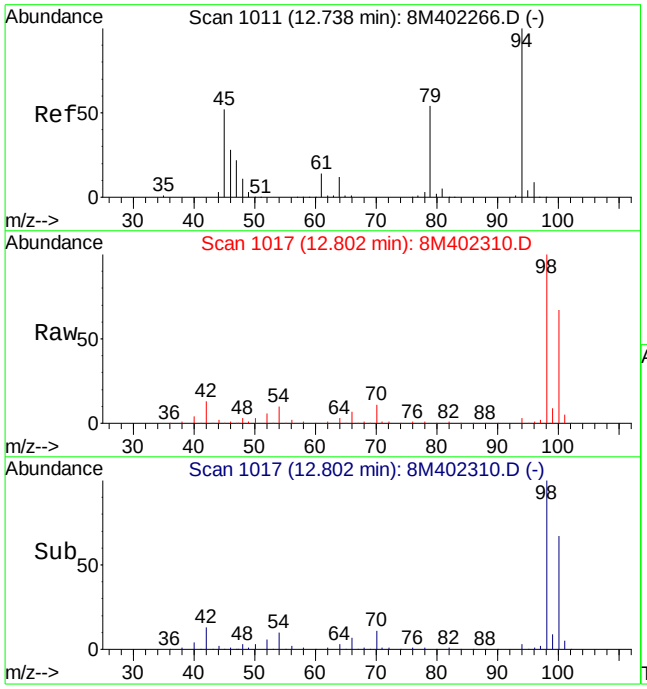
(#) = qualifier out of range (m) = manual integration
8M402310.D 8260WT.M Thu Jan 15 08:30:07 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\011415\8M402310.D Vial: 27
Acq On : 15 Jan 2015 00:39 Operator: TMB
Sample : WG508006-06 VBLK0114 BLANK STD 624 Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 8:30 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration

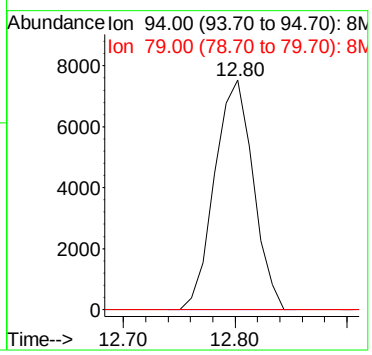




#56
Dimethyl Disulfide
Concen: 1.66 ug/L
RT: 12.80 min Scan# 1017
Delta R.T. 0.06 min
Lab File: 8M402310.D
Acq: 15 Jan 2015 00:39

Tgt Ion: 94 Resp: 18071

Ion	Ratio	Lower	Upper
94	100		
79	0.0	31.3	72.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\011415\8M402288.D Vial: 5
Acq On : 14 Jan 2015 13:56 Operator: TMB
Sample : WG508006-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 14:18:43 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.82	96	874039	25.00	ug/L	-0.01
57) Chlorobenzene-d5	14.69	117	637316	25.00	ug/L	-0.01
78) 1,4-Dichlorobenzene-d4	17.72	152	318452	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.78	111	206192	24.4695	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.88%			
43) 1,2-Dichloroethane-d4	10.42	65	203428	24.2978	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.20%			
58) Toluene-d8	12.80	98	740416	24.9676	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.88%			
80) p-Bromofluorobenzene	16.19	95	295318	25.3376	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	252130	21.7221	ug/L	99
3) Chloromethane	3.70	50	207532	20.1715	ug/L	100
4) Vinyl Chloride	3.94	62	197429	21.0062	ug/L	97
5) 1,3-Butadiene	3.98	54	127156	17.6391	ug/L	83
6) Bromomethane	4.84	94	145945	19.1473	ug/L	99
7) Chloroethane	5.00	64	153608	21.8056	ug/L	97
8) Trichlorofluoromethane	5.49	101	302728	19.8794	ug/L	99
9) Diethyl ether	6.02	59	584177	104.8625	ug/L	92
10) Isoprene	6.06	67	258603	20.8883	ug/L	90
11) Acrolein	6.25	56	66765	103.7100	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	180024	19.9206	ug/L	92
13) Acetone	6.36	43	21291	22.6272	ug/L #	28
14) 1,1-Dichloroethene	6.58	61	274995	20.0036	ug/L	92
15) Tert-Butyl Alcohol	6.69	59	26975	213.9204	ug/L	95
16) Dimethyl Sulfide	6.84	62	216175	21.9720	ug/L	99
17) Iodomethane	7.10	142	173883	18.6997	ug/L	99
18) Methyl acetate	7.11	43	67826	14.5642	ug/L	96
19) Methylene Chloride	7.37	84	174271	19.3937	ug/L	89
20) Carbon Disulfide	7.41	76	505755	17.9238	ug/L	100
21) Acrylonitrile	7.55	53	35811	22.5096	ug/L	98
22) Methyl Tert Butyl Ether	7.58	73	357971	21.8028	ug/L	94
23) trans-1,2-Dichloroethene	7.83	61	269735	19.9825	ug/L	92
24) n-Hexane	7.90	57	242519	18.9182	ug/L	92
25) Diisopropyl ether	8.24	45	2875428	105.7798	ug/L	97
26) Vinyl Acetate	8.41	43	260351	51.1506	ug/L	99
27) 1,1-Dichloroethane	8.45	63	354557	20.8863	ug/L	98
28) Ethyl-Tert-Butyl ether	8.82	59	2418473	105.5220	ug/L	95
29) 2-Butanone	8.99	43	35055	23.1935	ug/L	96
30) Propionitrile	9.10	54	49661	119.9369	ug/L	99
31) 2,2-Dichloropropane	9.22	77	284791	20.8987	ug/L	100
32) cis-1,2-Dichloroethene	9.28	96	195269	19.9866	ug/L	91
33) Chloroform	9.49	83	334799	20.8680	ug/L	100
34) 1-Bromopropane	9.62	122	40511	20.9654	ug/L	99
35) Bromochloromethane	9.73	130	104049	20.7625	ug/L	93
36) Tetrahydrofuran	9.75	42	119578	114.6606	ug/L	98
38) 1,1,1-Trichloroethane	10.03	97	295312	21.5614	ug/L	99
39) Cyclohexane	10.06	56	320397	19.7601	ug/L	86
40) 1,1-Dichloropropene	10.22	75	257359	20.4779	ug/L	99
41) Tert-Amyl-Methyl ether	10.33	73	1820873	104.6994	ug/L	96
42) Carbon Tetrachloride	10.37	117	244098	21.0485	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M402288.D 8260WT.M Wed Jan 14 14:18:43 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\011415\8M402288.D Vial: 5
Acq On : 14 Jan 2015 13:56 Operator: TMB
Sample : WG508006-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 14:18:43 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

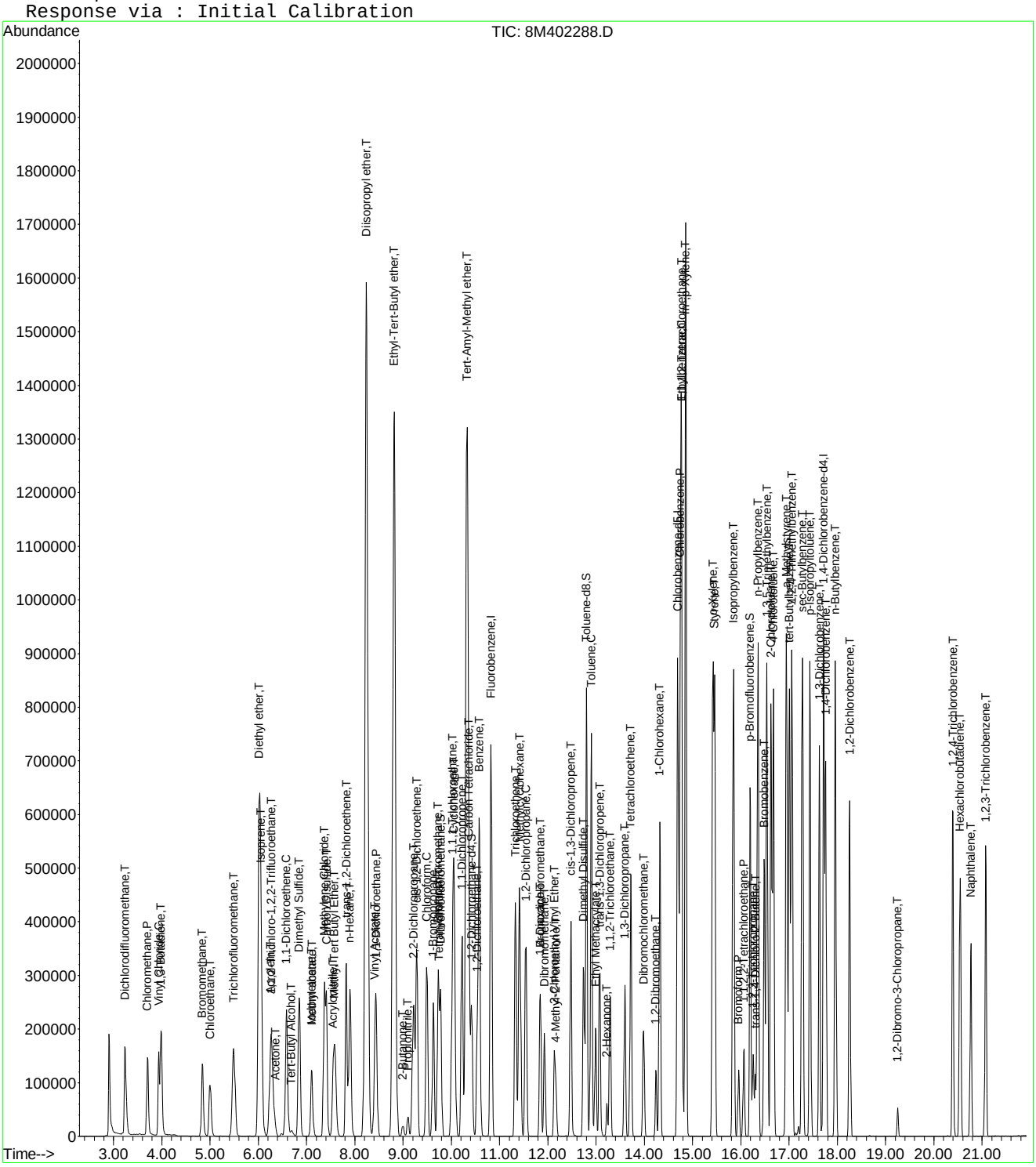
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.53	62	217312	20.8453	ug/L		98
46)	Benzene	10.58	78	717833	21.0333	ug/L		94
47)	Trichloroethene	11.33	130	182982	21.2416	ug/L		99
48)	Methylcyclohexane	11.41	83	295702	20.2849	ug/L		89
49)	1,2-Dichloropropane	11.55	63	192038	20.9353	ug/L		98
50)	Bromodichloromethane	11.85	83	231260	20.8042	ug/L		99
51)	1,4-Dioxane	11.84	88	1316	72.9369	ug/L		72
52)	Dibromomethane	11.93	93	87211	20.9625	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.14	63	79745	21.8664	ug/L		98
54)	4-Methyl-2-Pentanone	12.17	58	31512	20.3368	ug/L		95
55)	cis-1,3-Dichloropropene	12.48	75	278312	22.2166	ug/L		99
56)	Dimethyl Disulfide	12.74	94	255251	20.6459	ug/L		96
59)	Toluene	12.90	91	730387	20.2670	ug/L		100
60)	Ethyl Methacrylate	12.99	69	155514	21.8763	ug/L		89
62)	trans-1,3-Dichloropropene	13.08	75	206565	19.1083	ug/L		100
63)	1,1,2-Trichloroethane	13.29	97	110923	20.5400	ug/L		100
64)	2-Hexanone	13.22	58	27764	20.9728	ug/L	#	48
65)	1,3-Dichloropropane	13.59	76	199072	20.5104	ug/L		94
66)	Tetrachloroethene	13.72	164	151419	19.7330	ug/L		96
67)	Dibromochloromethane	13.99	129	141608	19.1171	ug/L		99
68)	1,2-Dibromoethane	14.24	107	109706	20.4437	ug/L		98
69)	1-Chlorohexane	14.32	91	258496	21.2907	ug/L		87
70)	Chlorobenzene	14.74	112	491392	21.0134	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.77	131	152782	19.5828	ug/L		99
72)	Ethylbenzene	14.77	106	266156	19.7541	ug/L		97
73)	m-,p-Xylene	14.86	106	647417	42.3084	ug/L		99
74)	o-Xylene	15.42	106	322437	20.7498	ug/L		100
75)	Styrene	15.46	104	519075	20.9960	ug/L		100
76)	Bromoform	15.95	173	76696	17.3245	ug/L		99
77)	Isopropylbenzene	15.85	105	830490	21.0867	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.07	83	114262	19.6519	ug/L		99
81)	1,2,3-Trichloropropane	16.25	110	30896	19.0723	ug/L	#	38
82)	trans-1,4-Dichloro-2-Buten	16.30	53	38485	19.6944	ug/L	#	22
83)	n-Propylbenzene	16.36	91	1018285	20.9753	ug/L		99
84)	Bromobenzene	16.49	156	186119	18.3731	ug/L		98
85)	1,3,5-Trimethylbenzene	16.54	105	682529	20.7144	ug/L		100
86)	2-Chlorotoluene	16.62	91	718900	24.2746	ug/L		90
87)	4-Chlorotoluene	16.68	91	535038	18.0043	ug/L		89
88)	a-Methylstyrene	16.94	118	380741	20.4905	ug/L		98
89)	tert-Butylbenzene	17.01	134	144852	19.9608	ug/L		99
90)	1,2,4-Trimethylbenzene	17.06	105	686900	20.0259	ug/L		100
91)	sec-Butylbenzene	17.28	105	885885	21.1012	ug/L		100
92)	p-Isopropyltoluene	17.43	119	691891	20.5763	ug/L		98
93)	1,3-Dichlorobenzene	17.63	146	377736	19.7491	ug/L		100
94)	1,4-Dichlorobenzene	17.76	146	363741	17.7246	ug/L		100
95)	n-Butylbenzene	17.96	91	679124	19.3716	ug/L		99
96)	1,2-Dichlorobenzene	18.26	146	334849	19.3758	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.25	75	18389	18.3470	ug/L		99
98)	1,2,4-Trichlorobenzene	20.40	180	263781	19.3259	ug/L		99
99)	Hexachlorobutadiene	20.54	225	145250	18.5112	ug/L		96
100)	Naphthalene	20.77	128	371992	20.3018	ug/L		100
101)	1,2,3-Trichlorobenzene	21.08	180	226912	18.5659	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M402288.D 8260WT.M Wed Jan 14 14:18:43 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\011415\8M402288.D Vial: 5
Acq On : 14 Jan 2015 13:56 Operator: TMB
Sample : WG508006-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD68251 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 14 14:18 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 01-13-15 HPMS 8
Last Update : Tue Jan 13 14:15:47 2015
Response via : Initial Calibration



8M402288.D 8260WT.M Wed Jan 14 14:18:44 2015 Page 3

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
January 26, 2015

---

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	ADC – ANTHONY D. CANTER
ADG – APRIL D. GREENE	AED – ALLEN E. DAVIS
ALS – ADRIANE L. STEED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BKT – BRENDAN TORRENCE	BLG – BRENDA L. GREENWALT
BRG – BRENDA R. GREGORY	CAA – CASSIE A. AUGENSTEIN
CAF – CHERYL A. FLOWERS	CEB – CHAD E. BARNES
CJR – COURTNEY J. REXROAD	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CLW – CHARISSA L. WINTERS
CPD – CHAD P. DAVIS	CSH – CHRIS S. HILL
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	ECL – ERIC C. LAWSON
ENY – EMILY N. YOAK	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
JBK – JEREMY B. KINNEY	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JJS – JOHN J. STE MARIE
JKP – JACQUELINE K. PARSONS	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KAT – KATHY A. TUCKER	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KRA – KATHY R. ALBERTSON	KRB – KAELY R. BECKER
KRP – KATHY R. PARSONS	LEC – LAURA E. CARPENTER
LKN – LINDA K. NEDEFF	LLS – LARRY L. STEPHENS
LSB – LESLIE S. BUCINA	MBK – MORGAN B. KNOWLTON
MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MLB – MEGAN L. BACHE
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS
PIT – MICROBAC WARRENDALE	PRL – PAIGE R. LAMB
PSW – PEGGY S. WEBB	QX – QIN XU
RAH – ROY A. HALSTEAD	REK – BOB E. KYER
RLB – BOB BUCHANAN	RM – RAYMOND MALEKE
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SDC – SHALYN D. CONLEY	SLM – STEPHANIE L. MOSSBURG
SLP – SHERI L. PFALZGRAF	TB – TODD BOYLE
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WRR – WESLEY R. RICHARDS	WTD – WADE T. DELONG
XXX – UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
January 26, 2015

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL/MDL).
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.

Microbac Laboratories Inc.
List of Valid Qualifiers
January 26, 2015

Qualkey: DOD

U	Analyte was not detected. The concentration is below the reported LOD.
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L15010566 / Revision: 0 / 216 total pages

Page 209

AECOM

Chain of Custody Record

COC Number:

Laboratory:	Microbac POC: Kathy Albertson	Project Manager:	Dave Wacker
Address:	158 Starlite Drive	Phone/Fax Number:	210-296-2000
	Marietta, OH 45750	Sampler (print):	Scott Beesinger
Phone:	1-800-373-4071	Signature:	Scott Beesinger
Client:	AECOM		
Address:	112 East Pecan Ste. 400		
	San Antonio, TX 78205		
Turn Around Time:	STANDARD		
Project Name/Location:	Longhorn		
Project Number:	60256135.0005AA		

Mail to: Linda Raabe
112 East Pecan STE. 400
San Antonio, TX 78205
210-296-2000

Fed Ex Airbill No:

Program:

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	VOC	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
Site 12	12WW24-010915			1/9/15	0745		✓	W	3	✓					
	12WW20-010915			1/9/15	0940		✓	W	3	✓					
	12WW21-010915			1/9/15	0950		✓	W	3	✓					
	12WW21FD-010915			1/9/15	0950		✓	W	3	✓					
	12WW23-010915			1/9/15	1050		✓	W	3	✓					
	12WW22-010915			1/9/15	1340		✓	W	3	✓					
	TripBlank			1/9/15			✓	W	2	✓					

Comments: STANDARD TAT

Microbac OVD
Received: 01/13/2015 10:00
By: CARA STRICKLER 221000064219

(Signature) Scott Beesinger	Date 1/12/15	Time 1530	Received by: (Signature)	y: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature) Cara Strickler	

*Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

Generated: 01/26/2015 08:45

00747369

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15010566
Account: 2551
Project: 2551.096
Samples: 7
Due Date: 23-JAN-2015

Samplenum	Container ID	Products
L15010566-01	504056	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	13-JAN-2015 16:06	CLS		
2	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Samplenum	Container ID	Products
L15010566-02	504057	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	13-JAN-2015 16:06	CLS		
2	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15010566
Account: 2551
Project: 2551.096
Samples: 7
Due Date: 23-JAN-2015

Samplenum	Container ID	Products
L15010566-03	504058	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Samplenum	Container ID	Products
L15010566-04	504059	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:25	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15010566
Account: 2551
Project: 2551.096
Samples: 7
Due Date: 23-JAN-2015

Samplenum	Container ID	Products
L15010566-05	504060	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Samplenum	Container ID	Products
L15010566-06	504061	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15010566
Account: 2551
Project: 2551.096
Samples: 7
Due Date: 23-JAN-2015

Samplenum	Container ID	Products
L15010566-07	504062	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	13-JAN-2015 16:06	CLS		
2	ANALYZ	V1	ORG4	14-JAN-2015 08:24	AWE	CLS	
3	STORE	ORG4	A1	26-JAN-2015 08:16	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - May 22, 2014

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Thiodiglycol (TDG-LCMS)
Acetate (HPLC-UV)
Formate (HPLC-UV)
Acetaldehyde (HPLC-UV)
Propionaldehyde (HPLC-UV)
Fluoroborate (ISE)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam

Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL MSV0I/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSKOI/GC-FID

Isobutane
n-Butane
Propane
Propylene
Propyne

OVL HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

SOLID AND HAZARDOUS CHEMICALS

OVL MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

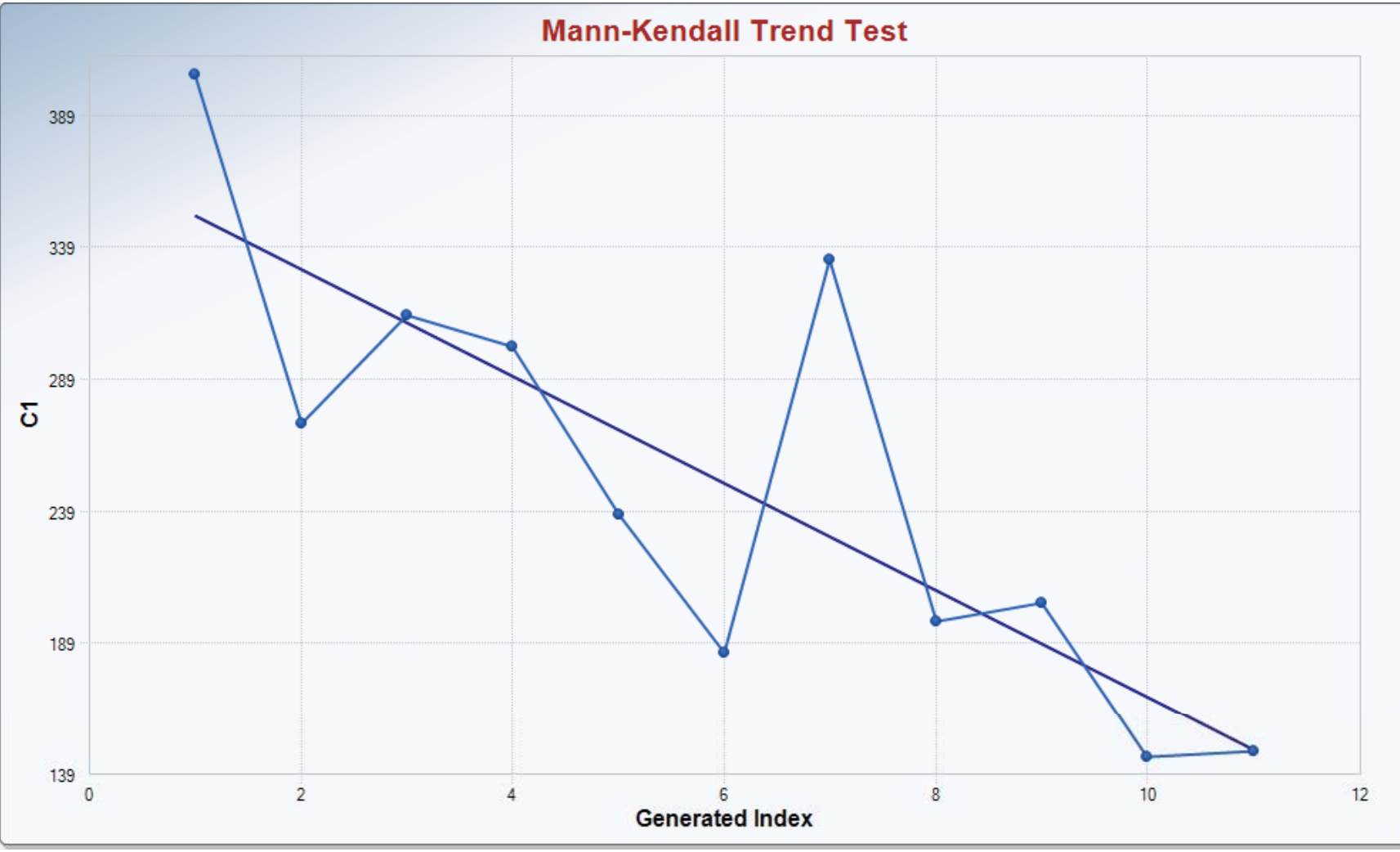
SOLID AND HAZARDOUS CHEMICALS

OVL MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

APPENDIX G: MANN-KENDALL STATISTICS FOR TREND IN 12WW24 FOR TCE

	A	B	C	D	E	F	G	H	I	J	K	L
1				**Mann-Kendall Trend Test Analysis**								
2			User Selected Options									
3			Date/Time of Computation	8/1/2015 7:58:57 PM								
4			From File	WorkSheet.xls								
5			Full Precision	OFF								
6			Confidence Coefficient	0.95								
7			Level of Significance	0.05								
8												
9			**C1**									
10												
11			**General Statistics**									
12			Number or Reported Events Not Used	0								
13			Number of Generated Events	11								
14			Number Values Reported (n)	12								
15			Number Values Missing	1								
16			Number Values Used	11								
17			Minimum	145								
18			Maximum	404								
19			Mean	249								
20			Geometric Mean	236.6								
21			Median	237								
22			Standard Deviation	82.93								
23												
24			**Mann-Kendall Test**									
25			Test Value (S)	-33								
26			Tabulated p-value	0.005								
27			Standard Deviation of S	12.85								
28			Standardized Value of S	-2.491								
29			Approximate p-value	0.00637								
30												
31	**Statistically significant evidence of a decreasing**											
32	**trend at the specified level of significance.**											



Mann-Kendall Trend Analysis

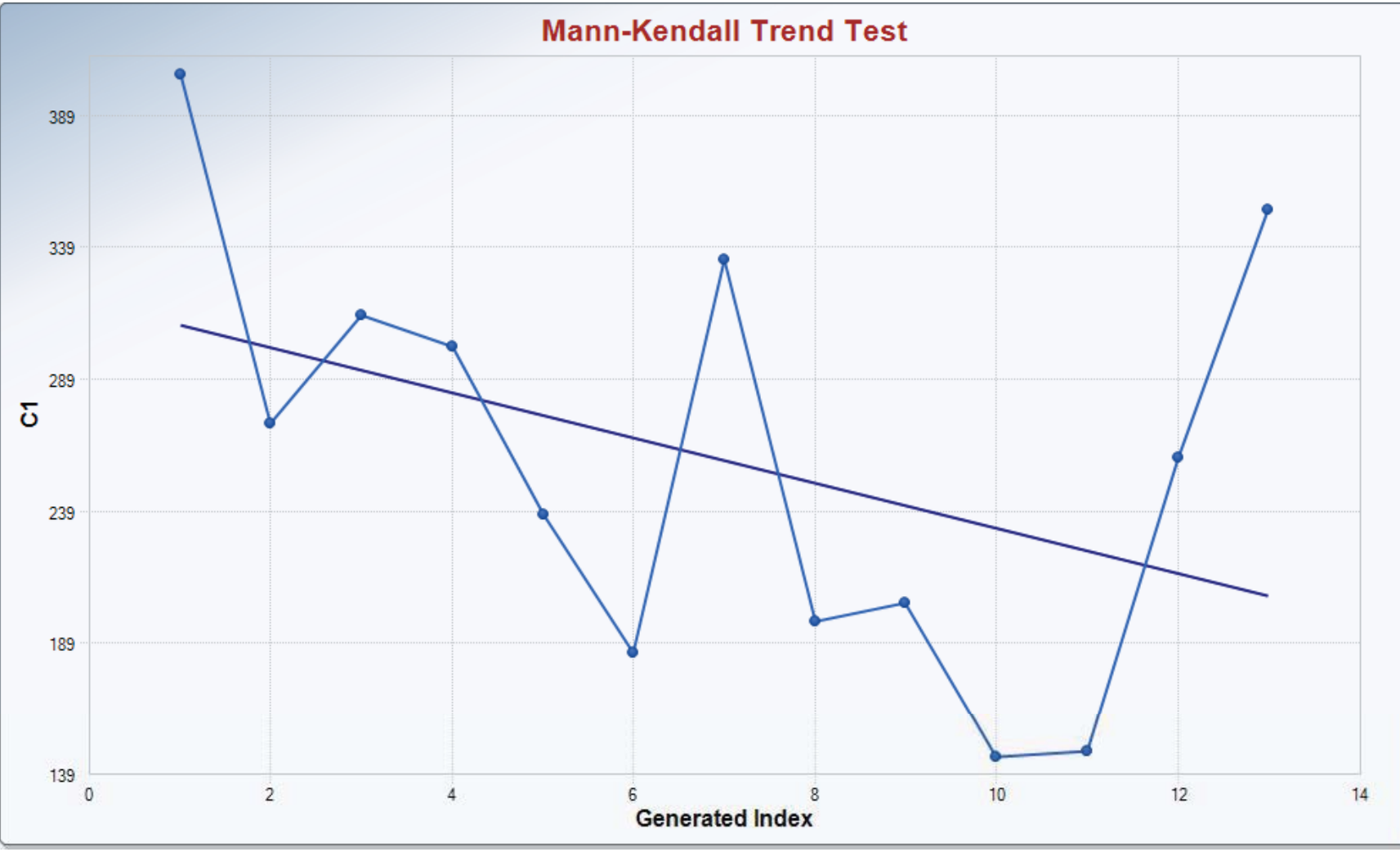
n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	-2.4912
Test Value (S)	-33
Tabulated p-value	0.0050
Approximate p-value	0.0064

OLS Regression Line (Blue)

OLS Regression Slope	-20.2818
OLS Regression Intercept	370.6909

Statistically significant evidence of a decreasing trend at the specified level of significance.

	A	B	C	D	E	F	G	H	I	J	K	L
1				**Mann-Kendall Trend Test Analysis**								
2			User Selected Options									
3			Date/Time of Computation	8/1/2015 7:56:33 PM								
4			From File	WorkSheet.xls								
5			Full Precision	OFF								
6			Confidence Coefficient	0.95								
7			Level of Significance	0.05								
8												
9			**C1**									
10												
11			**General Statistics**									
12			Number or Reported Events Not Used	0								
13			Number of Generated Events	13								
14			Number Values Reported (n)	14								
15			Number Values Missing	1								
16			Number Values Used	13								
17			Minimum	145								
18			Maximum	404								
19			Mean	257.8								
20			Geometric Mean	245.7								
21			Median	259								
22			Standard Deviation	80.98								
23												
24			**Mann-Kendall Test**									
25			Test Value (S)	-22								
26			Tabulated p-value	0.102								
27			Standard Deviation of S	16.39								
28			Standardized Value of S	-1.281								
29			Approximate p-value	0.1								
30												
31	**Insufficient evidence to identify a significant**											
32	**trend at the specified level of significance.**											



Mann-Kendall Trend Analysis

n	13
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	16.3911
Standardized Value of S	-1.2812
Test Value (S)	-22
Tabulated p-value	0.1020
Approximate p-value	0.1001

OLS Regression Line (Blue)

OLS Regression Slope	-8.5549
OLS Regression Intercept	317.6538

Insufficient statistical evidence of a significant trend at the specified level of significance.

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

July 13, 2016

DAIM-ODB-LO

Mr. Rich Mayer
US Environmental Protection Agency
Federal Facilities Section R6
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Draft Final 2016 Remedial Action Operation Report for Landfill 12 (LHAAP-12) at Longhorn Army Ammunition Plant, Karnack, Texas

Dear Mr. Mayer,

The above-referenced document is being transmitted to you for your records and includes revisions based upon your comments on the Draft. In accordance with the FFA, the Draft Final will be considered Final after 30 days without further comment.

The document was prepared by AECOM on behalf of the Army as part of AECOM's Performance Based Remediation contract for the facility. I ask that Elspeth Sharp, AECOM's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
A. Palmie, TCEQ, Austin, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
N. Smith, USAEC, San Antonio, TX
E. Sharp, AECOM – Austin, TX (for project files)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

July 13, 2016

DAIM-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Draft Final 2016 Remedial Action Operation Report for Landfill 12 (LHAAP-12) at Longhorn Army Ammunition Plant, Karnack, Texas

Dear Ms. Palmie,

The above-referenced document is being transmitted to you for your records and includes revisions based upon your comments on the Draft. In accordance with the FFA, the Draft Final will be considered Final after 30 days without further comment.

The document was prepared by AECOM on behalf of the Army as part of AECOM's Performance Based Remediation contract for the facility. I ask that Elspeth Sharp, AECOM's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
A. Palmie, TCEQ, Austin, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
N. Smith, USAEC, San Antonio, TX
E. Sharp, AECOM – Austin, TX (for project files)

Clarification of Responses to Comments on
Draft 2016 Remedial Action Operation Report, Landfill 12 (LHAAP-12)
Longhorn Army Ammunition Plant, Karnack, Texas

August 2017

Reviewer: Richard Mayer, EPA

Respondent: Elspeth Sharp, Robert Shoemaker, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
1		General	1,4-dioxane should be added as a site contaminant (and monitored) since it has been detected above the TCEQ TRRP PCL of 9.1 ug/L on two sampling events in monitoring well 12WW24.	E	Comment noted, but not applicable here by the terms of the dispute. The following clarification of Army's response was requested by TCEQ (July 25, 2017 email) and by EPA (verbally during the July 27, 2017 Managers' Meeting). LHAAP-12 has been in the RAO phase since September 2007 in accordance with the approved ROD and RD. In response to a decrease in the promulgated standard, Site 12 groundwater was sampled for 1,4-dioxane. Results were below the GW-Ind MSC, but above the GW-Res MSC. In accordance with DoD Policy Memorandum, 22 Aug 2016 "Revised Site Management Procedures – Update to DoD Manual 4715.20" on procedures for addressing emerging contaminants at DERP sites, the Army will continue to sample for 1,4-dioxane during 5 year reviews however, the ROD and remedy will not be amended until it is shown that the emerging contaminant presents an unacceptable risk. The current land use control plan, which prevents the use of groundwater at the site and the current land use of the site, indicates that the remedy remains protective, despite contamination levels of 1, 4-dioxane above MSC-res levels.	

From: Mayer, Richard <mayer.richard@epa.gov>
Sent: Thursday, August 10, 2017 4:44 PM
To: Shoemaker, Robert
Cc: Zeiler, Rose M CIV (US); April Palmie; Williams, Aaron K CIV USARMY CESWT (US); Smith, Nicholas B CIV USARMY IMCOM (US) (nicholas.b.smith56.civ@mail.mil); Sharp, Elspeth; Smith, Richard P CIV USARMY CESWF (US); Snow, JoLynn; Becher, Kent; Tzhone, Stephen; Harrison, Dorelle; Bruckwicki, Paul
Subject: FW: Clarification of Responses to EPA Comments on the LHAAP-12 Draft 2016 RAO Report
Attachments: LHAAP-12 Draft 2016 RAO Clarification of RTCs_EPA_080317.pdf

Bob, The clarification response is acceptable since the contamination is currently found in only one well and the site will be sampled for 1,4-dioxane to ensure that it is not migrating and that levels are not increasing. EPA also agrees that the remedy (MNA) is not affected by the presence of 1,4-dioxane in monitoring well 12WW24 at this time.

Sent: Thursday, August 03, 2017 3:25 PM
To: April Palmie <april.palmie@tceq.texas.gov>; Mayer, Richard <mayer.richard@epa.gov>
Cc: Williams, Aaron K CIV USARMY CESWT (US) <Aaron.K.Williams@usace.army.mil>; Zeiler, Rose M CIV USARMY HQDA ACSIM (US) (rose.m.zeiler.civ@mail.mil) <rose.m.zeiler.civ@mail.mil>; Smith, Nicholas B CIV USARMY IMCOM (US) (nicholas.b.smith56.civ@mail.mil) <nicholas.b.smith56.civ@mail.mil>; Smith, Richard P CIV USARMY CESWF (US) <Richard.P.Smith@usace.army.mil>; Sharp, Elspeth <elspeth.sharp@aecom.com>; Snow, JoLynn <JoLynn.Snow@aecom.com>
Subject: Clarification of Responses to EPA Comments on the LHAAP-12 Draft 2016 RAO Report

April and Rich,

Please see attached the Clarification of Responses to EPA Comments on the LHAAP-12 Draft 2016 RAO Report. The clarification is in response to the TCEQ email request on July 25, 2017 and the subsequent EPA verbal request during the Managers' Meeting on July 27, 2017. Thanks!

Bob

Robert Shoemaker
Project Manager, Texas Area, Gulf/Southwest Region
D +1-512-419-5576
M +1-774-242-9037
robert.shoemaker@aecom.com

AECOM
9400 Amberglen Boulevard
Austin, Texas 78729, USA
T +1-512-454-4797
F +1-512-454-8807
aecom.com

Built to deliver a better world

LinkedIn Twitter Facebook Instagram

DRAFT FINAL
2016 REMEDIAL ACTION OPERATION REPORT
LANDFILL 12 (LHAAP-12)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Prepared By:

AECOM Technical Services, Inc.

July 2017

DRAFT FINAL
2016 REMEDIAL ACTION OPERATION REPORT
LANDFILL 12 (LHAAP-12)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Tulsa District

Prepared By:

AECOM Technical Services, Inc.

Contract No. W912DY-09-D-0059

Task Order No. DS01

July 2017

Table of Contents

1 INTRODUCTION 1-1

1.1 Remedial Action Operation Scope and Objective 1-1

1.2 Site Description 1-1

2 OPERATIONS AND MAINTENANCE ACTIVITIES AT LHAAP-12 2-1

2.1 Physical Inspection Summary 2-1

2.2 Groundwater Monitoring and Analytical Results 2-2

3 CONCLUSIONS 3-1

4 REFERENCES 4-1

List of Figures

Figure 2-1: LHAAP-12 Groundwater Monitoring Well Locations Map

Figure 2-2: Groundwater Gradient Map 2015 and 2016

Figure 2-3: Trichloroethene, cis-1,2-Dichloroethene, and Vinyl Chloride Concentrations in 12WW24

Figure 2-4: Groundwater COC Concentrations Map 2016

List of Tables

Table 2-1: Groundwater Elevation Data – LHAAP-12

Table 2-2: Groundwater Analytical Results, Year 9 – LHAAP-12

Table 2-3: Historic TCE Concentrations (mg/L) at LHAAP-12 Monitoring Wells

List of Appendices

APPENDIX A: PHOTO LOG AND WELL INSPECTION FORMS

APPENDIX B: LUC INSPECTION AND MAINTENANCE LOG

APPENDIX C: MONITORING WELL SAMPLING FORMS

APPENDIX D: LABORATORY ANALYTICAL RESULTS

APPENDIX E: MANN-KENDALL STATISTICS FOR TREND IN 12WW24 FOR TCE

Acronyms and Abbreviations

µg/L	micrograms per liter
AECOM	AECOM Technical Services, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
CLNWR	Caddo Lake National Wildlife Refuge
COC	contaminant of concern
ft/ft	feet per foot
IRA	Interim Remedial Action
LHAAP	Longhorn Army Ammunition Plant
LHAAP-12	Landfill 12
LUC	Land Use Control
MCL	maximum contaminant level
MNA	Monitored Natural Attenuation
No.	Number
RA(O)	Remedial Action Operation
RD	Remedial Design
ROD	Record of Decision
TCE	Trichloroethene
U.S.	United States
VC	vinyl chloride
VOC	volatile organic compound
USFWS	United States Fish and Wildlife Services

1 INTRODUCTION

The United States (U.S.) Army Corps of Engineers, Tulsa District, contracted AECOM Technical Services, Inc. (AECOM), to perform remedial activities at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, under the Huntsville District's Worldwide Environmental Restoration Services Contract Number (No.) W912DY-09-D-0059, Task Order No. DS01. AECOM is performing operations and maintenance and monitoring activities at the closed Landfill 12 (LHAAP-12). A Final Record of Decision (ROD) was executed for LHAAP-12 in August 2006 (Shaw, 2006). Groundwater monitoring and site inspection activities at LHAAP-12 are ongoing as described in the Final Remedial Design (RD) Addendum (Shaw, 2007). LHAAP-12 was transferred to the United States Fish and Wildlife Services (USFWS) as part of the Caddo Lake National Wildlife Refuge (CLNWR) in 2014. This report summarizes the results of November/December 2016 groundwater sampling and the July 2016 landfill integrity inspections and repairs.

1.1 Remedial Action Operation Scope and Objective

Work completed in 2016 as part of the Remedial Action Operation (RA[O]) at LHAAP-12 consisted of the following components: physical inspections and repairs; groundwater monitoring; and concentration trend analysis. Physical inspections are conducted at a minimum annually to confirm compliance with Land Use Control (LUC) objectives, which consist of ensuring the integrity of the existing landfill cover, and ensuring no exposure of trichloroethene (TCE)-contaminated groundwater. Monthly groundwater levels have previously been measured at LHAAP-12 between October 2014 and November 2015 to assess optimum sampling dates to avoid dry wells. The objectives for groundwater monitoring at LHAAP-12 are to provide groundwater data to;

- Determine the effectiveness of natural attenuation in reducing contaminant concentrations over time,
- Evaluate plume migration to ensure that TCE-contaminated groundwater does not impact nearby surface water,
- Perform trend analysis of groundwater contaminants of concern (COCs): TCE, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC), and
- Perform a comparison of the COC concentration trends to their maximum contaminant levels (MCLs).

The remedy at LHAAP-12 is functioning as intended and all human risks are currently under control. This report summarizes the results of groundwater sampling and the landfill integrity inspections and repairs.

1.2 Site Description

LHAAP-12 was established in 1963, covers approximately seven acres, and is 500 feet southeast of Central Creek, which eventually drains into Caddo Lake. LHAAP-12 was used for the disposal of industrial solid wastes, possibly containing small quantities of hazardous constituents generated at LHAAP. From 1978 until its closure in April 1994, the landfill was used continuously for the disposal of non-hazardous industrial solid waste, including cafeteria waste,

chemical waste, petroleum-contaminated soil, and asbestos. The construction of a landfill cap over the site was completed in 1998 as part of an Interim Remedial Action (IRA). The IRA is consistent with U.S. Environmental Protection Agency presumptive remedy guidance. The final remedy for LHAAP-12 is protective of human health and the environment and consists of LUCs in conjunction with monitored natural attenuation (MNA). LUCs include those set in place by the ROD (Shaw, 2006) for landfill cap maintenance and restriction of groundwater use.

2 OPERATIONS AND MAINTENANCE ACTIVITIES AT LHAAP-12

Operation, maintenance and physical inspection activities at LHAAP-12 consist of:

- Maintenance of the integrity of the landfill cap and repairs to desiccation cracks, erosion, or gullying upon observance.
- Maintenance of the vegetative cover on the landfill cap, including periodic mowing.
- Maintenance of the signage around the landfill cap.
- Prohibition of any activities that would affect the integrity of the cap.
- Prohibition of any activities that would cause exposure to contaminated groundwater.

Inspections of the well field are conducted during the sampling event and the information recorded on well inspection forms (**Appendix A**). Maintenance or repairs are then conducted based on observed conditions.

Mowing the sampling area for brush and weeds is conducted on a routine basis and as needed to access the well field. Mowing activities are conducted more frequently during the warmer spring and summer months and less frequently during the colder fall and winter seasons.

The RD Addendum stipulated physical inspections to be conducted annually, although actual inspections are conducted more frequently with periodic drive-by oversight to ensure compliance with the above requirements and annual groundwater sampling to monitor the effectiveness of natural attenuation in reducing contaminant concentrations over time. The effectiveness of MNA was evaluated in the Years 1 and 2 reports (Shaw, 2011). Groundwater was included as a component of the remedy for LHAAP-12 identified in the ROD (Shaw, 2006).

2.1 Physical Inspection Summary

In February 2016, it was observed that the erosion areas at the southeast corner and on the east side of the sloped area of the landfill that were repaired on July 30, 2015 needed some additional repair; the erosion matting was still in place, but some of the new fill had eroded and vegetation had not become established. Additional fill and seeding were added to the two erosion areas on May 27, 2016.

Other than the erosion areas mentioned above, the vegetative cover was observed to be in good condition and well-maintained during routine mowing. No excessive cracking or desiccation cracks were observed.

The official 2016 physical inspection of the LHAAP-12 cap was completed on July 29, 2016 and the LUC Inspection and Maintenance Log is included in **Appendix B**. During the July 2016 inspection, the landfill appeared to be in good condition. The vegetation had become established at the two areas of erosion, no further erosion was evident, and signage remained in good condition. The two subsidence areas on the landfill cap that were repaired on July 30, 2015 were in good condition and no evidence of animal burrowing in the cap was found. No change in land or groundwater use was observed at the site and the use of the site is consistent with the LUCs mandated by the ROD (Shaw, 2006). No other significant issues were identified regarding the cap condition or maintenance, signs, or site use.

During the well inspections performed on December 1, 2016, a broken hinge was noted for well 12WW05. The hinge has not yet been repaired but will be as part of a forthcoming installation-wide well repair and maintenance effort. No other damage to bollards, pads, or protective casings was observed, and minimal encroachment of weeds or brush on the well pads was observed. Well-head locks continue to be in good condition. The well inspection forms and photos are provided in **Appendix A**.

2.2 Groundwater Monitoring and Analytical Results

As described by the Groundwater Sampling Plan included in the RD Addendum (Shaw, 2007), groundwater sampling of monitoring wells (12WW20, 12WW21, and 12WW24) and compliance monitoring wells (12WW22 and 12WW23), has been conducted annually beginning in the third year of the RA(O) (i.e., 2010). The purpose of the sampling was to develop data to support the effectiveness of natural attenuation in reducing contaminant concentrations over time, to evaluate plume migration, and to ensure that TCE-contaminated groundwater does not impact nearby surface water. The locations of these groundwater monitoring wells are shown in **Figure 2-1**. In the 2014 RA(O) report (AECOM, 2015), recommendations were made to reduce the frequency of sampling of monitoring well 12WW22 to once every five years and to eliminate collection of samples from monitoring well 12WW23. However due to oversight, these two wells were sampled during the November/December 2016 sampling event along with wells 12WW20, 12WW21, and 12WW24. All monitoring wells with the exception of well 12WW05 were in good condition and no evidence of turbidity or silt accumulation was identified. As mentioned in Section 2.1, well 12WW05 had a broken hinge.

Fifteen (15) consecutive groundwater level measurements for the eight (8) site wells (12WW01, 12WW02, 12WW05, and 12WW20 through 12WW24) were conducted between October 2014 and November 2015. The groundwater gauging on a monthly basis was conducted to determine if there was any variance in the groundwater flow direction due to seasonal changes. Groundwater trends from the gauging events are presented and discussed in the 2014 RA(O) report (AECOM, 2015) and the 2015 RA(O) report (AECOM, 2016).

The groundwater gauging data collected from the eight (8) site wells revealed groundwater elevations increasing since measurements began in October 2014 through June or July 2015 followed by subsequent and consistent decrease until November 2015. The monthly groundwater gradient maps in the 2014 RA(O) report (AECOM, 2015) and 2015 RA(O) report (AECOM, 2016) indicate that the groundwater flow is primarily interpreted to the east and northeast with occasional slight shift to the southeast. The shift in groundwater flow to the southeast is correlated with increases in groundwater elevation; flow is primarily to the east and northeast when the groundwater elevation is low but to the southeast when the groundwater elevation is high. When the monthly gauging began in October 2014, groundwater flow was to the east-northeast and this continued through December 2014. As groundwater elevations continued to rise, the flow shifted to the southeast starting in January 2015 and continuing through July 2015. From August 2015 through November 2015 the groundwater flow returned to the northeast as the groundwater elevations decreased.

Groundwater potentiometric surfaces from the December 18 and 19, 2015 sampling event (2015 RA(O)) and November 30/December 1, 2016 sampling event (2016 RA(O)) are presented in **Table 2-1** and depicted in **Figure 2-2.** Groundwater elevation was an average of 0.96 feet higher

in December 2016 than in December 2015. The groundwater flow direction was to the east in December 2015 with a hydraulic gradient of 0.0040 feet per foot (ft/ft). By December 2016 the flow direction had shifted to the east-northeast and had a relatively flat hydraulic gradient of 0.006 ft/ft.

Annual groundwater samples were collected on November 30, 2016 from 12WW24 and on December 1, 2016 from wells 12WW20, 12WW21, 12WW22, and 12WW23 and were analyzed for volatile organic compounds (VOCs) according to SW-846 Method 8260. Among the detected compounds in monitoring well 12WW24, only TCE exceeded its respective MCL of 5 micrograms per liter (µg/L). No VOCs were detected in monitoring wells 12WW20, 12WW21, 12WW22, and 12WW23. Analytical results for the samples are shown in **Table 2-2**. Historical TCE concentrations for LHAAP-12 wells are shown in **Table 2-3**.

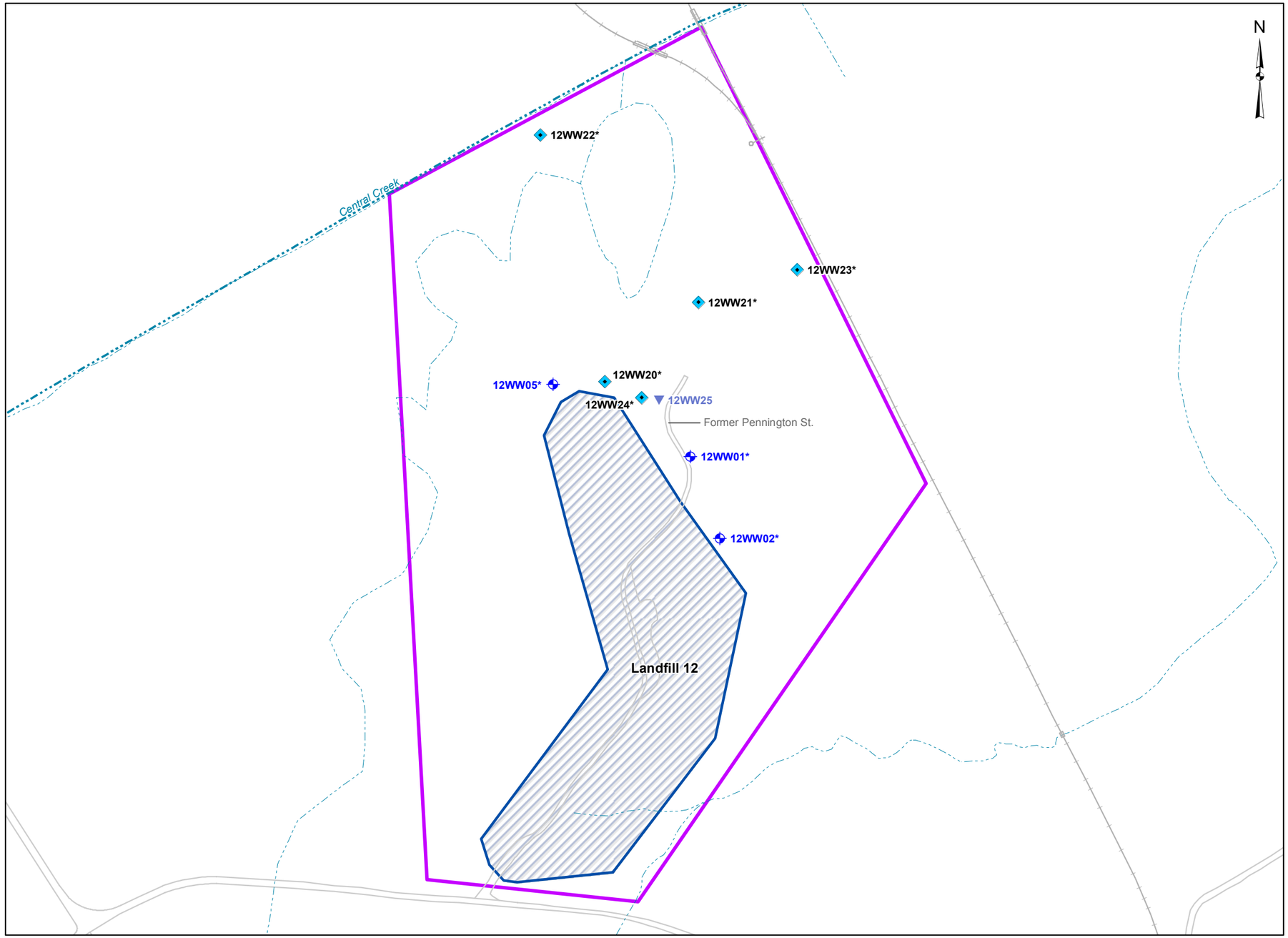
Groundwater samples were collected using the low-flow method following Standard Operating Procedure (AECOM, 2013) for wells 12WW20 through 12WW23. Monitoring well 12WW24 was bailed dry and sampled after recovery because of insufficient water in the well to support low-flow sampling. The objective of using low-flow sampling method is to collect representative samples of the groundwater in the formation adjacent to the well screen, eliminating the mixing of stagnant water above and below the well screen. After water quality parameters stabilized and were within acceptable ranges, samples were collected at the same low flow rate. Groundwater monitoring well sampling forms were completed for each monitoring well sampled and are included in **Appendix C**. Laboratory analytical results are included in **Appendix D**.

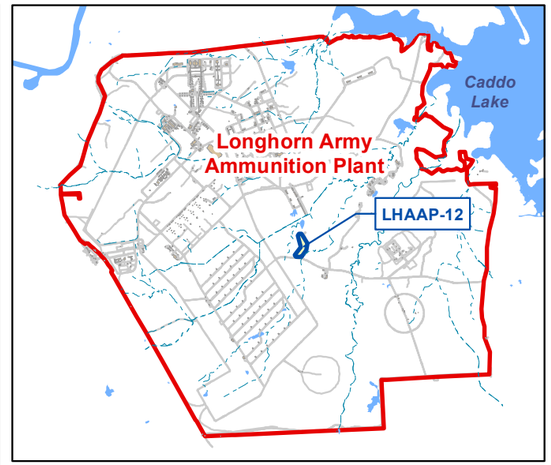
The MNA evaluation completed as part of the Five-Year Review (AECOM, 2014), concluded that TCE degradation was occurring via anaerobic reductive dechlorination. Although an increasing trend in TCE concentration was observed in well 12WW24 in December 2013 and January 2015, a decreasing trend has been observed over the past two sampling events, December 2015 and December 2016 (see **Figure 2-3** for 12WW24). TCE concentration trends appear to correlate with fluctuating water levels because samples collected when the water table is high tend to have lower TCE concentrations. The groundwater elevation presented on **Figure 2-3** indicates an inverse correlation with constituent concentrations (-49% for TCE, -58% for cis-1,2-DCE, and -44% for VC), although it should be noted that these correlations do not account for natural attenuation mechanisms. The presence of cis-1,2-DCE and VC indicates that degradation by anaerobic reductive dechlorination is occurring. However, the concentration trends for these degradation products mimic those of TCE, suggesting that dilution and dispersion is the dominant natural attenuation pathway. Groundwater COC concentrations for all wells can be found in **Table 2-3** and seen on **Figure 2-4**.

Statistical analysis of the concentration profile for TCE in 12WW24 using the Mann-Kendall trend test was completed using EPA ProUCL version 5.0.0. The results are shown in **Appendix E.** The Mann-Kendall trend test was first performed for the 2014 RA(O) report using data from the beginning of the monitoring program in December 2006 through June 2011 (AECOM, 2015), and indicated that a statistically significant decrease in TCE concentration in 12WW24 occurred through June 2011. A drought persisted between 2011 and 2012 and resulted in decreased groundwater levels and well 12WW24 going dry and not being sampled in 2012. However, after 12WW24 recovered from being dry, TCE concentrations increased during the December 2013 and January 2015 sampling events, before declining during the December 2015 and December

2016 sampling events. As a result, the current Mann-Kendall trend test in **Appendix E** does not show a statistically significant decreasing trend, despite water levels recovering and declining TCE concentrations in December 2015 and December 2016. An overall decreasing trend is apparent when looking at the regression line, but the current data set does not support a significantly decreasing trend at the 95% confidence level. Additional annual sampling is necessary until the next five year review when the trends will be evaluated for statistical significance. However, these results combined with the lack of detected VOCs in the downgradient wells provide evidence that the plume is stable and natural attenuation is occurring, resulting in an overall decrease in TCE concentration in groundwater over time. The presence of cis-1,2-DCE and VC in this well since December 2006 also indicates that biodegradation has been occurring.

The concentration profile for TCE in 12WW24 shown in **Figure 2-3** was used to calculate a first order decay rate. Two calculations have been made; the first for the dataset through June 2011 and the second for the dataset that includes all results through December 2016. The reason for the two calculations is because drought conditions evidenced by the dry well in December 2012 later manifested in an increase in TCE concentration in this well in the December 2013, and January 2015 sampling events. However, the water levels have been increasing since the well was dry in December 2012 and an overall decrease in TCE concentration has also been observed. The first order rate constant for the period through June 2011 was 6.2E-04 per day while the first order rate constant for the entire dataset was 2.7E-04 per day, an implied decrease of less than one order of magnitude. Based on these rate constants, the estimated durations to achieve the MCL for TCE in 12WW24 are 15 years using the rate constant for the dataset through June 2011 and approximately 43 years using the rate constant for the entire dataset. The drought conditions along with changes in seasonal sampling have constrained the trends observed.





Legend

- DPT Location (This was a DPT boring grab groundwater sample, no well was subsequently installed)
- Monitored Natural Attenuation Shallow Well
- Monitoring Well
- Former Railroad
- Stream (Continuous)
- Stream (Intermittent)
- Road Curb Line
- LHAAP-12 Site Boundary (Boundary of Landfill Cap)
- Landfill Cap Area
- Groundwater Restriction Area

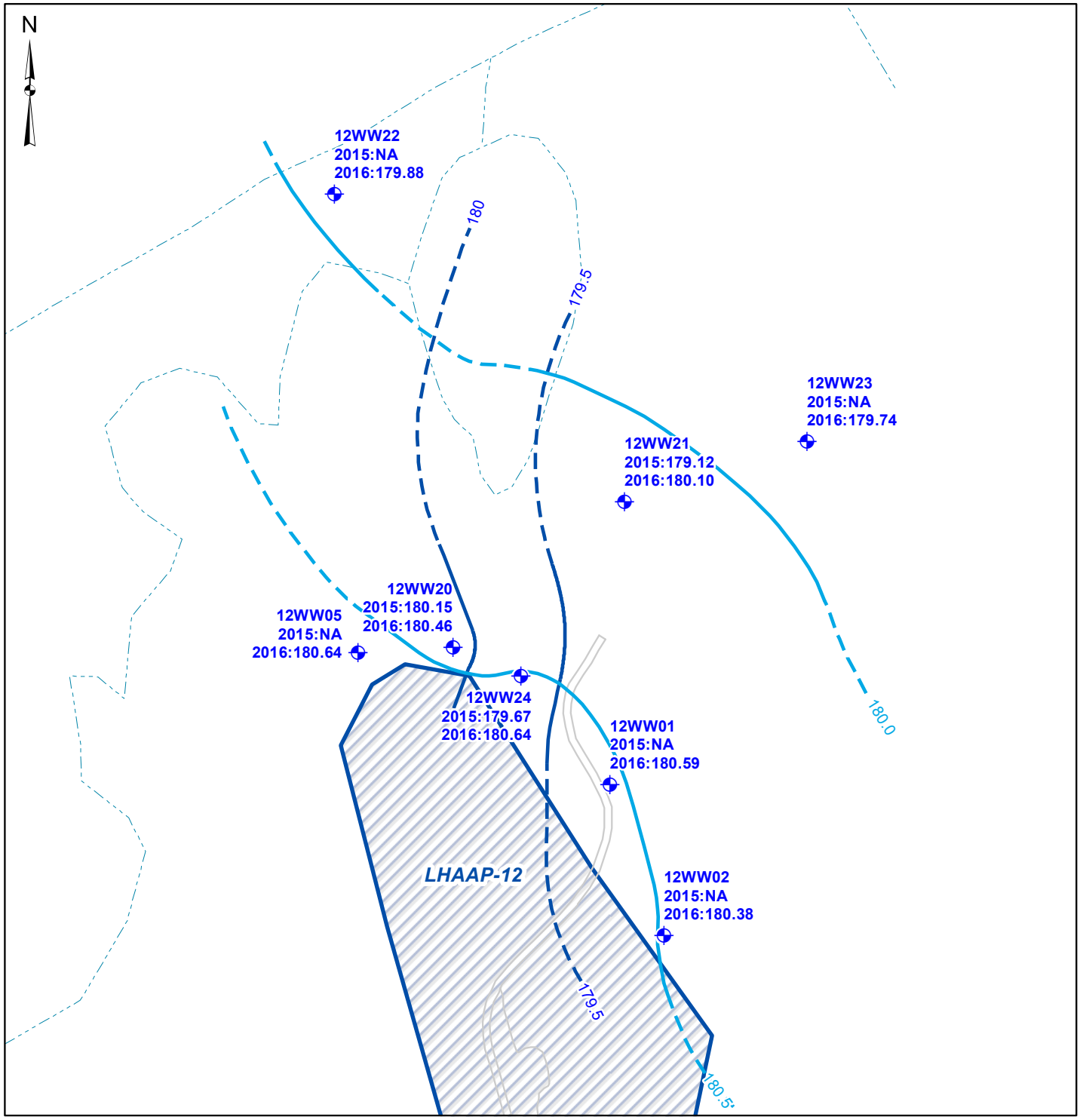
Note:
1 - Each well has 5' x 5' concrete surface monument surrounded bollards. Each piezometer has a PVC riser. Appropriate equipment and care used around these features.
2- *Gauged Monthly for Water Level for 12 months beginning October 2014

AECOM

Figure 2-1
Groundwater Monitoring Well Locations
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 July 2017

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-12\RAO\Army_Draft\2017_03\Figure 2-1 LHAAP-12 Groundwater MW Locationsv2.mxd



Legend

- Shallow Monitoring Well
- Stream
- 2015 Groundwater Gradient Contour (December 2015) Dashed Where Inferred
- 2016 Groundwater Gradient Contour (December 2016) Dashed Where Inferred
- LHAAP-12 Site Boundary (Boundary of Landfill Cap)
- Landfill Cap Area

AECOM

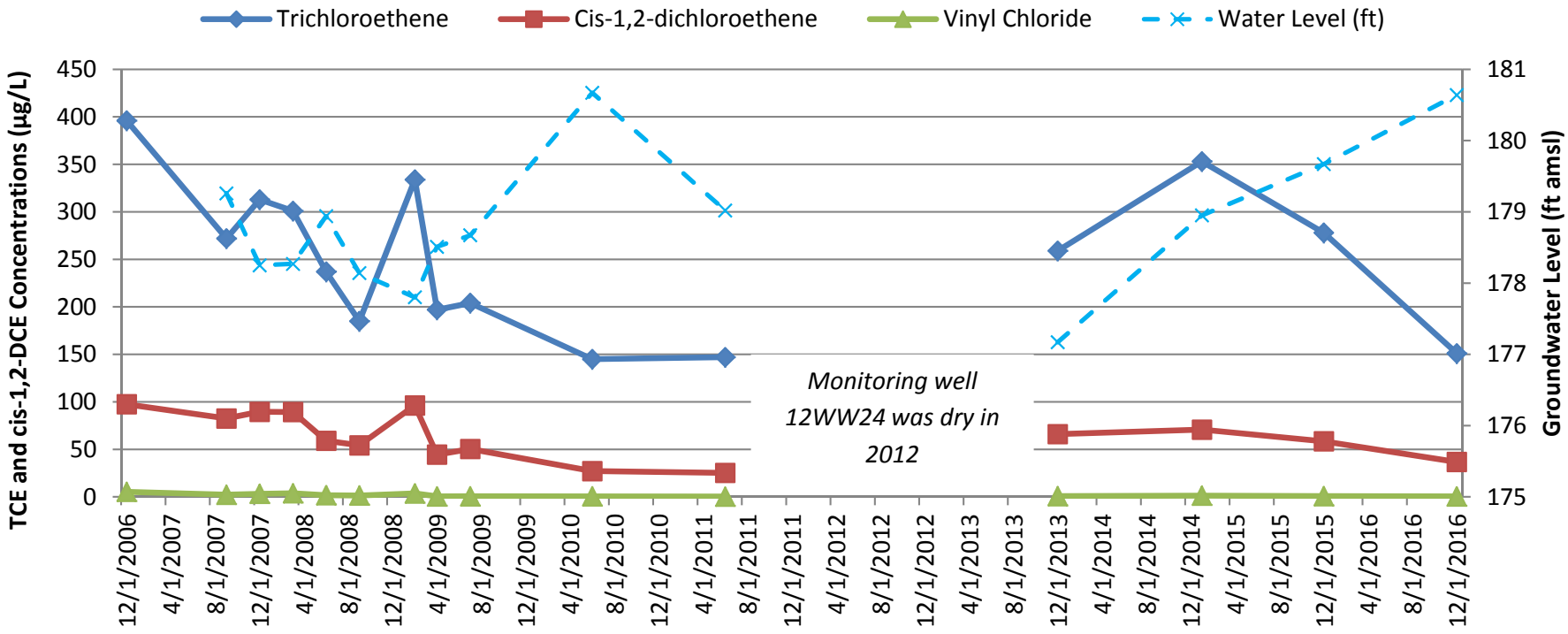
Figure 2-2
Groundwater Gradient Map
2015 and 2016
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135

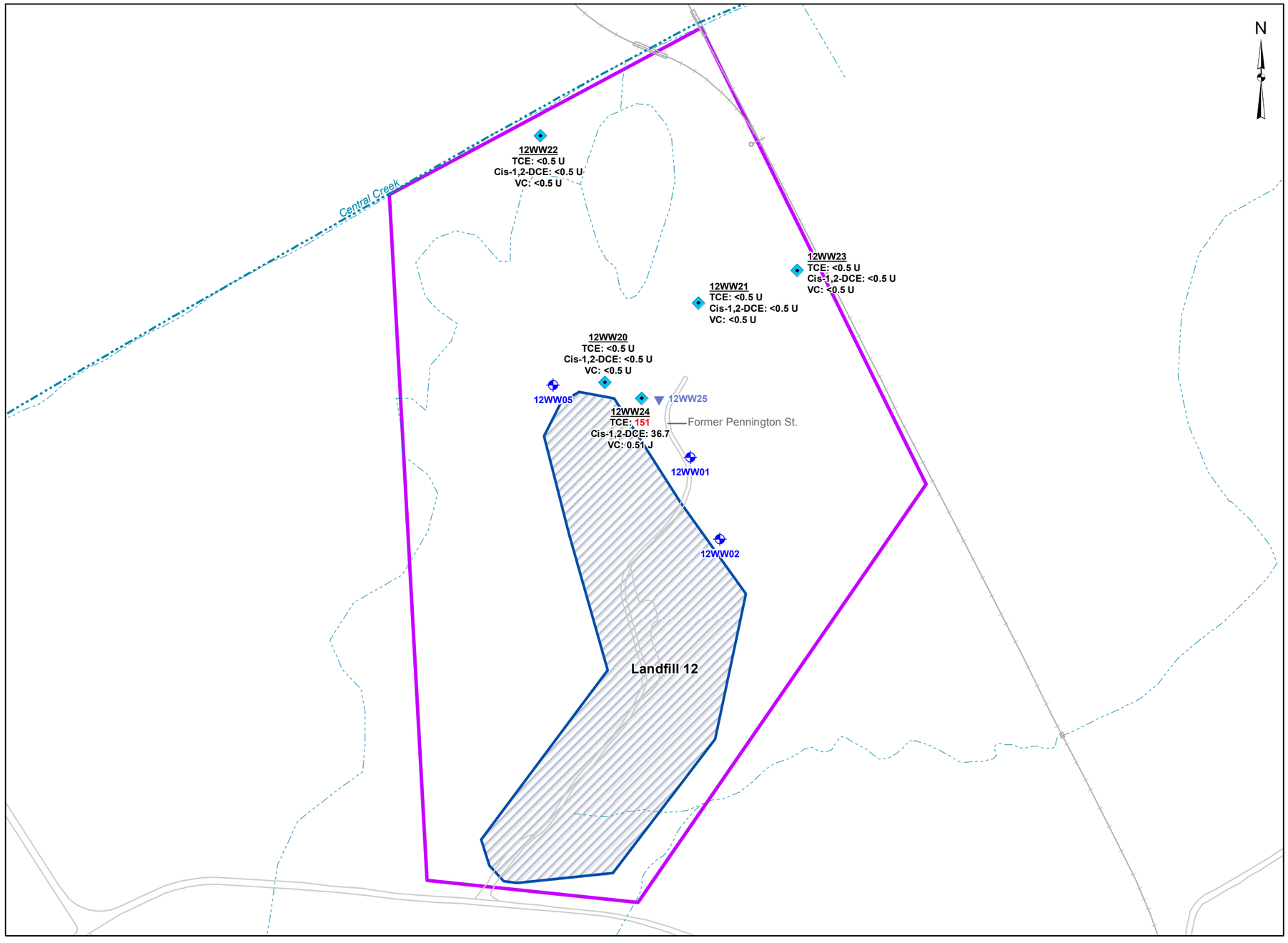
July 2017

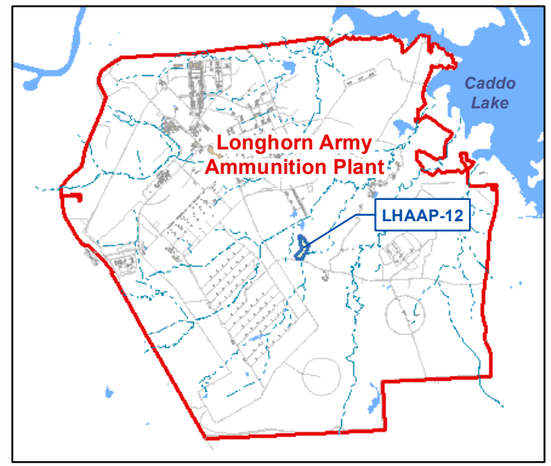
Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-12\RAO\Army_Draft\2017_03\Figure 2-2 LHAAP-12 GW Gradient Map 2015_2016.mxd

Figure 2-3
TCE, cis-1,2-DCE, and VC Concentrations in 12WW24
LHAAP-12



MCL: TCE = 5 ug/L; cis-1,2-DCE = 70 ug/L; VC = 2 ug/L





Legend

- DPT Location (This was a DPT boring grab groundwater sample, no well was subsequently installed)
- Monitored Natural Attenuation Shallow Well (Results in red exceeded the MCL)
- Monitoring Well
- Former Railroad
- Stream (Continuous)
- Stream (Intermittent)
- Road Curb Line
- LHAAP-12 Site Boundary (Boundary of Landfill Cap)
- Landfill Cap Area
- Groundwater Restriction Area

Notes:
1 - Each well has 5' x 5' concrete surface monument surrounded bollards. Each piezometer has a PVC riser. Appropriate equipment and care used around these features.
2 - Well 12WW22 will be sampled once every 5 years beginning the year 2014.
3. MCL for TCE = 5 µg/L.
Results are in micrograms per liter (µg/L)
J - Estimated Value
U - Undetected
TCE - Trichloroethene
cis-1,2-DCE - cis-1,2-dichloroethene
VC - Vinyl Chloride
MCL - EPA Maximum Contaminant Level
151 - Concentration exceeded the MCL

AECOM

Figure 2-4
Groundwater COC Concentrations Map 2016
LHAAP-12
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 July 2017

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-12\RAO\Army_Draft\2017_03\Figure 2-4 LHAAP-12 Groundwater COC Concentrationsv2.mxd

Table 2-1: Groundwater Elevation Data – LHAAP-12

Well ID	Sampling Date	Top of Casing Elevation (ft)	Depth to Water from TOC (ft)	Groundwater Elevation (ft AMSL)	Total Depth BGS (ft)	Screen Interval BGS (ft)
12WW01	12/1/2016*	204.19	23.60	180.59	26.50	14.50-26.50
12WW02	12/1/2016*	202.45	22.07	180.38	28.50	13.50-28.50
12WW05	12/1/2016*	190.52	9.88	180.64	38.00	15.50-35.50
12WW20	6/15/2010	199.15	17.98	181.17	38.85	28.85-38.85
	6/7/2011	199.15	19.78	179.37		
	12/3/2012	199.15	22.03	177.12		
	1/8/2014	199.15	20.71	178.44		
	1/9/2015	199.15	19.34	179.81		
	12/19/2015	199.15	19.00	180.15		
	12/1/2016	199.15	18.69	180.46		
12WW21	6/15/2010	202.07	21.85	180.22	41.70	31.70-41.70
	6/7/2011	202.07	23.35	178.72		
	12/3/2012	202.07	24.21	177.86		
	1/8/2014	202.07	24.56	177.51		
	1/9/2015	202.07	24.35	177.72		
	12/19/2015	202.07	22.95	179.12		
	12/1/2016	202.07	21.97	180.10		
12WW22	6/15/2010	190.20	7.93	182.27	38.36	28.36-38.36
	6/7/2011	190.20	9.72	180.48		
	12/3/2012	190.20	13.46	176.74		
	1/8/2014	190.20	10.57	179.63		
	1/9/2015	190.20	9.60	180.60		
	12/1/2016	190.20	10.32	179.88		
12WW23	6/16/2010	196.97	18.28	178.69	25.14	15.14-25.14
	6/7/2011	196.97	19.40	177.57		
	12/3/2012	196.97	20.38	176.59		
	1/8/2014	196.97	20.80	176.17		
	1/9/2015	196.97	19.34	177.63		
	12/1/2016	196.97	17.23	179.74		
12WW24	6/16/2010	203.17	22.50	180.67	26.00	15.50-25.50
	6/7/2011	203.17	24.15	179.02		
	12/3/2012	203.17	Dry	Dry		
	12/9/2013	203.17	26.00	177.17		
	1/9/2015	203.17	24.22	178.95		
	12/18/2015	203.17	23.50	179.67		
	11/30/2016	203.17	22.53	180.64		

* This well was not sampled; the date presented is the date of the water level measurement.

Table 2-2: Groundwater Analytical Results, Year 9 - LHAAP-12

Sample ID: Sample Date:	Units	MCL/ PCL	12WW20-120116 12/1/2016	12WW21-120116 12/1/2016	12WW21FD-120116 12/1/2016	12WW22-120116 12/1/2016	12WW23-120116 12/1/2016	12WW24-120116 12/1/2016
Volatile Organic Compounds (8260B)								
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.269 J
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	<1 U	0.818 J
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	1.65
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.346 J
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 UJ	<1 UJ	<1 UJ	<1 UJ	<1 UJ	<1 UJ
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	2.92
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Analytical Results, Year 9 - LHAAP-12

Sample ID: / Sample Date:	Units	MCL/ PCL	12WW20-120116 12/1/2016	12WW21-120116 12/1/2016	12WW21FD-120116 12/1/2016	12WW22-120116 12/1/2016	12WW23-120116 12/1/2016	12WW24-120116 12/1/2016
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	36.7
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.252 J	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.661 J	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.668 J
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	151
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.51 J

Blue highlighting indicates concentrations above the MCL/PCL

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 2-3: Historic TCE Concentrations (μg/L) at LHAAP-12 Monitoring Wells

Sampling Date	Monitoring Wells					
	12WW20	12WW21	12WW22	12WW23	12WW24	*12WW25(30)
Dec 2006	0.713	ND(1)	ND(1)	ND(1)	404	--
Sept 2007	1.34	ND(1)	ND(1)	ND(1)	272	--
Dec 2007	1.19	ND(1)	ND(1)	ND(1)	313	--
Mar 2008	0.999J	ND(0.25)	ND(0.25)	ND(0.25)	301	--
Jun 2008	1.04	ND(0.25)	ND(0.25)	ND(0.25)	237	--
Sept 2008	0.985	ND(0.25)	ND(0.25)	ND(0.25)	185	--
Feb 2009	1.18	ND(0.25)	ND(0.25)	ND(0.25)	334	--
Apr 2009	0.997	ND(0.25)	ND(0.25)	ND(0.25)	197	--
Jul 2009	0.931	ND(0.25)	ND(0.25)	ND(0.25)	204	--
Jun 2010	0.353J	ND(0.25)	ND(0.25)	ND(0.25)	145	--
Jun 2011	0.263J	ND(0.25)	ND(0.25)	ND(0.25)	147	--
Dec 2012	0.5J	0.582J	ND(0.5)	ND(0.5)	Dry Well	--
Jan 2014	5.0	0.721J	ND(0.5)	ND(0.5)	**259	--
Aug 2014	NS	NS	NS	NS	NS	0.317J
Jan 2015	0.293J	ND(0.25)	ND(0.25)	ND(0.25)	353	--
Dec 2015	ND(0.5)	ND(0.5)	NS	NS	278	--
Dec 2016	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	151	--

Notes:

*	This was a DPT boring grab groundwater sample, no well was subsequently installed.
**	Analyte was diluted 5X
J	estimated result
ND	not detected; values within parentheses denote detection limits
NS	not sampled
DPT	direct push test
μg/L	micrograms per liter

3 CONCLUSIONS

Physical inspections and groundwater monitoring continue to be completed at LHAAP-12 in compliance with the ROD for LHAAP-12 (Shaw, 2006). A broken hinge was reported for well 12WW05 during the December 2016 well inspections, which will be repaired as part of a forthcoming installation-wide well repair and maintenance effort. No other damage to bollards, pads, or protective casings was observed, and limited encroachment of weeds or brush on the well pads was observed. No change in land or groundwater use has occurred at the site. Landfill observations in February 2016 identified additional needed repair to the two areas of erosion on the southeast corner and east side of the sloped area of the landfill cap. Additional repair was done to these erosion areas on May 27, 2016. No additional issues were identified during the official 2016 physical inspection of the LHAAP-12 cap completed on July 29, 2016. LUCs were verified, and the use of the site is still consistent with that mandated by the ROD.

In accordance with the Groundwater Sampling Plan, found in Appendix A of the RD Addendum for LHAAP-12 (Shaw, 2007), annual sampling of wells will continue until the next Five-Year Review. Results for Year 9 are documented in this report.

Monitoring well 12WW24 was sampled on November 30, 2016 for VOCs. TCE was detected above its MCL of 5 µg/L at 151 µg/L. This was a decrease from the December 2015 TCE concentration of 278 µg/L. None of the other detected compounds exceeded their respective MCLs. TCE concentrations in 12WW24 showed a statistically significant decreasing trend between 2006 and 2011 with a subsequent increase between December 2013 and January 2015. TCE data from the past two sampling events (December 2015 and November 2016) show a decreasing trend since January 2015.

When compared to VOC concentrations, the groundwater elevation data (**Figure 2-3**) exhibits an inverse correlation with VOC concentrations in 12WW24. The increase in TCE in the December 2013 and January 2015 sampling events in 12WW24 is thought to be associated with low water levels and sampling during drought conditions, as these were the first samples collected since the well was dry due to drought conditions in 2012. Water levels have continued to increase since the drought, and the TCE concentration from the November 30, 2016 sampling has decreased back to pre-drought concentrations.

Monitoring wells 12WW20, 12WW21, 12WW22, and 12WW23 were sampled on December 1, 2016 for VOCs. No VOCs were detected in these four monitoring wells.

The results of the monthly groundwater gauging between April 2015 and November 2015 and summarized in the 2015 RA(O) report (AECOM, 2016) indicate that 12WW22, which was changed into a 5-year sampling cycle, could be considered a downgradient well during the late summer and fall months of a wet year (2015) in addition to being the well that monitors impacts to surface water (i.e., Central Creek). Sampled well 12WW20, which is an upgradient well to 12WW22, is unimpacted. Considering that well 12WW22 has always been unimpacted and based on its great distance from the landfill, the 5-year frequency of sampling of well 12WW22 remains adequate for this well. Similarly, even though the groundwater flow direction changed between the spring season and the summer/fall seasons of 2015, monitoring well 12WW23 remains downgradient and farther from the landfill than 12WW21, which remains unimpacted. Therefore, the recommendation made in the 2014 RA(O) report to cease sampling monitoring

well 12WW23 remains intact. However, wells 12WW22 and 12WW23 will continue to be included in well gauging events.

Between December 2015 and December 2016 a shift in the direction of groundwater flow from easterly to east-northeasterly was observed. The shift in groundwater flow direction did not change the recommendation to discontinue sampling well 12WW23 and to reduce the sampling frequency of well 12WW22 to once every five years. However, due to oversight, these wells were sampled in 2016.

4 REFERENCES

AECOM, 2013, *Standard Operating Procedures, Groundwater Sampling Procedures*, Longhorn Army Ammunition Plant, Karnack, Texas, June.

AECOM, 2014, *Final 2013 Five-Year Review Report,* Longhorn Army Ammunition Plant, Karnack, Texas, May.

AECOM, 2015, *Draft Final 2014 Remedial Action Operation Report,* Longhorn Army Ammunition Plant, Karnack, Texas, May.

AECOM, 2016, *Draft Final 2015 Remedial Action Operation Report,* Longhorn Army Ammunition Plant, Karnack, Texas, May.

Shaw, 2006, *Final Record of Decision, Landfill 12 (LHAAP-12)*, Longhorn Army Ammunition Plant, Karnack, Texas, August.

Shaw, 2007, *Final Remedial Design Addendum Landfill 12 (LHAAP-12),* Longhorn Army Ammunition Plant, Karnack, Texas, June.

Shaw, 2011, *Draft Annual Remedial Action Operation Report, Years 1 and 2, Landfill 12 (LHAAP-12),* Longhorn Army Ammunition Plant, Karnack, Texas, June.

APPENDIX A: PHOTO LOG AND WELL INSPECTION FORMS

Signage along site in good condition. Vegetative cover has returned after repairs and re-seeding at Erosion Area #2 in 2015.	
Signage along site in good condition. Vegetative cover has returned after repairs and re-seeding at Erosion Area #1 in 2015.	

Signage along site in good condition.	
Signage along site in good condition.	

Vegetative cover has returned after repairs and re-seeding at Subsided Cap Area #1 in 2015. (Photo taken after the July 2016 LUC Inspection)	
Vegetative cover has returned after repairs and re-seeding at Subsided Cap Area #2 in 2015. (Photo taken after the July 2016 LUC Inspection)	

Well ID: 12WW01	
Well ID: 12WW02	

Well ID: 12WW05	
Well ID: 12WW20	

Well ID: 12WW21	
Well ID: 12WW22	

Well ID: 12WW23	
Well ID: 12WW24	

00747415

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12

Well ID: 12WW01
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 30.00
Inspector: Scott Beesing GWR

☒ ABOVE GROUND

Well Accessible?				☒ Yes	☐ No
Protective casing?				☒ Yes	☐ No
Material	Steel				
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Need Paint	
Lid Condition:	☒ Good	☐ Broken	☒ Cracked		
Hinge Condition:	☒ Good	☐ Less than 50% rusted	☐ More than 50% rusted		

☐ FLUSH MOUNTED

Well cover present?	NA			☐ Yes	☐ No
Condition:	☐ Good	☐ Broken	☐ Cracked		
Condition of Sump:	☐ Clean	☐ Dry	☐ Standing Water		

CONCRETE PAD:

Sloped away from casing?				☒ Yes	☐ No
Pad Area Cleared of Vegetation?				☒ Yes	☐ No
Check any of the following features that apply:					
☐ Many Cracks	☐ Gap Around Casing	☐ Few Cracks	☐ Ponded Water	☐ No Pad Present	

WELL CONDITION:

Inner Diameter (inches)	4"				
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Other (describe)	
Cap present?				☒ Yes	☐ No
Well lock present?				☒ Yes	☐ No
Lock functioning properly?				☒ Yes	☐ No
Are bollards present and stable?				☒ Yes	☐ No
Well ID visible?				☒ Yes	☐ No

WELL INTEGRITY:

Bailer present?	☐ Yes	☒ No
Visual obstruction?	☐ Yes	☒ No
Is well open to completed depth? (complete when gauging)	☒ Yes	☐ No
Is silt present in well? (complete when gauging)	☐ Yes	☒ No
Is silt greater than 10% of well screen length? (complete when gauging)	☐ Yes	☒ No

COMMENTS:

00747416

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12

Well ID: 12WW02
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 31.75
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible?				☒ Yes	☐ No
Protective casing?				☒ Yes	☐ No
Material: Steel					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Need Paint	
Lid Condition:	☒ Good	☐ Broken	☐ Cracked		
Hinge Condition:	☒ Good	☐ Less than 50% rusted	☐ More than 50% rusted		

☐ FLUSH MOUNTED

Well cover present? NA				☐ Yes	☐ No
Condition:	☐ Good	☐ Broken	☐ Cracked		
Condition of Sump:	☐ Clean	☐ Dry	☐ Standing Water		

CONCRETE PAD:

Sloped away from casing?				☒ Yes	☐ No
Pad Area Cleared of Vegetation?				☒ Yes	☐ No
Check any of the following features that apply:					
☐ Many Cracks	☐ Gap Around Casing	☐ Few Cracks	☐ Ponded Water	☐ No Pad Present	

WELL CONDITION:

Inner Diameter (inches): 4"					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Other (describe)	
Cap present?				☒ Yes	☐ No
Well lock present?				☒ Yes	☐ No
Lock functioning properly?				☒ Yes	☐ No
Are bollards present and stable?				☒ Yes	☐ No
Well ID visible?				☒ Yes	☐ No

WELL INTEGRITY:

Bailer present?	☐ Yes	☒ No
Visual obstruction?	☐ Yes	☒ No
Is well open to completed depth? (complete when gauging)	☒ Yes	☐ No
Is silt present in well? (complete when gauging)	☐ Yes	☒ No
Is silt greater than 10% of well screen length? (complete when gauging)	☐ Yes	☒ No

COMMENTS:

00747417

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12

Well ID: RWW05
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 38.65
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Steel
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted Broken Hinge

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12

Well ID: 12WW20
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 39.28
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Steel
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

00747419

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12
Well ID: 12WW21
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 41.79
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Steal
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

00747420

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12
Well ID: 12WW22
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 38.75
Inspector: Scott Beesinger

☐ **ABOVE GROUND**

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: Steel
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☒ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ **FLUSH MOUNTED** NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

00747421

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12

Well ID: 12MW23
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 25.46
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible?					☒ Yes ☐ No
Protective casing?					☒ Yes ☐ No
Material: STEEL					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Need Paint	
Lid Condition:	☒ Good	☐ Broken	☒ Cracked		
Hinge Condition:	☒ Good	☐ Less than 50% rusted	☐ More than 50% rusted		

☐ FLUSH MOUNTED NA

Well cover present?				☐ Yes ☐ No
Condition:	☐ Good	☐ Broken	☐ Cracked	
Condition of Sump:	☐ Clean	☐ Dry	☐ Standing Water	

CONCRETE PAD:

Sloped away from casing?	☒ Yes ☐ No
Pad Area Cleared of Vegetation?	☒ Yes ☐ No

Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"

Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Other (describe)	
Cap present?					☒ Yes ☐ No
Well lock present?					☒ Yes ☐ No
Lock functioning properly?					☒ Yes ☐ No
Are bollards present and stable?					☒ Yes ☐ No
Well ID visible?					☒ Yes ☐ No

WELL INTEGRITY:

Bailer present?	☐ Yes ☒ No
Visual obstruction?	☐ Yes ☒ No
Is well open to completed depth? (complete when gauging)	☒ Yes ☐ No
Is silt present in well? (complete when gauging)	☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging)	☐ Yes ☒ No

COMMENTS:

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 60256135.0005AA
Client: Army
Site Name: Site 12

Well ID: 12MW24
Inspection Date: 12/1/16
Well Completion Depth/ Measured Depth: 28.28
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible?				☒ Yes	☐ No
Protective casing?				☒ Yes	☐ No
Material: STEEL					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Need Paint	
Lid Condition:	☒ Good	☐ Broken	☒ Cracked		
Hinge Condition:	☒ Good	☐ Less than 50% rusted	☐ More than 50% rusted		

☐ FLUSH MOUNTED NA

Well cover present?				☐ Yes	☐ No
Condition:	☐ Good	☐ Broken	☐ Cracked		
Condition of Sump:	☐ Clean	☐ Dry	☐ Standing Water		

CONCRETE PAD:

Sloped away from casing?				☒ Yes	☐ No
Pad Area Cleared of Vegetation?				☒ Yes	☐ No
Check any of the following features that apply:					
☐ Many Cracks	☐ Gap Around Casing	☐ Few Cracks	☐ Ponded Water	☐ No Pad Present	

WELL CONDITION:

Inner Diameter (inches): 4"					
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Other (describe)	
Cap present?				☒ Yes	☐ No
Well lock present?				☒ Yes	☐ No
Lock functioning properly?				☒ Yes	☐ No
Are bollards present and stable?				☒ Yes	☐ No
Well ID visible?				☒ Yes	☐ No

WELL INTEGRITY:

Bailer present?	☐ Yes	☒ No
Visual obstruction?	☐ Yes	☒ No
Is well open to completed depth? (complete when gauging)	☒ Yes	☐ No
Is silt present in well? (complete when gauging)	☐ Yes	☒ No
Is silt greater than 10% of well screen length? (complete when gauging)	☐ Yes	☒ No

COMMENTS:

APPENDIX B: LUC INSPECTION AND MAINTENANCE LOG

LUC Inspection and Maintenance Log - LHAAP 12

Date	Inspected by:	Inspection / MaintenanceActivitiesYearly, at a minimum					Corrective action or repairs required?	Repairs / Action Taken
		Protect Landfill Integrity				Prevent Human Exposure to Groundwater		
		Vegetative Cover maintained: i.e. grass mowed at least annually	Fence and signage maintained	Observance of landfill cover degradation -e.g. desiccation cracks, erosion, or gullying	Continued compliance verified for no digging or disturbance of landfill cover or contents	Verified no withdrawal of use of groundwater (other than environmental testing)		
7/29/2016	Beesinger, S.	Maintained. Vegetative cover is in good condition.	Fence and signage in good repair.	Cover observed and found to be in good condition. Areas of erosion and subsidence repaired in 2015 in good condition. No erosion, cracks, degradation or gullying were found.	No evidence of animal burrowing in the cap.	Completed and verified.	None	None

APPENDIX C: MONITORING WELL SAMPLING FORMS

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12WW01		Date: 12/1/16	
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA		Recorded By: Scott Beesinger	Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe:	Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD	
	Unit # 21168	Sampling Equipment:	Bladder Pump ID#:		
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 23.60		Weather Conditions: CLEAR	
	Total Well Depth (ft) from TOC: 30.00	Screen Interval (ft) from TOC: 18.00 - 30.00		Condition of Well/Remarks: GOOD	
		Pump Placement (ft) from TOC: NA			

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)

WATER LEVEL ONLY

NO SAMPLES REQUIRED

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO						
MATRIX SPIKE (MS): YES/NO						
MATRIX DUPLICATE (MD): YES/NO						
CO= LEL= OXY= H2S=						

00747427
Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12WW02		Date: 12/1/16	
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA		Recorded By: Scott Beesinger	Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe:	Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD	
	Unit # 21168	Sampling Equipment:	Bladder Pump ID#:		
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.07		Weather Conditions: CLEAR	
	Total Well Depth (ft) from TOC: 31.71	Screen Interval (ft) from TOC: 16.75 - 31.75		Condition of Well/Remarks: GOOD	
		Pump Placement (ft) from TOC: NA			

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
			WATER LEVEL ONLY							
			NO SAMPLES REQUIRED							

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO						
MATRIX SPIKE (MS): YES/NO						
MATRIX DUPLICATE (MD): YES/NO						
CO= LEL= OXY= H2S=						

00747428
Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12WW05	Date: 12/1/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21168	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4 in	Static Water Level Reading (ft) from TOC: 9.88	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 38.62	Screen Interval (ft) from TOC: 18.65 - 38.65	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
			WATER			Level		Only		
			NO	SAMPLES			REQUIRED			

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO						
MATRIX SPIKE (MS): YES/NO						
MATRIX DUPLICATE (MD): YES/NO						
CO= LEL= OXY= H2S=						

00747429
Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12WW20	Date: 12/1/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21168	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 18.69	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 39.28	Screen Intverval (ft) from TOC: 29.30 - 39.30	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 34.30	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
12/1/16	1015	18.71	100	18.98	5.55	1.50	1.72	76.0	56	
	1020	18.77	100	20.01	5.17	1.46	0.77	61.1	89	
	1025	18.83	100	20.26	5.00	1.46	0.66	36.2	92	
	1030	18.88	100	20.35	5.06	1.45	0.63	17.6	98	
	1035	18.92	100	20.44	5.05	1.44	0.55	5.6	97	
	1040	18.94	100	20.49	5.03	1.44	0.54	0.5	99	
	1045	18.95	100	20.53	5.03	1.44	0.54	0.0	100	
	1050	18.96	100	20.57	5.02	1.44	0.54	0.0	101	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU Ideal), for 4 consecutive readings

SAMPLE ID: 12WW20-120116 TIME: 1050

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO YES
MATRIX DUPLICATE (MD): YES/NO YES

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
9 - 40 mL GLASS	HCL	N	Pump	VOC

00747430
Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12		LocID: 12WW21		Date: 12/1/16
	Project: Longhorn Army Ammunition Plant		Project No. 60256135.0005AA		Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52		Water Interface Probe: Water Level Indicator: Solinst ID#: 101		Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21168		Sampling Equipment: Bladder Pump ID#:		
WELL INFO	Casing I.D. (in): 4"		Static Water Level Reading (ft) from TOC: 21.97		Weather Conditions: CLEAR / COLD
	Total Well Depth (ft) from TOC: 41.79		Screen Intverval (ft) from TOC: 31.80 - 41.80		Condition of Well/Remarks: GOOD
			Pump Placement (ft) from TOC: 36.80		

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
12/1/16	0915	21.99	100	15.30	5.70	5.01	1.84	2.4	26	
	0920	22.05	100	16.30	5.28	5.14	1.11	7.5	67	
	0925	22.10	100	16.56	5.12	5.01	0.87	0.0	86	
	0930	22.15	100	16.76	5.00	4.85	0.65	0.0	105	
	0935	22.18	100	16.78	4.96	4.68	0.64	0.0	110	
	0940	22.20	100	16.82	4.92	4.66	0.63	0.0	111	
	0945	22.22	100	16.85	4.91	4.66	0.62	0.0	112	
	0950	22.23	100	16.88	4.91	4.65	0.61	0.0	113	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW21-120116 TIME: 0950

DUPLICATE (D): YES/NO yes
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
6 - 40 ml GLASS	HCL	N	Pump	VOC

00747431

Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12WW22	Date: 12/1/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21168	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 10.32	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 38.72	Screen Intverval (ft) from TOC: 28.75 - 38.75	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 33.75	

CASING INFO												
Casing I.D. (in):	**0.75**	1.5	**2.0**	2.2	3.0	**4.0**	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	**0.023**	0.09	**0.16**	0.20	0.37	**0.65**	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
12/1/16	1310	10.54	100	21.07	7.03	1.14	1.75	0.0	-148	
	1315	10.40	100	20.11	7.14	1.24	0.96	0.0	-171	
	1320	10.46	100	19.72	7.09	1.26	0.78	0.0	-166	
	1325	10.50	100	19.28	6.96	1.26	0.65	0.0	-146	
	1330	10.52	100	19.10	6.75	1.26	0.51	0.0	-132	
	1335	10.53	100	19.04	6.75	1.26	0.50	0.0	-130	
	1340	10.53	100	19.00	6.74	1.26	0.49	0.0	-129	
↓	1345	10.53	100	18.98	6.73	1.26	0.48	0.0	-128	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU Ideal), for 4 consecutive readings

SAMPLE ID: 12WW22-120116 TIME: 1345

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3- 40 mL GLASS	HCL	N	Pump	VOC

00747432
Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12		LocID: 12WW23		Date: 12/1/16
	Project: Longhorn Army Ammunition Plant		Project No. 60256135.0005AA		Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52		Water Interface Probe: Water Level Indicator: Solinst ID#: 101		Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21168		Sampling Equipment: Bladder Pump ID#:		
WELL INFO	Casing I.D. (in): 4"		Static Water Level Reading (ft) from TOC: 17.23		Weather Conditions: CLEAR / COLD
	Total Well Depth (ft) from TOC: 25.46		Screen Intverval (ft) from TOC: 15.45 - 25.45		Condition of Well/Remarks: GOOD
			Pump Placement (ft) from TOC: 20.45		

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
12/1/16	0810	17.25	100	15.25	5.88	0.505	2.08	71.2	-12	
	0815	17.33	100	16.55	5.44	0.477	1.23	76.7	7	
	0820	17.39	100	17.00	5.30	0.470	1.02	72.3	15	
	0825	17.45	100	17.30	5.22	0.469	0.77	50.9	19	
	0830	17.48	100	17.35	5.19	0.468	0.75	48.1	20	
	0835	17.50	100	17.38	5.18	0.468	0.74	47.5	20	
	0840	17.51	100	17.40	5.17	0.469	0.73	47.0	19	
	0845	17.52	100	17.42	5.17	0.470	0.72	46.7	18	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW23-120116 TIME: 0845

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3- 40 mL GLASS	HCL	N	Pump	VOC

00747433
Page 1 of ___

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 12	LocID: 12WW24		Date: 11/30/16	
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0005AA		Recorded By: Scott Beesinger	Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe:	Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD	
	Unit #	Sampling Equipment: ~~Bladder Pump~~ Bailer	ID#:		
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.53		Weather Conditions: CLEAR	
	Total Well Depth (ft) from TOC: 28.28	Screen Intverval (ft) from TOC: 18.18 - 28.28		Condition of Well/Remarks: GOOD	
		Pump Placement (ft) from TOC: NA			

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/30/16	1410	22.53	NA							Bailing well
11/30/16	1417	28.28	NA							Bailed 2 gallons RAW DRY
12/1/16	0745	22.75	NA	15.14	5.10	1.86	NA	5.5	NA	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 12WW24-120116 TIME: 0745

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	BAIL	VOC

APPENDIX D: LABORATORY ANALYTICAL RESULTS

QUALITY CONTROL SUMMARY REPORT
FOR
LANDFILL 12 (LHAAP-12)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Prepared By:

AECOM Technical Services

March 2017

Table of Contents

1 INTRODUCTION 1
1.1 Intended Use of Data 1
1.2 Preservation and Holding Times 1
1.3 Calibrations 1
1.3.1 Continuing Calibration Verifications (CCV) 1
1.3.1.1 SW8260 1
1.3.2 Blanks 1
1.3.3 Surrogates 2
1.3.4 Laboratory Control Sample (LCS) 2
2 DATA USABILITY SUMMARY 2

List of Tables

Table 1: Completeness by Method
Table 2: Field Sample Identification and Laboratory Identification
Table 3: Qualified Analytical Data

1 INTRODUCTION

AECOM reviewed one data package from Microbac Laboratory Services, Marietta, OH. Groundwater samples were collected December 1, 2016 at Site 12 at Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas. Data were reviewed for conformance to the requirements of the following guidance documents: Automated Data Review by Laboratory Data Consultants (ADR.net), United States Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, (EPA, July 2002), and EPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, (EPA, June 2001). Results detected between the method detection limits (MDLs) and limits of quantitation (LOQs) were qualified with "J" as estimated and not further discussed.

1.1 Intended Use of Data

The objective of this sampling event for LHAAP-12 is to monitor remedy performance by natural attenuation with land use controls.

Analyses requested included SW8260 – Volatiles by GC/MS.

Table 1 lists completeness by method. **Table 2** lists the sample identifications and their associated laboratory identifications. **Table 3** lists qualified results with the associated quality control parameter that was exceeded.

1.2 Preservation and Holding Times

Sample identification data were evaluated for agreement with the chain-of-custody (COC). All samples were received in appropriate containers, within the proper temperature range, in good condition, and with the required signatures.

1.3 Calibrations

Initial calibration criteria modification includes RSD< or = to 30%, two compounds allowed up to 40%. If the continuing calibration verification (CCV) compound exceeds 20% drift, the compound is checked in the LCS, if both are outside recovery limits, the compound is rejected, R. The compound is qualified J or UJ if outside criteria.

1.3.1 Continuing Calibration Verifications (CCV)

1.3.1.1 SW8260

CCV WG593709-02 has bromomethane at 79% in analytical batch WG593712. The associated samples are non-detect for bromomethane and are UJ qualified.

Table 3 shows qualified analytical results.

1.3.2 Blanks

Sample concentrations above the DLs but less than or equal to five times the concentrations in the associated blanks (or 10 times for common laboratory contaminants) were qualified U. No qualifiers were assigned if the associated results were either greater than five times the blank concentrations or if the analytes were not detected in the samples.

All blanks were within control limits.

1.3.3 Surrogates

All surrogates are within criteria.

1.3.4 Laboratory Control Sample (LCS)

All LCS are within criteria.

2 DATA USABILITY SUMMARY

The data are usable for the intended purposes of the project. The data quality objectives have been met for the project.

Table 1: Completeness by Method

Method	No. of Rejected Results	% Completeness
SW8260	0	100

Table 2: Field Sample Identification and Laboratory Identification

ClientSampleID	LabSampleID	Collected	SW8260
12WW24-120116	L16120109-01	12/1/2016	X
12WW23-120116	L16120109-02	12/1/2016	X
12WW21-120116	L16120109-03	12/1/2016	X
12WW21FD-120116	L16120109-04	12/1/2016	X
12WW20-120116	L16120109-05	12/1/2016	X
12WW20MS-120116	L16120109-06	12/1/2016	X
12WW20MSD-120116	L16120109-07	12/1/2016	X
12WW22-120116	L16120109-08	12/1/2016	X
Trip blank	L16120109-09	12/1/2016	X

Table 3: Qualified Analytical Data

ClientSampleID	LabSampleID	AnalyteName	DVQualOverall	Reason
12WW24-120116	L16120109-01	Bromomethane	UJ	CCV below control limits
12WW23-120116	L16120109-02	Bromomethane	UJ	CCV below control limits
12WW21-120116	L16120109-03	Bromomethane	UJ	CCV below control limits
12WW21FD-120116	L16120109-04	Bromomethane	UJ	CCV below control limits
12WW20-120116	L16120109-05	Bromomethane	UJ	CCV below control limits
12WW22-120116	L16120109-08	Bromomethane	UJ	CCV below control limits

Microbac

Laboratory Report Number: L16120109

Kayla Teague
AECOM Technical Services, Inc.
1950 N Stemmons FWY
Dallas, TX 75207

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Adriane Steed – Client Services Specialist
(740) 373-4071
Adriane.Steed@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on December 13 2016

Leslie Bucina – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID: 12WW23-120116 (12/1 @ 08:45). 2 of 3 voa vials received frozen and broken. BRG	Please proceed ALS

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00114562	I	2.0		J4616883013	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	No
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
12WW24-120116	L16120109-01	12/01/2016 07:45	12/02/2016 09:26
12WW23-120116	L16120109-02	12/01/2016 08:45	12/02/2016 09:26
12WW21-120116	L16120109-03	12/01/2016 09:50	12/02/2016 09:26
12WW21FD-120116	L16120109-04	12/01/2016 09:50	12/02/2016 09:26
12WW20-120116	L16120109-05	12/01/2016 10:50	12/02/2016 09:26
12WW20MS-120116	L16120109-06	12/01/2016 10:50	12/02/2016 09:26
12WW20MSD-120116	L16120109-07	12/01/2016 10:50	12/02/2016 09:26
12WW22-120116	L16120109-08	12/01/2016 13:45	12/02/2016 09:26
TRIP BLANK	L16120109-09	12/01/2016 00:01	12/02/2016 09:26

Microbac REPORT L16120109
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 13
2.0 Full Sample Data Package 40
2.1 Volatiles Data 41
2.1.1 Volatiles GCMS Data (8260) 42
2.1.1.1 Summary Data 43
2.1.1.2 QC Summary Data 70
2.1.1.3 Sample Data 102
2.1.1.4 Standards Data 136
2.1.1.5 Raw QC Data 222
3.0 Attachments 231

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16120109
Project Name:		**Method:**	8260
Prep Batch Number(s):	593712	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-12-13 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Sarah Vandenberg	Sarah Vandenberg		2016-12-13 17:27:17

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16120109
Project Name:		**Method:**	8260
Prep Batch Number(s):	593712	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-12-13 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16120109
Project Name:		**Method:**	8260
Prep Batch Number(s):	593712	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-12-13 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16120109
Project Name:		**Method:**	8260
Prep Batch Number(s):	593712	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-12-13 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			1
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16120109
Project Name:		**Method:**	8260
Prep Batch Number(s):	593712	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-12-13 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16120109
Project Name:		**Method:**	8260
Prep Batch Number(s):	593712	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-12-13 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1) Bromoform exceeded the UCL in the CCV.

1.2 Certificate of Analysis

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW24-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 18:21
Collect Date:	12/01/2016 07:45	**Dilution:**	1	**File ID:**	8M416482
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.346	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	2.92		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	1.65		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.269	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	0.818	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	36.7		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.668	J	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	151		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.510	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.5	85	115	
1,2-Dichloroethane-d4	92.0	70	120	
Toluene-d8	97.3	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW23-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 16:23
Collect Date:	12/01/2016 08:45	**Dilution:**	1	**File ID:**	8M416478
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.252	J	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.661	J	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.4	85	115	
1,2-Dichloroethane-d4	91.2	70	120	
Toluene-d8	97.1	85	120	
4-Bromofluorobenzene	98.5	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 15:53
Collect Date:	12/01/2016 09:50	**Dilution:**	1	**File ID:**	8M416477
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.6	85	115	
1,2-Dichloroethane-d4	90.6	70	120	
Toluene-d8	97.4	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21FD-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 15:23
Collect Date:	12/01/2016 09:50	**Dilution:**	1	**File ID:**	8M416476
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.6	85	115	
1,2-Dichloroethane-d4	92.6	70	120	
Toluene-d8	97.8	85	120	
4-Bromofluorobenzene	99.7	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 11:25
Collect Date:	12/01/2016 10:50	**Dilution:**	1	**File ID:**	8M416468
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.4	85	115	
1,2-Dichloroethane-d4	90.6	70	120	
Toluene-d8	97.3	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20MS-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 12:24
Collect Date:	12/01/2016 10:50	**Dilution:**	1	**File ID:**	8M416470
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.8		10.0	5.00	2.50
Benzene	71-43-2	19.2		1.00	0.250	0.125
Bromobenzene	108-86-1	18.4		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.6		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.0		1.00	0.500	0.250
Bromoform	75-25-2	15.0	Q	2.00	1.00	0.500
Bromomethane	74-83-9	18.6		2.00	1.00	0.500
2-Butanone	78-93-3	16.9		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.6		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.1		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	18.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.0		1.00	0.500	0.250
Chlorobenzene	108-90-7	17.7		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	17.9		1.00	0.500	0.250
Chloroethane	75-00-3	22.3		2.00	1.00	0.500
Chloroform	67-66-3	19.4		1.00	0.250	0.125
Chloromethane	74-87-3	21.6		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	17.7		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.0		1.00	0.500	0.250
Dibromomethane	74-95-3	19.8		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.8		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.8		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.6		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	21.5		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.5		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.2		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	16.1		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.4		1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	18.1		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	18.7		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.3		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	17.4		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.5		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.1		1.00	0.500	0.250
2-Hexanone	591-78-6	16.9		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.1		1.00	0.500	0.250
Isopropylbenzene	98-82-8	19.7		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	20.1		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	16.6		10.0	5.00	2.50
Methylene chloride	75-09-2	17.9		1.00	0.500	0.250
Naphthalene	91-20-3	18.8		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.4		1.00	0.250	0.125
Styrene	100-42-5	19.2		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	16.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.2		1.00	0.400	0.200
Tetrachloroethene	127-18-4	18.6		1.00	0.500	0.250
Toluene	108-88-3	19.3		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	17.6		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.5		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	18.5		1.00	0.500	0.250
Trichloroethene	79-01-6	18.7		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	20.9		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	18.9		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.0		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.8		1.00	0.500	0.250
Vinyl chloride	75-01-4	22.1		1.00	0.500	0.250
o-Xylene	95-47-6	17.8		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	37.7		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.5	85	115	
1,2-Dichloroethane-d4	88.7	70	120	
Toluene-d8	95.7	85	120	
4-Bromofluorobenzene	94.3	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20MSD-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 12:54
Collect Date:	12/01/2016 10:50	**Dilution:**	1	**File ID:**	8M416471
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.9		10.0	5.00	2.50
Benzene	71-43-2	19.4		1.00	0.250	0.125
Bromobenzene	108-86-1	18.6		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.6		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.2		1.00	0.500	0.250
Bromoform	75-25-2	15.2	Q	2.00	1.00	0.500
Bromomethane	74-83-9	19.3		2.00	1.00	0.500
2-Butanone	78-93-3	17.4		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.6		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.3		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	19.2		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.0		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.5		1.00	0.500	0.250
Chloroethane	75-00-3	22.9		2.00	1.00	0.500
Chloroform	67-66-3	19.7		1.00	0.250	0.125
Chloromethane	74-87-3	21.7		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.4		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	17.8		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.6		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.4		1.00	0.500	0.250
Dibromomethane	74-95-3	19.5		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.9		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.9		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.7		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	21.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.8		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	17.9		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	16.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.7		1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	18.4		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	18.8		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	17.5		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.8		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.6		1.00	0.500	0.250
2-Hexanone	591-78-6	17.6		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.5		1.00	0.500	0.250
Isopropylbenzene	98-82-8	19.9		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	20.2		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	16.7		10.0	5.00	2.50
Methylene chloride	75-09-2	18.2		1.00	0.500	0.250
Naphthalene	91-20-3	18.7		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.7		1.00	0.250	0.125
Styrene	100-42-5	19.5		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	16.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.2		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.0		1.00	0.500	0.250
Toluene	108-88-3	19.7		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.6		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	18.0		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.8		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	18.8		1.00	0.500	0.250
Trichloroethene	79-01-6	19.1		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	21.0		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	18.5		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.1		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	20.1		1.00	0.500	0.250
Vinyl chloride	75-01-4	22.5		1.00	0.500	0.250
o-Xylene	95-47-6	18.0		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	38.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.8	85	115	
1,2-Dichloroethane-d4	87.0	70	120	
Toluene-d8	95.5	85	120	
4-Bromofluorobenzene	94.0	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW22-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 14:53
Collect Date:	12/01/2016 13:45	**Dilution:**	1	**File ID:**	8M416475
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.0	85	115	
1,2-Dichloroethane-d4	90.6	70	120	
Toluene-d8	97.5	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 14:23
Collect Date:	12/01/2016 00:01	**Dilution:**	1	**File ID:**	8M416474
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.0	85	115	
1,2-Dichloroethane-d4	91.7	70	120	
Toluene-d8	97.0	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW24-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 18:21
Collect Date:	12/01/2016 07:45	**Dilution:**	1	**File ID:**	8M416482
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.346	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	2.92		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	1.65		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.269	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	0.818	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	36.7		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.668	J	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	151		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.510	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.5	85	115	
1,2-Dichloroethane-d4	92.0	70	120	
Toluene-d8	97.3	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW23-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 16:23
Collect Date:	12/01/2016 08:45	**Dilution:**	1	**File ID:**	8M416478
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.252	J	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.661	J	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.4	85	115	
1,2-Dichloroethane-d4	91.2	70	120	
Toluene-d8	97.1	85	120	
4-Bromofluorobenzene	98.5	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 15:53
Collect Date:	12/01/2016 09:50	**Dilution:**	1	**File ID:**	8M416477
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.6	85	115	
1,2-Dichloroethane-d4	90.6	70	120	
Toluene-d8	97.4	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW21FD-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 15:23
Collect Date:	12/01/2016 09:50	**Dilution:**	1	**File ID:**	8M416476
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.6	85	115	
1,2-Dichloroethane-d4	92.6	70	120	
Toluene-d8	97.8	85	120	
4-Bromofluorobenzene	99.7	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 11:25
Collect Date:	12/01/2016 10:50	**Dilution:**	1	**File ID:**	8M416468
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.4	85	115	
1,2-Dichloroethane-d4	90.6	70	120	
Toluene-d8	97.3	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20MS-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 12:24
Collect Date:	12/01/2016 10:50	**Dilution:**	1	**File ID:**	8M416470
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.8		10.0	5.00	2.50
Benzene	71-43-2	19.2		1.00	0.250	0.125
Bromobenzene	108-86-1	18.4		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.6		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.0		1.00	0.500	0.250
Bromoform	75-25-2	15.0	Q	2.00	1.00	0.500
Bromomethane	74-83-9	18.6		2.00	1.00	0.500
2-Butanone	78-93-3	16.9		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.6		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.1		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	18.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.0		1.00	0.500	0.250
Chlorobenzene	108-90-7	17.7		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	17.9		1.00	0.500	0.250
Chloroethane	75-00-3	22.3		2.00	1.00	0.500
Chloroform	67-66-3	19.4		1.00	0.250	0.125
Chloromethane	74-87-3	21.6		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	17.7		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.0		1.00	0.500	0.250
Dibromomethane	74-95-3	19.8		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.8		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.8		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.6		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	21.5		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.5		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.2		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	16.1		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.4		1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	18.1		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	18.7		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.3		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	17.4		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.5		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.1		1.00	0.500	0.250
2-Hexanone	591-78-6	16.9		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.1		1.00	0.500	0.250
Isopropylbenzene	98-82-8	19.7		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	20.1		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	16.6		10.0	5.00	2.50
Methylene chloride	75-09-2	17.9		1.00	0.500	0.250
Naphthalene	91-20-3	18.8		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.4		1.00	0.250	0.125
Styrene	100-42-5	19.2		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	16.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.2		1.00	0.400	0.200
Tetrachloroethene	127-18-4	18.6		1.00	0.500	0.250
Toluene	108-88-3	19.3		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	17.6		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.5		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	18.5		1.00	0.500	0.250
Trichloroethene	79-01-6	18.7		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	20.9		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	18.9		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.0		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.8		1.00	0.500	0.250
Vinyl chloride	75-01-4	22.1		1.00	0.500	0.250
o-Xylene	95-47-6	17.8		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	37.7		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.5	85	115	
1,2-Dichloroethane-d4	88.7	70	120	
Toluene-d8	95.7	85	120	
4-Bromofluorobenzene	94.3	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW20MSD-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 12:54
Collect Date:	12/01/2016 10:50	**Dilution:**	1	**File ID:**	8M416471
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.9		10.0	5.00	2.50
Benzene	71-43-2	19.4		1.00	0.250	0.125
Bromobenzene	108-86-1	18.6		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.6		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.2		1.00	0.500	0.250
Bromoform	75-25-2	15.2	Q	2.00	1.00	0.500
Bromomethane	74-83-9	19.3		2.00	1.00	0.500
2-Butanone	78-93-3	17.4		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.6		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.3		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	19.2		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.0		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.5		1.00	0.500	0.250
Chloroethane	75-00-3	22.9		2.00	1.00	0.500
Chloroform	67-66-3	19.7		1.00	0.250	0.125
Chloromethane	74-87-3	21.7		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.4		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	17.8		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.6		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.4		1.00	0.500	0.250
Dibromomethane	74-95-3	19.5		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.9		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.9		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.7		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	21.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.8		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	17.9		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	16.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.7		1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	18.4		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	18.8		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	17.5		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.8		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.6		1.00	0.500	0.250
2-Hexanone	591-78-6	17.6		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.5		1.00	0.500	0.250
Isopropylbenzene	98-82-8	19.9		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	20.2		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	16.7		10.0	5.00	2.50
Methylene chloride	75-09-2	18.2		1.00	0.500	0.250
Naphthalene	91-20-3	18.7		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.7		1.00	0.250	0.125
Styrene	100-42-5	19.5		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	16.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.2		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.0		1.00	0.500	0.250
Toluene	108-88-3	19.7		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.6		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	18.0		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.8		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	18.8		1.00	0.500	0.250
Trichloroethene	79-01-6	19.1		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	21.0		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	18.5		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.1		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	20.1		1.00	0.500	0.250
Vinyl chloride	75-01-4	22.5		1.00	0.500	0.250
o-Xylene	95-47-6	18.0		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	38.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.8	85	115	
1,2-Dichloroethane-d4	87.0	70	120	
Toluene-d8	95.5	85	120	
4-Bromofluorobenzene	94.0	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	12WW22-120116	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 14:53
Collect Date:	12/01/2016 13:45	**Dilution:**	1	**File ID:**	8M416475
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.0	85	115	
1,2-Dichloroethane-d4	90.6	70	120	
Toluene-d8	97.5	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16120109-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/15/2016 14:40
Workgroup #:	WG593712	**Analyst:**	TMB	**Run Date:**	12/06/2016 14:23
Collect Date:	12/01/2016 00:01	**Dilution:**	1	**File ID:**	8M416474
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.0	85	115	
1,2-Dichloroethane-d4	91.7	70	120	
Toluene-d8	97.0	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16120109
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 051716

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 624 SOP: MSV10 Rev: 14

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD75899 Surrogate Standard: STD75899

CCV: STD76072; STD76127 LCS: STD76109; STD75801 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG569079; WG569083

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M412319	WG569084-01 50ng BFB STD 8260	NA	1	1	STD76034	05/17/16 08:53
8M412320	WG569084-02 50ug/L CCV STD 8260	NA	1	1	STD76127	05/17/16 09:18
8M412321	WG569079-01 100ug/L A9 CCV STD 8260	NA	1	1	STD76072	05/17/16 09:47
8M412322	WG569079-03 50ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 10:16
8M412323	WG569079-04 20ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 10:44
8M412324	WG569079-05 5ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 11:13
8M412325	WG569079-06 200ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 11:42
8M412326	WG569079-07 300ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 12:40
8M412327	WG569079-08 400ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 13:10
8M412328	WG569079-09 500ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 13:39
8M412329	RINSE	NA	1	1		05/17/16 14:08
8M412330	RINSE	NA	1	1		05/17/16 14:37
8M412331	WG569079-10 100ug/L ALT SRC STD 826	NA	1	1	STD75801	05/17/16 15:06
8M412332	WG569259-01 BFB 50ng 8260	NA	1	1	STD76034	05/17/16 18:27
8M412333	WG569259-02 50ug/L CCV 8260	NA	1	1	STD76034	05/17/16 18:53
8M412334	WG569260-01 100ug/L CCV A9	NA	1	1	STD76072	05/17/16 19:22
8M412335	WG569083-01 VBLK0517 BLANK 8260	NA	1	1		05/17/16 19:51
8M412336	WG569083-02 20ug/L LCS 8260	NA	1	1	STD76109	05/17/16 20:20
8M412337	WG569083-03 20ug/L LCS2 8260	NA	1	1	STD76109	05/17/16 20:49
8M412338	WG569083-04 100ug/L LCS A9	NA	1	1	STD75801	05/17/16 21:18
8M412339	WG569083-05 100ug/L LCS2 A9	NA	1	1	STD75801	05/17/16 21:46
8M412340	L16050844-01 TB A 826-A9-SPE	5	1	1		05/17/16 22:16
8M412341	L16050844-07 EB A 826-A9-SPE	5	1	1		05/17/16 22:45
8M412342	L16050844-11 AB A 826-A9-SPE	5	1	1		05/17/16 23:14
8M412343	L16050844-02 A 826-A9-SPE	6	1	1		05/17/16 23:43
8M412344	L16050844-05 A 826-A9-SPE	6	1	1		05/18/16 00:12
8M412345	L16050844-06 A 826-A9-SPE	6	1	1		05/18/16 00:41
8M412346	L16050844-12 A 826-A9-SPE	6	1	1		05/18/16 01:10
8M412347	L16050840-01 A 826-A9-SPE	7	1	1		05/18/16 01:38
8M412348	L16050844-08 A 826-A9-SPE	7	1	1		05/18/16 02:07
8M412349	L16050844-13 A 826-A9-SPE	7	1	1		05/18/16 02:36
8M412350	L16050844-15 A 826-A9-SPE	7	1	1		05/18/16 03:05
8M412351	L16050839-01 A 826-A9-SPE	7	1	1		05/18/16 03:33
8M412352	L16050844-03 2.5X A 826-A9-SPE	7	1	2.5		05/18/16 04:02

Approved: May 20, 2016

Sarah Vandenberg

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 051716

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 624 SOP: MSV10 Rev: 14

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD75899 Surrogate Standard: STD75899

CCV: STD76072; STD76127 LCS: STD76109; STD75801 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG569079; WG569083

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M412353	L16050844-04 5X A 826-A9-SPE	7	1	5		05/18/16 04:31
8M412354	L16050844-09 5X A 826-A9-SPE	7	1	5		05/18/16 05:01
8M412355	L16050844-10 5X A 826-A9-SPE	7	1	5		05/18/16 05:30
8M412356	L16050844-14 50X A 826-A9-SPE	7	1	50		05/18/16 05:59
8M412357	RINSE	NA	1	1		05/18/16 06:28

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
File ID: 8M412320				
DNR. Running an a9/foo curve.				
32	X	10	Over Calibration Range	CIS12-DCE
File ID: 8M412350				
40	X	2.5	Analyzed too dilute	
File ID: 8M412353				
DNR.				
37	X	25	Over Calibration Range	TCE
File ID: 8M412355				
38	X	20	Analyzed too dilute	
File ID: 8M412356				
DNR.				

Approved: May 20, 2016

Sarah Vandenberg

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 111516

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 24

Method: 624 SOP: MSV10 Rev: 15

Method: 5030B/5030V/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD78987 Surrogate Standard: STD78987

CCV: STD79021 LCS: STD79035 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG591653

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M416148	WG591653-01 50ng BFB STD 8260	NA	1	1	STD78995	11/15/16 08:57
8M416149	RINSE	NA	1	1		11/15/16 09:21
8M416150	WG591653-01 50ng BFB STD 8260	NA	1	1		11/15/16 09:49
8M416151	WG591653-02 0.3ug/L STD 8260	NA	1	1	STD79021	11/15/16 10:13
8M416152	WG591653-03 0.4ug/L STD 8260	NA	1	1	STD79021	11/15/16 10:42
8M416153	WG591653-04 1ug/L STD 8260	NA	1	1	STD79021	11/15/16 11:11
8M416154	WG591653-05 2ug/L STD 8260	NA	1	1	STD79021	11/15/16 11:40
8M416155	WG591653-06 5ug/L STD 8260	NA	1	1	STD79021	11/15/16 12:12
8M416156	WG591653-07 20ug/L STD 8260	NA	1	1	STD79021	11/15/16 12:42
8M416157	WG591653-08 50ug/L STD 8260	NA	1	1	STD79021	11/15/16 13:11
8M416158	WG591653-09 100ug/L STD 8260	NA	1	1	STD79021	11/15/16 13:41
8M416159	WG591653-10 200ug/L STD 8260	NA	1	1	STD79021	11/15/16 14:11
8M416160	WG591653-11 300ug/L STD 8260	NA	1	1	STD79021	11/15/16 14:40
8M416161	RINSE	NA	1	1		11/15/16 15:13
8M416162	RINSE	NA	1	1		11/15/16 15:43
8M416163	WG591653-12 50ug/L ALT SRC STD 8260	NA	1	1	STD79035	11/15/16 16:12
8M416164	RINSE	NA	1	1		11/15/16 16:42

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
File ID: 8M416149				
Lowered the volts, too high.				

Approved: November 21, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120616
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: OVAP SOP: MSV01 Rev: 0
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53985

Internal Standard: STD78987 Surrogate Standard: STD78987
CCV: STD79229 LCS: STD79205 MS/MSD: STD79205

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG593712

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M416463	WG593709-01 50ng BFB STD 8260	NA	1	1	STD78995	12/06/16 08:45
8M416464	WG593709-02 50ug/L CCV STD 8260	NA	1	1	STD79229	12/06/16 09:23
8M416465	WG593709-02 50ug/L CCV STD 8260	NA	1	1	STD79229	12/06/16 09:57
8M416466	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD78971	12/06/16 10:26
8M416467	WG593712-01 VBLK1206 BLANK STD 826	NA	1	1		12/06/16 10:55
8M416468	L16120109-05 A RS 826-LOW	<2	1	1		12/06/16 11:25
8M416469	WG593712-02 20ug/L LCS STD 8260	NA	1	1	STD79205	12/06/16 11:54
8M416470	L16120109-06 B MS 826-LOW	<2	1	1	STD79205	12/06/16 12:24
8M416471	L16120109-07 B MSD 826-LOW	<2	1	1	STD79205	12/06/16 12:54
8M416472	L16120236-02 A TB 826-SPE	<2	1	1		12/06/16 13:23
8M416473	L16120028-07 B TB 826-VAP2	<2	1	1		12/06/16 13:53
8M416474	L16120109-09 B TB 826-LOW	<2	1	1		12/06/16 14:23
8M416475	L16120109-08 B 826-LOW	<2	1	1		12/06/16 14:53
8M416476	L16120109-04 A 826-LOW	<2	1	1		12/06/16 15:23
8M416477	L16120109-03 A 826-LOW	<2	1	1		12/06/16 15:53
8M416478	L16120109-02 A 826-LOW	<2	1	1		12/06/16 16:23
8M416479	L16120275-02 A TB 826-LOW	<2	1	1		12/06/16 16:52
8M416480	L16120275-01 A 50X 826-LOW	<2	1	50		12/06/16 17:22
8M416481	L16120236-01 A 826-SPE	<2	1	1		12/06/16 17:51
8M416482	L16120109-01 A 826-LOW	<2	1	1		12/06/16 18:21
8M416483	RINSE	NA	1	1		12/06/16 18:50
8M416484	L16120173-01 A 5X 826-SPE	<2	1	5		12/06/16 19:20
8M416485	L16120173-02 A 5X 826-SPE	<2	1	5		12/06/16 19:49
8M416486	L16120173-03 A 5X 826-SPE	<2	1	5		12/06/16 20:18
8M416487	CCV	NA	1	1		12/06/16 20:47
8M416488	RINSE	NA	1	1		12/06/16 21:16
8M416489	RINSE	NA	1	1		12/06/16 21:46
8M416490	RINSE	NA	1	1		12/06/16 22:15

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 8M416464				

Approved: December 09, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS8	Dataset:	120616		
Analyst1:	TMB	Analyst2:	NA		
Method:	8260B	SOP:	MSV01	Rev:	24
Method:	OVAP	SOP:	MSV01	Rev:	0
Method:	5030B/5030C/5035A	SOP:	PAT01	Rev:	18
Maintenance Log ID:	53985				

Internal Standard: STD78987 Surrogate Standard: STD78987

CCV: STD79229 LCS: STD79205 MS/MSD: STD79205

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG593712

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
			2cve and bromoform were low, DNR.	
4				
File ID: 8M416466				
			Not needed, DNR.	
22	X	2	Analyzed too dilute	
File ID: 8M416484				

Approved: December 09, 2016

Microbac Laboratories Inc.

Data Checklist

Date: 17-MAY-2016
Analyst: TMB
Analyst: FJB
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 75174
Analytical Workgroups: WG569079; WG569083

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	SAV
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
19-MAY-2016
Tiffany Bailey

Secondary Reviewer:
20-MAY-2016
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-20-2016 11:05:37

Microbac Laboratories Inc.

Data Checklist

Date: 15-NOV-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 78755
Analytical Workgroups: WG591653

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
16-NOV-2016
Tiffany Bailey

Secondary Reviewer:
21-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-21-2016 11:44:48

Microbac Laboratories Inc.

Data Checklist

Date: 06-DEC-2016
Analyst: TMB
Analyst: NA
Method: 8260B
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 79071
Analytical Workgroups: WG593712

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	WTD
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
07-DEC-2016
Tiffany Bailey

Secondary Reviewer:
09-DEC-2016
Wade D

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-09-2016 10:05:46

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG593712

Login Number: L16120109

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
12WW24-120116	01	12/01/16					12/06/2016	5.4	14		12/06/16	5.4	14	
12WW23-120116	02	12/01/16					12/06/2016	5.3	14		12/06/16	5.3	14	
12WW21-120116	03	12/01/16					12/06/2016	5.3	14		12/06/16	5.3	14	
12WW21FD-120116	04	12/01/16					12/06/2016	5.2	14		12/06/16	5.2	14	
12WW20-120116	05	12/01/16					12/06/2016	5	14		12/06/16	5	14	
12WW20MS-120116	06	12/01/16					12/06/2016	5.1	14		12/06/16	5.1	14	
12WW20MSD-120116	07	12/01/16					12/06/2016	5.1	14		12/06/16	5.1	14	
12WW22-120116	08	12/01/16					12/06/2016	5	14		12/06/16	5	14	
TRIP BLANK	09	12/01/16					12/06/2016	5.6	14		12/06/16	5.6	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5052086
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16120109
Instrument Id: HPMS8
Workgroup (AAB#): WG593712

Method: 8260
CAL ID: HPMS8-15-NOV-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16120109-01	1.00	01	92.0	95.5	101	97.3
L16120109-02	1.00	01	91.2	95.4	98.5	97.1
L16120109-03	1.00	01	90.6	96.6	101	97.4
L16120109-04	1.00	01	92.6	95.6	99.7	97.8
L16120109-05	1.00	01	90.6	96.4	101	97.3
L16120109-06	1.00	01	88.7	96.5	94.3	95.7
L16120109-07	1.00	01	87.0	96.8	94.0	95.5
L16120109-08	1.00	01	90.6	97.0	101	97.5
L16120109-09	1.00	01	91.7	96.0	101	97.0
WG593712-01	1.00	01	88.0	93.5	99.2	97.6
WG593712-02	1.00	01	88.2	95.2	94.1	94.9

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5052093
Report generated: 12/13/2016 12:19

METHOD BLANK SUMMARY

Login Number: L16120109
Work Group: WG593712
Blank File ID: 8M416467
Blank Sample ID: WG593712-01
Prep Date: 12/06/16 10:55
Instrument ID: HPMS8
Analyzed Date: 12/06/16 10:55
Method: 8260B
Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
12WW20-120116	L16120109-05	8M416468	12/06/16 11:25	01
LCS	WG593712-02	8M416469	12/06/16 11:54	01
12WW20MS-120116	L16120109-06	8M416470	12/06/16 12:24	01
12WW20MSD-120116	L16120109-07	8M416471	12/06/16 12:54	01
TRIP BLANK	L16120109-09	8M416474	12/06/16 14:23	01
12WW22-120116	L16120109-08	8M416475	12/06/16 14:53	01
12WW21FD-120116	L16120109-04	8M416476	12/06/16 15:23	01
12WW21-120116	L16120109-03	8M416477	12/06/16 15:53	01
12WW23-120116	L16120109-02	8M416478	12/06/16 16:23	01
12WW24-120116	L16120109-01	8M416482	12/06/16 18:21	01

Report Name: BLANK_SUMMARY
PDF File ID: 5060792
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16120109 Prep Date:12/06/16 10:55 Sample ID:WG593712-01
Instrument ID:HPMS8 Run Date:12/06/16 10:55 Prep Method:5030B/5030C/503
File ID:8M416467 Analyst:TMB Method:8260B
Workgroup (AAB#):WG593712 Matrix:Water Units:ug/L
Contract #: Cal ID: HPMS8-15-NOV-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 5052087
13-DEC-2016 12:19

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16120109 Prep Date: 12/06/16 10:55 Sample ID: WG593712-01
Instrument ID: HPMS8 Run Date: 12/06/16 10:55 Prep Method: 5030B/5030C/503
File ID: 8M416467 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG593712 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-15-NOV-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	93.5	85 - 115	PASS
1,2-Dichloroethane-d4	88.0	70 - 120	PASS
Toluene-d8	97.6	85 - 120	PASS
4-Bromofluorobenzene	99.2	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 5052087
13-DEC-2016 12:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16120109 Run Date: 12/06/2016 Sample ID: WG593712-02
Instrument ID: HPMS8 Run Time: 11:54 Prep Method: 5030B/5030C/503
File ID: 8M416469 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG593712 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD79205 Cal ID: HPMS8-15-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	17.2	86.1	40 - 140	
Benzene	20.0	19.7	98.4	80 - 120	
Bromobenzene	20.0	18.7	93.4	75 - 125	
Bromochloromethane	20.0	19.3	96.4	65 - 130	
Bromodichloromethane	20.0	19.0	94.8	75 - 120	
Bromoform	20.0	14.9	74.7	70 - 130	
Bromomethane	20.0	18.1	90.5	30 - 145	
2-Butanone	20.0	16.8	84.2	30 - 150	
n-Butylbenzene	20.0	19.8	99.2	70 - 135	
sec-Butylbenzene	20.0	20.7	103	70 - 125	
tert-Butylbenzene	20.0	19.6	98.2	70 - 130	
Carbon disulfide	20.0	18.9	94.6	35 - 160	
Carbon tetrachloride	20.0	19.8	99.1	65 - 140	
Chlorobenzene	20.0	18.0	89.8	80 - 120	
Chlorodibromomethane	20.0	17.7	88.7	60 - 135	
Chloroethane	20.0	22.1	110	60 - 135	
Chloroform	20.0	19.7	98.4	65 - 135	
Chloromethane	20.0	21.9	110	40 - 125	
2-Chlorotoluene	20.0	20.8	104	75 - 125	
4-Chlorotoluene	20.0	18.8	93.8	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.0	90.0	50 - 130	
1,2-Dibromoethane	20.0	17.7	88.3	80 - 120	
Dibromomethane	20.0	19.4	96.9	75 - 125	
1,2-Dichlorobenzene	20.0	19.0	95.1	70 - 120	
1,3-Dichlorobenzene	20.0	19.1	95.6	75 - 125	
1,4-Dichlorobenzene	20.0	18.8	94.1	75 - 125	
Dichlorodifluoromethane	20.0	20.6	103	30 - 155	
1,1-Dichloroethane	20.0	18.7	93.7	70 - 135	
1,2-Dichloroethane	20.0	17.9	89.4	70 - 130	
1,1-Dichloroethene	20.0	16.1	80.5	70 - 130	
cis-1,2-Dichloroethene	20.0	19.4	96.8	70 - 125	
trans-1,2-Dichloroethene	20.0	18.2	90.8	60 - 140	
1,2-Dichloropropane	20.0	19.3	96.5	75 - 125	
1,3-Dichloropropane	20.0	18.8	93.9	75 - 125	
2,2-Dichloropropane	20.0	18.6	92.9	70 - 135	
cis-1,3-Dichloropropene	20.0	19.8	98.9	70 - 130	
trans-1,3-Dichloropropene	20.0	17.2	86.0	55 - 140	
1,1-Dichloropropene	20.0	19.0	94.8	75 - 130	
Ethylbenzene	20.0	19.7	98.6	75 - 125	
2-Hexanone	20.0	16.6	83.0	55 - 130	
Hexachlorobutadiene	20.0	18.0	89.8	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 5052088
Report generated: 12/13/2016 12:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16120109 Run Date: 12/06/2016 Sample ID: WG593712-02
Instrument ID: HPMS8 Run Time: 11:54 Prep Method: 5030B/5030C/503
File ID: 8M416469 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG593712 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD79205 Cal ID: HPMS8-15-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	20.1	101	75 - 125	
p-Isopropyltoluene	20.0	20.6	103	75 - 130	
4-Methyl-2-pentanone	20.0	16.7	83.4	60 - 135	
Methylene chloride	20.0	17.6	88.1	55 - 140	
Naphthalene	20.0	17.9	89.7	55 - 140	
n-Propylbenzene	20.0	20.0	100	70 - 130	
Styrene	20.0	19.4	97.0	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	16.4	82.0	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	18.7	93.5	65 - 130	
Tetrachloroethene	20.0	18.7	93.7	45 - 150	
Toluene	20.0	20.0	99.9	75 - 120	
1,2,3-Trichlorobenzene	20.0	17.9	89.3	55 - 140	
1,2,4-Trichlorobenzene	20.0	17.2	85.8	65 - 135	
1,1,1-Trichloroethane	20.0	19.9	99.7	65 - 130	
1,1,2-Trichloroethane	20.0	18.5	92.3	75 - 125	
Trichloroethene	20.0	19.0	95.0	70 - 125	
Trichlorofluoromethane	20.0	20.6	103	60 - 145	
1,2,3-Trichloropropane	20.0	19.7	98.5	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.2	101	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.5	102	75 - 130	
Vinyl chloride	20.0	22.5	113	50 - 145	
o-Xylene	20.0	18.1	90.7	80 - 120	
m-,p-Xylene	40.0	38.6	96.4	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.2	85 - 115	PASS
1,2-Dichloroethane-d4	88.2	70 - 120	PASS
Toluene-d8	94.9	85 - 120	PASS
4-Bromofluorobenzene	94.1	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5052088
Report generated: 12/13/2016 12:19

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L16120109 Cal ID: HPMS8- 15-NOV-16 Worknum: WG593712

Instrument ID: HPMS8 Contract #: Prep Method: 5030B/5030C/

Parent ID: L16120109-05 File ID: 8M416468 Dil: 1 Method: 5035A

Sample ID: L16120109-06 MS File ID: 8M416470 Dil: 1 Matrix: 8260B

Sample ID: L16120109-07 MSD File ID: 8M416471 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	16.5	82.4	20.0	16.8	84.1	2.06	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	19.5	97.5	20.0	19.8	99.2	1.72	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	19.2	96	20.0	19.2	96	0.0529	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	18.5	92.4	20.0	18.8	94	1.67	75 - 125	30	
1,1-Dichloroethane	U	20.0	18.5	92.3	20.0	18.8	94	1.91	70 - 135	30	
1,1-Dichloroethene	U	20.0	16.1	80.7	20.0	16.4	82.1	1.67	70 - 130	30	
1,1-Dichloropropene	U	20.0	18.5	92.6	20.0	18.8	94.2	1.63	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	18.3	91.6	20.0	18.6	93	1.44	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	18.9	94.7	20.0	18.5	92.7	2.06	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	17.6	88.1	20.0	18.0	89.8	1.98	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	20.0	100	20.0	20.1	101	0.551	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	19.3	96.6	20.0	18.6	93.1	3.73	50 - 130	30	
1,2-Dibromoethane	U	20.0	18.0	90.1	20.0	18.4	92.1	2.19	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	18.8	93.8	20.0	18.9	94.3	0.555	70 - 120	30	
1,2-Dichloroethane	U	20.0	18.2	90.8	20.0	17.9	89.7	1.22	70 - 130	30	
1,2-Dichloropropane	U	20.0	19.3	96.3	20.0	19.3	96.4	0.0722	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	19.8	99	20.0	20.1	101	1.62	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	18.8	94.1	20.0	18.9	94.4	0.320	75 - 125	30	
1,3-Dichloropropane	U	20.0	18.7	93.5	20.0	18.8	94	0.540	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	18.6	92.9	20.0	18.7	93.5	0.653	75 - 125	30	
2,2-Dichloropropane	U	20.0	19.3	96.7	20.0	19.2	96.1	0.604	70 - 135	30	
2-Butanone	U	20.0	16.9	84.3	20.0	17.4	86.9	3.03	30 - 150	30	
2-Chlorotoluene	U	20.0	21.0	105	20.0	21.4	107	1.88	75 - 125	30	
2-Hexanone	U	20.0	16.9	84.3	20.0	17.6	87.9	4.11	55 - 130	30	
4-Chlorotoluene	U	20.0	17.7	88.7	20.0	17.8	88.8	0.0985	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	16.6	83	20.0	16.7	83.7	0.905	60 - 135	30	
Acetone	U	20.0	18.8	94.2	20.0	18.9	94.5	0.288	40 - 140	30	
Benzene	U	20.0	19.2	96	20.0	19.4	97	1.08	80 - 120	30	
Bromobenzene	U	20.0	18.4	91.8	20.0	18.6	93	1.26	75 - 125	30	
Bromochloromethane	U	20.0	19.6	97.8	20.0	19.6	98.1	0.304	65 - 130	30	
Bromodichloromethane	U	20.0	19.0	95.2	20.0	19.2	95.9	0.710	75 - 120	30	
Bromoform	U	20.0	15.0	75	20.0	15.2	75.9	1.29	70 - 130	30	
Bromomethane	U	20.0	18.6	93	20.0	19.3	96.7	3.96	30 - 145	30	
Carbon disulfide	U	20.0	18.8	94.1	20.0	19.2	95.9	1.84	35 - 160	30	
Carbon tetrachloride	U	20.0	19.0	94.9	20.0	19.5	97.3	2.49	65 - 140	30	
Chlorobenzene	U	20.0	17.7	88.7	20.0	18.0	89.8	1.17	80 - 120	30	
Chloroethane	U	20.0	22.3	112	20.0	22.9	114	2.23	60 - 135	30	
Chloroform	U	20.0	19.4	97.2	20.0	19.7	98.6	1.43	65 - 135	30	
Chloromethane	U	20.0	21.6	108	20.0	21.7	108	0.356	40 - 125	30	
cis-1,2-Dichloroethene	U	20.0	19.4	97.2	20.0	19.7	98.3	1.16	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	20.1	101	20.0	20.1	101	0.107	70 - 130	30	

MS_MSD - Modified 03/06/2008

PDF File ID: 5052089

Report generated 12/13/2016 12:19

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L16120109 Cal ID: HPMS8 15-NOV-16 Worknum: WG593712

Instrument ID: HPMS8 Contract #: Prep Method: 5030B/5030C/

Parent ID: L16120109-05 File ID: 8M416468 Dil: 1 Method: 5035A

Sample ID: L16120109-06 MS File ID: 8M416470 Dil: 1 Matrix: 8260B

Sample ID: L16120109-07 MSD File ID: 8M416471 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Chlorodibromomethane	U	20.0	17.9	89.5	20.0	18.5	92.7	3.51	60 - 135	30	
Dibromomethane	U	20.0	19.8	99	20.0	19.5	97.4	1.68	75 - 125	30	
Dichlorodifluoromethane	U	20.0	21.5	107	20.0	21.9	109	1.90	30 - 155	30	
Ethylbenzene	U	20.0	19.1	95.5	20.0	19.6	97.9	2.48	75 - 125	30	
Hexachlorobutadiene	U	20.0	18.1	90.4	20.0	18.5	92.7	2.45	50 - 140	30	
Isopropylbenzene	U	20.0	19.7	98.4	20.0	19.9	99.5	1.14	75 - 125	30	
m-,p-Xylene	U	40.0	37.7	94.3	40.0	38.5	96.1	1.89	75 - 130	30	
Methylene chloride	U	20.0	17.9	89.4	20.0	18.2	91	1.78	55 - 140	30	
n-Butylbenzene	U	20.0	19.6	97.8	20.0	19.6	98.2	0.427	70 - 135	30	
n-Propylbenzene	U	20.0	19.4	97	20.0	19.7	98.3	1.34	70 - 130	30	
Naphthalene	U	20.0	18.8	93.9	20.0	18.7	93.7	0.199	55 - 140	30	
o-Xylene	U	20.0	17.8	89.2	20.0	18.0	90	0.966	80 - 120	30	
p-Isopropyltoluene	U	20.0	20.1	100	20.0	20.2	101	0.749	75 - 130	30	
sec-Butylbenzene	U	20.0	20.1	101	20.0	20.3	102	0.999	70 - 125	30	
Styrene	U	20.0	19.2	95.9	20.0	19.5	97.4	1.52	65 - 135	30	
tert-Butylbenzene	U	20.0	19.3	96.3	20.0	19.3	96.4	0.0759	70 - 130	30	
Tetrachloroethene	U	20.0	18.6	93.2	20.0	19.0	94.9	1.82	45 - 150	30	
Toluene	U	20.0	19.3	96.5	20.0	19.7	98.7	2.23	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	18.1	90.4	20.0	18.4	92	1.74	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	17.4	86.9	20.0	17.5	87.4	0.617	55 - 140	30	
Trichloroethene	U	20.0	18.7	93.3	20.0	19.1	95.4	2.22	70 - 125	30	
Trichlorofluoromethane	U	20.0	20.9	104	20.0	21.0	105	0.641	60 - 145	30	
Vinyl chloride	U	20.0	22.1	110	20.0	22.5	113	2.03	50 - 145	30	

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 5052089

Report generated 12/13/2016 12:19

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16120109
Instrument: HPMS8
Analyst: TMB
Workgroup: WG569084

Tune ID: WG569084-01
Run Date: 05/17/2016
Run Time: 08:53
File ID: 8M412319
Cal ID: HPMS8-13-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.1	6316	PASS
75.0	95.0	30.0	60.0	54.7	18130	PASS
95.0	95.0	100	100	100	33138	PASS
96.0	95.0	5.00	9.00	6.76	2241	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	72.2	23934	PASS
175	174	5.00	9.00	7.88	1886	PASS
176	174	95.0	101	96.8	23159	PASS
177	176	5.00	9.00	7.15	1655	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG569079-01	STD-CCV	01	05/17/2016 09:47	
WG569079-03	STD	01	05/17/2016 10:16	
WG569079-04	STD	01	05/17/2016 10:44	
WG569079-05	STD	01	05/17/2016 11:13	
WG569079-06	STD	01	05/17/2016 11:42	
WG569079-07	STD	01	05/17/2016 12:40	
WG569079-08	STD	01	05/17/2016 13:10	
WG569079-09	STD	01	05/17/2016 13:39	
WG569079-10	SSCV	01	05/17/2016 15:06	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5052091
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16120109
Instrument: HPMS8
Analyst: TMB
Workgroup: WG591653

Tune ID: WG591653-01
Run Date: 11/15/2016
Run Time: 09:49
File ID: 8M416150
Cal ID: HPMS8 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	15.9	6292	PASS
75.0	95.0	30.0	60.0	50.3	19860	PASS
95.0	95.0	100	100	100	39496	PASS
96.0	95.0	5.00	9.00	7.06	2789	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	69.5	27447	PASS
175	174	5.00	9.00	7.83	2148	PASS
176	174	95.0	101	96.0	26347	PASS
177	176	5.00	9.00	7.23	1906	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG591653-02	STD	01	11/15/2016 10:13	
WG591653-03	STD	01	11/15/2016 10:42	
WG591653-04	STD	01	11/15/2016 11:11	
WG591653-05	STD	01	11/15/2016 11:40	
WG591653-06	STD	01	11/15/2016 12:12	
WG591653-07	STD	01	11/15/2016 12:42	
WG591653-08	STD-CCV	01	11/15/2016 13:11	
WG591653-09	STD	01	11/15/2016 13:41	
WG591653-10	STD	01	11/15/2016 14:11	
WG591653-11	STD	01	11/15/2016 14:40	
WG591653-12	SSCV	01	11/15/2016 16:12	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5052091
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16120109
Instrument: HPMS8
Analyst: TMB
Workgroup: WG593709

Tune ID: WG593709-01
Run Date: 12/06/2016
Run Time: 08:45
File ID: 8M416463
Cal ID: HPMS8-15-NOV-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	15.7	3521	PASS
75.0	95.0	30.0	60.0	50.1	11206	PASS
95.0	95.0	100	100	100	22377	PASS
96.0	95.0	5.00	9.00	6.34	1419	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	72.6	16250	PASS
175	174	5.00	9.00	6.64	1079	PASS
176	174	95.0	101	99.4	16160	PASS
177	176	5.00	9.00	6.31	1020	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG593709-02	CCV	01	12/06/2016 09:57	
WG593712-01	BLANK	01	12/06/2016 10:55	
L16120109-05	12WW20-120116	01	12/06/2016 11:25	
WG593712-02	LCS	01	12/06/2016 11:54	
L16120109-06	12WW20MS-120116	01	12/06/2016 12:24	
L16120109-07	12WW20MSD-120116	01	12/06/2016 12:54	
L16120109-09	TRIP BLANK	01	12/06/2016 14:23	
L16120109-08	12WW22-120116	01	12/06/2016 14:53	
L16120109-04	12WW21FD-120116	01	12/06/2016 15:23	
L16120109-03	12WW21-120116	01	12/06/2016 15:53	
L16120109-02	12WW23-120116	01	12/06/2016 16:23	
L16120109-01	12WW24-120116	01	12/06/2016 18:21	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5052091
Report generated 12/13/2016 12:19

Calibration Table Report
Method: A9FOOWT.M
Title: A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Calibration: Thu May 19 08:54:31 2016
Curve: WG569079
Calibration Files

	Compound		5 8M412324.D	20 8M412323.D	50 8M412322.D	100 8M412321.D	200 8M412325.D	300 8M412326.D	400 8M412327.D	500 8M412328.D	Avg	%RSD
I	Fluorobenzene	ISTD										
T	Acetonitrile			0.009	0.010	0.010	0.010	0.010	0.010	0.010	0.010	2.076
T	3-Chloro-1-propene		0.306	0.330	0.335	0.331	0.324	0.307	0.304	0.304	0.318	4.307
T	2-Chloro-1,3-butadiene		0.368	0.420	0.420	0.419	0.419	0.392	0.389	0.387	0.402	5.022
T	Ethyl Acetate		0.080	0.096	0.097	0.100	0.099	0.098	0.100	0.095	0.096	6.751
T	Methacrylonitrile		0.041	0.054	0.055	0.055	0.055	0.054	0.055	0.052	0.053	9.227
T	Isobutyl Alcohol				0.003	0.003	0.003	0.003	0.003	0.003	0.003	3.599
T	1-Butanol										0.000	0.000
T	Methyl methacrylate		0.089	0.106	0.106	0.105	0.106	0.105	0.107	0.102	0.103	5.868
T	2-Nitropropane			0.041	0.042	0.043	0.046	0.047	0.048	0.046	0.045	5.992
I	Chlorobenzene-d5	ISTD										
I	1,4-Dichlorobenzene-d4	ISTD										
T	Cyclohexanone			0.011	0.010	0.010	0.009	0.010	0.011	0.010	0.010	4.971

Thu May 19 09:04:52 2016

Calibration Table Report
Method: 8260WT.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Calibration: Tue Nov 15 16:22:52 2016
Curve:WG591653
Calibration Files

	Compound	0.3 8M416151.D	0.4 8M416152.D	1 8M416153.D	2 8M416154.D	5 8M416155.D	20 8M416156.D	50 8M416157.D	100 8M416158.D	200 8M416159.D	300 8M416160.D	Avg	%RSD	Liear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane		0.404	0.377	0.372	0.377	0.460	0.454	0.446	0.463	0.432	0.421	9.101		
P	Chloromethane			0.464	0.413	0.398	0.413	0.388	0.358	0.352	0.324	0.389	11.209		
C	Vinyl Chloride		0.508	0.497	0.449	0.429	0.452	0.408	0.357	0.337		0.429	14.188		
T	1,3-Butadiene				0.319	0.314	0.310	0.208	0.118	0.105	0.089	0.209	50.459		0.998
T	Bromomethane			0.170	0.181	0.196	0.213	0.220	0.223	0.248	0.253	0.213	13.941		
T	Chloroethane		0.129	0.157	0.155	0.157	0.169	0.170	0.167	0.179	0.178	0.162	9.468		
T	Trichlorofluoromethane		0.449	0.440	0.427	0.439	0.467	0.471	0.467	0.500	0.489	0.461	5.249		
T	Diethyl ether			0.102	0.106	0.110	0.102	0.109	0.114		0.124	0.109	6.807		
T	Isoprene				0.295	0.322	0.346	0.361	0.375	0.382	0.396	0.354	10.013		
T	Acrolein				0.006	0.007	0.007	0.007	0.009		0.010	0.008	16.501		1.000
T	1,1,2-Trichloro-1,2,2-Trifluoroethane			0.254	0.234	0.244	0.261	0.260	0.263	0.284	0.283	0.260	6.654		
T	Acetone					0.014	0.016	0.022	0.019	0.018	0.019	0.018	14.774		
C	1,1-Dichloroethene		0.298	0.311	0.303	0.313	0.336	0.341	0.336	0.364	0.359	0.329	7.221		
T	Tert-Butyl Alcohol				0.006	0.006	0.006	0.007	0.006		0.006	0.006	5.265		
T	Dimethyl Sulfide		0.127	0.160	0.158	0.167	0.176	0.182	0.183	0.186	0.193	0.170	11.876		
T	Iodomethane			0.077	0.078	0.088	0.154	0.191	0.205	0.225		0.145	44.068		1.001
T	Methyl acetate					0.058	0.053	0.055	0.056	0.054	0.059	0.056	4.248		
T	Methylene Chloride			0.251	0.223	0.235	0.242	0.243	0.241	0.259	0.263	0.244	5.282		
T	Carbon Disulfide			0.850	0.758	0.792	0.823	0.842	0.837	0.826	0.790	0.815	3.869		
T	Acrylonitrile			0.020	0.025	0.026	0.026	0.031	0.030		0.035	0.028	18.080		0.997
T	Methyl Tert Butyl Ether			0.400	0.383	0.405	0.408	0.431	0.422	0.420	0.446	0.415	4.730		
T	trans-1,2-Dichloroethene		0.292	0.300	0.292	0.309	0.317	0.319	0.318	0.344	0.343	0.315	6.173		
T	n-Hexane					0.271	0.259	0.269	0.276	0.287	0.285	0.274	3.775		
T	Diisopropyl ether			0.493	0.485	0.497	0.484	0.502	0.513		0.514	0.498	2.456		
T	Vinyl Acetate				0.195	0.204	0.187	0.186	0.192	0.185		0.192	3.737		
P	1,1-Dichloroethane		0.393	0.412	0.380	0.399	0.416	0.422	0.417	0.442	0.441	0.413	4.994		
T	Ethyl-Tert-Butyl ether			0.495	0.485	0.498	0.481	0.508	0.524		0.530	0.503	3.700		
T	2-Butanone					0.028	0.026	0.032	0.030	0.027	0.030	0.029	7.263		
T	Propionitrile			0.007	0.009	0.009	0.009	0.009	0.010		0.010	0.009	9.205		
T	2,2-Dichloropropane		0.413	0.402	0.382	0.398	0.396	0.397	0.404	0.430	0.426	0.405	3.755		
T	cis-1,2-Dichloroethene		0.240	0.278	0.252	0.263	0.278	0.287	0.288	0.313	0.317	0.280	9.133		
C	Chloroform	0.494	0.483	0.486	0.457	0.442	0.459	0.468	0.460	0.484	0.479	0.471	3.467		
T	1-Bromopropane				0.047	0.049	0.053	0.054	0.057	0.059	0.061	0.054	9.513		
T	Bromochloromethane		0.088	0.121	0.119	0.121	0.125	0.130	0.130	0.135	0.139	0.123	11.951		
T	Tetrahydrofuran			0.027	0.020	0.020	0.018	0.020	0.019		0.020	0.021	15.147	0.998	
S	Dibromofluoromethane			0.217	0.225	0.222	0.237	0.243	0.239	0.246	0.256	0.236	5.628		
T	1,1,1-Trichloroethane		0.382	0.413	0.380	0.405	0.429	0.443	0.451	0.495	0.491	0.432	9.783		
T	Cyclohexane			0.327	0.308	0.319	0.321	0.331	0.341	0.360	0.363	0.334	5.913		
T	1,1-Dichloropropene			0.332	0.334	0.335	0.354	0.362	0.357	0.388	0.379	0.355	5.846		
T	Tert-Amyl-Methyl ether			0.448	0.457	0.461	0.447	0.478	0.491			0.464	3.781		
T	Carbon Tetrachloride		0.315	0.38	0.348	0.376	0.394	0.403	0.409	0.429	0.441	0.3885	10.1489		
S	1,2-Dichloroethane-d4			0.173	0.183	0.183	0.191	0.195	0.19	0.189	0.198	0.1879	4.2768		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.221	0.228	0.214	0.226	0.232	0.239	0.237	0.251	0.257	0.2338	5.83736		
T	Benzene		1.032	1.073	0.97	1.011	1.041	1.047	1.025	1.016	0.921	1.0152	4.45382		
T	Trichloroethene		0.226	0.254	0.23	0.241	0.26	0.27	0.272	0.307	0.31	0.2633	11.485		
T	Methylcyclohexane					0.409	0.411	0.422	0.44	0.461	0.461	0.4339	5.43093		
C	1,2-Dichloropropane		0.177	0.196	0.195	0.198	0.21	0.213	0.21	0.223	0.227	0.2056	7.56949		
T	Bromodichloromethane		0.279	0.294	0.279	0.297	0.315	0.33	0.327	0.342	0.348	0.3124	8.40035		
T	1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.0009	17.0494	0.994	
T	Dibromomethane		0.076	0.111	0.095	0.109	0.112	0.118	0.114	0.12	0.125	0.1091	13.7757		
T	2-Chloroethyl Vinyl Ether				0.072	0.071	0.072	0.084	0.081	0.078	0.082	0.0771	7.27398		
T	4-Methyl-2-Pentanone					0.025	0.027	0.034	0.033	0.029	0.032	0.03	12.1297		
T	cis-1,3-Dichloropropene		0.292	0.324	0.318	0.323	0.34	0.356	0.354	0.369	0.371	0.3386	7.79649		

T	Dimethyl Disulfide					0.16	0.181	0.201	0.206	0.213	0.227	0.1978	12.0519		
I	Chlorobenzene-d5	ISTD													
S	Toluene-d8			1.181	1.258	1.202	1.295	1.264	1.238	1.301	1.255	1.2493	3.32896		
C	Toluene		1.561	1.592	1.505	1.498	1.633	1.63	1.562	1.512	1.287	1.5312	6.82021		
T	Ethyl Methacrylate			0.198	0.195	0.218	0.24	0.27	0.255	0.249	0.26	0.2356	12.1365		
T	Paraldehyde											0	0		
T	trans-1,3-Dichloropropene			0.37	0.368	0.388	0.405	0.414	0.408	0.429	0.425	0.4008	5.76652		
T	1,1,2-Trichloroethane	0.192	0.124	0.203	0.187	0.2	0.208	0.216	0.209	0.218	0.225	0.1981	14.3441		
T	2-Hexanone					0.035	0.036	0.045	0.042	0.038	0.04	0.0392	9.53507		
T	1,3-Dichloropropane		0.309	0.357	0.348	0.353	0.36	0.366	0.353	0.365	0.369	0.3533	5.07794		
T	Tetrachloroethene		0.252	0.267	0.262	0.271	0.285	0.292	0.301	0.357		0.2858	11.5188		
T	Dibromochloromethane		0.198	0.217	0.241	0.246	0.267	0.281	0.278	0.3	0.309	0.2598	14.3797		
T	1,2-Dibromoethane		0.157	0.189	0.177	0.19	0.197	0.204	0.198	0.208	0.214	0.1928	8.92459		
T	1-Chlorohexane		0.53	0.488	0.505	0.506	0.533	0.552	0.563	0.602	0.589	0.5409	7.19133		
P	Chlorobenzene		0.971	0.969	0.914	0.916	0.99	1.028	1.075	1.167	1.035	1.0072	7.94363		
T	1,1,1,2-Tetrachloroethane		0.258	0.286	0.286	0.303	0.342	0.371	0.403	0.481	0.467	0.3554	22.8289		0.998
C	Ethylbenzene		0.511	0.522	0.499	0.525	0.59	0.624	0.669			0.5628	11.6153		
T	m-,p-Xylene		0.651	0.642	0.612	0.635	0.706	0.737	0.759	0.762	0.636	0.6822	8.62709		
T	o-Xylene			0.576	0.583	0.591	0.658	0.672	0.694	0.795	0.779	0.6686	12.727		
T	Styrene		0.832	0.882	0.852	0.929	1.067	1.117	1.127	1.187	1.085	1.0086	13.3604		
P	Bromoform			0.091	0.108	0.126	0.136	0.151	0.152	0.161	0.174	0.1373	20.2628	0.996	
T	Isopropylbenzene		1.544	1.541	1.499	1.585	1.727	1.739	1.692	1.621	1.381	1.5922	7.31881		
I	1,4-Dichlorobenzene-d4	ISTD													
P	1,1,2,2-Tetrachloroethane		0.363	0.441	0.427	0.458	0.448	0.466	0.441	0.439	0.443	0.4361	6.7913		
S	p-Bromofluorobenzene				0.986	0.971	0.981	0.976	0.961	0.99	0.976	0.9774	0.98853		
T	1,2,3-Trichloropropane			0.115	0.105	0.127	0.117	0.13	0.123	0.124	0.127	0.121	6.84499		
T	trans-1,4-Dichloro-2-Butene			0.029	0.073	0.081	0.104	0.106	0.098	0.094	0.096	0.0851	29.7692	0.999	
T	n-Propylbenzene		4.366	4.513	4.243	4.327	4.505	4.436	4.139	3.656		4.2731	6.55127		
T	Bromobenzene	0.755	0.601	0.781	0.728	0.775	0.776	0.805	0.809	0.895	0.894	0.7819	10.7013		
T	1,3,5-Trimethylbenzene		2.773	2.906	2.875	2.9	3.127	3.136	3.08	3.003	2.504	2.9227	6.83573		
T	2-Chlorotoluene		2.908	2.727	2.628	2.618	2.859	2.749	2.624	2.619	2.164	2.6552	8.04789		
T	4-Chlorotoluene		2.691	2.8	2.621	2.552	2.66	2.759	2.697	2.606	1.749	2.5706	12.3479		
T	a-Methylstyrene					1.47	1.613	1.778	1.772	1.836	1.732	1.7001	7.94251		
T	tert-Butylbenzene	0.546	0.472	0.553	0.542	0.557	0.614	0.611	0.632	0.746		0.5859	13.132		
T	1,2,4-Trimethylbenzene		2.831	3.019	2.924	2.945	3.18	3.191	3.129	3.015	2.504	2.9708	7.1588		
T	sec-Butylbenzene			3.858	3.666	3.717	3.958	3.91	3.762	3.473	2.808	3.6441	10.1837		
T	p-Isopropyltoluene			2.821	2.652	2.785	2.997	3.003	2.961	2.922	2.439	2.8226	6.95717		
T	1,3-Dichlorobenzene		1.424	1.453	1.474	1.459	1.566	1.608	1.604	1.714	1.615	1.5462	6.34738		
T	1,4-Dichlorobenzene	1.679	1.567	1.469	1.418	1.446	1.507	1.558	1.547	1.65	1.553	1.5394	5.41472		
T	n-Butylbenzene			2.946	2.861	2.857	3.058	3.045	2.951	2.837	2.339	2.8618	7.93196		
T	1,2-Dichlorobenzene	1.295	1.092	1.162	1.222	1.194	1.274	1.301	1.289	1.363	1.336	1.2529	6.69322		
T	1,2-Dibromo-3-Chloropropane				0.049	0.053	0.06	0.064	0.061	0.061	0.064	0.059	9.80505		
T	1,2,4-Trichlorobenzene		0.806	0.712	0.701	0.673	0.721	0.746	0.778	0.866	0.905	0.7675	10.235		
T	Hexachlorobutadiene		0.303	0.371	0.339	0.349	0.363	0.37	0.388	0.446	0.456	0.376	13.0268		
T	Naphthalene		0.885	0.987	0.88	0.913	0.95	0.995	0.972	1.005	1.028	0.9572	5.61432		
T	1,2,3-Trichlorobenzene	0.504	0.493	0.491	0.517	0.518	0.539	0.563	0.578	0.616	0.655	0.5473	10.0453		

Wed Nov 16 11:24:20 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16120109 Run Date: 11/15/2016 Sample ID: WG591653-12
Instrument ID: HPMS8 Run Time: 16:12 Method: 8260B
File ID: 8M416163 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG591653 Cal ID: HPMS8 - 15-NOV-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	48.1	ug/L	0.454	3.70	20	
1,1-Dichloroethene	CCC	50.0	46.8	ug/L	0.308	6.40	20	
1,2-Dichloropropane	CCC	50.0	47.9	ug/L	0.197	4.30	20	
Ethylbenzene	CCC	50.0	52.7	ug/L	0.594	5.50	20	
Toluene	CCC	50.0	49.3	ug/L	1.51	1.50	20	
Vinyl Chloride	CCC	50.0	40.9	ug/L	0.351	18.2	20	
Bromoform	SPCC	50.0	43.6	ug/L	0.141	12.9	20	
Chlorobenzene	SPCC	50.0	48.1	ug/L	0.968	3.90	20	
Chloromethane	SPCC	50.0	47.1	ug/L	0.366	5.80	20	
1,1-Dichloroethane	SPCC	50.0	46.5	ug/L	0.385	7.00	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.3	ug/L	0.439	0.500	20	
Acetone		50.0	48.0	ug/L	0.0173	4.10	20	
Benzene		50.0	48.3	ug/L	0.980	3.50	20	
Bromobenzene		50.0	49.7	ug/L	0.777	0.600	20	
Bromochloromethane		50.0	51.9	ug/L	0.128	3.80	20	
Bromodichloromethane		50.0	48.6	ug/L	0.303	2.90	20	
Bromomethane		50.0	52.9	ug/L	0.226	5.90	20	
2-Butanone		50.0	47.5	ug/L	0.0274	5.10	20	
n-Butylbenzene		50.0	51.6	ug/L	2.95	3.20	20	
sec-Butylbenzene		50.0	51.2	ug/L	3.73	2.50	20	
tert-Butylbenzene		50.0	51.1	ug/L	0.598	2.10	20	
Carbon Disulfide		50.0	44.5	ug/L	0.725	11.0	20	
Carbon Tetrachloride		50.0	50.4	ug/L	0.391	0.800	20	
Dibromochloromethane		50.0	51.1	ug/L	0.266	2.30	20	
Chloroethane		50.0	52.1	ug/L	0.169	4.30	20	
2-Chlorotoluene		50.0	48.7	ug/L	2.59	2.60	20	
4-Chlorotoluene		50.0	51.6	ug/L	2.66	3.30	20	
1,2-Dibromo-3-Chloropropane		50.0	52.9	ug/L	0.0624	5.70	20	
1,2-Dibromoethane		50.0	50.1	ug/L	0.193	0.200	20	
Dibromomethane		50.0	51.3	ug/L	0.112	2.50	20	
1,2-Dichlorobenzene		50.0	49.8	ug/L	1.25	0.400	20	
1,3-Dichlorobenzene		50.0	49.7	ug/L	1.54	0.500	20	
1,4-Dichlorobenzene		50.0	49.5	ug/L	1.52	1.10	20	
Dichlorodifluoromethane		50.0	50.1	ug/L	0.421	0.100	20	
1,2-Dichloroethane		50.0	48.0	ug/L	0.225	3.90	20	
cis-1,2-Dichloroethene		50.0	48.4	ug/L	0.271	3.10	20	
trans-1,2-Dichloroethene		50.0	47.1	ug/L	0.296	5.90	20	
1,3-Dichloropropane		50.0	50.3	ug/L	0.356	0.700	20	
2,2-Dichloropropane		50.0	50.1	ug/L	0.406	0.200	20	
cis-1,3-Dichloropropene		50.0	52.4	ug/L	0.355	4.80	20	
trans-1,3-Dichloropropene		50.0	48.0	ug/L	0.385	3.90	20	
1,1-Dichloropropene		50.0	47.8	ug/L	0.340	4.40	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5052090
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16120109 Run Date: 11/15/2016 Sample ID: WG591653-12
Instrument ID: HPMS8 Run Time: 16:12 Method: 8260B
File ID: 8M416163 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG591653 Cal ID: HPMS8 - 15-NOV-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	49.1	ug/L	0.0385	1.80	20	
Hexachlorobutadiene		50.0	50.7	ug/L	0.382	1.50	20	
Isopropylbenzene		50.0	51.6	ug/L	1.64	3.20	20	
p-Isopropyltoluene		50.0	52.5	ug/L	2.97	5.10	20	
4-Methyl-2-Pentanone		50.0	48.7	ug/L	0.0292	2.70	20	
Methylene Chloride		50.0	47.5	ug/L	0.232	5.00	20	
Naphthalene		50.0	51.4	ug/L	0.984	2.70	20	
n-Propylbenzene		50.0	49.5	ug/L	4.23	1.00	20	
Styrene		50.0	53.7	ug/L	1.08	7.30	20	
1,1,1,2-Tetrachloroethane		50.0	44.1	ug/L	0.343	11.9	20	
Tetrachloroethene		50.0	50.3	ug/L	0.288	0.600	20	
1,2,3-Trichlorobenzene		50.0	51.9	ug/L	0.569	3.90	20	
1,2,4-Trichlorobenzene		50.0	50.0	ug/L	0.767	0	20	
1,1,1-Trichloroethane		50.0	50.2	ug/L	0.434	0.500	20	
1,1,2-Trichloroethane		50.0	50.6	ug/L	0.201	1.20	20	
Trichloroethene		50.0	48.1	ug/L	0.254	3.70	20	
Trichlorofluoromethane		50.0	47.9	ug/L	0.442	4.10	20	
1,2,3-Trichloropropane		50.0	51.6	ug/L	0.125	3.10	20	
1,2,4-Trimethylbenzene		50.0	52.0	ug/L	3.09	3.90	20	
1,3,5-Trimethylbenzene		50.0	52.1	ug/L	3.05	4.20	20	
o-Xylene		50.0	48.8	ug/L	0.653	2.40	20	
m-,p-Xylene		100	105	ug/L	0.713	4.50	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5052090
Report generated 12/13/2016 12:19

Login Number: L16120109 Run Date: 12/06/2016 Sample ID: WG593709-02
Instrument ID: HPMS8 Run Time: 09:57 Method: 8260B
File ID: 8M416465 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG593712 Cal ID: HPMS8 - 15-NOV-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.5	ug/L	0.467	0.946	20	
1,1-Dichloroethene	CCC	50.0	52.5	ug/L	0.346	5.07	20	
1,2-Dichloropropane	CCC	50.0	49.7	ug/L	0.204	0.630	20	
Ethylbenzene	CCC	50.0	54.1	ug/L	0.609	8.25	20	
Toluene	CCC	50.0	52.4	ug/L	1.61	4.82	20	
Vinyl Chloride	CCC	50.0	50.6	ug/L	0.434	1.10	20	
Bromoform	SPCC	50.0	39.4	ug/L	0.127	21.3	20	*
Chlorobenzene	SPCC	50.0	48.9	ug/L	0.984	2.30	20	
Chloromethane	SPCC	50.0	48.8	ug/L	0.379	2.40	20	
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.422	2.13	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.3	ug/L	0.404	7.43	20	
Xylenes		150	154	ug/L	0.682	2.43	20	
Acetone		50.0	42.0	ug/L	0.0151	16.1	20	
Benzene		50.0	52.3	ug/L	1.06	4.52	20	
Bromobenzene		50.0	48.8	ug/L	0.764	2.36	20	
Bromochloromethane		50.0	50.1	ug/L	0.124	0.224	20	
Bromodichloromethane		50.0	49.5	ug/L	0.309	1.06	20	
Bromomethane		50.0	48.1	ug/L	0.205	3.83	20	
2-Butanone		50.0	40.8	ug/L	0.0235	18.4	20	
n-Butylbenzene		50.0	53.2	ug/L	3.05	6.44	20	
sec-Butylbenzene		50.0	54.0	ug/L	3.94	8.07	20	
tert-Butylbenzene		50.0	52.6	ug/L	0.617	5.30	20	
Carbon Disulfide		50.0	51.2	ug/L	0.834	2.33	20	
Carbon Tetrachloride		50.0	52.2	ug/L	0.406	4.44	20	
Dibromochloromethane		50.0	47.7	ug/L	0.248	4.69	20	
Chloroethane		50.0	53.1	ug/L	0.173	6.26	20	
2-Chlorotoluene		50.0	54.7	ug/L	2.90	9.41	20	
4-Chlorotoluene		50.0	48.3	ug/L	2.48	3.46	20	
1,2-Dibromo-3-Chloropropane		50.0	42.5	ug/L	0.0502	15.0	20	
1,2-Dibromoethane		50.0	45.3	ug/L	0.175	9.39	20	
Dibromomethane		50.0	47.5	ug/L	0.104	4.94	20	
1,2-Dichlorobenzene		50.0	48.1	ug/L	1.20	3.86	20	
1,3-Dichlorobenzene		50.0	50.0	ug/L	1.55	0.0838	20	
1,4-Dichlorobenzene		50.0	48.3	ug/L	1.49	3.40	20	
Dichlorodifluoromethane		50.0	54.0	ug/L	0.455	8.06	20	
1,2-Dichloroethane		50.0	45.8	ug/L	0.214	8.31	20	
cis-1,2-Dichloroethene		50.0	51.9	ug/L	0.290	3.80	20	
trans-1,2-Dichloroethene		50.0	51.2	ug/L	0.322	2.39	20	
1,3-Dichloropropane		50.0	45.1	ug/L	0.318	9.90	20	
2,2-Dichloropropane		50.0	53.9	ug/L	0.436	7.70	20	
cis-1,3-Dichloropropene		50.0	49.2	ug/L	0.333	1.54	20	
trans-1,3-Dichloropropene		50.0	45.5	ug/L	0.365	8.95	20	

CCV - Modified 03/05/2008
PDF File ID: 5052092
Report generated 12/13/2016 12:19

Login Number: L16120109 Run Date: 12/06/2016 Sample ID: WG593709-02
Instrument ID: HPMS8 Run Time: 09:57 Method: 8260B
File ID: 8M416465 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG593712 Cal ID: HPMS8 - 15-NOV-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	51.1	ug/L	0.363	2.24	20	
2-Hexanone		50.0	41.1	ug/L	0.0322	17.9	20	
Hexachlorobutadiene		50.0	48.7	ug/L	0.366	2.64	20	
Isopropylbenzene		50.0	53.5	ug/L	1.70	7.07	20	
p-Isopropyltoluene		50.0	53.8	ug/L	3.04	7.57	20	
4-Methyl-2-Pentanone		50.0	41.7	ug/L	0.0250	16.6	20	
Methylene Chloride		50.0	48.4	ug/L	0.237	3.18	20	
Naphthalene		50.0	45.0	ug/L	0.861	10.0	20	
n-Propylbenzene		50.0	52.1	ug/L	4.45	4.25	20	
Styrene		50.0	51.4	ug/L	1.04	2.79	20	
1,1,1,2-Tetrachloroethane		50.0	44.0	ug/L	0.343	12.0	20	
Tetrachloroethene		50.0	50.8	ug/L	0.290	1.58	20	
1,2,3-Trichlorobenzene		50.0	45.6	ug/L	0.500	8.74	20	
1,2,4-Trichlorobenzene		50.0	45.0	ug/L	0.691	10.0	20	
1,1,1-Trichloroethane		50.0	52.0	ug/L	0.449	3.97	20	
1,1,2-Trichloroethane		50.0	46.6	ug/L	0.185	6.79	20	
Trichloroethene		50.0	50.6	ug/L	0.267	1.24	20	
Trichlorofluoromethane		50.0	52.4	ug/L	0.483	4.84	20	
1,2,3-Trichloropropane		50.0	45.8	ug/L	0.111	8.36	20	
1,2,4-Trimethylbenzene		50.0	53.1	ug/L	3.15	6.16	20	
1,3,5-Trimethylbenzene		50.0	53.5	ug/L	3.13	7.02	20	
o-Xylene		50.0	48.1	ug/L	0.643	3.84	20	
m-,p-Xylene		100	106	ug/L	0.720	5.57	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5052092
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16120109
Instrument ID: HPMS8
Workgroup (AAB#): WG593712

ICAL CCV Number: WG591653-08
CAL ID: HPMS8-15-NOV-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG591653-08	NA	NA	243591	531507	762907
Upper Limit	NA	NA	487182	1063014	1525814
Lower Limit	NA	NA	121796	265754	381454
L16120109-01	1.00	01	143737	354236	493295
L16120109-02	1.00	01	148188	359474	504111
L16120109-03	1.00	01	148682	362764	503688
L16120109-04	1.00	01	150817	364490	517091
L16120109-05	1.00	01	160007	390368	549521
L16120109-06	1.00	01	188571	417043	575403
L16120109-07	1.00	01	192064	425049	592699
L16120109-08	1.00	01	151438	366548	515127
L16120109-09	1.00	01	155407	379763	537852
WG593712-01	1.00	01	167971	404710	576342
WG593712-02	1.00	01	184772	412206	576688

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5060793
Report generated 12/13/2016 12:19

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number:L16120109
Instrument ID:HPMS8
Workgroup (AAB#):WG593712

ICAL CCV Number:WG591653-08
CAL ID: HPMS8-15-NOV-16
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG591653-08	NA	NA	17.86	14.84	10.98
Upper Limit	NA	NA	18.36	15.34	11.48
Lower Limit	NA	NA	17.36	14.34	10.48
L16120109-01	1.00	01	17.86	14.84	10.98
L16120109-02	1.00	01	17.86	14.85	10.98
L16120109-03	1.00	01	17.86	14.84	10.98
L16120109-04	1.00	01	17.86	14.84	10.98
L16120109-05	1.00	01	17.86	14.84	10.98
L16120109-06	1.00	01	17.86	14.85	10.98
L16120109-07	1.00	01	17.86	14.85	10.97
L16120109-08	1.00	01	17.87	14.84	10.97
L16120109-09	1.00	01	17.86	14.84	10.98
WG593712-01	1.00	01	17.87	14.84	10.97
WG593712-02	1.00	01	17.86	14.84	10.98

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 5060794
Report generated: 12/13/2016 12:19

2.1.1.3 Sample Data

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416482.D Vial: 20
Acq On : 6 Dec 2016 18:21 Operator: TMB
Sample : L16120109-01 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:48:15 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

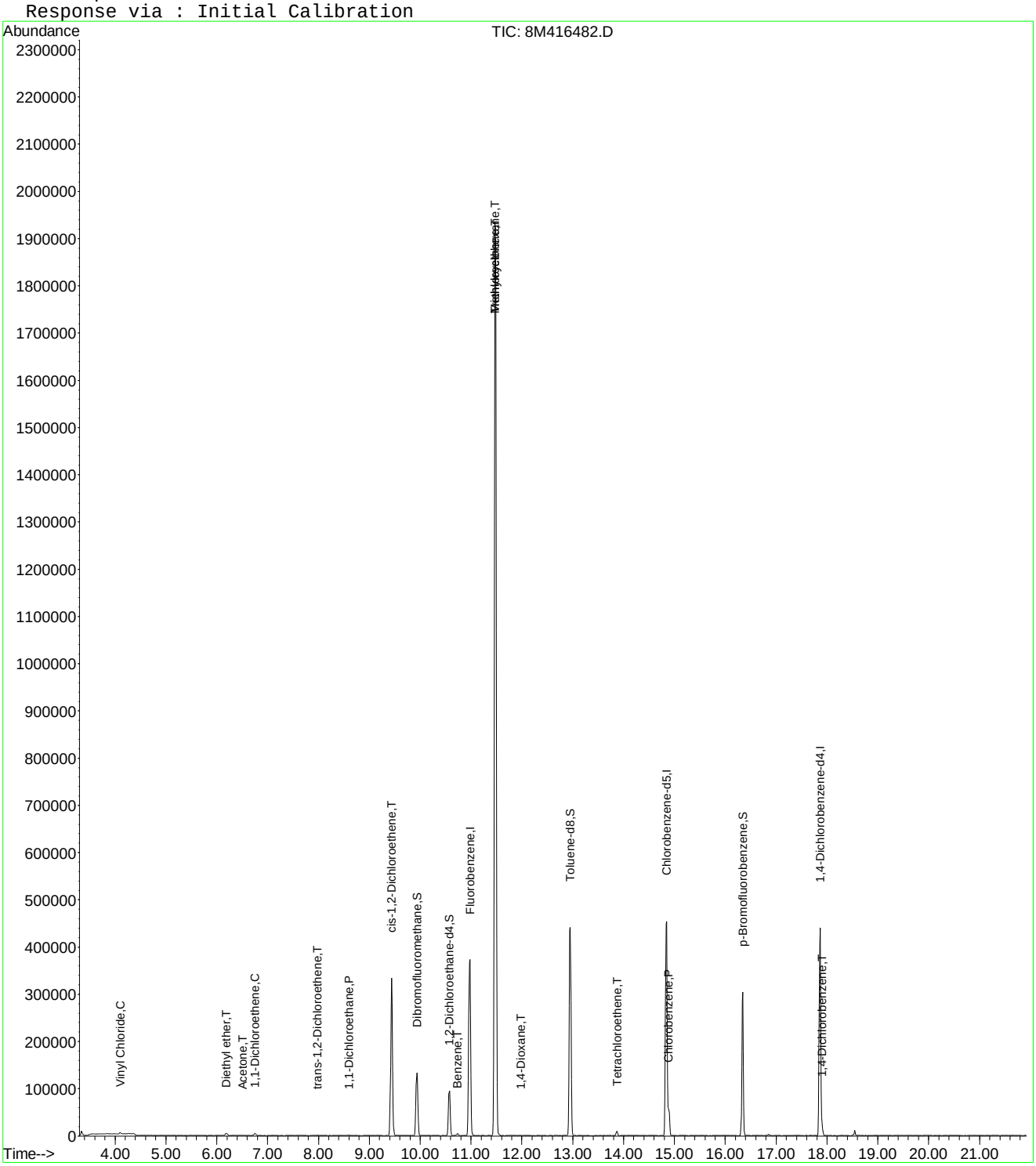
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	493295	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	354236	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	143737	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	110950	23.8738	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.48%			
43) 1,2-Dichloroethane-d4	10.57	65	85283	23.0032	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.00%			
58) Toluene-d8	12.95	98	430443	24.3170	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.28%			
80) p-Bromofluorobenzene	16.34	95	141565	25.1929	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.76%			
Target Compounds						Qvalue
4) Vinyl Chloride	4.10	62	4318	0.5095	ug/L	100
9) Diethyl ether	6.19	59	4472	2.0699	ug/L	89
13) Acetone	6.51	43	889	2.5013	ug/L #	41
14) 1,1-Dichloroethene	6.75	61	5312	0.8179	ug/L	90
23) trans-1,2-Dichloroethene	7.98	61	874	0.1407	ug/L	68
27) 1,1-Dichloroethane	8.60	63	2192	0.2687	ug/L #	58
32) cis-1,2-Dichloroethene	9.44	96	202313	36.6706	ug/L	91
46) Benzene	10.73	78	6927	0.3458	ug/L #	77
47) Trichloroethene	11.47	130	782412	150.5903	ug/L	97
48) Methylcyclohexane	11.47	83	10234	1.1952	ug/L #	1
51) 1,4-Dioxane	11.98	88	214	53.8953	ug/L #	35
66) Tetrachloroethene	13.87	164	2706	0.6681	ug/L	88
70) Chlorobenzene	14.89	112	41724	2.9235	ug/L	88
94) 1,4-Dichlorobenzene	17.90	146	14600	1.6496	ug/L	86

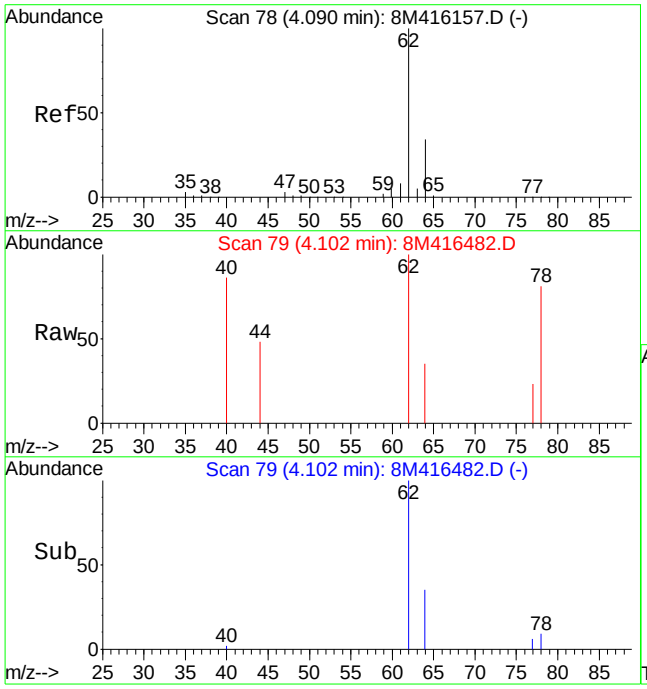
(#) = qualifier out of range (m) = manual integration
8M416482.D 8260WT.M Wed Dec 07 08:48:18 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416482.D Vial: 20
Acq On : 6 Dec 2016 18:21 Operator: TMB
Sample : L16120109-01 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:48 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

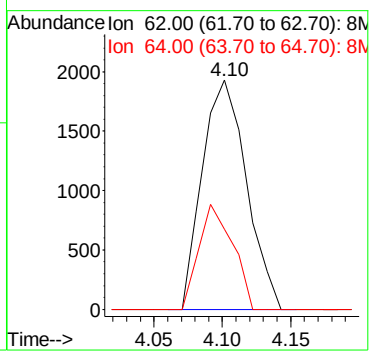


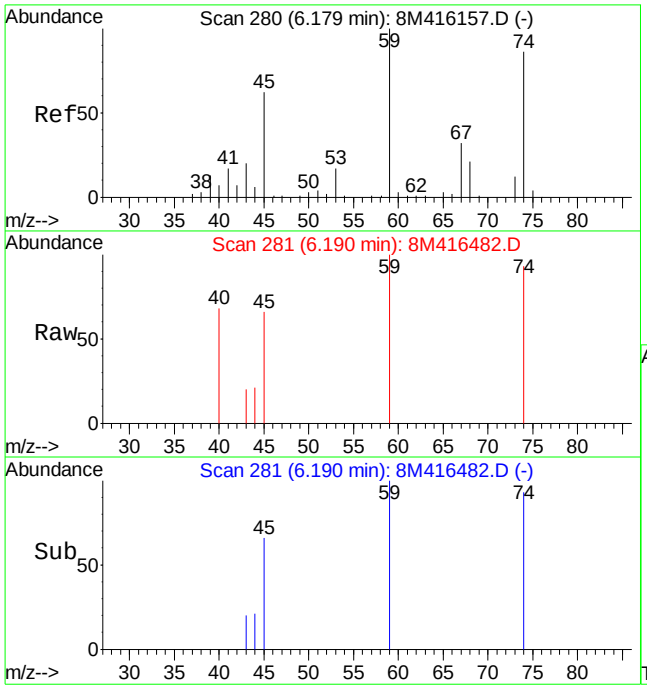


#4
Vinyl Chloride
Concen: 0.51 ug/L
RT: 4.10 min Scan# 79
Delta R.T. 0.02 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 62 Resp: 4318

Ion	Ratio	Lower	Upper
62	100		
64	35.2	21.2	49.6

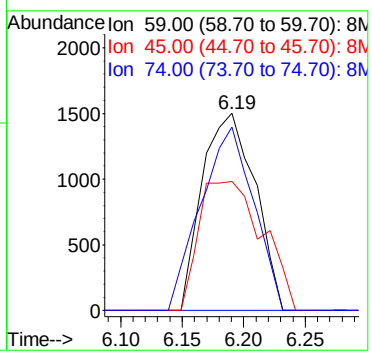


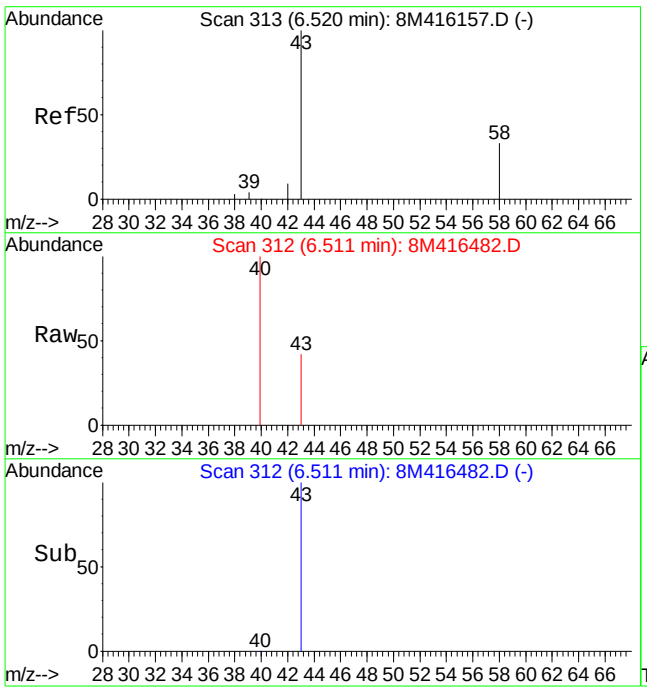


#9
Diethyl ether
Concen: 2.07 ug/L
RT: 6.19 min Scan# 281
Delta R.T. 0.01 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 59 Resp: 4472

Ion	Ratio	Lower	Upper
59	100		
45	78.9	37.7	87.9
74	93.2	53.4	124.6

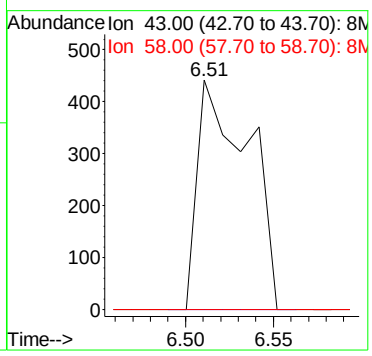


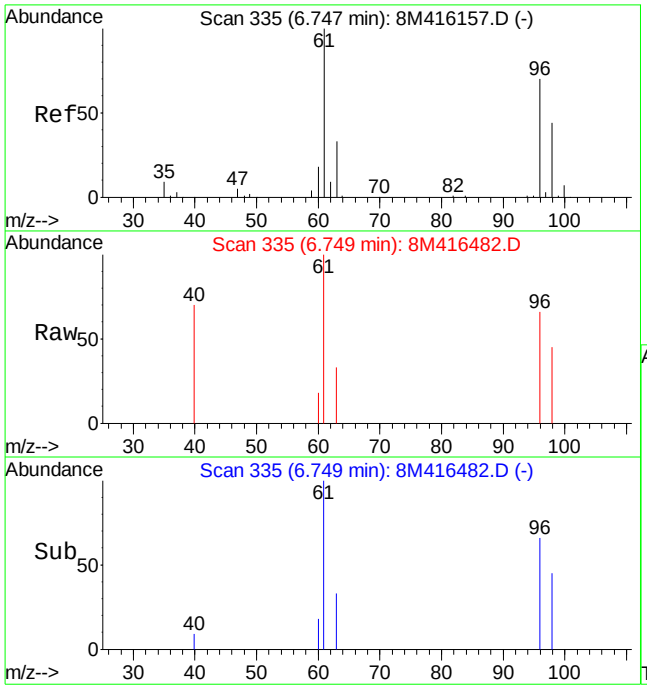


#13
Acetone
Concen: 2.50 ug/L
RT: 6.51 min Scan# 312
Delta R.T. -0.01 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 43 Resp: 889

Ion	Ratio	Lower	Upper
43	100		
58	0.0	20.2	47.0#

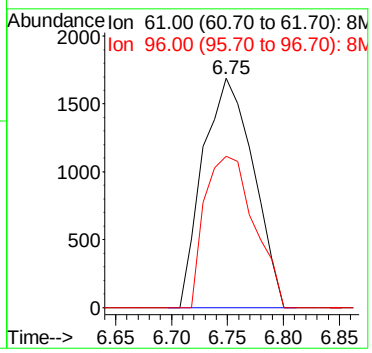


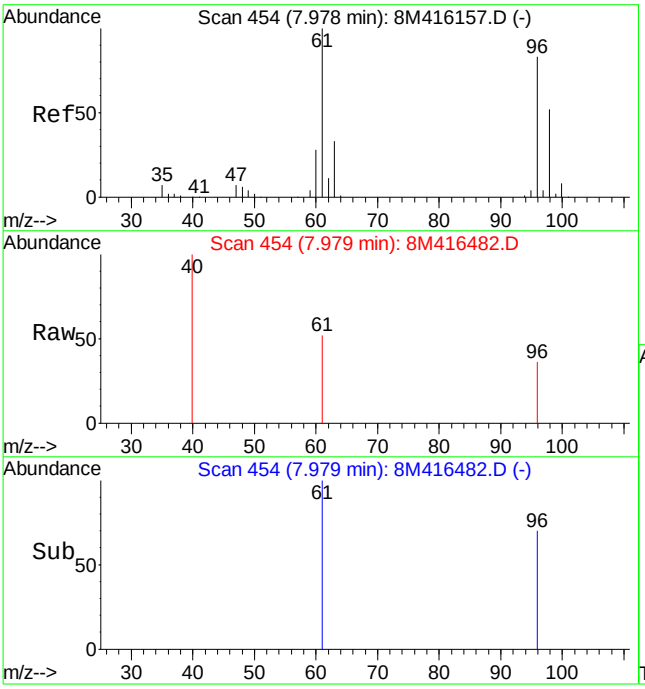


#14
1,1-Dichloroethene
Concen: 0.82 ug/L
RT: 6.75 min Scan# 335
Delta R.T. -0.00 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 61 Resp: 5312

Ion	Ratio	Lower	Upper
61	100		
96	64.5	43.9	102.5

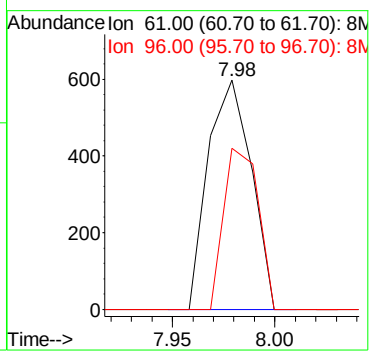


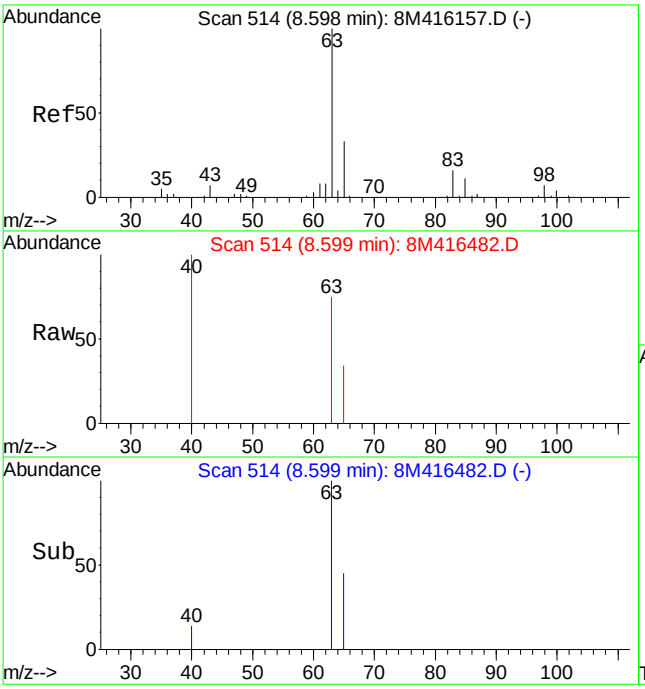


#23
trans-1,2-Dichloroethene
Concen: 0.14 ug/L
RT: 7.98 min Scan# 454
Delta R.T. -0.00 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 61 Resp: 874

Ion	Ratio	Lower	Upper
61	100		
96	56.8	51.8	121.0

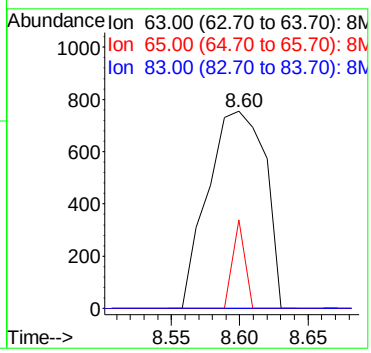


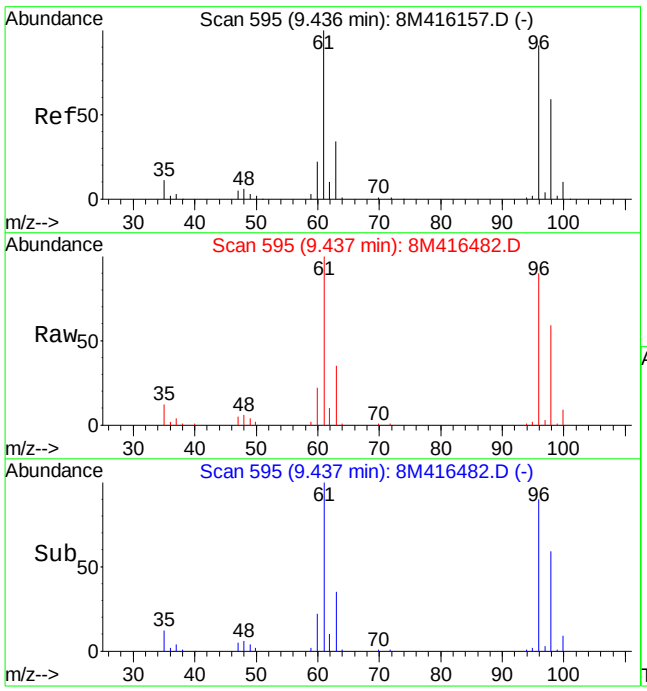


#27
1,1-Dichloroethane
Concen: 0.27 ug/L
RT: 8.60 min Scan# 514
Delta R.T. -0.00 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 63 Resp: 2192

Ion	Ratio	Lower	Upper
63	100		
65	9.6	21.0	49.0#
83	0.0	10.1	23.7#

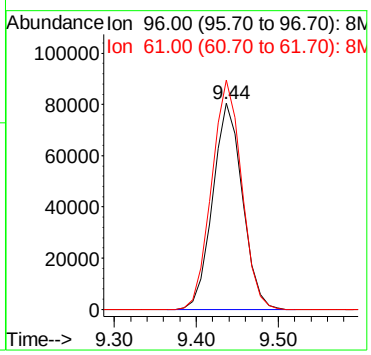


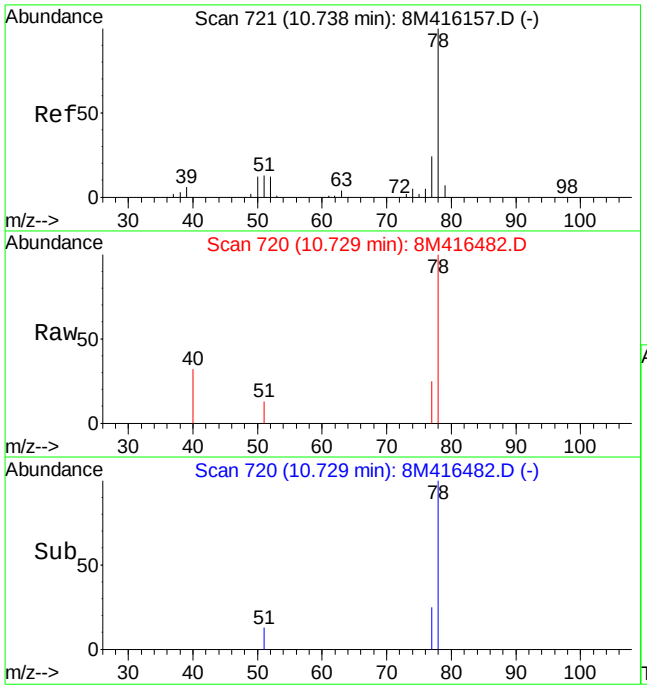


#32
cis-1,2-Dichloroethene
Concen: 36.67 ug/L
RT: 9.44 min Scan# 595
Delta R.T. -0.00 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 96 Resp: 202313

Ion	Ratio	Lower	Upper
96	100		
61	112.3	73.3	171.1

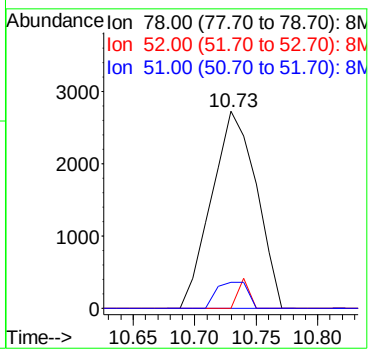


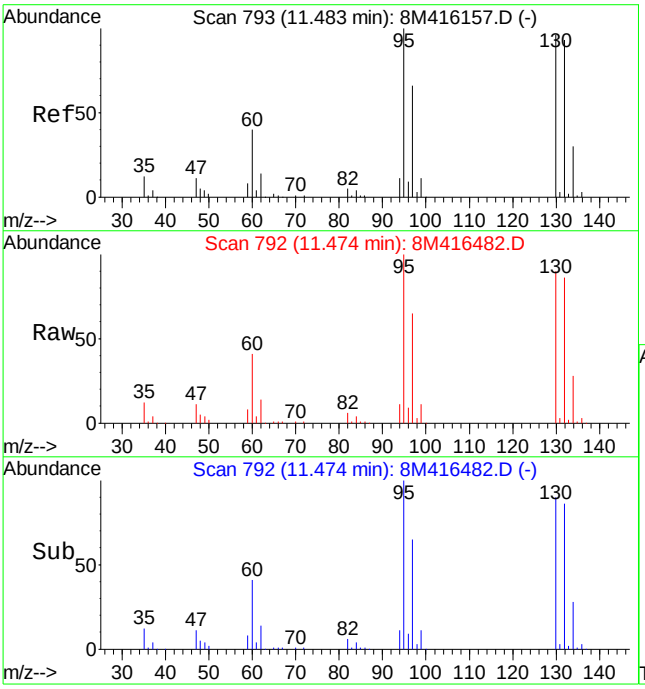


#46
Benzene
Concen: 0.35 ug/L
RT: 10.73 min Scan# 720
Delta R.T. -0.00 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 78 Resp: 6927

Ion	Ratio	Lower	Upper
78	100		
52	3.7	9.1	21.1#
51	9.2	10.8	25.2#

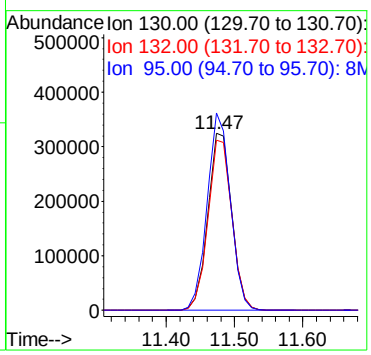


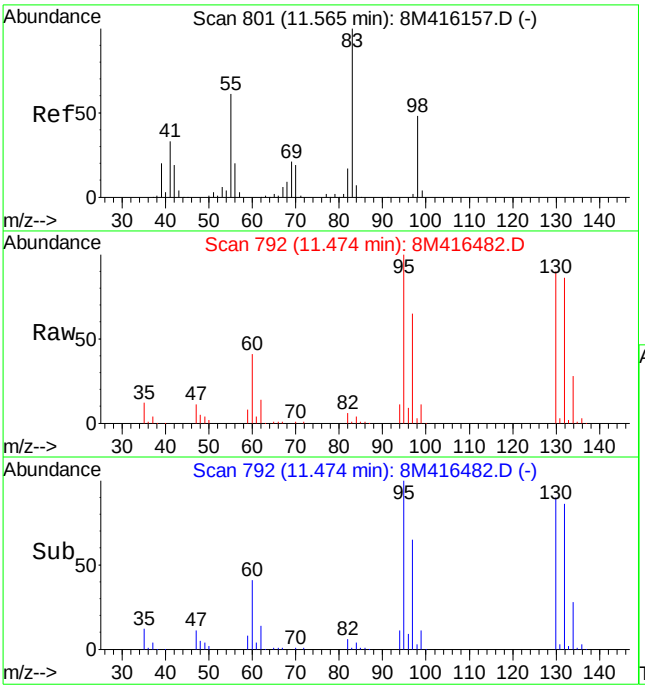


#47
Trichloroethene
Concen: 150.59 ug/L
RT: 11.47 min Scan# 792
Delta R.T. -0.01 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion:130 Resp: 782412

Ion	Ratio	Lower	Upper
130	100		
132	96.5	58.2	135.8
95	108.8	61.4	143.4

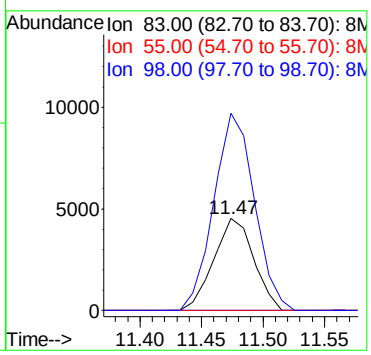


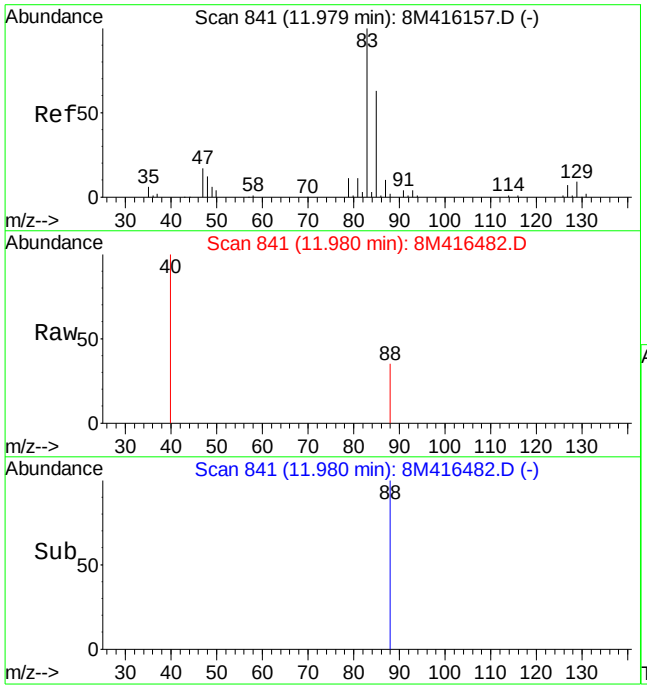


#48
Methylcyclohexane
Concen: 1.20 ug/L
RT: 11.47 min Scan# 792
Delta R.T. -0.09 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 83 Resp: 10234

Ion	Ratio	Lower	Upper
83	100		
55	0.0	36.2	84.4#
98	217.6	30.2	70.4#

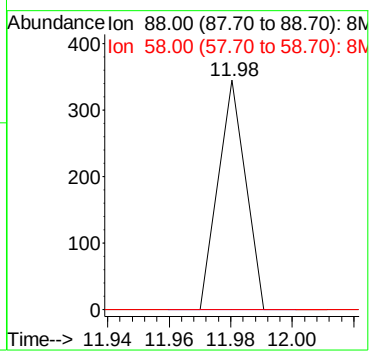


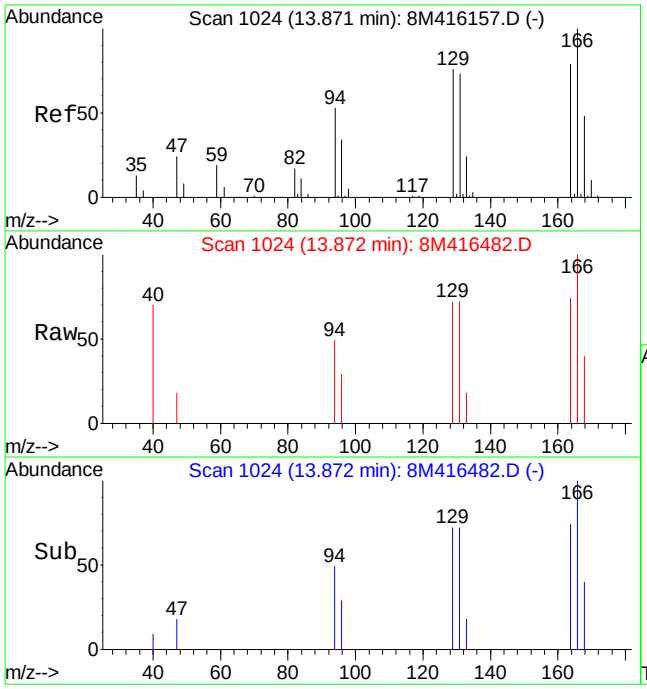


#51
1,4-Dioxane
Concen: 53.90 ug/L
RT: 11.98 min Scan# 841
Delta R.T. -0.01 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion: 88 Resp: 214

Ion	Ratio	Lower	Upper
88	100		
58	0.0	23.9	55.7#

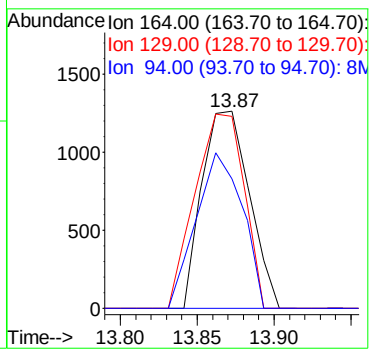


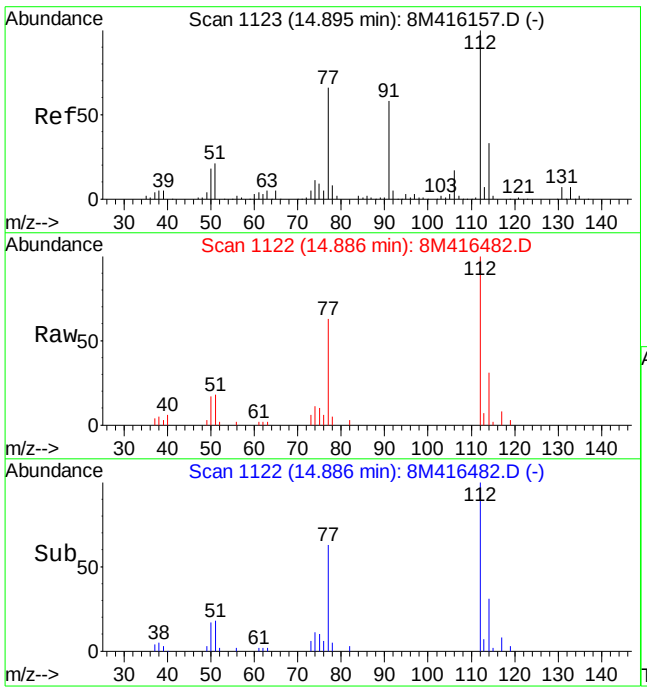


#66
Tetrachloroethene
Concen: 0.67 ug/L
RT: 13.87 min Scan# 1024
Delta R.T. -0.00 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion:164 Resp: 2706

Ion	Ratio	Lower	Upper
164	100		
129	102.0	56.7	132.3
94	76.9	37.0	86.4

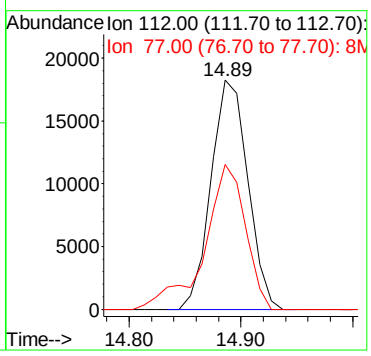


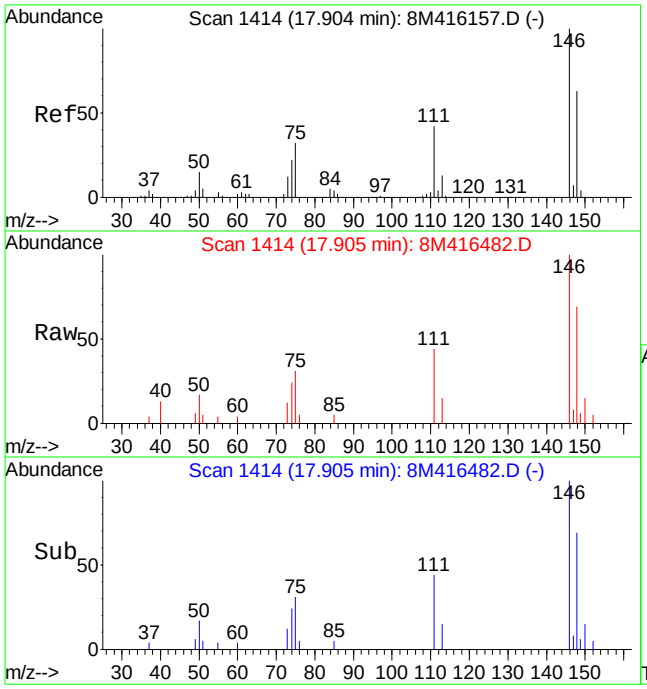


#70
Chlorobenzene
Concen: 2.92 ug/L
RT: 14.89 min Scan# 1122
Delta R.T. -0.01 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion:112 Resp: 41724

Ion	Ratio	Lower	Upper
112	100		
77	70.1	48.3	112.7

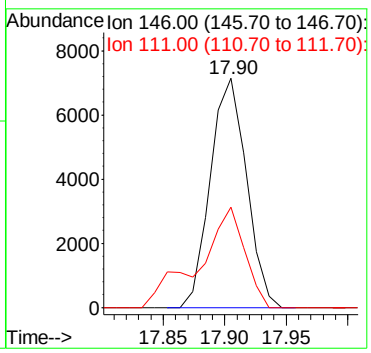




#94
1,4-Dichlorobenzene
Concen: 1.65 ug/L
RT: 17.90 min Scan# 1414
Delta R.T. -0.01 min
Lab File: 8M416482.D
Acq: 6 Dec 2016 18:21

Tgt Ion:146 Resp: 14600

Ion	Ratio	Lower	Upper
146	100		
111	55.7	27.7	64.5



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416478.D Vial: 16
Acq On : 6 Dec 2016 16:23 Operator: TMB
Sample : L16120109-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:50 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

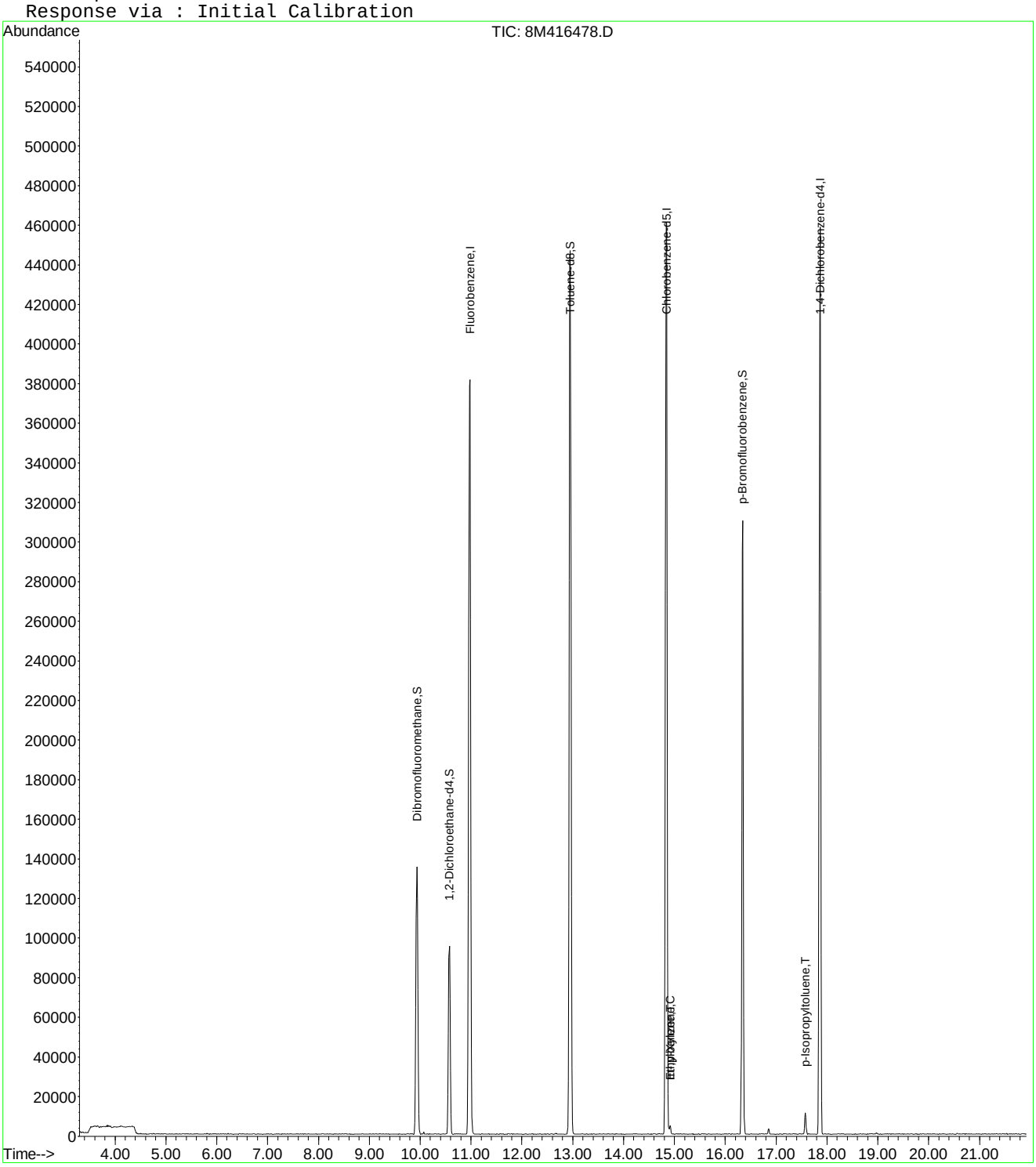
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	504111	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.85	117	359474	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	148188	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	113287	23.8537	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.40%			
43) 1,2-Dichloroethane-d4	10.57	65	86339	22.7884	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 91.16%			
58) Toluene-d8	12.95	98	436063	24.2755	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.12%			
80) p-Bromofluorobenzene	16.33	95	142718	24.6352	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.56%			
Target Compounds						Qvalue
72) Ethylbenzene	14.92	106	2038	0.2518	ug/L #	8
73) m-,p-Xylene	14.92	106	2038	0.2077	ug/L #	1
92) p-Isopropyltoluene	17.57	119	11066	0.6614	ug/L	77

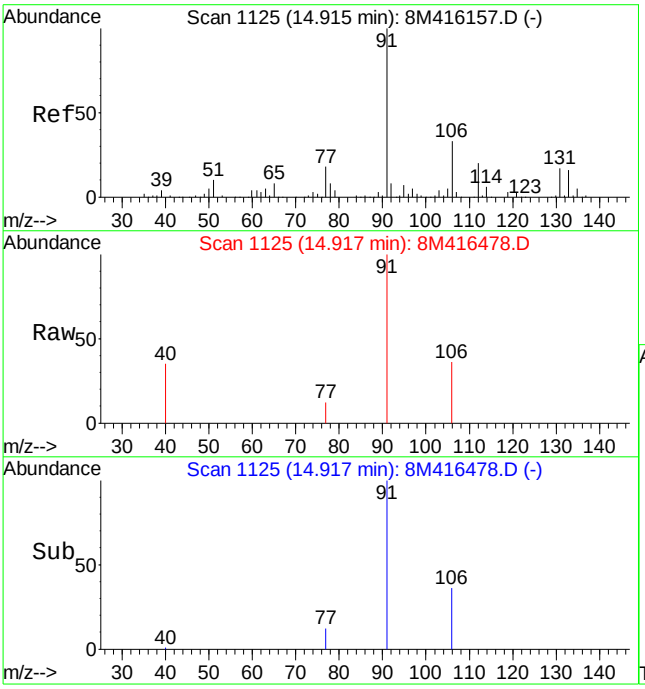
(#) = qualifier out of range (m) = manual integration
8M416478.D 8260WT.M Wed Dec 07 08:47:54 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416478.D Vial: 16
Acq On : 6 Dec 2016 16:23 Operator: TMB
Sample : L16120109-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

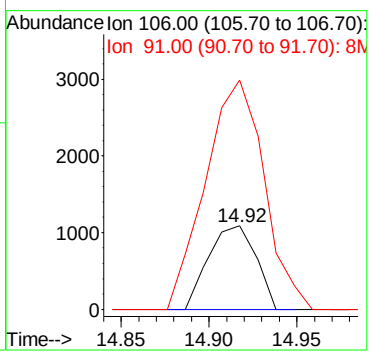


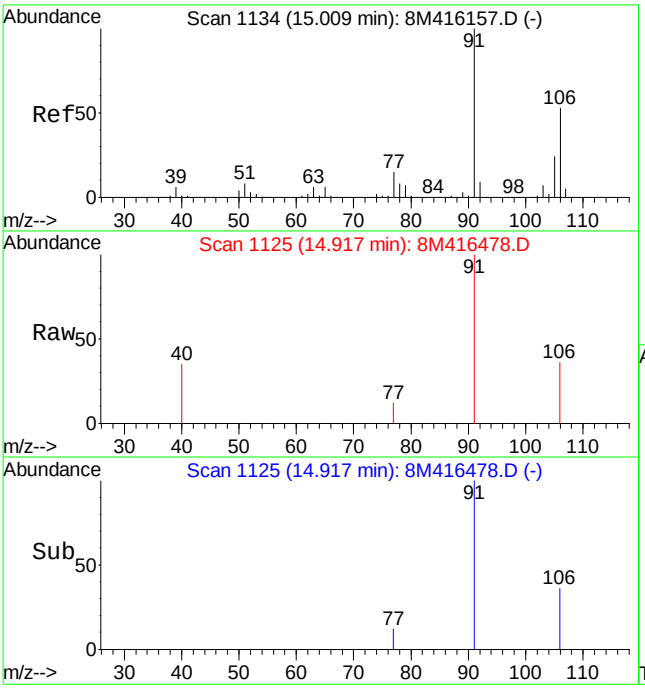


#72
Ethylbenzene
Concen: 0.25 ug/L
RT: 14.92 min Scan# 1125
Delta R.T. 0.00 min
Lab File: 8M416478.D
Acq: 6 Dec 2016 16:23

Tgt Ion:106 Resp: 2038

Ion	Ratio	Lower	Upper
106	100		
91	339.7	119.9	279.9#

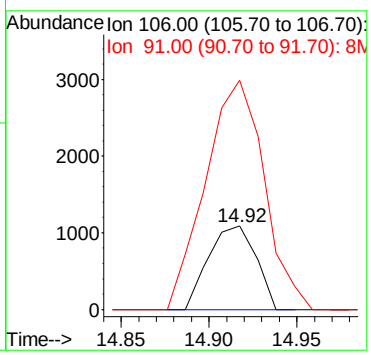


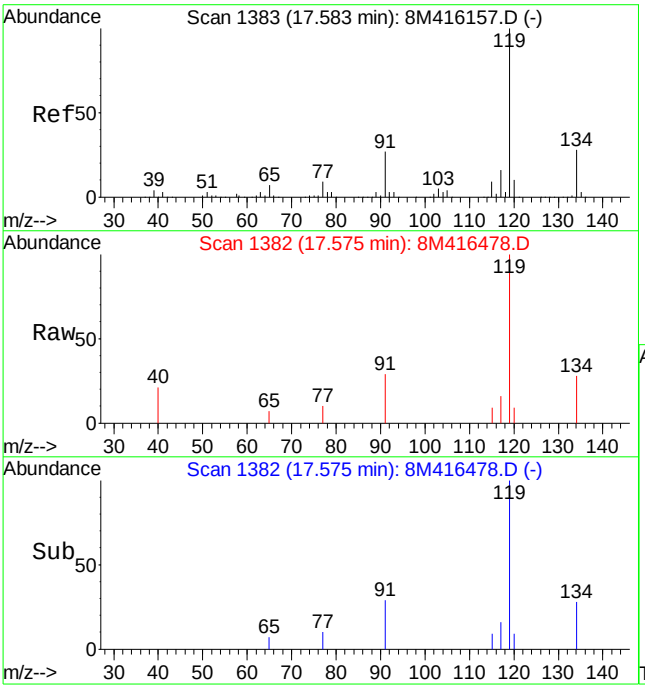


#73
m-,p-Xylene
Concen: 0.21 ug/L
RT: 14.92 min Scan# 1125
Delta R.T. -0.09 min
Lab File: 8M416478.D
Acq: 6 Dec 2016 16:23

Tgt Ion:106 Resp: 2038

Ion	Ratio	Lower	Upper
106	100		
91	339.7	79.3	184.9#

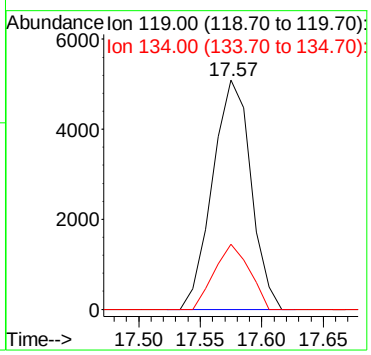




#92
p-Isopropyltoluene
Concen: 0.66 ug/L
RT: 17.57 min Scan# 1382
Delta R.T. -0.01 min
Lab File: 8M416478.D
Acq: 6 Dec 2016 16:23

Tgt Ion:119 Resp: 11066

Ion	Ratio	Lower	Upper
119	100		
134	25.8	23.9	55.7



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416477.D Vial: 15
Acq On : 6 Dec 2016 15:53 Operator: TMB
Sample : L16120109-03 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:45 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

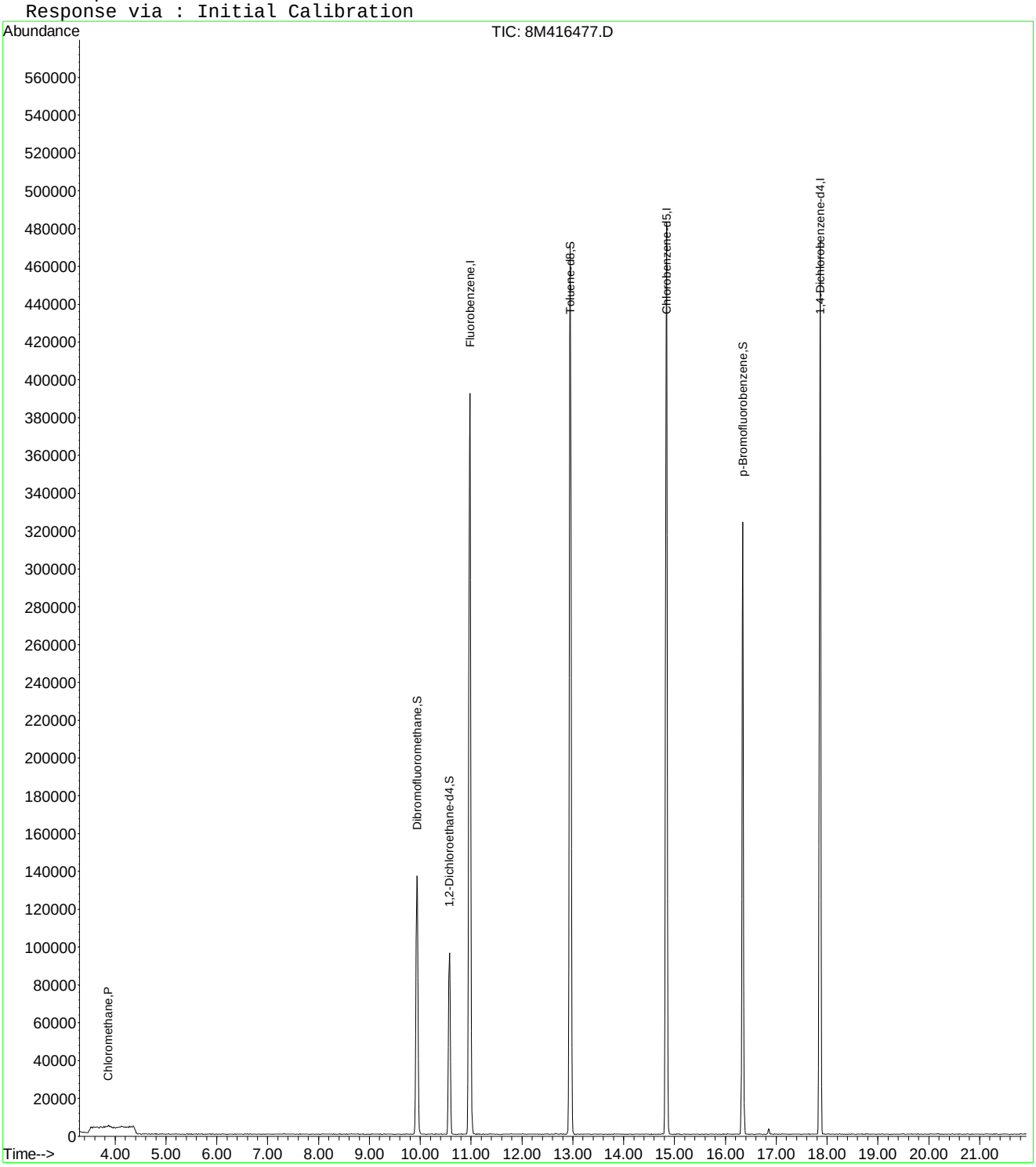
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	503688	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	362764	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	148682	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	114623	24.1553	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.64%			
43) 1,2-Dichloroethane-d4	10.57	65	85785	22.6612	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.64%			
58) Toluene-d8	12.95	98	441598	24.3607	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.44%			
80) p-Bromofluorobenzene	16.34	95	146660	25.2315	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.92%			
Target Compounds						Qvalue
3) Chloromethane	3.86	50	1149	0.1467	ug/L #	39

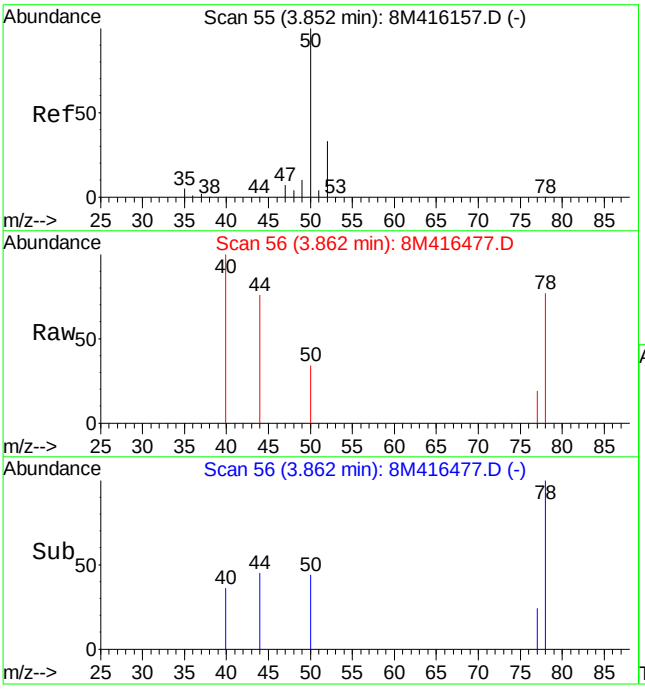
(#) = qualifier out of range (m) = manual integration
8M416477.D 8260WT.M Wed Dec 07 08:47:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416477.D Vial: 15
Acq On : 6 Dec 2016 15:53 Operator: TMB
Sample : L16120109-03 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

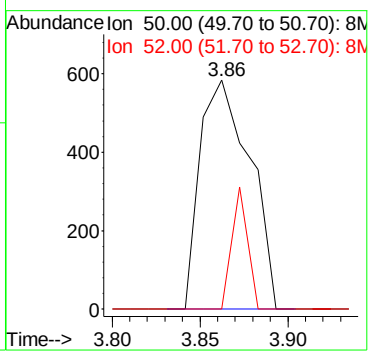




#3
Chloromethane
Concen: 0.15 ug/L
RT: 3.86 min Scan# 56
Delta R.T. 0.01 min
Lab File: 8M416477.D
Acq: 6 Dec 2016 15:53

Tgt Ion: 50 Resp: 1149

Ion	Ratio	Lower	Upper
50	100		
52	0.0	21.2	49.4#



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416476.D Vial: 14
Acq On : 6 Dec 2016 15:23 Operator: TMB
Sample : L16120109-04 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:40 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	517091	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	364490	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	150817	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	116432	23.9005	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.60%			
43) 1,2-Dichloroethane-d4	10.57	65	89989	23.1555	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.64%			
58) Toluene-d8	12.95	98	445387	24.4534	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.80%			
80) p-Bromofluorobenzene	16.34	95	146887	24.9128	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.64%			

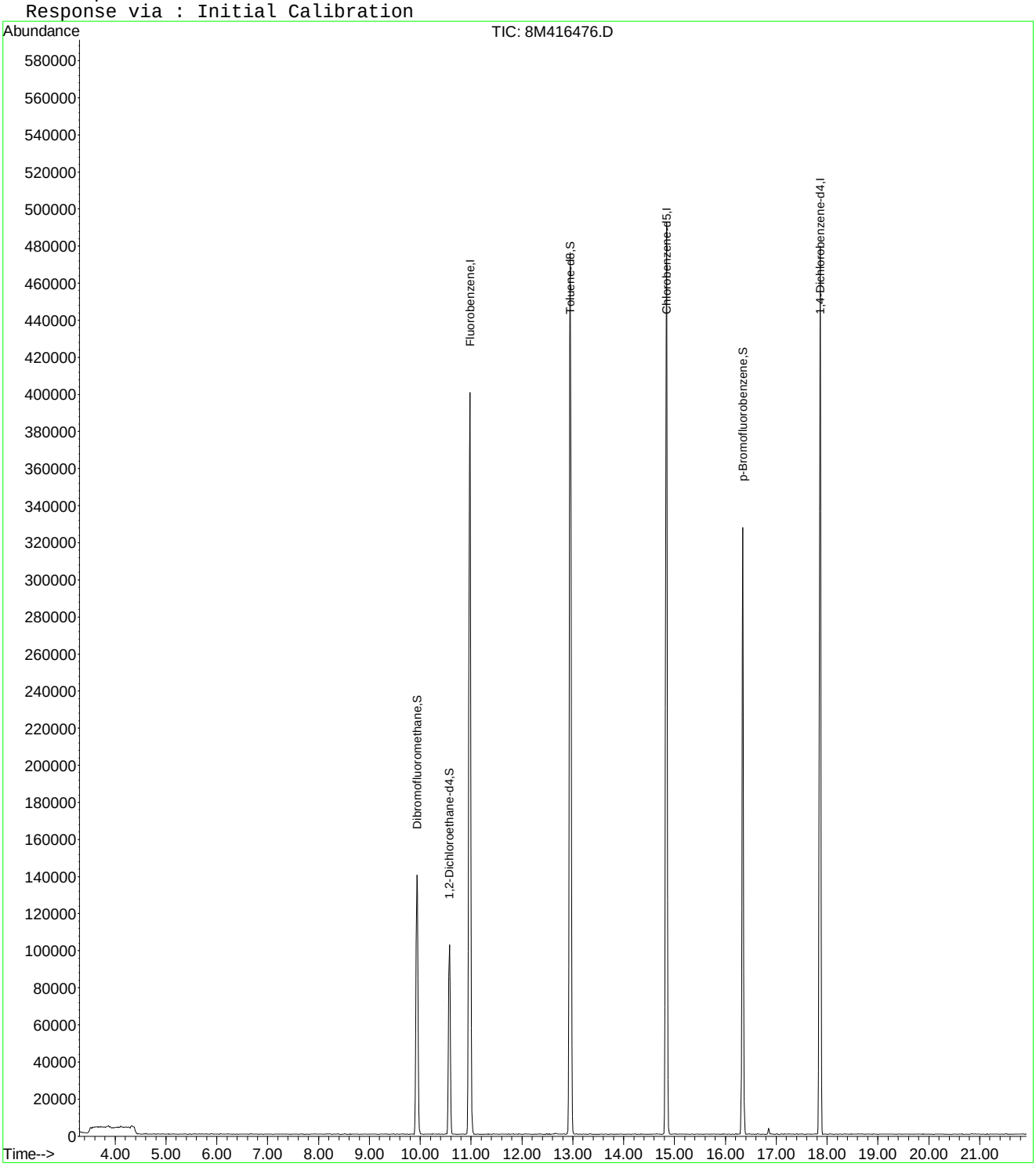
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
8M416476.D 8260WT.M Wed Dec 07 08:47:43 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416476.D Vial: 14
Acq On : 6 Dec 2016 15:23 Operator: TMB
Sample : L16120109-04 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416468.D Vial: 6
Acq On : 6 Dec 2016 11:25 Operator: TMB
Sample : L16120109-05 A RS 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:11 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

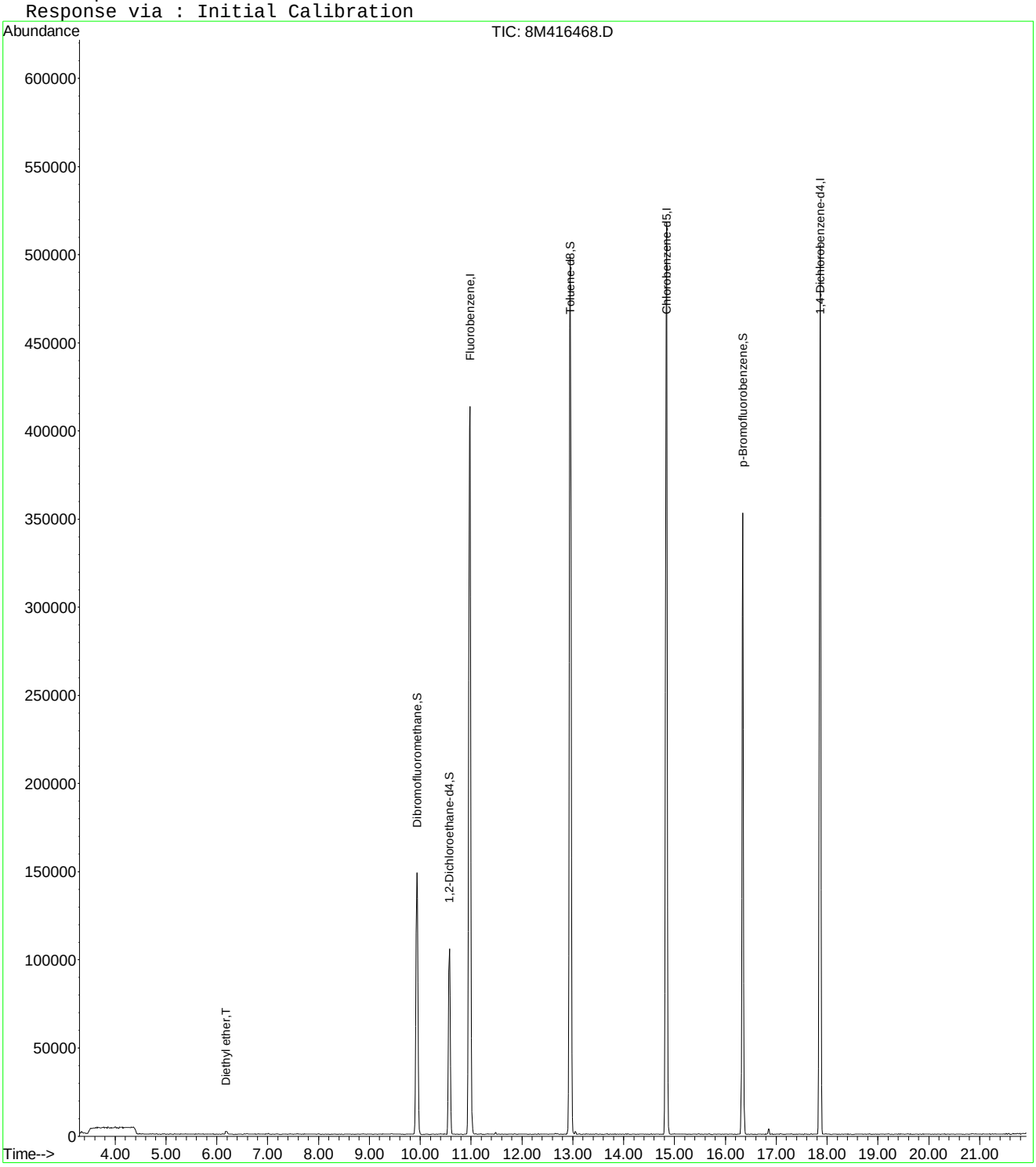
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	549521	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	390368	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	160007	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	124815	24.1093	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.44%			
43) 1,2-Dichloroethane-d4	10.57	65	93520	22.6440	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.56%			
58) Toluene-d8	12.95	98	474665	24.3332	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.32%			
80) p-Bromofluorobenzene	16.34	95	158401	25.3226	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.28%			
Target Compounds						Qvalue
9) Diethyl ether	6.18	59	1919	0.7973	ug/L	77

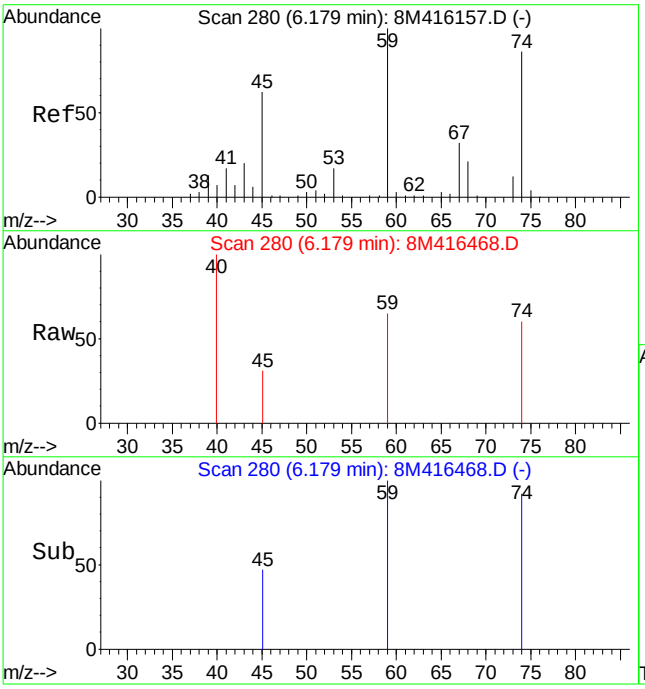
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416468.D Vial: 6
Acq On : 6 Dec 2016 11:25 Operator: TMB
Sample : L16120109-05 A RS 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

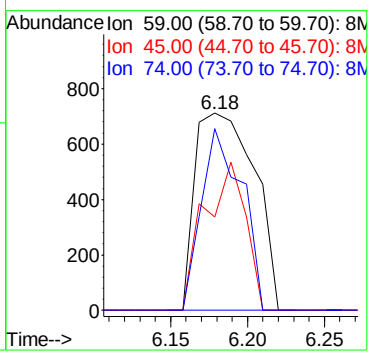




#9
Diethyl ether
Concen: 0.80 ug/L
RT: 6.18 min Scan# 280
Delta R.T. -0.00 min
Lab File: 8M416468.D
Acq: 6 Dec 2016 11:25

Tgt Ion: 59 Resp: 1919

Ion	Ratio	Lower	Upper
59	100		
45	51.5	37.7	87.9
74	62.5	53.4	124.6



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416470.D Vial: 8
Acq On : 6 Dec 2016 12:24 Operator: TMB
Sample : L16120109-06 B MS 826-LOW Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 12:59:03 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.98	96	575403	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.85	117	417043	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	188571	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.93	111	130730	24.1160 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.48%		
43) 1,2-Dichloroethane-d4	10.57	65	95915	22.1792 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.72%		
58) Toluene-d8	12.95	98	498840	23.9368 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.76%		
80) p-Bromofluorobenzene	16.34	95	173780	23.5730 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.28%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.38	85	207984	21.4739 ug/L	95
3) Chloromethane	3.86	50	193319	21.6086 ug/L	97
4) Vinyl Chloride	4.09	62	218301	22.0838 ug/L	96
5) 1,3-Butadiene	4.13	54	460	Below Cal #	1
6) Bromomethane	5.01	94	91199	18.5965 ug/L	98
7) Chloroethane	5.18	64	83519	22.3494 ug/L	100
8) Trichlorofluoromethane	5.66	101	221724	20.8983 ug/L	98
9) Diethyl ether	6.19	59	2029	0.8051 ug/L #	73
10) Isoprene	6.23	67	169863	20.8656 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	128776	21.4920 ug/L	95
13) Acetone	6.52	43	7812	18.8433 ug/L	96
14) 1,1-Dichloroethene	6.75	61	122284	16.1426 ug/L	97
15) Tert-Butyl Alcohol	6.85	59	1226	8.4686 ug/L #	62
16) Dimethyl Sulfide	7.02	62	104408	26.6484 ug/L	100
17) Iodomethane	7.28	142	85067	21.4911 ug/L	99
18) Methyl acetate	7.28	43	19954	15.5566 ug/L	99
19) Methylene Chloride	7.54	84	100560	17.8715 ug/L	98
20) Carbon Disulfide	7.59	76	353080	18.8295 ug/L	95
21) Acrylonitrile	7.71	53	12179	20.4951 ug/L	95
22) Methyl Tert Butyl Ether	7.74	73	181357	19.0084 ug/L	96
23) trans-1,2-Dichloroethene	7.98	61	131044	18.0891 ug/L	98
24) n-Hexane	8.06	57	120817	19.1264 ug/L	100
27) 1,1-Dichloroethane	8.60	63	175604	18.4514 ug/L	97
29) 2-Butanone	9.15	43	11199	16.8629 ug/L	93
31) 2,2-Dichloropropane	9.38	77	180305	19.3345 ug/L	95
32) cis-1,2-Dichloroethene	9.44	96	125107	19.4406 ug/L	97
33) Chloroform	9.64	83	210732	19.4324 ug/L	95
34) 1-Bromopropane	9.78	122	23889	19.0511 ug/L	99
35) Bromochloromethane	9.88	130	55494	19.5691 ug/L	96
38) 1,1,1-Trichloroethane	10.18	97	193941	19.4994 ug/L	97
39) Cyclohexane	10.21	56	118992	15.4916 ug/L	98
40) 1,1-Dichloropropene	10.37	75	151398	18.5278 ug/L	96
41) Tert-Amyl-Methyl ether	10.38	73	22599	2.1178 ug/L #	61
42) Carbon Tetrachloride	10.52	117	169655	18.9739 ug/L	100
45) 1,2-Dichloroethane	10.69	62	97689	18.1519 ug/L	98
46) Benzene	10.73	78	448567	19.1967 ug/L	91
47) Trichloroethene	11.48	130	113146	18.6696 ug/L	97
48) Methylcyclohexane	11.57	83	168820	16.9026 ug/L	98
49) 1,2-Dichloropropane	11.69	63	91161	19.2675 ug/L	97
50) Bromodichloromethane	11.99	83	136950	19.0489 ug/L	96

(#) = qualifier out of range (m) = manual integration
8M416470.D 8260WT.M Tue Dec 06 12:59:06 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416470.D Vial: 8
Acq On : 6 Dec 2016 12:24 Operator: TMB
Sample : L16120109-06 B MS 826-LOW Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 12:59:03 2016 Quant Results File: 8260WT.RES

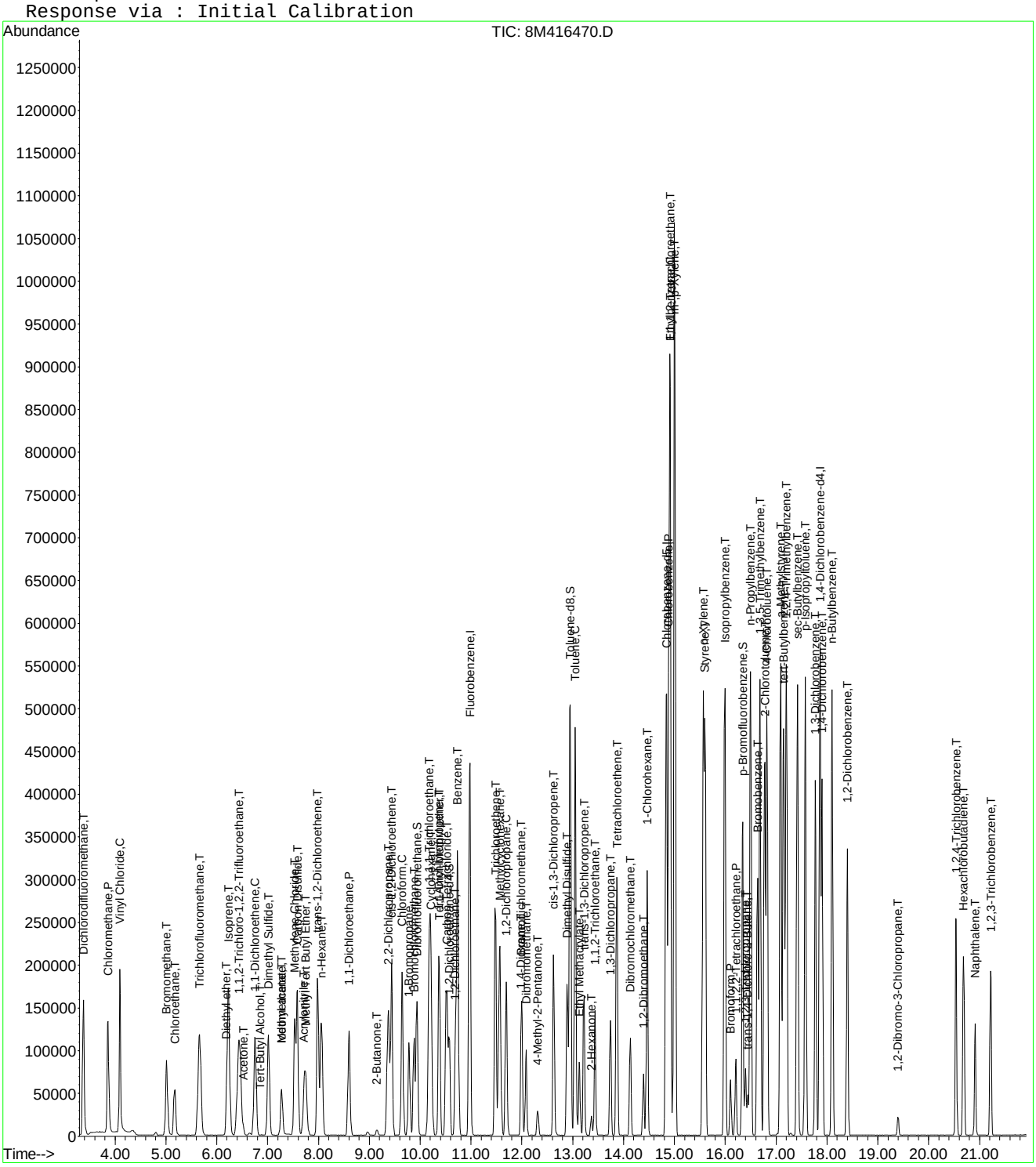
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	1,4-Dioxane	11.98	88	568	65.9373 ug/L	#	35
52)	Dibromomethane	12.08	93	49748	19.8078 ug/L		93
54)	4-Methyl-2-Pentanone	12.31	58	11464	16.5921 ug/L		99
55)	cis-1,3-Dichloropropene	12.62	75	156649	20.1019 ug/L		96
56)	Dimethyl Disulfide	12.89	79	76100	16.7133 ug/L		88
59)	Toluene	13.05	91	493173	19.3077 ug/L		83
60)	Ethyl Methacrylate	13.13	69	74182	18.8788 ug/L		94
62)	trans-1,3-Dichloropropene	13.22	75	116164	17.3754 ug/L		97
63)	1,1,2-Trichloroethane	13.44	97	61100	18.4875 ug/L		96
64)	2-Hexanone	13.37	58	11033	16.8626 ug/L		98
65)	1,3-Dichloropropane	13.74	76	110147	18.6915 ug/L		97
66)	Tetrachloroethene	13.87	164	88861	18.6365 ug/L		95
67)	Dibromochloromethane	14.13	129	77555	17.8975 ug/L		99
68)	1,2-Dibromoethane	14.39	107	57945	18.0136 ug/L		98
69)	1-Chlorohexane	14.46	91	169249	18.7588 ug/L		98
70)	Chlorobenzene	14.89	112	298149	17.7445 ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.92	131	103470	16.4856 ug/L		98
72)	Ethylbenzene	14.92	106	179360	19.1031 ug/L	#	19
73)	m-,p-Xylene	15.00	106	429407	37.7302 ug/L	#	39
74)	o-Xylene	15.57	106	198913	17.8335 ug/L		60
75)	Styrene	15.60	104	322697	19.1793 ug/L		87
76)	Bromoform	16.11	173	39175	14.9901 ug/L		97
77)	Isopropylbenzene	15.99	105	522779	19.6822 ug/L		76
79)	1,1,2,2-Tetrachloroethane	16.21	83	63165	19.2012 ug/L		98
81)	1,2,3-Trichloropropane	16.40	110	17278	18.9361 ug/L	#	20
82)	trans-1,4-Dichloro-2-Buten	16.44	53	11334	16.0138 ug/L	#	7
83)	n-Propylbenzene	16.50	91	624964	19.3901 ug/L	#	73
84)	Bromobenzene	16.63	156	108315	18.3647 ug/L		90
85)	1,3,5-Trimethylbenzene	16.69	105	436343	19.7931 ug/L		78
86)	2-Chlorotoluene	16.78	91	419944	20.9684 ug/L	#	70
87)	4-Chlorotoluene	16.82	91	344140	17.7489 ug/L		75
88)	a-Methylstyrene	17.09	118	233487	18.2076 ug/L		94
89)	tert-Butylbenzene	17.15	134	85093	19.2558 ug/L		61
90)	1,2,4-Trimethylbenzene	17.20	105	448804	20.0285 ug/L		73
91)	sec-Butylbenzene	17.42	105	553078	20.1217 ug/L	#	77
92)	p-Isopropyltoluene	17.57	119	427721	20.0897 ug/L		78
93)	1,3-Dichlorobenzene	17.77	146	219408	18.8123 ug/L		91
94)	1,4-Dichlorobenzene	17.91	146	215826	18.5879 ug/L		93
95)	n-Butylbenzene	18.10	91	422336	19.5650 ug/L		79
96)	1,2-Dichlorobenzene	18.40	146	177260	18.7567 ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.39	75	8595	19.3188 ug/L		87
98)	1,2,4-Trichlorobenzene	20.54	180	101970	17.6147 ug/L		99
99)	Hexachlorobutadiene	20.69	225	51280	18.0809 ug/L		99
100)	Naphthalene	20.91	128	135628	18.7846 ug/L		97
101)	1,2,3-Trichlorobenzene	21.22	180	75666	18.3284 ug/L		100

(#) = qualifier out of range (m) = manual integration
8M416470.D 8260WT.M Tue Dec 06 12:59:07 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416470.D Vial: 8
Acq On : 6 Dec 2016 12:24 Operator: TMB
Sample : L16120109-06 B MS 826-LOW Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 6 12:59 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416471.D Vial: 9
Acq On : 6 Dec 2016 12:54 Operator: TMB
Sample : L16120109-07 B MSD 826-LOW Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 15:43:03 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.97	96	592699	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.85	117	425049	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	192064	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.93	111	135067	24.1889 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.76%		
43) 1,2-Dichloroethane-d4	10.57	65	96866	21.7455 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 87.00%		
58) Toluene-d8	12.94	98	507289	23.8838 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.52%		
80) p-Bromofluorobenzene	16.33	95	176408	23.4943 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 93.96%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.38	85	218336	21.8848 ug/L	95
3) Chloromethane	3.85	50	199840	21.6857 ug/L	97
4) Vinyl Chloride	4.09	62	229476	22.5369 ug/L	96
5) 1,3-Butadiene	4.15	54	667	Below Cal #	1
6) Bromomethane	5.01	94	97735	19.3476 ug/L	99
7) Chloroethane	5.17	64	87970	22.8536 ug/L	99
8) Trichlorofluoromethane	5.66	101	229857	21.0327 ug/L	98
9) Diethyl ether	6.18	59	2148	0.8275 ug/L	82
10) Isoprene	6.22	67	179353	21.3884 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	133788	21.6769 ug/L	96
13) Acetone	6.52	43	8070	18.8976 ug/L	95
14) 1,1-Dichloroethene	6.75	61	128087	16.4152 ug/L	97
16) Dimethyl Sulfide	7.01	62	108713	26.9374 ug/L	98
17) Iodomethane	7.28	142	82973	20.4326 ug/L	98
18) Methyl acetate	7.28	43	21031	15.9178 ug/L	96
19) Methylene Chloride	7.54	84	105448	18.1933 ug/L	99
20) Carbon Disulfide	7.58	76	370437	19.1786 ug/L	95
21) Acrylonitrile	7.71	53	11945	19.5835 ug/L	94
22) Methyl Tert Butyl Ether	7.73	73	185594	18.8849 ug/L	98
23) trans-1,2-Dichloroethene	7.98	61	137356	18.4071 ug/L	99
24) n-Hexane	8.05	57	126489	19.4400 ug/L	96
27) 1,1-Dichloroethane	8.60	63	184375	18.8076 ug/L	96
29) 2-Butanone	9.15	43	11891	17.3823 ug/L	99
31) 2,2-Dichloropropane	9.38	77	184607	19.2182 ug/L	97
32) cis-1,2-Dichloroethene	9.44	96	130368	19.6670 ug/L	98
33) Chloroform	9.64	83	220191	19.7121 ug/L	96
34) 1-Bromopropane	9.78	122	24968	19.3305 ug/L	98
35) Bromochloromethane	9.88	130	57336	19.6286 ug/L	95
38) 1,1,1-Trichloroethane	10.17	97	203241	19.8382 ug/L	96
39) Cyclohexane	10.21	56	123437	15.6014 ug/L	99
40) 1,1-Dichloropropene	10.37	75	158508	18.8319 ug/L	95
42) Carbon Tetrachloride	10.52	117	179153	19.4515 ug/L	99
45) 1,2-Dichloroethane	10.69	62	99410	17.9327 ug/L	98
46) Benzene	10.73	78	467085	19.4059 ug/L	91
47) Trichloroethene	11.48	130	119160	19.0882 ug/L	98
48) Methylcyclohexane	11.56	83	175885	17.0961 ug/L	97
49) 1,2-Dichloropropane	11.69	63	93969	19.2815 ug/L	97
50) Bromodichloromethane	11.99	83	142072	19.1846 ug/L	96
52) Dibromomethane	12.07	93	50390	19.4780 ug/L	95
54) 4-Methyl-2-Pentanone	12.31	58	11916	16.7430 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416471.D 8260WT.M Tue Dec 06 15:43:06 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416471.D Vial: 9
Acq On : 6 Dec 2016 12:54 Operator: TMB
Sample : L16120109-07 B MSD 826-LOW Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 15:43:03 2016 Quant Results File: 8260WT.RES

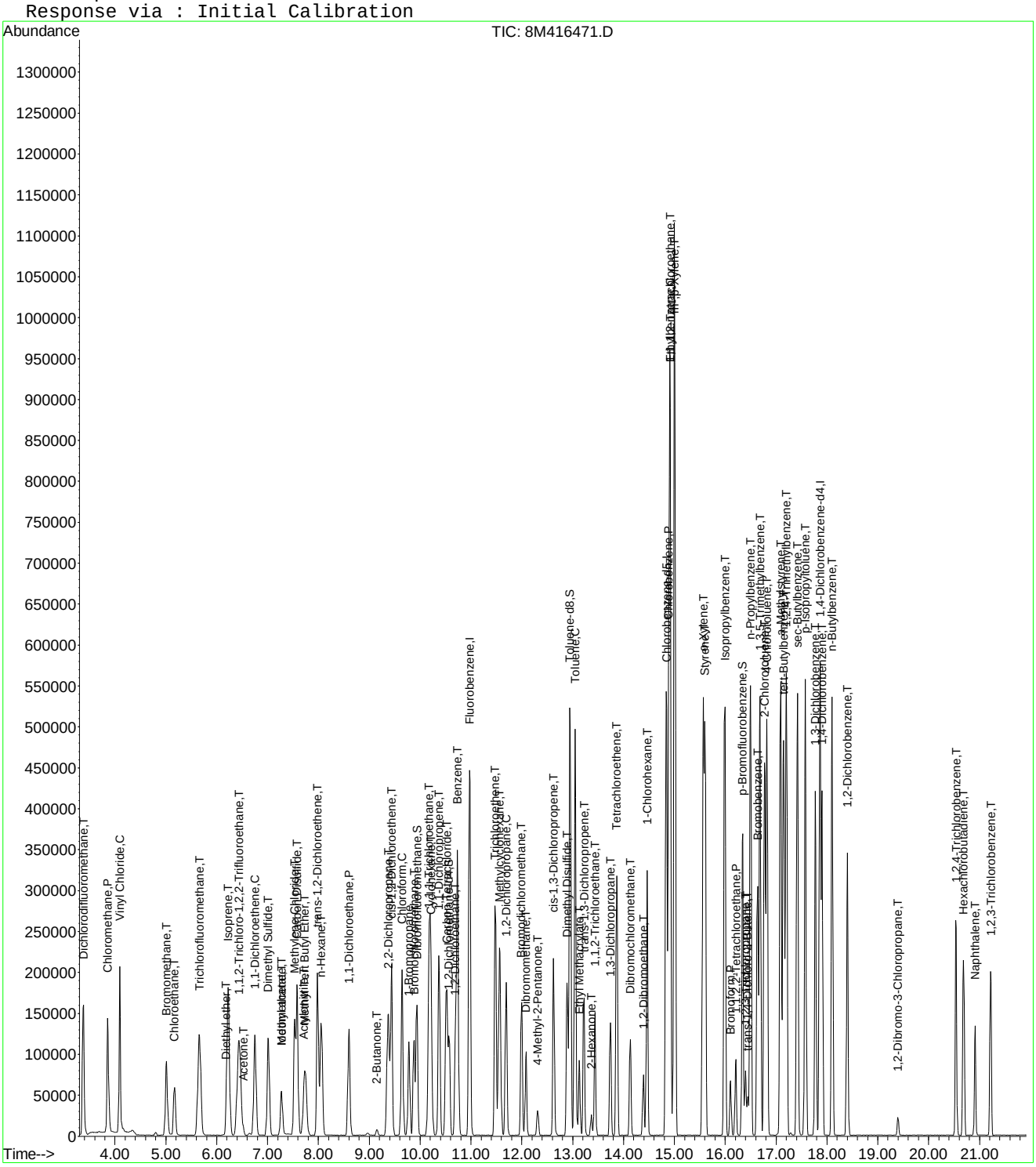
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
55)	cis-1,3-Dichloropropene	12.62	75	161530	20.1234	ug/L		97
56)	Dimethyl Disulfide	12.89	79	78413	16.7187	ug/L		87
59)	Toluene	13.05	91	513957	19.7424	ug/L		82
60)	Ethyl Methacrylate	13.13	69	75081	18.7476	ug/L		97
62)	trans-1,3-Dichloropropene	13.22	75	119127	17.4830	ug/L		97
63)	1,1,2-Trichloroethane	13.44	97	63323	18.7993	ug/L		99
64)	2-Hexanone	13.37	58	11717	17.5707	ug/L		96
65)	1,3-Dichloropropane	13.74	76	112869	18.7926	ug/L		97
66)	Tetrachloroethene	13.86	164	92227	18.9781	ug/L		95
67)	Dibromochloromethane	14.13	129	81870	18.5375	ug/L		96
68)	1,2-Dibromoethane	14.39	107	60367	18.4130	ug/L		100
69)	1-Chlorohexane	14.46	91	176737	19.2198	ug/L		99
70)	Chlorobenzene	14.89	112	307449	17.9534	ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.92	131	107726	16.8295	ug/L		97
72)	Ethylbenzene	14.92	106	187401	19.5836	ug/L	#	19
73)	m-,p-Xylene	15.00	106	446015	38.4513	ug/L	#	40
74)	o-Xylene	15.57	106	204699	18.0066	ug/L		59
75)	Styrene	15.60	104	333932	19.4732	ug/L		86
76)	Bromoform	16.11	173	40471	15.1841	ug/L		97
77)	Isopropylbenzene	15.99	105	538933	19.9082	ug/L		76
79)	1,1,2,2-Tetrachloroethane	16.21	83	64301	19.1911	ug/L		99
81)	1,2,3-Trichloropropane	16.40	110	17239	18.5498	ug/L	#	17
82)	trans-1,4-Dichloro-2-Buten	16.44	53	11115	15.4396	ug/L	#	1
83)	n-Propylbenzene	16.50	91	645109	19.6511	ug/L	#	72
84)	Bromobenzene	16.63	156	111723	18.5981	ug/L		89
85)	1,3,5-Trimethylbenzene	16.69	105	451663	20.1155	ug/L		78
86)	2-Chlorotoluene	16.77	91	435844	21.3665	ug/L		71
87)	4-Chlorotoluene	16.82	91	350860	17.7664	ug/L		75
88)	a-Methylstyrene	17.09	118	239675	18.3502	ug/L		94
89)	tert-Butylbenzene	17.15	134	86735	19.2705	ug/L		58
90)	1,2,4-Trimethylbenzene	17.20	105	459641	20.1391	ug/L		74
91)	sec-Butylbenzene	17.42	105	568981	20.3238	ug/L	#	77
92)	p-Isopropyltoluene	17.58	119	438920	20.2408	ug/L		79
93)	1,3-Dichlorobenzene	17.77	146	224189	18.8726	ug/L		91
94)	1,4-Dichlorobenzene	17.91	146	221265	18.7097	ug/L		93
95)	n-Butylbenzene	18.10	91	431999	19.6487	ug/L		78
96)	1,2-Dichlorobenzene	18.40	146	181549	18.8611	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.40	75	8434	18.6122	ug/L		89
98)	1,2,4-Trichlorobenzene	20.54	180	105935	17.9669	ug/L		98
99)	Hexachlorobutadiene	20.69	225	53528	18.5303	ug/L		98
100)	Naphthalene	20.91	128	137865	18.7472	ug/L		98
101)	1,2,3-Trichlorobenzene	21.23	180	78189	18.5951	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M416471.D 8260WT.M Tue Dec 06 15:43:07 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416471.D Vial: 9
Acq On : 6 Dec 2016 12:54 Operator: TMB
Sample : L16120109-07 B MSD 826-LOW Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 6 15:43 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416475.D Vial: 13
Acq On : 6 Dec 2016 14:53 Operator: TMB
Sample : L16120109-08 B 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:34 2016 Quant Results File: 8260WT.RES

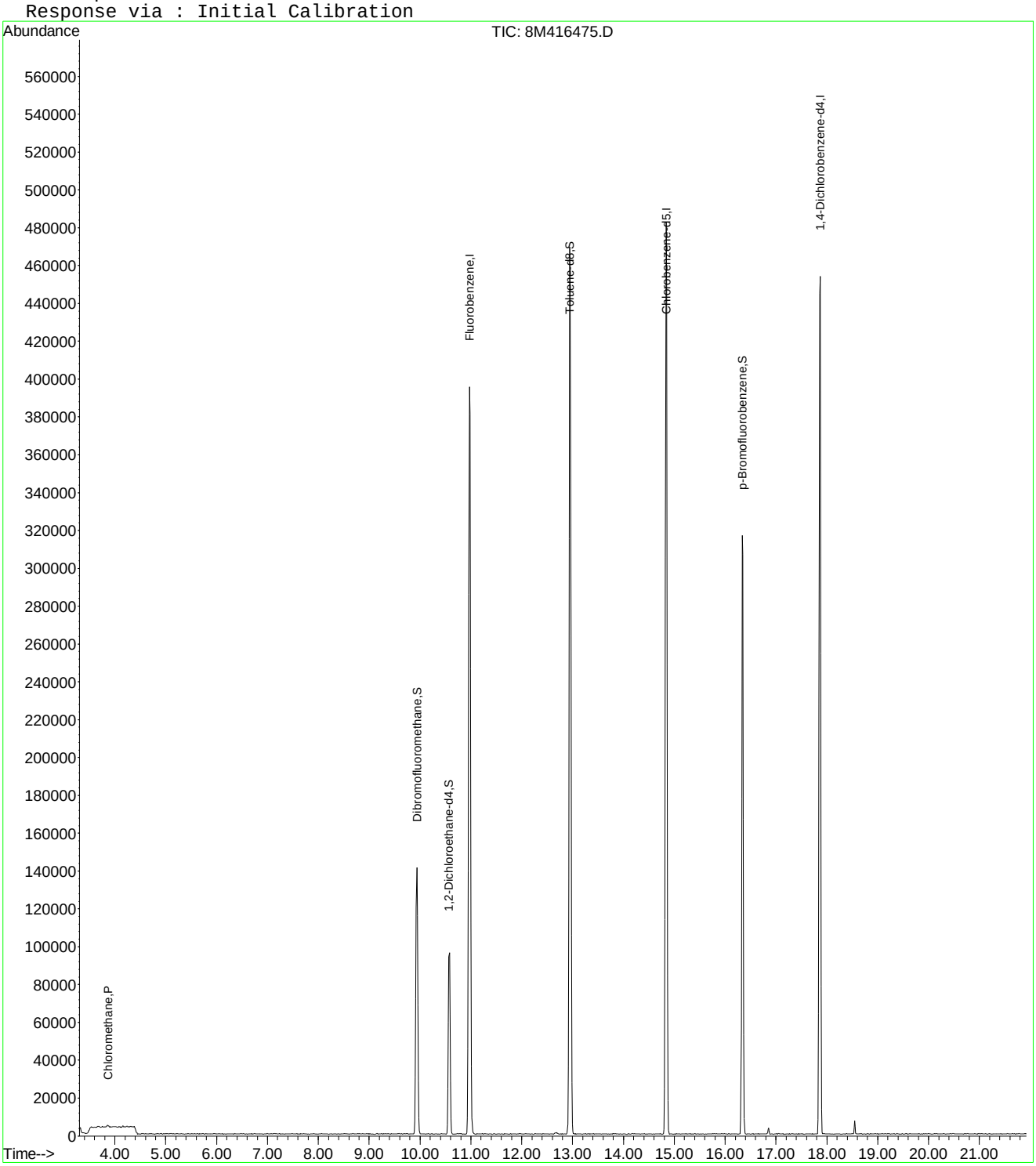
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

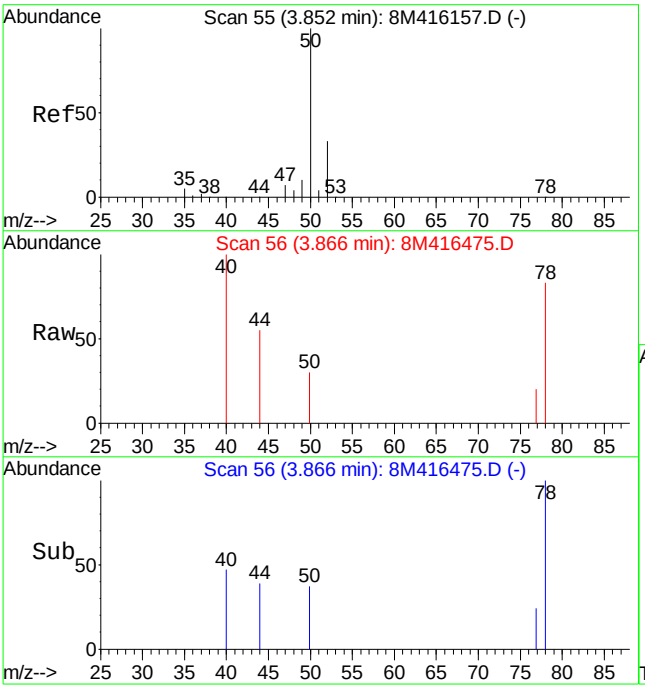
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	515127	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	366548	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.87	152	151438	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.94	111	117659	24.2445	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.96%			
43) 1,2-Dichloroethane-d4	10.57	65	87715	22.6564	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.64%			
58) Toluene-d8	12.94	98	446510	24.3774	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.52%			
80) p-Bromofluorobenzene	16.34	95	148806	25.1348	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.52%			
Target Compounds						Qvalue
3) Chloromethane	3.87	50	1337	0.1669	ug/L #	39

(#) = qualifier out of range (m) = manual integration

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416475.D Vial: 13
Acq On : 6 Dec 2016 14:53 Operator: TMB
Sample : L16120109-08 B 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

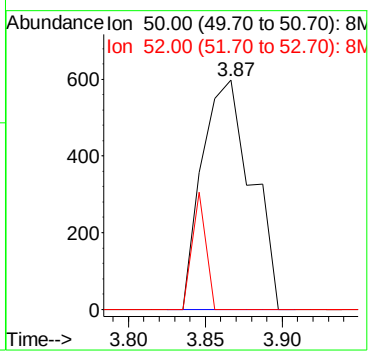




#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.87 min Scan# 56
Delta R.T. 0.01 min
Lab File: 8M416475.D
Acq: 6 Dec 2016 14:53

Tgt Ion: 50 Resp: 1337

Ion	Ratio	Lower	Upper
50	100		
52	0.0	21.2	49.4#



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416474.D Vial: 12
Acq On : 6 Dec 2016 14:23 Operator: TMB
Sample : L16120109-09 B TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:29 2016 Quant Results File: 8260WT.RES

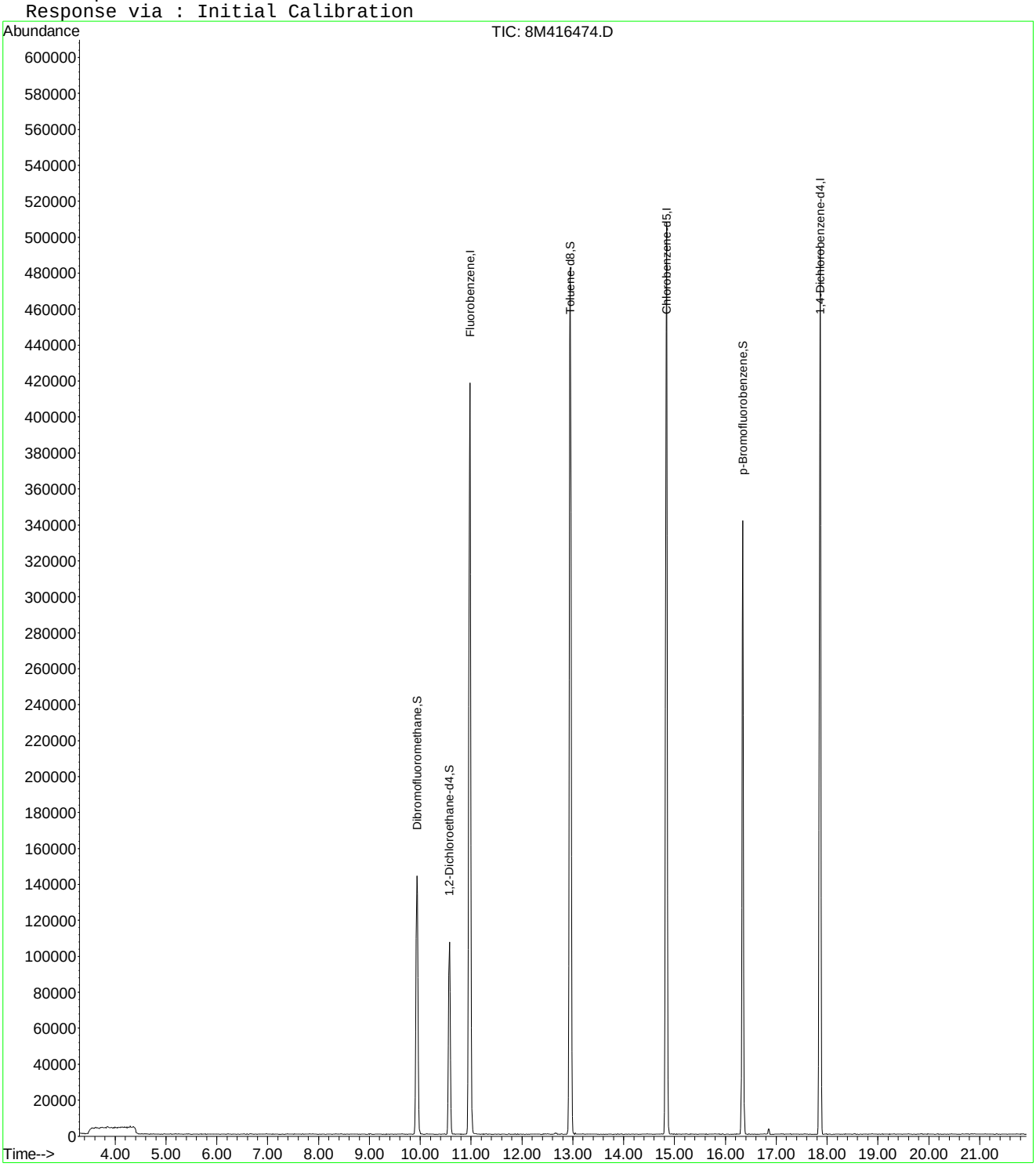
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

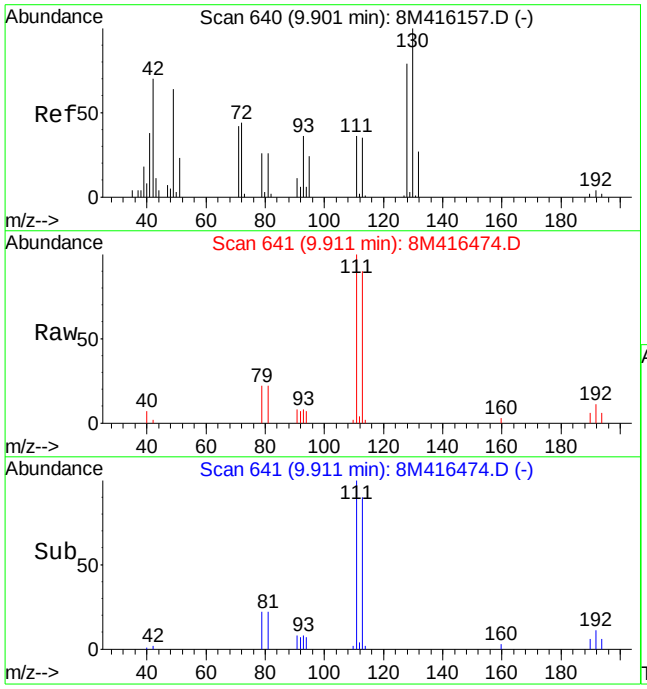
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	537852	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	379763	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	155407	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	121563	23.9906	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.96%			
43) 1,2-Dichloroethane-d4	10.57	65	92640	22.9175	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 91.68%			
58) Toluene-d8	12.95	98	460204	24.2507	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.00%			
80) p-Bromofluorobenzene	16.34	95	153860	25.3247	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.28%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.91	42	471	Below Cal	#	18

(#) = qualifier out of range (m) = manual integration
8M416474.D 8260WT.M Wed Dec 07 08:47:32 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416474.D Vial: 12
Acq On : 6 Dec 2016 14:23 Operator: TMB
Sample : L16120109-09 B TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

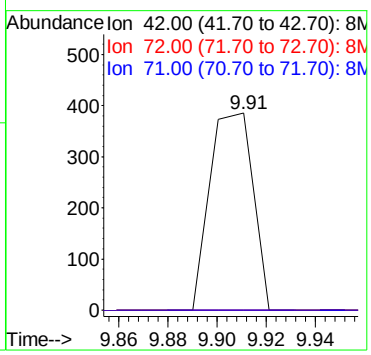




#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.91 min Scan# 641
Delta R.T. 0.01 min
Lab File: 8M416474.D
Acq: 6 Dec 2016 14:23

Tgt Ion: 42 Resp: 471

Ion	Ratio	Lower	Upper
42	100		
72	0.0	40.1	93.5#
71	0.0	37.0	86.2#



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412321.D Vial: 3
Acq On : 17 May 2016 9:47 Operator: TMB
Sample : WG569079-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:01:21 2016 Quant Results File: A9FOOWT.RES

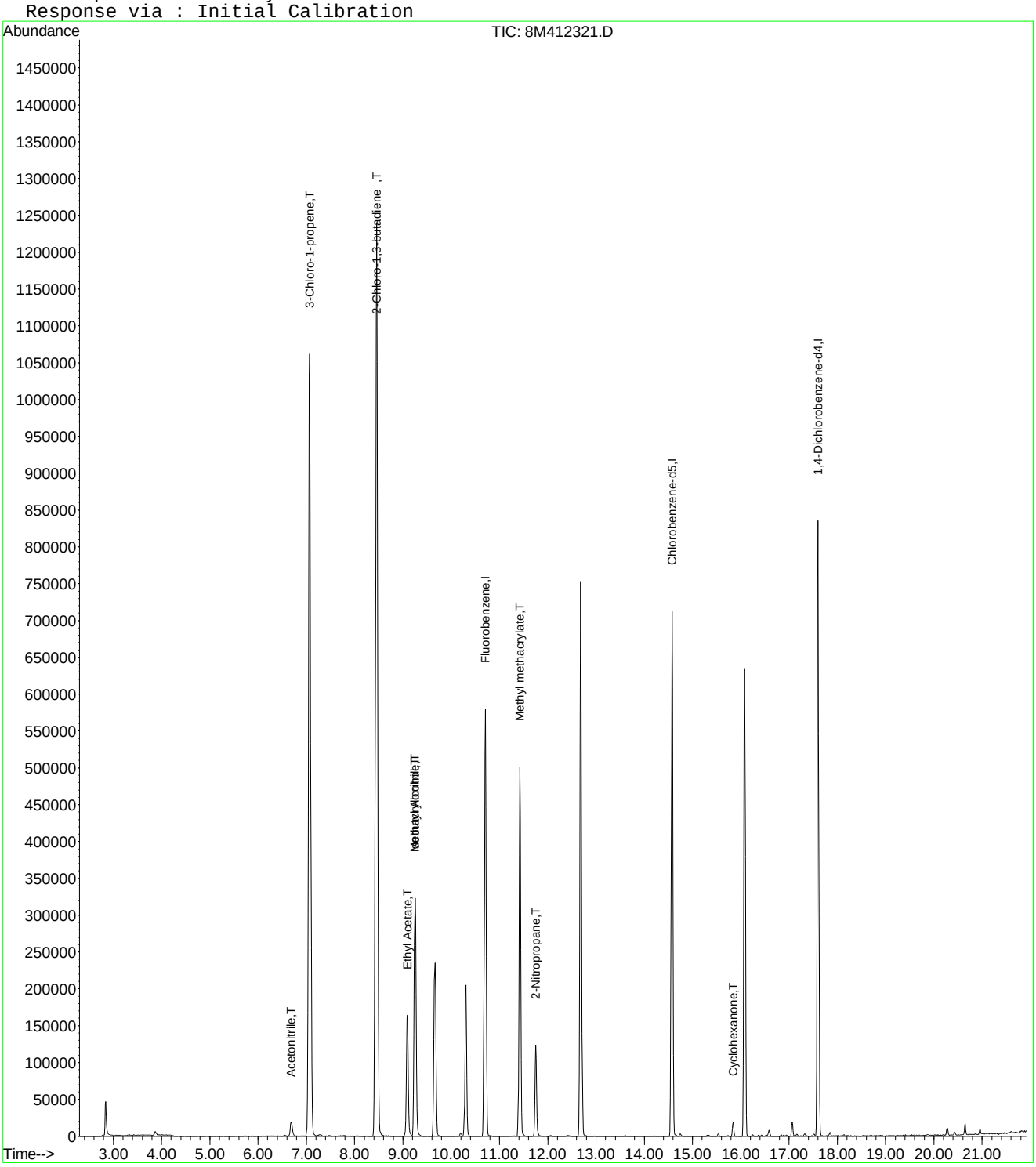
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	709364	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	505399	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	272922	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	27428	100.2132	ug/L		99
3) 3-Chloro-1-propene	7.07	41	940418	104.3259	ug/L		82
4) 2-Chloro-1,3-butadiene	8.45	53	1188994	104.3183	ug/L		86
5) Ethyl Acetate	9.10	43	283167	104.3264	ug/L		95
6) Methacrylonitrile	9.25	67	155775	104.5365	ug/L	#	63
7) Isobutyl Alcohol	9.25	43	17893	197.3629	ug/L	#	96
9) Methyl methacrylate	11.42	41	298802	102.0346	ug/L		70
10) 2-Nitropropane	11.75	43	121321	95.8263	ug/L		97
13) Cyclohexanone	15.84	55	11401	102.1363	ug/L	#	70

(#) = qualifier out of range (m) = manual integration
8M412321.D A9FOOWT.M Thu May 19 09:01:22 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412321.D Vial: 3
Acq On : 17 May 2016 9:47 Operator: TMB
Sample : WG569079-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412321.D Vial: 3
Acq On : 17 May 2016 9:47 Operator: TMB
Sample : WG569079-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	100.0000	100.2132	-0.2	100	0.00
3	T	3-Chloro-1-propene	100.0000	104.3259	-4.3	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	104.3183	-4.3	100	0.00
5	T	Ethyl Acetate	100.0000	104.3264	-4.3	100	0.00
6	T	Methacrylonitrile	100.0000	104.5365	-4.5	100	0.00
7	T	Isobutyl Alcohol	200.0000	197.3629	1.3	100	-0.01
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.02
9	T	Methyl methacrylate	100.0000	102.0346	-2.0	100	0.00
10	T	2-Nitropropane	100.0000	95.8263	4.2	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	100.0000	102.1363	-2.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M412321.D A9FOOWT.M Thu May 19 09:02:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412322.D Vial: 4
Acq On : 17 May 2016 10:16 Operator: TMB
Sample : WG569079-03 50ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:20:35 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

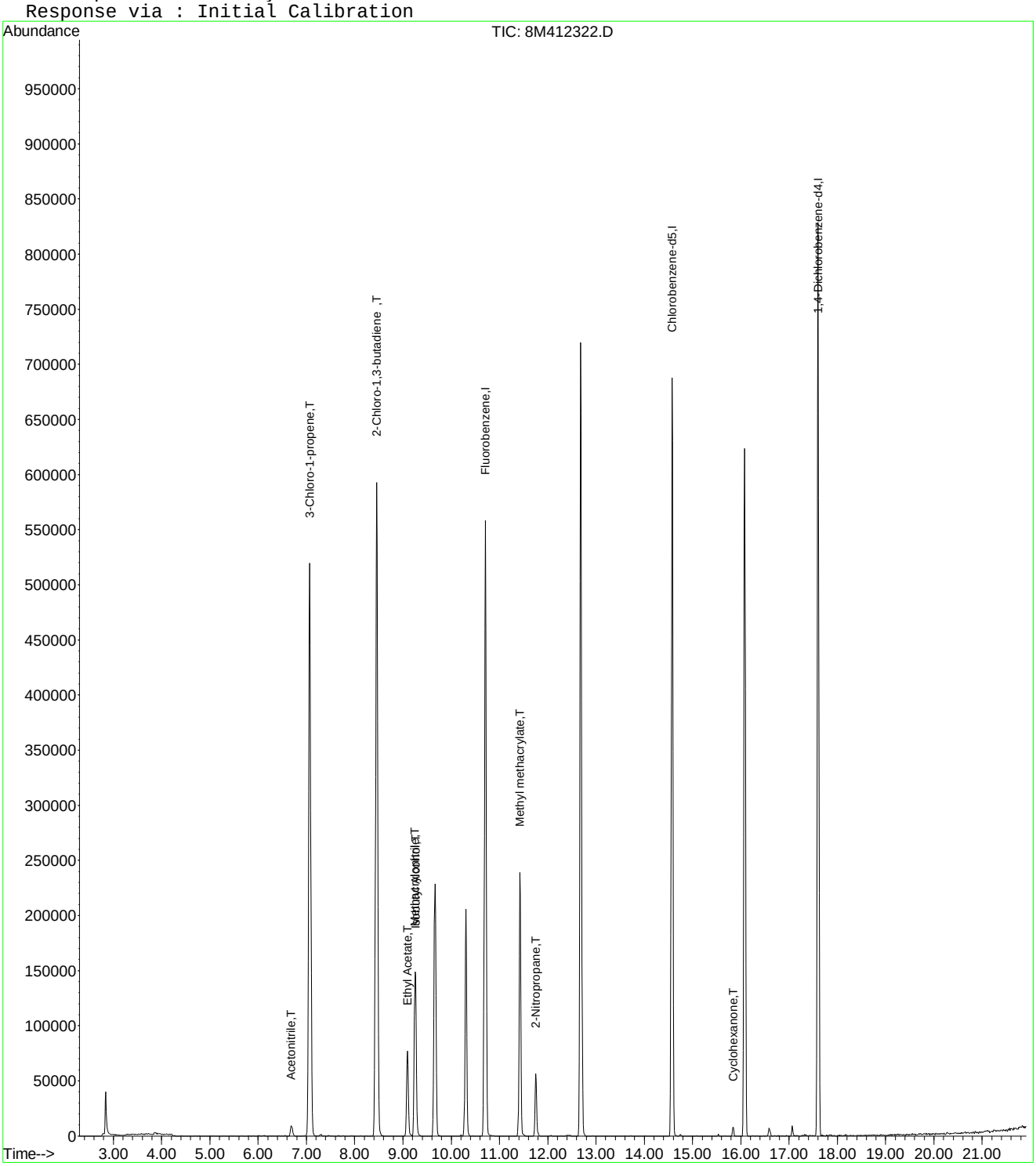
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	677339	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	488377	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	260939	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	13323	50.9795	ug/L		98
3) 3-Chloro-1-propene	7.07	41	453655	52.7060	ug/L		83
4) 2-Chloro-1,3-butadiene	8.45	53	568765	52.2609	ug/L		87
5) Ethyl Acetate	9.09	43	131636	50.7913	ug/L		97
6) Methacrylonitrile	9.25	67	74064	52.0523	ug/L	#	62
7) Isobutyl Alcohol	9.26	43	8483	97.9930	ug/L		95
9) Methyl methacrylate	11.42	41	143892	51.4593	ug/L		70
10) 2-Nitropropane	11.75	43	56559	46.7858	ug/L		95
13) Cyclohexanone	15.84	55	5225	48.9579	ug/L		83

(#) = qualifier out of range (m) = manual integration
8M412322.D A9FOOWT.M Thu May 19 09:20:36 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412322.D Vial: 4
Acq On : 17 May 2016 10:16 Operator: TMB
Sample : WG569079-03 50ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:19 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412322.D A9FOOWT.M Thu May 19 09:20:36 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412322.D Vial: 4
Acq On : 17 May 2016 10:16 Operator: TMB
Sample : WG569079-03 50ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	50.9795	-2.0	100	0.00
3	T	3-Chloro-1-propene	50.0000	52.7060	-5.4	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	52.2609	-4.5	100	0.00
5	T	Ethyl Acetate	50.0000	50.7913	-1.6	100	0.00
6	T	Methacrylonitrile	50.0000	52.0523	-4.1	100	0.00
7	T	Isobutyl Alcohol	100.0000	97.9929	2.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.02
9	T	Methyl methacrylate	50.0000	51.4592	-2.9	100	0.00
10	T	2-Nitropropane	50.0000	46.7858	6.4	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	50.0000	48.9579	2.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M412322.D A9FOOWT.M Thu May 19 09:02:32 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412323.D Vial: 5
Acq On : 17 May 2016 10:44 Operator: TMB
Sample : WG569079-04 20ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:22:33 2016 Quant Results File: A9FOOWT.RES

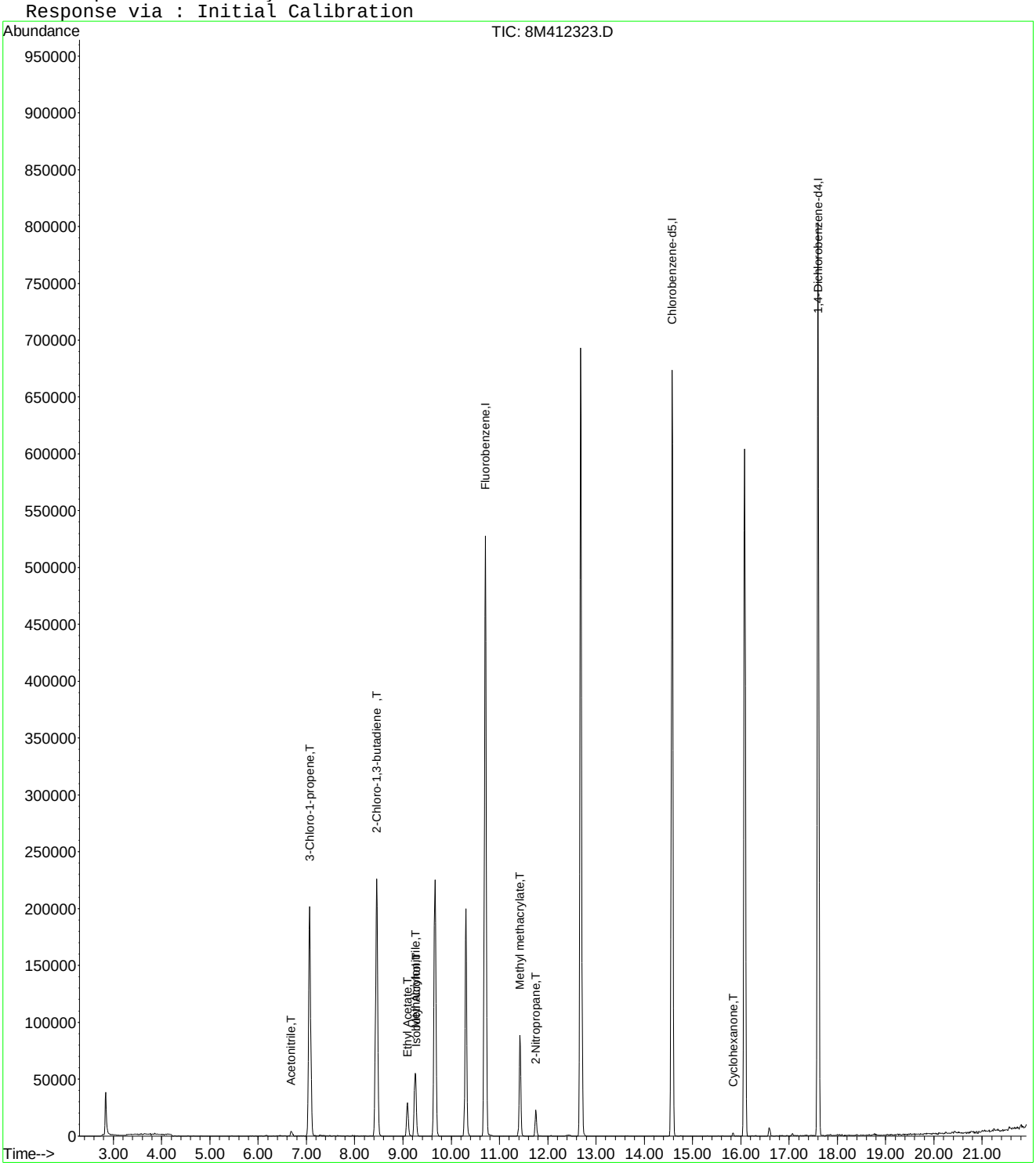
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	652985	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	476539	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	256082	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	4873	19.3416	ug/L		80
3) 3-Chloro-1-propene	7.07	41	172467	20.7847	ug/L		83
4) 2-Chloro-1,3-butadiene	8.45	53	219296	20.9015	ug/L		87
5) Ethyl Acetate	9.09	43	50385	20.1659	ug/L		100
6) Methacrylonitrile	9.26	67	28119	20.4992	ug/L	#	63
7) Isobutyl Alcohol	9.27	43	2774	33.2395	ug/L	#	8
9) Methyl methacrylate	11.42	41	55309	20.5176	ug/L		73
10) 2-Nitropropane	11.75	43	21584	18.5202	ug/L		99
13) Cyclohexanone	15.84	55	2230	21.2913	ug/L		87

(#) = qualifier out of range (m) = manual integration
8M412323.D A9FOOWT.M Thu May 19 09:22:33 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412323.D Vial: 5
Acq On : 17 May 2016 10:44 Operator: TMB
Sample : WG569079-04 20ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:21 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412323.D Vial: 5
Acq On : 17 May 2016 10:44 Operator: TMB
Sample : WG569079-04 20ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	19.3416	3.3	100	0.00
3	T	3-Chloro-1-propene	20.0000	20.7847	-3.9	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	20.9015	-4.5	100	0.00
5	T	Ethyl Acetate	20.0000	20.1659	-0.8	100	0.00
6	T	Methacrylonitrile	20.0000	20.4992	-2.5	100	0.00
7	T	Isobutyl Alcohol	-1.0000	33.2395	0.0	0	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.18#
9	T	Methyl methacrylate	20.0000	20.5176	-2.6	100	0.00
10	T	2-Nitropropane	20.0000	18.5203	7.4	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	20.0000	21.2913	-6.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M412323.D A9FOOWT.M Thu May 19 09:02:17 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412324.D Vial: 6
Acq On : 17 May 2016 11:13 Operator: TMB
Sample : WG569079-05 5ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:22:43 2016 Quant Results File: A9FOOWT.RES

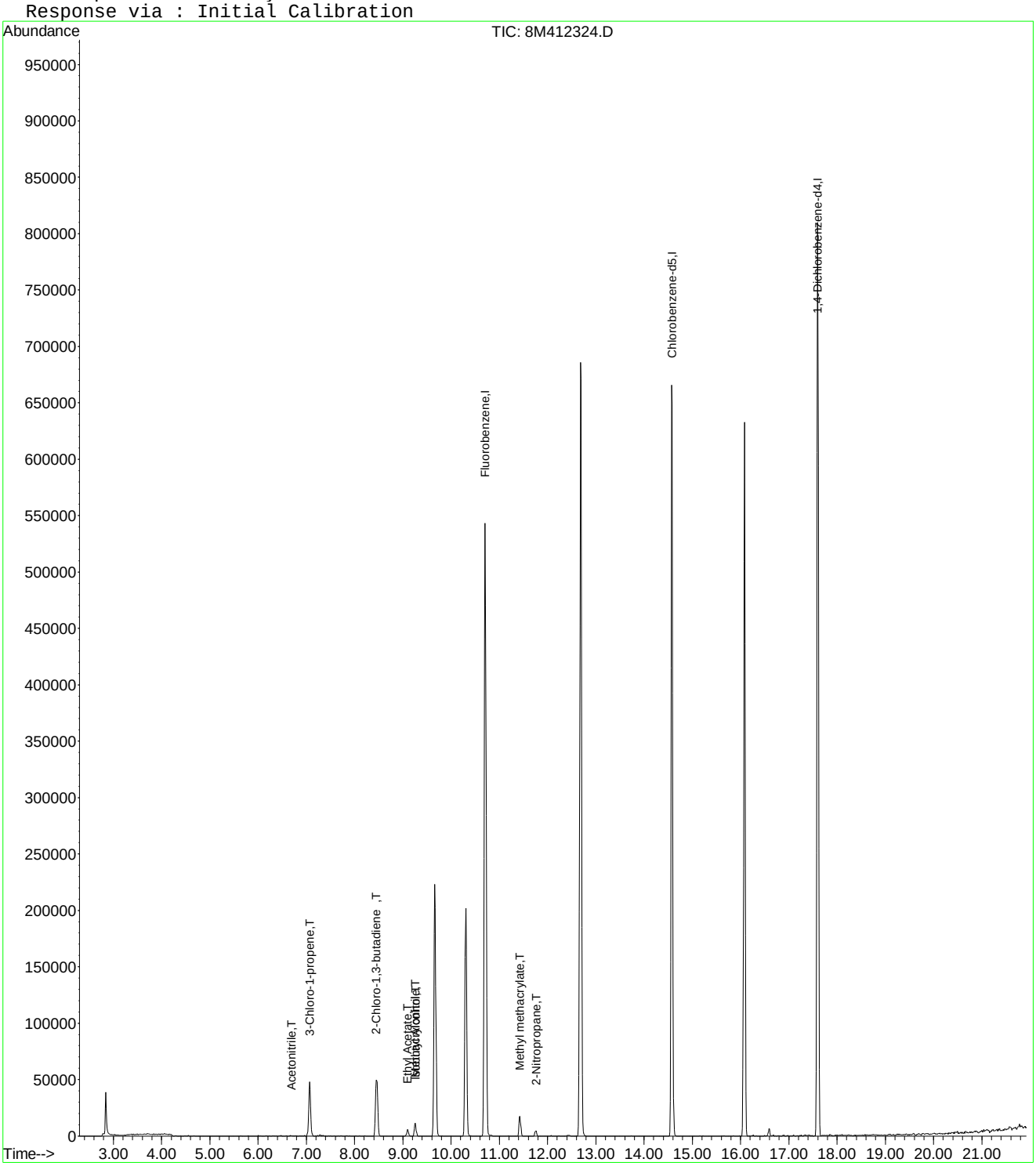
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	665645	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.58	117	483812	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	257678	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.70	41	405	1.5769	ug/L	#	23
3) 3-Chloro-1-propene	7.07	41	40699	4.8115	ug/L		84
4) 2-Chloro-1,3-butadiene	8.45	53	48973	4.5789	ug/L		81
5) Ethyl Acetate	9.09	43	10675	4.1913	ug/L		95
6) Methacrylonitrile	9.26	67	5417	3.8740	ug/L	#	72
7) Isobutyl Alcohol	9.27	43	441	5.1838	ug/L	#	8
9) Methyl methacrylate	11.43	41	11811	4.2981	ug/L		65
10) 2-Nitropropane	11.76	43	4170	3.5100	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M412324.D A9FOOWT.M Thu May 19 09:22:43 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412324.D Vial: 6
Acq On : 17 May 2016 11:13 Operator: TMB
Sample : WG569079-05 5ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:21 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412324.D Vial: 6
Acq On : 17 May 2016 11:13 Operator: TMB
Sample : WG569079-05 5ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	-1.0000	1.5769	0.0	0	0.00
3	T	3-Chloro-1-propene	5.0000	4.8115	3.8	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	4.5789	8.4	100	0.00
5	T	Ethyl Acetate	5.0000	4.1913	16.2	100	0.00
6	T	Methacrylonitrile	5.0000	3.8740	22.5	100	0.00
7	T	Isobutyl Alcohol	-1.0000	5.1838	0.0	0	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.18#
9	T	Methyl methacrylate	5.0000	4.2981	14.0	100	0.00
10	T	2-Nitropropane	-1.0000	3.5100	0.0	0	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	0.0000	0.0	0	-15.84#

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M412324.D A9FOOWT.M Thu May 19 09:02:03 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412325.D Vial: 7
Acq On : 17 May 2016 11:42 Operator: TMB
Sample : WG569079-06 200ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:01:27 2016 Quant Results File: A9FOOWT.RES

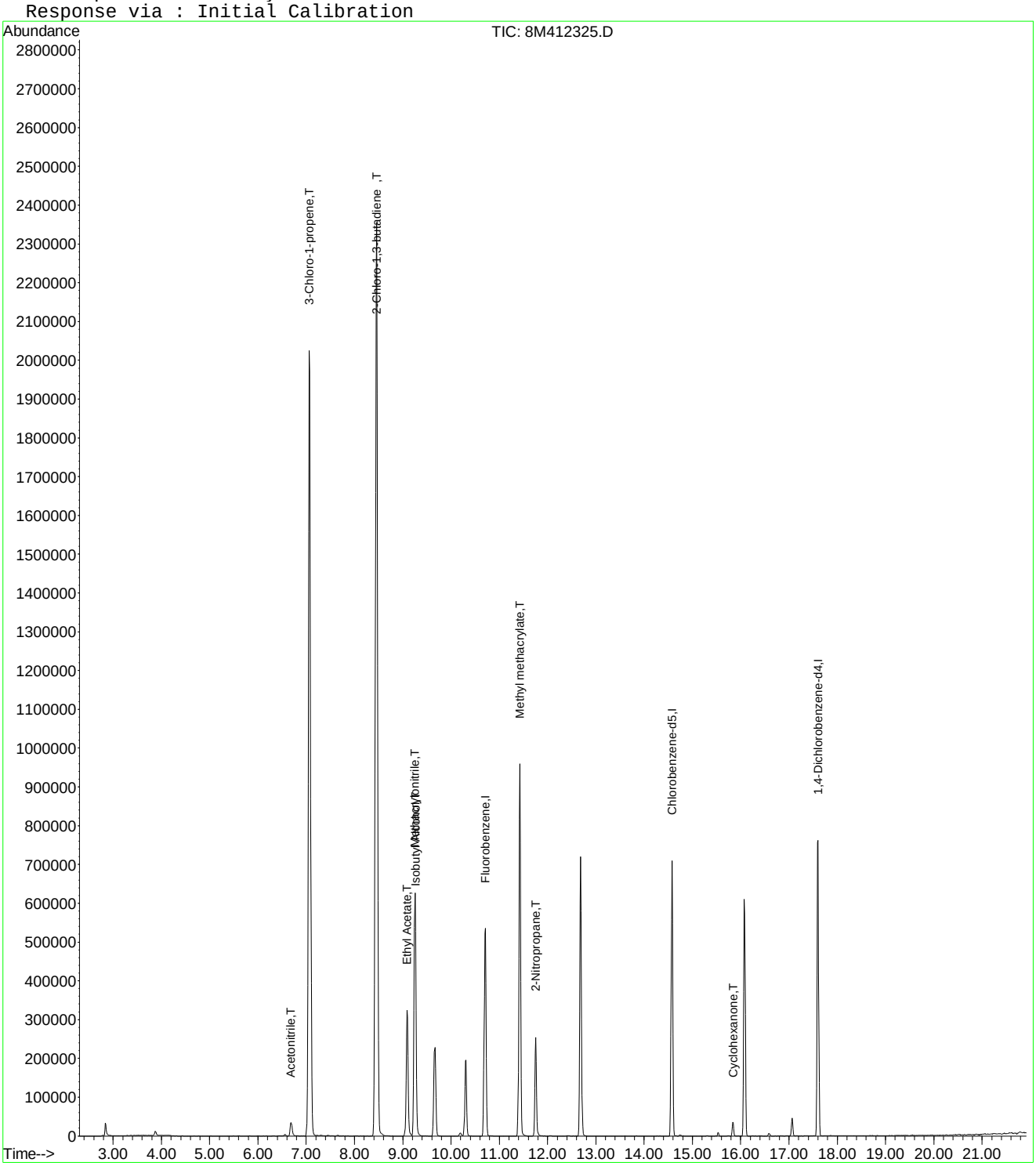
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	682012	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.58	117	491515	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	261877	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.68	41	52022	197.6946	ug/L		97
3) 3-Chloro-1-propene	7.06	41	1768403	204.0468	ug/L		83
4) 2-Chloro-1,3-butadiene	8.46	53	2283706	208.4003	ug/L		87
5) Ethyl Acetate	9.09	43	537585	206.0040	ug/L		94
6) Methacrylonitrile	9.25	67	297408	207.5869	ug/L	#	63
7) Isobutyl Alcohol	9.26	43	34441	395.1256	ug/L		95
9) Methyl methacrylate	11.42	41	577612	205.1526	ug/L		72
10) 2-Nitropropane	11.75	43	248395	204.0652	ug/L		95
13) Cyclohexanone	15.85	55	19752	184.4122	ug/L	#	59

(#) = qualifier out of range (m) = manual integration
8M412325.D A9FOOWT.M Thu May 19 09:01:28 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412325.D Vial: 7
Acq On : 17 May 2016 11:42 Operator: TMB
Sample : WG569079-06 200ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412326.D Vial: 8
Acq On : 17 May 2016 12:40 Operator: TMB
Sample : WG569079-07 300ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:01:29 2016 Quant Results File: A9FOOWT.RES

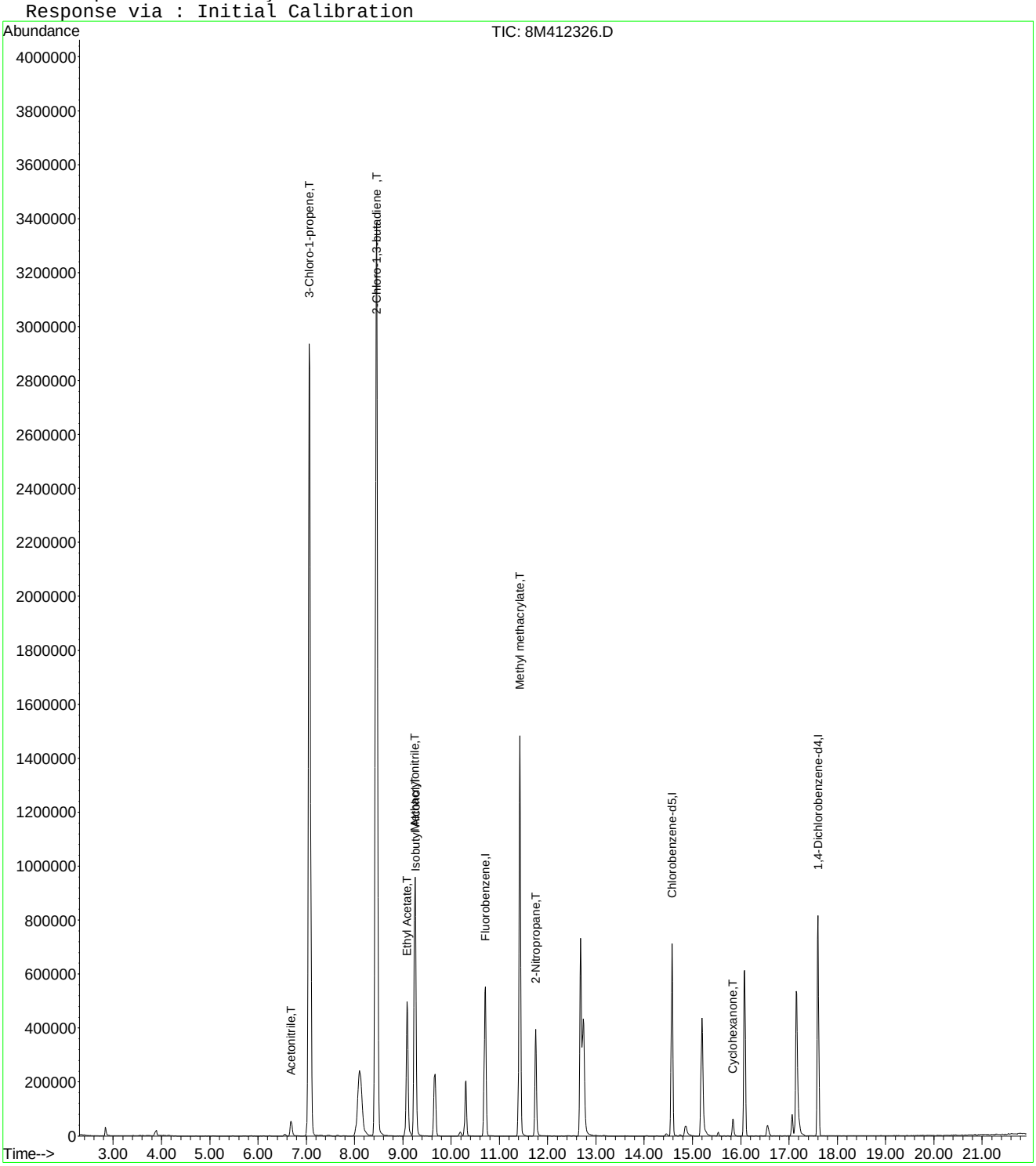
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	694903	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	496643	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	267309	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	81471	303.8636	ug/L		98
3) 3-Chloro-1-propene	7.06	41	2563559	290.3084	ug/L		83
4) 2-Chloro-1,3-butadiene	8.46	53	3270971	292.9562	ug/L		86
5) Ethyl Acetate	9.09	43	821184	308.8424	ug/L		95
6) Methacrylonitrile	9.25	67	451708	309.4374	ug/L	#	62
7) Isobutyl Alcohol	9.26	43	55071	620.0836	ug/L		94
9) Methyl methacrylate	11.42	41	874430	304.8132	ug/L		70
10) 2-Nitropropane	11.75	43	392965	316.8456	ug/L		94
13) Cyclohexanone	15.84	55	33523	306.6233	ug/L	#	61

(#) = qualifier out of range (m) = manual integration
8M412326.D A9FOOWT.M Thu May 19 09:01:29 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412326.D Vial: 8
Acq On : 17 May 2016 12:40 Operator: TMB
Sample : WG569079-07 300ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412327.D Vial: 9
Acq On : 17 May 2016 13:10 Operator: TMB
Sample : WG569079-08 400ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:01:30 2016 Quant Results File: A9FOOWT.RES

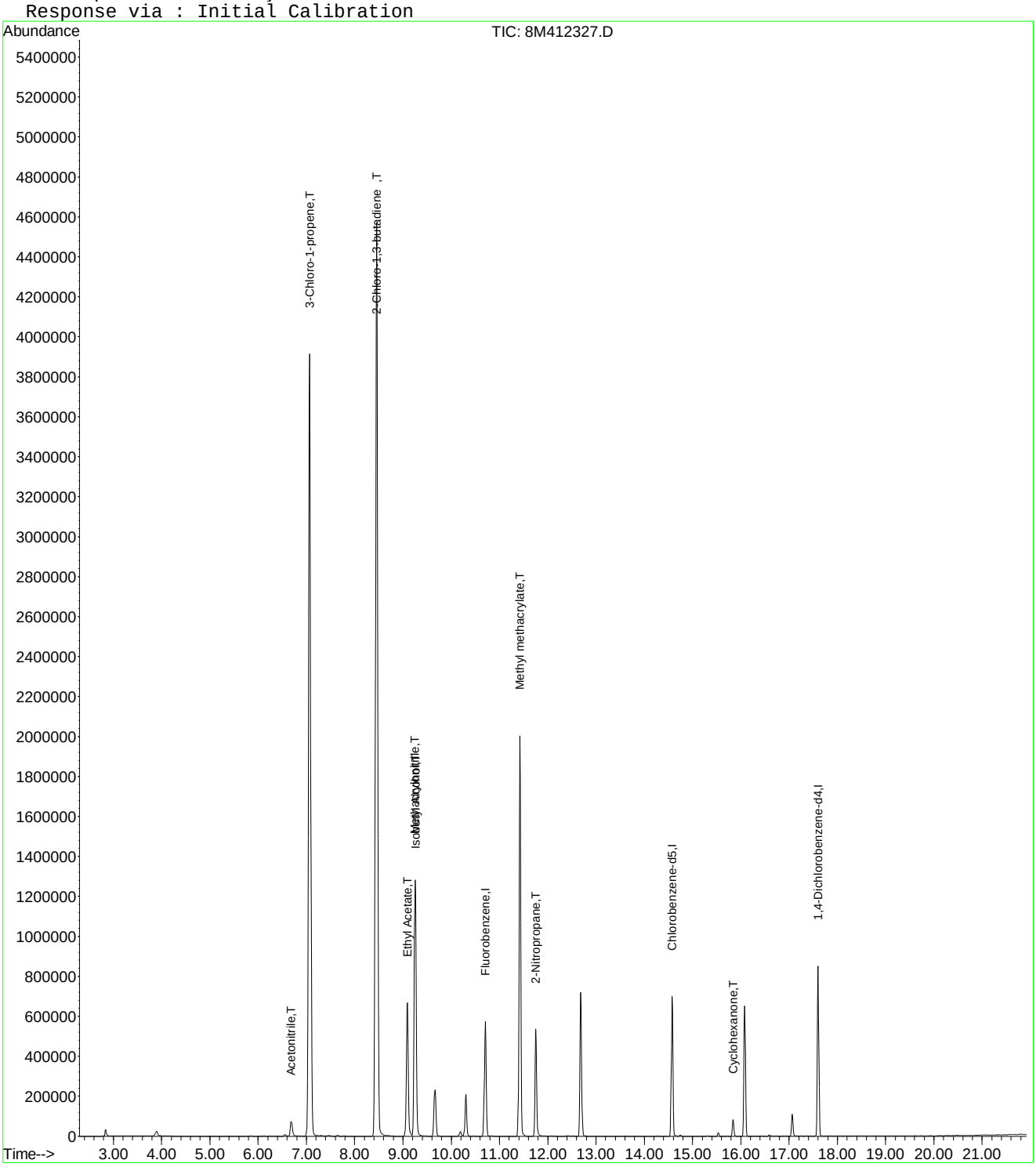
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	700514	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	502552	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	270883	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	110761	409.7980	ug/L		97
3) 3-Chloro-1-propene	7.07	41	3406131	382.6353	ug/L		82
4) 2-Chloro-1,3-butadiene	8.45	53	4356691	387.0705	ug/L		85
5) Ethyl Acetate	9.09	43	1116818	416.6642	ug/L		94
6) Methacrylonitrile	9.25	67	615482	418.2517	ug/L	#	62
7) Isobutyl Alcohol	9.26	43	75472	842.9862	ug/L		97
9) Methyl methacrylate	11.42	41	1199317	414.7153	ug/L		71
10) 2-Nitropropane	11.75	43	538580	430.7760	ug/L		94
13) Cyclohexanone	15.84	55	45874	414.0575	ug/L	#	55

(#) = qualifier out of range (m) = manual integration
8M412327.D A9FOOWT.M Thu May 19 09:01:31 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412327.D Vial: 9
Acq On : 17 May 2016 13:10 Operator: TMB
Sample : WG569079-08 400ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412328.D Vial: 10
Acq On : 17 May 2016 13:39 Operator: TMB
Sample : WG569079-09 500ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:01:31 2016 Quant Results File: A9FOOWT.RES

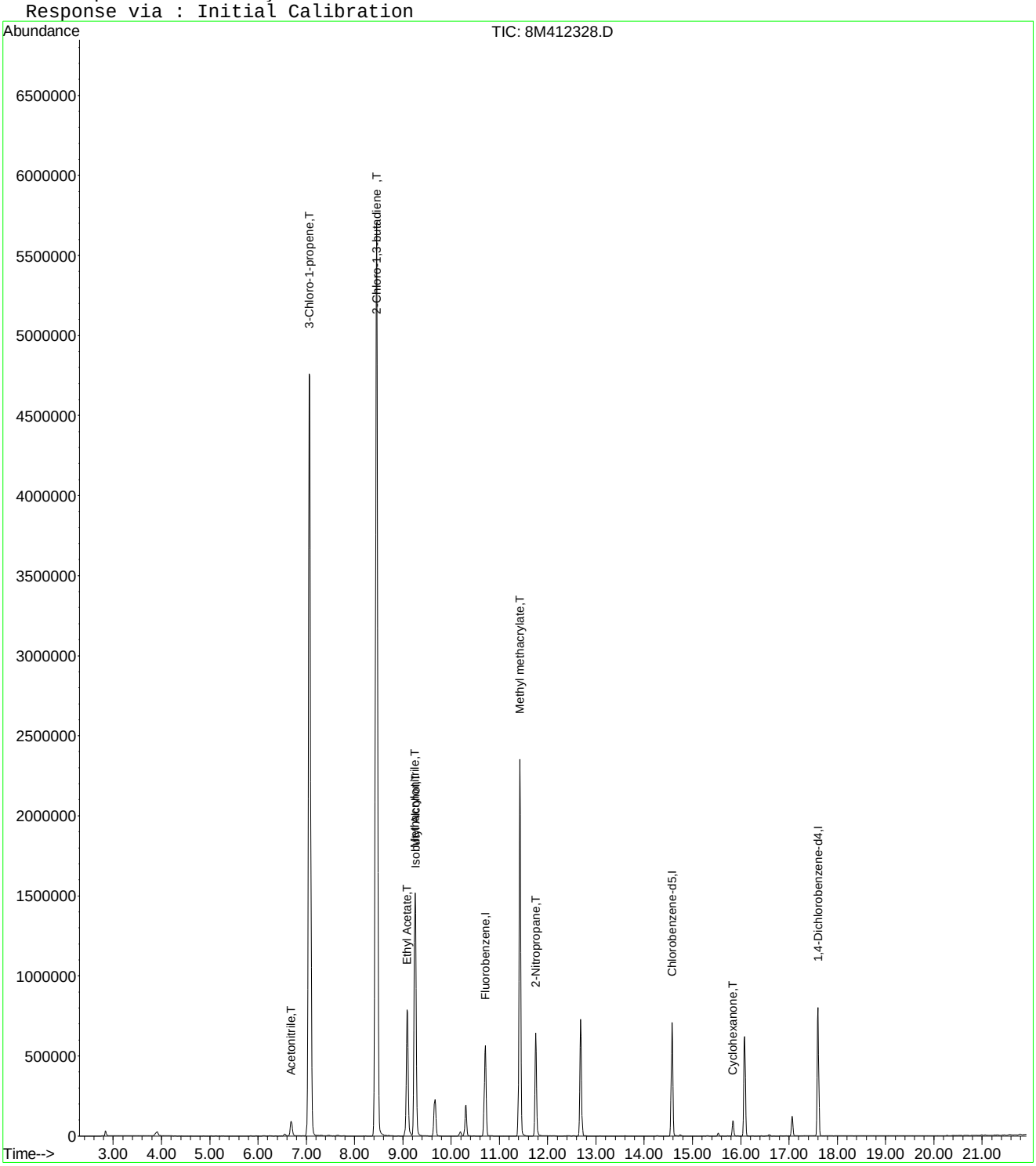
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	695694	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	495257	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	266442	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	132245	492.6753	ug/L		99
3) 3-Chloro-1-propene	7.06	41	4228273	478.2834	ug/L		82
4) 2-Chloro-1,3-butadiene	8.46	53	5390856	482.2693	ug/L		85
5) Ethyl Acetate	9.09	43	1321922	496.6017	ug/L		95
6) Methacrylonitrile	9.25	67	729852	499.4083	ug/L	#	61
7) Isobutyl Alcohol	9.26	43	85200	958.2367	ug/L		96
9) Methyl methacrylate	11.42	41	1416438	493.1877	ug/L		72
10) 2-Nitropropane	11.75	43	637335	513.2956	ug/L		93
13) Cyclohexanone	15.84	55	52070	477.8160	ug/L	#	61

(#) = qualifier out of range (m) = manual integration
8M412328.D A9FOOWT.M Thu May 19 09:01:32 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412328.D Vial: 10
Acq On : 17 May 2016 13:39 Operator: TMB
Sample : WG569079-09 500ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412331.D Vial: 13
Acq On : 17 May 2016 15:06 Operator: TMB
Sample : WG569079-10 100ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD75801 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 09:01:32 2016 Quant Results File: A9FOOWT.RES

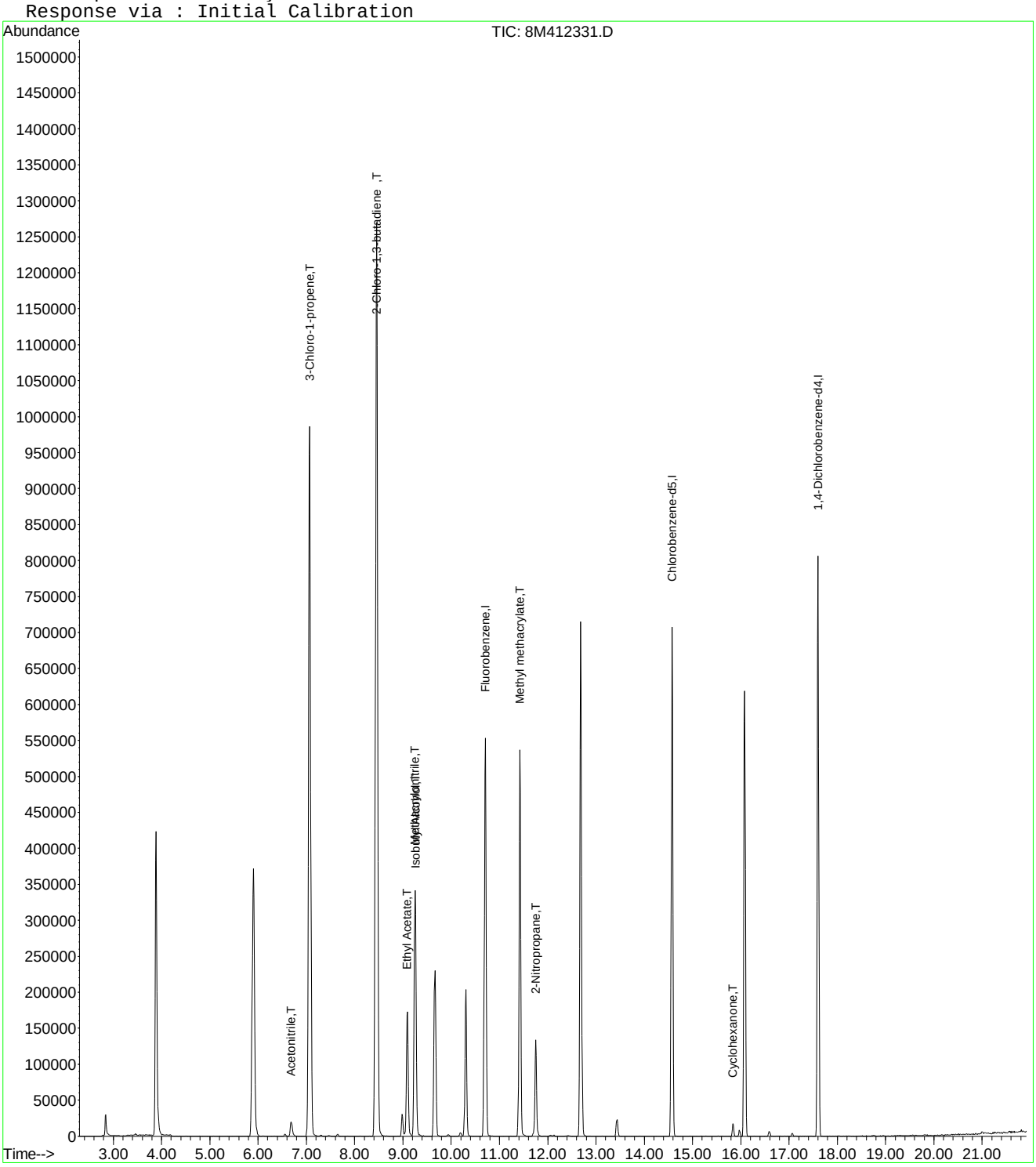
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	676765	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.57	117	486447	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	263036	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.69	41	29876	114.4154	ug/L		97
3) 3-Chloro-1-propene	7.07	41	858035	99.7718	ug/L		83
4) 2-Chloro-1,3-butadiene	8.45	53	1224194	112.5803	ug/L		87
5) Ethyl Acetate	9.09	43	295545	114.1317	ug/L		96
6) Methacrylonitrile	9.25	67	161574	113.6509	ug/L	#	63
7) Isobutyl Alcohol	9.26	43	19948	230.6285	ug/L		94
9) Methyl methacrylate	11.42	41	326465	116.8508	ug/L		72
10) 2-Nitropropane	11.75	43	131261	108.6716	ug/L		94
13) Cyclohexanone	15.83	55	10459	97.2189	ug/L	#	74

(#) = qualifier out of range (m) = manual integration
8M412331.D A9FOOWT.M Thu May 19 09:01:33 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412331.D Vial: 13
Acq On : 17 May 2016 15:06 Operator: TMB
Sample : WG569079-10 100ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD75801 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412331.D Vial: 13
Acq On : 17 May 2016 15:06 Operator: TMB
Sample : WG569079-10 100ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD75801 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	95	0.00
2	T	Acetonitrile	100.0000	114.4154	-14.4	109	0.00
3	T	3-Chloro-1-propene	100.0000	99.7718	0.2	91	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	112.5803	-12.6	103	0.00
5	T	Ethyl Acetate	100.0000	114.1317	-14.1	104	0.00
6	T	Methacrylonitrile	100.0000	113.6509	-13.7	104	0.00
7	T	Isobutyl Alcohol	200.0000	230.6285	-15.3	111	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.01
9	T	Methyl methacrylate	100.0000	116.8508	-16.9	109	0.00
10	T	2-Nitropropane	100.0000	108.6716	-8.7	108	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	96	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	96	0.00
13	T	Cyclohexanone	100.0000	97.2189	2.8	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M412331.D A9FOOWT.M Thu May 19 09:03:22 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416151.D Vial: 2
Acq On : 15 Nov 2016 10:13 Operator: TMB
Sample : WG591653-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:29 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.98	96	727425	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.84	117	499752	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	208994	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L		
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#			
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L		
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#			
58) Toluene-d8	12.95	98	457	0.0183	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.08%#			
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L		
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.00%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.38	85	3579	0.2923	ug/L		83
3) Chloromethane	3.85	50	4628	0.4092	ug/L	#	69
4) Vinyl Chloride	4.09	62	4215	0.3373	ug/L		93
5) 1,3-Butadiene	4.15	54	2987	Below Cal		#	72
6) Bromomethane	5.01	94	1201	0.1937	ug/L		91
7) Chloroethane	5.17	64	1084	0.2295	ug/L	#	46
8) Trichlorofluoromethane	5.65	101	4041	0.3013	ug/L	#	88
10) Isoprene	6.22	67	2700	0.2623	ug/L		99
12) 1,1,2-Trichloro-1,2,2-Trif	6.43	101	2024	0.2672	ug/L		61
14) 1,1-Dichloroethene	6.74	61	2626	0.2742	ug/L		90
16) Dimethyl Sulfide	7.01	62	970	0.1958	ug/L		99
19) Methylene Chloride	7.52	84	2170	0.3051	ug/L		93
20) Carbon Disulfide	7.57	76	8308	0.3505	ug/L		92
22) Methyl Tert Butyl Ether	7.74	73	3109	0.2578	ug/L	#	59
23) trans-1,2-Dichloroethene	7.97	61	2660	0.2904	ug/L		98
24) n-Hexane	8.05	57	2580	0.3231	ug/L		95
26) Vinyl Acetate	8.56	43	1403	0.2514	ug/L	#	64
27) 1,1-Dichloroethane	8.60	63	3526	0.2931	ug/L	#	78
31) 2,2-Dichloropropane	9.36	77	3494	0.2964	ug/L	#	53
32) cis-1,2-Dichloroethene	9.44	96	2163	0.2659	ug/L		90
33) Chloroform	9.64	83	4309	0.3143	ug/L		91
35) Bromochloromethane	9.87	130	735	0.2050	ug/L		88
36) Tetrahydrofuran	9.91	42	1558	1.1144	ug/L	#	54
38) 1,1,1-Trichloroethane	10.17	97	3729	0.2966	ug/L		90
39) Cyclohexane	10.20	56	2634	0.2713	ug/L	#	87
40) 1,1-Dichloropropene	10.37	75	3025	0.2928	ug/L	#	64
42) Carbon Tetrachloride	10.51	117	3116	0.2757	ug/L	#	87
45) 1,2-Dichloroethane	10.69	62	1840	0.2704	ug/L	#	54
46) Benzene	10.73	78	9341	0.3162	ug/L	#	81
47) Trichloroethene	11.47	130	1984	0.2590	ug/L		90
48) Methylcyclohexane	11.57	83	3860	0.3057	ug/L		98
49) 1,2-Dichloropropane	11.69	63	1395	0.2332	ug/L		95
50) Bromodichloromethane	12.00	83	2534	0.2788	ug/L	#	87
52) Dibromomethane	12.08	93	532	0.1676	ug/L	#	76
55) cis-1,3-Dichloropropene	12.62	75	2397	0.2433	ug/L		81
56) Dimethyl Disulfide	12.89	79	811	0.1409	ug/L		52
59) Toluene	13.04	91	9918	0.3240	ug/L		79
60) Ethyl Methacrylate	13.14	69	810	0.1720	ug/L	#	27
62) trans-1,3-Dichloropropene	13.22	75	2277	0.2842	ug/L	#	61
63) 1,1,2-Trichloroethane	13.45	97	1149	0.2901	ug/L	#	59

(#) = qualifier out of range (m) = manual integration
8M416151.D 8260WT.M Wed Nov 16 08:36:32 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416151.D Vial: 2
Acq On : 15 Nov 2016 10:13 Operator: TMB
Sample : WG591653-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:29 2016 Quant Results File: 8260WT.RES

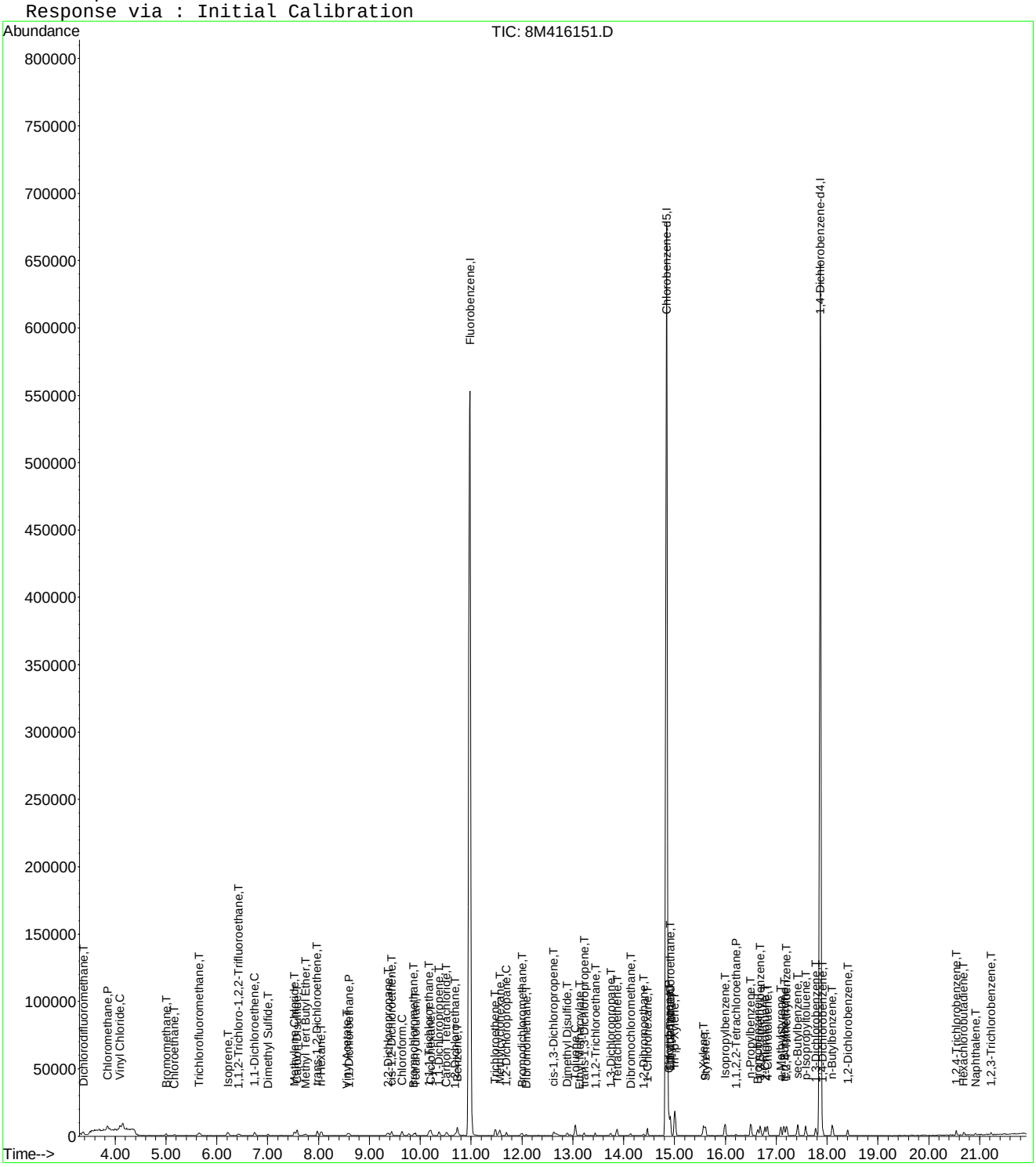
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
65)	1,3-Dichloropropane	13.75	76	1984	0.2810 ug/L	#	66
66)	Tetrachloroethene	13.87	164	1707	0.2988 ug/L		91
67)	Dibromochloromethane	14.14	129	1097	0.2113 ug/L		87
68)	1,2-Dibromoethane	14.39	107	904	0.2345 ug/L		91
69)	1-Chlorohexane	14.47	91	3161	0.2924 ug/L		96
70)	Chlorobenzene	14.89	112	6563	0.3260 ug/L		80
71)	1,1,1,2-Tetrachloroethane	14.92	131	1450	0.4571 ug/L		91
72)	Ethylbenzene	14.92	106	3109	0.2763 ug/L	#	1
73)	m-,p-Xylene	15.00	106	7590	0.5565 ug/L	#	22
74)	o-Xylene	15.57	106	3160	0.2364 ug/L	#	31
75)	Styrene	15.61	104	5245	0.2601 ug/L		87
77)	Isopropylbenzene	15.99	105	10087	0.3169 ug/L		75
79)	1,1,2,2-Tetrachloroethane	16.21	83	804	0.2205 ug/L	#	70
83)	n-Propylbenzene	16.50	91	11926	0.3339 ug/L	#	67
84)	Bromobenzene	16.63	156	1893	0.2896 ug/L	#	57
85)	1,3,5-Trimethylbenzene	16.68	105	7547	0.3089 ug/L		80
86)	2-Chlorotoluene	16.78	91	7413	0.3340 ug/L		80
87)	4-Chlorotoluene	16.83	91	7247	0.3372 ug/L	#	62
88)	a-Methylstyrene	17.09	118	3199	0.2251 ug/L		84
89)	tert-Butylbenzene	17.16	134	1370	0.2797 ug/L	#	31
90)	1,2,4-Trimethylbenzene	17.20	105	7235	0.2913 ug/L	#	63
91)	sec-Butylbenzene	17.42	105	10552	0.3464 ug/L	#	72
92)	p-Isopropyltoluene	17.58	119	7298	0.3093 ug/L	#	73
93)	1,3-Dichlorobenzene	17.78	146	3915	0.3029 ug/L		85
94)	1,4-Dichlorobenzene	17.91	146	4212	0.3273 ug/L	#	12
95)	n-Butylbenzene	18.10	91	8288	0.3464 ug/L	#	71
96)	1,2-Dichlorobenzene	18.41	146	3247	0.3100 ug/L		88
98)	1,2,4-Trichlorobenzene	20.54	180	1747	0.2723 ug/L	#	91
99)	Hexachlorobutadiene	20.68	225	850	0.2704 ug/L	#	59
100)	Naphthalene	20.92	128	2055	0.2568 ug/L	#	66
101)	1,2,3-Trichlorobenzene	21.22	180	1265	0.2765 ug/L	#	74

(#) = qualifier out of range (m) = manual integration
8M416151.D 8260WT.M Wed Nov 16 08:36:32 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416151.D Vial: 2
Acq On : 15 Nov 2016 10:13 Operator: TMB
Sample : WG591653-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:36 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416151.D Vial: 2
Acq On : 15 Nov 2016 10:13 Operator: TMB
Sample : WG591653-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2923	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.4092	0.0	100	0.00
4	C	Vinyl Chloride	-1.0000	0.3373	0.0	0	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.1937	0.0	0	0.00
7	T	Chloroethane	-1.0000	0.2295	0.0	100	0.00
8	T	Trichlorofluoromethane	-1.0000	0.3013	0.0	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.18#
10	T	Isoprene	-1.0000	0.2623	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.42#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2672	0.0	100	0.00
13	T	Acetone	-1.0000	0.0000	0.0	0	-6.52#
14	C	1,1-Dichloroethene	-1.0000	0.2742	0.0	100	-0.01
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.86#
16	T	Dimethyl Sulfide	-1.0000	0.1958	0.0	100	-0.01
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-7.27#
18	T	Methyl acetate	-1.0000	0.0000	0.0	0	-7.27#
19	T	Methylene Chloride	-1.0000	0.3051	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.3505	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.71#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2578	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	-1.0000	0.2904	0.0	100	-0.01
24	T	n-Hexane	-1.0000	0.3231	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.39#
26	T	Vinyl Acetate	-1.0000	0.2514	0.0	100	0.00
27	P	1,1-Dichloroethane	-1.0000	0.2931	0.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.96#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-9.15#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.26#
31	T	2,2-Dichloropropane	-1.0000	0.2964	0.0	100	-0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.2659	0.0	100	0.00
33	C	Chloroform	0.3000	0.3143	-4.8	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.78#
35	T	Bromochloromethane	-1.0000	0.2050	0.0	100	-0.01
36	T	Tetrahydrofuran	-1.0000	1.1144	0.0	0	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.93#
38	T	1,1,1-Trichloroethane	-1.0000	0.2966	0.0	100	-0.01
39	T	Cyclohexane	-1.0000	0.2713	0.0	100	-0.01
40	T	1,1-Dichloropropene	-1.0000	0.2928	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.47#
42	T	Carbon Tetrachloride	-1.0000	0.2757	0.0	100	-0.01
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.57#
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	-1.0000	0.2704	0.0	100	0.00
46	T	Benzene	-1.0000	0.3162	0.0	100	0.00
47	T	Trichloroethene	-1.0000	0.2590	0.0	100	-0.01
48	T	Methylcyclohexane	-1.0000	0.3057	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.2332	0.0	100	0.00
50	T	Bromodichloromethane	-1.0000	0.2788	0.0	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.99#
52	T	Dibromomethane	-1.0000	0.1676	0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.0000	0.0	0	-12.28#
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.31#

(#) = Out of Range
8M416151.D 8260WT.M Wed Nov 16 08:38:28 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416151.D Vial: 2
Acq On : 15 Nov 2016 10:13 Operator: TMB
Sample : WG591653-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.2433	0.0	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.1409	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0183	0.0	100	0.00
59	C	Toluene	-1.0000	0.3240	0.0	100	-0.01
60	T	Ethyl Methacrylate	-1.0000	0.1720	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2842	0.0	100	0.00
63	T	1,1,2-Trichloroethane	0.3000	0.2901	3.3	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.37#
65	T	1,3-Dichloropropane	-1.0000	0.2810	0.0	100	0.00
66	T	Tetrachloroethene	-1.0000	0.2988	0.0	100	0.00
67	T	Dibromochloromethane	-1.0000	0.2113	0.0	100	0.00
68	T	1,2-Dibromoethane	-1.0000	0.2345	0.0	100	0.00
69	T	1-Chlorohexane	-1.0000	0.2924	0.0	100	0.00
70	P	Chlorobenzene	-1.0000	0.3260	0.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.4571	0.0	0	-0.01
72	C	Ethylbenzene	-1.0000	0.2763	0.0	100	0.00
73	T	m-,p-Xylene	-1.0000	0.5565	0.0	100	-0.01
74	T	o-Xylene	-1.0000	0.2364	0.0	100	0.00
75	T	Styrene	-1.0000	0.2601	0.0	100	0.00
76	P	Bromoform	-1.0000	0.0000	0.0	0	-16.11#
77	T	Isopropylbenzene	-1.0000	0.3169	0.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2205	0.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.34#
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.41#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.45#
83	T	n-Propylbenzene	-1.0000	0.3339	0.0	100	0.00
84	T	Bromobenzene	0.3000	0.2896	3.5	100	-0.01
85	T	1,3,5-Trimethylbenzene	-1.0000	0.3089	0.0	100	-0.01
86	T	2-Chlorotoluene	-1.0000	0.3340	0.0	100	0.00
87	T	4-Chlorotoluene	-1.0000	0.3372	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.2251	0.0	100	-0.01
89	T	tert-Butylbenzene	0.3000	0.2797	6.8	100	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.2913	0.0	100	-0.01
91	T	sec-Butylbenzene	-1.0000	0.3464	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3093	0.0	100	0.00
93	T	1,3-Dichlorobenzene	-1.0000	0.3029	0.0	100	0.00
94	T	1,4-Dichlorobenzene	0.3000	0.3273	-9.1	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3464	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.3100	-3.3	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.40#
98	T	1,2,4-Trichlorobenzene	-1.0000	0.2723	0.0	100	0.00
99	T	Hexachlorobutadiene	-1.0000	0.2704	0.0	100	-0.01
100	T	Naphthalene	-1.0000	0.2568	0.0	100	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.2765	7.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416151.D 8260WT.M Wed Nov 16 08:38:28 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416152.D Vial: 3
Acq On : 15 Nov 2016 10:42 Operator: TMB
Sample : WG591653-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:34 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	716563	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	494055	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	209293	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	12.94	98	391	0.0158	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.08%#		
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	4633	0.3841	ug/L	89
3) Chloromethane	3.85	50	5922	0.5315	ug/L	98
4) Vinyl Chloride	4.10	62	5826	0.4733	ug/L	96
5) 1,3-Butadiene	4.15	54	3525	Below Cal	#	55
6) Bromomethane	5.00	94	2039	0.3339	ug/L	92
7) Chloroethane	5.17	64	1475	0.3170	ug/L #	46
8) Trichlorofluoromethane	5.65	101	5150	0.3898	ug/L #	88
10) Isoprene	6.22	67	3537	0.3489	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.42	101	2409	0.3228	ug/L	73
14) 1,1-Dichloroethene	6.76	61	3417	0.3622	ug/L	100
16) Dimethyl Sulfide	7.02	62	1454	0.2980	ug/L	98
17) Iodomethane	7.26	142	210	1.0149	ug/L #	30
19) Methylene Chloride	7.52	84	2741	0.3912	ug/L	99
20) Carbon Disulfide	7.57	76	10090	0.4321	ug/L	90
22) Methyl Tert Butyl Ether	7.74	73	3970	0.3341	ug/L #	59
23) trans-1,2-Dichloroethene	7.98	61	3350	0.3713	ug/L	96
24) n-Hexane	8.05	57	2773	0.3525	ug/L	86
26) Vinyl Acetate	8.56	43	1593	0.2898	ug/L #	64
27) 1,1-Dichloroethane	8.60	63	4510	0.3805	ug/L #	81
31) 2,2-Dichloropropane	9.36	77	4734	0.4076	ug/L #	71
32) cis-1,2-Dichloroethene	9.45	96	2757	0.3440	ug/L	97
33) Chloroform	9.64	83	5538	0.4101	ug/L	99
35) Bromochloromethane	9.88	130	1012	0.2866	ug/L	83
36) Tetrahydrofuran	9.91	42	1221	0.5457	ug/L #	30
38) 1,1,1-Trichloroethane	10.18	97	4382	0.3538	ug/L	93
39) Cyclohexane	10.21	56	3467	0.3625	ug/L #	90
40) 1,1-Dichloropropene	10.37	75	4001	0.3932	ug/L	85
42) Carbon Tetrachloride	10.52	117	3607	0.3239	ug/L #	89
45) 1,2-Dichloroethane	10.70	62	2537	0.3785	ug/L #	59
46) Benzene	10.74	78	11835	0.4067	ug/L #	81
47) Trichloroethene	11.47	130	2586	0.3426	ug/L	88
48) Methylcyclohexane	11.56	83	4276	0.3438	ug/L	94
49) 1,2-Dichloropropane	11.70	63	2034	0.3452	ug/L	82
50) Bromodichloromethane	11.99	83	3196	0.3570	ug/L #	84
52) Dibromomethane	12.07	93	870	0.2782	ug/L	86
55) cis-1,3-Dichloropropene	12.62	75	3347	0.3449	ug/L	88
56) Dimethyl Disulfide	12.89	79	1423	0.2510	ug/L	87
59) Toluene	13.04	91	12343	0.4079	ug/L	83
60) Ethyl Methacrylate	13.13	69	981	0.2107	ug/L #	66
62) trans-1,3-Dichloropropene	13.22	75	2523	0.3186	ug/L #	75

(#) = qualifier out of range (m) = manual integration
8M416152.D 8260WT.M Wed Nov 16 08:36:37 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416152.D Vial: 3
Acq On : 15 Nov 2016 10:42 Operator: TMB
Sample : WG591653-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:34 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

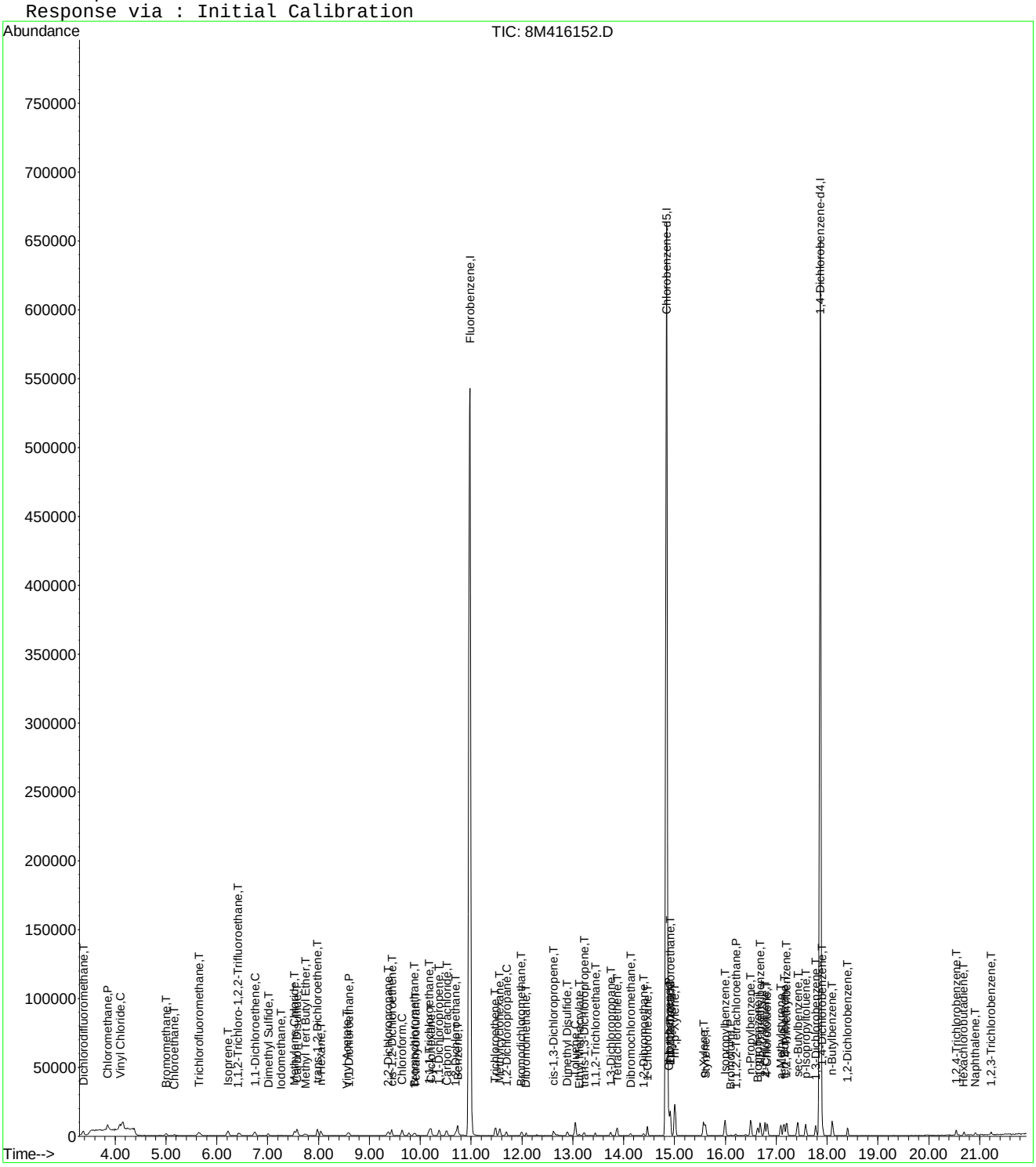
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
63)	1,1,2-Trichloroethane	13.45	97	984	0.2513 ug/L		67
65)	1,3-Dichloropropane	13.75	76	2444	0.3501 ug/L		92
66)	Tetrachloroethene	13.87	164	1993	0.3528 ug/L		92
67)	Dibromochloromethane	14.14	129	1564	0.3047 ug/L		95
68)	1,2-Dibromoethane	14.39	107	1244	0.3264 ug/L		94
69)	1-Chlorohexane	14.47	91	4188	0.3918 ug/L		92
70)	Chlorobenzene	14.90	112	7678	0.3857 ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.92	131	2039	0.5384 ug/L		91
72)	Ethylbenzene	14.92	106	4039	0.3631 ug/L	#	11
73)	m-,p-Xylene	15.01	106	10289	0.7631 ug/L	#	42
74)	o-Xylene	15.58	106	4347	0.3290 ug/L		53
75)	Styrene	15.61	104	6575	0.3299 ug/L		85
76)	Bromoform	16.11	173	492	0.8983 ug/L	#	27
77)	Isopropylbenzene	15.99	105	12209	0.3880 ug/L		75
79)	1,1,2,2-Tetrachloroethane	16.21	83	1216	0.3330 ug/L	#	81
83)	n-Propylbenzene	16.50	91	14619	0.4087 ug/L	#	68
84)	Bromobenzene	16.63	156	2012	0.3074 ug/L	#	39
85)	1,3,5-Trimethylbenzene	16.68	105	9287	0.3796 ug/L		78
86)	2-Chlorotoluene	16.78	91	9739	0.4381 ug/L	#	64
87)	4-Chlorotoluene	16.82	91	9010	0.4187 ug/L	#	70
88)	a-Methylstyrene	17.09	118	4063	0.2855 ug/L		92
89)	tert-Butylbenzene	17.16	134	1582	0.3225 ug/L	#	20
90)	1,2,4-Trimethylbenzene	17.20	105	9480	0.3812 ug/L		68
91)	sec-Butylbenzene	17.43	105	12384	0.4059 ug/L	#	74
92)	p-Isopropyltoluene	17.58	119	9105	0.3853 ug/L	#	72
93)	1,3-Dichlorobenzene	17.78	146	4767	0.3683 ug/L		87
94)	1,4-Dichlorobenzene	17.90	146	5246	0.4071 ug/L		96
95)	n-Butylbenzene	18.10	91	10155	0.4239 ug/L	#	74
96)	1,2-Dichlorobenzene	18.40	146	3658	0.3487 ug/L		99
98)	1,2,4-Trichlorobenzene	20.54	180	2699	0.4201 ug/L	#	88
99)	Hexachlorobutadiene	20.69	225	1014	0.3221 ug/L	#	76
100)	Naphthalene	20.91	128	2963	0.3697 ug/L	#	66
101)	1,2,3-Trichlorobenzene	21.22	180	1652	0.3605 ug/L	#	68

(#) = qualifier out of range (m) = manual integration
8M416152.D 8260WT.M Wed Nov 16 08:36:37 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416152.D Vial: 3
Acq On : 15 Nov 2016 10:42 Operator: TMB
Sample : WG591653-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:36 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416152.D Vial: 3
Acq On : 15 Nov 2016 10:42 Operator: TMB
Sample : WG591653-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	0.4000	0.3841	4.0	100	0.00
3	P	Chloromethane	-1.0000	0.5315	0.0	100	0.00
4	C	Vinyl Chloride	0.4000	0.4733	-18.3	100	0.02
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.3339	0.0	0	0.00
7	T	Chloroethane	0.4000	0.3170	20.8	100	0.00
8	T	Trichlorofluoromethane	0.4000	0.3898	2.6	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.18#
10	T	Isoprene	-1.0000	0.3489	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.42#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3228	0.0	100	-0.01
13	T	Acetone	-1.0000	0.0000	0.0	0	-6.52#
14	C	1,1-Dichloroethene	0.4000	0.3622	9.4	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.86#
16	T	Dimethyl Sulfide	0.4000	0.2980	25.5#	100	0.00
17	T	Iodomethane	-1.0000	1.0149	0.0	0	0.00
18	T	Methyl acetate	-1.0000	0.0000	0.0	0	-7.27#
19	T	Methylene Chloride	-1.0000	0.3912	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.4321	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.71#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3341	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.3713	7.2	100	0.00
24	T	n-Hexane	-1.0000	0.3525	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.39#
26	T	Vinyl Acetate	-1.0000	0.2898	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.3805	4.9	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.96#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-9.15#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.26#
31	T	2,2-Dichloropropane	0.4000	0.4076	-1.9	100	-0.01
32	T	cis-1,2-Dichloroethene	0.4000	0.3440	14.0	100	0.00
33	C	Chloroform	0.4000	0.4101	-2.5	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.78#
35	T	Bromochloromethane	0.4000	0.2866	28.4#	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.5457	0.0	0	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.93#
38	T	1,1,1-Trichloroethane	0.4000	0.3538	11.6	100	0.00
39	T	Cyclohexane	-1.0000	0.3625	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3932	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.47#
42	T	Carbon Tetrachloride	0.4000	0.3239	19.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.57#
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	0.4000	0.3785	5.4	100	0.00
46	T	Benzene	0.4000	0.4067	-1.7	100	0.00
47	T	Trichloroethene	0.4000	0.3426	14.3	100	-0.01
48	T	Methylcyclohexane	-1.0000	0.3438	0.0	100	-0.01
49	C	1,2-Dichloropropane	0.4000	0.3452	13.7	100	0.00
50	T	Bromodichloromethane	0.4000	0.3570	10.8	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.99#
52	T	Dibromomethane	0.4000	0.2782	30.5#	100	-0.01
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.0995	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.31#

(#) = Out of Range
8M416152.D 8260WT.M Wed Nov 16 08:38:39 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416152.D Vial: 3
Acq On : 15 Nov 2016 10:42 Operator: TMB
Sample : WG591653-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3449	13.8	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.2510	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0158	0.0	100	-0.01
59	C	Toluene	0.4000	0.4079	-2.0	100	-0.01
60	T	Ethyl Methacrylate	-1.0000	0.2107	0.0	100	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3186	0.0	100	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.2513	37.2#	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.37#
65	T	1,3-Dichloropropane	0.4000	0.3501	12.5	100	0.00
66	T	Tetrachloroethene	0.4000	0.3528	11.8	100	0.00
67	T	Dibromochloromethane	0.4000	0.3047	23.8	100	0.00
68	T	1,2-Dibromoethane	0.4000	0.3264	18.4	100	0.00
69	T	1-Chlorohexane	0.4000	0.3918	2.0	100	0.00
70	P	Chlorobenzene	0.4000	0.3857	3.6	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.5384	-34.6#	100	-0.01
72	C	Ethylbenzene	0.4000	0.3631	9.2	100	0.00
73	T	m-,p-Xylene	0.8000	0.7631	4.6	100	0.00
74	T	o-Xylene	-1.0000	0.3290	0.0	100	0.00
75	T	Styrene	0.4000	0.3299	17.5	100	0.00
76	P	Bromoform	-1.0000	0.8983	0.0	100	0.00
77	T	Isopropylbenzene	0.4000	0.3880	3.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4000	0.3331	16.7	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.34#
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.41#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.45#
83	T	n-Propylbenzene	0.4000	0.4087	-2.2	100	0.00
84	T	Bromobenzene	0.4000	0.3074	23.2	100	-0.01
85	T	1,3,5-Trimethylbenzene	0.4000	0.3796	5.1	100	-0.01
86	T	2-Chlorotoluene	0.4000	0.4381	-9.5	100	0.00
87	T	4-Chlorotoluene	0.4000	0.4187	-4.7	100	-0.01
88	T	a-Methylstyrene	-1.0000	0.2855	0.0	100	-0.01
89	T	tert-Butylbenzene	0.4000	0.3226	19.4	100	0.00
90	T	1,2,4-Trimethylbenzene	0.4000	0.3812	4.7	100	-0.01
91	T	sec-Butylbenzene	-1.0000	0.4059	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3853	0.0	100	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.3683	7.9	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.4071	-1.8	100	-0.01
95	T	n-Butylbenzene	-1.0000	0.4239	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.3488	12.8	100	-0.01
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.40#
98	T	1,2,4-Trichlorobenzene	0.4000	0.4201	-5.0	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.3221	19.5	100	-0.01
100	T	Naphthalene	0.4000	0.3698	7.6	100	-0.01
101	T	1,2,3-Trichlorobenzene	0.4000	0.3605	9.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416152.D 8260WT.M Wed Nov 16 08:38:40 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416153.D Vial: 4
Acq On : 15 Nov 2016 11:11 Operator: TMB
Sample : WG591653-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:39 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	715018	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	489631	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	206908	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	3100	0.4602	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.84%#		
43) 1,2-Dichloroethane-d4	10.57	65	2469	0.4594	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.84%#		
58) Toluene-d8	12.95	98	11566	0.4727	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	1.88%#		
80) p-Bromofluorobenzene	16.34	95	3862	0.4774	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.92%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.37	85	10778	0.8955	ug/L	93
3) Chloromethane	3.85	50	13262	1.1929	ug/L	95
4) Vinyl Chloride	4.09	62	14212	1.1570	ug/L	95
5) 1,3-Butadiene	4.15	54	8949	Below Cal		82
6) Bromomethane	5.01	94	4866	0.7985	ug/L	96
7) Chloroethane	5.17	64	4499	0.9688	ug/L	85
8) Trichlorofluoromethane	5.65	101	12580	0.9542	ug/L #	97
9) Diethyl ether	6.18	59	14637	4.6740	ug/L	97
10) Isoprene	6.22	67	9767	0.9655	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.45	101	7255	0.9744	ug/L	95
14) 1,1-Dichloroethene	6.75	61	8906	0.9461	ug/L	98
15) Tert-Butyl Alcohol	6.85	59	1092	6.0701	ug/L #	62
16) Dimethyl Sulfide	7.02	62	4565	0.9376	ug/L	97
17) Iodomethane	7.27	142	2189	1.4109	ug/L #	67
18) Methyl acetate	7.26	43	1004	0.6299	ug/L #	50
19) Methylene Chloride	7.52	84	7166	1.0249	ug/L	99
20) Carbon Disulfide	7.57	76	24302	1.0429	ug/L	92
21) Acrylonitrile	7.70	53	1416	2.4785	ug/L	78
22) Methyl Tert Butyl Ether	7.73	73	11441	0.9650	ug/L	90
23) trans-1,2-Dichloroethene	7.98	61	8567	0.9517	ug/L	97
24) n-Hexane	8.05	57	7599	0.9681	ug/L	97
25) Diisopropyl ether	8.39	45	70531	4.9492	ug/L	97
26) Vinyl Acetate	8.56	43	5315	0.9690	ug/L #	84
27) 1,1-Dichloroethane	8.60	63	11791	0.9970	ug/L	92
28) Ethyl-Tert-Butyl ether	8.96	59	70810	4.9235	ug/L	94
30) Propionitrile	9.26	54	1042	4.1095	ug/L #	56
31) 2,2-Dichloropropane	9.36	77	11493	0.9918	ug/L	94
32) cis-1,2-Dichloroethene	9.44	96	7962	0.9956	ug/L	93
33) Chloroform	9.64	83	13902	1.0316	ug/L	91
34) 1-Bromopropane	9.77	122	1154	0.7406	ug/L	97
35) Bromochloromethane	9.88	130	3458	0.9813	ug/L	91
36) Tetrahydrofuran	9.91	42	3927	5.4662	ug/L	87
38) 1,1,1-Trichloroethane	10.17	97	11814	0.9559	ug/L	99
39) Cyclohexane	10.21	56	9341	0.9787	ug/L	91
40) 1,1-Dichloropropene	10.38	75	9500	0.9356	ug/L	92
41) Tert-Amyl-Methyl ether	10.47	73	64003	4.8268	ug/L #	98
42) Carbon Tetrachloride	10.52	117	10868	0.9781	ug/L	95
45) 1,2-Dichloroethane	10.69	62	6523	0.9754	ug/L	88
46) Benzene	10.73	78	30702	1.0574	ug/L	89
47) Trichloroethene	11.47	130	7258	0.9638	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M416153.D 8260WT.M Wed Nov 16 08:36:42 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416153.D Vial: 4
Acq On : 15 Nov 2016 11:11 Operator: TMB
Sample : WG591653-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:39 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

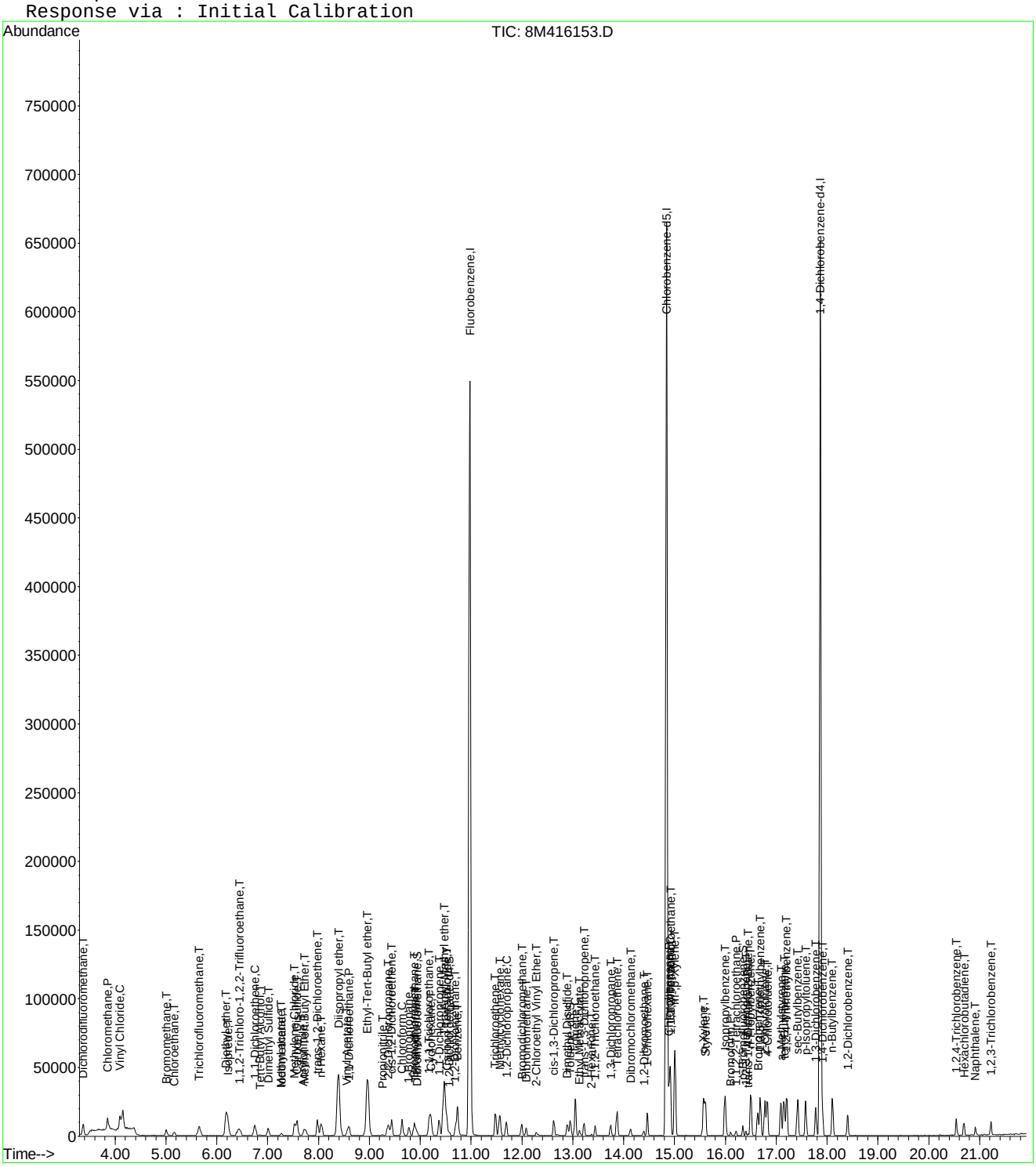
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
48)	Methylcyclohexane	11.57	83	12385	0.9979	ug/L		94
49)	1,2-Dichloropropane	11.70	63	5609	0.9540	ug/L		91
50)	Bromodichloromethane	12.00	83	8415	0.9419	ug/L	#	95
52)	Dibromomethane	12.08	93	3182	1.0196	ug/L		89
53)	2-Chloroethyl Vinyl Ether	12.28	63	1735	0.7867	ug/L	#	42
55)	cis-1,3-Dichloropropene	12.63	75	9269	0.9572	ug/L		94
56)	Dimethyl Disulfide	12.89	79	3973	0.7022	ug/L		96
59)	Toluene	13.04	91	31172	1.0395	ug/L		80
60)	Ethyl Methacrylate	13.13	69	3872	0.8393	ug/L		96
62)	trans-1,3-Dichloropropene	13.22	75	7250	0.9237	ug/L		98
63)	1,1,2-Trichloroethane	13.44	97	3975	1.0244	ug/L		90
64)	2-Hexanone	13.36	58	243	0.3163	ug/L	#	1
65)	1,3-Dichloropropane	13.75	76	7000	1.0118	ug/L		97
66)	Tetrachloroethene	13.87	164	5224	0.9332	ug/L		93
67)	Dibromochloromethane	14.14	129	4249	0.8352	ug/L		93
68)	1,2-Dibromoethane	14.40	107	3707	0.9816	ug/L		88
69)	1-Chlorohexane	14.46	91	9556	0.9021	ug/L		97
70)	Chlorobenzene	14.89	112	18985	0.9624	ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.93	131	5609	1.0243	ug/L		98
72)	Ethylbenzene	14.92	106	10218	0.9269	ug/L	#	12
73)	m-,p-Xylene	15.01	106	25155	1.8826	ug/L	#	37
74)	o-Xylene	15.57	106	11289	0.8621	ug/L		53
75)	Styrene	15.61	104	17265	0.8740	ug/L		89
76)	Bromoform	16.10	173	1786	1.3004	ug/L		92
77)	Isopropylbenzene	15.99	105	30181	0.9678	ug/L		75
79)	1,1,2,2-Tetrachloroethane	16.21	83	3647	1.0104	ug/L	#	90
81)	1,2,3-Trichloropropane	16.40	110	951	0.9499	ug/L	#	1
82)	trans-1,4-Dichloro-2-Buten	16.45	53	238	0.8559	ug/L	#	1
83)	n-Propylbenzene	16.50	91	37350	1.0561	ug/L	#	71
84)	Bromobenzene	16.64	156	6465	0.9990	ug/L		68
85)	1,3,5-Trimethylbenzene	16.68	105	24053	0.9944	ug/L		75
86)	2-Chlorotoluene	16.78	91	22568	1.0270	ug/L		71
87)	4-Chlorotoluene	16.83	91	23175	1.0893	ug/L		71
88)	a-Methylstyrene	17.10	118	10651	0.7570	ug/L		100
89)	tert-Butylbenzene	17.16	134	4574	0.9433	ug/L		46
90)	1,2,4-Trimethylbenzene	17.20	105	24983	1.0161	ug/L		75
91)	sec-Butylbenzene	17.42	105	31928	1.0586	ug/L	#	75
92)	p-Isopropyltoluene	17.58	119	23348	0.9994	ug/L		77
93)	1,3-Dichlorobenzene	17.78	146	12025	0.9397	ug/L		96
94)	1,4-Dichlorobenzene	17.91	146	12159	0.9544	ug/L		85
95)	n-Butylbenzene	18.10	91	24379	1.0293	ug/L	#	78
96)	1,2-Dichlorobenzene	18.41	146	9621	0.9278	ug/L		97
98)	1,2,4-Trichlorobenzene	20.54	180	5889	0.9271	ug/L		98
99)	Hexachlorobutadiene	20.69	225	3072	0.9872	ug/L		91
100)	Naphthalene	20.91	128	8170	1.0313	ug/L		93
101)	1,2,3-Trichlorobenzene	21.22	180	4061	0.8965	ug/L		92

(#) = qualifier out of range (m) = manual integration
8M416153.D 8260WT.M Wed Nov 16 08:36:42 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416153.D Vial: 4
Acq On : 15 Nov 2016 11:11 Operator: TMB
Sample : WG591653-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:36 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416153.D Vial: 4
Acq On : 15 Nov 2016 11:11 Operator: TMB
Sample : WG591653-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	0.8955	10.4	100	-0.01
3	P	Chloromethane	1.0000	1.1929	-19.3	100	0.00
4	C	Vinyl Chloride	1.0000	1.1570	-15.7	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	1.0000	0.7985	20.2	100	0.00
7	T	Chloroethane	1.0000	0.9688	3.1	100	0.00
8	T	Trichlorofluoromethane	1.0000	0.9542	4.6	100	0.00
9	T	Diethyl ether	5.0000	4.6740	6.5	100	0.00
10	T	Isoprene	-1.0000	0.9655	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.42#
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9744	2.6	100	0.02
13	T	Acetone	-1.0000	0.0000	0.0	0	-6.52#
14	C	1,1-Dichloroethene	1.0000	0.9461	5.4	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	6.0701	0.0	100	-0.01
16	T	Dimethyl Sulfide	1.0000	0.9376	6.2	100	0.00
17	T	Iodomethane	1.0000	1.4109	-41.1#	100	0.00
18	T	Methyl acetate	-1.0000	0.6299	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0249	-2.5	100	0.00
20	T	Carbon Disulfide	1.0000	1.0430	-4.3	100	0.00
21	T	Acrylonitrile	2.5000	2.4785	0.9	100	-0.01
22	T	Methyl Tert Butyl Ether	1.0000	0.9650	3.5	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	0.9517	4.8	100	0.00
24	T	n-Hexane	-1.0000	0.9681	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	4.9492	1.0	100	0.00
26	T	Vinyl Acetate	-1.0000	0.9690	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	0.9970	0.3	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.9235	1.5	100	0.00
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-9.15#
30	T	Propionitrile	5.0000	4.1095	17.8	100	0.00
31	T	2,2-Dichloropropane	1.0000	0.9918	0.8	100	-0.01
32	T	cis-1,2-Dichloroethene	1.0000	0.9957	0.4	100	0.00
33	C	Chloroform	1.0000	1.0316	-3.2	100	0.00
34		1-Bromopropane	-1.0000	0.7406	0.0	100	-0.01
35	T	Bromochloromethane	1.0000	0.9813	1.9	100	0.00
36	T	Tetrahydrofuran	5.0000	5.4662	-9.3	100	0.00
37	S	Dibromofluoromethane	0.5000	0.4602	8.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9559	4.4	100	-0.01
39	T	Cyclohexane	1.0000	0.9787	2.1	100	0.00
40	T	1,1-Dichloropropene	1.0000	0.9356	6.4	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.8268	3.5	100	0.00
42	T	Carbon Tetrachloride	1.0000	0.9781	2.2	100	0.00
43	S	1,2-Dichloroethane-d4	0.5000	0.4595	8.1	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	1.0000	0.9754	2.5	100	0.00
46	T	Benzene	1.0000	1.0574	-5.7	100	0.00
47	T	Trichloroethene	1.0000	0.9638	3.6	100	-0.01
48	T	Methylcyclohexane	-1.0000	0.9979	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	0.9540	4.6	100	0.00
50	T	Bromodichloromethane	1.0000	0.9419	5.8	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.99#
52	T	Dibromomethane	1.0000	1.0196	-2.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.7867	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.31#

(#) = Out of Range
8M416153.D 8260WT.M Wed Nov 16 08:38:55 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416153.D Vial: 4
Acq On : 15 Nov 2016 11:11 Operator: TMB
Sample : WG591653-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.9572	4.3	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.7022	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	0.5000	0.4727	5.5	100	0.00
59	C	Toluene	1.0000	1.0395	-3.9	100	-0.01
60	T	Ethyl Methacrylate	1.0000	0.8393	16.1	100	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	1.0000	0.9237	7.6	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	1.0244	-2.4	100	0.00
64	T	2-Hexanone	-1.0000	0.3163	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	1.0118	-1.2	100	0.00
66	T	Tetrachloroethene	1.0000	0.9332	6.7	100	0.00
67	T	Dibromochloromethane	1.0000	0.8352	16.5	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.9816	1.8	100	0.00
69	T	1-Chlorohexane	1.0000	0.9021	9.8	100	-0.01
70	P	Chlorobenzene	1.0000	0.9624	3.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	1.0243	-2.4	100	0.00
72	C	Ethylbenzene	1.0000	0.9270	7.3	100	0.00
73	T	m-,p-Xylene	2.0000	1.8826	5.9	100	0.00
74	T	o-Xylene	1.0000	0.8621	13.8	100	0.00
75	T	Styrene	1.0000	0.8740	12.6	100	0.00
76	P	Bromoform	1.0000	1.3004	-30.0#	100	0.00
77	T	Isopropylbenzene	1.0000	0.9678	3.2	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	1.0000	1.0104	-1.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.4774	0.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	0.9499	5.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8559	14.4	100	0.00
83	T	n-Propylbenzene	1.0000	1.0561	-5.6	100	0.00
84	T	Bromobenzene	1.0000	0.9990	0.1	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	0.9944	0.6	100	-0.01
86	T	2-Chlorotoluene	1.0000	1.0270	-2.7	100	0.00
87	T	4-Chlorotoluene	1.0000	1.0893	-8.9	100	0.00
88	T	a-Methylstyrene	-1.0000	0.7570	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	0.9433	5.7	100	0.00
90	T	1,2,4-Trimethylbenzene	1.0000	1.0161	-1.6	100	-0.01
91	T	sec-Butylbenzene	1.0000	1.0586	-5.9	100	0.00
92	T	p-Isopropyltoluene	1.0000	0.9994	0.1	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	0.9397	6.0	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	0.9544	4.6	100	0.00
95	T	n-Butylbenzene	1.0000	1.0293	-2.9	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	0.9278	7.2	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.40#
98	T	1,2,4-Trichlorobenzene	1.0000	0.9271	7.3	100	0.00
99	T	Hexachlorobutadiene	1.0000	0.9872	1.3	100	0.00
100	T	Naphthalene	1.0000	1.0313	-3.1	100	-0.01
101	T	1,2,3-Trichlorobenzene	1.0000	0.8965	10.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416153.D 8260WT.M Wed Nov 16 08:38:56 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416154.D Vial: 5
Acq On : 15 Nov 2016 11:40 Operator: TMB
Sample : WG591653-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:44 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.98	96	719658	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.84	117	488530	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	208803	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.93	111	6471	0.9544	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.80%#			
43) 1,2-Dichloroethane-d4	10.57	65	5280	0.9762	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.92%#			
58) Toluene-d8	12.95	98	24583	1.0070	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.04%#			
80) p-Bromofluorobenzene	16.34	95	8239	1.0093	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.04%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.37	85	21439	1.7698	ug/L		97
3) Chloromethane	3.85	50	23764	2.1238	ug/L		97
4) Vinyl Chloride	4.09	62	25840	2.0901	ug/L		99
5) 1,3-Butadiene	4.15	54	18343	0.6223	ug/L		95
6) Bromomethane	5.00	94	10395	1.6948	ug/L		99
7) Chloroethane	5.17	64	8944	1.9136	ug/L		90
8) Trichlorofluoromethane	5.65	101	24591	1.8532	ug/L		97
9) Diethyl ether	6.18	59	76167	24.1655	ug/L		96
10) Isoprene	6.21	67	16995	1.6692	ug/L		98
11) Acrolein	6.42	56	2323	12.3005	ug/L		96
12) 1,1,2-Trichloro-1,2,2-Trif	6.43	101	13445	1.7941	ug/L		97
13) Acetone	6.53	43	622	1.1996	ug/L	#	41
14) 1,1-Dichloroethene	6.74	61	17470	1.8439	ug/L		93
15) Tert-Butyl Alcohol	6.85	59	8416	46.4807	ug/L	#	81
16) Dimethyl Sulfide	7.01	62	9100	1.8571	ug/L		98
17) Iodomethane	7.26	142	4472	1.8613	ug/L		90
18) Methyl acetate	7.27	43	2858	1.7815	ug/L	#	50
19) Methylene Chloride	7.53	84	12838	1.8242	ug/L		91
20) Carbon Disulfide	7.57	76	43662	1.8617	ug/L		95
21) Acrylonitrile	7.71	53	8923	12.4637	ug/L		82
22) Methyl Tert Butyl Ether	7.73	73	22078	1.8502	ug/L		98
23) trans-1,2-Dichloroethene	7.98	61	16785	1.8525	ug/L		94
24) n-Hexane	8.05	57	15097	1.9109	ug/L		99
25) Diisopropyl ether	8.39	45	348982	24.3302	ug/L		98
26) Vinyl Acetate	8.57	43	11240	2.0361	ug/L		90
27) 1,1-Dichloroethane	8.60	63	21850	1.8357	ug/L		94
28) Ethyl-Tert-Butyl ether	8.96	59	348703	24.0893	ug/L		97
29) 2-Butanone	9.15	43	1015	1.2220	ug/L	#	40
30) Propionitrile	9.25	54	6259	24.5252	ug/L		97
31) 2,2-Dichloropropane	9.36	77	21993	1.8856	ug/L		94
32) cis-1,2-Dichloroethene	9.44	96	14518	1.8038	ug/L		89
33) Chloroform	9.64	83	26338	1.9419	ug/L		90
34) 1-Bromopropane	9.78	122	2708	1.7267	ug/L		94
35) Bromochloromethane	9.88	130	6874	1.9381	ug/L		94
36) Tetrahydrofuran	9.90	42	14273	24.0934	ug/L		92
38) 1,1,1-Trichloroethane	10.18	97	21857	1.7571	ug/L		98
39) Cyclohexane	10.21	56	17716	1.8441	ug/L		92
40) 1,1-Dichloropropene	10.37	75	19238	1.8824	ug/L		92
41) Tert-Amyl-Methyl ether	10.47	73	328983	24.6502	ug/L		100
42) Carbon Tetrachloride	10.52	117	20052	1.7931	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M416154.D 8260WT.M Wed Nov 16 08:36:47 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416154.D Vial: 5
Acq On : 15 Nov 2016 11:40 Operator: TMB
Sample : WG591653-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:44 2016 Quant Results File: 8260WT.RES

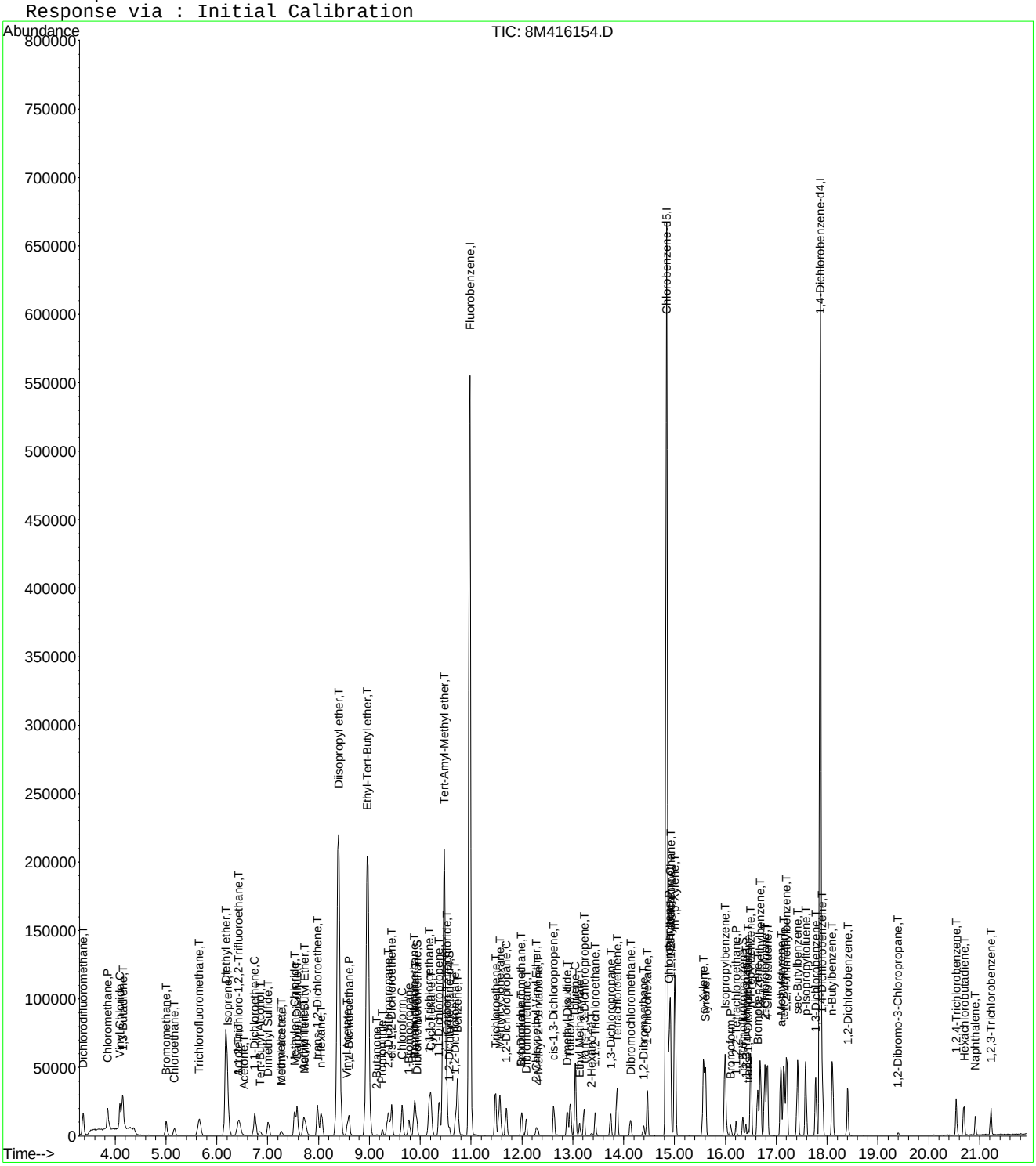
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	12335	1.8326	ug/L		98
46)	Benzene	10.73	78	55817	1.9099	ug/L		91
47)	Trichloroethene	11.48	130	13244	1.7473	ug/L		95
48)	Methylcyclohexane	11.57	83	22466	1.7985	ug/L		96
49)	1,2-Dichloropropane	11.69	63	11242	1.8998	ug/L		87
50)	Bromodichloromethane	11.99	83	16053	1.7853	ug/L		97
51)	1,4-Dioxane	11.99	88	687	65.2297	ug/L	#	35
52)	Dibromomethane	12.08	93	5492	1.7484	ug/L		91
53)	2-Chloroethyl Vinyl Ether	12.28	63	4149	1.8692	ug/L		90
54)	4-Methyl-2-Pentanone	12.32	58	1174	1.3586	ug/L	#	55
55)	cis-1,3-Dichloropropene	12.62	75	18309	1.8785	ug/L		94
56)	Dimethyl Disulfide	12.89	79	8040	1.4118	ug/L		91
59)	Toluene	13.04	91	58806	1.9654	ug/L		82
60)	Ethyl Methacrylate	13.14	69	7628	1.6572	ug/L		94
62)	trans-1,3-Dichloropropene	13.22	75	14385	1.8368	ug/L		92
63)	1,1,2-Trichloroethane	13.44	97	7295	1.8843	ug/L		98
64)	2-Hexanone	13.36	58	1124	1.4665	ug/L	#	1
65)	1,3-Dichloropropane	13.75	76	13597	1.9697	ug/L		99
66)	Tetrachloroethene	13.87	164	10259	1.8367	ug/L		96
67)	Dibromochloromethane	14.14	129	9407	1.8532	ug/L		93
68)	1,2-Dibromoethane	14.39	107	6917	1.8357	ug/L		99
69)	1-Chlorohexane	14.46	91	19723	1.8661	ug/L		97
70)	Chlorobenzene	14.89	112	35717	1.8147	ug/L		87
71)	1,1,1,2-Tetrachloroethane	14.93	131	11189	1.7824	ug/L		99
72)	Ethylbenzene	14.92	106	19493	1.7723	ug/L	#	8
73)	m-,p-Xylene	15.01	106	47852	3.5893	ug/L	#	37
74)	o-Xylene	15.57	106	22781	1.7436	ug/L		60
75)	Styrene	15.61	104	33282	1.6886	ug/L		92
76)	Bromoform	16.10	173	4228	2.0596	ug/L		98
77)	Isopropylbenzene	15.99	105	58585	1.8829	ug/L		75
79)	1,1,2,2-Tetrachloroethane	16.21	83	7131	1.9577	ug/L	#	95
81)	1,2,3-Trichloropropane	16.40	110	1755	1.7371	ug/L		78
82)	trans-1,4-Dichloro-2-Buten	16.45	53	1217	2.0587	ug/L		58
83)	n-Propylbenzene	16.50	91	70868	1.9857	ug/L	#	73
84)	Bromobenzene	16.63	156	12169	1.8633	ug/L		82
85)	1,3,5-Trimethylbenzene	16.68	105	48024	1.9674	ug/L		76
86)	2-Chlorotoluene	16.78	91	43901	1.9796	ug/L	#	68
87)	4-Chlorotoluene	16.83	91	43782	2.0392	ug/L		71
88)	a-Methylstyrene	17.10	118	22265	1.5680	ug/L		93
89)	tert-Butylbenzene	17.15	134	9055	1.8505	ug/L		53
90)	1,2,4-Trimethylbenzene	17.20	105	48844	1.9685	ug/L		73
91)	sec-Butylbenzene	17.42	105	61244	2.0122	ug/L	#	75
92)	p-Isopropyltoluene	17.58	119	44302	1.8792	ug/L		76
93)	1,3-Dichlorobenzene	17.78	146	24617	1.9062	ug/L		92
94)	1,4-Dichlorobenzene	17.90	146	23686	1.8423	ug/L		87
95)	n-Butylbenzene	18.10	91	47795	1.9996	ug/L	#	78
96)	1,2-Dichlorobenzene	18.41	146	20410	1.9504	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.39	75	813	1.6503	ug/L		76
98)	1,2,4-Trichlorobenzene	20.54	180	11706	1.8262	ug/L		96
99)	Hexachlorobutadiene	20.70	225	5656	1.8010	ug/L		97
100)	Naphthalene	20.91	128	14695	1.8381	ug/L		99
101)	1,2,3-Trichlorobenzene	21.22	180	8633	1.8885	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M416154.D 8260WT.M Wed Nov 16 08:36:47 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416154.D Vial: 5
Acq On : 15 Nov 2016 11:40 Operator: TMB
Sample : WG591653-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:36 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416154.D Vial: 5
Acq On : 15 Nov 2016 11:40 Operator: TMB
Sample : WG591653-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.7698	11.5	100	-0.01
3	P	Chloromethane	2.0000	2.1238	-6.2	100	0.00
4	C	Vinyl Chloride	2.0000	2.0901	-4.5	100	0.00
5	T	1,3-Butadiene	2.0000	0.6223	68.9#	100	0.02
6	T	Bromomethane	2.0000	1.6948	15.3	100	0.00
7	T	Chloroethane	2.0000	1.9136	4.3	100	0.00
8	T	Trichlorofluoromethane	2.0000	1.8532	7.3	100	0.00
9	T	Diethyl ether	25.0000	24.1655	3.3	100	0.00
10	T	Isoprene	2.0000	1.6692	16.5	100	-0.01
11	T	Acrolein	12.5000	12.3005	1.6	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.7941	10.3	100	0.00
13	T	Acetone	-1.0000	1.1996	0.0	100	0.00
14	C	1,1-Dichloroethene	2.0000	1.8439	7.8	100	-0.01
15	T	Tert-Butyl Alcohol	50.0000	46.4807	7.0	100	-0.01
16	T	Dimethyl Sulfide	2.0000	1.8571	7.1	100	-0.01
17	T	Iodomethane	2.0000	1.8613	6.9	100	0.00
18	T	Methyl acetate	-1.0000	1.7815	0.0	100	0.00
19	T	Methylene Chloride	2.0000	1.8242	8.8	100	0.00
20	T	Carbon Disulfide	2.0000	1.8617	6.9	100	0.00
21	T	Acrylonitrile	12.5000	12.4637	0.3	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8502	7.5	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	1.8525	7.4	100	0.00
24	T	n-Hexane	-1.0000	1.9109	0.0	100	0.00
25	T	Diisopropyl ether	25.0000	24.3302	2.7	100	0.00
26	T	Vinyl Acetate	2.0000	2.0361	-1.8	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.8357	8.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	24.0893	3.6	100	0.00
29	T	2-Butanone	-1.0000	1.2220	0.0	100	0.00
30	T	Propionitrile	25.0000	24.5252	1.9	100	-0.01
31	T	2,2-Dichloropropane	2.0000	1.8856	5.7	100	-0.01
32	T	cis-1,2-Dichloroethene	2.0000	1.8038	9.8	100	0.00
33	C	Chloroform	2.0000	1.9419	2.9	100	0.00
34		1-Bromopropane	2.0000	1.7267	13.7	100	0.00
35	T	Bromochloromethane	2.0000	1.9381	3.1	100	0.00
36	T	Tetrahydrofuran	25.0000	24.0934	3.6	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9544	4.6	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.7571	12.1	100	0.00
39	T	Cyclohexane	2.0000	1.8441	7.8	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.8824	5.9	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	24.6502	1.4	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.7931	10.3	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	0.9762	2.4	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	2.0000	1.8326	8.4	100	0.00
46	T	Benzene	2.0000	1.9099	4.5	100	0.00
47	T	Trichloroethene	2.0000	1.7473	12.6	100	0.00
48	T	Methylcyclohexane	-1.0000	1.7985	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	1.8998	5.0	100	0.00
50	T	Bromodichloromethane	2.0000	1.7853	10.7	100	0.00
51	T	1,4-Dioxane	-1.0000	65.2297	0.0	0	0.00
52	T	Dibromomethane	2.0000	1.7484	12.6	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.8692	6.5	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.3586	0.0	100	0.00

(#) = Out of Range
8M416154.D 8260WT.M Wed Nov 16 08:39:07 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416154.D Vial: 5
Acq On : 15 Nov 2016 11:40 Operator: TMB
Sample : WG591653-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.8785	6.1	100	0.00
56	T	Dimethyl Disulfide	-1.0000	1.4118	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	1.0070	-0.7	100	0.00
59	C	Toluene	2.0000	1.9654	1.7	100	-0.01
60	T	Ethyl Methacrylate	2.0000	1.6572	17.1	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	2.0000	1.8368	8.2	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	1.8843	5.8	100	0.00
64	T	2-Hexanone	-1.0000	1.4665	0.0	100	0.00
65	T	1,3-Dichloropropane	2.0000	1.9697	1.5	100	0.00
66	T	Tetrachloroethene	2.0000	1.8367	8.2	100	0.00
67	T	Dibromochloromethane	2.0000	1.8532	7.3	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.8357	8.2	100	0.00
69	T	1-Chlorohexane	2.0000	1.8661	6.7	100	-0.01
70	P	Chlorobenzene	2.0000	1.8147	9.3	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.7824	10.9	100	0.00
72	C	Ethylbenzene	2.0000	1.7723	11.4	100	0.00
73	T	m-,p-Xylene	4.0000	3.5893	10.3	100	0.00
74	T	o-Xylene	2.0000	1.7436	12.8	100	0.00
75	T	Styrene	2.0000	1.6886	15.6	100	0.00
76	P	Bromoform	2.0000	2.0596	-3.0	100	0.00
77	T	Isopropylbenzene	2.0000	1.8829	5.9	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	2.0000	1.9577	2.1	100	0.00
80	S	p-Bromofluorobenzene	1.0000	1.0093	-0.9	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	1.7371	13.1	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	2.0587	-2.9	100	0.00
83	T	n-Propylbenzene	2.0000	1.9857	0.7	100	0.00
84	T	Bromobenzene	2.0000	1.8633	6.8	100	-0.01
85	T	1,3,5-Trimethylbenzene	2.0000	1.9674	1.6	100	-0.01
86	T	2-Chlorotoluene	2.0000	1.9796	1.0	100	0.00
87	T	4-Chlorotoluene	2.0000	2.0393	-2.0	100	0.00
88	T	a-Methylstyrene	-1.0000	1.5680	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.8505	7.5	100	-0.01
90	T	1,2,4-Trimethylbenzene	2.0000	1.9685	1.6	100	-0.01
91	T	sec-Butylbenzene	2.0000	2.0122	-0.6	100	0.00
92	T	p-Isopropyltoluene	2.0000	1.8792	6.0	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	1.9062	4.7	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	1.8423	7.9	100	-0.01
95	T	n-Butylbenzene	2.0000	1.9996	0.0	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	1.9504	2.5	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.6503	17.5	100	-0.01
98	T	1,2,4-Trichlorobenzene	2.0000	1.8262	8.7	100	0.00
99	T	Hexachlorobutadiene	2.0000	1.8010	9.9	100	0.00
100	T	Naphthalene	2.0000	1.8381	8.1	100	-0.01
101	T	1,2,3-Trichlorobenzene	2.0000	1.8885	5.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416154.D 8260WT.M Wed Nov 16 08:39:07 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416155.D Vial: 6
Acq On : 15 Nov 2016 12:12 Operator: TMB
Sample : WG591653-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:49 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	723524	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	493466	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	215494	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	16079	2.3589	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.44%#		
43) 1,2-Dichloroethane-d4	10.57	65	13242	2.4352	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.76%#		
58) Toluene-d8	12.95	98	59309	2.4052	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	9.64%#		
80) p-Bromofluorobenzene	16.34	95	20924	2.4837	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	9.92%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.37	85	54603	4.4835	ug/L	94
3) Chloromethane	3.85	50	57526	5.1137	ug/L	99
4) Vinyl Chloride	4.09	62	62017	4.9894	ug/L	96
5) 1,3-Butadiene	4.14	54	45405	5.7591	ug/L	99
6) Bromomethane	5.00	94	28345	4.5966	ug/L	97
7) Chloroethane	5.17	64	22714	4.8339	ug/L	99
8) Trichlorofluoromethane	5.65	101	63521	4.7614	ug/L	99
9) Diethyl ether	6.18	59	158875	50.1369	ug/L	98
10) Isoprene	6.22	67	46633	4.5556	ug/L	98
11) Acrolein	6.41	56	5108	25.8825	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	35347	4.6915	ug/L	99
13) Acetone	6.53	43	2016	3.8673	ug/L #	41
14) 1,1-Dichloroethene	6.75	61	45346	4.7606	ug/L	97
15) Tert-Butyl Alcohol	6.85	59	18344	100.7706	ug/L #	86
16) Dimethyl Sulfide	7.01	62	24233	4.9188	ug/L	98
17) Iodomethane	7.26	142	12773	3.4905	ug/L	97
18) Methyl acetate	7.26	43	8368	5.1883	ug/L #	79
19) Methylene Chloride	7.52	84	33991	4.8042	ug/L	90
20) Carbon Disulfide	7.58	76	114574	4.8593	ug/L	93
21) Acrylonitrile	7.71	53	18969	24.9849	ug/L	85
22) Methyl Tert Butyl Ether	7.74	73	58648	4.8886	ug/L	100
23) trans-1,2-Dichloroethene	7.98	61	44669	4.9037	ug/L	93
24) n-Hexane	8.06	57	39280	4.9453	ug/L	98
25) Diisopropyl ether	8.39	45	719576	49.8992	ug/L	98
26) Vinyl Acetate	8.56	43	29534	5.3213	ug/L	98
27) 1,1-Dichloroethane	8.60	63	57711	4.8225	ug/L	96
28) Ethyl-Tert-Butyl ether	8.96	59	720204	49.4877	ug/L	97
29) 2-Butanone	9.15	43	4017	4.8103	ug/L	89
30) Propionitrile	9.25	54	13109	51.0917	ug/L	91
31) 2,2-Dichloropropane	9.37	77	57535	4.9066	ug/L	94
32) cis-1,2-Dichloroethene	9.44	96	38043	4.7014	ug/L	90
33) Chloroform	9.64	83	63994	4.6930	ug/L	96
34) 1-Bromopropane	9.79	122	7116	4.5131	ug/L	98
35) Bromochloromethane	9.88	130	17439	4.8906	ug/L	93
36) Tetrahydrofuran	9.90	42	29016	50.4228	ug/L	90
38) 1,1,1-Trichloroethane	10.18	97	58598	4.6855	ug/L	93
39) Cyclohexane	10.21	56	46150	4.7783	ug/L	94
40) 1,1-Dichloropropene	10.38	75	48529	4.7231	ug/L	93
41) Tert-Amyl-Methyl ether	10.47	73	667179	49.7236	ug/L	100
42) Carbon Tetrachloride	10.52	117	54423	4.8405	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416155.D 8260WT.M Wed Nov 16 08:36:52 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416155.D Vial: 6
Acq On : 15 Nov 2016 12:12 Operator: TMB
Sample : WG591653-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:49 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

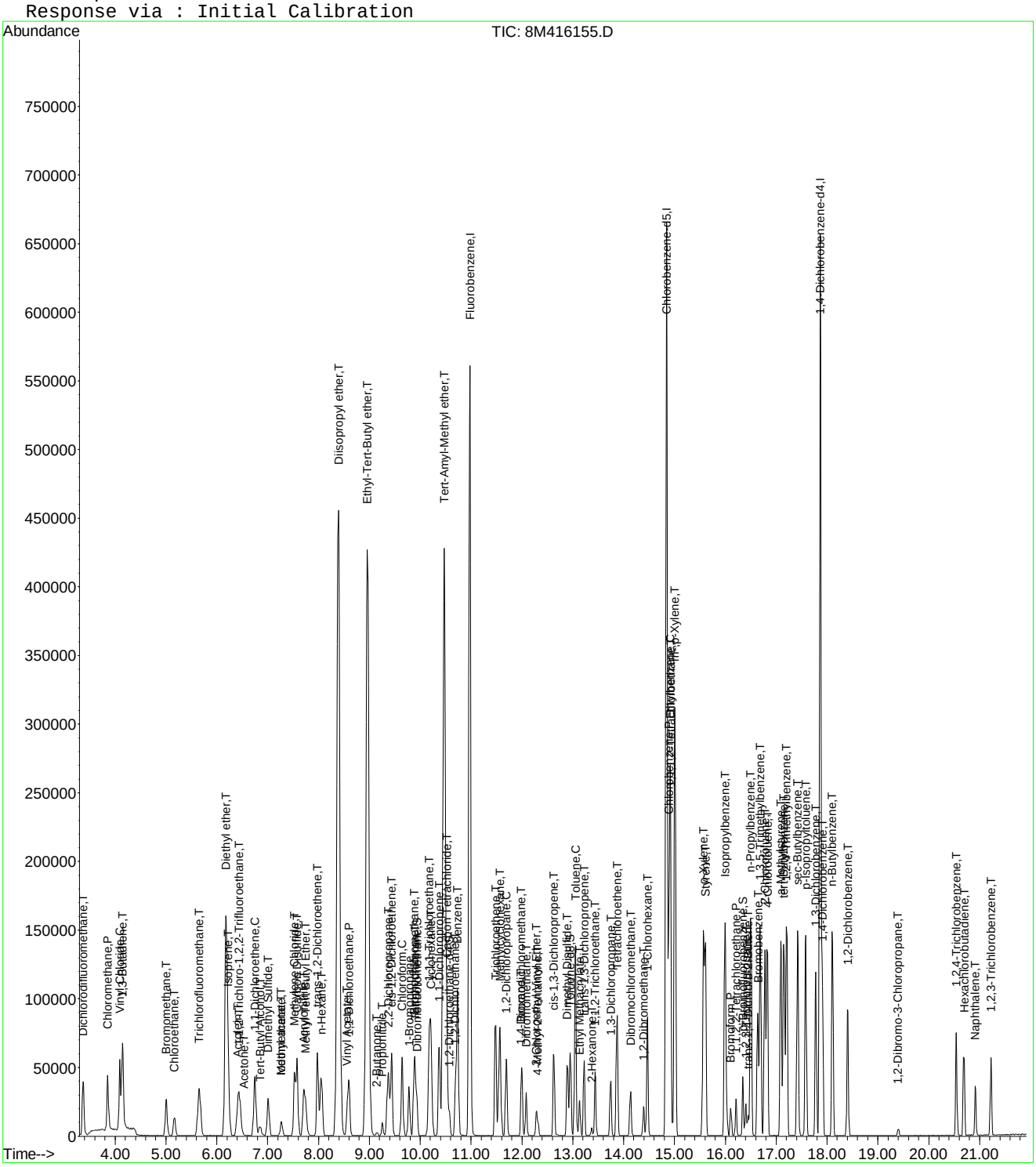
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	32652	4.8251	ug/L		96
46)	Benzene	10.73	78	146321	4.9800	ug/L		91
47)	Trichloroethene	11.48	130	34944	4.5855	ug/L		96
48)	Methylcyclohexane	11.57	83	59255	4.7182	ug/L		98
49)	1,2-Dichloropropane	11.69	63	28581	4.8041	ug/L		97
50)	Bromodichloromethane	11.99	83	43013	4.7580	ug/L		97
51)	1,4-Dioxane	11.98	88	2089	107.2902	ug/L		95
52)	Dibromomethane	12.08	93	15794	5.0012	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.28	63	10261	4.5981	ug/L		88
54)	4-Methyl-2-Pentanone	12.31	58	3574	4.1138	ug/L		88
55)	cis-1,3-Dichloropropene	12.63	75	46744	4.7704	ug/L		95
56)	Dimethyl Disulfide	12.89	79	23141	4.0418	ug/L		98
59)	Toluene	13.06	91	147860	4.8922	ug/L		84
60)	Ethyl Methacrylate	13.14	69	21511	4.6266	ug/L		98
62)	trans-1,3-Dichloropropene	13.22	75	38327	4.8450	ug/L		98
63)	1,1,2-Trichloroethane	13.44	97	19738	5.0474	ug/L		98
64)	2-Hexanone	13.38	58	3436	4.4382	ug/L	#	21
65)	1,3-Dichloropropane	13.75	76	34795	4.9901	ug/L		98
66)	Tetrachloroethene	13.87	164	26703	4.7330	ug/L		95
67)	Dibromochloromethane	14.14	129	24309	4.7410	ug/L		97
68)	1,2-Dibromoethane	14.39	107	18801	4.9396	ug/L		99
69)	1-Chlorohexane	14.47	91	49984	4.6820	ug/L		99
70)	Chlorobenzene	14.90	112	90438	4.5489	ug/L		95
71)	1,1,1,2-Tetrachloroethane	14.93	131	29933	4.2752	ug/L		99
72)	Ethylbenzene	14.92	106	51854	4.6675	ug/L	#	18
73)	m-,p-Xylene	15.01	106	125258	9.3014	ug/L	#	36
74)	o-Xylene	15.57	106	58376	4.4232	ug/L		57
75)	Styrene	15.61	104	91699	4.6060	ug/L		90
76)	Bromoform	16.11	173	12397	4.5565	ug/L		95
77)	Isopropylbenzene	15.99	105	156443	4.9778	ug/L		74
79)	1,1,2,2-Tetrachloroethane	16.21	83	19725	5.2470	ug/L		96
81)	1,2,3-Trichloropropane	16.41	110	5480	5.2556	ug/L	#	8
82)	trans-1,4-Dichloro-2-Buten	16.45	53	3487	4.7206	ug/L	#	1
83)	n-Propylbenzene	16.50	91	186497	5.0633	ug/L	#	72
84)	Bromobenzene	16.64	156	33415	4.9577	ug/L		85
85)	1,3,5-Trimethylbenzene	16.68	105	124995	4.9616	ug/L		77
86)	2-Chlorotoluene	16.78	91	112838	4.9302	ug/L	#	70
87)	4-Chlorotoluene	16.83	91	109981	4.9636	ug/L		74
88)	a-Methylstyrene	17.09	118	63363	4.3238	ug/L		93
89)	tert-Butylbenzene	17.15	134	24004	4.7533	ug/L		56
90)	1,2,4-Trimethylbenzene	17.20	105	126947	4.9574	ug/L		74
91)	sec-Butylbenzene	17.42	105	160194	5.0999	ug/L	#	77
92)	p-Isopropyltoluene	17.58	119	120048	4.9341	ug/L		77
93)	1,3-Dichlorobenzene	17.78	146	62880	4.7178	ug/L		92
94)	1,4-Dichlorobenzene	17.91	146	62332	4.6976	ug/L		99
95)	n-Butylbenzene	18.10	91	123151	4.9923	ug/L		78
96)	1,2-Dichlorobenzene	18.41	146	51468	4.7656	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.39	75	2295	4.5140	ug/L		92
98)	1,2,4-Trichlorobenzene	20.54	180	28991	4.3823	ug/L		98
99)	Hexachlorobutadiene	20.70	225	15020	4.6343	ug/L		98
100)	Naphthalene	20.91	128	39341	4.7680	ug/L		96
101)	1,2,3-Trichlorobenzene	21.22	180	22328	4.7327	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M416155.D 8260WT.M Wed Nov 16 08:36:52 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416155.D Vial: 6
Acq On : 15 Nov 2016 12:12 Operator: TMB
Sample : WG591653-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:36 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416155.D Vial: 6
Acq On : 15 Nov 2016 12:12 Operator: TMB
Sample : WG591653-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.4835	10.3	100	-0.01
3	P	Chloromethane	5.0000	5.1137	-2.3	100	0.00
4	C	Vinyl Chloride	5.0000	4.9894	0.2	100	0.00
5	T	1,3-Butadiene	5.0000	5.7591	-15.2	100	0.00
6	T	Bromomethane	5.0000	4.5966	8.1	100	0.00
7	T	Chloroethane	5.0000	4.8339	3.3	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.7614	4.8	100	0.00
9	T	Diethyl ether	50.0000	50.1369	-0.3	100	0.00
10	T	Isoprene	5.0000	4.5556	8.9	100	0.00
11	T	Acrolein	25.0000	25.8825	-3.5	100	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.6915	6.2	100	0.00
13	T	Acetone	5.0000	3.8673	22.7	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.7606	4.8	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	100.7706	-0.8	100	-0.01
16	T	Dimethyl Sulfide	5.0000	4.9188	1.6	100	-0.01
17	T	Iodomethane	5.0000	3.4905	30.2#	100	0.00
18	T	Methyl acetate	5.0000	5.1883	-3.8	100	0.00
19	T	Methylene Chloride	5.0000	4.8042	3.9	100	0.00
20	T	Carbon Disulfide	5.0000	4.8593	2.8	100	0.00
21	T	Acrylonitrile	25.0000	24.9849	0.1	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.8886	2.2	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.9037	1.9	100	0.00
24	T	n-Hexane	5.0000	4.9453	1.1	100	0.00
25	T	Diisopropyl ether	50.0000	49.8992	0.2	100	0.00
26	T	Vinyl Acetate	5.0000	5.3213	-6.4	100	0.00
27	P	1,1-Dichloroethane	5.0000	4.8225	3.6	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	49.4877	1.0	100	0.00
29	T	2-Butanone	5.0000	4.8103	3.8	100	0.00
30	T	Propionitrile	50.0000	51.0917	-2.2	100	-0.01
31	T	2,2-Dichloropropane	5.0000	4.9066	1.9	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.7013	6.0	100	0.00
33	C	Chloroform	5.0000	4.6930	6.1	100	0.00
34		1-Bromopropane	5.0000	4.5131	9.7	100	0.00
35	T	Bromochloromethane	5.0000	4.8906	2.2	100	0.00
36	T	Tetrahydrofuran	50.0000	50.4228	-0.8	100	0.00
37	S	Dibromofluoromethane	2.5000	2.3589	5.6	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.6855	6.3	100	0.00
39	T	Cyclohexane	5.0000	4.7783	4.4	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.7231	5.5	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	49.7236	0.6	100	0.00
42	T	Carbon Tetrachloride	5.0000	4.8405	3.2	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.4352	2.6	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	5.0000	4.8251	3.5	100	0.00
46	T	Benzene	5.0000	4.9800	0.4	100	0.00
47	T	Trichloroethene	5.0000	4.5855	8.3	100	0.00
48	T	Methylcyclohexane	5.0000	4.7182	5.6	100	0.00
49	C	1,2-Dichloropropane	5.0000	4.8041	3.9	100	0.00
50	T	Bromodichloromethane	5.0000	4.7580	4.8	100	0.00
51	T	1,4-Dioxane	100.0000	107.2902	-7.3	100	-0.01
52	T	Dibromomethane	5.0000	5.0012	-0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.5981	8.0	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.1138	17.7	100	0.00

(#) = Out of Range
8M416155.D 8260WT.M Wed Nov 16 08:39:20 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416155.D Vial: 6
Acq On : 15 Nov 2016 12:12 Operator: TMB
Sample : WG591653-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.7704	4.6	100	0.00
56	T	Dimethyl Disulfide	5.0000	4.0418	19.2	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.4052	3.8	100	0.00
59	C	Toluene	5.0000	4.8922	2.2	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.6266	7.5	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	5.0000	4.8450	3.1	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	5.0474	-0.9	100	0.00
64	T	2-Hexanone	5.0000	4.4382	11.2	100	0.00
65	T	1,3-Dichloropropane	5.0000	4.9901	0.2	100	0.00
66	T	Tetrachloroethene	5.0000	4.7330	5.3	100	0.00
67	T	Dibromochloromethane	5.0000	4.7411	5.2	100	0.00
68	T	1,2-Dibromoethane	5.0000	4.9396	1.2	100	0.00
69	T	1-Chlorohexane	5.0000	4.6820	6.4	100	0.00
70	P	Chlorobenzene	5.0000	4.5489	9.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.2752	14.5	100	0.00
72	C	Ethylbenzene	5.0000	4.6675	6.7	100	0.00
73	T	m-,p-Xylene	10.0000	9.3014	7.0	100	0.00
74	T	o-Xylene	5.0000	4.4231	11.5	100	0.00
75	T	Styrene	5.0000	4.6060	7.9	100	0.00
76	P	Bromoform	5.0000	4.5565	8.9	100	0.00
77	T	Isopropylbenzene	5.0000	4.9778	0.4	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	5.0000	5.2470	-4.9	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.4837	0.7	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	5.2556	-5.1	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	4.7206	5.6	100	0.00
83	T	n-Propylbenzene	5.0000	5.0633	-1.3	100	0.00
84	T	Bromobenzene	5.0000	4.9577	0.8	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	4.9616	0.8	100	-0.01
86	T	2-Chlorotoluene	5.0000	4.9302	1.4	100	0.00
87	T	4-Chlorotoluene	5.0000	4.9636	0.7	100	0.00
88	T	a-Methylstyrene	5.0000	4.3238	13.5	100	-0.01
89	T	tert-Butylbenzene	5.0000	4.7533	4.9	100	-0.01
90	T	1,2,4-Trimethylbenzene	5.0000	4.9574	0.9	100	-0.01
91	T	sec-Butylbenzene	5.0000	5.0999	-2.0	100	0.00
92	T	p-Isopropyltoluene	5.0000	4.9341	1.3	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	4.7178	5.6	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	4.6976	6.0	100	0.00
95	T	n-Butylbenzene	5.0000	4.9923	0.2	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	4.7656	4.7	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.5140	9.7	100	-0.01
98	T	1,2,4-Trichlorobenzene	5.0000	4.3823	12.4	100	0.00
99	T	Hexachlorobutadiene	5.0000	4.6343	7.3	100	0.00
100	T	Naphthalene	5.0000	4.7680	4.6	100	-0.01
101	T	1,2,3-Trichlorobenzene	5.0000	4.7328	5.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416155.D 8260WT.M Wed Nov 16 08:39:20 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416156.D Vial: 7
Acq On : 15 Nov 2016 12:42 Operator: TMB
Sample : WG591653-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:54 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.98	96	739146	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.84	117	499952	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	227201	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.93	111	69928	10.0421 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.16%#		
43) 1,2-Dichloroethane-d4	10.57	65	56540	10.1779 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 40.72%#		
58) Toluene-d8	12.95	98	259070	10.3699 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 41.48%#		
80) p-Bromofluorobenzene	16.34	95	89123	10.0339 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 40.12%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.37	85	272154	21.8744 ug/L	96
3) Chloromethane	3.85	50	244132	21.2432 ug/L	97
4) Vinyl Chloride	4.09	62	267331	21.0528 ug/L	96
5) 1,3-Butadiene	4.14	54	183098	32.9365 ug/L	99
6) Bromomethane	5.00	94	126092	20.0156 ug/L	99
7) Chloroethane	5.17	64	99853	20.8010 ug/L	99
8) Trichlorofluoromethane	5.65	101	276003	20.2514 ug/L	98
9) Diethyl ether	6.18	59	241321	74.5452 ug/L	99
10) Isoprene	6.22	67	204373	19.5433 ug/L	100
11) Acrolein	6.42	56	8165	38.8013 ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	154478	20.0702 ug/L	95
13) Acetone	6.52	43	9693	18.2010 ug/L	99
14) 1,1-Dichloroethene	6.75	61	198852	20.4350 ug/L	96
15) Tert-Butyl Alcohol	6.85	59	28542	153.4783 ug/L	96
16) Dimethyl Sulfide	7.01	62	103807	20.6255 ug/L	99
17) Iodomethane	7.27	142	91212	18.1842 ug/L	99
18) Methyl acetate	7.27	43	31320	19.0086 ug/L	94
19) Methylene Chloride	7.52	84	142861	19.7647 ug/L	96
20) Carbon Disulfide	7.58	76	486560	20.1996 ug/L	95
21) Acrylonitrile	7.71	53	31077	38.4754 ug/L	88
22) Methyl Tert Butyl Ether	7.74	73	241137	19.6751 ug/L	98
23) trans-1,2-Dichloroethene	7.98	61	187193	20.1155 ug/L	95
24) n-Hexane	8.05	57	153296	18.8920 ug/L	100
25) Diisopropyl ether	8.39	45	1143676	77.6323 ug/L	98
26) Vinyl Acetate	8.56	43	110813	19.5439 ug/L	96
27) 1,1-Dichloroethane	8.60	63	245911	20.1147 ug/L	96
28) Ethyl-Tert-Butyl ether	8.96	59	1138360	76.5674 ug/L	97
29) 2-Butanone	9.15	43	15547	18.2239 ug/L	96
30) Propionitrile	9.26	54	20183	76.9998 ug/L	97
31) 2,2-Dichloropropane	9.38	77	234315	19.5600 ug/L	97
32) cis-1,2-Dichloroethene	9.44	96	164118	19.8530 ug/L	94
33) Chloroform	9.64	83	271184	19.4671 ug/L	96
34) 1-Bromopropane	9.78	122	31601	19.6185 ug/L	98
35) Bromochloromethane	9.88	130	74155	20.3567 ug/L	95
36) Tetrahydrofuran	9.90	42	42394	72.8309 ug/L	97
38) 1,1,1-Trichloroethane	10.18	97	253747	19.8607 ug/L	98
39) Cyclohexane	10.20	56	189993	19.2557 ug/L	96
40) 1,1-Dichloropropene	10.37	75	209104	19.9209 ug/L	95
41) Tert-Amyl-Methyl ether	10.47	73	1057479	77.1463 ug/L	100
42) Carbon Tetrachloride	10.52	117	233154	20.2990 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416156.D 8260WT.M Wed Nov 16 08:36:57 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416156.D Vial: 7
Acq On : 15 Nov 2016 12:42 Operator: TMB
Sample : WG591653-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:54 2016 Quant Results File: 8260WT.RES

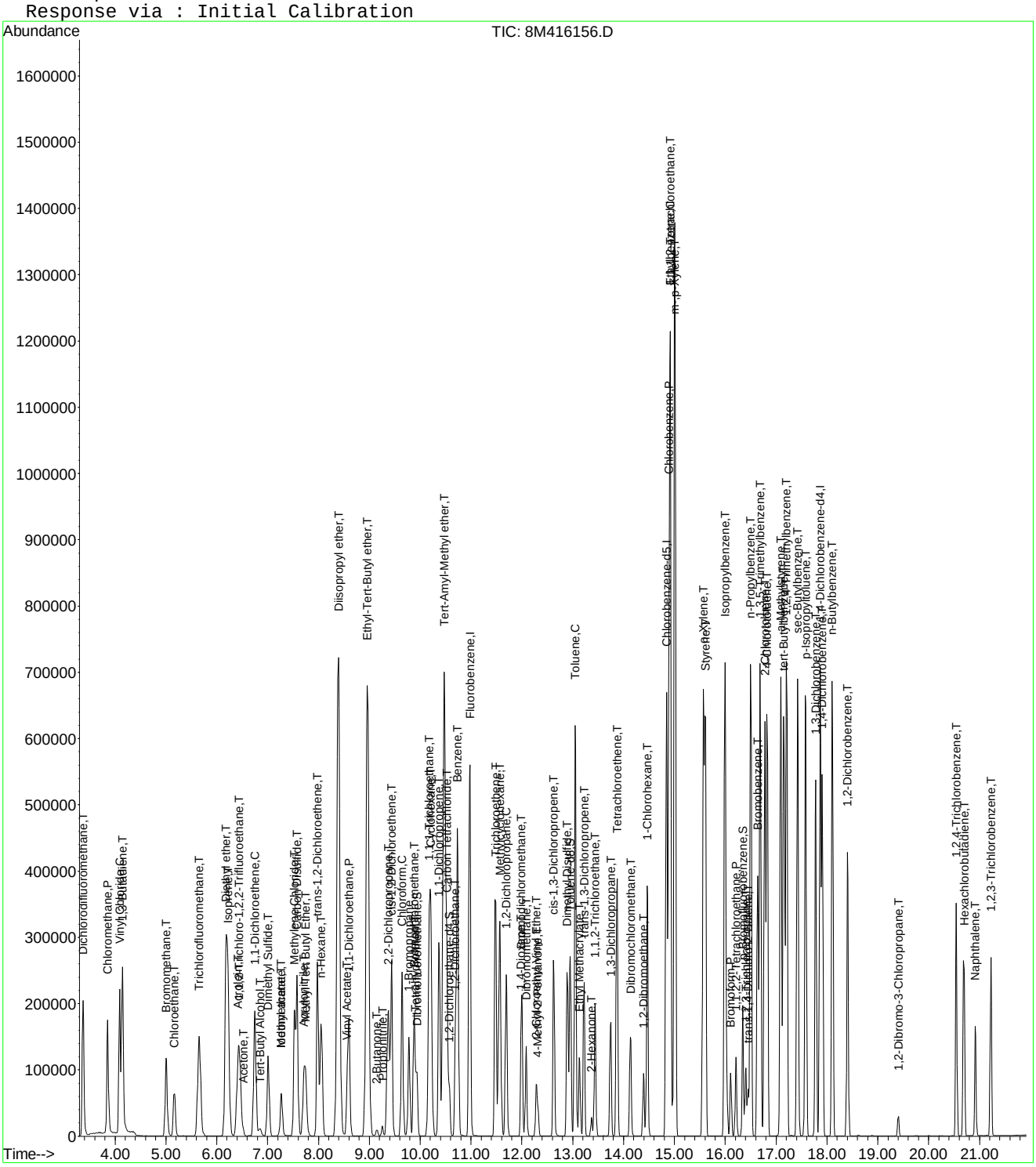
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	136985	19.8149	ug/L		97
46)	Benzene	10.73	78	615663	20.5109	ug/L		92
47)	Trichloroethene	11.48	130	153481	19.7148	ug/L		98
48)	Methylcyclohexane	11.57	83	242798	18.9241	ug/L		97
49)	1,2-Dichloropropane	11.69	63	124354	20.4606	ug/L		96
50)	Bromodichloromethane	11.99	83	186187	20.1604	ug/L		98
51)	1,4-Dioxane	11.98	88	3604	150.5694	ug/L		93
52)	Dibromomethane	12.08	93	66308	20.5527	ug/L		95
53)	2-Chloroethyl Vinyl Ether	12.28	63	42336	18.5705	ug/L		97
54)	4-Methyl-2-Pentanone	12.31	58	16025	18.0553	ug/L		97
55)	cis-1,3-Dichloropropene	12.62	75	201053	20.0846	ug/L		96
56)	Dimethyl Disulfide	12.89	79	107035	18.2997	ug/L		96
59)	Toluene	13.05	91	653109	21.3289	ug/L		83
60)	Ethyl Methacrylate	13.13	69	96103	20.4016	ug/L		99
62)	trans-1,3-Dichloropropene	13.22	75	161813	20.1897	ug/L		95
63)	1,1,2-Trichloroethane	13.44	97	83040	20.9594	ug/L		97
64)	2-Hexanone	13.37	58	14550	18.5502	ug/L		99
65)	1,3-Dichloropropane	13.75	76	143903	20.3701	ug/L		100
66)	Tetrachloroethene	13.87	164	114015	19.9466	ug/L		94
67)	Dibromochloromethane	14.14	129	106845	20.5679	ug/L		98
68)	1,2-Dibromoethane	14.39	107	78966	20.4775	ug/L		98
69)	1-Chlorohexane	14.46	91	213299	19.7206	ug/L		100
70)	Chlorobenzene	14.90	112	395896	19.6546	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.92	131	136955	18.1474	ug/L		100
72)	Ethylbenzene	14.92	106	236021	20.9692	ug/L	#	20
73)	m-,p-Xylene	15.01	106	564577	41.3805	ug/L	#	37
74)	o-Xylene	15.57	106	263237	19.6867	ug/L		61
75)	Styrene	15.61	104	426760	21.1579	ug/L		88
76)	Bromoform	16.11	173	54325	17.2228	ug/L		99
77)	Isopropylbenzene	15.99	105	690676	21.6912	ug/L		76
79)	1,1,2,2-Tetrachloroethane	16.21	83	81397	20.5364	ug/L		97
81)	1,2,3-Trichloropropane	16.41	110	21184	19.2695	ug/L	#	16
82)	trans-1,4-Dichloro-2-Buten	16.45	53	18833	21.8725	ug/L	#	35
83)	n-Propylbenzene	16.50	91	818834	21.0856	ug/L	#	72
84)	Bromobenzene	16.63	156	140971	19.8377	ug/L	#	67
85)	1,3,5-Trimethylbenzene	16.69	105	568408	21.3999	ug/L		78
86)	2-Chlorotoluene	16.78	91	519661	21.5356	ug/L	#	70
87)	4-Chlorotoluene	16.82	91	483570	20.6995	ug/L		74
88)	a-Methylstyrene	17.09	118	293138	18.9726	ug/L		94
89)	tert-Butylbenzene	17.15	134	111519	20.9451	ug/L		61
90)	1,2,4-Trimethylbenzene	17.20	105	577944	21.4063	ug/L		74
91)	sec-Butylbenzene	17.42	105	719463	21.7246	ug/L	#	77
92)	p-Isopropyltoluene	17.58	119	544780	21.2373	ug/L		79
93)	1,3-Dichlorobenzene	17.78	146	284657	20.2570	ug/L		92
94)	1,4-Dichlorobenzene	17.91	146	273835	19.5740	ug/L		93
95)	n-Butylbenzene	18.10	91	555838	21.3715	ug/L		79
96)	1,2-Dichlorobenzene	18.40	146	231586	20.3386	ug/L		94
97)	1,2-Dibromo-3-Chloropropan	19.40	75	10972	20.4684	ug/L		93
98)	1,2,4-Trichlorobenzene	20.54	180	131095	18.7955	ug/L		98
99)	Hexachlorobutadiene	20.70	225	66049	19.3287	ug/L		99
100)	Naphthalene	20.91	128	172749	19.8579	ug/L		97
101)	1,2,3-Trichlorobenzene	21.22	180	97961	19.6944	ug/L		99

(#) = qualifier out of range (m) = manual integration

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416156.D Vial: 7
Acq On : 15 Nov 2016 12:42 Operator: TMB
Sample : WG591653-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:36 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416157.D Vial: 8
Acq On : 15 Nov 2016 13:11 Operator: TMB
Sample : WG591653-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:59 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.98	96	762907	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.84	117	531507	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	243591	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.93	111	185456	25.8030 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 103.20%		
43) 1,2-Dichloroethane-d4	10.57	65	148878	25.9652 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.88%		
58) Toluene-d8	12.95	98	671562	25.2850 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.16%		
80) p-Bromofluorobenzene	16.34	95	237833	24.9747 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.88%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.37	85	693347	53.9922 ug/L	95
3) Chloromethane	3.85	50	592361	49.9390 ug/L	97
4) Vinyl Chloride	4.09	62	622478	47.4945 ug/L	96
5) 1,3-Butadiene	4.13	54	317967	60.9341 ug/L	98
6) Bromomethane	5.01	94	336154	51.6986 ug/L	99
7) Chloroethane	5.17	64	258755	52.2240 ug/L	99
8) Trichlorofluoromethane	5.65	101	719042	51.1156 ug/L	98
9) Diethyl ether	6.18	59	333762	99.8895 ug/L	99
10) Isoprene	6.22	67	550360	50.9894 ug/L	98
11) Acrolein	6.43	56	11406	50.5188 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	396382	49.8950 ug/L	96
13) Acetone	6.52	43	33225	60.4451 ug/L	93
14) 1,1-Dichloroethene	6.75	61	519977	51.7712 ug/L	96
15) Tert-Butyl Alcohol	6.86	59	41573	216.5871 ug/L	95
16) Dimethyl Sulfide	7.01	62	278345	53.5822 ug/L	99
17) Iodomethane	7.26	142	290813	51.6080 ug/L	97
18) Methyl acetate	7.27	43	84136	49.4730 ug/L	97
19) Methylene Chloride	7.53	84	370223	49.6248 ug/L	95
20) Carbon Disulfide	7.57	76	1284025	51.6463 ug/L	95
21) Acrylonitrile	7.71	53	46601	53.7063 ug/L	96
22) Methyl Tert Butyl Ether	7.74	73	658152	52.0282 ug/L	100
23) trans-1,2-Dichloroethene	7.98	61	486851	50.6870 ug/L	97
24) n-Hexane	8.05	57	409730	48.9220 ug/L	100
25) Diisopropyl ether	8.39	45	1532096	100.7591 ug/L	98
26) Vinyl Acetate	8.56	43	284415	48.5994 ug/L	97
27) 1,1-Dichloroethane	8.60	63	643214	50.9742 ug/L	97
28) Ethyl-Tert-Butyl ether	8.96	59	1549417	100.9697 ug/L	98
29) 2-Butanone	9.15	43	48624	55.2209 ug/L	98
30) Propionitrile	9.26	54	28091	103.8316 ug/L	99
31) 2,2-Dichloropropane	9.37	77	605227	48.9491 ug/L	98
32) cis-1,2-Dichloroethene	9.44	96	437753	51.3049 ug/L	96
33) Chloroform	9.64	83	713775	49.6429 ug/L	95
34) 1-Bromopropane	9.78	122	82918	49.8737 ug/L	99
35) Bromochloromethane	9.88	130	199096	52.9527 ug/L	95
36) Tetrahydrofuran	9.90	42	59925	100.3581 ug/L	96
38) 1,1,1-Trichloroethane	10.18	97	675876	51.2530 ug/L	97
39) Cyclohexane	10.21	56	504674	49.5554 ug/L	96
40) 1,1-Dichloropropene	10.38	75	552750	51.0192 ug/L	95
41) Tert-Amyl-Methyl ether	10.47	73	1460443	103.2254 ug/L	99
42) Carbon Tetrachloride	10.52	117	614936	51.8706 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416157.D 8260WT.M Wed Nov 16 08:37:02 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416157.D Vial: 8
Acq On : 15 Nov 2016 13:11 Operator: TMB
Sample : WG591653-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:36:59 2016 Quant Results File: 8260WT.RES

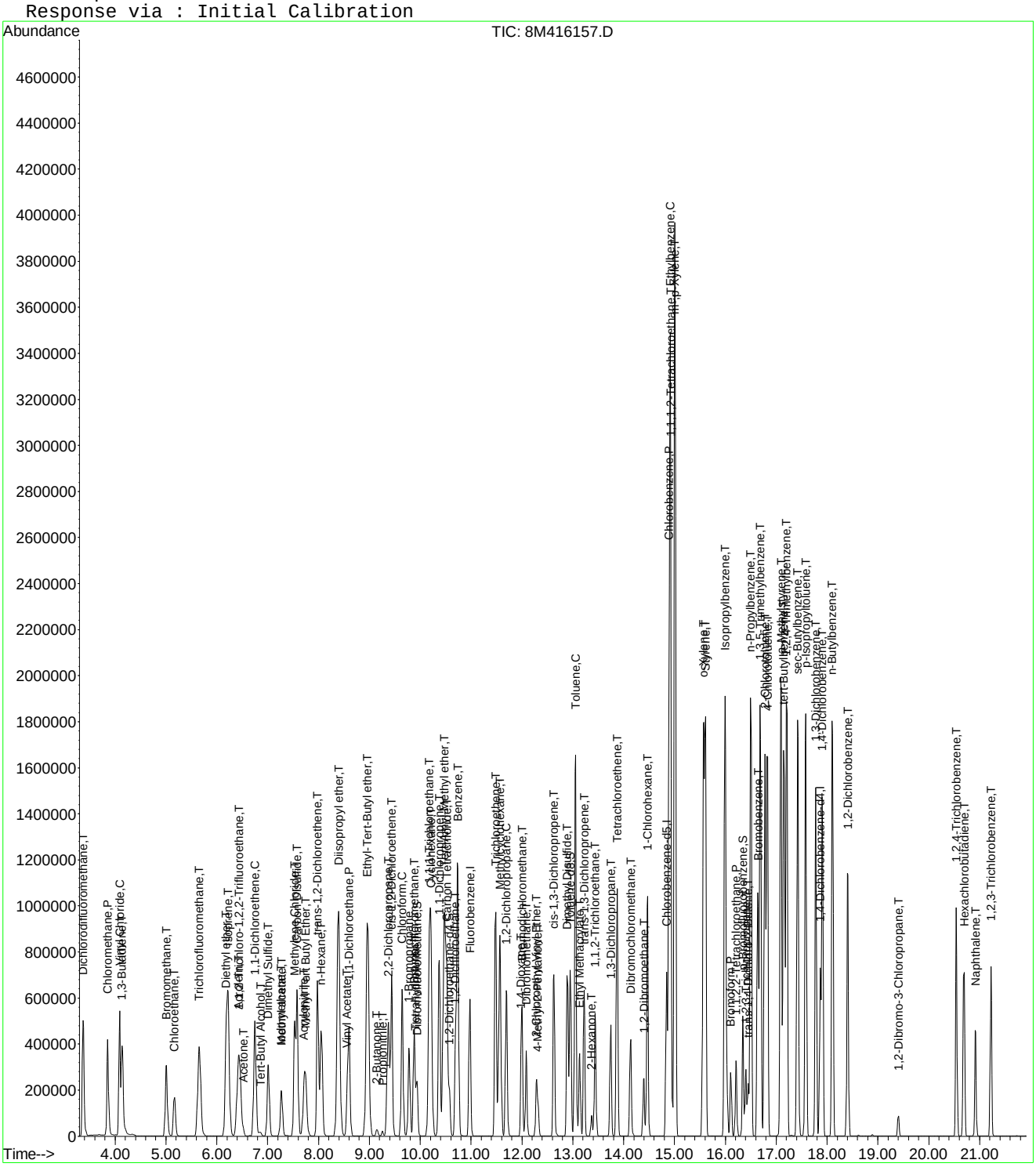
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	365253	51.1884	ug/L		98
46)	Benzene	10.74	78	1597594	51.5665	ug/L		93
47)	Trichloroethene	11.48	130	412494	51.3351	ug/L		97
48)	Methylcyclohexane	11.57	83	643956	48.6279	ug/L		98
49)	1,2-Dichloropropane	11.69	63	325601	51.9043	ug/L		97
50)	Bromodichloromethane	12.00	83	503654	52.8372	ug/L		97
51)	1,4-Dioxane	11.98	88	5921	213.3609	ug/L		98
52)	Dibromomethane	12.08	93	180260	54.1329	ug/L		95
53)	2-Chloroethyl Vinyl Ether	12.28	63	128895	54.7783	ug/L		97
54)	4-Methyl-2-Pentanone	12.31	58	52534	57.3464	ug/L		97
55)	cis-1,3-Dichloropropene	12.63	75	543096	52.5639	ug/L		96
56)	Dimethyl Disulfide	12.89	79	306365	50.7477	ug/L		96
59)	Toluene	13.05	91	1732713	53.2267	ug/L		84
60)	Ethyl Methacrylate	13.14	69	287293	57.3683	ug/L		100
62)	trans-1,3-Dichloropropene	13.22	75	439744	51.6101	ug/L		97
63)	1,1,2-Trichloroethane	13.44	97	229697	54.5337	ug/L		99
64)	2-Hexanone	13.36	58	47906	57.4505	ug/L		99
65)	1,3-Dichloropropane	13.75	76	388997	51.7951	ug/L		100
66)	Tetrachloroethene	13.87	164	310032	51.0190	ug/L		95
67)	Dibromochloromethane	14.14	129	298969	54.1354	ug/L		98
68)	1,2-Dibromoethane	14.40	107	216618	52.8385	ug/L		100
69)	1-Chlorohexane	14.47	91	587043	51.0529	ug/L		100
70)	Chlorobenzene	14.89	112	1092894	51.0365	ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.93	131	394567	47.4636	ug/L		100
72)	Ethylbenzene	14.92	106	663073	55.4129	ug/L	#	26
73)	m-,p-Xylene	15.01	106	1567527	108.0704	ug/L	#	46
74)	o-Xylene	15.57	106	714295	50.2485	ug/L		61
75)	Styrene	15.61	104	1187673	55.3867	ug/L		87
76)	Bromoform	16.10	173	160097	46.4182	ug/L		100
77)	Isopropylbenzene	15.99	105	1848682	54.6122	ug/L		77
79)	1,1,2,2-Tetrachloroethane	16.21	83	227130	53.4491	ug/L		99
81)	1,2,3-Trichloropropane	16.40	110	63291	53.6974	ug/L	#	19
82)	trans-1,4-Dichloro-2-Buten	16.45	53	51468	54.8850	ug/L	#	28
83)	n-Propylbenzene	16.50	91	2161141	51.9065	ug/L	#	74
84)	Bromobenzene	16.64	156	392395	51.5031	ug/L		88
85)	1,3,5-Trimethylbenzene	16.68	105	1527719	53.6468	ug/L		79
86)	2-Chlorotoluene	16.78	91	1339096	51.7605	ug/L		71
87)	4-Chlorotoluene	16.83	91	1344287	53.6712	ug/L		75
88)	a-Methylstyrene	17.10	118	866325	52.2978	ug/L		93
89)	tert-Butylbenzene	17.15	134	297824	52.1725	ug/L		61
90)	1,2,4-Trimethylbenzene	17.20	105	1554554	53.7046	ug/L		75
91)	sec-Butylbenzene	17.42	105	1905112	53.6553	ug/L		78
92)	p-Isopropyltoluene	17.58	119	1463233	53.2035	ug/L		80
93)	1,3-Dichlorobenzene	17.78	146	783410	51.9986	ug/L		92
94)	1,4-Dichlorobenzene	17.90	146	759051	50.6069	ug/L		93
95)	n-Butylbenzene	18.10	91	1483306	53.1944	ug/L		80
96)	1,2-Dichlorobenzene	18.41	146	633754	51.9134	ug/L		94
97)	1,2-Dibromo-3-Chloropropan	19.40	75	31054	54.0338	ug/L		90
98)	1,2,4-Trichlorobenzene	20.54	180	363530	48.6136	ug/L		99
99)	Hexachlorobutadiene	20.70	225	180186	49.1821	ug/L		99
100)	Naphthalene	20.92	128	484723	51.9709	ug/L		97
101)	1,2,3-Trichlorobenzene	21.22	180	274208	51.4183	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M416157.D 8260WT.M Wed Nov 16 08:37:02 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416157.D Vial: 8
Acq On : 15 Nov 2016 13:11 Operator: TMB
Sample : WG591653-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:37 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416158.D Vial: 9
Acq On : 15 Nov 2016 13:41 Operator: TMB
Sample : WG591653-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:04 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	792511	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	559235	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	258779	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	379180	50.7857	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 203.16%#			
43) 1,2-Dichloroethane-d4	10.57	65	301632	50.6412	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 202.56%#			
58) Toluene-d8	12.95	98	1384708	49.5508	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 198.20%#			
80) p-Bromofluorobenzene	16.34	95	497395	49.1657	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 196.68%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.37	85	1415410	106.1034	ug/L	96
3) Chloromethane	3.85	50	1136069	92.1985	ug/L	97
4) Vinyl Chloride	4.08	62	1130318	83.0207	ug/L	97
5) 1,3-Butadiene	4.13	54	374192	70.9848	ug/L	98
6) Bromomethane	5.00	94	708301	104.8636	ug/L	100
7) Chloroethane	5.17	64	530027	102.9784	ug/L	99
8) Trichlorofluoromethane	5.65	101	1479061	101.2165	ug/L	99
9) Diethyl ether	6.18	59	719912	207.4095	ug/L	99
10) Isoprene	6.22	67	1187517	105.9105	ug/L	99
11) Acrolein	6.42	56	27303	99.9789	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.43	101	834468	101.1158	ug/L	97
13) Acetone	6.52	43	59897	104.8981	ug/L	99
14) 1,1-Dichloroethene	6.75	61	1065144	102.0889	ug/L	97
15) Tert-Butyl Alcohol	6.85	59	81126	406.8624	ug/L	100
16) Dimethyl Sulfide	7.01	62	579207	107.3340	ug/L	99
17) Iodomethane	7.26	142	648691	102.3703	ug/L	99
18) Methyl acetate	7.26	43	176999	100.1898	ug/L	98
19) Methylene Chloride	7.52	84	764341	98.6255	ug/L	97
20) Carbon Disulfide	7.57	76	2653382	102.7382	ug/L	96
21) Acrylonitrile	7.71	53	96179	96.5930	ug/L	92
22) Methyl Tert Butyl Ether	7.73	73	1337599	101.7900	ug/L	99
23) trans-1,2-Dichloroethene	7.98	61	1007484	100.9730	ug/L	97
24) n-Hexane	8.05	57	874734	100.5422	ug/L	100
25) Diisopropyl ether	8.39	45	3253763	205.9920	ug/L	99
26) Vinyl Acetate	8.56	43	609950	100.3319	ug/L	98
27) 1,1-Dichloroethane	8.60	63	1323264	100.9503	ug/L	97
28) Ethyl-Tert-Butyl ether	8.96	59	3322007	208.3961	ug/L	98
29) 2-Butanone	9.15	43	95823	104.7584	ug/L	98
30) Propionitrile	9.26	54	60562	215.4909	ug/L	100
31) 2,2-Dichloropropane	9.37	77	1279792	99.6397	ug/L	98
32) cis-1,2-Dichloroethene	9.44	96	912697	102.9727	ug/L	97
33) Chloroform	9.64	83	1458717	97.6637	ug/L	96
34) 1-Bromopropane	9.78	122	179515	103.9417	ug/L	99
35) Bromochloromethane	9.88	130	412250	105.5486	ug/L	96
36) Tetrahydrofuran	9.90	42	122255	198.7031	ug/L	97
38) 1,1,1-Trichloroethane	10.18	97	1428990	104.3153	ug/L	97
39) Cyclohexane	10.21	56	1081991	102.2751	ug/L	97
40) 1,1-Dichloropropene	10.37	75	1130210	100.4223	ug/L	96
41) Tert-Amyl-Methyl ether	10.47	73	3118654	212.1951	ug/L	99
42) Carbon Tetrachloride	10.52	117	1298091	105.4053	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416158.D 8260WT.M Wed Nov 16 08:37:07 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416158.D Vial: 9
Acq On : 15 Nov 2016 13:41 Operator: TMB
Sample : WG591653-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:04 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

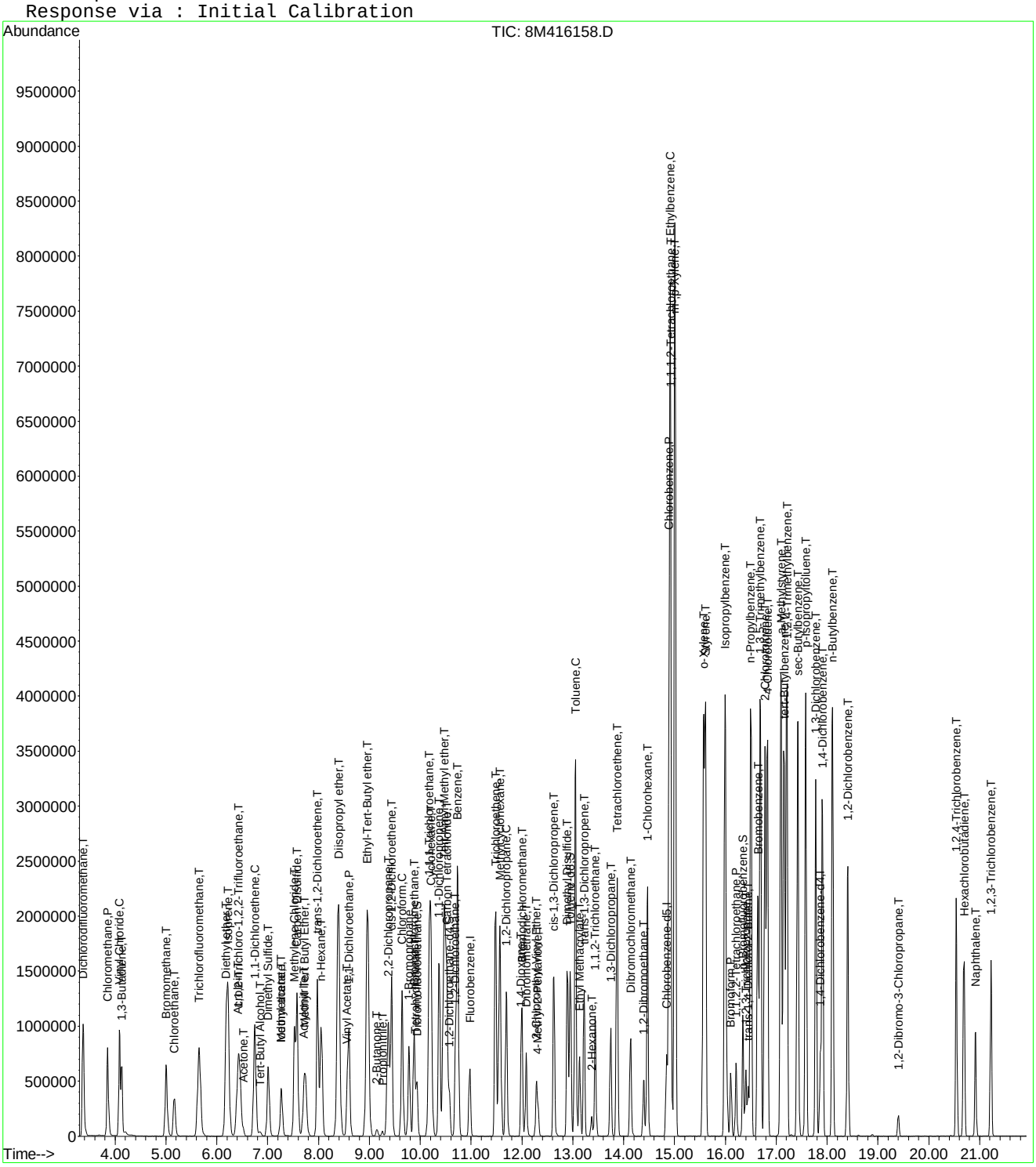
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	750639	101.2687	ug/L		99
46)	Benzene	10.73	78	3248929	100.9503	ug/L		93
47)	Trichloroethene	11.48	130	862921	103.3794	ug/L		98
48)	Methylcyclohexane	11.57	83	1393657	101.3099	ug/L		98
49)	1,2-Dichloropropane	11.69	63	664246	101.9326	ug/L		98
50)	Bromodichloromethane	12.00	83	1036826	104.7080	ug/L		97
51)	1,4-Dioxane	11.98	88	12066	375.8001	ug/L		88
52)	Dibromomethane	12.08	93	362543	104.8064	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.28	63	255806	104.6525	ug/L		100
54)	4-Methyl-2-Pentanone	12.31	58	103124	108.3657	ug/L		99
55)	cis-1,3-Dichloropropene	12.63	75	1122802	104.6117	ug/L		97
56)	Dimethyl Disulfide	12.89	79	652878	104.1060	ug/L		97
59)	Toluene	13.05	91	3494490	102.0237	ug/L		86
60)	Ethyl Methacrylate	13.14	69	569791	108.1376	ug/L		100
62)	trans-1,3-Dichloropropene	13.22	75	912849	101.8236	ug/L		97
63)	1,1,2-Trichloroethane	13.44	97	466771	105.3242	ug/L		99
64)	2-Hexanone	13.37	58	93064	106.0719	ug/L		99
65)	1,3-Dichloropropane	13.75	76	788744	99.8144	ug/L		100
66)	Tetrachloroethene	13.87	164	673704	105.3681	ug/L		96
67)	Dibromochloromethane	14.14	129	621918	107.0294	ug/L		99
68)	1,2-Dibromoethane	14.39	107	443454	102.8061	ug/L		100
69)	1-Chlorohexane	14.47	91	1258457	104.0168	ug/L		99
70)	Chlorobenzene	14.89	112	2404360	106.7129	ug/L		95
71)	1,1,1,2-Tetrachloroethane	14.93	131	901308	98.3058	ug/L		99
72)	Ethylbenzene	14.92	106	1496801	118.8854	ug/L	#	42
73)	m-,p-Xylene	15.01	106	3396910	222.5821	ug/L		62
74)	o-Xylene	15.58	106	1553328	103.8541	ug/L		68
75)	Styrene	15.61	104	2520917	111.7332	ug/L		88
76)	Bromoform	16.10	173	340533	93.0745	ug/L		99
77)	Isopropylbenzene	15.99	105	3784265	106.2488	ug/L		79
79)	1,1,2,2-Tetrachloroethane	16.21	83	455981	101.0055	ug/L		99
81)	1,2,3-Trichloropropane	16.40	110	127104	101.5087	ug/L		95
82)	trans-1,4-Dichloro-2-Buten	16.45	53	101749	101.6538	ug/L		98
83)	n-Propylbenzene	16.50	91	4284399	96.8635	ug/L		77
84)	Bromobenzene	16.64	156	837524	103.4759	ug/L		91
85)	1,3,5-Trimethylbenzene	16.68	105	3188125	105.3823	ug/L		81
86)	2-Chlorotoluene	16.78	91	2716531	98.8402	ug/L		73
87)	4-Chlorotoluene	16.83	91	2791657	104.9165	ug/L		77
88)	a-Methylstyrene	17.10	118	1834244	104.2299	ug/L		94
89)	tert-Butylbenzene	17.16	134	654070	107.8546	ug/L		67
90)	1,2,4-Trimethylbenzene	17.21	105	3238995	105.3290	ug/L		77
91)	sec-Butylbenzene	17.43	105	3894508	103.2470	ug/L		81
92)	p-Isopropyltoluene	17.58	119	3065232	104.9113	ug/L		82
93)	1,3-Dichlorobenzene	17.78	146	1660464	103.7443	ug/L		92
94)	1,4-Dichlorobenzene	17.91	146	1601359	100.4986	ug/L		93
95)	n-Butylbenzene	18.11	91	3054802	103.1218	ug/L		82
96)	1,2-Dichlorobenzene	18.41	146	1334233	102.8780	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.40	75	63575	104.1278	ug/L		96
98)	1,2,4-Trichlorobenzene	20.54	180	805129	101.3479	ug/L		99
99)	Hexachlorobutadiene	20.70	225	401199	103.0808	ug/L		99
100)	Naphthalene	20.92	128	1006180	101.5487	ug/L		98
101)	1,2,3-Trichlorobenzene	21.22	180	597797	105.5173	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416158.D Vial: 9
Acq On : 15 Nov 2016 13:41 Operator: TMB
Sample : WG591653-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:37 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416159.D Vial: 10
Acq On : 15 Nov 2016 14:11 Operator: TMB
Sample : WG591653-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:09 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.98	96	810645	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.84	117	562295	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.87	152	265950	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.93	111	797121	104.3747	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 417.48%#				
43) 1,2-Dichloroethane-d4	10.57	65	613612	100.7153	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 402.88%#				
58) Toluene-d8	12.95	98	2925280	104.1093	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 416.44%#				
80) p-Bromofluorobenzene	16.34	95	1053034	101.2820	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 405.12%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.37	85	3005261	220.2438	ug/L		98
3) Chloromethane	3.85	50	2281294	180.9986	ug/L		99
4) Vinyl Chloride	4.09	62	2184214	156.8395	ug/L		99
5) 1,3-Butadiene	4.13	54	679125	159.2217	ug/L		99
6) Bromomethane	5.01	94	1606021	232.4517	ug/L		100
7) Chloroethane	5.17	64	1162188	220.7491	ug/L		100
8) Trichlorofluoromethane	5.65	101	3240204	216.7765	ug/L		99
10) Isoprene	6.22	67	2474226	215.7313	ug/L		100
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	1841865	218.1935	ug/L		99
13) Acetone	6.52	43	116579	199.5986	ug/L		98
14) 1,1-Dichloroethene	6.75	61	2357946	220.9421	ug/L		99
15) Tert-Butyl Alcohol	6.86	59	2288	11.2181	ug/L	#	62
16) Dimethyl Sulfide	7.02	62	1207185	218.7016	ug/L		100
17) Iodomethane	7.27	142	1461197	198.8913	ug/L		100
18) Methyl acetate	7.27	43	347382	192.2360	ug/L		100
19) Methylene Chloride	7.53	84	1679828	211.9051	ug/L		99
20) Carbon Disulfide	7.59	76	5359543	202.8779	ug/L		98
21) Acrylonitrile	7.73	53	21090	24.8079	ug/L	#	37
22) Methyl Tert Butyl Ether	7.74	73	2723030	202.5844	ug/L		99
23) trans-1,2-Dichloroethene	7.98	61	2232606	218.7529	ug/L		99
24) n-Hexane	8.05	57	1861224	209.1442	ug/L		100
26) Vinyl Acetate	8.57	43	1200415	193.0415	ug/L		99
27) 1,1-Dichloroethane	8.60	63	2863991	213.6030	ug/L		99
28) Ethyl-Tert-Butyl ether	8.97	59	11758	0.7211	ug/L	#	36
29) 2-Butanone	9.15	43	176867	189.0342	ug/L		99
31) 2,2-Dichloropropane	9.37	77	2788510	212.2461	ug/L		99
32) cis-1,2-Dichloroethene	9.44	96	2028583	223.7500	ug/L		99
33) Chloroform	9.64	83	3137884	205.3874	ug/L		98
34) 1-Bromopropane	9.79	122	384251	217.5096	ug/L		99
35) Bromochloromethane	9.88	130	877283	219.5868	ug/L		98
36) Tetrahydrofuran	9.90	42	1530	0.7840	ug/L	#	66
38) 1,1,1-Trichloroethane	10.18	97	3211793	229.2140	ug/L		99
39) Cyclohexane	10.21	56	2333693	215.6575	ug/L		99
40) 1,1-Dichloropropene	10.38	75	2513562	218.3410	ug/L		98
41) Tert-Amyl-Methyl ether	10.38	73	385963	25.6737	ug/L	#	63
42) Carbon Tetrachloride	10.52	117	2785149	221.0958	ug/L		100
45) 1,2-Dichloroethane	10.70	62	1625655	214.4110	ug/L		99
46) Benzene	10.74	78	6589775	200.1762	ug/L		96
47) Trichloroethene	11.48	130	1992211	233.3312	ug/L		99
48) Methylcyclohexane	11.57	83	2986907	212.2718	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M416159.D 8260WT.M Wed Nov 16 08:37:12 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416159.D Vial: 10
Acq On : 15 Nov 2016 14:11 Operator: TMB
Sample : WG591653-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:09 2016 Quant Results File: 8260WT.RES

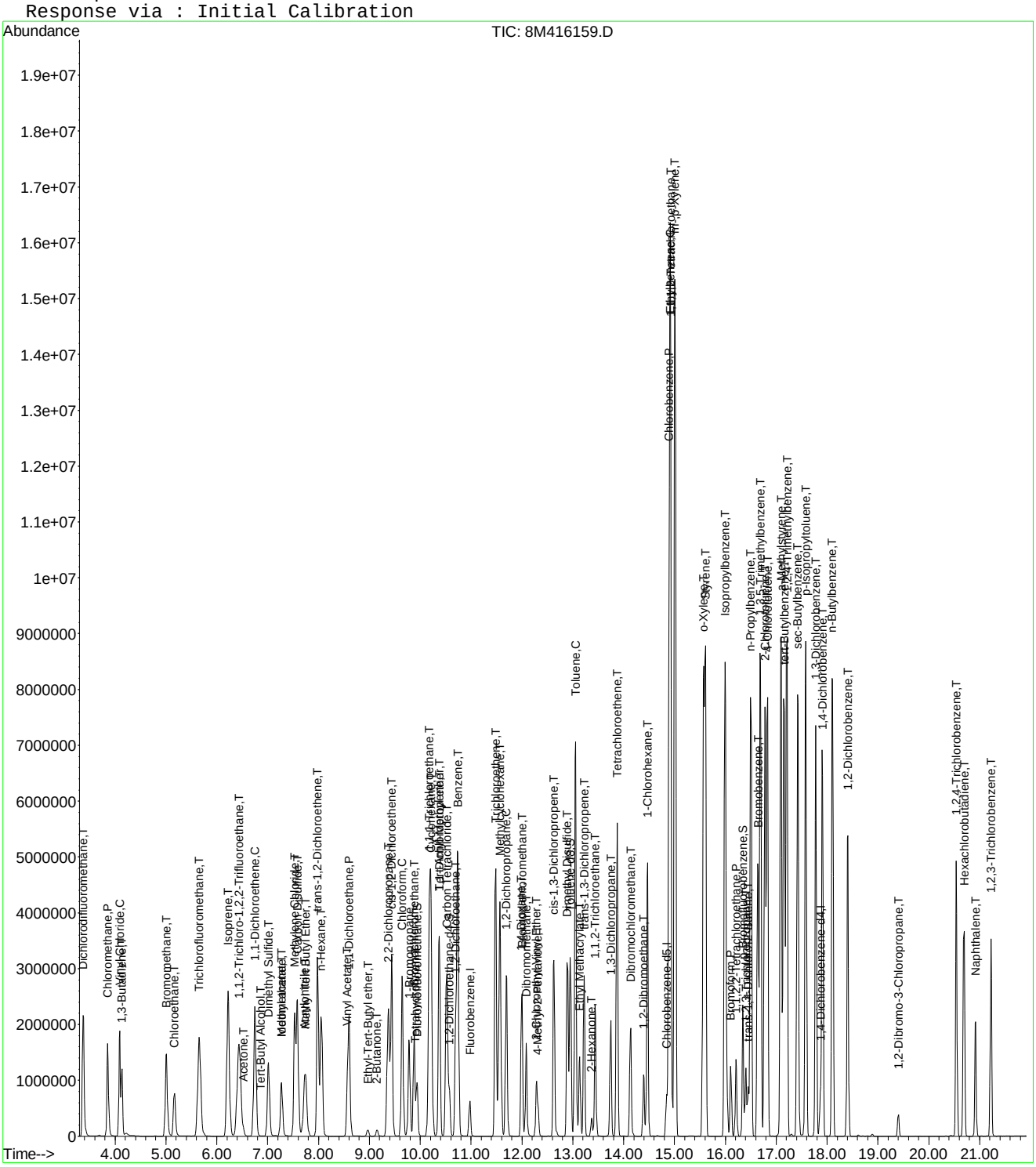
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
49)	1,2-Dichloropropane	11.69	63	1448559	217.3176	ug/L		99
50)	Bromodichloromethane	12.00	83	2218637	219.0457	ug/L		99
51)	1,4-Dioxane	11.99	88	3644	142.2839	ug/L	#	35
52)	Dibromomethane	12.08	93	780240	220.5113	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.28	63	503919	201.5460	ug/L		99
54)	4-Methyl-2-Pentanone	12.31	58	191235	196.4600	ug/L		99
55)	cis-1,3-Dichloropropene	12.63	75	2392491	217.9224	ug/L		98
56)	Dimethyl Disulfide	12.89	79	1379826	215.1010	ug/L		98
59)	Toluene	13.05	91	6803028	197.5376	ug/L		94
60)	Ethyl Methacrylate	13.14	69	1118297	211.0807	ug/L		99
62)	trans-1,3-Dichloropropene	13.22	75	1927872	213.8740	ug/L		98
63)	1,1,2-Trichloroethane	13.44	97	981828	220.3383	ug/L		99
64)	2-Hexanone	13.36	58	169605	192.2592	ug/L		99
65)	1,3-Dichloropropane	13.75	76	1643394	206.8373	ug/L		100
66)	Tetrachloroethene	13.87	164	1605106	249.6744	ug/L		98
67)	Dibromochloromethane	14.14	129	1350708	231.1860	ug/L		99
68)	1,2-Dibromoethane	14.39	107	936107	215.8370	ug/L		100
69)	1-Chlorohexane	14.47	91	2706908	222.5199	ug/L		99
70)	Chlorobenzene	14.90	112	5248622	231.6822	ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.93	131	2163541	213.4543	ug/L		100
72)	Ethylbenzene	14.92	106	3570888	282.0789	ug/L		84
73)	m-,p-Xylene	15.01	106	6852924	446.5934	ug/L		91
74)	o-Xylene	15.57	106	3577006	237.8539	ug/L		85
75)	Styrene	15.61	104	5338610	235.3325	ug/L		94
76)	Bromoform	16.10	173	724886	196.2128	ug/L		100
77)	Isopropylbenzene	15.99	105	7294090	203.6778	ug/L		89
79)	1,1,2,2-Tetrachloroethane	16.21	83	934183	201.3535	ug/L		99
81)	1,2,3-Trichloropropane	16.40	110	264139	205.2605	ug/L	#	27
82)	trans-1,4-Dichloro-2-Buten	16.45	53	199869	193.7875	ug/L	#	23
83)	n-Propylbenzene	16.50	91	7779268	171.1348	ug/L		89
84)	Bromobenzene	16.64	156	1903264	228.8073	ug/L		96
85)	1,3,5-Trimethylbenzene	16.69	105	6388198	205.4659	ug/L		91
86)	2-Chlorotoluene	16.78	91	5572761	197.2960	ug/L		80
87)	4-Chlorotoluene	16.83	91	5544179	202.7439	ug/L		85
88)	a-Methylstyrene	17.10	118	3905752	215.9577	ug/L		96
89)	tert-Butylbenzene	17.16	134	1586424	254.5439	ug/L		85
90)	1,2,4-Trimethylbenzene	17.21	105	6413844	202.9481	ug/L		88
91)	sec-Butylbenzene	17.42	105	7388303	190.5893	ug/L		90
92)	p-Isopropyltoluene	17.58	119	6215881	207.0097	ug/L		90
93)	1,3-Dichlorobenzene	17.78	146	3646997	221.7171	ug/L		95
94)	1,4-Dichlorobenzene	17.91	146	3509661	214.3214	ug/L		95
95)	n-Butylbenzene	18.10	91	6036429	198.2790	ug/L		90
96)	1,2-Dichlorobenzene	18.41	146	2900316	217.6032	ug/L		97
97)	1,2-Dibromo-3-Chloropropan	19.40	75	130816	208.4828	ug/L		96
98)	1,2,4-Trichlorobenzene	20.54	180	1842588	225.6871	ug/L		99
99)	Hexachlorobutadiene	20.70	225	948375	237.0975	ug/L		100
100)	Naphthalene	20.92	128	2138398	209.9985	ug/L		98
101)	1,2,3-Trichlorobenzene	21.22	180	1310456	225.0719	ug/L		100

(#) = qualifier out of range (m) = manual integration
8M416159.D 8260WT.M Wed Nov 16 08:37:13 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416159.D Vial: 10
Acq On : 15 Nov 2016 14:11 Operator: TMB
Sample : WG591653-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:37 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416160.D Vial: 11
Acq On : 15 Nov 2016 14:40 Operator: TMB
Sample : WG591653-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:15 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	790945	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	562184	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	279739	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	1213649	162.8728	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 651.48%#			
43) 1,2-Dichloroethane-d4	10.57	65	940225	158.1677	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 632.68%#			
58) Toluene-d8	12.95	98	4234906	150.7481	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 603.00%#			
80) p-Bromofluorobenzene	16.34	95	1638265	149.8032	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 599.20%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	4100993	308.0313	ug/L	100
3) Chloromethane	3.85	50	3078702	250.3491	ug/L	100
4) Vinyl Chloride	4.08	62	2755369	202.7797	ug/L	100
5) 1,3-Butadiene	4.13	54	845117	Below Cal		100
6) Bromomethane	5.00	94	2404897	356.7487	ug/L	100
7) Chloroethane	5.16	64	1690729	329.1403	ug/L	100
8) Trichlorofluoromethane	5.65	101	4644483	318.4649	ug/L	100
9) Diethyl ether	6.18	59	1172342	338.4252	ug/L	100
10) Isoprene	6.22	67	3758543	335.8751	ug/L	100
11) Acrolein	6.42	56	46786	150.0201	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.43	101	2685133	326.0125	ug/L	100
13) Acetone	6.52	43	181325	318.1847	ug/L	100
14) 1,1-Dichloroethene	6.75	61	3409705	327.4507	ug/L	100
15) Tert-Butyl Alcohol	6.86	59	119800	602.0095	ug/L	100
16) Dimethyl Sulfide	7.02	62	1834296	340.5900	ug/L	100
17) Iodomethane	7.27	142	2070029	267.0072	ug/L	100
18) Methyl acetate	7.27	43	560346	317.8104	ug/L	100
19) Methylene Chloride	7.52	84	2495975	322.7018	ug/L	100
20) Carbon Disulfide	7.58	76	7498034	290.8967	ug/L	100
21) Acrylonitrile	7.71	53	168131	151.3214	ug/L	100
22) Methyl Tert Butyl Ether	7.73	73	4237511	323.1089	ug/L	100
23) trans-1,2-Dichloroethene	7.98	61	3256213	326.9933	ug/L	100
24) n-Hexane	8.05	57	2700617	311.0244	ug/L	100
25) Diisopropyl ether	8.39	45	4876001	309.3052	ug/L	100
26) Vinyl Acetate	8.56	43	1958352	322.7709	ug/L	100
27) 1,1-Dichloroethane	8.60	63	4186029	319.9796	ug/L	100
28) Ethyl-Tert-Butyl ether	8.96	59	5028661	316.0825	ug/L	100
29) 2-Butanone	9.15	43	281968	308.8715	ug/L	100
30) Propionitrile	9.26	54	92308	329.0993	ug/L	100
31) 2,2-Dichloropropane	9.38	77	4039449	315.1187	ug/L	100
32) cis-1,2-Dichloroethene	9.44	96	3011841	340.4761	ug/L	100
33) Chloroform	9.64	83	4544121	304.8395	ug/L	100
34) 1-Bromopropane	9.78	122	583631	338.5995	ug/L	100
35) Bromochloromethane	9.88	130	1315342	337.4346	ug/L	100
36) Tetrahydrofuran	9.90	42	188645	308.1256	ug/L	100
38) 1,1,1-Trichloroethane	10.18	97	4662179	341.0098	ug/L	100
39) Cyclohexane	10.21	56	3448457	326.6104	ug/L	100
40) 1,1-Dichloropropene	10.37	75	3592935	319.8744	ug/L	100
41) Tert-Amyl-Methyl ether	10.47	73	4726872	322.2560	ug/L	100
42) Carbon Tetrachloride	10.52	117	4186937	340.6536	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416160.D 8260WT.M Wed Nov 16 08:37:17 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416160.D Vial: 11
Acq On : 15 Nov 2016 14:40 Operator: TMB
Sample : WG591653-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:15 2016 Quant Results File: 8260WT.RES

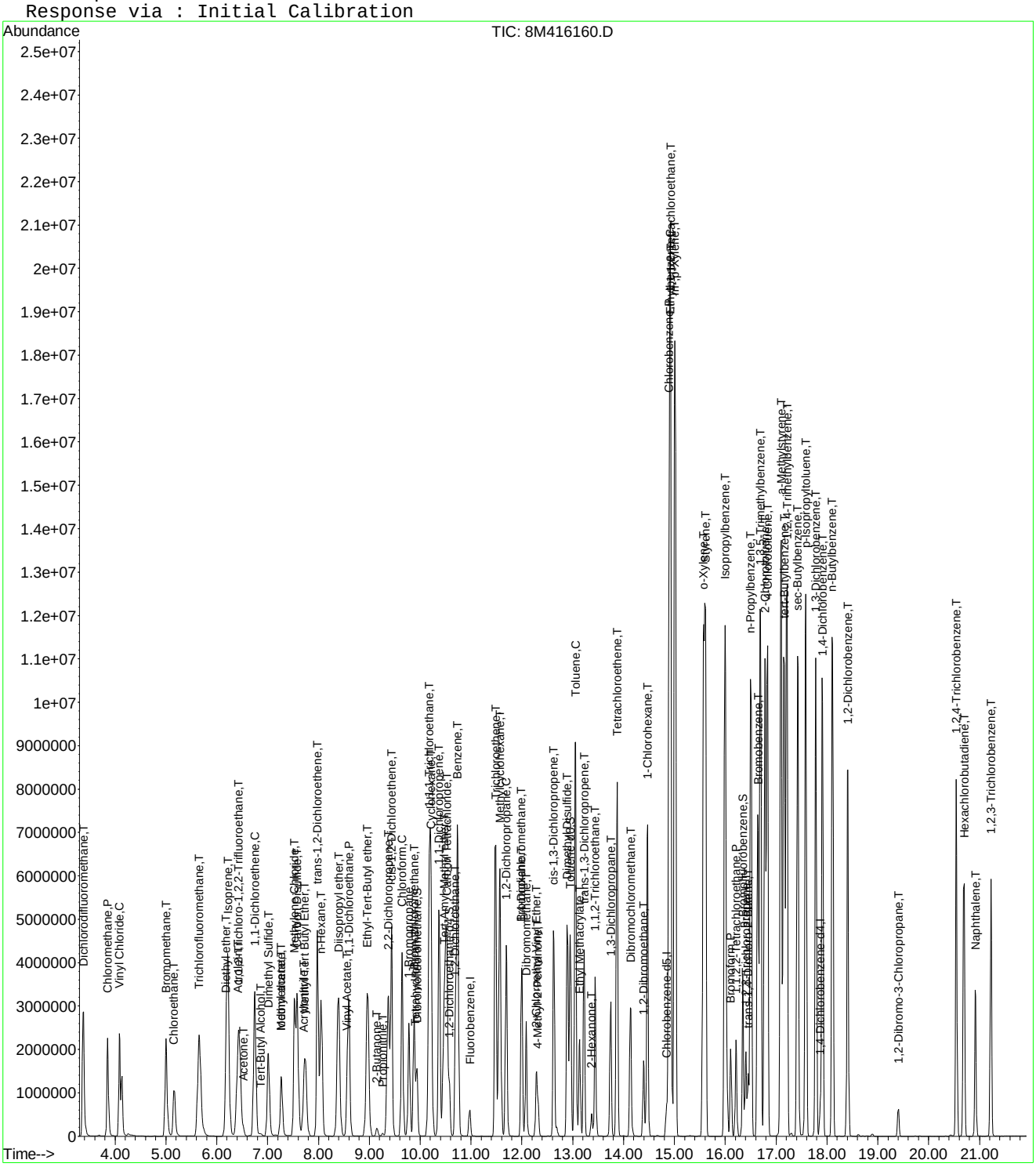
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

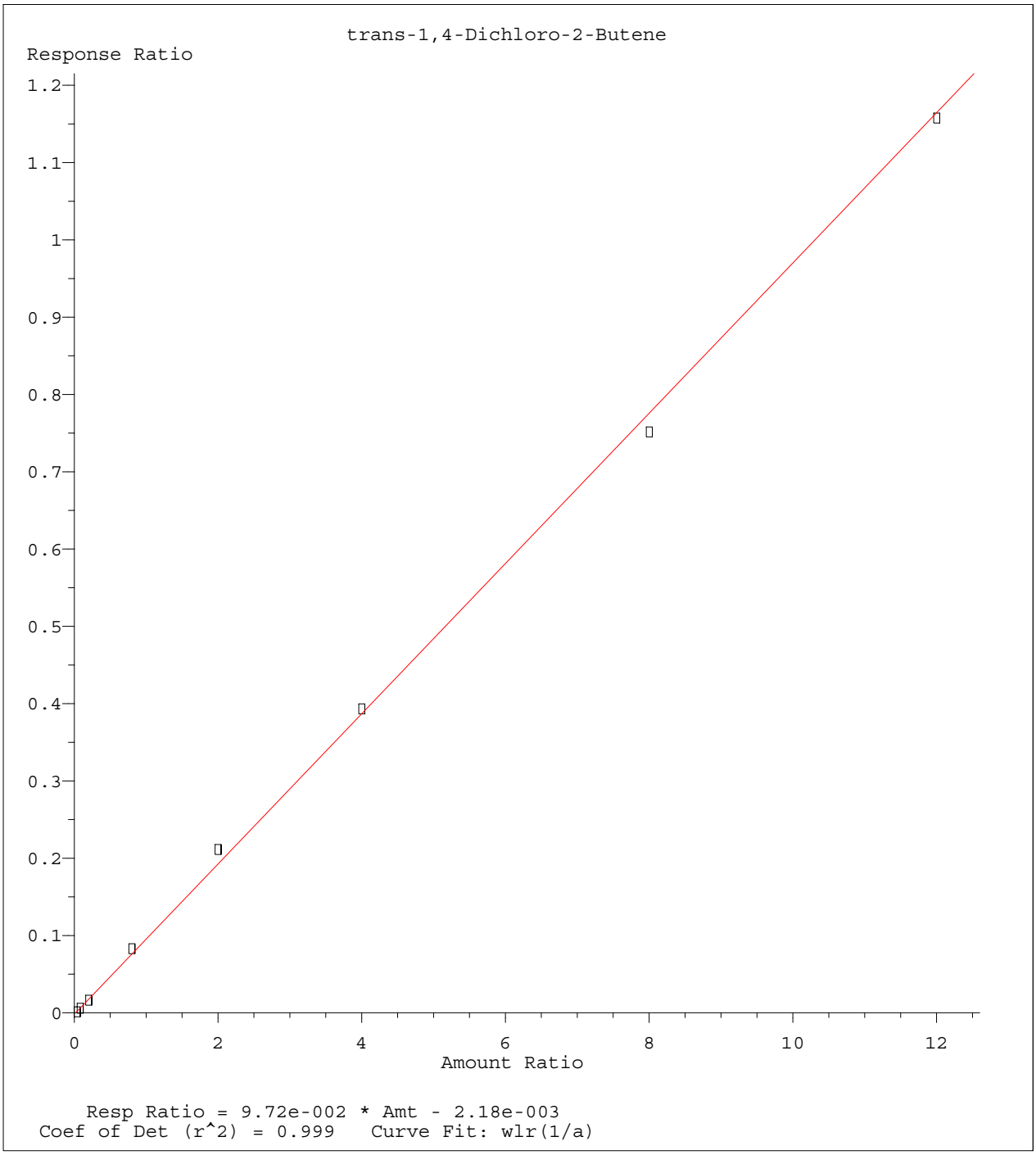
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.69	62	2436103	329.3053	ug/L	100
46)	Benzene	10.73	78	8746141	272.2969	ug/L	100
47)	Trichloroethene	11.48	130	2939055	352.8008	ug/L	100
48)	Methylcyclohexane	11.57	83	4378831	318.9430	ug/L	100
49)	1,2-Dichloropropane	11.69	63	2156339	331.5585	ug/L	100
50)	Bromodichloromethane	11.99	83	3303711	334.2989	ug/L	100
51)	1,4-Dioxane	11.99	88	20662	612.9794	ug/L	100
52)	Dibromomethane	12.08	93	1190725	344.9043	ug/L	100
53)	2-Chloroethyl Vinyl Ether	12.28	63	781191	320.2249	ug/L	100
54)	4-Methyl-2-Pentanone	12.31	58	302475	318.4789	ug/L	100
55)	cis-1,3-Dichloropropene	12.62	75	3522024	328.7974	ug/L	100
56)	Dimethyl Disulfide	12.89	79	2150171	343.5387	ug/L	100
59)	Toluene	13.06	91	8684744	252.2263	ug/L	100
60)	Ethyl Methacrylate	13.14	69	1752036	330.7655	ug/L	100
62)	trans-1,3-Dichloropropene	13.22	75	2864959	317.8951	ug/L	100
63)	1,1,2-Trichloroethane	13.44	97	1516910	340.4867	ug/L	100
64)	2-Hexanone	13.37	58	268256	304.1472	ug/L	100
65)	1,3-Dichloropropane	13.75	76	2486550	313.0186	ug/L	100
66)	Tetrachloroethene	13.87	164	2427281	377.6384	ug/L	100
67)	Dibromochloromethane	14.14	129	2087131	357.3021	ug/L	100
68)	1,2-Dibromoethane	14.39	107	1442275	332.6091	ug/L	100
69)	1-Chlorohexane	14.47	91	3973417	326.6971	ug/L	100
70)	Chlorobenzene	14.90	112	6979605	308.1513	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.93	131	3150752	292.8134	ug/L	100
72)	Ethylbenzene	14.92	106	4954371	391.4432	ug/L	100
73)	m-,p-Xylene	15.01	106	8585758	559.6298	ug/L	100
74)	o-Xylene	15.57	106	5252293	349.3215	ug/L	100
75)	Styrene	15.61	104	7322608	322.8533	ug/L	100
76)	Bromoform	16.11	173	1173171	317.1553	ug/L	100
77)	Isopropylbenzene	15.99	105	9317649	260.2343	ug/L	100
79)	1,1,2,2-Tetrachloroethane	16.21	83	1487650	304.8421	ug/L	100
81)	1,2,3-Trichloropropane	16.41	110	427045	315.4958	ug/L	100
82)	trans-1,4-Dichloro-2-Buten	16.45	53	323796	298.1660	ug/L	100
83)	n-Propylbenzene	16.50	91	9682581	202.5059	ug/L	100
84)	Bromobenzene	16.64	156	3001166	343.0108	ug/L	100
85)	1,3,5-Trimethylbenzene	16.70	105	8404512	256.9927	ug/L	100
86)	2-Chlorotoluene	16.78	91	7263610	244.4822	ug/L	100
87)	4-Chlorotoluene	16.83	91	5870983	204.1119	ug/L	100
88)	a-Methylstyrene	17.10	118	5813008	305.5709	ug/L	100
89)	tert-Butylbenzene	17.16	134	2496901	380.8832	ug/L	100
90)	1,2,4-Trimethylbenzene	17.21	105	8404863	252.8391	ug/L	100
91)	sec-Butylbenzene	17.42	105	9425226	231.1493	ug/L	100
92)	p-Isopropyltoluene	17.58	119	8186841	259.2098	ug/L	100
93)	1,3-Dichlorobenzene	17.78	146	5419870	313.2562	ug/L	100
94)	1,4-Dichlorobenzene	17.92	146	5213006	302.6464	ug/L	100
95)	n-Butylbenzene	18.10	91	7852430	245.2154	ug/L	100
96)	1,2-Dichlorobenzene	18.41	146	4486114	319.9906	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	19.40	75	214685	325.2805	ug/L	100
98)	1,2,4-Trichlorobenzene	20.54	180	3037820	353.7427	ug/L	100
99)	Hexachlorobutadiene	20.70	225	1532018	364.1311	ug/L	100
100)	Naphthalene	20.92	128	3450842	322.1808	ug/L	100
101)	1,2,3-Trichlorobenzene	21.22	180	2197619	358.8378	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416160.D 8260WT.M Wed Nov 16 08:37:18 2016 Page 2

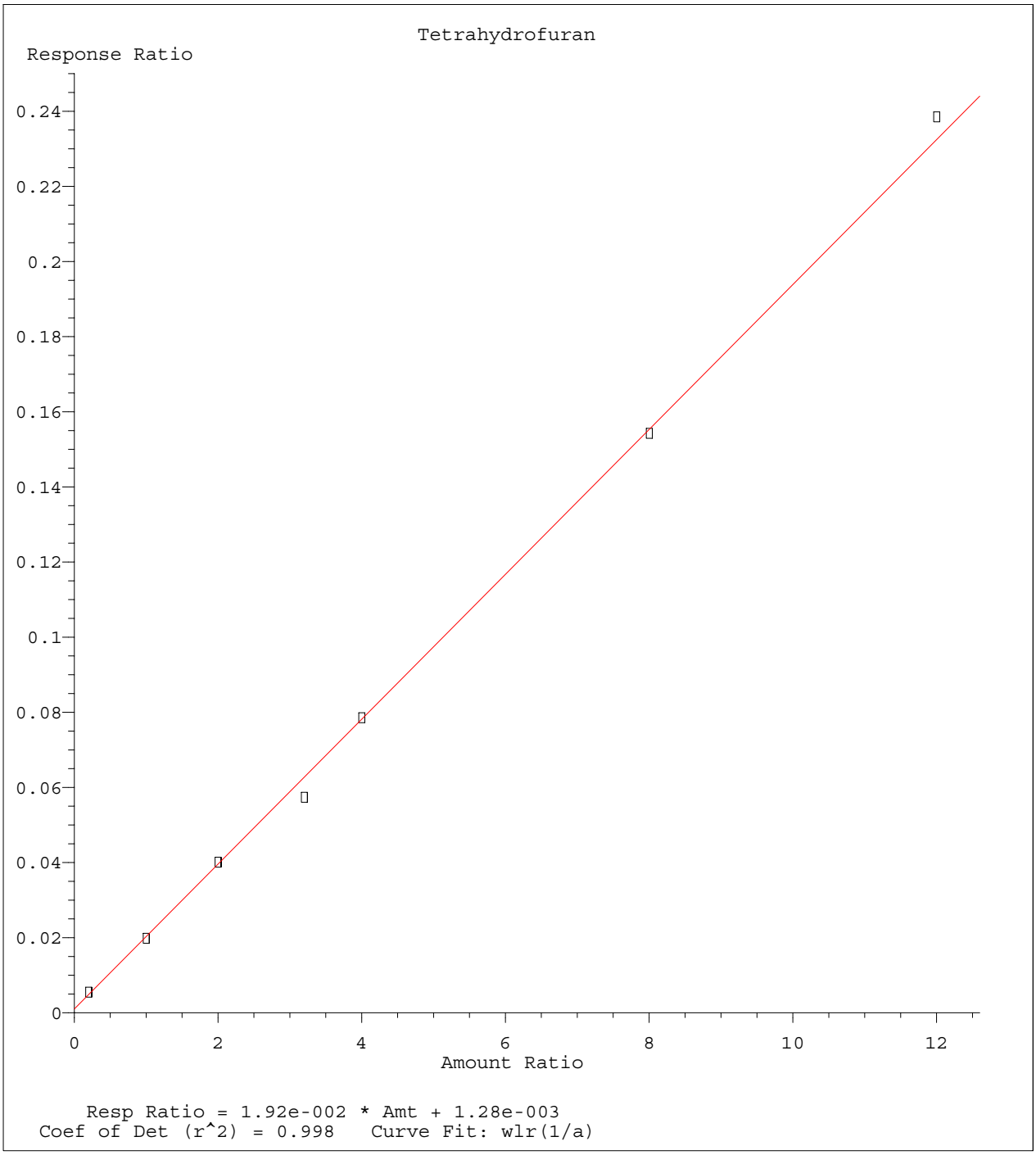
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416160.D Vial: 11
Acq On : 15 Nov 2016 14:40 Operator: TMB
Sample : WG591653-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD79021 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:37 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration

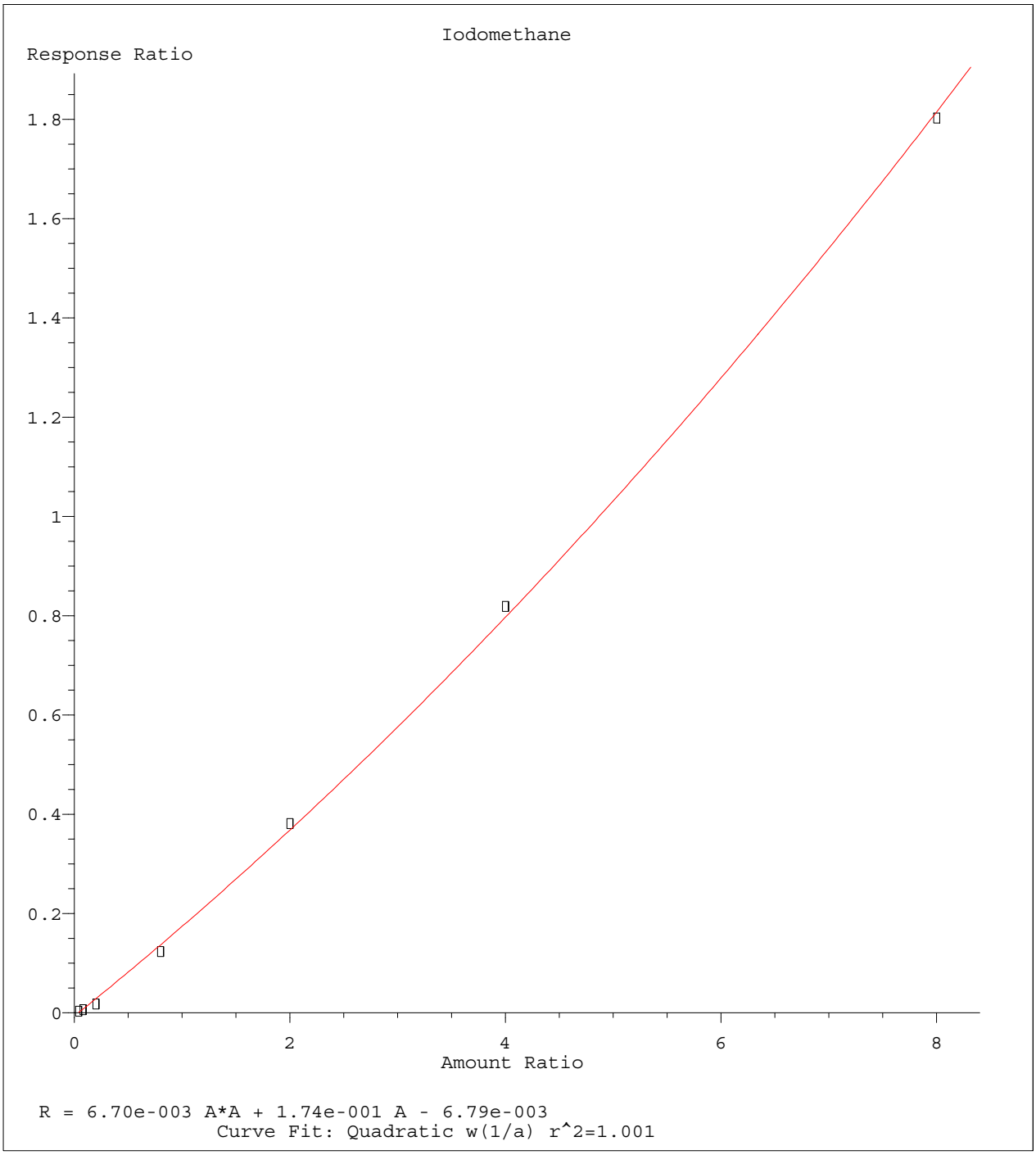




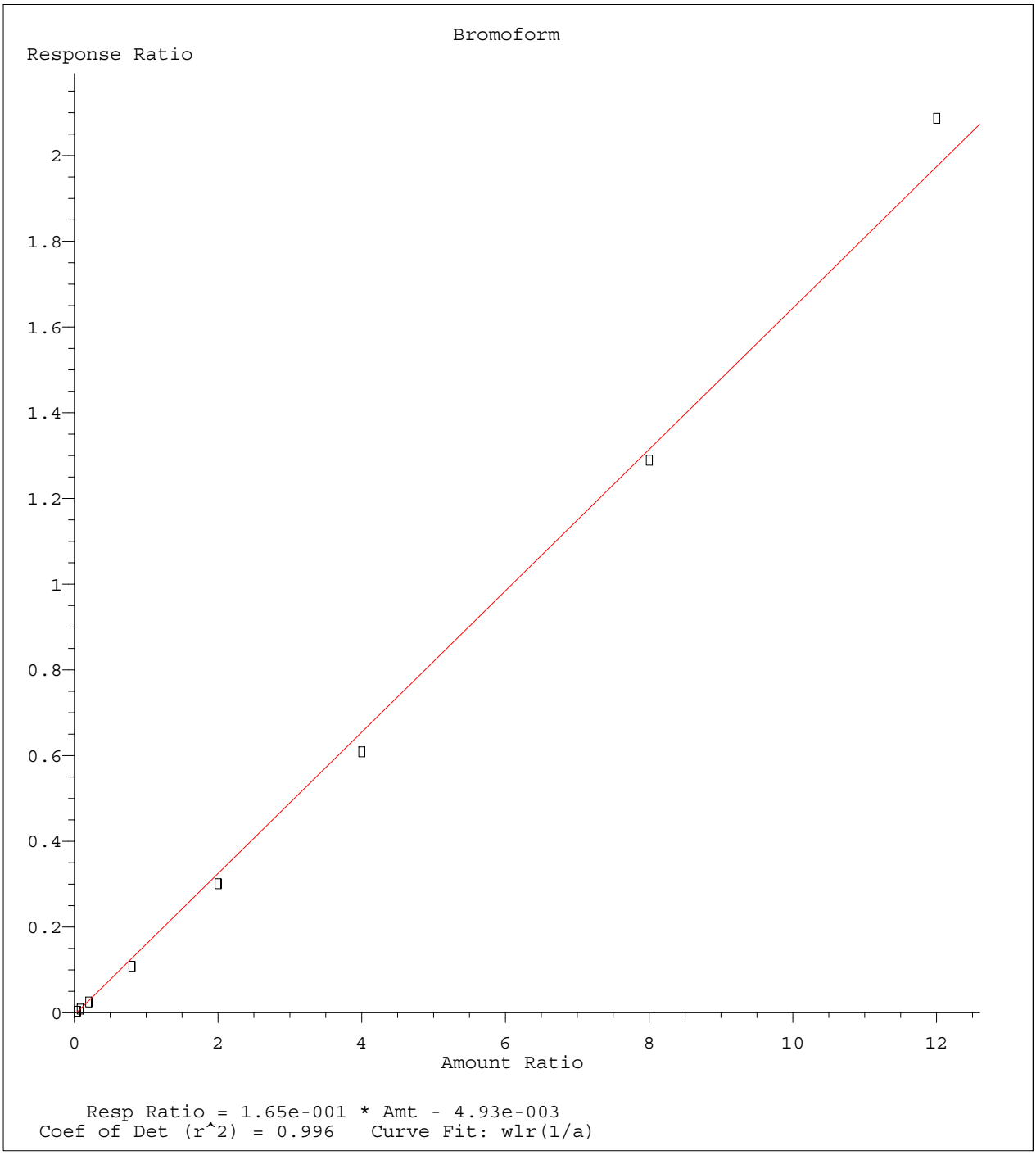
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



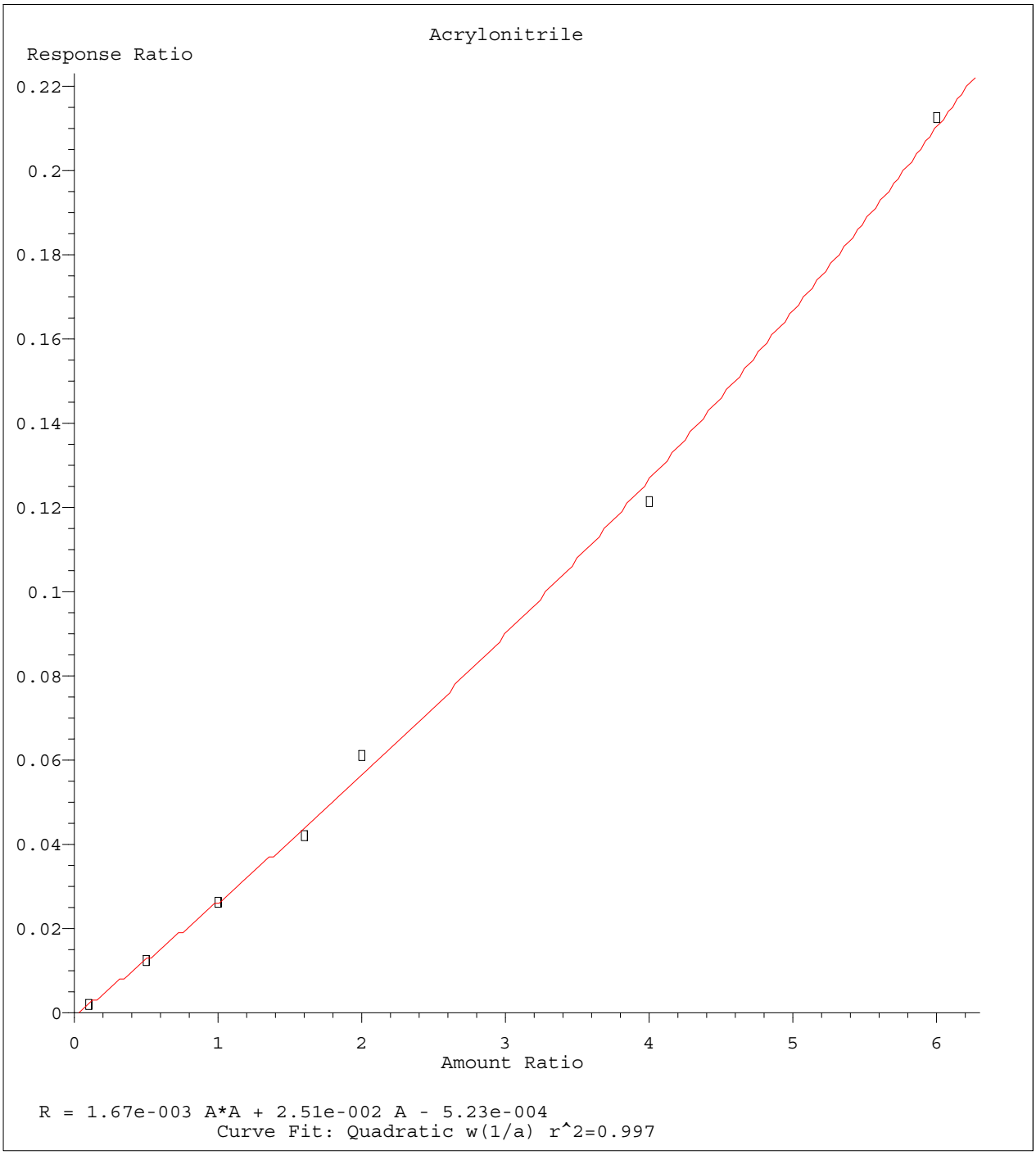
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



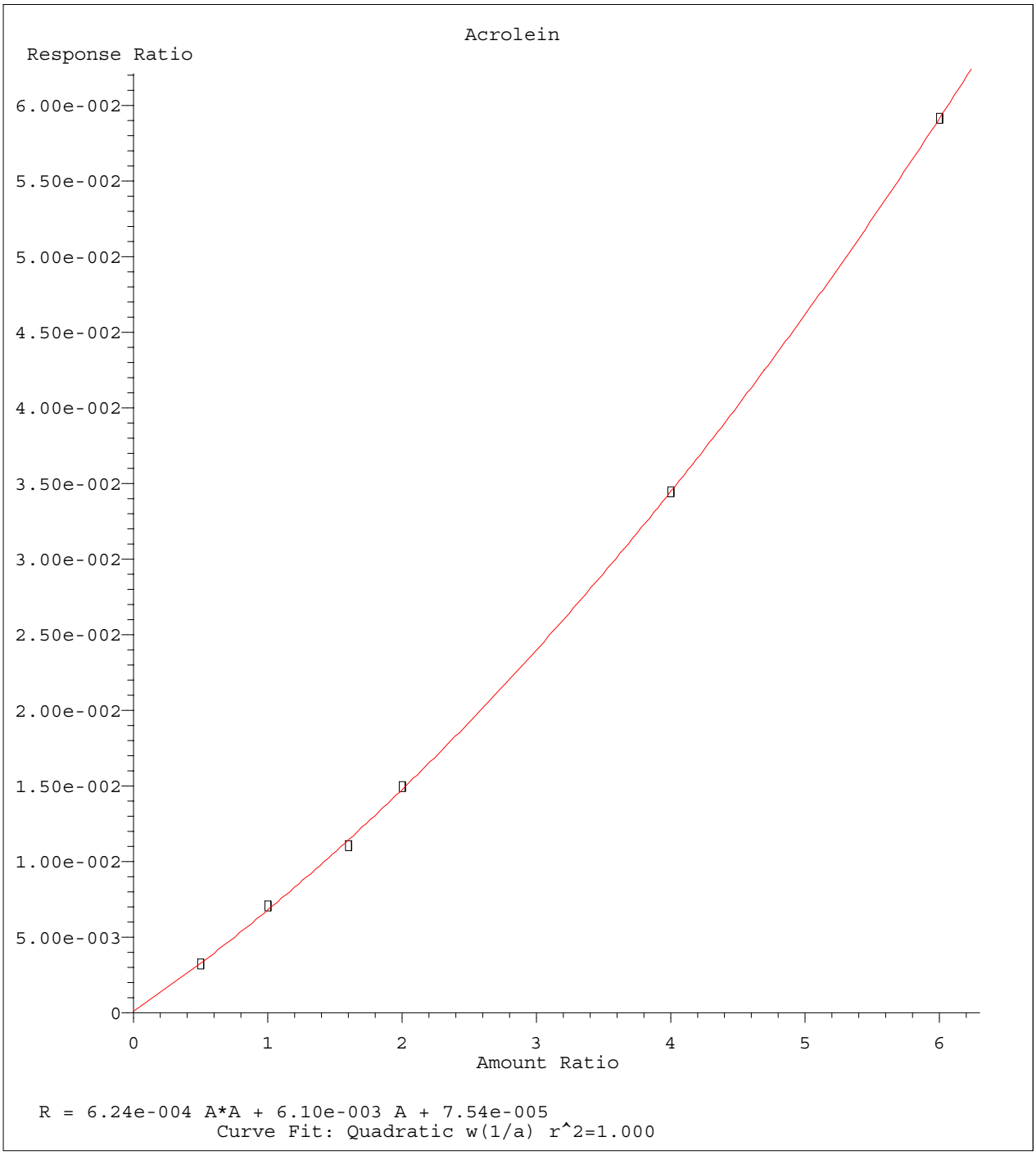
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



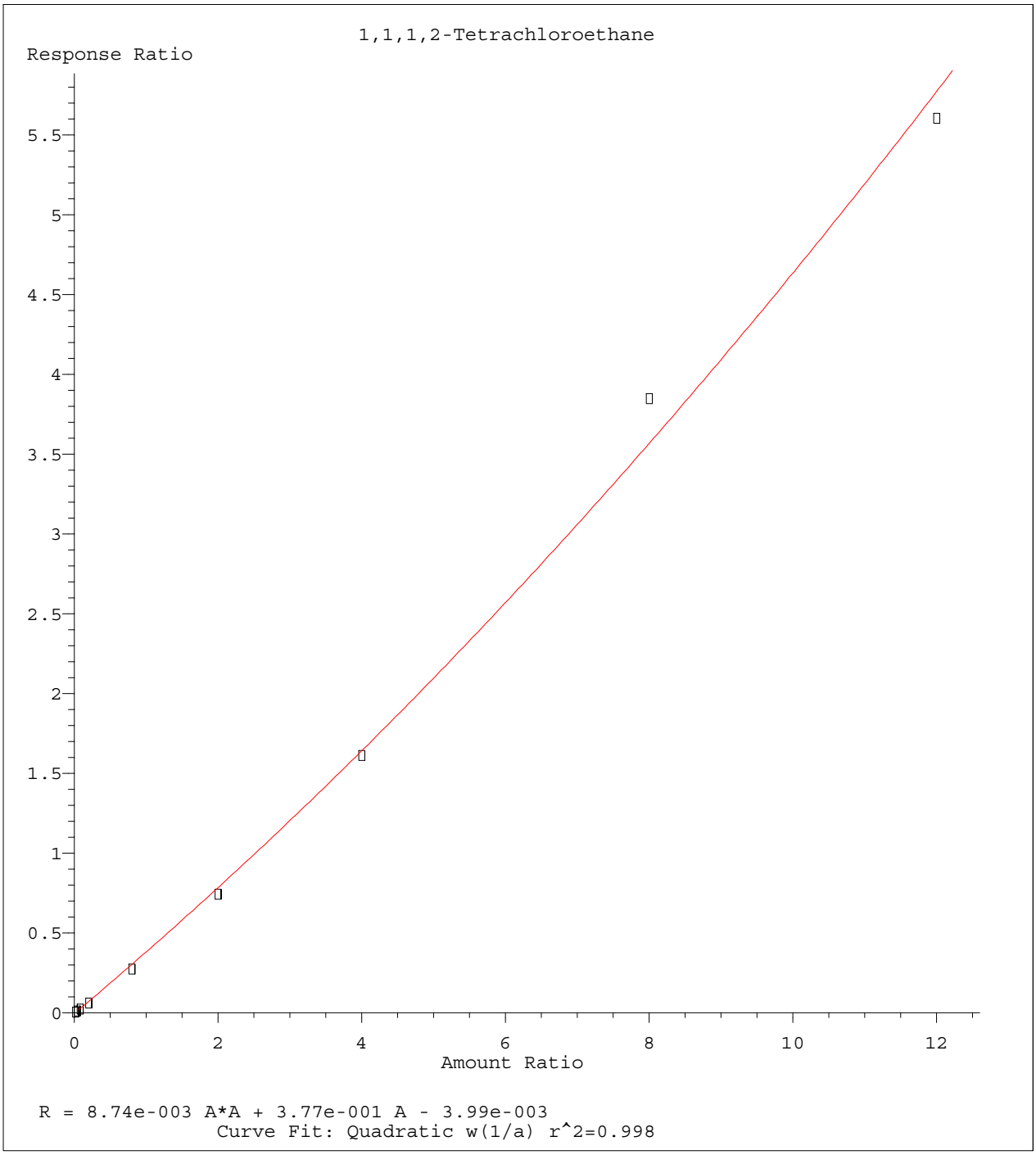
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



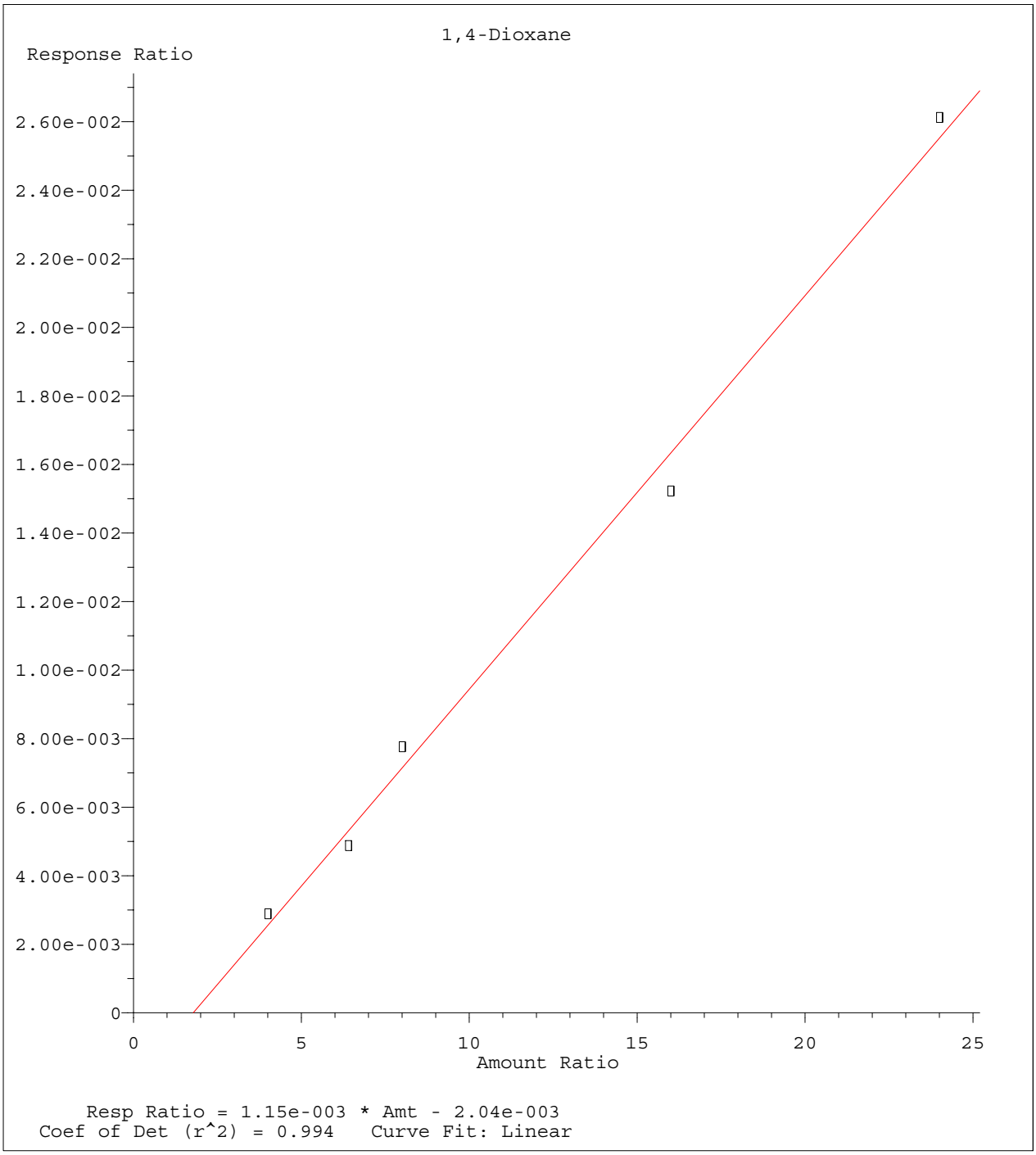
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



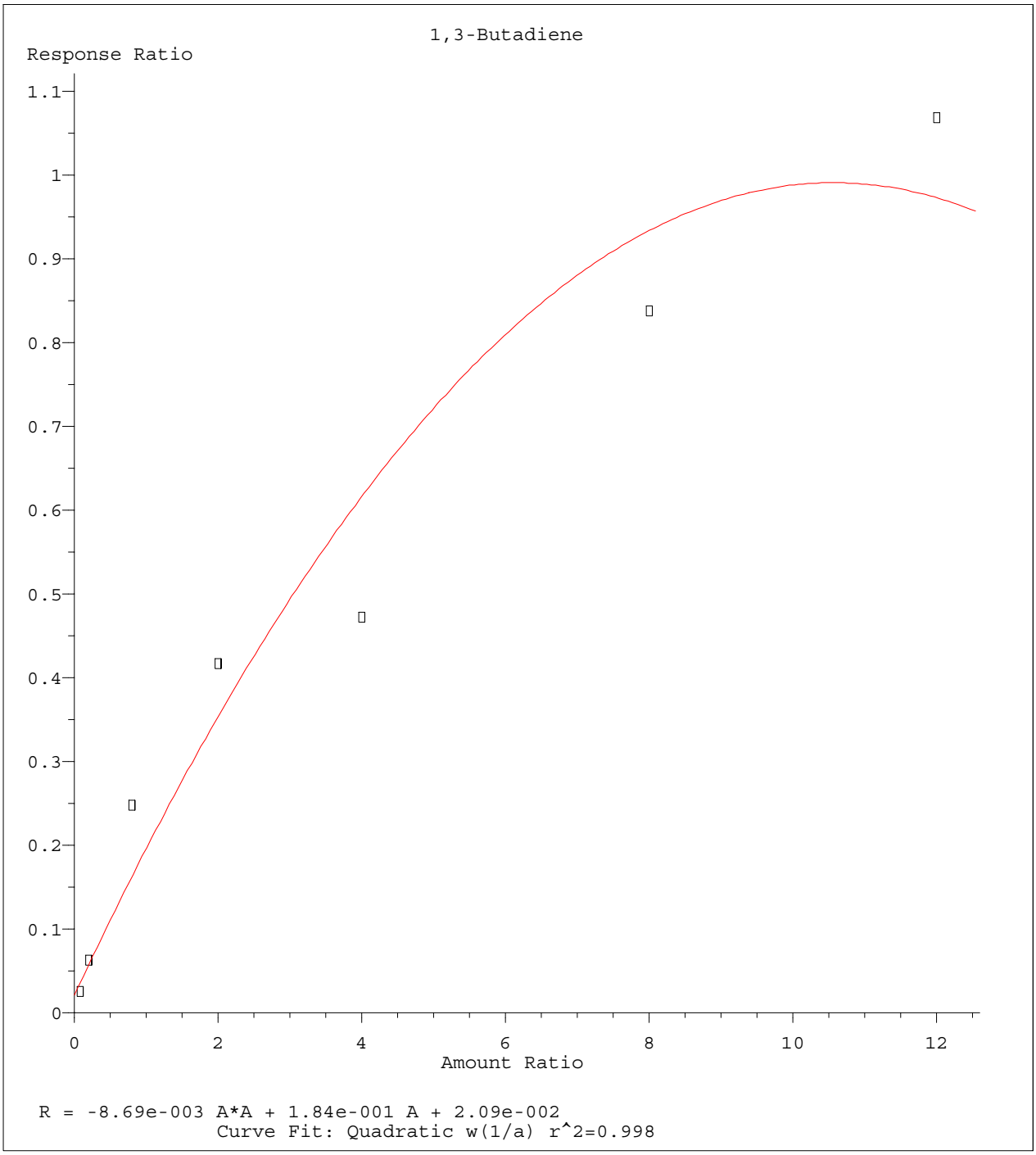
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Wed Nov 16 08:39:40 2016

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416163.D Vial: 14
Acq On : 15 Nov 2016 16:12 Operator: TMB
Sample : WG591653-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:29 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.98	96	770906	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.84	117	538183	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	249459	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.93	111	175752	24.1992 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.80%		
43) 1,2-Dichloroethane-d4	10.57	65	137316	23.7002 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.80%		
58) Toluene-d8	12.95	98	649606	24.1550 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.60%		
80) p-Bromofluorobenzene	16.34	95	231796	23.7682 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.08%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.38	85	649700	50.0684 ug/L	95
3) Chloromethane	3.85	50	564804	47.1217 ug/L	97
4) Vinyl Chloride	4.09	62	541504	40.8876 ug/L	96
5) 1,3-Butadiene	4.13	54	152236	25.2485 ug/L	99
6) Bromomethane	5.00	94	347754	52.9277 ug/L	100
7) Chloroethane	5.17	64	261063	52.1431 ug/L	99
8) Trichlorofluoromethane	5.65	101	681385	47.9360 ug/L	99
9) Diethyl ether	6.18	59	330799	97.9755 ug/L	98
10) Isoprene	6.22	67	554315	50.8229 ug/L	99
11) Acrolein	6.42	56	34429	121.9086 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.43	101	397782	49.5517 ug/L	99
13) Acetone	6.52	43	26634	47.9516 ug/L	96
14) 1,1-Dichloroethene	6.75	61	474751	46.7778 ug/L	97
15) Tert-Butyl Alcohol	6.86	59	34300	176.8420 ug/L	99
16) Dimethyl Sulfide	7.02	62	336249	64.0573 ug/L	99
17) Iodomethane	7.27	142	362050	62.4120 ug/L	97
18) Methyl acetate	7.27	43	70931	41.2755 ug/L	99
19) Methylene Chloride	7.53	84	358067	47.4974 ug/L	98
20) Carbon Disulfide	7.57	76	1117495	44.4817 ug/L	95
21) Acrylonitrile	7.71	53	41857	48.3891 ug/L	94
22) Methyl Tert Butyl Ether	7.74	73	610880	47.7902 ug/L	98
23) trans-1,2-Dichloroethene	7.98	61	456855	47.0706 ug/L	98
24) n-Hexane	8.05	57	396170	46.8121 ug/L	100
25) Diisopropyl ether	8.39	45	1542409	100.3848 ug/L	98
26) Vinyl Acetate	8.56	43	337608	57.0902 ug/L	98
27) 1,1-Dichloroethane	8.60	63	593079	46.5133 ug/L	97
28) Ethyl-Tert-Butyl ether	8.96	59	1508551	97.2866 ug/L	98
29) 2-Butanone	9.15	43	42239	47.4719 ug/L	99
30) Propionitrile	9.26	54	27498	100.5851 ug/L	99
31) 2,2-Dichloropropane	9.37	77	626135	50.1147 ug/L	97
32) cis-1,2-Dichloroethene	9.44	96	417663	48.4424 ug/L	96
33) Chloroform	9.64	83	699285	48.1305 ug/L	96
34) 1-Bromopropane	9.78	122	86061	51.2270 ug/L	98
35) Bromochloromethane	9.88	130	197246	51.9163 ug/L	97
36) Tetrahydrofuran	9.90	42	55874	92.4740 ug/L	97
38) 1,1,1-Trichloroethane	10.18	97	669531	50.2451 ug/L	96
39) Cyclohexane	10.21	56	385632	37.4734 ug/L	98
40) 1,1-Dichloropropene	10.38	75	523425	47.8112 ug/L	96
41) Tert-Amyl-Methyl ether	10.47	73	1484216	103.8171 ug/L	98
42) Carbon Tetrachloride	10.52	117	603532	50.3804 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M416163.D 8260WT.M Wed Nov 16 08:37:32 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416163.D Vial: 14
Acq On : 15 Nov 2016 16:12 Operator: TMB
Sample : WG591653-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:37:29 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

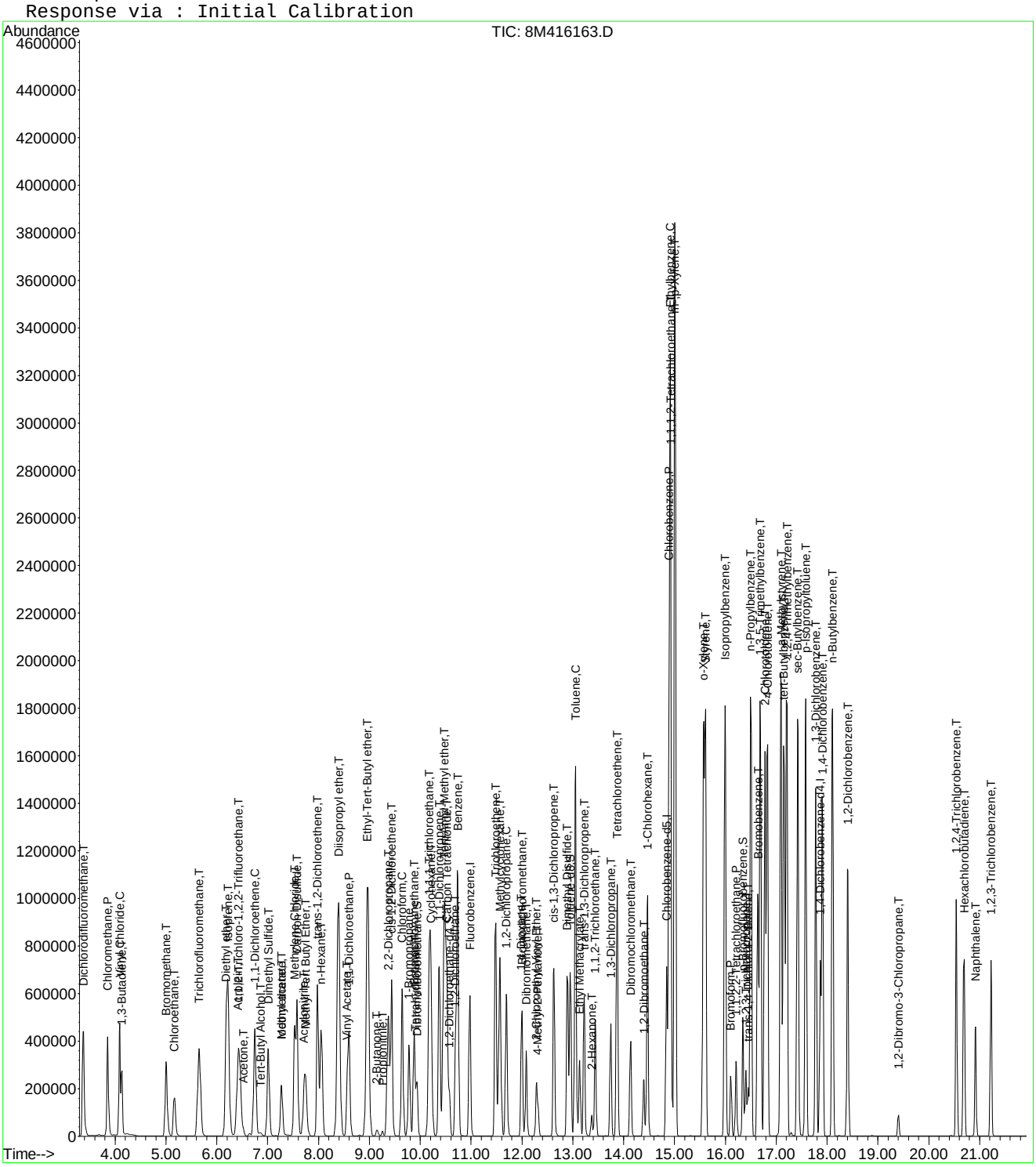
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	346305	48.0294	ug/L		99
46)	Benzene	10.74	78	1510652	48.2542	ug/L		92
47)	Trichloroethene	11.48	130	390830	48.1343	ug/L		98
48)	Methylcyclohexane	11.57	83	557526	41.6644	ug/L		98
49)	1,2-Dichloropropane	11.69	63	303460	47.8729	ug/L		98
50)	Bromodichloromethane	12.00	83	467735	48.5599	ug/L		97
51)	1,4-Dioxane	11.99	88	4552	172.9604	ug/L		93
52)	Dibromomethane	12.08	93	172506	51.2668	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.28	63	117105	49.2514	ug/L		100
54)	4-Methyl-2-Pentanone	12.31	58	45037	48.6525	ug/L		99
55)	cis-1,3-Dichloropropene	12.63	75	547276	52.4188	ug/L		96
56)	Dimethyl Disulfide	12.89	79	294900	48.3417	ug/L		94
59)	Toluene	13.05	91	1623957	49.2670	ug/L		84
60)	Ethyl Methacrylate	13.14	69	262197	51.7075	ug/L		98
62)	trans-1,3-Dichloropropene	13.22	75	414471	48.0406	ug/L		96
63)	1,1,2-Trichloroethane	13.44	97	215809	50.6009	ug/L		98
64)	2-Hexanone	13.37	58	41462	49.1058	ug/L		98
65)	1,3-Dichloropropane	13.75	76	382726	50.3280	ug/L		100
66)	Tetrachloroethene	13.87	164	309512	50.3016	ug/L		95
67)	Dibromochloromethane	14.14	129	285944	51.1347	ug/L		99
68)	1,2-Dibromoethane	14.40	107	207983	50.1028	ug/L		100
69)	1-Chlorohexane	14.47	91	580060	49.8199	ug/L		98
70)	Chlorobenzene	14.89	112	1042296	48.0698	ug/L		96
71)	1,1,1,2-Tetrachloroethane	14.93	131	369554	44.0558	ug/L		99
72)	Ethylbenzene	14.92	106	639032	52.7414	ug/L	#	28
73)	m-,p-Xylene	15.01	106	1534867	104.5060	ug/L	#	47
74)	o-Xylene	15.57	106	702321	48.7933	ug/L		63
75)	Styrene	15.61	104	1164980	53.6545	ug/L		87
76)	Bromoform	16.10	173	151961	43.5595	ug/L		99
77)	Isopropylbenzene	15.99	105	1768936	51.6082	ug/L		77
79)	1,1,2,2-Tetrachloroethane	16.21	83	218769	50.2706	ug/L		99
81)	1,2,3-Trichloropropane	16.40	110	62240	51.5636	ug/L	#	25
82)	trans-1,4-Dichloro-2-Buten	16.45	53	46003	47.9745	ug/L	#	20
83)	n-Propylbenzene	16.50	91	2110723	49.5030	ug/L	#	74
84)	Bromobenzene	16.64	156	387667	49.6856	ug/L		90
85)	1,3,5-Trimethylbenzene	16.68	105	1519537	52.1043	ug/L		78
86)	2-Chlorotoluene	16.78	91	1289869	48.6849	ug/L		72
87)	4-Chlorotoluene	16.83	91	1324705	51.6453	ug/L		75
88)	a-Methylstyrene	17.10	118	857139	50.5261	ug/L		93
89)	tert-Butylbenzene	17.15	134	298567	51.0724	ug/L		64
90)	1,2,4-Trimethylbenzene	17.21	105	1540453	51.9656	ug/L		75
91)	sec-Butylbenzene	17.42	105	1863386	51.2457	ug/L		78
92)	p-Isopropyltoluene	17.58	119	1480072	52.5499	ug/L		80
93)	1,3-Dichlorobenzene	17.78	146	767316	49.7323	ug/L		92
94)	1,4-Dichlorobenzene	17.91	146	759754	49.4623	ug/L		91
95)	n-Butylbenzene	18.11	91	1473670	51.6057	ug/L		81
96)	1,2-Dichlorobenzene	18.41	146	622524	49.7940	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.40	75	31110	52.8579	ug/L		93
98)	1,2,4-Trichlorobenzene	20.54	180	382858	49.9939	ug/L		99
99)	Hexachlorobutadiene	20.69	225	190342	50.7320	ug/L		99
100)	Naphthalene	20.92	128	490693	51.3734	ug/L		98
101)	1,2,3-Trichlorobenzene	21.22	180	283683	51.9437	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416163.D Vial: 14
Acq On : 15 Nov 2016 16:12 Operator: TMB
Sample : WG591653-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:37 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



8M416163.D 8260WT.M Wed Nov 16 08:37:33 2016 Page 3

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416163.D Vial: 14
Acq On : 15 Nov 2016 16:12 Operator: TMB
Sample : WG591653-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	101	0.00
2	T	Dichlorodifluoromethane	50.0000	50.0684	-0.1	94	0.00
3	P	Chloromethane	50.0000	47.1217	5.8	95	0.00
4	C	Vinyl Chloride	50.0000	40.8876	18.2	87	0.00
5	T	1,3-Butadiene	50.0000	25.2485	49.5#	48	0.00
6	T	Bromomethane	50.0000	52.9277	-5.9	103	0.00
7	T	Chloroethane	50.0000	52.1431	-4.3	101	0.00
8	T	Trichlorofluoromethane	50.0000	47.9360	4.1	95	0.00
9	T	Diethyl ether	100.0000	97.9755	2.0	99	0.00
10	T	Isoprene	50.0000	50.8229	-1.6	101	0.00
11	T	Acrolein	50.0000	121.9086	-143.8#	302	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.5517	0.9	100	0.00
13	T	Acetone	50.0000	47.9516	4.1	80	0.00
14	C	1,1-Dichloroethene	50.0000	46.7778	6.4	91	0.00
15	T	Tert-Butyl Alcohol	200.0000	176.8421	11.6	83	0.00
16	T	Dimethyl Sulfide	50.0000	64.0573	-28.1#	121	0.00
17	T	Iodomethane	50.0000	62.4120	-24.8	124	0.00
18	T	Methyl acetate	50.0000	41.2755	17.4	84	0.00
19	T	Methylene Chloride	50.0000	47.4975	5.0	97	0.00
20	T	Carbon Disulfide	50.0000	44.4817	11.0	87	0.00
21	T	Acrylonitrile	50.0000	48.3891	3.2	90	0.00
22	T	Methyl Tert Butyl Ether	50.0000	47.7902	4.4	93	0.00
23	T	trans-1,2-Dichloroethene	50.0000	47.0706	5.9	94	0.00
24	T	n-Hexane	50.0000	46.8121	6.4	97	0.00
25	T	Diisopropyl ether	100.0000	100.3848	-0.4	101	0.00
26	T	Vinyl Acetate	50.0000	57.0902	-14.2	119	0.00
27	P	1,1-Dichloroethane	50.0000	46.5133	7.0	92	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	97.2866	2.7	97	0.00
29	T	2-Butanone	50.0000	47.4719	5.1	87	0.00
30	T	Propionitrile	100.0000	100.5851	-0.6	98	0.00
31	T	2,2-Dichloropropane	50.0000	50.1147	-0.2	103	0.00
32	T	cis-1,2-Dichloroethene	50.0000	48.4424	3.1	95	0.00
33	C	Chloroform	50.0000	48.1305	3.7	98	0.00
34		1-Bromopropane	50.0000	51.2270	-2.5	104	0.00
35	T	Bromochloromethane	50.0000	51.9163	-3.8	99	0.00
36	T	Tetrahydrofuran	100.0000	92.4740	7.5	93	0.00
37	S	Dibromofluoromethane	25.0000	24.1992	3.2	95	0.00
38	T	1,1,1-Trichloroethane	50.0000	50.2451	-0.5	99	0.00
39	T	Cyclohexane	50.0000	37.4734	25.1#	76	0.00
40	T	1,1-Dichloropropene	50.0000	47.8112	4.4	95	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	103.8171	-3.8	102	0.00
42	T	Carbon Tetrachloride	50.0000	50.3804	-0.8	98	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.7002	5.2	92	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	50.0000	48.0294	3.9	95	0.00
46	T	Benzene	50.0000	48.2542	3.5	95	0.00
47	T	Trichloroethene	50.0000	48.1343	3.7	95	0.00
48	T	Methylcyclohexane	50.0000	41.6644	16.7	87	0.00
49	C	1,2-Dichloropropane	50.0000	47.8729	4.3	93	0.00
50	T	Bromodichloromethane	50.0000	48.5599	2.9	93	0.00
51	T	1,4-Dioxane	200.0000	172.9604	13.5	77	0.00
52	T	Dibromomethane	50.0000	51.2668	-2.5	96	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	49.2514	1.5	91	0.00
54	T	4-Methyl-2-Pentanone	50.0000	48.6525	2.7	86	0.00

(#) = Out of Range
8M416163.D 8260WT.M Wed Nov 16 08:40:09 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416163.D Vial: 14
Acq On : 15 Nov 2016 16:12 Operator: TMB
Sample : WG591653-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	52.4188	-4.8	101	0.00
56	T	Dimethyl Disulfide	50.0000	48.3417	3.3	96	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
58	S	Toluene-d8	25.0000	24.1550	3.4	97	0.00
59	C	Toluene	50.0000	49.2670	1.5	94	0.00
60	T	Ethyl Methacrylate	50.0000	51.7075	-3.4	91	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	50.0000	48.0406	3.9	94	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.6009	-1.2	94	0.00
64	T	2-Hexanone	50.0000	49.1058	1.8	87	0.00
65	T	1,3-Dichloropropane	50.0000	50.3280	-0.7	98	0.00
66	T	Tetrachloroethene	50.0000	50.3016	-0.6	100	0.00
67	T	Dibromochloromethane	50.0000	51.1347	-2.3	96	0.00
68	T	1,2-Dibromoethane	50.0000	50.1028	-0.2	96	0.00
69	T	1-Chlorohexane	50.0000	49.8199	0.4	99	0.00
70	P	Chlorobenzene	50.0000	48.0698	3.9	95	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	44.0558	11.9	94	0.00
72	C	Ethylbenzene	50.0000	52.7414	-5.5	96	0.00
73	T	m-,p-Xylene	100.0000	104.5060	-4.5	98	0.00
74	T	o-Xylene	50.0000	48.7933	2.4	98	0.00
75	T	Styrene	50.0000	53.6545	-7.3	98	0.00
76	P	Bromoform	50.0000	43.5595	12.9	95	0.00
77	T	Isopropylbenzene	50.0000	51.6082	-3.2	96	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	102	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	50.2706	-0.5	96	0.00
80	S	p-Bromofluorobenzene	25.0000	23.7682	4.9	97	0.00
81	T	1,2,3-Trichloropropane	50.0000	51.5636	-3.1	98	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	47.9745	4.1	89	0.00
83	T	n-Propylbenzene	50.0000	49.5030	1.0	98	0.00
84	T	Bromobenzene	50.0000	49.6856	0.6	99	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	52.1043	-4.2	99	-0.01
86	T	2-Chlorotoluene	50.0000	48.6849	2.6	96	0.00
87	T	4-Chlorotoluene	50.0000	51.6453	-3.3	99	0.00
88	T	a-Methylstyrene	50.0000	50.5262	-1.1	99	0.00
89	T	tert-Butylbenzene	50.0000	51.0724	-2.1	100	-0.01
90	T	1,2,4-Trimethylbenzene	50.0000	51.9656	-3.9	99	0.00
91	T	sec-Butylbenzene	50.0000	51.2457	-2.5	98	0.00
92	T	p-Isopropyltoluene	50.0000	52.5499	-5.1	101	0.00
93	T	1,3-Dichlorobenzene	50.0000	49.7323	0.5	98	0.00
94	T	1,4-Dichlorobenzene	50.0000	49.4623	1.1	100	0.00
95	T	n-Butylbenzene	50.0000	51.6057	-3.2	99	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.7940	0.4	98	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	52.8579	-5.7	100	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	49.9939	0.0	105	0.00
99	T	Hexachlorobutadiene	50.0000	50.7320	-1.5	106	0.00
100	T	Naphthalene	50.0000	51.3734	-2.7	101	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	51.9437	-3.9	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416163.D 8260WT.M Wed Nov 16 08:40:09 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 12:58:39 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	618628	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	439794	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	195815	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	137365	23.5694	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.28%			
43) 1,2-Dichloroethane-d4	10.57	65	97543	20.9797	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 83.92%			
58) Toluene-d8	12.95	98	526319	23.9489	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.80%			
80) p-Bromofluorobenzene	16.34	95	180721	23.6076	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	562598	54.0282	ug/L	96
3) Chloromethane	3.85	50	469363	48.7982	ug/L	98
4) Vinyl Chloride	4.09	62	537250	50.5519	ug/L	97
5) 1,3-Butadiene	4.14	54	309060	76.1621	ug/L	98
6) Bromomethane	5.01	94	253521	48.0836	ug/L	100
7) Chloroethane	5.17	64	213451	53.1278	ug/L	99
8) Trichlorofluoromethane	5.65	101	597940	52.4202	ug/L	98
9) Diethyl ether	6.18	59	247185	91.2320	ug/L	100
10) Isoprene	6.22	67	440054	50.2783	ug/L	98
11) Acrolein	6.42	56	12913	66.9141	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	342901	53.2297	ug/L	96
13) Acetone	6.52	43	18700	41.9546	ug/L	97
14) 1,1-Dichloroethene	6.75	61	427861	52.5350	ug/L	99
15) Tert-Butyl Alcohol	6.84	59	25198	161.8935	ug/L	94
16) Dimethyl Sulfide	7.01	62	209202	49.6644	ug/L	98
17) Iodomethane	7.26	142	179144	40.0814	ug/L	98
18) Methyl acetate	7.26	43	60728	44.0370	ug/L	98
19) Methylene Chloride	7.52	84	292850	48.4087	ug/L	98
20) Carbon Disulfide	7.57	76	1031462	51.1636	ug/L	95
21) Acrylonitrile	7.70	53	31601	45.8296	ug/L	95
22) Methyl Tert Butyl Ether	7.73	73	471809	45.9961	ug/L	99
23) trans-1,2-Dichloroethene	7.98	61	398716	51.1925	ug/L	99
24) n-Hexane	8.05	57	345013	50.8023	ug/L	100
25) Diisopropyl ether	8.39	45	1169954	94.8875	ug/L	99
26) Vinyl Acetate	8.56	43	226697	47.7712	ug/L	99
27) 1,1-Dichloroethane	8.60	63	522508	51.0658	ug/L	97
28) Ethyl-Tert-Butyl ether	8.96	59	1149719	92.3967	ug/L	98
29) 2-Butanone	9.14	43	29128	40.7949	ug/L	98
30) Propionitrile	9.25	54	18373	83.7499	ug/L	98
31) 2,2-Dichloropropane	9.37	77	539912	53.8507	ug/L	97
32) cis-1,2-Dichloroethene	9.44	96	359081	51.8996	ug/L	98
33) Chloroform	9.64	83	577439	49.5272	ug/L	95
34) 1-Bromopropane	9.78	122	71078	52.7230	ug/L	98
35) Bromochloromethane	9.88	130	152782	50.1118	ug/L	97
36) Tetrahydrofuran	9.90	42	38345	78.8428	ug/L	99
38) 1,1,1-Trichloroethane	10.17	97	555909	51.9874	ug/L	97
39) Cyclohexane	10.21	56	415929	50.3664	ug/L	98
40) 1,1-Dichloropropene	10.37	75	449088	51.1185	ug/L	96
41) Tert-Amyl-Methyl ether	10.47	73	1068182	93.1084	ug/L	98
42) Carbon Tetrachloride	10.51	117	502014	52.2215	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416465.D 8260WT.M Tue Dec 06 12:58:42 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 12:58:39 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

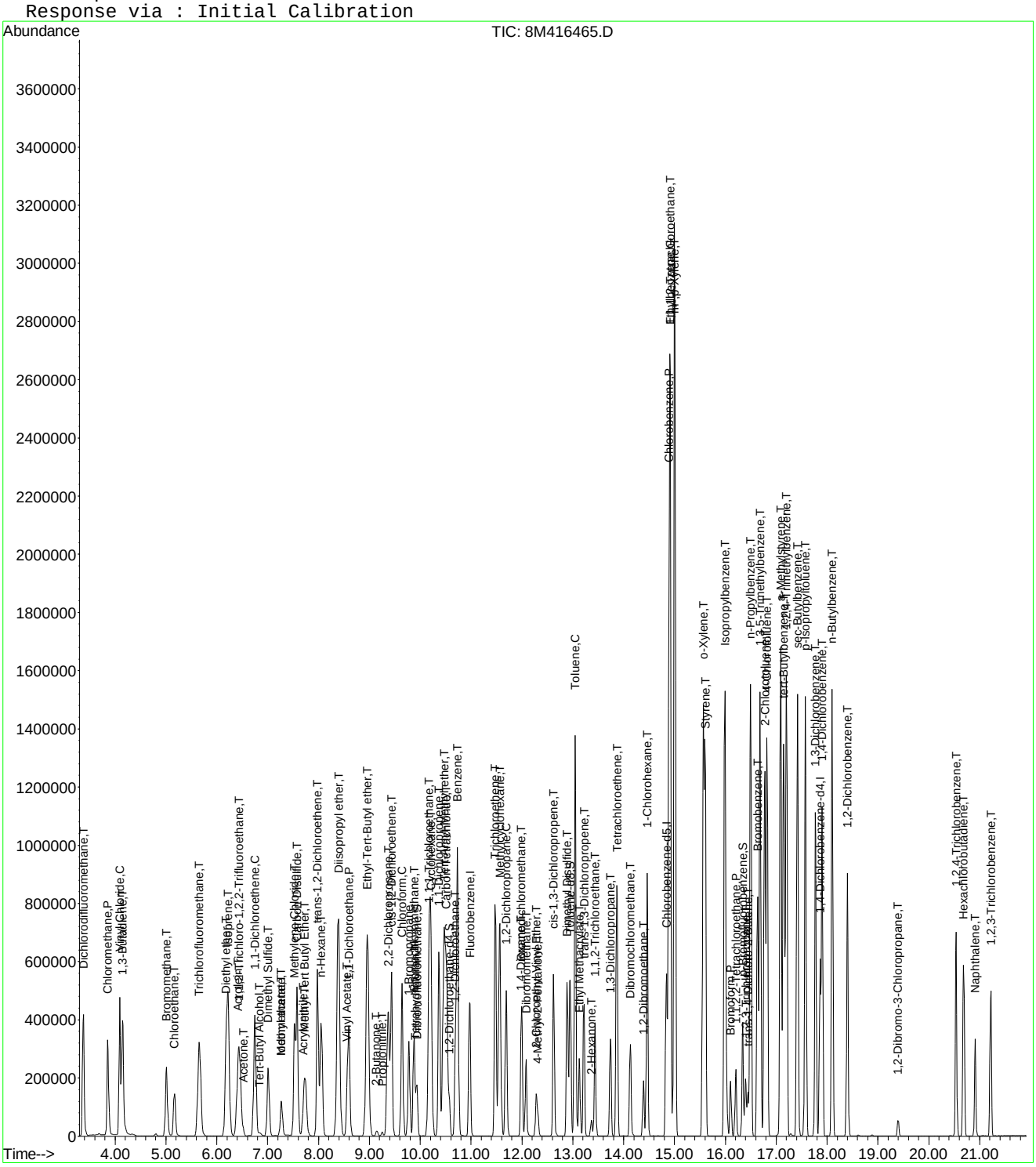
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	265264	45.8456	ug/L		98
46)	Benzene	10.73	78	1312928	52.2617	ug/L		91
47)	Trichloroethene	11.47	130	329832	50.6211	ug/L		97
48)	Methylcyclohexane	11.57	83	554068	51.5982	ug/L		97
49)	1,2-Dichloropropane	11.69	63	252736	49.6852	ug/L		96
50)	Bromodichloromethane	11.99	83	382370	49.4690	ug/L		97
51)	1,4-Dioxane	11.98	88	3458	166.1060	ug/L		97
52)	Dibromomethane	12.08	93	128336	47.5283	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.28	63	73614	38.5811	ug/L		98
54)	4-Methyl-2-Pentanone	12.31	58	30984	41.7105	ug/L		99
55)	cis-1,3-Dichloropropene	12.62	75	412470	49.2317	ug/L		96
56)	Dimethyl Disulfide	12.89	79	224216	45.8022	ug/L		93
59)	Toluene	13.04	91	1411748	52.4107	ug/L		83
60)	Ethyl Methacrylate	13.13	69	212546	51.2931	ug/L		97
62)	trans-1,3-Dichloropropene	13.22	75	320946	45.5226	ug/L		96
63)	1,1,2-Trichloroethane	13.44	97	162424	46.6036	ug/L		98
64)	2-Hexanone	13.36	58	28339	41.0722	ug/L		99
65)	1,3-Dichloropropane	13.74	76	279962	45.0507	ug/L		96
66)	Tetrachloroethene	13.87	164	255381	50.7895	ug/L		96
67)	Dibromochloromethane	14.13	129	217761	47.6535	ug/L		99
68)	1,2-Dibromoethane	14.39	107	153688	45.3059	ug/L		100
69)	1-Chlorohexane	14.46	91	505716	53.1517	ug/L		97
70)	Chlorobenzene	14.90	112	865609	48.8522	ug/L		96
71)	1,1,1,2-Tetrachloroethane	14.92	131	301725	44.0183	ug/L		100
72)	Ethylbenzene	14.92	106	535902	54.1246	ug/L	#	26
73)	m-,p-Xylene	15.00	106	1267031	105.5695	ug/L	#	45
74)	o-Xylene	15.57	106	565545	48.0809	ug/L		62
75)	Styrene	15.61	104	911941	51.3967	ug/L		86
76)	Bromoform	16.10	173	112009	39.3634	ug/L		99
77)	Isopropylbenzene	15.99	105	1499496	53.5344	ug/L		77
79)	1,1,2,2-Tetrachloroethane	16.21	83	158103	46.2830	ug/L		99
81)	1,2,3-Trichloropropane	16.40	110	43413	45.8191	ug/L		94
82)	trans-1,4-Dichloro-2-Buten	16.45	53	33917	45.0944	ug/L		91
83)	n-Propylbenzene	16.50	91	1744666	52.1274	ug/L	#	74
84)	Bromobenzene	16.63	156	298994	48.8188	ug/L		93
85)	1,3,5-Trimethylbenzene	16.68	105	1224973	53.5109	ug/L		79
86)	2-Chlorotoluene	16.78	91	1137659	54.7034	ug/L		71
87)	4-Chlorotoluene	16.82	91	971876	48.2698	ug/L		75
88)	a-Methylstyrene	17.09	118	704428	52.8999	ug/L		94
89)	tert-Butylbenzene	17.15	134	241595	52.6484	ug/L		63
90)	1,2,4-Trimethylbenzene	17.20	105	1235073	53.0778	ug/L		75
91)	sec-Butylbenzene	17.42	105	1542290	54.0348	ug/L		78
92)	p-Isopropyltoluene	17.57	119	1189120	53.7858	ug/L		80
93)	1,3-Dichlorobenzene	17.77	146	606061	50.0419	ug/L		91
94)	1,4-Dichlorobenzene	17.90	146	582370	48.3007	ug/L		92
95)	n-Butylbenzene	18.10	91	1192980	53.2211	ug/L		80
96)	1,2-Dichlorobenzene	18.40	146	471750	48.0713	ug/L		94
97)	1,2-Dibromo-3-Chloropropan	19.39	75	19646	42.5243	ug/L		95
98)	1,2,4-Trichlorobenzene	20.54	180	270461	44.9922	ug/L		99
99)	Hexachlorobutadiene	20.69	225	143363	48.6786	ug/L		99
100)	Naphthalene	20.91	128	337317	44.9904	ug/L		97
101)	1,2,3-Trichlorobenzene	21.22	180	195614	45.6302	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M416465.D 8260WT.M Tue Dec 06 12:58:42 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 6 12:58 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



8M416465.D 8260WT.M Tue Dec 06 12:58:43 2016 Page 3

Continuing Calibration Area and RT check

Instrument: HPMS8
Initial cal date: 15 Nov 2016 13:11
CCV date: 6 Dec 2016 9:57
CCV Filename: 8M416465.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	762907	10.98	531507	14.84	243591	17.86
CCV	618628	10.98	439794	14.84	195815	17.86

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	81	0.00
2	T	Dichlorodifluoromethane	0.4208	0.4547	-8.1	81	0.00
3	P	Chloromethane	0.3887	0.3794	2.4	79	0.00
4	C	Vinyl Chloride	0.4295	0.4342	-1.1	86	0.00
5	T	1,3-Butadiene	0.2089	0.2498	-19.6	97	0.00
6	T	Bromomethane	0.2131	0.2049	3.8	75	0.00
7	T	Chloroethane	0.1624	0.1725	-6.3	82	0.00
8	T	Trichlorofluoromethane	0.4610	0.4833	-4.8	83	0.00
9	T	Diethyl ether	0.1095	0.0999	8.8	74	0.00
10	T	Isoprene	0.3537	0.3557	-0.6	80	0.00
11	T	Acrolein	0.0077	0.0104	-35.1#	113	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2603	0.2772	-6.5	87	0.00
13	T	Acetone	0.0180	0.0151	16.1	56	0.00
14	C	1,1-Dichloroethene	0.3291	0.3458	-5.1	82	0.00
15	T	Tert-Butyl Alcohol	0.0063	0.0051	19.1	61	-0.02
16	T	Dimethyl Sulfide	0.1702	0.1691	0.7	75	-0.01
17	T	Iodomethane	0.1453	0.1448	0.4	62	0.00
18	T	Methyl acetate	0.0557	0.0491	11.9	72	0.00
19	T	Methylene Chloride	0.2445	0.2367	3.2	79	0.00
20	T	Carbon Disulfide	0.8147	0.8337	-2.3	80	0.00
21	T	Acrylonitrile	0.0276	0.0255	7.6	68	-0.01
22	T	Methyl Tert Butyl Ether	0.4145	0.3813	8.0	72	0.00
23	T	trans-1,2-Dichloroethene	0.3147	0.3223	-2.4	82	0.00
24	T	n-Hexane	0.2745	0.2788	-1.6	84	0.00
25	T	Diisopropyl ether	0.4983	0.4728	5.1	76	0.00
26	T	Vinyl Acetate	0.1918	0.1832	4.5	80	0.00
27	P	1,1-Dichloroethane	0.4135	0.4223	-2.1	81	0.00
28	T	Ethyl-Tert-Butyl ether	0.5029	0.4646	7.6	74	0.00
29	T	2-Butanone	0.0289	0.0235	18.4	60	-0.01
30	T	Propionitrile	0.0089	0.0074	16.3	65	-0.01
31	T	2,2-Dichloropropane	0.4052	0.4364	-7.7	89	0.00
32	T	cis-1,2-Dichloroethene	0.2796	0.2902	-3.8	82	0.00
33	C	Chloroform	0.4712	0.4667	0.9	81	0.00
34		1-Bromopropane	0.0545	0.0575	-5.5	86	0.00
35	T	Bromochloromethane	0.1232	0.1235	-0.2	77	0.00
36	T	Tetrahydrofuran	0.0206	0.0155	24.7	64	0.00
37	S	Dibromofluoromethane	0.2355	0.2221	5.7	74	0.00
38	T	1,1,1-Trichloroethane	0.4321	0.4493	-4.0	82	-0.01
39	T	Cyclohexane	0.3337	0.3362	-0.7	82	0.00
40	T	1,1-Dichloropropene	0.3550	0.3630	-2.2	81	0.00
41	T	Tert-Amyl-Methyl ether	0.4636	0.4317	6.9	73	0.00
42	T	Carbon Tetrachloride	0.3885	0.4058	-4.4	82	-0.01
43	S	1,2-Dichloroethane-d4	0.1879	0.1577	16.1	66	0.00
44		Heptane	0.0000	0.0000	0.0	0#	-2.61#
45	T	1,2-Dichloroethane	0.2338	0.2144	8.3	73	0.00
46	T	Benzene	1.0152	1.0612	-4.5	82	0.00
47	T	Trichloroethene	0.2633	0.2666	-1.2	80	-0.01
48	T	Methylcyclohexane	0.4340	0.4478	-3.2	86	0.00
49	C	1,2-Dichloropropane	0.2056	0.2043	0.6	78	0.00
50	T	Bromodichloromethane	0.3124	0.3090	1.1	76	0.00
51	T	1,4-Dioxane	0.0009	0.0007	22.2	58	-0.01
52	T	Dibromomethane	0.1091	0.1037	4.9	71	0.00
53	T	2-Chloroethyl Vinyl Ether	0.0771	0.0595	22.8	57	0.00
54	T	4-Methyl-2-Pentanone	0.0300	0.0250	16.6	59	0.00

(#) = Out of Range
8M416465.D 8260WT.M Tue Dec 06 12:59:18 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3386	0.3334	1.5	76	0.00
56	T	Dimethyl Disulfide	0.1978	0.1812	8.4	73	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	83	0.00
58	S	Toluene-d8	1.2493	1.1967	4.2	78	0.00
59	C	Toluene	1.5312	1.6050	-4.8	81	-0.01
60	T	Ethyl Methacrylate	0.2356	0.2416	-2.6	74	-0.01
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.40#
62	T	trans-1,3-Dichloropropene	0.4008	0.3649	9.0	73	0.00
63	T	1,1,2-Trichloroethane	0.1981	0.1847	6.8	71	0.00
64	T	2-Hexanone	0.0392	0.0322	17.8	59	0.00
65	T	1,3-Dichloropropane	0.3533	0.3183	9.9	72	-0.01
66	T	Tetrachloroethene	0.2858	0.2903	-1.6	82	0.00
67	T	Dibromochloromethane	0.2598	0.2476	4.7	73	-0.01
68	T	1,2-Dibromoethane	0.1928	0.1747	9.4	71	0.00
69	T	1-Chlorohexane	0.5409	0.5749	-6.3	86	-0.01
70	P	Chlorobenzene	1.0072	0.9841	2.3	79	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3554	0.3430	3.5	76	-0.01
72	C	Ethylbenzene	0.5628	0.6093	-8.2	81	0.00
73	T	m-,p-Xylene	0.6822	0.7202	-5.6	81	-0.01
74	T	o-Xylene	0.6686	0.6430	3.8	79	0.00
75	T	Styrene	1.0086	1.0368	-2.8	77	0.00
76	P	Bromoform	0.1373	0.1273	7.3	70	0.00
77	T	Isopropylbenzene	1.5922	1.7048	-7.1	81	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	80	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4361	0.4037	7.4	70	0.00
80	S	p-Bromofluorobenzene	0.9774	0.9229	5.6	76	0.00
81	T	1,2,3-Trichloropropane	0.1210	0.1109	8.4	69	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.0851	0.0866	-1.8	66	0.00
83	T	n-Propylbenzene	4.2731	4.4549	-4.3	81	0.00
84	T	Bromobenzene	0.7819	0.7635	2.4	76	-0.01
85	T	1,3,5-Trimethylbenzene	2.9227	3.1279	-7.0	80	-0.01
86	T	2-Chlorotoluene	2.6552	2.9049	-9.4	85	0.00
87	T	4-Chlorotoluene	2.5706	2.4816	3.5	72	-0.01
88	T	a-Methylstyrene	1.7001	1.7987	-5.8	81	-0.01
89	T	tert-Butylbenzene	0.5859	0.6169	-5.3	81	-0.01
90	T	1,2,4-Trimethylbenzene	2.9708	3.1537	-6.2	79	-0.01
91	T	sec-Butylbenzene	3.6441	3.9381	-8.1	81	0.00
92	T	p-Isopropyltoluene	2.8226	3.0363	-7.6	81	-0.01
93	T	1,3-Dichlorobenzene	1.5462	1.5475	-0.1	77	-0.01
94	T	1,4-Dichlorobenzene	1.5394	1.4870	3.4	77	-0.01
95	T	n-Butylbenzene	2.8618	3.0462	-6.4	80	0.00
96	T	1,2-Dichlorobenzene	1.2529	1.2046	3.9	74	-0.01
97	T	1,2-Dibromo-3-Chloropropane	0.0590	0.0502	15.0	63	-0.01
98	T	1,2,4-Trichlorobenzene	0.7675	0.6906	10.0	74	0.00
99	T	Hexachlorobutadiene	0.3760	0.3661	2.6	80	-0.01
100	T	Naphthalene	0.9572	0.8613	10.0	70	-0.01
101	T	1,2,3-Trichlorobenzene	0.5473	0.4995	8.7	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416465.D 8260WT.M Tue Dec 06 12:59:19 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	81	0.00
2	T	Dichlorodifluoromethane	50.0000	54.0282	-8.1	81	0.00
3	P	Chloromethane	50.0000	48.7982	2.4	79	0.00
4	C	Vinyl Chloride	50.0000	50.5519	-1.1	86	0.00
5	T	1,3-Butadiene	50.0000	76.1621	-52.3#	97	0.00
6	T	Bromomethane	50.0000	48.0836	3.8	75	0.00
7	T	Chloroethane	50.0000	53.1278	-6.3	82	0.00
8	T	Trichlorofluoromethane	50.0000	52.4202	-4.8	83	0.00
9	T	Diethyl ether	100.0000	91.2320	8.8	74	0.00
10	T	Isoprene	50.0000	50.2783	-0.6	80	0.00
11	T	Acrolein	50.0000	66.9141	-33.8#	113	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.2297	-6.5	87	0.00
13	T	Acetone	50.0000	41.9546	16.1	56	0.00
14	C	1,1-Dichloroethene	50.0000	52.5350	-5.1	82	0.00
15	T	Tert-Butyl Alcohol	200.0000	161.8935	19.1	61	-0.02
16	T	Dimethyl Sulfide	50.0000	49.6644	0.7	75	-0.01
17	T	Iodomethane	50.0000	40.0814	19.8	62	0.00
18	T	Methyl acetate	50.0000	44.0370	11.9	72	0.00
19	T	Methylene Chloride	50.0000	48.4087	3.2	79	0.00
20	T	Carbon Disulfide	50.0000	51.1636	-2.3	80	0.00
21	T	Acrylonitrile	50.0000	45.8296	8.3	68	-0.01
22	T	Methyl Tert Butyl Ether	50.0000	45.9961	8.0	72	0.00
23	T	trans-1,2-Dichloroethene	50.0000	51.1925	-2.4	82	0.00
24	T	n-Hexane	50.0000	50.8023	-1.6	84	0.00
25	T	Diisopropyl ether	100.0000	94.8875	5.1	76	0.00
26	T	Vinyl Acetate	50.0000	47.7712	4.5	80	0.00
27	P	1,1-Dichloroethane	50.0000	51.0658	-2.1	81	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	92.3967	7.6	74	0.00
29	T	2-Butanone	50.0000	40.7948	18.4	60	-0.01
30	T	Propionitrile	100.0000	83.7499	16.3	65	-0.01
31	T	2,2-Dichloropropane	50.0000	53.8507	-7.7	89	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.8996	-3.8	82	0.00
33	C	Chloroform	50.0000	49.5273	0.9	81	0.00
34		1-Bromopropane	50.0000	52.7230	-5.4	86	0.00
35	T	Bromochloromethane	50.0000	50.1118	-0.2	77	0.00
36	T	Tetrahydrofuran	100.0000	78.8428	21.2	64	0.00
37	S	Dibromofluoromethane	25.0000	23.5694	5.7	74	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.9874	-4.0	82	-0.01
39	T	Cyclohexane	50.0000	50.3664	-0.7	82	0.00
40	T	1,1-Dichloropropene	50.0000	51.1185	-2.2	81	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	93.1084	6.9	73	0.00
42	T	Carbon Tetrachloride	50.0000	52.2215	-4.4	82	-0.01
43	S	1,2-Dichloroethane-d4	25.0000	20.9797	16.1	66	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	50.0000	45.8456	8.3	73	0.00
46	T	Benzene	50.0000	52.2617	-4.5	82	0.00
47	T	Trichloroethene	50.0000	50.6211	-1.2	80	-0.01
48	T	Methylcyclohexane	50.0000	51.5982	-3.2	86	0.00
49	C	1,2-Dichloropropane	50.0000	49.6852	0.6	78	0.00
50	T	Bromodichloromethane	50.0000	49.4690	1.1	76	0.00
51	T	1,4-Dioxane	200.0000	166.1060	16.9	58	-0.01
52	T	Dibromomethane	50.0000	47.5283	4.9	71	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	38.5811	22.8	57	0.00
54	T	4-Methyl-2-Pentanone	50.0000	41.7105	16.6	59	0.00

(#) = Out of Range
8M416465.D 8260WT.M Tue Dec 06 12:59:21 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416465.D Vial: 3
Acq On : 6 Dec 2016 9:57 Operator: TMB
Sample : WG593709-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD79229 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

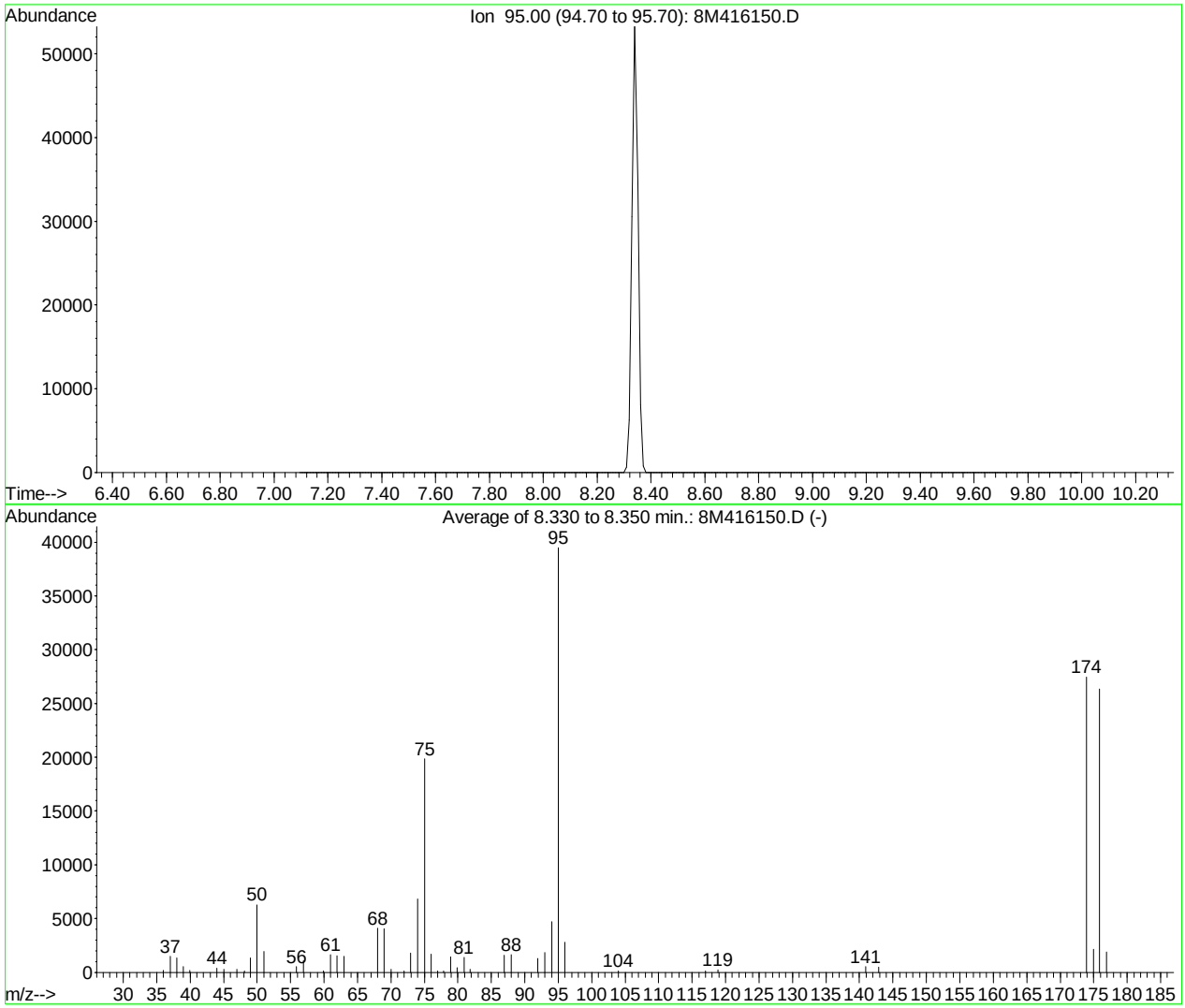
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	49.2317	1.5	76	0.00
56	T	Dimethyl Disulfide	50.0000	45.8022	8.4	73	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	83	0.00
58	S	Toluene-d8	25.0000	23.9489	4.2	78	0.00
59	C	Toluene	50.0000	52.4107	-4.8	81	-0.01
60	T	Ethyl Methacrylate	50.0000	51.2931	-2.6	74	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	50.0000	45.5226	9.0	73	0.00
63	T	1,1,2-Trichloroethane	50.0000	46.6036	6.8	71	0.00
64	T	2-Hexanone	50.0000	41.0722	17.9	59	0.00
65	T	1,3-Dichloropropane	50.0000	45.0507	9.9	72	-0.01
66	T	Tetrachloroethene	50.0000	50.7895	-1.6	82	0.00
67	T	Dibromochloromethane	50.0000	47.6535	4.7	73	-0.01
68	T	1,2-Dibromoethane	50.0000	45.3060	9.4	71	0.00
69	T	1-Chlorohexane	50.0000	53.1517	-6.3	86	-0.01
70	P	Chlorobenzene	50.0000	48.8522	2.3	79	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	44.0183	12.0	76	-0.01
72	C	Ethylbenzene	50.0000	54.1246	-8.2	81	0.00
73	T	m-,p-Xylene	100.0000	105.5695	-5.6	81	-0.01
74	T	o-Xylene	50.0000	48.0809	3.8	79	0.00
75	T	Styrene	50.0000	51.3967	-2.8	77	0.00
76	P	Bromoform	50.0000	39.3634	21.3	70	0.00
77	T	Isopropylbenzene	50.0000	53.5344	-7.1	81	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	80	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	46.2830	7.4	70	0.00
80	S	p-Bromofluorobenzene	25.0000	23.6077	5.6	76	0.00
81	T	1,2,3-Trichloropropane	50.0000	45.8191	8.4	69	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	45.0944	9.8	66	0.00
83	T	n-Propylbenzene	50.0000	52.1274	-4.3	81	0.00
84	T	Bromobenzene	50.0000	48.8188	2.4	76	-0.01
85	T	1,3,5-Trimethylbenzene	50.0000	53.5108	-7.0	80	-0.01
86	T	2-Chlorotoluene	50.0000	54.7034	-9.4	85	0.00
87	T	4-Chlorotoluene	50.0000	48.2698	3.5	72	-0.01
88	T	a-Methylstyrene	50.0000	52.8999	-5.8	81	-0.01
89	T	tert-Butylbenzene	50.0000	52.6484	-5.3	81	-0.01
90	T	1,2,4-Trimethylbenzene	50.0000	53.0778	-6.2	79	-0.01
91	T	sec-Butylbenzene	50.0000	54.0348	-8.1	81	0.00
92	T	p-Isopropyltoluene	50.0000	53.7858	-7.6	81	-0.01
93	T	1,3-Dichlorobenzene	50.0000	50.0420	-0.1	77	-0.01
94	T	1,4-Dichlorobenzene	50.0000	48.3007	3.4	77	-0.01
95	T	n-Butylbenzene	50.0000	53.2211	-6.4	80	0.00
96	T	1,2-Dichlorobenzene	50.0000	48.0713	3.9	74	-0.01
97	T	1,2-Dibromo-3-Chloropropane	50.0000	42.5243	15.0	63	-0.01
98	T	1,2,4-Trichlorobenzene	50.0000	44.9922	10.0	74	0.00
99	T	Hexachlorobutadiene	50.0000	48.6786	2.6	80	-0.01
100	T	Naphthalene	50.0000	44.9904	10.0	70	-0.01
101	T	1,2,3-Trichlorobenzene	50.0000	45.6302	8.7	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416465.D 8260WT.M Tue Dec 06 12:59:21 2016 Page 2

2.1.1.5 Raw QC Data

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\111516\8M416150.D Vial: 1
Acq On : 15 Nov 2016 9:49 Operator: TMB
Sample : WG591653-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8

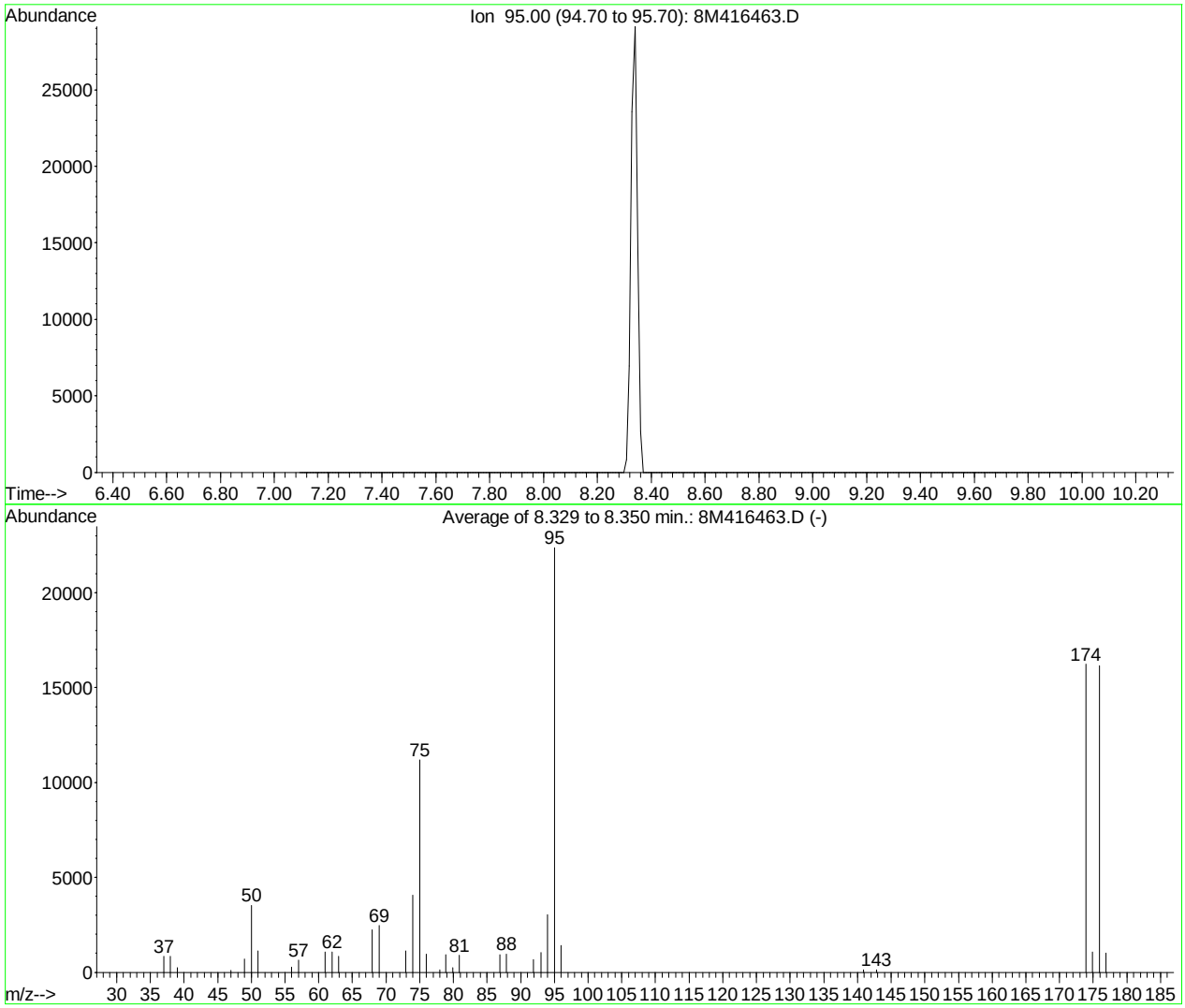


AutoFind: Scans 122, 123, 124; Background Corrected with Scan 117

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	6292	PASS
75	95	30	60	50.3	19860	PASS
95	95	100	100	100.0	39496	PASS
96	95	5	9	7.1	2789	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.5	27447	PASS
175	174	5	9	7.8	2148	PASS
176	174	95	101	96.0	26347	PASS
177	176	5	9	7.2	1906	PASS

8M416150.D 8260WT.M Wed Nov 16 08:37:58 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416463.D Vial: 1
Acq On : 6 Dec 2016 8:45 Operator: TMB
Sample : WG593709-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD78995 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8



AutoFind: Scans 122, 123, 124; Background Corrected with Scan 117

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.7	3521	PASS
75	95	30	60	50.1	11206	PASS
95	95	100	100	100.0	22377	PASS
96	95	5	9	6.3	1419	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.6	16250	PASS
175	174	5	9	6.6	1079	PASS
176	174	95	101	99.4	16160	PASS
177	176	5	9	6.3	1020	PASS

8M416463.D 8260WT.M Tue Dec 06 12:58:11 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416467.D Vial: 5
Acq On : 6 Dec 2016 10:55 Operator: TMB
Sample : WG593712-01 VBLK1206 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 07 08:47:06 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

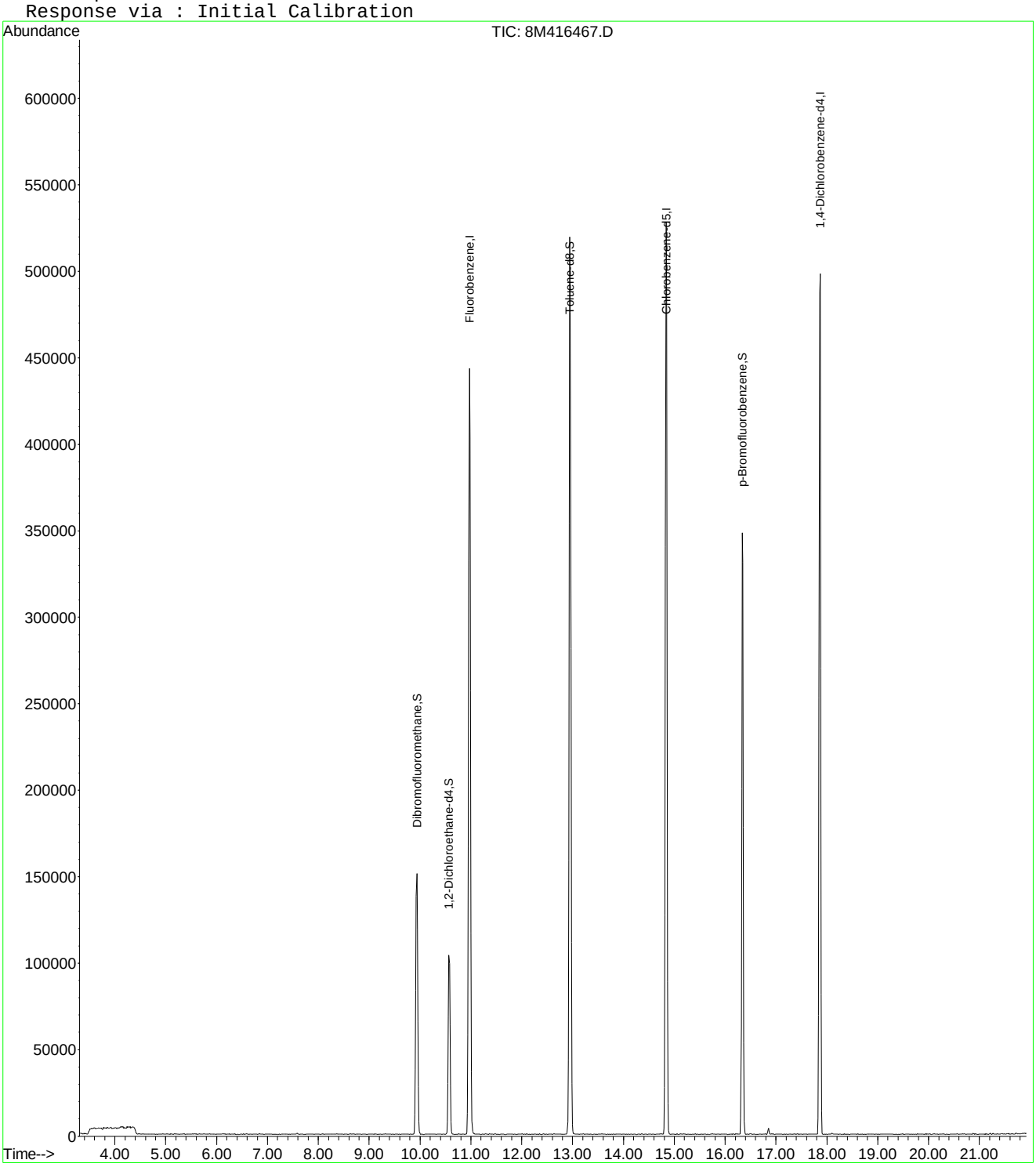
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	576342	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	404710	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.87	152	167971	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.94	111	126909	23.3730	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.48%			
43) 1,2-Dichloroethane-d4	10.57	65	95281	21.9967	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.00%			
58) Toluene-d8	12.94	98	493519	24.4032	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.60%			
80) p-Bromofluorobenzene	16.34	95	162820	24.7950	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.16%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.90	42	229	Below Cal	#	18

(#) = qualifier out of range (m) = manual integration

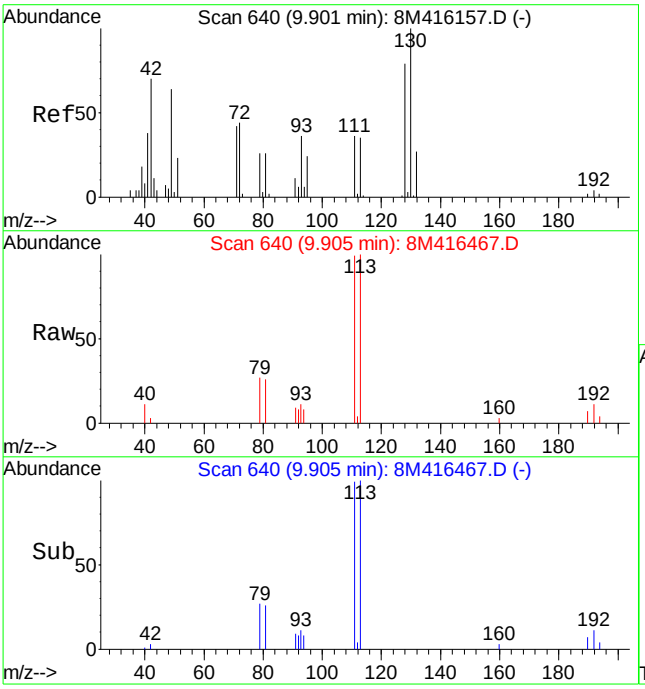
Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416467.D Vial: 5
Acq On : 6 Dec 2016 10:55 Operator: TMB
Sample : WG593712-01 VBLK1206 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 7 8:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



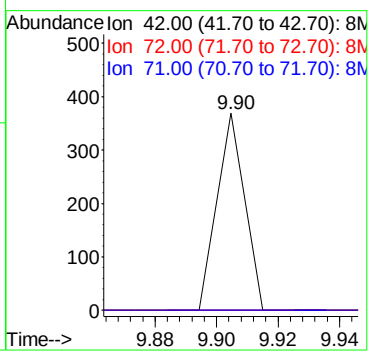
8M416467.D 8260WT.M Wed Dec 07 08:47:10 2016 Page 2



#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.90 min Scan# 640
Delta R.T. 0.00 min
Lab File: 8M416467.D
Acq: 6 Dec 2016 10:55

Tgt Ion: 42 Resp: 229

Ion	Ratio	Lower	Upper
42	100		
72	0.0	40.1	93.5#
71	0.0	37.0	86.2#



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416469.D Vial: 7
Acq On : 6 Dec 2016 11:54 Operator: TMB
Sample : WG593712-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 12:58:58 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.98	96	576688	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.84	117	412206	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.86	152	184772	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.93	111	129312	23.8012	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.20%			
43) 1,2-Dichloroethane-d4	10.57	65	95552	22.0461	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.20%			
58) Toluene-d8	12.95	98	488544	23.7179	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 94.88%			
80) p-Bromofluorobenzene	16.34	95	169842	23.5125	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	199995	20.6030	ug/L	95
3) Chloromethane	3.85	50	196441	21.9087	ug/L	97
4) Vinyl Chloride	4.09	62	223289	22.5381	ug/L	97
5) 1,3-Butadiene	4.13	54	96547	20.7645	ug/L	98
6) Bromomethane	5.01	94	88916	18.0905	ug/L	100
7) Chloroethane	5.17	64	82667	22.0721	ug/L	100
8) Trichlorofluoromethane	5.65	101	218679	20.5654	ug/L	97
9) Diethyl ether	6.18	59	247228	97.8839	ug/L	100
10) Isoprene	6.22	67	174804	21.4247	ug/L	99
11) Acrolein	6.42	56	20995	104.3425	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.44	101	127265	21.1925	ug/L	94
13) Acetone	6.52	43	7156	17.2225	ug/L	91
14) 1,1-Dichloroethene	6.75	61	122290	16.1074	ug/L	96
15) Tert-Butyl Alcohol	6.85	59	20294	139.8684	ug/L	94
16) Dimethyl Sulfide	7.02	62	101746	25.9111	ug/L	98
17) Iodomethane	7.27	142	69353	17.7568	ug/L	99
18) Methyl acetate	7.27	43	20301	15.7919	ug/L	99
19) Methylene Chloride	7.53	84	99340	17.6153	ug/L	98
20) Carbon Disulfide	7.59	76	355703	18.9271	ug/L	95
21) Acrylonitrile	7.71	53	11518	19.4202	ug/L	95
22) Methyl Tert Butyl Ether	7.74	73	172978	18.0898	ug/L	98
23) trans-1,2-Dichloroethene	7.98	61	131866	18.1620	ug/L	97
24) n-Hexane	8.06	57	117280	18.5251	ug/L	99
25) Diisopropyl ether	8.39	45	1185816	103.1683	ug/L	99
26) Vinyl Acetate	8.57	43	78319	17.7042	ug/L	97
27) 1,1-Dichloroethane	8.60	63	178798	18.7451	ug/L	97
28) Ethyl-Tert-Butyl ether	8.96	59	1102966	95.0858	ug/L	97
29) 2-Butanone	9.15	43	11204	16.8328	ug/L	94
30) Propionitrile	9.26	54	18307	89.5180	ug/L	98
31) 2,2-Dichloropropane	9.37	77	173728	18.5878	ug/L	98
32) cis-1,2-Dichloroethene	9.44	96	124890	19.3637	ug/L	97
33) Chloroform	9.64	83	213970	19.6870	ug/L	96
34) 1-Bromopropane	9.78	122	24640	19.6062	ug/L	98
35) Bromochloromethane	9.88	130	54785	19.2760	ug/L	95
36) Tetrahydrofuran	9.90	42	37876	83.6417	ug/L	95
38) 1,1,1-Trichloroethane	10.18	97	198718	19.9352	ug/L	96
39) Cyclohexane	10.21	56	120043	15.5936	ug/L	97
40) 1,1-Dichloropropene	10.37	75	155328	18.9664	ug/L	95
41) Tert-Amyl-Methyl ether	10.47	73	1079279	100.9174	ug/L	99
42) Carbon Tetrachloride	10.52	117	177544	19.8120	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M416469.D 8260WT.M Tue Dec 06 12:59:01 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416469.D Vial: 7
Acq On : 6 Dec 2016 11:54 Operator: TMB
Sample : WG593712-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 06 12:58:58 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

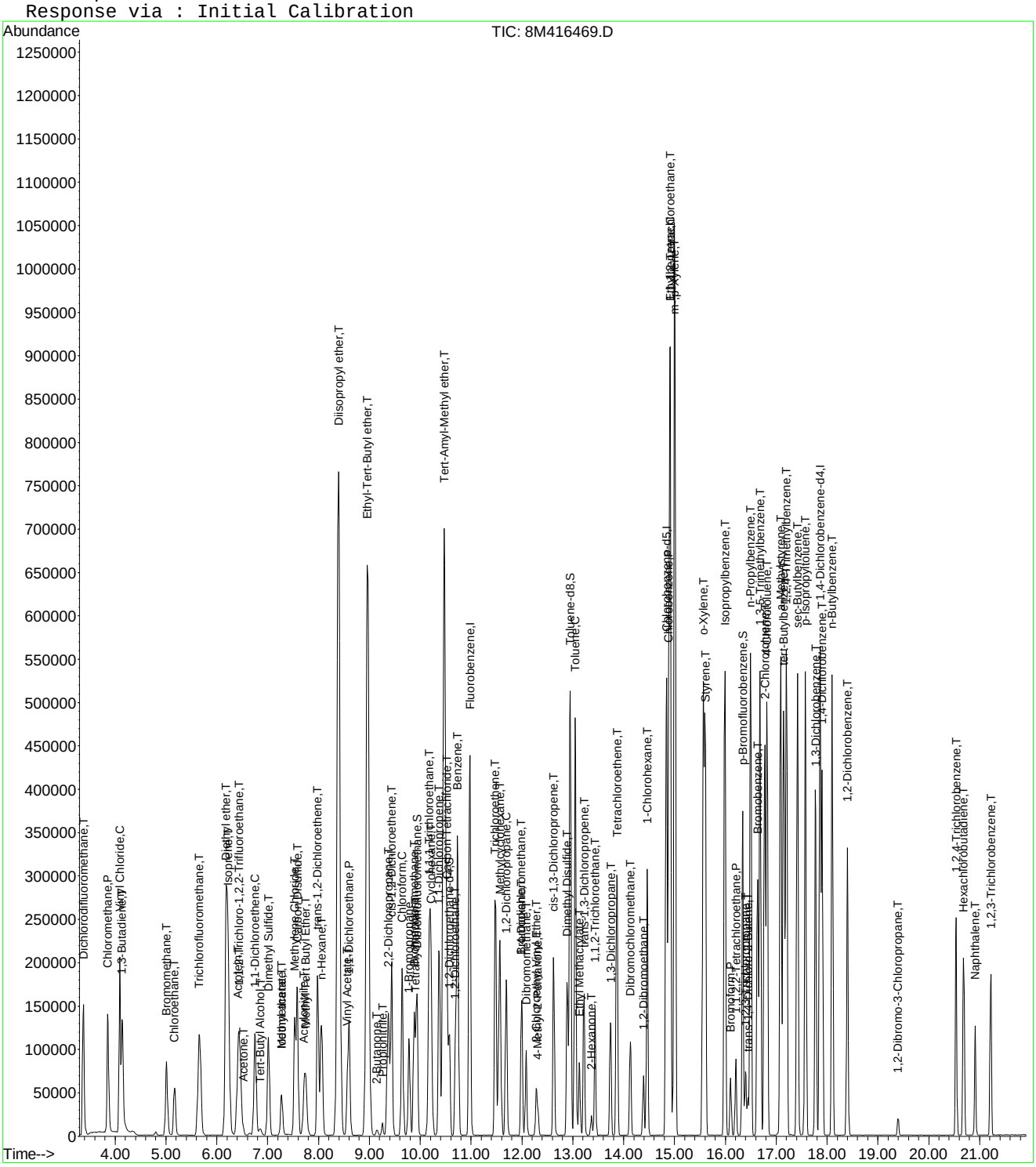
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.69	62	96449	17.8816 ug/L		98
46)	Benzene	10.73	78	460828	19.6775 ug/L		91
47)	Trichloroethene	11.47	130	115434	19.0047 ug/L		98
48)	Methylcyclohexane	11.57	83	170421	17.0249 ug/L		96
49)	1,2-Dichloropropane	11.69	63	91559	19.3085 ug/L		95
50)	Bromodichloromethane	11.99	83	136679	18.9688 ug/L		96
51)	1,4-Dioxane	11.99	88	1550	102.9485 ug/L	#	57
52)	Dibromomethane	12.08	93	48790	19.3831 ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.28	63	29216	16.4257 ug/L		96
54)	4-Methyl-2-Pentanone	12.31	58	11557	16.6894 ug/L		99
55)	cis-1,3-Dichloropropene	12.62	75	154466	19.7776 ug/L		97
56)	Dimethyl Disulfide	12.89	79	74259	16.2726 ug/L		85
59)	Toluene	13.04	91	504197	19.9709 ug/L		82
60)	Ethyl Methacrylate	13.13	69	70222	18.0807 ug/L		99
62)	trans-1,3-Dichloropropene	13.22	75	113649	17.1987 ug/L		97
63)	1,1,2-Trichloroethane	13.44	97	60285	18.4550 ug/L		97
64)	2-Hexanone	13.36	58	10731	16.5935 ug/L		99
65)	1,3-Dichloropropane	13.75	76	109382	18.7795 ug/L		97
66)	Tetrachloroethene	13.87	164	88324	18.7413 ug/L		94
67)	Dibromochloromethane	14.13	129	75994	17.7431 ug/L		98
68)	1,2-Dibromoethane	14.39	107	56165	17.6651 ug/L		99
69)	1-Chlorohexane	14.46	91	171789	19.2637 ug/L		98
70)	Chlorobenzene	14.88	112	298262	17.9595 ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.92	131	101684	16.3940 ug/L		99
72)	Ethylbenzene	14.92	106	182974	19.7167 ug/L	#	20
73)	m-,p-Xylene	15.00	106	433687	38.5534 ug/L	#	40
74)	o-Xylene	15.57	106	200010	18.1423 ug/L		58
75)	Styrene	15.61	104	322549	19.3954 ug/L		87
76)	Bromoform	16.10	173	38576	14.9369 ug/L		98
77)	Isopropylbenzene	15.99	105	528906	20.1466 ug/L		76
79)	1,1,2,2-Tetrachloroethane	16.21	83	60249	18.6914 ug/L		97
81)	1,2,3-Trichloropropane	16.39	110	17616	19.7035 ug/L	#	41
82)	trans-1,4-Dichloro-2-Buten	16.45	53	10511	15.1863 ug/L	#	1
83)	n-Propylbenzene	16.50	91	632140	20.0160 ug/L	#	73
84)	Bromobenzene	16.63	156	107899	18.6703 ug/L		91
85)	1,3,5-Trimethylbenzene	16.68	105	442183	20.4704 ug/L		77
86)	2-Chlorotoluene	16.78	91	408792	20.8312 ug/L		71
87)	4-Chlorotoluene	16.82	91	356545	18.7667 ug/L		74
88)	a-Methylstyrene	17.09	118	235045	18.7059 ug/L		93
89)	tert-Butylbenzene	17.15	134	85042	19.6400 ug/L		58
90)	1,2,4-Trimethylbenzene	17.20	105	444607	20.2491 ug/L		74
91)	sec-Butylbenzene	17.42	105	556432	20.6600 ug/L	#	77
92)	p-Isopropyltoluene	17.57	119	430572	20.6394 ug/L		78
93)	1,3-Dichlorobenzene	17.78	146	218411	19.1118 ug/L		91
94)	1,4-Dichlorobenzene	17.90	146	214087	18.8172 ug/L		92
95)	n-Butylbenzene	18.10	91	419667	19.8411 ug/L		79
96)	1,2-Dichlorobenzene	18.40	146	176216	19.0296 ug/L		94
97)	1,2-Dibromo-3-Chloropropan	19.39	75	7847	18.0002 ug/L		89
98)	1,2,4-Trichlorobenzene	20.54	180	97353	17.1629 ug/L		100
99)	Hexachlorobutadiene	20.69	225	49913	17.9607 ug/L		98
100)	Naphthalene	20.91	128	126857	17.9311 ug/L		97
101)	1,2,3-Trichlorobenzene	21.22	180	72278	17.8677 ug/L		99

(#) = qualifier out of range (m) = manual integration
8M416469.D 8260WT.M Tue Dec 06 12:59:02 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120616\8M416469.D Vial: 7
Acq On : 6 Dec 2016 11:54 Operator: TMB
Sample : WG593712-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD79205 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 6 12:58 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 11-15-16 HPMS 8
Last Update : Tue Nov 15 16:22:52 2016
Response via : Initial Calibration



8M416469.D 8260WT.M Tue Dec 06 12:59:02 2016 Page 3

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
December 13, 2016

---

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AMA – ALEXANDRA M. ALFRED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BKT – BRENDAN TORRENCE	BLG – BRENDA L. GREENWALT
BNB – Brandi N. Bentley	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CAS – Craig A. Smith	CEB – CHAD E. BARNES
CJQ – Cameron J. Quick	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CLW – CHARISSA L. WINTERS
CPD – CHAD P. DAVIS	CRW – CHRISTINA R. WILSON
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EMW – ERIC M. WILKEN
ENY – EMILY N. YOAK	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	HDD – HANAH D. DAWKINS
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JKP – JACQUELINE K. PARSONS	JLD – JESSICA L. DELONG
JLL – JOHN L. LENT	JMW – JEANA M. WHITE
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KAT – KATHY A. TUCKER
KDD – Katelyn D. Daley	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LJH – Lacey J. Hendershot	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MDA – MIKE D. ALBERTSON
MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	NPH – Natalie P. Hart
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TB – TODD BOYLE	TGF – TIM G. FELTON
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
December 13, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
>,H1	Result is greater than the associated numerical value. Sample analysis performed past holding time.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound

Microbac Laboratories Inc.
List of Valid Qualifiers
December 13, 2016

Qualkey: DOD

TNTC	Too numerous to count
TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe	
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400	
Marietta, OH 45750	Sampler (print): Scott Beesinger	San Antonio, TX 78205	
Phone: 1-800-373-4071		210-296-2000	
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:	
Address: 112 East Pecan Ste. 400			
San Antonio, TX 78205			
Turn Around Time: STANDARD	pH:	Program:	
Project Name/Location: Longhorn			
Project Number: 60256135.0005AA			

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp	Grab	Matrix	Number of Containers	VOC	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
											ERPIMS REQUIRED FIELDS				
SITE 12	12WW24-120116			12/1/16	0745		X	W	X	3					
	12WW23-120116			12/1/16	0845		X	W	X	3					
	12WW21-120116			12/1/16	0950		X	W	X	3					
	12WW21FD-120116			12/1/16	0950		X	W	X	3					
	12WW20-120116			12/1/16	1050		X	W	X	3					
	12WW20MS-120116			12/1/16	1050		X	W	X	3					
	12WW20MSD-120116			12/1/16	1050		X	W	X	3					
	12WW22-120116			12/1/16	1345		X	W	X	3					
	TRIP BLANK			12/1/16			X	W	X	2					

Comments: **STANDARD TAT**

	Date	Time		
Relinquished by: (Signature) Scott Beesinger	12/1/16	1500	Received by: (Signature)	hed by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	

Microbac OVD
Received: 12/02/2016 09:26
By: BRENDA GREGORY
221000094116

•Homogenize all composite samples prior to analysis

Distribu... Brenda Gregory ...y to Project Manager, Pink QA/QC Manager

00747674

MICROBAC

Cooler ID 4/16

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

12/2/16

BG

pH Exceptions

pH Lot # N/A

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

12/2/16

BG

PRESERVATIVE EXCEPTIONS

NONE

AS NOTED

BG 12/2/16

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16120109
Account: 2551
Project: 2551.096
Samples: 9
Due Date: 13-DEC-2016

Samplenum	Container ID	Products
L16120109-01	836079	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Samplenum	Container ID	Products
L16120109-02	836080	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Samplenum	Container ID	Products
L16120109-03	836081	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16120109
Account: 2551
Project: 2551.096
Samples: 9
Due Date: 13-DEC-2016

Samplenum	Container ID	Products
L16120109-04	836082	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Samplenum	Container ID	Products
L16120109-05	836083	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16120109
Account: 2551
Project: 2551.096
Samples: 9
Due Date: 13-DEC-2016

Samplenum	Container ID	Products
L16120109-06	836084	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Samplenum	Container ID	Products
L16120109-07	836085	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16120109
Account: 2551
Project: 2551.096
Samples: 9
Due Date: 13-DEC-2016

Samplenum	Container ID	Products
L16120109-08	836086	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Samplenum	Container ID	Products
L16120109-09	836087	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	02-DEC-2016 13:51	BRG		
2	ANALYZ	V1	ORG4	02-DEC-2016 15:44	TMB	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
lsoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

APPENDIX E: MANN-KENDALL STATISTICS FOR TREND IN 12WW24 FOR TCE

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	ProUCL 5.13/16/2017 2:32:40 PM
From File	LHAAP-12_ProUCLDataTrend_2017-03-16.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

12WW24 Trichloroethene

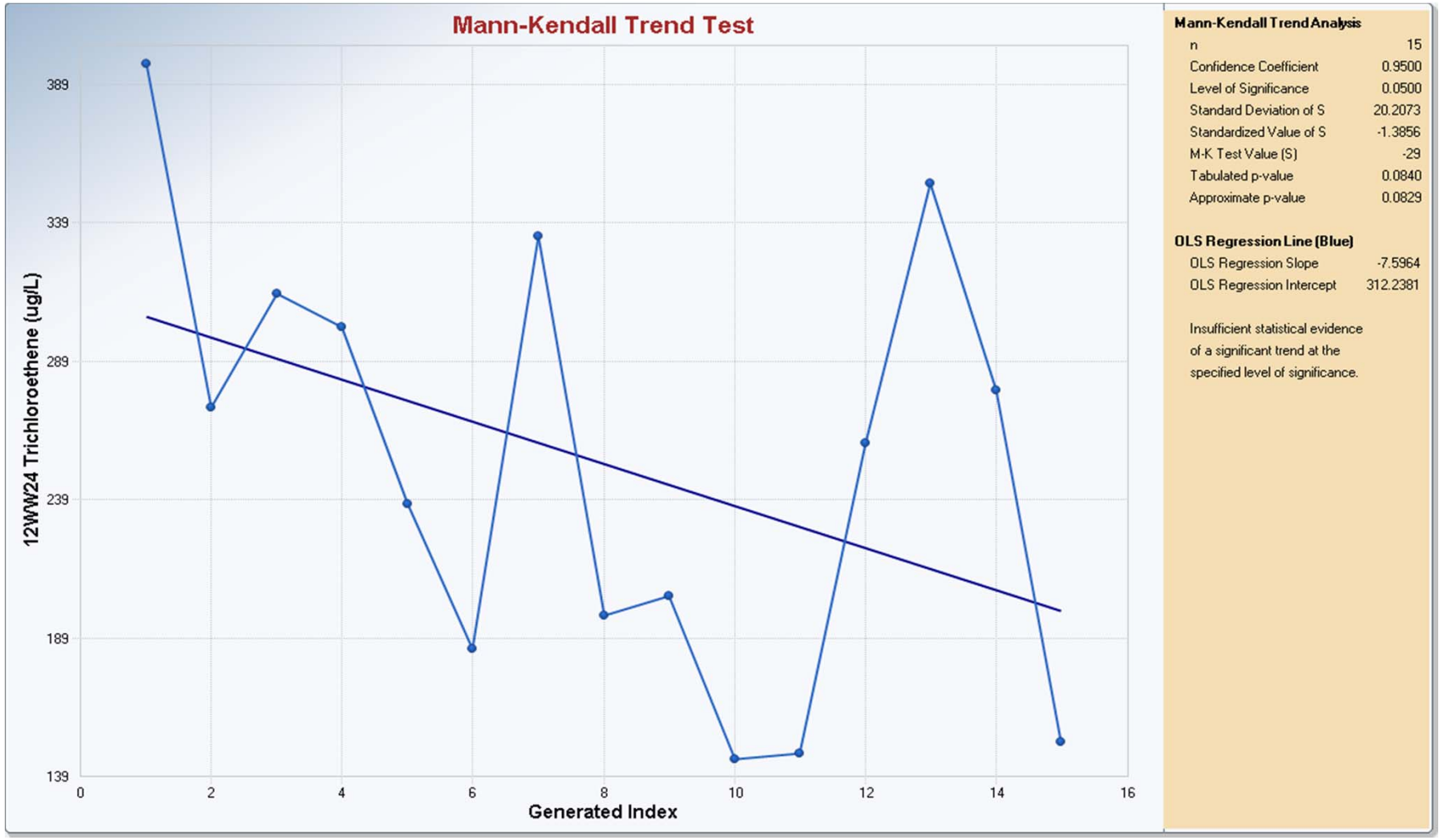
General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	145
Maximum	396
Mean	251.5
Geometric Mean	239.5
Median	259
Standard Deviation	79.11
Coefficient of Variation	0.315

Mann-Kendall Test

M-K Test Value (S)	-29
Tabulated p-value	0.084
Standard Deviation of S	20.21
Standardized Value of S	-1.386
Approximate p-value	0.0829

Insufficient evidence to identify a significant trend at the specified level of significance.


Mann-Kendall Trend Test
12WW24 Trichloroethene (ug/L)
389
339
289
239
189
139
0
2
4
6
8
10
12
14
16
Generated Index
Mann-Kendall Trend Analysis
n 15
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 20.2073
Standardized Value of S -1.3856
M-K Test Value (S) -29
Tabulated p-value 0.0840
Approximate p-value 0.0829
OLS Regression Line (Blue)
OLS Regression Slope -7.5964
OLS Regression Intercept 312.2381
Insufficient statistical evidence of a significant trend at the specified level of significance.

FY2016

LONGHORN ARMY AMMUNITION PLANT

Installation Action Plan

Printed 27 September 2016

Table of Contents

Statement Of Purpose 1

Acronyms 2

Installation Information 5

Cleanup Program Summary 7

5-Year / Periodic Review Summary 9

Land Use Control (LUC) Summary 11

Parcel Summary 12

Installation Restoration Program 17

- IRP Summary 18
- IRP Contamination Assessment 20
- IRP Previous Studies 21

Table of Contents

Installation Restoration Program Site Descriptions 28

LHAAP-001 INERT BURNING GROUNDS (SWMU 1) 29
LHAAP-002 VACCUM TRUCK OVERNITE PARKING LOT 30
LHAAP-003 BUILDING 722-PAINT SHOP 31
LHAAP-004 LHAAP PILOT WASTEWATER TREATMENT PLANT 32
LHAAP-006 BUILDING 54F SOLVENT 33
LHAAP-007 BUILDING 50G DRUM PROCESSING 34
LHAAP-008 SEWAGE TREATMENT PLANT 35
LHAAP-011 SUS TNT BURIAL SITE AT AVE P&Q(SWMU 11) 36
LHAAP-012 ACTIVE LANDFILL (SWMU 12) 37
LHAAP-016 OLD LANDFILL (SWMU 16) 39
LHAAP-017 NO 2 FLASHING AREA BRN GROUND(SWMU 17) 41
LHAAP-018 BURNING GROUND/WASHOUT POND(SWMU 18) 42
LHAAP-019 CONSTRUCTION MATERIALS LANDFILL 43
LHAAP-024 FORMER UNLINED EVAP POND (SWMU 24) 44
LHAAP-029 FORMER TNT PRODUCTION AREA(SWMU 29) 45
LHAAP-035 SUMPS (145) VARIOUS 46
LHAAP-036 EXPLOSIVE WASTE PADS (27) 47
LHAAP-037 CHEMICAL LABORATORY WASTE PAD 48
LHAAP-045 MAGAZINE AREA 49
LHAAP-046 PLANT 2 AREA 50
LHAAP-047 PLANT 3 AREA 51
LHAAP-049 FORMER ACID STORAGE AREA 52
LHAAP-050 FORMER WASTE DISPOSAL FACILITY 53
LHAAP-051 PHOTOGRAPHIC LABORATORY/BLDG #60B 54
LHAAP-052 MAGAZINE AREA WASHOUT 55
LHAAP-055 SEPTIC TANK (10) 56
LHAAP-056 VEHICLE WASH RACK AND OIL/WATER SEP 57
LHAAP-058 MAINTENANCE COMPLEX 58
LHAAP-059 BUILDING 725 59
LHAAP-060 FORMER STORAGE BUILDING #411 & #714 60
LHAAP-063 BURIAL PITS 61
LHAAP-064 TRANSFORMER STORAGE 62
LHAAP-065 BUILDING 209 63
LHAAP-066 TRANSFORMER AT BLDG 401 64
LHAAP-067 ABOVE GROUND STORAGE TANK 65
LHAAP-068 MOBILE STORAGE TANK PARKING AREA 66
LHAAP-069 SERVICE STATION UST'S 67
LHAAP-070 LOADING DOCK-MAGAZINE AREA 68
LHAAP-071 OIL SPILL, BLDG 813 69
PBC Longhorn PBC at Longhorn 70

Table of Contents

IRP Site Closeout (No Further Action) Summary 72

Installation Restoration Program Schedule 73

Installation Restoration Program Milestones 73
Installation Restoration Program Schedule Chart 76

Military Munitions Response Program 79

MMRP Summary 80
MMRP Contamination Assessment 81
MMRP Previous Studies 82

Military Munitions Response Program Site Descriptions 83

LHAAP-001-R-01 SOUTH TEST AREA / BOMB TEST AREA 84
LHAAP-003-R-01 GROUND SIGNAL TEST AREA 86
LHAAP-004-R-01 PISTOL RANGE 87

MMRP Site Closeout (No Further Action) Summary 88

Military Munitions Response Program Schedule 89

Military Munitions Response Program Milestones 89
Military Munitions Response Program Schedule Chart 90

Community Involvement 91

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, Base Realignment and Closure (BRAC), the US Army Environmental Command (USAEC), Longhorn Army Ammunition Plant (LHAAP), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

AEDB-R	Army Environmental Database- Restoration
ammo	Ammunition
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirements
AST	Aboveground Storage Tank
BIP	Blow in Place
Bldg	Building
BRAC	Base Realignment and Closure
BRACO	Base Realignment and Closure Office
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CLI	Caddo Lake Institute
CS	Confirmatory Sampling
cy	cubic yards
DD	Decision Document
DERPMIS	Defense Environmental Restoration Program Management Information System
DoD	Department of Defense
EBS	Environmental Baseline Survey
EE/CA	Engineering Evaluation/Cost Analysis
EOD	Explosive Ordnance Disposal
ER,A	Environmental Restoration, Army (formerly DERA)
ESS	Explosives Safety Submission
FFA	Federal Facility Agreement
FRA	Final Remedial Action
FS	Feasibility Study
FWS	(US) Fish and Wildlife Service
FY	Fiscal Year
GWTP	Groundwater Treatment Plan
HTRW	Hazardous, Toxic and Radioactive Waste
IAP	Installation Action Plan
INF	Intermediate-Range Nuclear Force
IRA	Interim Remedial Action
IRP	Installation Restoration Program
K	thousand
LAP	Load, Assemble, and Pack
LHAAP	Longhorn Army Ammunition Plant
LTM	Long-Term Management
LUC	Land Use Controls
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
mm	millimeters
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MOA	Memorandum of Agreement
MRSPP	Munitions Response Site Prioritization Protocol
MSCs	Medium-Specific Concentrations

Acronyms

N/A	Not Applicable
NA	No Action
NFA	No Further Action
NPL	National Priorities List
ORIS	Operational Range Inventory - Sustainment
PA	Preliminary Assessment
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oil, and Lubricants
PP	Proposed Plan
ppm	parts per million
PSI	Post-Screening Investigation
QA	Quality Assurance
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Actions - Operation
RAB	Restoration Advisory Board
RAWP	Remedial Action Work Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RD/RA	Remedial Design/Remedial Action
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RIP	Remedy-in-Place
RMIS	Restoration Management Information System
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TERC	Total Environmental Restoration Contract
TNT	Trinitrotoluene
TRC	Technical Review Committee
TWC	Texas Water Commission
TX	Texas
UEP	Unlined Evaporation Pond
ug/L	micrograms per liter
USACE	US Army Corps of Engineers
USACHPPM	US Army Center for Health, Promotion and Preventive Medicine

Acronyms

USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency
USATHAMA	US Army Toxic and Hazardous Materials Agency
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USSR	Union of Soviet Socialist Republics
VOC	Volatile Organic Compound
WP	White Phosphorous
WWII	World War II
WWTP	Wastewater Treatment Plant

Installation Information

Installation Locale

Installation Size (Acreage): 8,416.00
City: Marshall
County: Harrison
State: Texas
Other Locale Information

LHAAP is located in central east Texas, in the northeast corner of Harrison County, approximately 14 miles northeast of Marshall, Texas, and 40 miles west of Shreveport, Louisiana. The closed installation currently occupies approximately 1,400 of its original 8,416 acres between State Highway 43 and the western shore of Caddo Lake. The area surrounding LHAAP is primarily rural and consists of forest lands, the small towns of Karnack and Uncertain, Texas, Caddo Lake, and Caddo Lake State Park.

Installation Mission

The LHAAP was an Army Materiel Command installation which the Army declared excess to its needs in July 1997. While active, the installation's mission was the production of trinitrotoluene (TNT) [World War II (WWII) era only], pyrotechnic items, and rocket motors. In 2003, the BRAC Division was tasked with its disposal.

Lead Organization

Base Realignment and Closure Division

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE), Tulsa District

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region VI
State	Texas Commission on Environmental Quality (TCEQ)

National Priorities List (NPL) Status

A score of 40 was recorded on 01-AUG-90.

Final RA(C) Completion Date: 202106

Date for NPL Deletion: TBD

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 2004

Installation Program Summaries

IRP

Primary Contaminants of Concern: Explosives, Metals, Munitions constituents (MC), Perchlorate, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil, Surface Water

Installation Information

MMRP

Primary Contaminants of Concern: Explosives

Affected Media of Concern: Groundwater, Soil

Cleanup Program Summary

Installation Historic Activity

The LHAAP was established in October 1942, with the primary mission of producing 2,4,6-TNT flake. Monsanto Chemical Company was the first contract operator of the plant. Production of 2,4,6-TNT continued through WWII until August 1945, when the plant went on standby status until February 1952. From then until 1956, Universal Match Corporation was the contracting operator, producing such pyrotechnic ammunition as photoflash bombs, simulators, hand signals, and tracers for 40 millimeter (mm) ammunition. With the departure of Universal Match Corporation in 1956, Thiokol assumed this responsibility, along with rocket motor production. Production of rocket motors continued to be the primary mission of LHAAP until 1965, when the production of pyrotechnic and illuminating ammunition was re-established.

Prior to 1994, operations consisted of compounding pyrotechnic and propellant mixtures, load, assemble, and pack (LAP) activities, accommodating receipt and shipment of containerized cargo, and maintenance and/or layaway of standby facilities and equipment as they apply to mobilization planning. The installation was also responsible for the static firing and elimination of Pershing I and II rocket motors in compliance with the intermediate-range nuclear force (INF) treaty in effect between the US and the former Union of Soviet Socialist Republics (USSR). In October 1996, a lease in excess of 1,000 of the 8,416 acres was granted to the Caddo Lake Institute (CLI) for biological and ecological studies by local schools and universities.

In July 1997, the plant became inactive and excess to the Army's needs. In July 1998 the Army contracted EarthTech, Inc. to liquidate all personal property and specific installed property. That contract was completed in fiscal year (FY)2000. In 1999 the Army contracted with Project Development Corporation to demolish specified structurally unsafe buildings. In 2003 the demolition of all remaining buildings began. The demolition of the power plant was completed in 2009. Only the transformers remaining, all planned demolition has taken place. A memorandum of agreement (MOA) between the Army and the US Fish and Wildlife Service (USFWS), was signed on Oct. 21, 2000 designating an area, consisting of approximately 7,200 acres, for establishment of a wildlife refuge overlay at LHAAP. In October 2002 LHAAP was transferred to the Base Realignment and Closure Office (BRACO) to manage as an excess property. In April 2004, the Army and the USFWS entered into an MOA that set forth the transfer process of LHAAP acreage. Since May 2004, approximately 7,200 LHAAP acres have been transferred to the USFWS. The USFWS manages these acres as the Caddo Lake National Wildlife Refuge within the perimeter fence of the former installation. Although the perimeter fence and gates remain functional, guards are no longer posted since the Army's security contract expired on March 14, 2007. The CLI lease with the Army was transferred to the USFWS with the affected acreage.

On Aug. 9, 1990, the LHAAP was placed on the NPL. After being listed on the NPL, LHAAP, the USEPA, and the Texas Water Commission (TWC) (now called the TCEQ) entered into a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120 Agreement for remedial activities at LHAAP. The CERCLA Section 120 agreement, referred to as the federal facility agreement (FFA), became effective Dec. 30, 1991. The installation applied for a Resource Conservation and Recovery Act (RCRA) Part A permit.

In February 1992, a RCRA Part B permit was signed. As a result, a RCRA facility assessment (RFA) identified 57 potential sites of concern. Since that time, scrubbing of the list [removal of non-Environmental Restoration, Army (ER,A) eligible sites, redundancies, etc.] has resulted in the current Army Environmental Database - Restoration (AEDB-R) list of 50 sites. In late 2007, the USEPA Region VI clarified their view of the NPL status of LHAAP as consisting of only those sites listed in the FFA and any additional sites with significant contamination. During a meeting between the Army, the USEPA and the TCEQ held in February 2008 at TCEQ headquarters, regulators and the Army agreed on the sites that will be addressed as NPL, including those listed and those considered to be NPL-caliber. The NPL sites are LHAAP-004, LHAAP-037, LHAAP-046, LHAAP-047, LHAAP-049, LHAAP-050, LHAAP-058, and LHAAP-067 as well as the following sites which are listed in the FFA: LHAAP-001, LHAAP-011, LHAAP-012, LHAAP-013, LHAAP-014, LHAAP-016, LHAAP-017, LHAAP-018, LHAAP-024, LHAAP-027, LHAAP-029, LHAAP-032, LHAAP-054. The USEPA will continue to provide review and concurrence on documents related to these sites and will co-sign records of decision (RODs). The schedule for each of these sites will be described in this IAP, which will serve as formal documentation of the resolution between the Army and USEPA.

The non-NPL sites will be addressed through CERCLA, with RCRA issues addressed, as necessary, as applicable or relevant and appropriate requirements (ARAR), with the TCEQ as lead regulator. The USEPA will provide review; however, the decision documents (DD) will be signed by the Army alone with the TCEQ providing a letter of concurrence. In addition to the site listing of the FFA, an installation assessment by the Army in February 1980 and the RFA in April 1988 identified additional potential sites of concern. The information management system used in the early-1990s [Defense Environmental Restoration Program Management Information System (DERPMIS)] identified 59 sites at that time. In the mid-1990s, the tracking system being used at the time [the Restoration Management Information System (RMIS)] was updated to remove duplicate sites, sites contained within other sites, sites that were not a part of the restoration program, and sites that never existed.

Cleanup Program Summary

The following sites have been transferred: LHAAP-001, LHAAP-005, LHAAP-008, LHAAP-009, LHAAP-011, LHAAP-12, LHAAP-013, LHAAP-014, LHAAP-015, LHAAP-032, LHAAP-034, LHAAP-035, LHAAP-036, LHAAP-045, LHAAP-048, LHAAP-049, LHAAP-052, LHAAP-053, LHAAP-055, LHAAP-057, LHAAP-061, LHAAP-063 and LHAAP-002-R-01.

Installation Program Cleanup Progress

IRP

Prior Year Progress:

- LTM continues for LHAAP-012
- RA(O) underway for LHAAP-046
- RA(O) underway for LHAAP-050
- RA(O) underway for LHAAP-058
- RA(O) underway for LHAAP-067

Future Plan of Action:

- Remedial action (operations) [RA(O)]/long-term management (LTM) will be implemented for LHAAP-037 and will continue for LHAAP-12, LHAAP-046, LHAAP-050, LHAAP-058 and LHAAP-067
- A ROD will be completed for LHAAP-003, LHAAP-004, LHAAP-016, LHAAP-017, LHAAP-018/024, LHAAP-029, and LHAAP-047

MMRP

Prior Year Progress: None, awaiting resolution of dispute with the USEPA.

Future Plan of Action: A ROD will be completed for LHAAP-001-R-01 and LHAAP-003-R-01. The LTM phase will begin.

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Begin Date	End Date	End FY
Complete	201203	201405	2014
Complete	200706	200706	2007
Complete	200206	200206	2002
Planned	201703	201905	2019

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
BURNING GROUND #3(LHAAP-018 & LHAAP-024)	LHAAP-018, LHAAP-024
BURNING GROUND #3(LHAAP-018 & LHAAP-024)	LHAAP-018, LHAAP-024
CAPPING LANDFILLS 12 & 16	LHAAP-012, LHAAP-016
CAPPING LANDFILLS 12 & 16	LHAAP-012, LHAAP-016
Decision Document LHAAP-08, 48 & 53	LHAAP-008, LHAAP-053
Decision Document LHAAP-08, 48 & 53	LHAAP-008, LHAAP-053
Final ROD LHAAP-035B (037) & LHAAP-067	LHAAP-067
Final ROD LHAAP-035B (037) & LHAAP-067	LHAAP-067
Final ROD LHAAP-050, Former Sump Water..	LHAAP-050
Final ROD LHAAP-050, Former Sump Water..	LHAAP-050
Final ROD LHAAP-35A(058), Shops Area	LHAAP-058
Final ROD LHAAP-35A(058), Shops Area	LHAAP-058
Flashing Area/Burning Grnd No 2:LHAAP-17	LHAAP-017
Flashing Area/Burning Grnd No 2:LHAAP-17	LHAAP-017
Former TNT Waste Disposal Plant:LHAAP-32	LHAAP-032
Former TNT Waste Disposal Plant:LHAAP-32	LHAAP-032
LHAAP-02, Vacuum Truck Overnight Parking	LHAAP-002
LHAAP-02, Vacuum Truck Overnight Parking	LHAAP-002
LHAAP-12 Final ROD	LHAAP-012
LHAAP-12 Final ROD	LHAAP-012
NO ACTION ROD 1, 11, 27, 54	LHAAP-001, LHAAP-011, LHAAP-027, LHAAP-054
NO ACTION ROD 1, 11, 27, 54	LHAAP-001, LHAAP-011, LHAAP-027, LHAAP-054
NO ACTION ROD 13 & 14	LHAAP-013, LHAAP-014
NO ACTION ROD 13 & 14	LHAAP-013, LHAAP-014
ROD Former Pistol Range	PBC Longhorn
ROD Former Pistol Range	PBC Longhorn
ROD LHAAP-49, Former Acid Storage Area	PBC Longhorn
ROD LHAAP-49, Former Acid Storage Area	PBC Longhorn
SUMPS (145) VARIOUS	LHAAP-035, LHAAP-036
SUMPS (145) VARIOUS	LHAAP-035, LHAAP-036

Results LHAAP-12: Minor erosion & subsidence of landfill cap and well within plume dry

LHAAP-16: Need O&M plan for cap, minor erosion of cap and high concentrations of TCE detected

LHAAP-18/24: ICT issues and perchlorate discharge from plant exceedance

Actions LHAAP-12: Repaired erosion and backfilled and seeded subsidence area

LHAAP-16: Repaired erosion

Plans LHAAP-12: Install new well

5-Year / Periodic Review Summary

PlansLHAAP-16: Prepare O&M Plan for landfill cap and implement final remedy

LHAAP-18/24: The FS which is planned for 2014 will address the issues

Recommendations and Implementation Plans:
The draft revised feasibility study (FS) for LHAAP-18/24 was submitted for regulatory review in January 2015.

Land Use Control (LUC) Summary

LUC title: LHAAP-037 & 067 GW

Site(s): LHAAP-067

ROD/DD title: Final ROD LHAAP-035B (037) & LHAAP-067

Location of LUC

LHAAP-037 and LHAAP-067 groundwater

Land Use Restriction: Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on Groundwater Withdrawal

Date in Place: 201110

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: USACE District

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

LUC title: LUC for LHAAP-012 Capping

Site(s): LHAAP-012

ROD/DD title: LHAAP-12 Final ROD

Location of LUC

Site LHAAP-012

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Deed Restrictions, Dig Permits

Date in Place: 200706

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: USACE District

Record of LUC: Master Plan or Equivalent

Documentation Date: 200706

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

Parcel Summary

Summary of Parcel Prioritization and Transfer Strategy

Parcel Name: **Burning Ground (FWS)**
Parcel Size: 380.00
Associated Sites: LHAAP-017, LHAAP-016, LHAAP-024, LHAAP-018
Transfer Date: 202009
Current Land Use: Other (under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Debris Landfill**
Parcel Size: 13.00
Associated Sites: LHAAP-019
Transfer Date: 201709
Current Land Use: Industrial
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: N/A
Other Issues Affecting Transfer: N/A

Parcel Name: **East FIA I (FWS)**
Parcel Size: 182.00
Associated Sites:
Transfer Date: 200708
Current Land Use: Recreational
Future Land Use: Other (N/A)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Summary

Parcel Name: **East FIA II(FWS)**
Parcel Size: 175.00
Associated Sites: PBC Longhorn, LHAAP-035, LHAAP-047
Transfer Date: 202009
Current Land Use: Industrial
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Fire House (FWS)**
Parcel Size: 2.98
Associated Sites:
Transfer Date: 200705
Current Land Use: Recreational
Future Land Use: Other (N/A)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Ground Signal Test (FWS)**
Parcel Size: 80.00
Associated Sites: LHAAP-003-R-01
Transfer Date: 201709
Current Land Use: Other (Under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Summary

Parcel Name: **LANDFILL 12 (FWS)**
Parcel Size: 51.00
Associated Sites: LHAAP-012
Transfer Date: 201403
Current Land Use: Industrial
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: Land Use Control/maintenance costs

Parcel Name: **Pistol Range (FWS)**
Parcel Size: 1.00
Associated Sites: PBC Longhorn, LHAAP-004-R-01
Transfer Date: 201709
Current Land Use: Other (under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Production Area II**
Parcel Size: 467.00
Associated Sites: PBC Longhorn, LHAAP-046, LHAAP-047
Transfer Date: 202009
Current Land Use: Other (Under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Summary

Parcel Name: **Production Area Ia (FWS)**
Parcel Size: 456.72
Associated Sites: PBC Longhorn, LHAAP-035
Transfer Date: 200708
Current Land Use: Residential
Future Land Use: Other (N/A)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Production Area Ib (FWS)**
Parcel Size: 107.59
Associated Sites: PBC Longhorn, LHAAP-035
Transfer Date: 200701
Current Land Use: Recreational
Future Land Use: Other (N/A)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Production Area Ic (FWS)**
Parcel Size: 54.88
Associated Sites: LHAAP-008, LHAAP-049
Transfer Date: 201504
Current Land Use: N/A
Future Land Use: N/A
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Summary

Parcel Name: **South Test/Bomb (FWS)**
Parcel Size: 72.00
Associated Sites: LHAAP-001-R-01
Transfer Date: 201709
Current Land Use: Other (Under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Static Test (FWS)**
Parcel Size: 40.37
Associated Sites:
Transfer Date: 201504
Current Land Use: Other (Under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

Parcel Name: **Y Area (FWS)**
Parcel Size: 17.24
Associated Sites:
Transfer Date: 201504
Current Land Use: Other (Under remediation)
Future Land Use: Recreational
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Transfer to Other Federal Agencies
Recipient Organization: USFWS
Other Issues Affecting Transfer: N/A

LONGHORN ARMY AMMUNITION PLANT

Non-BRAC Excess
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 54/14

Installation Site Types with Future and/or Underway Phases

2 Above Ground Storage Tank
(LHAAP-049, LHAAP-067)
3 Burn Area
(LHAAP-001, LHAAP-017, LHAAP-018)
1 Contaminated Ground Water
(PBC Longhorn)
1 Disposal Pit/Dry Well
(LHAAP-063)
4 Landfill
(LHAAP-011, LHAAP-012, LHAAP-016, LHAAP-019)
1 Oil Water Separator
(LHAAP-056)
6 Spill Site Area
(LHAAP-051, LHAAP-052, LHAAP-058, LHAAP-066, LHAAP-070, LHAAP-071)
12 Storage Area
(LHAAP-002, LHAAP-003, LHAAP-006, LHAAP-007, LHAAP-036, LHAAP-037, LHAAP-045, LHAAP-059, LHAAP-060, LHAAP-064, LHAAP-065, LHAAP-068)
1 Surface Impoundment/Lagoon
(LHAAP-024)
2 Underground Storage Tank
(LHAAP-035, LHAAP-069)
4 Waste Lines
(LHAAP-029, LHAAP-046, LHAAP-047, LHAAP-050)
3 Waste Treatment Plant
(LHAAP-004, LHAAP-008, LHAAP-055)

Most Widespread Contaminants of Concern

Explosives, Metals, Munitions constituents (MC), Perchlorate, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

Completed Remedial Actions (Interim Remedial Actions / Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY	Cost
LHAAP-018	BURNING GROUND/WASHOUT POND(SWMU 18)	IRA	REMOVAL	1997	TBD
LHAAP-024	FORMER UNLINED EVAP POND (SWMU 24)	IRA	REMOVAL	1997	TBD
LHAAP-024	FORMER UNLINED EVAP POND (SWMU 24)	IRA	CAPPING	1997	TBD
LHAAP-012	ACTIVE LANDFILL (SWMU 12)	IRA	CAPPING	2005	$5.0 K
LHAAP-016	OLD LANDFILL (SWMU 16)	IRA	CAPPING	2005	$14.0 K
LHAAP-012	ACTIVE LANDFILL (SWMU 12)	FRA	NATURAL ATTENUATION	2007	TBD
LHAAP-012	ACTIVE LANDFILL (SWMU 12)	FRA	INSTITUTIONAL CONTROLS	2007	TBD
LHAAP-018	BURNING GROUND/WASHOUT POND(SWMU 18)	IRA	GROUND WATER TREATMENT	2011	TBD
LHAAP-024	FORMER UNLINED EVAP POND (SWMU 24)	IRA	GROUND WATER TREATMENT	2011	TBD
LHAAP-035	SUMPS (145) VARIOUS	FRA	WASTE REMOVAL - SOILS	2011	TBD

IRP Summary

Completed Remedial Actions (Interim Remedial Actions / Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY	Cost
LHAAP-004	LHAAP PILOT WASTEWATER TREATMENT PLANT	IRA	WASTE REMOVAL - SOILS	2012	TBD
LHAAP-046	PLANT 2 AREA	FRA	INSTITUTIONAL CONTROLS	2013	TBD
LHAAP-046	PLANT 2 AREA	FRA	NATURAL ATTENUATION	2013	TBD
LHAAP-050	FORMER WASTE DISPOSAL FACILITY	FRA	REMOVAL	2013	TBD
LHAAP-058	MAINTENANCE COMPLEX	FRA	BIOREMEDIATION - IN SITU GROUNDWATER	2013	TBD
LHAAP-067	ABOVE GROUND STORAGE TANK	FRA	INSTITUTIONAL CONTROLS	2013	TBD
LHAAP-067	ABOVE GROUND STORAGE TANK	FRA	NATURAL ATTENUATION	2013	TBD

Duration of IRP

Year of IRP Inception: 197906

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 202106/209909

Date of IRP completion including Long Term Management (LTM): 209909

IRP Contamination Assessment

Contamination Assessment Overview

In early 2008, the installation-wide ecological risk assessment was completed. In 2012 it was discovered that explosives analysis data which had been deemed unusable was inadvertently included in the ecological risk assessment. The impact of removing the unusable data from the ecological risk assessment was evaluated with additional samples collected and an ecological risk assessment addendum completed in 2014. Work currently being conducted under a performance-based acquisition (PBA) includes conducting additional sampling activities at several sites and finalizing outstanding FSs, with proposed plans (PP) and a ROD to follow during calendar year 2016. Regulatory concurrence was obtained for reports recommending no action for these 11 sites: LHAAP-06, LHAAP-07, LHAAP-23, LHAAP-35, LHAAP-36, LHAAP-51, LHAAP-55, LHAAP-60, LHAAP-64, LHAAP-66, and LHAAP-68.

In 2008, DDs were signed for sites LHAAP-6, 7, 48, 51, 55, 60, 64, 66, and 68. Also in 2008 the FSs were completed for all applicable total environmental restoration contract (TERC) sites including the three TERC NPL sites (LHAAP-32, LHAAP-37, and LHAAP-67) and a ROD document was signed for TERC NPL site LHAAP-32 in 2008. No action DDs were signed in 2008 for the remaining TERC sites (LHAAP-8, LHAAP-48, LHAAP-53, and LHAAP-59) and in 2010 the RODs were signed for LHAAP-37, LHAAP-46, LHAAP-49, LHAAP-50, LHAAP-58, LHAAP-67 and Pistol Range. In 2014 a no further action (NFA) DD was completed for LHAAP-19, -56, -65 and -69. In 2015, an NFA DD was completed for LHAAP-05, -09, -15, -34, -52, -57, -61, -63, -70, and -71. In 2012, the following IRP sites were added to AEDB-R: LHAAP-46, -47, -49, -56, -59, and -65.

Sediment samples collected by the Army from Caddo Lake near the mouths of two branches of Goose Prairie Creek indicated elevated lead and mercury concentrations. The sampling locations are outside of the installation boundary. In 2004, an investigation of contaminants in fish tissue from three Caddo Lake sites, one of which is upgradient at Clinton Lake, was funded by the USEPA Region 6 and performed by the TCEQ Region 5. It concluded that mercury was present at elevated levels from all three sites, dioxin was also present, but highest at Clinton Lake (a lake upstream from LHAAP), and pesticides, polychlorinated biphenyls (PCB) and perchlorate were not detected in either edible fish fillets or whole fish.

Approximately 7,200 acres of the plant have transferred to the USFWS and are being operated as the Caddo Lake National Wildlife Refuge. The remaining acreage is also expected to transfer to the USFWS as restoration activities are completed.

Cleanup Exit Strategy

As RODs are finalized and remedial designs (RD) and RAs are implemented, long-term RA(O) and monitoring will continue until ramp-down.

Ramp-down/exit strategies at the sites will continue to be based on human and environmental exposure.

IRP Previous Studies

	Title	Author	Date
1979			
	Assessment of Contaminant Migration, Longhorn Army Ammunition Plant	Robert H. Balter Co	APR-1979
1980			
	Installation Assessment of Longhorn Army Ammunition Plant, Report No. 150	U.S. Army Toxic and Hazardous Materials Agency	FEB-1980
	Land Disposal Study No. 38-26-0104-81, LHAAP, 23 January - 8 February 1980	USAEHA	MAY-1980
1981			
	Wastewater Engineering Special Study No. 32-62-0182-82	Wastewater Engineering Special Study No. 32-62-0182-82	SEP-1981
1983			
	Phase II, Hazardous Waste Management Special Study No. 39-26-0147-83, DARCOM Open-Burning/Open-Detonation Grounds Evaluation, LHAAP, 31 July - 3 August 1981	USAEHA	SEP-1983
1984			
	Closure of Unlined Evaporation Pond	Kindle, Stone and Associates	JUN-1984
	Longhorn Army Ammunition Plant Contamination Survey, Contract # DAAA09-78-C-3004,	Environmental Protection Systems, Inc	JUN-1984
1986			
	Closure Report, Unlined Evaporation Pond, Longhorn Army Ammunition Plant	Army Corps of Engineers, Tulsa	JUN-1986
1994			
	Interim Risk Assessment for Burning Ground 3 & Unlined Evaporation Pond Sites (18 & 24)	Army Corps of Engineers, Tulsa	JAN-1994
	Soil and Groundwater Background Concentration Study	Army Corps of Engineers, Tulsa	MAY-1994
	Remedial Investigation /Feasibility Study Report for Areas 13 & 14	Army Corps of Engineers, Tulsa	JUN-1994
	Draft Final Workplan Addendum Soil and Groundwater Background Concentration Study	Army Corps of Engineers, Tulsa	JUN-1994
1995			
	Final Soil Background Concentration Report (Revised)	Army Corps of Engineers, Tulsa	MAR-1995
	Groundwater Background Concentration Report	Army Corps of Engineers, Tulsa	MAY-1995
	Final HydroGeologic Assessment Report	Army Corps of Engineers, Tulsa	MAY-1995
	Final Prop Plan of Action for Sites 13 & 14	Army Corps of Engineers, Tulsa	JUN-1995
	Groundwater Sampling Results-May 95, Interim Remedial Action-Phase III, Burning Ground 3 and UEP, LHAAP 18 & 24	Army Corps of Engineers, Tulsa	JUN-1995
	Remedial Investigation/Feasibility Study Report for Sites 13 & 14	Army Corps of Engineers, Tulsa	JUN-1995
	Final Record of Decision for Early Interim Remedial Action at Landfill Sites 12 & 16	Army Corps of Engineers, Tulsa	JUL-1995
1996			

IRP Previous Studies

	Title	Author	Date
1996			
	Final Work Plan for Phase III Interim Remedial Action at Burning Ground 3	Army Corps of Engineers, Tulsa	JAN-1996
	Group 4 Baseline Risk Assessment Work Plan	Army Corps of Engineers, Tulsa	FEB-1996
	Final Project Work Plans, Interim Remedial Action Landfills 12 & 16 Caps	Army Corps of Engineers, Tulsa	JUN-1996
	Group 4 Sumps Groundwater Monitoring Quarterly Report	Army Corps of Engineers	JUN-1996
	Draft Final Design Analysis Report for the Site 16 Time Critical Removal Action	Army Corps of Engineers	JUN-1996
	Draft Final Comprehensive Chemical Data Acquisition Plan for the RI/FS	Army Corps of Engineers, Tulsa	JUL-1996
	Draft Final Field Summary Report for the Phase II, Group 2 Sites Remedial Investigation	Army Corps of Engineers, Tulsa	JUL-1996
	Treatment Simulation and Toxicity Testing Results of Site 16 Groundwater	Army Corps of Engineers, Tulsa	AUG-1996
	Final Project Construction Drawings, Interim Remedial Action, Landfill 12 & 16 Caps	Army Corps of Engineers, Tulsa	AUG-1996
1997			
	Final Remedial Investigation Report Group 1 Sites (Sites 1, 11, 27, and XX) and Vol. 2 Baseline Risk Assessment	Army Corps of Engineers, Tulsa	APR-1997
1998			
	Final Record of Decision for Early Interim Remedial Action at Group 1 Sites	Army Corps of Engineers, Tulsa	FEB-1998
	Group 2 Final Workplan	Army Corps of Engineers, Tulsa	MAR-1998
	Environmental Baseline Study	Army Corps of Engineers, Tulsa	APR-1998
	Group 4 Final Workplan	Army Corps of Engineers, Tulsa	JUL-1998
2000			
	Site 16 Risk Assessment	Army Corps of Engineers, Tulsa	MAR-2000
	Hazardous and Medical Waste Study - Response Complete Verification and Relative Risk Site Evaluation for the Longhorn Army Ammunition Plant	USACHPPM	JUL-2000
	Final Site 16 Remedial Investigation Report	Army Corps of Engineers, Tulsa	OCT-2000
2001			
	Final Remedial Investigation Report for Group 2 Sites	Jacobs Engineering Group, Inc	APR-2001
	Baseline Risk Assessment: Human Health for Site 16 Landfill Remedial Investigation and Feasibility Study	Jacobs Engineering Group, Inc	JUN-2001
	Final Ecological Risk Assessment: Supplement to Site 16 Landfill Remedial Investigation Report	Jacobs Engineering Group, Inc	OCT-2001
2002			
	Final Group 4 Sites Remedial Investigation Report (Sites 35A, 35B, 46, 47, 48, 50, 60, and Goose Prairie Creek)	Jacobs Engineering Group, Inc	JAN-2002
	Final Group 4 Sites Remedial Investigation Addendum (Sites 04, 08, 67, and Hydrocarbon Study)	Jacobs Engineering Group, Inc	FEB-2002
	Final Group 2 Sites Remedial Investigation Report Addendum (Site 49)	Jacobs Engineering Group, Inc	FEB-2002

IRP Previous Studies

Title	Author	Date
2002		
Final Feasibility Study for Site 16	Jacobs Engineering Group, Inc	MAR-2002
Final Five-Year Review for Sites 18 & 24 (Burning Ground No. 3), Site 16 (Old Landfill), and Site 12 (Sanitary Landfill)	Complete Environmental Service	AUG-2002
Group 2 Sites Baseline Human Health and Screening Ecological Risk Assessment (Sites 12, 17, 18/24, 29, 32, 49, Harrison Bayou, and Caddo Lake)	Jacobs Engineering Group, Inc	AUG-2002
2004		
Final Installation-Wide Background Study Workplan	Shaw Environmental and Infrastructure	JAN-2004
Final Groundwater Data Gaps Investigation Workplan (Groups 2 and 4)	Shaw Environmental and Infrastructure	FEB-2004
Final Technical Memorandum: Modeling Approach for Derivation of Soil and Groundwater Concentrations Protective of Surface Water and Sediment	Shaw Environmental and Infrastructure	MAR-2004
Final Sediment Sampling Report for Caddo Lake and Clinton Lake	Shaw Environmental and Infrastructure	APR-2004
Final Environmental Condition of Property I	Shaw Environmental and Infrastructure	MAY-2004
Final Background Soil Study Report	Shaw Environmental and Infrastructure	JUL-2004
Final Evaluation of LHAAP-45 Surface Soil Analytical Data	Shaw Environmental and Infrastructure	SEP-2004
Final Groundwater Data Gaps Investigation Workplan (Groups 2 and 4), Addenda 1 and 2	Shaw Environmental and Infrastructure	SEP-2004
Final Environmental Condition of Property II	Army Corps of Engineers, Tulsa	NOV-2004
2005		
Final Site 12 Feasibility Study	Shaw Environmental and Infrastructure	JAN-2005
Final Environmental Site Assessment Phase I and II Report	Plexus Scientific Corporation	FEB-2005
Final Feasibility Report for Site 12 Addendum (Revision 2)	Shaw Environmental and Infrastructure	MAR-2005
Final Proposed Plan for Landfill 12 (LHAAP-12),	Shaw Environmental and Infrastructure	MAR-2005
Final Project Report Plant-Wide Perchlorate Investigation	Solutions To Environmental Problems (STEP)	APR-2005
Final Site Inspection Report for the Military Munitions Response Program	Engineering-Environmental Management, Inc	JUN-2005
Final Feasibility Study for LHAAP-67 (Aboveground Storage Tank Farm),	Shaw Environmental and Infrastructure	AUG-2005
Final Feasibility Study for LHAAP-35B (37) (Chemical Laboratory)	Shaw Environmental and Infrastructure	OCT-2005
Final Site Evaluation Report for LHAAP-32 (Former Waste TNT Disposal Plant)	Shaw Environmental and Infrastructure	NOV-2005
2006		
Final Installation-Wide Work Plan	Shaw Environmental and Infrastructure	JAN-2006
Decision Documentation for LHAAP-03 (Wastewater	Shaw Environmental and	JAN-2006

IRP Previous Studies

	Title	Author	Date
2006			
	Collection At Paint Shop), LHAAP-06 (Building 54F), and LHAAP-23 (Building 707-C Storage Area for PCBs),	Infrastructure	
	Final Work Plan for Engineering Evaluation / Cost Analysis for Military Munitions Response Program	Cape Environmental Management, Inc.	MAR-2006
	Final Background Surface Water and Sediment Study Report	Shaw Environmental and Infrastructure	JUL-2006
	Draft Final Proposed Plan, LHAAP-37 & 67	Shaw Environmental and Infrastructure	JUL-2006
	Final Record of Decision, LHAAP-12	US Army	JUL-2006
	Remainder of PBC docs that have been submitted :	Workplans; Summary report for 46 and pistol range (Draft); Evaluation Report for 02 (Draft)	SEP-2006
	Draft Final Site Evaluation Report, LHAAP-02; Work Plan Addenda for LHAAP-04, 07, 46, 51, 35/36, 29, Pistol Range, and Chromium Specification;	Shaw Environmental and Infrastructure	SEP-2006
	Draft Final Evaluation of Monitored Natural Attenuation, LHAAP-12, 37 & 67	Shaw Environmental and Infrastructure	DEC-2006
2007			
	Final Groundwater Monitoring Report Sites 12 and 16 (spring 2003, spring 2004 and winter 2004)	ALL Consulting	JAN-2007
	Final Modeling Report,Derivation of Soil and Groundwater Concentrations Protective of Surface Water and Sediment, Rev. 01	Shaw Environmental and Infrastructure	FEB-2007
	Final LHAAP-12 Well Abandonment and Installation Report Groundwater, Data Gaps Investigation Groups 2 and 4	Shaw Environmental, Inc.	APR-2007
	Final Site Evaluation Report, LHAAP-48 & 53	Shaw Environmental and Infrastructure	APR-2007
	Final Addendum 11 Monitored Natural Attenuation Sampling LHAAP-16, -17, -29, -46, -47, -50, 35A(58), Final Installation-Wide Work Plan	Shaw Environmental, Inc.	MAY-2007
	Legal Notice - Industrial Solid Waste Notice of Land Use Controls at LHAAP-12	Rose Zeiler, LHAAP Site Manager	JUN-2007
	Final Results of Modeling for Natural Attenuation of Trichloroethene at LHAAP-12	Shaw Environmental, Inc.	JUN-2007
	Evaluation of Perimeter Well Data for Use as Groundwater Background	Shaw Environmental, Inc.	JUN-2007
	Final Natural Attenuation Evaluation LHAAP-12, LHAAP-35B(37) and LHAAP-67 (Report and Appendix A)	Shaw Environmental, Inc.	JUN-2007
	Remedial Design Addendum Landfill 12 (LHAAP-12)	Shaw Environmental, Inc.	JUN-2007
	Baseline Ecological Risk Assessment Surface Water Sampling Plan for Goose Prairie Creek, Revision 01	Shaw Environmental, Inc.	JUL-2007
	Final Results of Modeling for Natural Attenuation of Chlorinated Solvents in Groundwater at LHAAP-35B(37) & 67	Shaw Environmental, Inc.	JUL-2007
	Final LHAAP-59 Site Investigation Report	Shaw Environmental, Inc.	AUG-2007
	Draft Final Second Five year review Report, LHAAP-12, 16, 18 & 24	Shaw Environmental, Inc.	AUG-2007
	Memorandum: Supplemental Groundwater Activities at LHAAP-37	Shaw Environmental, Inc.	SEP-2007

IRP Previous Studies

	Title	Author	Date
2007			
	Final Landfill 12 (LHAAP-12) Operating Properly and Successfully Demonstration Report	Shaw Environmental, Inc.	SEP-2007
	Memorandum: Analysis of Soil Samples Collected from LHAAP-59 on September 14, 2007	Shaw Environmental, Inc.	OCT-2007
	Final Installation-Wide Baseline Ecological Risk Assessment Vols. I & II	Shaw Environmental, Inc.	NOV-2007
	Final Site Investigation Report: LHAAP-06, 07, 51, 55, 64, 66 and 68 (rev 1)	Shaw Environmental, Inc.	DEC-2007
2008			
	Final Proposed Plan, LHAAP-08	Shaw Environmental, Inc.	JAN-2008
	Final Data Evaluation Report Chemical Concentrations in soil Samples Associated with LHAAP-35/36 Sumps	Shaw Environmental, Inc.	JAN-2008
	Final Proposed Plan, LHAAP-32	Shaw Environmental, Inc.	JAN-2008
	Final Proposed Plan, LHAAP-48 & 53	Shaw Environmental, Inc.	JAN-2008
	Draft Final LHAAP-32 Record of Decision	Shaw Environmental, Inc.	MAR-2008
	Draft Final LHAAP-08, 48 & 53 Decision Document	Shaw Environmental, Inc.	MAR-2008
	Final Decision Document, LHAAP-6, 7, 51, 55, 64, 66 and 68	Shaw Environmental, Inc.	JUL-2008
	Final LHAAP-32 Record of Decision	Shaw Environmental, Inc.	AUG-2008
	Final LHAAP-59 Decision Document	Shaw Environmental, Inc.	SEP-2008
	Final Five-Year Review Second Five-Year Revise Report for LHAAP-12, 16 and 18/24	Shaw Environmental Inc.	SEP-2008
	Final LHAAP-60 Decision Document	Shaw Environmental, Inc.	OCT-2008
	Final LHAAP-8, 48, 53 and 002-R Decision Document	Shaw Environmental, Inc.	NOV-2008
2009			
	Draft Site Evaluation Report and Soil Removal Report for LHAAP-49	Shaw Environmental, Inc.	JAN-2009
	Draft Final LHAAP-37/67 Record of Decision	Shaw Environmental, Inc.	JAN-2009
	Final Site Investigation Report, LHAAP-2	Shaw Environmental, Inc.	JAN-2009
	Final Engineering Evaluation/Cost Analysis, LHAAP-4	Shaw Environmental, Inc.	MAR-2009
2010			
	Final Proposed Plan, LHAAP-46	Shaw Environmental, Inc.	JAN-2010
	Final Proposed Plan, LHAAP-35A(58)	Shaw Environmental, Inc.	JAN-2010
	Final Proposed Plan, LHAAP-50	Shaw Envronmental, Inc.	JAN-2010
	Final Proposed Plan, LHAAP-49	Shaw Environmental, Inc.	JAN-2010
	Final Proposed Plan, LHAAP-17	Shaw Environmental, Inc.	MAY-2010
	Final Record of Decision, LHAAP-37/67	US Army	JUN-2010
	Final Decision Document, LHAAP-02	Shaw Environmental, Inc.	JUL-2010
	Final Record of Decision, LHAAP-49	Shaw Environmental, Inc.	AUG-2010
	Final Cover Evaluation & Final Landfill Closure Report, LHAAP-19, C&D Landfill	ETTL Engineers & Consultants Inc.	SEP-2010
	Final Record of Decision, LHAAP-46	Shaw Environmental, Inc.	SEP-2010
	Final Record of Decision, LHAAP-50	Shaw Environmental, Inc.	SEP-2010

IRP Previous Studies

	Title	Author	Date
2010			
	Final Record of Decision, LHAAP-35A(58)	Shaw Environmental, Inc.	SEP-2010
	Final Proposed Plan, LHAAP-16	Shaw Environmental, Inc.	SEP-2010
	Final Decision Document, LHAAP-35/36	Shaw Environmental, Inc.	OCT-2010
2011			
	Final Proposed Plan, LHAAP-29	Shaw Environmental, Inc.	MAR-2011
	Final MC Summary Report, LHAAP-001-R-01 & LHAAP-003-R-01	Shaw Environmental, Inc.	JUN-2011
	Final Proposed Plan, LHAAP-001-R-01 & LHAAP-003-R-01	Shaw Environmental, Inc.	JUN-2011
	Final Feasibility Study, LHAAP-47	Shaw Environmental, Inc.	JUL-2011
	Final Remedial Design, LHAAP-35B(37) & LHAAP-67	US Army Corps of Engineers, Tulsa District	AUG-2011
	Final Remedial Design, LHAAP-46	Shaw Environmental, Inc.	SEP-2011
	Final Remedial Design, LHAAP-50	Shaw Environmental, Inc.	SEP-2011
	Final Remedial Design, LHAAP-35A(58)	Shaw Environmental, Inc.	SEP-2011
2012			
	Final Remedial Action Operation Summary Report, Years 1 and 2, Landfill-12	Shaw Environmental, Inc.	JUL-2012
	Final Remedial Action Operation Summary Report, Years 3 and 4, Landfill-12	Shaw Environmental, Inc.	JUL-2012
	Final Feasibility Study for Groundwater, LHAAP-04, Former Pilot Wastewater Treatment Plant	Shaw Environmental, Inc.	AUG-2012
2013			
	Final Remedial Action Work Plan for LHAAP-67, Aboveground Storage Tank Farm	AECOM Technical Services	MAR-2013
	Final Remedial Action Work Plan for LHAAP-46, Plant 2 Area	AECOM Technical Services	MAR-2013
	Final Remedial Investigation/Focused Feasibility Study for LHAAP-03, Former Waste Collection Pad near Building 722-P, Paint Shop	AECOM Technical Services	MAR-2013
	Final Proposed Plan for LHAAP-03, Former Waste Collection Pad Building 722-P Paint Shop	AECOM Technical Services	MAY-2013
	Final Remedial Action Work Plan for LHAAP-50, Former Sump Water Tank	AECOM Technical Services	JUN-2013
	Final Remedial Action Work Plan for LHAAP-35B(37), Chemical Laboratory	AECOM Technical Services	JUN-2013
	Final Remedial Action Work Plan, LHAAP-58	AECOM Technical Services	AUG-2013
	Final Proposed Plan for LHAAP-47, Plant 3 Area Solid Rocket Motor Fuel Production	AECOM Technical Services	DEC-2013
	Final Post-Screening Investigation Report for LHAAP-18/24, Burning Ground No. 3 and Evaporation Pond	AECOM Technical Services	DEC-2013
2014			
	Final Decision Document for LHAAP-19, LHAAP-56, LHAAP-65 and LHAAP-69 Sites	U.S. Army Corps of Engineers	JAN-2014
	Final Explanation of Significant Differences, Record of Decision for Early Interim Remedial Action at Burning Ground No. 3	AECOM Technical Services	FEB-2014
	Final 2013 Five-Year Review Report For LHAAP	AECOM Technical	MAY-2014

IRP Previous Studies

	Title	Author	Date
2014			
		Services	
	Final Post-Screening Investigation Work Plan Addendum, LHAAP-18/24	AECOM Technical Services	JUN-2014
	Final LHAAP-29 Remedial Investigation/Feasibility Addendum Work Plan	AECOM Technical Services	JUN-2014
	Final Baseline Ecological Risk Assessment Addendum, LHAAP	AGEISS Inc.	JUL-2014
2015			
	Draft Final Remedial Action Completion Report, LHAAP-46	AECOM Technical Services	JAN-2015
	Draft Final Remedial Action Completion Report, LHAAP-35A(58)	AECOM Technical Services	APR-2015
	Final Decision Document for LHAAP-05, -09, -15, -34, -52, -57, -61, -63, -70, and -71 Sites	U.S. Army Corps of Engineers	SEP-2015

LONGHORN ARMY AMMUNITION PLANT

Non-BRAC Excess

Installation Restoration Program

Site Descriptions

Site ID: LHAAP-001
Site Name: INERT BURNING GROUNDS (SWMU 1)

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Phases	Start	End
PA	197906	198406
SI	197906	198406
RI/FS	199008	199801
LTM	201201	204609

RIP Date: N/A

RC Date: 199801

SITE DESCRIPTION

A no action ROD was signed by the USEPA in February 1998; the site is closed and suitable for non-residential use. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

The LTM in the form of five-year reviews is required and will continue.

Site ID: LHAAP-002
Site Name: VACCUM TRUCK OVERNITE PARKING LOT

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED

Phases	Start	End
PA	197906	198705
RI/FS	200901	201007
LTM	201201	204609

RIP Date: N/A

RC Date: 201007

SITE DESCRIPTION

A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. Five-year review costs are captured with LHAAP-35A(58) five-year review costs because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

The LTM in the form of five-year reviews are required and will continue.

Site ID: LHAAP-003
Site Name: BUILDING 722-PAINT SHOP

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	197906	198705
SI	200710	200909
RI/FS	200909	201701
RD	201402	201704
RA(C)	201406	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

LHAAP-03 was a waste collection site outside of the paint shop at Building 722-P. Building 722-P was used for paint spraying and polyurethane spray coating of various items. Heavy metal-based primers, other waste solvents and contaminated rags were collected in a 55-gallon drum on a gravel pad in an open-sided shed.

The site investigation report for LHAAP-03 was completed in August 2009. The site investigation identified soil contaminated with metals exceeding medium-specific concentrations (MSC). A remedial investigation (RI)/FS was finalized to evaluate removal action alternatives for the metals-contaminated soil at LHAAP-03. A ROD is delayed until dispute is resolved with the USEPA. The RD and soil removal action will also be covered under the PBA. Five-year review costs for this site will be captured with LHAAP-35A(58) five-year review costs because this site falls within the boundary of LHAAP-35A(58).

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy being considered for this site is excavation and off-site disposal. Tasks to be completed before the PBA ends are completion of primary documents (ROD and RD), and accomplishment of remedy-in-place (RIP). At this time, it is expected that the post-PBA LTM will involve five-year reviews, which will be addressed as part of the remedial action for LHAAP-35A(58).

Site ID: LHAAP-004
Site Name: LHAAP PILOT WASTEWATER TREATMENT PLANT

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Perchlorate

Media of Concern: Groundwater

Phases	Start	End
PA	197906	198705
RI/FS	201112	201701
RD	201201	201705
IRA	200908	201111
RA(C)	201404	201711
RA(O)	201201	204609

RIP Date: 201711

RC Date: 204609

SITE DESCRIPTION

The LHAAP Pilot wastewater plant was closed under RCRA guidelines in November 1997. The installation-wide baseline ecological risk assessment in 2007 did not identify any potential risk to ecological receptors. Additional investigations after the risk assessment found unacceptable levels of mercury in soil, and perchlorate, an emerging contaminant, in soil at levels that could potentially migrate into the groundwater. A soil removal action was recommended in the 2009 engineering evaluation/cost analysis (EE/CA) for LHAAP-04. The soil removal was performed, and is documented in the final completion report, non-time critical removal action at LHAAP-04. As part of the removal action, a well was installed to sample groundwater beneath the backfilled excavation area. The results indicated that perchlorate was present in the groundwater at a concentration that exceeded the TCEQ groundwater industrial use value for perchlorate. The FS evaluating remedial alternatives for LHAAP-04 was finalized in August 2012. The RAs for this site have been funded under an existing contract. The ROD is delayed until the dispute is resolved with the USEPA. The costs for the ROD and RD are captured under the PBA. RA(O) and five-year reviews will be required. A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. Tasks to be completed before the PBA ends are completion of primary documents (ROD and RD), and accomplishment of RIP. The FS was completed in 2012. The remedy being considered for this site is: in situ bioremediation and monitored natural attenuation (MNA) for groundwater, and LTM. The final remedy has not been selected yet for this site. At this time, it is expected that the post-PBA long-term RA(O) will involve MNA and LUC.

Site ID: LHAAP-006
Site Name: BUILDING 54F SOLVENT

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED

Phases	Start	End
PA	197906	198705
RI/FS	200712	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

An NFA DD was signed in December 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-007
Site Name: BUILDING 50G DRUM PROCESSING

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	197906	198705
RI/FS	200712	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

The site was originally closed under RCRA in 1987. An NFA DD under CERCLA was signed in December 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-008
Site Name: SEWAGE TREATMENT PLANT

STATUS

Parcel: Production Area Ic (FWS) (54.88 acres)

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	197906	198705
RI/FS	200202	200811
LTM	201201	204609

RIP Date: N/A

RC Date: 200811

SITE DESCRIPTION

The site was originally closed under RCRA in 1987. An NFA DD under CERCLA was signed in 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-011
Site Name: SUS TNT BURIAL SITE AT AVE P&Q(SWMU 11)

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199008	199801
LTM	201201	204609

RIP Date: N/A

RC Date: 199801

SITE DESCRIPTION

An NFA ROD was signed by the USEPA by February 1998. The site is closed and suitable for industrial use. A five-year review report in the form of a memorandum report stating the use of the site remains industrial will be required for internal Army records. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-012
Site Name: ACTIVE LANDFILL (SWMU 12)

STATUS

Parcel: LANDFILL 12 (FWS) (51 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199008	200607
RD	200509	200706
IRA	199509	200509
RA(C)	200509	200706
RA(O)	200509	209909

RIP Date: 200706

RC Date: 209909

SITE DESCRIPTION

Landfill 12 (previously called the Active Landfill), consisting of seven acres, was used for the disposal of nonhazardous industrial waste. The landfill had been used intermittently since 1963. Continuous use of the landfill began around 1978. Although the back section had been closed, the front section of the landfill continued to be used until its closure in March 1994. Site inspections (SI) conducted in 1993 concluded that an early IRA (landfill cap) was necessary to reduce further contamination to the groundwater. In 1997 the cap was completed, using treated soils from LHAAP-18 as subgrade fill. Cap maintenance started in 1998, and in 2002 the first five-year review was completed. The second five-year review was completed in 2008. The third five-year review was completed in 2013.

In 2002 the RI was completed. Groundwater analysis showed that some metals, chlorides, VOC, explosive compounds, and low levels of perchlorate were present. Surface water and sediment sample analysis showed similar contamination. Low levels of perchlorate were also detected in the soils. In three groundwater sampling rounds conducted in February 2003, February 2004, and December 2004, perchlorate was not detected with reporting limits of four micrograms per liter (ug/L) in the first two rounds, and only detected twice when a method with a lower reporting limit (0.2 ug/L) was used. Chromium in groundwater is now believed to be related to stainless steel well casings. In January 2006 the 12 wells with stainless steel casings and screen were removed. In 2006, five new wells were installed for long-term monitoring using polyvinyl chloride casing and screen. Results of subsequent groundwater sampling supported the postulation that the stainless steel casing in the monitoring wells was the source of the chromium.

In 2005 the FS was finalized. The recommended final remedy is MNA with LUCs consisting of cap protective provisions and groundwater restrictions. In August 2006 sampling to support MNA began. The PP addressed human and ecological risk. The ROD has been signed (July 2006), and in June 2007 the RD addendum was signed. The surrounding sediment and surface water were evaluated as part of the plant-wide ecological risk assessment and no chemicals of concern were identified.

Post-PBA (FY2017 and out-years) actions will include MNA with LUC consisting of cap protective provisions and groundwater restrictions. The expected duration of RA(O) is 118 years based on the groundwater model from the remedial design. Ten years of RA(O) will have been completed by the end of the PBA, leaving 108 years beyond FY17; however, AEDB-R limits phase schedule extension to 2099 thus 82 years are reported. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

Site ID: LHAAP-012
Site Name: ACTIVE LANDFILL (SWMU 12)

As a part of RA(O), cap maintenance, MNA, and five-year reviews will be funded under the PBA through September 2017. Post-PBA activities will be limited to long-term RA(O) and five-year reviews to review MNA progress and any new site information.

Site ID: LHAAP-016
Site Name: OLD LANDFILL (SWMU 16)

STATUS

Parcel: Burning Ground (FWS) (380 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Soil, Surface Water

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199008	201701
RD	200508	201704
IRA	199410	200509
RA(C)	200508	201712
RA(O)	200508	204609

RIP Date: 201712

RC Date: 204609

SITE DESCRIPTION

Landfill 16 (formally called the old landfill), consisting of about 22 acres, was originally used to dispose of products generated from the TNT wastewater treatment plant (WWTP); however, a variety of waste was disposed of in the landfill until the 1980s. This waste may have included burned rocket motor casings, substandard TNT, barrels of chemicals, oil, paint, scrap iron and wood. VOCs and metals above action levels have been found in the soil, surface water and groundwater around the site. Low levels of explosive compounds were detected in the groundwater.

SIs conducted in 1993 concluded that an early IRA (landfill cap) was necessary to reduce further contamination to the groundwater. The cap was completed in 1998, using treated soils from LHAAP-18 as subgrade fill. In late-1997, as part of the treatability study, eight extraction wells were installed to prevent contaminated groundwater from impacting Harrison Bayou. This system is still in operation; however, extracted water volume is low. Groundwater extracted from the Landfill 16 containment system is piped to the LHAAP-18 groundwater treatment plant (GWTP).

Perchlorate was first detected in groundwater at this site in 2000. VOCs and perchlorate have been detected in the surface water of Harrison Bayou.

In 2002 the RI was completed along with a five-year review. In March 2002 a final interim FS for Site 16 was issued. Under the PBC, a draft FS addendum to the March 2002 interim FS was submitted in February 2007. The FS was finalized in March 2010. A preliminary MNA evaluation was completed in 2007. The second five-year review was completed in 2008. The third five-year review was completed in 2013. The PP was finalized September 2010. Quarterly surface water sampling of the Harrison Bayou area has not shown significant contamination. The ROD is delayed until the dispute is resolved with the USEPA. The ROD will include cap maintenance, in situ bioremediation, biobarriers, MNA and LUCs.

An environmental security technology certification program research and development project for enhanced in situ bioremediation (VOCs, perchlorate and explosives in groundwater) was started in 2003 and continued to 2008. Ecological concerns most likely will be addressed with the final remedy at this site. Post-PBA actions will include groundwater monitoring and LUC RA(O). A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

Site ID: LHAAP-016
Site Name: OLD LANDFILL (SWMU 16)

This site is being addressed under a PBA through September 2017. The remedy being considered for this site is passive biobarriers, in situ bioremediation and MNA for groundwater, and LTM. Tasks to be completed before the PBA ends are completion of primary documents (ROD and RD), and accomplishment of remedy-in-place (RIP). At this time, it is expected that the post-PBA long-term RA(O)will involve MNA with maintenance of the cap and LUC.

Site ID: LHAAP-017
Site Name: NO 2 FLASHING AREA BRN GROUND(SWMU 17)

STATUS

Parcel: Burning Ground (FWS) (380 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Explosives, Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199008	201701
RD	201402	201704
RA(C)	201406	201709
RA(O)	201707	204609

RIP Date: 201709

RC Date: 204609

SITE DESCRIPTION

This site (about 500 by 600 feet) was used to burn bulk TNT, photoflash powder, and reject material from Universal Match Corporation's production processes. From 1959 until 1980 the site was operated as a burning ground. In 1959 buildings razed at Site 29 (the former TNT production area) were burned at Burning Ground No. 2/Flashing Area (LHAAP-17). This site is situated about 400-500 feet southwest of Burning Ground No. 3.

In 1984 waste residues were removed and the area grassed over. VOCs and explosive compounds were found in the groundwater. Explosive compounds were found in the soil. In 2000 perchlorate was detected at this site [in groundwater at 300 parts per million (ppm), but less in soil].

In 2002 the RI was completed and a draft FS was prepared. In 2004 additional data gap studies were completed. A revised draft FS was submitted in 2009 by the PBC and the FS was finalized in 2010. The PP was finalized in May 2010.The ROD is delayed until the dispute is resolved with the USEPA. The ROD will include soil removal, extraction and treatment of groundwater, MNA and LUCs.

A research and development project for enhanced in situ-bioremediation (VOCs, perchlorate and explosives in soil and groundwater) was started in 2002 and completed in 2004. Results indicate that perchlorate contamination was reduced. An additional intermediate well was installed at the site in February 2008.

Post-PBA actions during RA(O) will involve monitoring of MNA. A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy being considered for this site is groundwater extraction, followed by MNA for groundwater, and excavation and disposal for soil. Tasks to be completed before September 2017 are completion of primary documents (ROD and RD), and accomplishment of RIP. At this time, it is expected that the post-PBC long-term RA(O) will involve MNA and LUC.

Site ID: LHAAP-018
Site Name: BURNING GROUND/WASHOUT POND(SWMU 18)

STATUS

Parcel: Burning Ground (FWS) (380 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Metals, Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Soil, Surface Water

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199008	201809
RD	200508	201906
IRA	199503	201108
RA(C)	200508	202106
RA(O)	200508	204609

RIP Date: 202106

RC Date: 204609

SITE DESCRIPTION

This 34.5 acre site, also known as Burning Ground No. 3, began operations in 1955. It was used for the treatment, storage, and disposal of solid and liquid explosives, pyrotechnics, and combustible solvent wastes by open burning, open detonation, and burial. The unlined evaporation pond (UEP) (LHAAP-024) was constructed in 1963 within Burning Ground No. 3. Explosive compounds, VOCs, and metals were detected in the soils and groundwater. In 1998 perchlorate was detected in the groundwater. In 1986 sludge from the UEP was removed and the area was capped. Quarterly monitoring has been conducted at the site since closure of the UEP.

In May 1995 an IRA ROD was signed. This IRA addressed soil and shallow groundwater contamination. In 1997, 30,000 cubic yards (cy) of soil were excavated and treated. The treated soil was used as fill in LHAAP-012 and -016. A GWTP, with approximately 5,000 feet of interception collection trenches, has been installed to control migration of contaminated groundwater. After treatment the extracted groundwater is discharged into Harrison Bayou. In 1999 perchlorate was detected at this site and a fluidized bed reactor treatment system was installed.

In 2002 the RI was completed, followed by a draft FS. In September 2007 the PBC contractor began an optimization pilot study for the groundwater extraction system with a report completed in February 2009. A post-screening investigation (PSI) work plan was finalized in 2013 to address site data gaps and support completion of the RI/FS. The PSI work has continued into 2016 and the revised FS is planned to be completed in 2017.

Post-PBC actions are expected to include RD, RA(C) and review of MNA progress. A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy being considered for this site is optimization of the groundwater extraction system, bioaugmentation, and MNA. Tasks to be completed before September 2017 are completion of primary documents (FS, PP, ROD, RD) and accomplishment of RIP and continued RA(O).

The final remedy has not been selected yet for this site. At this time, the post-PBC long-term RA(O) is expected to include groundwater extraction, bioremediation and five-year reviews.

Site ID: LHAAP-019
Site Name: CONSTRUCTION MATERIALS LANDFILL

STATUS

Parcel: Debris Landfill (13 acres)

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	201009	201401
LTM	201401	204609

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

The site was originally closed under RCRA in 1987. A NFA DD under CERCLA was finalized in early 2014. A notification (not a remedy or LUC) was filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Post-PBA activities will be limited to five-year review reports in the form of a letter stating the use of the site remains non-residential.

Site ID: LHAAP-024
Site Name: FORMER UNLINED EVAP POND (SWMU 24)

STATUS

Parcel: Burning Ground (FWS) (380 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Metals, Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199005	199005
SI	199005	199008
RI/FS	199008	201809
RD	200508	201906
IRA	199503	201108
RA(C)	200508	202106
RA(O)	200508	204609

RIP Date: 202106

RC Date: 204609

SITE DESCRIPTION

This three-acre UEP was constructed in 1963 within Burning Ground No. 3. Explosive compounds, VOCs, and metals were detected in the soils and groundwater. In 1999, perchlorate was detected in the groundwater. In 1986, sludge from the UEP was removed and the area was capped. Quarterly monitoring has been conducted at the site since closure of the UEP.

In May 1995, an IRA ROD was signed. This IRA addressed soil and shallow groundwater contamination. In 1997, 30,000 cy of soil were excavated and treated. The treated soil was used as fill in LHAAP-012 and LHAAP-016. A GWTP, with approximately 5,000 feet of interception collection trenches, has been installed to control migration of contaminated groundwater. After treatment, the extracted groundwater is discharged into Harrison Bayou. In 1999 perchlorate was detected at this site and in 2001 a fluidized bed reactor treatment system was installed.

In 2002 the RI was completed, followed by a draft FS. In September 2007 the PBC contractor began an optimization study for the groundwater extraction system with a report on the results completed February 2009. A PSI work plan was finalized in 2013 to address site data gaps and support completion of the RI/FS. The PSI work has continued into 2016 and the revised FS is planned to be completed in 2017.

Post-PBC actions are currently expected to involve completion of RD, RA(C) and review of MNA progress. A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. As with LHAAP-018, the remedy being considered for this site is optimization of the groundwater extraction system, bioaugmentation and MNA. Tasks to be completed before September 2017 are completion of primary documents (FS, PP, ROD, RD) and accomplishment of RIP and continued RA(O).

The final remedy has not been selected yet for this site but the post-PBC long-term RA(O) is expected to include groundwater extraction, bioremediation and five-year reviews.

Site ID: LHAAP-029
Site Name: FORMER TNT PRODUCTION AREA(SWMU 29)

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Munitions constituents (MC), Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199008	201809
RD	200508	201906
RA(C)	200508	202003
RA(O)	200508	204609

RIP Date: 202003

RC Date: 204609

SITE DESCRIPTION

The former TNT production area, consisting of about 85 acres, was in operation from April 1943 to August 1945 as a six-line plant, with a supporting acid plant. The plant produced 180 million kilograms of TNT throughout the period of operation. A bulk toluene storage area, servicing the TNT production area, was located adjacent to the production area. The TNT wastewater (red water) from the production of the TNT was sent through wooden pipelines to a storage tank and pump house, and then to the TNT WWTP (LHAAP-032). Cooling water (blue water) from the production area ran through main lines and into an open ditch. In 1959, the structures, except for the foundations, were demolished and removed. Through the late-1980s a portion of the northeast corner of the site (approximately two acres) was used for the washout of Pershing 1 and 2 rocket motor casings using trichloroethylene (TCE) and methylene chloride.

Explosive compounds have been detected in the soil, surface water, sediment, and groundwater samples. High concentrations of VOCs (including TCE and methylene chloride) have been detected in the groundwater with the highest concentrations in the intermediate hydrostratigraphic unit, and methylene chloride, dense non-aqueous phase liquid is suspected. In 2000 perchlorate was first detected in the soil and in the groundwater (at 88 ppm) at this site.

In 2002, the RI was completed. In FY2005 field sampling for soils was conducted. In FY2006, six wells were installed and sampled. Sediment samples were also collected from waste lines and outfall ditches. A revised draft FS was submitted in 2008 and was finalized in 2010. The ROD is delayed until the dispute is resolved with the USEPA. The ROD currently includes soil removal, flushing and plugging lines, in situ chemical oxidation treatment of groundwater, MNA and LUCs. A finite period of 30 years is used where RA(O) is expected to continue indefinitely. Fieldwork to support an addendum to the RI/FS for LHAAP-29 was completed in 2013 and the RI/FS addendum is underway. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

LHAAP-49, the former acid plant (also known as former acid storage), was originally funded under LHAAP-29 due to the association in plant function. This was the location where acids were received and prepared for use in the TNT manufacturing process. The final site evaluation was finalized in 2009 and the ROD was finalized in 2010 and is reported under LHAAP-49.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy being considered for this site is in situ groundwater remediation followed by MNA, flushing and plugging lines, and excavation and disposal for soil and sediments. Tasks to be completed before September 2017 are completion of primary documents (ROD, RD), and accomplishment of RIP. The final remedy has not been selected yet for this site. At this time, the post-PBA RA(O) is expected to involve MNA and LUC.

Site ID: LHAAP-035
Site Name: SUMPS (145) VARIOUS

STATUS

Parcel: East FIA II(FWS) (175 acres),Production Area Ib (FWS) (107.59 acres),Production Area Ia (FWS) (456.72 acres)

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Perchlorate

Media of Concern: Soil

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199301	201011
RD	200508	201011
RA(C)	200508	201011
LTM	201201	204609

RIP Date: N/A

RC Date: 201011

SITE DESCRIPTION

This site contained 125 industrial wastewater sumps. The sumps were located in different production areas within LHAAP. Many of the sumps were removed or closed in 1996.

Several buildings at sites where sumps were located have a history of perchlorate use. Perchlorate contamination at these sites has been identified in the soil, surface water and groundwater. Remedial action-construction RA(C) consisted of soil removal around sumps.

In 2002, the RI was completed and in late FY2003 the initial perchlorate assessment was completed. Additional soil sampling, for the sumps, was completed in fall 2006. The NFA DD was signed in November 2010. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

The following are associated with LHAAP-35 in AEDB-R because there were sumps at the sites; however, they are being addressed as separate sites for other environmental issues [i.e. five-year reviews, RA(O)/LTM]:
LHAAP-002 LHAAP-003 LHAAP-004 LHAAP-006 LHAAP-007 LHAAP-036
LHAAP-058 LHAAP-060 LHAAP-65 LHAAP-068 (PBC) LHAAP-008 LHAAP-037 (TERC)

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required. Soil that was found to be contaminated with perchlorate at sites where sumps were located is being addressed at those individual sites (i.e., LHAAP-047 and LHAAP-050).

Site ID: LHAAP-036
Site Name: EXPLOSIVE WASTE PADS (27)

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	197906	198705
SI	197906	198705
RI/FS	199301	201011
LTM	201201	204609

RIP Date: N/A

RC Date: 201011

SITE DESCRIPTION

This site consists of 20 waste pads made of metal roof over four by eight concrete pads. It is included in Group 4 RI/FS. The NFA DD was signed in November 2010. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-037
Site Name: CHEMICAL LABORATORY WASTE PAD

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199005	199008
RI/FS	201003	201006
RD	201006	201108
RA(C)	201201	201309
RA(O)	201201	204609

RIP Date: 201309

RC Date: 204609

SITE DESCRIPTION

This site is a collection point for spent solvents from the quality assurance (QA) lab. It consists of one 55-gallon drum set on a concrete pad. The site is included in the Group 4 RI/FS. The ROD was finalized in August 2010 and included MNA and LUCs for the site. The RD was finalized in August 2011. The remedial action work plan (RAWP) was finalized in 2013. RIP was achieved in September 2013. The RA(O) was on hold while a two-year bioplug demonstration was implemented at the site. The bioplug demonstration was completed at the end of 2014 and the aquifer is currently being monitored for return to pre-study conditions before proceeding with RA(O). A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. Actions to be completed before the PBA ends are accomplishment of RA(O) including institutional controls (LUC). The RD completed in 2011 includes the following remedies for this site: MNA for groundwater, and RA(O). At this time, it is expected that the post-PBA long-term RA(O) will involve MNA and LUC.

Site ID: LHAAP-045
Site Name: MAGAZINE AREA

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Perchlorate

Media of Concern: Soil

Phases	Start	End
PA	199005	199008
SI	200003	200409
RI/FS	200409	200409
LTM	201201	204609

RIP Date: N/A

RC Date: 200409

SITE DESCRIPTION

This site consists of 800 acres with 58 bunkers and two buildings used for storage of munitions. An SI conducted by US Army Center for Health, Promotion and Preventive Medicine (USACHPPM) (now known as the Public Health Command), determined perchlorate contamination. The RI was completed in September 2003. The final evaluation of LHAAP-45 surface soil analytical data was finalized in September 2004. The site received USEPA concurrence for no further environmental investigation necessary. The site is closed and suitable for industrial use. A five-year review report in the form of a memorandum report stating the use of the site remains industrial will be required for internal Army records. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-046
Site Name: PLANT 2 AREA

STATUS

Parcel: Production Area II (467 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	200201	200201
RI/FS	201006	201009
RD	201106	201109
RA(C)	201201	201304
RA(O)	201201	204609

RIP Date: 201304

RC Date: 204609

SITE DESCRIPTION

LHAAP-46, also known as Plant 2, had facilities for production of JB-2 propellant fuel from 1944-1945 and was used to produce pyrotechnic ammunition, such as photoflash bombs, simulators, hand signals, and tracers for 40mm ammo from 1952-1956. Plant 2 was reactivated to produce pyrotechnic and illuminating devices from 1964 to 1997. Site investigations determined that groundwater was contaminated with VOCs. The ROD was finalized in September 2010 and includes MNA and LUCs for the site. A notification (not a remedy or LUC) will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. The RD was finalized in September 2011. The RAWP was finalized in 2013 and RIP was achieved in April 2013. This site is in RA(O). A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy selected for this site is MNA for groundwater. Tasks to be completed before September 2017 are accomplishment of RA(O). The final remedy has been selected for this site. At this time, it is expected that the post-PBA RA(O) will involve monitoring MNA and LUC.

Site ID: LHAAP-047
Site Name: PLANT 3 AREA

STATUS

Parcel: East FIA II(FWS) (175 acres),Production Area II (467 acres)

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	197906	198705
RI/FS	201201	201701
RD	201201	201704
RA(C)	201406	201802
RA(O)	201803	204609

RIP Date: 201803

RC Date: 204609

SITE DESCRIPTION

LHAAP-47, also known as Plant 3, was used from 1954 to the early-1980s to produce rocket motors. Some of the rocket motor facilities converted to produce pyrotechnic and illumination devices, and continued this operation until 1997. Site investigations determined that groundwater was contaminated with VOCs, perchlorate, and metals and a soil source for perchlorate was identified. The FS evaluating remedial alternatives for LHAAP-47 was finalized in July 2011. The RAs for this site have been funded under an existing contract. The ROD is delayed until the dispute is resolved with the USEPA. A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy being considered for this site includes bioaugmentation, biobarriers and MNA. Tasks to be completed before September 2017 are completion of primary documents (ROD and RD) and accomplishment of RIP and continued RA(O).

The final remedy has not been selected yet for this site. At this time, the post-PBC long-term RA(O) is expected to include MNA and five-year reviews.

Site ID: LHAAP-049
Site Name: FORMER ACID STORAGE AREA

STATUS

Parcel: Production Area Ic (FWS) (54.88 acres)

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	200903	200906
RI/FS	201005	201008
LTM	201201	204609

RIP Date: N/A

RC Date: 201008

SITE DESCRIPTION

LHAAP-49 is the former acid storage area, which was used from 1942 to 1945 for storage and formulation of acids and acid mixtures in support of TNT production during WWII. The NFA ROD was finalized in August 2010. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-050
Site Name: FORMER WASTE DISPOSAL FACILITY

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Metals, Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199005	199008
SI	199506	199707
RI/FS	199801	201001
RD	200508	201102
RA(C)	200508	201309
RA(O)	200508	204609

RIP Date: 201309

RC Date: 204609

SITE DESCRIPTION

This site of about one acre received wastewater from the sumps at Plants 2 and 3 from 1955 to the early-1970s. Washout of ammonium perchlorate containers was also performed on this site.

VOCs and perchlorate were detected in the soil samples. VOCs, metals and perchlorate were detected in groundwater. The VOCs and perchlorates in groundwater pose an unacceptable risk. In 2004 an additional data gap sampling was completed and in February 2008 an additional shallow well was installed downgradient of this site.

In 2002, the RI was completed and the FS was finalized in 2010. The ROD was finalized in 2010. The ROD includes soil removal, MNA and LUCs (groundwater use restriction) for the site. A notification (not a remedy or LUC) will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. The RD was finalized in September 2011. The RAWP was finalized in 2013. RIP was achieved in September 2013. This site is in RA(O). A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy selected for this site is MNA for groundwater, and excavation and disposal for soil. Tasks to be completed before September 2017 are accomplishment RA(O). The final remedy has been selected for this site. At this time, it is expected that the post-PBA RA(O) will involve MNA and LUC.

Site ID: LHAAP-051
Site Name: PHOTOGRAPHIC LABORATORY/BLDG #60B

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	199005	199008
RI/FS	200712	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

Building 60B was the location for processing x-ray film. It was closed under RCRA. A NFA DD was signed in December 2008 under CERCLA. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-052
Site Name: MAGAZINE AREA WASHOUT

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Phases	Start	End
PA	199005	199008
SI	199506	199804
RI/FS	199706	201509
LTM	201509	204609

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

A standpipe near the intersection of Avenue E and 19th was used to wash out trucks used for transport of TNT. An NFA DD was finalized in September 2015. Limited monitoring in the form of certification of proper land use every five years is required for this site. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Post-PBA activities will be limited to five-year review reports in the form of a letter stating the use of the site remains non-residential.

Site ID: LHAAP-055
Site Name: SEPTIC TANK (10)

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	199005	199008
RI/FS	199008	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

This site was closed under RCRA guidelines. An NFA DD was signed in December 2008 under CERCLA. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-056
Site Name: VEHICLE WASH RACK AND OIL/WATER SEP

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED

Phases	Start	End
PA	199304	200801
RI/FS	201201	201401
LTM	201401	204609

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

This site consisted of a concrete washrack sloped to drain, connected to an oil/water separator. The site had a permitted discharge to a drainage ditch. The site is located within the shop area. The sump on this site was investigated under LHAAP-035. The DD was finalized in early 2014. A notification will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. Because LHAAP-056 is entirely contained within the LHAAP-35A(58) land use control boundary, this requirement is being met under LHAAP-35A(58). A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. Five-year review costs are captured with LHAAP-35A(58) because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

This is a zero cost site. An NFA DD was funded in 2012.

Site ID: LHAAP-058
Site Name: MAINTENANCE COMPLEX

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199005	199008
SI	199502	199506
RI/FS	201006	201009
RD	201106	201109
RA(C)	201109	201309
RA(O)	201109	204609

RIP Date: 201309

RC Date: 204609

SITE DESCRIPTION

LHAAP-35A(58), also known as the shops area, was used to provide plant-operated laundry, automotive, woodworking, metalworking, painting, refrigeration, and electrical services. VOCs were detected in groundwater. The ROD was finalized in 2010 and includes in situ bioremediation for the eastern plume and MNA and LUCs (groundwater use restriction) for both the eastern and western groundwater plume for the site. A notification (not a remedy or LUC) will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. Five-year review costs for LHAAP-002, 003, 056, 059, 060, 065, 068, and 069 are captured with LHAAP-35A(58) because these sites fall within the boundary of LHAAP-35A(58). The RD was finalized in September 2011. The RAWP was finalized in 2013. RIP was achieved in September 2013. This site is in RA(O). A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. The remedy selected for this site is in situ bioremediation and MNA for groundwater. Tasks to be completed before September 2017 are accomplishment of RA(O), which will involve MNA and LUC.

Site ID: LHAAP-059
Site Name: BUILDING 725

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	200705	200708
RI/FS	200805	200808
LTM	201201	204609

RIP Date: N/A

RC Date: 200808

SITE DESCRIPTION

Building 725 at LHAAP-59 was constructed in 1984 to support maintenance activities at the plant as a pesticide storage building. It was determined through site investigations that no significant release had occurred at this site. The NFA DD was finalized in August 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. Five-year review costs are captured with LHAAP-35A(58) five-year review costs because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-060
Site Name: FORMER STORAGE BUILDING #411 & #714

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Phases	Start	End
PA	199005	199008
SI	199506	199707
RI/FS	199801	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

This site consists of two buildings formerly used for storage of pesticides and herbicides. It is included in Group 4 for RD/RA efforts. An NFA DD was signed in December 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. Five-year review costs are captured with LHAAP-35A(58) because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-063
Site Name: BURIAL PITS

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Phases	Start	End
PA	199005	199008
SI	199506	199804
RI/FS	199804	201509
LTM	201509	204609

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

LHAAP-063 was used in late-1950s for the detonation of Plant 3 reject material of unknown composition. An NFA DD was finalized in September 2015. Limited monitoring in the form of certification of proper land use every five years is required for this site. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Post-PBA activities will be limited to five-year review reports in the form of a letter stating the use of the site remains non-residential.

Site ID: LHAAP-064
Site Name: TRANSFORMER STORAGE

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	199005	199008
SI	199502	199506
RI/FS	199506	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

LHAAP-064 was used for storage of non-PCB transformers. NFA was required and an NFA DD was signed in December 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-065
Site Name: BUILDING 209

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED

Phases	Start	End
PA	201103	201106
RI/FS	201201	201401
LTM	201401	204609

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

Building 209 was used for chemical storage for items such as paint and solvents. This building has a concrete floor with floor drains connected to sumps. The site is located just off of 11th street near the fire station. A DD was finalized in early 2014. A notification will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. Because LHAAP-065 is entirely contained within the LHAAP-35A(58) land use control boundary, this requirement is being met under LHAAP-35A(58). A five-year review report in the form of a letter stating the use of the site remains non- residential will be required. Five-year review costs are captured with LHAAP-35A(58) five-year review costs because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-066
Site Name: TRANSFORMER AT BLDG 401

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	199005	199008
SI	199502	199506
RI/FS	199506	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

A transformer at Building 401 dripped oil for approximately one year. The transformer did not contain PCBs, so NFA was required. An NFA DD was signed in December 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non- residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-067
Site Name: ABOVE GROUND STORAGE TANK

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199005	199008
SI	199809	199906
RI/FS	200110	201006
RD	201105	201108
RA(C)	201201	201304
RA(O)	201201	204609

RIP Date: 201304

RC Date: 204609

SITE DESCRIPTION

This site consisted of seven aboveground storage tanks (AST) containing No. 2 fuel oil, kerosene or solvents. The ASTs had earthen dikes sufficient to contain a potential spill. Motor fuel tanks were registered with the state and have been removed. Central Creek runs to the south of this site.

In 2001, VOCs (TCE, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2-trichloroethane) were detected in the groundwater. The data indicates that the impact is limited.

In 2002, the RI was completed and in 2004 additional sampling was conducted, with the final FS completed in August 2005. The ROD was finalized in August 2010 and included MNA and LUCs (groundwater use restriction) for the site. A notification (not a remedy or LUC) will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. The RD was finalized in August 2011. The RAWP was finalized in 2013 and RIP was achieved in April 2013. This site is in RA(O). A finite period of 30 years is used where RA(O) is expected to continue indefinitely. The costs for the installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

This site is being addressed under a PBA through September 2017. Actions to be completed before the PBA ends are accomplishment of RA(O). The ROD completed in 2010 selected the following remedies for this site: MNA for groundwater, and RA(O). At this time, it is expected that the post-PBA long-term RA(O) will involve MNA and LUC.

Site ID: LHAAP-068
Site Name: MOBILE STORAGE TANK PARKING AREA

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	199005	199008
RI/FS	199008	200812
LTM	201201	204609

RIP Date: N/A

RC Date: 200812

SITE DESCRIPTION

This site was corrected under RCRA guidelines in 1993. An NFA DD was signed in December 2008. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. Five-year review costs are captured with LHAAP-35A(58) five-year review costs because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

Site ID: LHAAP-069
Site Name: SERVICE STATION UST'S

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE:

Phases	Start	End
PA	199005	199008
RI/FS	199008	201401
LTM	201401	204609

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

LHAAP-069 was corrected under RCRA guidelines in 1993. A NFA DD was finalized in early 2014. A notification will be filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. Because LHAAP-069 is entirely contained within the LHAAP-35A(58) land use control boundary, this requirement is being met under LHAAP-35A(58). A five-year review report in the form of a letter stating the use of the site remains non-residential will be required. Five-year review costs are captured with LHAAP-35A(58) five-year review costs because this site falls within the boundary of LHAAP-35A(58). A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Post-PBA activities will be limited to five-year review reports in the form of a letter stating the use of the site remains non-residential.

Site ID: LHAAP-070
Site Name: LOADING DOCK-MAGAZINE AREA

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED

Phases	Start	End
PA	197906	198705
SI	199502	199506
RI/FS	199506	201509
LTM	201509	204609

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

There was a report of spill of boxes of TNT at LHAAP-070; however, SIs revealed no visual evidence of TNT contamination. NFA is required. A DD was finalized in September 2015. Limited monitoring in the form of certification of proper land use every five years is required for this site. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Post-PBA activities will be limited to five-year review reports in the form of a letter stating the use of the site remains non-residential.

Site ID: LHAAP-071
Site Name: OIL SPILL, BLDG 813

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: NOT EVALUATED

Phases	Start	End
PA	197906	198705
SI	199502	199506
RI/FS	199506	201509
LTM	201509	204609

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

An oil tank spill occurred at Building (Bldg) 813 in 1978. The spill was contained before it could reach Central Creek. An NFA DD was finalized in September 2015. Limited monitoring in the form of certification of proper land use every five years is required for this site. The costs for the installation-wide five-year reviews would be captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Post-PBA activities will be limited to five-year review reports in the form of a letter stating the use of the site remains non-residential.

Site ID: PBC Longhorn
Site Name: PBC at Longhorn

STATUS

Parcel: Pistol Range (FWS) (1 acres),East FIA II(FWS) (175 acres),Production Area II (467 acres),Production Area Ib (FWS) (107.59 acres),Production Area Ia (FWS) (456.72 acres)

Regulatory Driver: CERCLA

RRSE: LOW

Phases	Start	End
PA	200501	200503
RD	201203	201706
RA(C)	201203	201803
RA(O)	201203	201809

RIP Date: 201803

RC Date: 201809

Contaminants of Concern: Explosives, Metals, Perchlorate, Volatiles (VOC)

Media of Concern: Groundwater

SITE DESCRIPTION

The PBC was awarded in March 2012. The goal was to achieve RIP by September 2013 for the following sites and RA(O)/LTM upon achievement:
- LHAAP-03: Building 722 paint shop
- LHAAP-04: Pilot WWTP
- LHAAP-16: Old landfill (solid waste management unit (SWMU) 16)
- LHAAP-17: No. 2 flashing area/burning ground (SWMU 17)
- LHAAP-18: Burning ground/washout pond (SWMU 18)
- LHAAP-24: Former UEP (SWMU 24)
- LHAAP-29: Former TNT production area (SWMU 29)
- LHAAP-37: Chemical laboratory
- LHAAP-46: Plant 2/pyrotechnic operation
- LHAAP-47: Plant 3 Area, solid rocket fuel motor production
- LHAAP-50: Former waste disposal facility
- LHAAP-58: Maintenance complex
- LHAAP-67: AST farm

The RIP is delayed for several sites until the dispute is resolved with the USEPA.

It is currently assumed that the period of performance for the PBC will be extended through FY18 to account for these delays.

The PBC also covers LTM and LUC maintenance for:
- LHAAP-12: Active landfill
- LHAAP-001-R-01: South test area
- LHAAP-003-R-01: Ground signal test area

The PBC also covers a CERCLA 121 (c) review in 2013 for all sites with RIP. The costs for the out-year installation-wide five-year reviews are captured under LHAAP-058.

CLEANUP/EXIT STRATEGY

These sites are being addressed under a PBA through September 2017 with anticipation of potential period of performance

Site ID: PBC Longhorn
Site Name: PBC at Longhorn

extension to September 2020. Any follow-on actions will be funded under a separate contract mechanism.

IRP Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
LHAAP-005	POWER HOUSE BOILER POND	201509	A No Action Decision Document Signed in 2015.
LHAAP-009	BUILDING 31-W DRUM STORAGE	201509	A No Action Decision Document Signed in 2015.
LHAAP-013	SUS TNT BET ACTIVE&OLD LANDFILL(SWMU 13)	199512	ROD for NFA signed in 1996.
LHAAP-014	AREA 54 BURIAL GRND (SWMU 14)	199512	ROD for NFA signed in 1996.
LHAAP-015	AREA 49W DRUM STORAGE	201509	A No Action Decision Document Signed in 2015.
LHAAP-023	BUILDING 707-STORAGE AREA PCBS	200601	Decision Documentation for NFA in 2006, including a letter from TNRCC signed in September 2000 releasing the site from deed recordation and post-closure requirements.
LHAAP-027	SOUTH TEST AREA/BOMB TEST AREA(SWMU 27)	199801	ROD for NFA signed in 1998
LHAAP-032	FORMER TNT WASTEWATER PLT(SWMU 32)	200809	ROD for NFA - signed September 2008
LHAAP-034	BUILDING 701 PCB STORAGE	201509	A No Action Decision Document Signed in 2015.
LHAAP-039	25X WASHOUT PAD	199008	PP - September 1994; Combined with LHAAP-18/24 IRA - Capping Site 18 1986; IRA - Soil Removal and Capping 1986; LTM - Groundwater Monitoring System Installed 1989;
LHAAP-053	STATIC TEST AREA	200811	A no action decision document signed in 2008.
LHAAP-054	GRD SIGNAL TEST AREA (LHAAP-XX)	199801	ROD for NFA signed in 1998.
LHAAP-057	RUBBLE BURIAL SITE	201509	A No Action Decision Document Signed in 2015.
LHAAP-061	POTABLE WTP SEDIMENT POND	201509	A No Action Decision Document Signed in 2015.

IRP Schedule

Date of IRP Inception: 197906

Past Phase Completion Milestones

1984	
PA	(LHAAP-001 - INERT BURNING GROUNDS (SWMU 1))
SI	(LHAAP-001 - INERT BURNING GROUNDS (SWMU 1))
1987	
PA	(LHAAP-002 - VACCUM TRUCK OVERNITE PARKING LOT, LHAAP-003 - BUILDING 722-PAINT SHOP, LHAAP-004 - LHAAP PILOT WASTEWATER TREATMENT PLANT, LHAAP-005 - POWER HOUSE BOILER POND, LHAAP-006 - BUILDING 54F SOLVENT, LHAAP-007 - BUILDING 50G DRUM PROCESSING, LHAAP-008 - SEWAGE TREATMENT PLANT, LHAAP-009 - BUILDING 31-W DRUM STORAGE, LHAAP-011 - SUS TNT BURIAL SITE AT AVE P&Q(SWMU 11), LHAAP-012 - ACTIVE LANDFILL (SWMU 12), LHAAP-013 - SUS TNT BET ACTIVE&OLD LANDFILL(SWMU 13), LHAAP-014 - AREA 54 BURIAL GRND (SWMU 14), LHAAP-015 - AREA 49W DRUM STORAGE, LHAAP-016 - OLD LANDFILL (SWMU 16), LHAAP-017 - NO 2 FLASHING AREA BRN GROUND(SWMU 17), LHAAP-018 - BURNING GROUND/WASHOUT POND(SWMU 18), LHAAP-019 - CONSTRUCTION MATERIALS LANDFILL, LHAAP-023 - BUILDING 707-STORAGE AREA PCBS, LHAAP-027 - SOUTH TEST AREA/BOMB TEST AREA(SWMU 27), LHAAP-029 - FORMER TNT PRODUCTION AREA(SWMU 29), LHAAP-032 - FORMER TNT WASTEWATER PLT(SWMU 32), LHAAP-034 - BUILDING 701 PCB STORAGE, LHAAP-035 - SUMPS (145) VARIOUS, LHAAP-036 - EXPLOSIVE WASTE PADS (27), LHAAP-047 - PLANT 3 AREA, LHAAP-070 - LOADING DOCK-MAGAZINE AREA, LHAAP-071 - OIL SPILL, BLDG 813)
SI	(LHAAP-011 - SUS TNT BURIAL SITE AT AVE P&Q(SWMU 11), LHAAP-012 - ACTIVE LANDFILL (SWMU 12), LHAAP-013 - SUS TNT BET ACTIVE&OLD LANDFILL(SWMU 13), LHAAP-014 - AREA 54 BURIAL GRND (SWMU 14), LHAAP-016 - OLD LANDFILL (SWMU 16), LHAAP-017 - NO 2 FLASHING AREA BRN GROUND(SWMU 17), LHAAP-018 - BURNING GROUND/WASHOUT POND(SWMU 18), LHAAP-019 - CONSTRUCTION MATERIALS LANDFILL, LHAAP-023 - BUILDING 707-STORAGE AREA PCBS, LHAAP-027 - SOUTH TEST AREA/BOMB TEST AREA(SWMU 27), LHAAP-029 - FORMER TNT PRODUCTION AREA(SWMU 29), LHAAP-032 - FORMER TNT WASTEWATER PLT(SWMU 32), LHAAP-034 - BUILDING 701 PCB STORAGE, LHAAP-035 - SUMPS (145) VARIOUS, LHAAP-036 - EXPLOSIVE WASTE PADS (27))
1990	
SI	(LHAAP-024 - FORMER UNLINED EVAP POND (SWMU 24), LHAAP-054 - GRD SIGNAL TEST AREA (LHAAP-XX))
PA	(LHAAP-024 - FORMER UNLINED EVAP POND (SWMU 24), LHAAP-037 - CHEMICAL LABORATORY WASTE PAD, LHAAP-045 - MAGAZINE AREA, LHAAP-050 - FORMER WASTE DISPOSAL FACILITY, LHAAP-051 - PHOTOGRAPHIC LABORATORY/BLDG #60B, LHAAP-052 - MAGAZINE AREA WASHOUT, LHAAP-053 - STATIC TEST AREA, LHAAP-054 - GRD SIGNAL TEST AREA (LHAAP-XX), LHAAP-055 - SEPTIC TANK (10), LHAAP-057 - RUBBLE BURIAL SITE, LHAAP-058 - MAINTENANCE COMPLEX, LHAAP-060 - FORMER STORAGE BUILDING #411 & #714, LHAAP-061 - POTABLE WTP SEDIMENT POND, LHAAP-063 - BURIAL PITS, LHAAP-064 - TRANSFORMER STORAGE, LHAAP-066 - TRANSFORMER AT BLDG 401, LHAAP-067 - ABOVE GROUND STORAGE TANK, LHAAP-068 - MOBILE STORAGE TANK PARKING AREA, LHAAP-069 - SERVICE STATION UST'S)
RFA	(LHAAP-039 - 25X WASHOUT PAD)
1995	
SI	(LHAAP-058 - MAINTENANCE COMPLEX, LHAAP-064 - TRANSFORMER STORAGE, LHAAP-066 - TRANSFORMER AT BLDG 401, LHAAP-070 - LOADING DOCK-MAGAZINE AREA, LHAAP-071 - OIL SPILL, BLDG 813)
1996	
RI/FS	(LHAAP-013 - SUS TNT BET ACTIVE&OLD LANDFILL(SWMU 13), LHAAP-014 - AREA 54 BURIAL GRND (SWMU 14))
1997	

IRP Schedule

1997	
SI	(LHAAP-050 - FORMER WASTE DISPOSAL FACILITY, LHAAP-060 - FORMER STORAGE BUILDING #411 & #714)
1998	
SI	(LHAAP-052 - MAGAZINE AREA WASHOUT, LHAAP-063 - BURIAL PITS)
RI/FS	(LHAAP-001 - INERT BURNING GROUNDS (SWMU 1), LHAAP-011 - SUS TNT BURIAL SITE AT AVE P&Q(SWMU 11), LHAAP-027 - SOUTH TEST AREA/BOMB TEST AREA(SWMU 27), LHAAP-054 - GRD SIGNAL TEST AREA (LHAAP-XX))
1999	
SI	(LHAAP-067 - ABOVE GROUND STORAGE TANK)
2002	
PA	(LHAAP-046 - PLANT 2 AREA)
2004	
SI	(LHAAP-045 - MAGAZINE AREA)
RI/FS	(LHAAP-045 - MAGAZINE AREA)
2005	
PA	(PBC Longhorn - PBC at Longhorn)
IRA	(LHAAP-012 - ACTIVE LANDFILL (SWMU 12), LHAAP-016 - OLD LANDFILL (SWMU 16))
2006	
RI/FS	(LHAAP-012 - ACTIVE LANDFILL (SWMU 12), LHAAP-023 - BUILDING 707-STORAGE AREA PCBS)
2007	
PA	(LHAAP-059 - BUILDING 725)
RA(C)	(LHAAP-012 - ACTIVE LANDFILL (SWMU 12))
RI/FS	(LHAAP-032 - FORMER TNT WASTEWATER PLT(SWMU 32))
RD	(LHAAP-012 - ACTIVE LANDFILL (SWMU 12))
2008	
RI/FS	(LHAAP-059 - BUILDING 725)
PA	(LHAAP-056 - VEHICLE WASH RACK AND OIL/WATER SEP)
LTM	(LHAAP-032 - FORMER TNT WASTEWATER PLT(SWMU 32))
2009	
PA	(LHAAP-049 - FORMER ACID STORAGE AREA)
SI	(LHAAP-003 - BUILDING 722-PAINT SHOP)
RI/FS	(LHAAP-006 - BUILDING 54F SOLVENT, LHAAP-007 - BUILDING 50G DRUM PROCESSING, LHAAP-008 - SEWAGE TREATMENT PLANT, LHAAP-051 - PHOTOGRAPHIC LABORATORY/BLDG #60B, LHAAP-053 - STATIC TEST AREA, LHAAP-055 - SEPTIC TANK (10), LHAAP-060 - FORMER STORAGE BUILDING #411 & #714, LHAAP-064 - TRANSFORMER STORAGE, LHAAP-066 - TRANSFORMER AT BLDG 401, LHAAP-068 - MOBILE STORAGE TANK PARKING AREA)
2010	
RI/FS	(LHAAP-002 - VACCUM TRUCK OVERNITE PARKING LOT, LHAAP-037 - CHEMICAL LABORATORY WASTE PAD, LHAAP-046 - PLANT 2 AREA, LHAAP-049 - FORMER ACID STORAGE AREA, LHAAP-050 - FORMER WASTE DISPOSAL FACILITY, LHAAP-058 - MAINTENANCE COMPLEX, LHAAP-067 - ABOVE GROUND STORAGE TANK)

IRP Schedule

2011	
PA	(LHAAP-065 - BUILDING 209)
RA(C)	(LHAAP-035 - SUMPS (145) VARIOUS)
IRA	(LHAAP-018 - BURNING GROUND/WASHOUT POND(SWMU 18), LHAAP-024 - FORMER UNLINED EVAP POND (SWMU 24))
RD	(LHAAP-035 - SUMPS (145) VARIOUS, LHAAP-037 - CHEMICAL LABORATORY WASTE PAD, LHAAP-046 - PLANT 2 AREA, LHAAP-050 - FORMER WASTE DISPOSAL FACILITY, LHAAP-058 - MAINTENANCE COMPLEX, LHAAP-067 - ABOVE GROUND STORAGE TANK)
RI/FS	(LHAAP-035 - SUMPS (145) VARIOUS, LHAAP-036 - EXPLOSIVE WASTE PADS (27))
2012	
IRA	(LHAAP-004 - LHAAP PILOT WASTEWATER TREATMENT PLANT)
2013	
RA(C)	(LHAAP-037 - CHEMICAL LABORATORY WASTE PAD, LHAAP-046 - PLANT 2 AREA, LHAAP-050 - FORMER WASTE DISPOSAL FACILITY, LHAAP-058 - MAINTENANCE COMPLEX, LHAAP-067 - ABOVE GROUND STORAGE TANK)
2014	
RI/FS	(LHAAP-019 - CONSTRUCTION MATERIALS LANDFILL, LHAAP-056 - VEHICLE WASH RACK AND OIL/WATER SEP, LHAAP-065 - BUILDING 209, LHAAP-069 - SERVICE STATION UST'S)
2015	
RI/FS	(LHAAP-005 - POWER HOUSE BOILER POND, LHAAP-009 - BUILDING 31-W DRUM STORAGE, LHAAP-015 - AREA 49W DRUM STORAGE, LHAAP-034 - BUILDING 701 PCB STORAGE, LHAAP-052 - MAGAZINE AREA WASHOUT, LHAAP-057 - RUBBLE BURIAL SITE, LHAAP-061 - POTABLE WTP SEDIMENT POND, LHAAP-063 - BURIAL PITS, LHAAP-070 - LOADING DOCK-MAGAZINE AREA, LHAAP-071 - OIL SPILL, BLDG 813)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
LHAAP-017	NO 2 FLASHING AREA BRN GROUND(SWMU 17)	Flashing Area/Burning Grnd No 2:LHAAP-17	20160930

Final RA(C) Completion Date: 202106

Schedule for Next Five-Year Review: 2019

Estimated Completion Date of IRP at Installation (including LTM phase): 209909

LONGHORN ARMY AMMUNITION PLANT IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-001	INERT BURNING GROUNDS (SWMU 1)	LTM	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-002	VACCUM TRUCK OVERNITE PARKING LOT	LTM	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-003	BUILDING 722-PAINT SHOP	RI/FS	■					
		RD	■					
		RA(C)	■					
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-004	LHAAP PILOT WASTEWATER TREATMENT PLANT	RI/FS	■					
		RD	■					
		RA(C)	■	■				
		RA(O)	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-006	BUILDING 54F SOLVENT	LTM	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-007	BUILDING 50G DRUM PROCESSING	LTM	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-008	SEWAGE TREATMENT PLANT	LTM	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-011	SUS TNT BURIAL SITE AT AVE P&Q(SWMU 11)	LTM	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-012	ACTIVE LANDFILL (SWMU 12)	RA(O)	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-016	OLD LANDFILL (SWMU 16)	RI/FS	■					
		RD	■					
		RA(C)	■	■				
		RA(O)	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-017	NO 2 FLASHING AREA BRN GROUND(SWMU 17)	RI/FS	■					
		RD	■					
		RA(C)	■					
		RA(O)	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-018	BURNING GROUND/WASHOUT POND(SWMU 18)	RI/FS	■	■				
		RD	■	■	■			
		RA(C)	■	■	■	■	■	
		RA(O)	■	■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-019	CONSTRUCTION MATERIALS LANDFILL	LTM	■	■	■	■	■	■

LONGHORN ARMY AMMUNITION PLANT IRP Schedule

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-024	FORMER UNLINED EVAP POND (SWMU 24)	RI/FS						
		RD						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-029	FORMER TNT PRODUCTION AREA(SWMU 29)	RI/FS						
		RD						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-035	SUMPS (145) VARIOUS	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-036	EXPLOSIVE WASTE PADS (27)	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-037	CHEMICAL LABORATORY WASTE PAD	RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-045	MAGAZINE AREA	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-046	PLANT 2 AREA	RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-047	PLANT 3 AREA	RI/FS						
		RD						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-049	FORMER ACID STORAGE AREA	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-050	FORMER WASTE DISPOSAL FACILITY	RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-051	PHOTOGRAPHIC LABORATORY/BLDG #60B	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-052	MAGAZINE AREA WASHOUT	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-055	SEPTIC TANK (10)	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-056	VEHICLE WASH RACK AND OIL/WATER SEP	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-058	MAINTENANCE COMPLEX	RA(O)						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-059	BUILDING 725	LTM						
SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-060	FORMER STORAGE BUILDING #411 & #714	LTM						

LONGHORN ARMY AMMUNITION PLANT IRP Schedule

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-063	BURIAL PITS	LTM						
LHAAP-064	TRANSFORMER STORAGE	LTM						
LHAAP-065	BUILDING 209	LTM						
LHAAP-066	TRANSFORMER AT BLDG 401	LTM						
LHAAP-067	ABOVE GROUND STORAGE TANK	RA(O)						
LHAAP-068	MOBILE STORAGE TANK PARKING AREA	LTM						
LHAAP-069	SERVICE STATION UST'S	LTM						
LHAAP-070	LOADING DOCK-MAGAZINE AREA	LTM						
LHAAP-071	OIL SPILL, BLDG 813	LTM						
PBC Longhorn	PBC at Longhorn	RD						
		RA(C)						
		RA(O)						

LONGHORN ARMY AMMUNITION PLANT

Non-BRAC Excess
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 4/1

Installation Site Types with Future and/or Underway Phases

1 Explosive Ordnance Disposal Area
(LHAAP-003-R-01)
1 Pistol Range
(LHAAP-004-R-01)
1 Unexploded Munitions/Ordnance
(LHAAP-001-R-01)

Most Widespread Contaminants of Concern

Explosives

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions / Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY	Cost
LHAAP-001-R-01	SOUTH TEST AREA / BOMB TEST AREA	IRA	UXO CLEARANCE	2009	TBD
LHAAP-001-R-01	SOUTH TEST AREA / BOMB TEST AREA	IRA	INSTITUTIONAL CONTROLS	2009	TBD
LHAAP-004-R-01	PISTOL RANGE	IRA	WASTE REMOVAL - SOILS	2010	TBD

Duration of MMRP

Year of MMRP Inception: 200202

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201701/201701

Date of MMRP completion including Long Term Management (LTM): 204609

MMRP Contamination Assessment

Contamination Assessment Overview

In May 2003 the Phase 3 Army range inventory was completed at LHAAP. The inventory identified three sites as eligible for the Military Munitions Response Program (MMRP). The Phase 3 inventory serves as the preliminary assessment (PA) under CERCLA. In June 2005 an SI was completed. An EE/CA was finalized on the three sites in October 2007. The EE/CA indicated that no Department of Defense (DoD) action was required for LHAAP-002-R-01. An interim removal action was funded for the two other sites and was completed in 2009. In March 2008 an explosives safety submission (ESS) was finalized for the three sites. The final MC summary report was completed in 2011 for LHAAP-001-R-01 and LHAAP-003-R-01. In 2012 the Pistol Range (LHAAP-004-R-01) was added to the MMRP. A soil removal action was completed at LHAAP-004-R-01 and an NFA ROD was signed in September 2010.

Cleanup Exit Strategy

Limited groundwater monitoring for perchlorate and five-year reviews are planned for LHAAP-001-R-01 and LHAAP-003-R-01. Five-year reviews are planned for LHAAP-004-R-01. The five-year reviews will ensure that the site is inspected, LUCs are still in place and that any new data regarding the condition of the site is reviewed.

MMRP Previous Studies

	Title	Author	Date
2001			
	U.S. Army Active/Inactive Range Inventory, Longhorn AAP	Army Materiel Command	AUG-2001
2002			
	CTT Range Inventory	e2M	JAN-2002
2003			
	Phase 3 Army Range Inventory at Longhorn Army Ammunition Plant	e2M	MAY-2003
2005			
	Final Site Inspection Report, Military Munitions Response Program Site Inspection, Munitions Response Sites	e2M	JUN-2005
2006			
	Final Work Plan Engineering Evaluation/Cost Analysis at the Longhorn Army Ammunition Plant	Cape Environmental Management, Inc.	MAR-2006
	Draft Operational Range Inventory Sustainment (ORIS) for Longhorn AAP	US Army	NOV-2006
2007			
	Final Engineering Evaluation/Cost Analysis at the Longhorn Army Ammunition Plant	Cape Environmental Management, Inc.	OCT-2007
2008			
	Final Explosives Safety Submission - Munitions and Explosives of Concern Removal Action	USACE, Huntsville	FEB-2008
	Final Work Plan for MEC Removal Action at Former LHAAP LHAAP-001-R(Site 27) and LHAAP-003-R(Site 54)	EOD Technology, Inc.	JUL-2008
2009			
	Final EE/CA Former Pistol Range	Shaw Environmental, Inc.	FEB-2009
	Final Site-specific Final Report for MEC Removal Action, LHAAP-001-R(Site 27) and LHAAP-003-R(Site 54)	EOD Technology, Inc.	SEP-2009
2010			
	Final Completion Report Non-Time Critical Removal Action at the Former Pistol Range	Shaw Environmental, Inc.	JAN-2010
	Final Proposed Plan for the Former Pistol Range	Shaw Environmental, Inc.	JAN-2010
	Final ROD, Former Pistol Range	Shaw Environmental, Inc.	SEP-2010
2011			
	Final Proposed Plan for South Test Area/Bomb Test Area, LHAAP-001-R and Ground Signal Test Area, LHAAP-003-R	Shaw Environmental Inc.	JUN-2011

LONGHORN ARMY AMMUNITION PLANT

Non-BRAC Excess

Military Munitions Response Program

Site Descriptions

Site ID: LHAAP-001-R-01
Site Name: SOUTH TEST AREA / BOMB TEST AREA

STATUS

Parcel: South Test/Bomb (FWS) (72 acres)

Regulatory Driver: CERCLA
MRSPP Score: 04

Contaminants of Concern: Explosives

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200202	200305
SI	200402	200506
RI/FS	200503	201701
IRA	200710	200904
LTM	201702	204609

RIP Date: N/A

RC Date: 201701

SITE DESCRIPTION

This site of approximately 79 acres is also known as environmental site LHAAP-027 and is located southeast of Avenue P and the magazine area, at the end of 70th street, near the southern boundary of LHAAP. The site was constructed in 1954 and used by Universal Match Corporation to test photoflash bombs that were produced at the facility until about 1956. The bombs were tested by exploding them in the air over an elevated, semi-elliptical earthen test pad. Bombs awaiting testing were apparently stored in three earth-covered concrete bunkers. The bombs tested were 150-pound M120/M120A photoflash bombs, filled with photoflash powder and containing a black powder booster charge for bursting the bomb with a timed nose fuse.

The location of the site, for this purpose, was not ideally suited to the task, as fragments from this testing landed beyond the installation boundary. By June 1954, static testing of photoflash bombs had been discontinued because of the possibility of damage and injuries beyond the installation boundary. During the late-1950s, illuminating signal devices were also demilitarized within pits at this site. During the early-1960s, leaking production items were demilitarized in the area. The May 1997 final RI report for Group I sites indicates approximately 52,000 one-half and one-pound photoflash cartridges were demilitarized at the site in the early-1980s.

In 1982, investigations included installation and sampling of two wells and three shallow soil samples. Explosives, metals, chloride and sulfate were detected above background levels in the soil samples. In January 1998, an NFA ROD was signed by the USEPA, based upon the site-specific risk analysis for human and ecological exposure to the contaminants of potential concern for the site.

In 2004, the Explosive Ordnance Disposal (EOD) unit at Fort Polk blew in place (BIP) one 155 mm white phosphorous (WP) round. The identification of this round as a live 155 mm WP round is suspect. Plexus, in the 2005 environmental baseline survey (EBS) (page 46), states that "confirmatory sampling (CS) WP operations at LHAAP were assembly and packout operations only; no loading of these materials was conducted at the site. The WP rounds were stored and worked in the east line area of Plant 2 [US Army Toxic and Hazardous Materials Agency (USATHAMA), 1980]." Testing of the payload at LHAAP would not be part of the mission, since it was not manufactured at Longhorn. Others indicate that it was a 105 or 81 mm smoke round.

A reported demolition site was identified on the northwest perimeter of this site. This was added to the investigation. In FY2008 an EE/CA report was completed, approved and signed. In October 2007 the report was finalized. An IRA has been funded with the final ESS completed in March 2008. The removal action was completed in 2009. The ROD is delayed until the dispute is resolved with the USEPA. The ROD will include limited groundwater monitoring for perchlorate and LUCs of restrictions against digging and residential use and sign maintenance. The costs for the ROD and RD are captured under the PBA. Five-year reviews are required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. The costs reported under this site include out-year LUC maintenance costs for a finite period of 30 years where LTM phase is expected to continue indefinitely.

Site ID: LHAAP-001-R-01
Site Name: SOUTH TEST AREA / BOMB TEST AREA

CLEANUP/EXIT STRATEGY

Five-year reviews are planned for this site. These five-year reviews will ensure that the site is inspected and that any new data regarding the condition of the site is reviewed. The LUCs are in place and will be formally enforced upon ROD signature.

Site ID: LHAAP-003-R-01
Site Name: GROUND SIGNAL TEST AREA

STATUS

Parcel: Ground Signal Test (FWS) (80 acres)

Regulatory Driver: CERCLA
MRSPP Score: 04

Contaminants of Concern: Explosives

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200202	200305
SI	200402	200506
RI/FS	200503	201701
IRA	200710	200904
LTM	201702	204609

RIP Date: N/A

RC Date: 201701

SITE DESCRIPTION

This site, also known as environmental site LHAAP-054, encompasses approximately 80 acres and is located in the southeastern portion of LHAAP. Starting in April 1963 the site was used intermittently for aerial and on-ground testing and destruction of a variety of devices, including red phosphorus smoke wedges, infrared flares, illuminating 60 and 81 mm mortar shells, illuminating 40 to 155 mm cartridges, button bombs, and various types of explosive simulators. The site was also used intermittently over a 20-year period for testing and burnout of rocket motors from Nike-Hercules, Pershing, and Sergeant missiles. Around 1970, one of the Sergeant rocket motors exploded in an excavated pit near the center of the site. Debris was reportedly placed in the resulting crater and backfilled. From late-1988 through 1991, the site was also used for burnout of rocket motors in Pershing missiles destroyed in accordance with the INF Treaty between the United States (US) and the former Soviet Union. In January 1998 an NFA ROD for hazardous, toxic and radioactive waste (HTRW) under CERCLA was signed. The site is currently undeveloped.

In December 2004, the EOD unit at Fort Polk BIP 105 mm and 81 mm rounds. In FY2008 an EE/CA report was completed, approved and signed. In October 2007 the report was finalized. An IRA has been funded with the final ESS completed in March 2008. The removal action was completed in 2009. The ROD is delayed until the dispute is resolved with the USEPA. The ROD will include limited groundwater monitoring for perchlorate LUCs of restrictions against digging and residential use and sign maintenance. The costs for the ROD and RD are captured under the PBA. Five-year reviews are required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. The costs reported under this site include out-year LUC maintenance costs for a finite period of 30 years where LTM phase is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

Five-year reviews are planned for this site. These five-year reviews will ensure that the site is inspected and that any new data regarding the condition of the site is reviewed. The LUCs are in place and will be formally enforced upon ROD signature.

Site ID: LHAAP-004-R-01
Site Name: PISTOL RANGE

STATUS

Parcel: Pistol Range (FWS) (1 acres)

Regulatory Driver: CERCLA

MRSPP Score: No longer required

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	200809	200902
RI/FS	201005	201008
IRA	200912	201001
LTM	201201	204609

RIP Date: N/A

RC Date: 201008

SITE DESCRIPTION

The former pistol range was known to have been used by LHAAP security personnel for small arms target qualification and recertification. The pistol range was established in the 1950s and used intermittently through 2004. Site investigation results identified areas where the surface and near surface soil was contaminated with lead at concentrations that exceeded the TCEQ soil MSCC for industrial use. A non-time critical removal action was completed. The IRA for this site became the FRA. An NFA ROD was finalized in August 2010. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. A five-year review report in the form of a letter stating the use of the site remains non-residential is required. The costs for the installation-wide five-year reviews are captured under LHAAP-058. A finite period of 30 years is used where LTM is expected to continue indefinitely.

CLEANUP/EXIT STRATEGY

LTM in the form of five-year reviews is required.

MMRP Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
LHAAP-002-R-01	STATIC TEST AREA	200811	A no action decision document signed in 2008.

MMRP Schedule

Date of MMRP Inception 200202

Past Phase Completion Milestones

2003	
PA	(LHAAP-001-R-01 - SOUTH TEST AREA / BOMB TEST AREA, LHAAP-002-R-01 - STATIC TEST AREA, LHAAP-003-R-01 - GROUND SIGNAL TEST AREA)
2005	
SI	(LHAAP-001-R-01 - SOUTH TEST AREA / BOMB TEST AREA, LHAAP-002-R-01 - STATIC TEST AREA, LHAAP-003-R-01 - GROUND SIGNAL TEST AREA)
2008	
RI/FS	(LHAAP-002-R-01 - STATIC TEST AREA)
2009	
PA	(LHAAP-004-R-01 - PISTOL RANGE)
IRA	(LHAAP-001-R-01 - SOUTH TEST AREA / BOMB TEST AREA, LHAAP-003-R-01 - GROUND SIGNAL TEST AREA)
2010	
RI/FS	(LHAAP-004-R-01 - PISTOL RANGE)
IRA	(LHAAP-004-R-01 - PISTOL RANGE)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

To Be Determined

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: 2019

Estimated Completion Date of MMRP at Installation (including LTM phase): 204609

LONGHORN ARMY AMMUNITION PLANT MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-001-R-0	SOUTH TEST AREA / BOMB TEST AREA	RI/FS						
		LTM						
LHAAP-003-R-0	GROUND SIGNAL TEST AREA	RI/FS						
		LTM						
LHAAP-004-R-0	PISTOL RANGE	LTM						

Community Involvement

Technical Review Committee (TRC): 199203

Community Involvement Plan (Date Published): 201311

Restoration Advisory Board (RAB): RAB established 2004

RAB Adjournment Date:

RAB Adjournment Reason:

Additional Community Involvement Information

While the Army leads the Installation Restoration Program (IRP) at LHAAP, a close working relationship with the regulatory community has been developed. The local public community has been involved in the past through the TRC process.

In April 1996 and in 1998 formation of a RAB was attempted; however, community involvement in the TRC process was determined to be sufficient for community needs. In September 2004, in response to public notices and private mailings, a group of citizens attended a RAB-interest meeting. Enthusiastic support resulted in the first RAB meeting in December 2004. It was well attended. The RAB has created its own symbol, finalized its charter, and elected a co-chair. The RAB meets quarterly and public meetings are held for each PP. These will continue as needed.

An update to the community involvement plan was finalized in 2013.

Administrative Record is located at

Longhorn Army Trailer
Groundwater Treatment Plant Compound
Highway 134 and Spur 449
Karnack, TX 75661

Information Repository is located at

Marshall Texas Library
300 South Alamo
Marshall, TX 75670

Current Technical Assistance for Public Participation (TAPP): 199909

TAPP Title: Grnd/surf water migration

Current Technical Assistance for Public Participation (TAPP): 200103

TAPP Title: TAPP2

Potential TAPP: N/A

Subject:	**Final Minutes, Monthly Managers' Meeting, Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting:	**LHAAP Army Trailer; Teleconference – 888-369-1427, passcode 4887611**
Date of Meeting:	**October 20, 2016 – 10:00 AM**

Attendees:

Army BRAC:	Rose Zeiler (RMZ)
AEC:	Nick Smith (NS)
EPA:	Rich Mayer (RM) by phone, Kent Becher (KB) (USGS Liaison)
TCEQ:	April Palmie (AP)
USACE:	Aaron Williams (AW), Rick Smith (RS)
AECOM:	Debra Richmann (DR), Marwan Salameh (MS), Elspeth Sharp (ES), JoLynn Snow (JS) by phone
USFWS:	Paul Bruckwicki (PB)

Welcome **RMZ**

Action Items From Last MMM
AECOM

- Provide group with Draft MMM minutes from the September 2016 meeting. **Complete –** Draft September MMM minutes were submitted to EPA and TCEQ on 9/26/16. TCEQ had no comments; EPA provided two minor comments that are addressed in the final meeting minutes.
- Determine if temporary well(s) installed by Shaw in the vicinity of LHAAP-47 monitoring wells 24 and 25 still exist, and if so, abandon them. **Partially Complete** – A visual inspection on 9/14/16 identified one 1-inch temporary well in the area. The 1-inch well would not have been developed, but it does have a screen. RMZ asked what the ID of the 1-inch well is. **New Action Item –** AECOM will provide the ID of the identified 1-inch temporary well.
- Discuss how possible clay smearing in boreholes used for grab groundwater samples will be mitigated to allow collection of sufficient volume for COC analysis. **Complete.** DR described the equipment used to collect the grab groundwater sample. KB noted there is a concern about smearing and that he has seen projects that use a 24-hour period prior to sample collection. RMZ stated the Army has to balance costs and described the following agreed to process:
    1. Review water levels from adjacent wells.
    2. Review lithology from acetate liner and from the nearest available boring logs.
    3. If there is potential for smearing, allow 3 to 4 hours for adequate breakthrough prior to sampling.
    4. If after 3 to 4 hours water is still not observed, evaluate whether the borehole should remain open for 24 hours before abandoning.

  RS noted that fieldwork will not be implemented under the current PBR due to RFP for new follow-on PBR contract being issued December 1.

Army

- Submit missing LHAAP-12 2012 RA-O Report with RTCs to EPA and TCEQ for concurrence. **Complete** – Missing 2012 RA-O report and RTCs were submitted to EPA and TCEQ on 9/29/16. EPA approval and TCEQ concurrence were received on 10/3/16 and 10/11/16, respectively. The final report and approval emails will be entered into the AR in the Q3 2016 update.

EPA

- Provide Certificate of Completion for LHAAP-67 to the Army. **Complete –** Army received EPA Certificate of Completion dated 9/14/16 from EPA.

TCEQ

- No outstanding action items.

AEC

- No outstanding action items.

USFWS

- No outstanding action items.

Schedule Review **RMZ**

- RMZ provided a preliminary draft schedule to attendees that was accepted by EPA. The preliminary draft schedule reflects a 10-month lag for follow-on PBR contract execution and subsequent mobilization time. The 10-month lag is considered the minimum down time.
- RS discussed the following anticipated schedule for the follow-on PBR contract:
    - RFP issued December 1, 2016.
    - Proposals due mid-January.
    - Award June 2017.
- The Army would like to finalize several documents before December 1, 2016 so that the documents will be available to contractors bidding on the follow-on PBR. The highest priorities for review are the LHAAP-18/24 FS, followed by the LHAAP-4 ROD. **Action Item** - EPA and TCEQ agreed to provide comments on the LHAAP-18/24 FS as soon as possible. EPA comments are also needed on the LHAAP-50 Year 2 RA-O report.
- The Army will cease monitoring at LHAAP-37; ORP is increasing at the site, indicating that the aquifer has not rebounded to its pre-test condition.
- MNA sampling will be suspended at LHAAP-46, LHAAP-50, LHAAP-58, and LHAAP-67 due to timing of the follow-on PBR. The follow-on PBR contractor will perform sampling at these sites going forward.

Programmatic Issues **RMZ/RM/AP**

- RMZ discussed Post-ROD Requirements relating to recently signed RODs and provided a handout with FFA, ROD, and CRP requirements.
    - The FFA states Remedial Action completion is supposed to be within 15 months from the ROD signature dates, but that schedule cannot be met.
    - ROD availability notices were sent out to senators, governor, state legislators, Mayor of Uncertain, county judge, USFWS, water board for Caddo Lake Water, etc.
    - Per the ROD, within 90 days initial notices of LUCs, contamination, and maps are to be sent to the same distribution list. December 10, 2016 is the 90-day deadline.

- AW developed fact sheets for each stating that the dispute concluded and the ROD was signed, a description of the RAOs and the selected remedies, including the LUCs along with a site map to be provided to the public during the RAB meeting.
- RMZ stated the Army is compliant with ROD, FFA and CRP requirements.

Defense Environmental Restoration Program (DERP) PBR Update **AECOM**

DR asked everyone to refer to the Document and Issue Tracker dated 10/20/16, which was distributed with the agenda. It includes currently projected dates for submittal of remaining project milestone deliverables to EPA, TCEQ, and the Army.

- Item 1 (GWTP Quarterly Report) – The Q4 2015 GWTP report is complete and responses to regulatory agency comments on it will be incorporated into the Q1 2016 GWTP report. Submittal to EPA and TCEQ is planned for November 2016.

- Item 2 (Revised Updated LHAAP-18/24 PSI Addendum) – TCEQ comments have been received, awaiting EPA comments. TCEQ noted there is no value in the log for 18CPTMW22 because it references lithology in a separate CPT log and shows incorrect well screen information. RMZ agreed that a new replacement log can be developed, but the original log needs to stay with the revised log for record-keeping purposes. **Action Item:** AECOM is to provide a new clean log for 18CPTMW22 to show the corrected screen interval; the original log will be attached and a note will be on the new clean log noting what correction was made. **Action Item:** Per AP request, AECOM will revise D-D' cross-section to add the 18CPTMW22 SW log to assist with understanding of lithology.

- Item 2-1 (LHAAP-18/24 Data Gap Sampling) is complete.

- Item 2-2 (Previous Regulatory Comments on LHAAP-18/24 FS) – As noted above, RMZ requested EPA prioritize review of the FS RTCs.

- Item 2-3 (LHAAP-18/24 Revised FS) – This document is a high Army priority, with the next action being to receive EPA or TCEQ comments or concurrence on the Draft Final Revised document submitted 10/13/16.

- Item 3-1 (LHAAP-37 RACR) – JS verified that paper copies of the Final RACR were shipped to EPA and TCEQ on 9/29/16. **Action Item:** RM is to verify that the electronic copy of the Final RACR was uploaded, or if the electronic copy needs to be resent. EPA comments or concurrence are requested by 10/31/16. **Action Item:** TCEQ is to provide an email response to close the loop.

- Item 4 (LHAAP-46 RACR) is complete.

- Item 5 (LHAAP-50 RACR) –The Final RACR will be entered into the AR.

- Item 6 (LHAAP-58 RACR) is complete.

- Item 7 (LHAAP-67 RACR) –The Army received the Certificate of Completion for LHAAP-67 from EPA on 9/15/2016. The Final RACR will be entered into the AR with the Q3 2016 update. PB inquired about a roll-off associated with IDW from LHAAP-67. MS indicated

the roll-off was sampled for IDW profiling. **Action Item:** AECOM will facilitate IDW disposal and removal of the roll-off.

- Item 8 (LHAAP-12 2015 Annual Report) – The Draft Final 2015 Annual Report received EPA and TCEQ approval on 7/18/16 and 7/19/16, respectively, and became final on 7/19/16. The Draft Final 2012 RA-O report was missing from the Administrative Record. The report was submitted to the EPA and TCEQ for review and concurrence on 9/29/2016. Approval was received from EPA and TCEQ on 10/3/2016 and 10/11/2016, respectively. The Final LHAAP-12 2012 and 2015 Annual Reports will be entered into the AR with the Q3 2016 update.

- Item 9 (LHAAP-46 Yr. 2 RA-O Report) – Yr. 2 RA-O report became final on 6/2/16. It will be entered into the AR (with the regulatory approval letters) with the Q2 2016 AR update. August sampling is complete and validated data are forthcoming.

- Item 10-1 (LHAAP-67 Yr. 1 RA-O Report) – DR said the report is planned for submittal to EPA and TCEQ the week of 10/24/2016.

- Item 10-2 (LHAAP-67 Yr. 2 RA-O Report) – Same as Item 10-1.

- Item 11-1 (LHAAP-50 Yr. 1 RA-O) – EPA comments were received on the Draft Year 1 report on 9/30/2016, and TCEQ comments were received on 10/10/2016. DR said that responses to TCEQ and EPA comments on the Year 1 report are being developed.

- Item 11-2 (LHAAP-50 Yr. 2 RA-O) – TCEQ comments on the Draft Yr. 2 report were received on 10/11/2016. RM stated EPA would provide comments today (10/ 20/16).

- Item 12-1 (LHAAP-58 RA-O) – The Yr. 1 RA-O report became final on 12/4/15 and the Yr. 2 RA-O report became final on 6/2/16. The Yr. 2 report and the regulatory approval letters will be entered into the AR with the Q2 2016 AR Update.

- Item 12-2 (LHAAP-58 Contingency Remedial Action Work Plan) – The Draft Contingency RAWP for LHAAP-58 was approved by EPA on 7/13/16 and by TCEQ on 7/26/16. The Final LHAAP-58 Contingency RAWP will be entered into the AR with the Q3 2016 AR update. The implementation of the contingency plan remedy is being deferred to the next PBR contract.

- Item 12-3 (LHAAP-58 ESD) – AW said RTCs are on his list to complete, but this is no longer a time-critical item, because the LHAAP-58 contingency remedial action will not be implemented until the next PBR contract is awarded.

- Item 13 (MMM) – The Draft August 2016 MMM minutes became final upon concurrence from EPA and TCEQ, which was received on 9/19/16. Draft September 2016 MMM minutes were submitted to EPA and TCEQ on 9/26/16 and finalized on 10/13/2016. The next MMM meeting will be held at 10:00 CST on Tuesday 11/17/16 via teleconference.

- Item 14-1 (LHAAP-29 RI Addendum) – The Draft Final LHAAP-29 RI Addendum received approval from EPA and TCEQ and the RI Addendum became Final on 8/29/16. However,

upon approval, EPA provided an additional comment stating the source of the methylene chloride is unknown. Meeting attendees discussed the comment, with the following points being made:

- RMZ provided two drawings, a 1942/1945 as-built showing numerous subsurface utility lines in the area and a 1992 topo map showing conditions during the original RI/FS. RMZ explained that based on review of the drawings, it was plausible that the DNAPL could have traveled from the source area ("soak out area" area near Building 801F) to the vicinity of the DNAPL plume over the ground surface if the ground was wet.
- KB stated he thought the vadose zone was clayey at the "soak out" area and sandy near the 29WW16 location.
- RMZ stated that methylene chloride was seldom detected in soil because it is highly volatile.
- KB asked why methylene chloride distribution is different at LHAAP-18/24 (i.e., methylene chloride found within the vadose zone) compared to LHAAP-29.
- AP believes the investigation was thorough and made considerable effort to look for possible source areas in likely locations.
- **Action Item**: KB will discuss with RM and will review the comment and original document. EPA will potentially revise the comment to identify specific language in the RI Addendum that could be modified to close out the comment.
- RMZ stated that although the transport mechanism remains unknown, the historical source area and DNAPL area are well documented.

- Item 14-2 (LHAAP-29 FS Addendum) – DR said work has continued on the FS Addendum and the expected date for submittal of the Draft FS Addendum to the regulators is still TBD.

- Item 15-1 (LHAAP-47 PSI Work Plan) – TCEQ provided concurrence with the Draft PSI Work Plan without additional comments on 8/11/16. EPA approved the Draft Final PSI Work Plan on 10/13/2016. AECOM will enter the Final PSI Work Plan into the Q3 2016 AR Update.

- Item 15-2 (LHAAP-16 RD/RDWP) – The Draft RD was submitted to EPA and TCEQ on 10/12/2016. EPA and TCEQ are to provide comments on the Draft RD by 11/14/2016 so that the Draft Final RD can be submitted and approved prior to 12/1/2016.

- Item 15-2a (LHAAP-16 RD Post ROD Requirements) – The Army is to provide the draft notice of contamination and LUCs to TCEQ and EPA for review prior to issuing the notice to Federal/State/Local entities and owner/occupants. The Army is to submit the draft notice by 11/12/16. AP requested that Army contacts be included on the notice, not TCEQ contacts. AP commented that the notices should clearly state the site is an ongoing action and is not a new site. AP noted that phrasing such as "initial notice" could be misleading. RS suggested the notice could identify the date work started.

- Items 15-3 (LHAAP-17 RD/RAWP) – The Army is deferring this item to the next PBR contract.

- Item 15-3a (LHAAP-17 PDI WP) – The Draft PDI Work Plan was submitted to EPA and TCEQ on 9/29/16. TCEQ comments were received on 10/12/2016. EPA is to provide

comments on the Draft PDI Work Plan by 10/31/2016 so the Draft Final PDI Work Plan can be submitted and approved prior to 12/1/2016.

- Item 15-3b (LHAAP-17 Post-ROD Requirements) – Similarly to LHAAP-16, the Army will be providing notice of contamination and LUCs to Federal/State/Local officials and owner/occupants.

- Item 15-4 (LHAAP-001-R-01 RD/RDWP) – The Draft LUC RD will be developed by the follow-on PBR contractor.

- Item 15-4a (LHAAP-001-R-01 Limited LTM) – Monitoring wells were re-developed on 9/23/16. EPA and TCEQ were notified of the sampling planned for September 28/29, 2016. AP and RM responded that the TCEQ and EPA would not be observing or collecting split samples. DR stated groundwater samples were collected 9/29/2016. Data will be validated prior to 12/1/2016. Three sampling rounds are required for LHAAP-001-R and a single round for LHAAP-003-R if the results are below the perchlorate PCL.

- Item 15-4b (LHAAP-001-R-01 Post-ROD Requirements) – Similarly to LHAAP-16, the Army will be providing notice of contamination and LUCs to Federal/State/Local officials and owner/occupants.

- Item 15-5 (LHAAP-003-R-01 RD/RDWP) – The Draft LUC RD will be developed by the follow-on PBR contractor.

- Item 15-5a (LHAAP-003-R-01 Limited LTM) – DR stated the only required round of annual groundwater samples were collected 9/29/2016. All wells except 18WW16, which gets sampled during LHAAP-18/24 monitoring events, were redeveloped prior to sampling. Data will be validated prior to 12/1/2016.

- Item 15-5b (LHAAP-003-R-01 Post-ROD Requirements) – Similarly to LHAAP-16, the Army will be providing notice of contamination and LUCs to Federal/State/Local officials and owner/occupants.

- Item 15-6 (LHAAP-04 ROD) – The Army submitted the Draft Final ROD to EPA and TCEQ on 10/7/2016. RMZ provided responses to TCEQ comments during the meeting. AP explained that TCEQ comments were based on comparison of the LHAAP-17 ROD to the LHAAP-04 ROD to verify the dispute language was the same. After discussion, AP and RMZ agreed on changes to be made to the ROD. **Action Item:** RMZ will incorporate the changes to the LHAAP-04 ROD based on TCEQ revisions and resend the document to EPA for review. **Action Item:** AECOM will update the figure in the LHAAP-04 ROD notice to add the LUC boundary, which was developed and agreed to by meeting participants.

- Item 15-7 (Site-wide LUC Management Plan) – The Army submitted the FY2016 Revision Log to EPA and TCEQ for electronic signature on 10/17/2016. Three copies were provided to KB so that EPA can sign and return copies to Army and to TCEQ.

- Item 16 (RAB/Website) – DR said the next RAB meeting will be tonight, October 20th from 6:00-7:30 pm at the Karnack Community Center. Submitted draft July 2016 RAB meeting

minutes to EPA and TCEQ on 8/23/16. Concurrence on the draft July RAB minutes was received and the draft minutes were distributed to RAB members on 8/30/16.

- Item 17-1 (GWTP O&M – GWTP Sampling and Optimization Memo) and Item 17-2 (GWTP Sampling and Analysis Plan) – **Action Item:** AECOM to provide a clean version of the GWTP Sampling and Analysis Plan that incorporates all approved revisions to the Army for review prior to submittal to agencies. The GWTP Sampling and Analysis Plan will be finalized prior to 12/1/2016.

- Item 17-3 (GWTP Continuing O&M) – GWTP O&M continues.

- Item 18 (Admin. Record Update) – The Q2 2016 AR update was uploaded to the LHAAP website on 10/13/2016, and CDs will be provided the week of 10/17/2016. The 2016 AR Q3 update is being compiled.

- Item 19 (LHAAP-02) – The third round of semi-annual sampling was performed the week of 10/3/16. The Army directed AECOM to prepare a Tech Memo covering the first year (two rounds) of semi-annual sampling (10/15/15 and 4/29/16), which will be provided to TCEQ and EPA. The 10/3/16 results will be provided in a validated data package only (no annual tech memo/report) for Year 2.

- Item 20 (LHAAP-37 Geochemical Rebound) –The first round of sampling was completed in August 2016. Additional sampling is suspended because the site has not adequately rebounded; future sampling will be conducted by the follow-on PBR contractor.

- Item 21 (Smart Map) – AECOM continues to develop the Smart Map.

- **Upcoming/ongoing Field Work**
  - October 2016 semi-annual groundwater sampling at LHAAP-2 and LHAAP-58 (just completed).
  - LHAAP-47 PSI implementation – Field work is being deferred to the follow-on PBR contract.
  - November – Perimeter Wells/Surface Water sampling will be performed in November 2016. Quarterly groundwater sampling at LHAAP-37 will not be performed (see Item 20 above). MNA groundwater sampling at LHAAP-50 and LHAAP-67 will also not be conducted.

- **Monthly Data** – September 2016 Validated LHAAP Data were provided to meeting attendees.

MMRP Update **Army**

RMZ requested that AECOM provide a technical memorandum documenting LUC maintenance performed (e.g., mowing and sign inspections with photos). **Action Item:** DR agreed that AECOM would provide the requested technical memorandum.

Other Environmental Restoration – Not discussed. **Army**

Schedule

- RMZ provided a preliminary LHAAP draft schedule to TCEQ and EPA. RMZ stated that the schedule does not include RA-O sites; only pre-RIP sites were identified. **Action Item:** RM stated that he would like to verify if RA-O sites are needed in the schedule before responding to RMZ.
- RS noted that the schedule is subject to change resulting from Federal Acquisition Regulation (FAR) requirements relating to procurement of the new contract.

USFWS Update **RMZ/PB**

- Update – No update.

Schedule Next Managers' Meeting – The November 2016 MMM will be a teleconference on 11/17/2016 at 10:00 A.M.

Adjourn

Attachments:

- FFA, ROD, and CRP requirements table
- LHAAP Preliminary Draft Schedule
- September 2016 Validated LHAAP Data:
    - GWTP Effluent, Weekly: Bi-weekly, and Monthly (August 2016)
    - GWTP Influent: Monthly (August 2016)
    - LHAAP-37 Quarterly MNA Sampling (August 2016)
    - LHAAP-46 Semi-annual MNA Sampling (August 2016)
    - LHAAP-50 Surface Water Sampling (August 2016)
    - Surface Water Sampling (August 2016)
- LHAAP-35B(37) Aquifer Rebound – February 2012 through August 2016
- LHAAP-29 RI Addendum figures for discussion

ACRONYM LIST

AEC	United States Army Environmental Command
AECOM	AECOM Technical Services, Inc.
AP	April Palmie
AR	Administrative Record
AW	Aaron Williams
BRAC	Base Realignment and Closure
COC	Contaminant of Concern
CPT	Cone Penetrometer Test
CRP	Community Relations Plan
CST	Central Standard Time
DERP	Defense Environmental Restoration Program
DNAPL	Dense Non-Aqueous Phase Liquid
DR	Debra Richmann
EPA	United States Environmental Protection Agency
ES	Elspeth Sharp
ESD	Explanation of Significant Differences
FFA	Federal Facility Agreement
FS	Feasibility Study
GWTP	Ground Water Treatment Plant
ID	Identification
IDW	Investigation-Derived Waste
JS	JoLynn Snow
KB	Kent Becher
LHAAP	Longhorn Army Ammunition Plant
LTM	Long-Term Monitoring
LUC	Land Use Control
MMM	Monthly Managers' Meeting
MMRP	Military Munitions Response Program
MNA	Monitoring Natural Attenuation
MS	Marwan Salameh
NS	Nick Smith
O&M	Operation and Maintenance
ORP	Oxidation-Reduction Potential
PB	Paul Bruckwicki
PBR	Performance-Based Remediation
PDI	Pre-Design Investigation
PSI	Post-Screening Investigation
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RA-O	Remedial Action Operation
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RD	Remedial Design
RFP	Request for Proposal
RI	Remedial Investigation
RIP	Remedy in Place
RM	Rich Mayer

RMZ	Rose M. Zeiler
ROD	Record of Decision
RS	Rick Smith
RTC	Response to Comments
TBD	To Be Determined
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WP	Work Plan
Yr.	Year

LHAAP Data Validated
September 2016

GWTP Effluent *Weekly, Bi-weekly, Monthly, and Quarterly Sampling - August 2016*

- Ammonia (350.1)
- Ortho-Phosphate (365.2)
- Total Organic Carbon (415.1)
- Perchlorate (6850)
- 1,4-Dioxane (8270D-SIM)
- Sulfide (SM4500-S-(-2)-F-2000)
- Metals (6010C)
- Metals (6020A)
- Hexavalent Chromium (7196A)
- VOC (8260B)
- Anions (9056)

GWTP Influent *Monthly - August 2016*

- Perchlorate (6850)
- VOC (8260B)

LHAAP-37 *Aquifer Rebound Evaluation Sampling - August 2016*

- Total Organic Carbon (415.1)
- VOC (8260B)
- Inorganic Anions (9056)
- Dissolved Gases (RSK-175)
- Dechlorinating Bacteria (CENSUS)
- Ferrous Iron (SM3500FE)
- Sulfide (SM4500-S-(-2)-F-2000)

LHAAP-46 *Semi-Annual MNA Sampling - August 2016*

- Alkalinity (310.2)
- Phosphorus (365.4)
- Total Organic Carbon (415.1)
- Metals (6010C)
- Metals (6020A)
- VOC (8260B)
- Inorganic Anions (9056)
- Dissolved Gases (RSK-175)
- Sulfide (SM4500-S-(-2)-F-2000)

LHAAP-50 *Surface Water Sampling - August 2016*

- Perchlorate (6850)
- VOC (8260B)

Surface Water *Surface Water Sampling - August 2016*

- Perchlorate (6850)

GWTP Effluent Weekly Sampling - August 2016

Location ID: / Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6382-GRAB 8/1/2016	LH18/24-SP650-6384-GRAB 8/8/2016	LH18/24-SP650-6387-GRAB 8/15/2016	LH18/24-SP650-6389-GRAB 8/22/2016	LH18/24-SP650-6390-GRAB 8/29/2016
Location Description:			GWTP–Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.				
Ammonia as N (350.1)							
AMMONIA AS N	mg/L		6.74	0.26	NA	NA	7.17
Ortho-Phosphate (365.2)							
ORTHO-PHOSPHATE	mg/L		1.03 J	1.4	NA	NA	1.43
Total Organic Carbon (415.1)							
TOTAL ORGANIC CARBON (TOC)	mg/L		33.4	12	NA	NA	38.3
Perchlorate (6850)							
PERCHLORATE	ug/L	17	<0.2 U	0.257 J	50	<0.2 U	<0.2 U
Semi-Volatile Organic Compounds (8270D-SIM)							
1,4-DIOXANE*	ug/L	134.2	11.9	28.3	NA	NA	17.5
SM4500-S-(-2)-F-2000							
SULFIDE	mg/L		4.11	NA	NA	NA	NA

* Calculated Effluent Limit

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

mg/L - milligrams per liter

NA - not analyzed

ug/L - micrograms per liter

GWTP Effluent Biweekly Sampling - August 2016

Location ID: / Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6383-COMP 8/8/2016	LH18/24-SP650-6383-GRAB 8/8/2016	LH18/24-SP650-6388-COMP 8/22/2016	LH18/24-SP650-6388-GRAB 8/22/2016
Location Description:			GWTP – Collected from holding jar accumulating aliquots of discharge from a TK-650 effluent spigot every few hours. Sampled Biweekly.	GWTP – Collected from a spigot on the discharge of effluent TK-650 Sampled Biweekly.	GWTP – Collected from holding jar accumulating aliquots of discharge from a TK-650 effluent spigot every few hours. Sampled Biweekly.	GWTP – Collected from a spigot on the discharge of effluent TK-650 Sampled Biweekly.
Metals (6010C)						
SELENIUM	mg/L	0.012	<0.01 U	<0.01 U	<0.02 U	<0.02 U
Metals (6020A)						
LEAD	mg/L	0.0046	0.000879 J	<0.001 U	<0.001 U	<0.001 U
SILVER	mg/L	0.003	<0.001 U	<0.001 U	<0.001 U	<0.001 U
Perchlorate (6850)						
PERCHLORATE	ug/L	13	<0.2 U	7.54	56.8	25
Hexavalent Chromium (7196A)						
HEXAVALENT CHROMIUM	mg/L	0.124	<0.01 U	<0.01 U	<0.01 U	<0.01 U
Volatile Organic Compounds (8260B)						
1,1,1,2-TETRACHLOROETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	7230	NA	<0.5 U	NA	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L		NA	<0.4 U	NA	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	216.9	NA	<0.5 U	NA	<0.5 U
1,1-DICHLOROETHANE	ug/L	14032	NA	<0.25 U	NA	<0.25 U
1,1-DICHLOROETHENE	ug/L	253	NA	<1 U	NA	<1 U
1,1-DICHLOROPROPENE	ug/L		NA	<0.5 U	NA	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L		NA	<0.3 U	NA	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L		NA	<1 U	NA	<1 U
1,2,4-TRICHLOROBENZENE	ug/L		NA	<0.4 U	NA	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L		NA	<2 U	NA	<2 U
1,2-DIBROMOETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
1,2-DICHLOROBENZENE	ug/L		NA	<0.25 U	NA	<0.25 U
1,2-DICHLOROETHANE	ug/L	181	NA	0.411 J	NA	0.279 J
1,2-DICHLOROPROPANE	ug/L	5	NA	<0.4 U	NA	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
1,3-DICHLOROBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
1,3-DICHLOROPROPANE	ug/L		NA	<0.4 U	NA	<0.4 U
1,4-DICHLOROBENZENE	ug/L		NA	<0.25 U	NA	<0.25 U
2,2-DICHLOROPROPANE	ug/L		NA	<0.5 U	NA	<0.5 U
2-BUTANONE	ug/L		NA	<5 U	NA	<5 U
2-CHLOROTOLUENE	ug/L		NA	<0.25 U	NA	<0.25 U
2-HEXANONE	ug/L		NA	<5 U	NA	<5 U
4-CHLOROTOLUENE	ug/L		NA	<0.5 U	NA	<0.5 U
4-METHYL-2-PENTANONE	ug/L		NA	<5 U	NA	<5 U
ACETONE	ug/L	2395	NA	4.75 J	NA	4.39 J
BENZENE	ug/L	181	NA	<0.25 U	NA	<0.25 U
BROMOBENZENE	ug/L		NA	<0.25 U	NA	<0.25 U
BROMOCHLOROMETHANE	ug/L		NA	<0.4 U	NA	<0.4 U
BROMODICHLOROMETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
BROMOFORM	ug/L		NA	<1 U	NA	<1 U
BROMOMETHANE	ug/L		NA	<1 UJ	NA	<1 U
CARBON DISULFIDE	ug/L		NA	<1 U	NA	<1 U

GWTP Effluent Biweekly Sampling - August 2016

Location ID: / Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6383-COMP 8/8/2016	LH18/24-SP650-6383-GRAB 8/8/2016	LH18/24-SP650-6388-COMP 8/22/2016	LH18/24-SP650-6388-GRAB 8/22/2016
CARBON TETRACHLORIDE	ug/L	181	NA	<0.5 U	NA	<0.5 U
CHLOROBENZENE	ug/L	47180	NA	<0.25 U	NA	<0.25 U
CHLOROETHANE	ug/L		NA	<1 U	NA	<1 U
CHLOROFORM	ug/L	3615	NA	<0.25 U	NA	<0.25 U
CHLOROMETHANE	ug/L		NA	<1 U	NA	<1 U
CIS-1,2-DICHLOROETHENE	ug/L		NA	19.8	NA	18.3
CIS-1,3-DICHLOROPROPENE	ug/L		NA	<0.5 U	NA	<0.5 U
DIBROMOCHLOROMETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
DIBROMOMETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
ETHYLBENZENE	ug/L	57025	NA	<0.5 U	NA	<0.5 U
HEXACHLOROBUTADIENE	ug/L		NA	<0.5 U	NA	<0.5 U
ISOPROPYLBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
M,P-XYLENE	ug/L	83.6	NA	<1 U	NA	<1 U
METHYLENE CHLORIDE	ug/L	1699	NA	<0.5 U	NA	<0.5 U
NAPHTHALENE	ug/L		NA	<0.4 U	NA	<0.4 U
N-BUTYLBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
N-PROPYLBENZENE	ug/L		NA	<0.25 U	NA	<0.25 U
O-XYLENE	ug/L	83.6	NA	<0.5 U	NA	<0.5 U
P-ISOPROPYLTOLUENE	ug/L		NA	<0.5 U	NA	<0.5 U
SEC-BUTYLBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
STYRENE	ug/L	5987	NA	<0.25 U	NA	<0.25 U
TERT-BUTYLBENZENE	ug/L		NA	<0.5 U	NA	<0.5 U
TETRACHLOROETHENE	ug/L	180.7	NA	<0.5 U	NA	<0.5 U
TOLUENE	ug/L	4189	NA	<0.5 U	NA	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L		NA	<0.5 U	NA	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L		NA	<1 U	NA	<1 U
TRICHLOROETHENE	ug/L	181	NA	4.71	NA	4.59
TRICHLOROFLUOROMETHANE	ug/L		NA	<0.5 U	NA	<0.5 U
VINYL CHLORIDE	ug/L	72	NA	<0.5 U	NA	0.285 J
Anions (9056)						
CHLORIDE	mg/L		561	593	518 J	493 J
SULFATE	mg/L		45.4 J	79.9 J	76.9 J	65.3 J

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

mg/L - milligrams per liter

NA - not analyzed

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

GWTP Effluent Monthly Sampling - August 2016

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6381-GRAB 8/1/2016
Location Description:			GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Monthly.
6010C			
ALUMINUM	mg/L	1.644	<0.1 U
IRON	mg/L	2.395	0.0977 J
SELENIUM	mg/L	0.012	<0.01 U
6020A			
ANTIMONY	mg/L		0.000618 J
ARSENIC	mg/L	0.722	0.0016 J
BARIUM	mg/L	2	0.209
CADMIUM	mg/L	0.0034	<0.0006 U
CHROMIUM	mg/L	0.752	0.00336 J
COBALT	mg/L	11.495	0.00128 J
LEAD	mg/L	0.0046	<0.001 U
MANGANESE	mg/L	15.494	0.0758
NICKEL	mg/L	0.184	0.0028 J
SILVER	mg/L	0.003	<0.001 U
THALLIUM	mg/L		<0.0002 U
VANADIUM	mg/L	3.592	<0.001 U
ZINC	mg/L	0.31	0.0154 J

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

mg/L - milligrams per liter

U - Undetected: The analyte was analyzed for, but not detected.

GWTP Effluent Quarterly Sampling - August 2016

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6386-COMP 8/15/2016	LH18/24-SP650-6386-GRAB 8/15/2016
Location Description:			GWTP – Collected from holding jar accumulating aliquots of discharge from a TK-650 effluent spigot every few hours. Sampled Quarterly.	GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Quarterly.
Oil and Grease (1664A)				
OIL & GREASE	mg/L	15	6.1	5.8
Chemical Oxygen Demand (410.4)				
CHEMICAL OXYGEN DEMAND	mg/L	200	94.6	101
Metals (6010C)				
ALUMINUM	mg/L	1.644	<0.2 U	<0.2 U
IRON	mg/L	2.395	0.139	0.132
SELENIUM	mg/L	0.012	<0.02 U	<0.02 U
Metals (6020A)				
ANTIMONY	mg/L		<0.001 U	<0.001 U
ARSENIC	mg/L	0.722	0.00168 J	0.00133 J
BARIUM	mg/L	2	0.239	0.26 J
CADMIUM	mg/L	0.0034	<0.0006 U	<0.0006 U
CHROMIUM	mg/L	0.752	0.00574	0.00325 J
COBALT	mg/L	11.495	0.00127 J	0.00116 J
LEAD	mg/L	0.0046	<0.001 U	<0.001 U
MANGANESE	mg/L	15.494	0.0339	0.0359
NICKEL	mg/L	0.184	0.0049 J	0.00356 J
SILVER	mg/L	0.003	<0.001 U	<0.001 U
THALLIUM	mg/L		<0.0002 U	<0.0002 U
VANADIUM	mg/L	3.592	<0.001 U	<0.001 U
ZINC	mg/L	0.31	0.0458 J	0.0188 J
Perchlorate (6850)				
PERCHLORATE	ug/L	13	69.5	103
Hexavalent Chromium (7196A)				
CHROMIUM, TRIVALENT	mg/L		0.00574	0.00325 J
HEXAVALENT CHROMIUM	mg/L	0.124	<0.01 U	<0.01 U
Volatile Organic Compounds (8260B)				
1,1,1,2-TETRACHLOROETHANE	ug/L		NA	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	7230	NA	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L		NA	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	216.9	NA	<0.5 U
1,1-DICHLOROETHANE	ug/L	14032	NA	<0.25 U
1,1-DICHLOROETHENE	ug/L	253	NA	<1 U

GWTP Effluent Quarterly Sampling - August 2016

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6386-COMP 8/15/2016	LH18/24-SP650-6386-GRAB 8/15/2016
1,1-DICHLOROPROPENE	ug/L		NA	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L		NA	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L		NA	<1 U
1,2,4-TRICHLOROBENZENE	ug/L		NA	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L		NA	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L		NA	<2 U
1,2-DIBROMOETHANE	ug/L		NA	<0.5 U
1,2-DICHLOROBENZENE	ug/L		NA	<0.25 U
1,2-DICHLOROETHANE	ug/L	181	NA	0.412 J
1,2-DICHLOROPROPANE	ug/L	5	NA	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L		NA	<0.5 U
1,3-DICHLOROBENZENE	ug/L		NA	<0.5 U
1,3-DICHLOROPROPANE	ug/L		NA	<0.4 U
1,4-DICHLOROBENZENE	ug/L		NA	<0.25 U
2,2-DICHLOROPROPANE	ug/L		NA	<0.5 U
2-BUTANONE	ug/L		NA	<5 U
2-CHLOROTOLUENE	ug/L		NA	<0.25 U
2-HEXANONE	ug/L		NA	<5 U
4-CHLOROTOLUENE	ug/L		NA	<0.5 U
4-METHYL-2-PENTANONE	ug/L		NA	<5 U
ACETONE	ug/L	2395	NA	3.32 J
BENZENE	ug/L	181	NA	<0.25 U
BROMOBENZENE	ug/L		NA	<0.25 U
BROMOCHLOROMETHANE	ug/L		NA	<0.4 U
BROMODICHLOROMETHANE	ug/L		NA	<0.5 U
BROMOFORM	ug/L		NA	<1 U
BROMOMETHANE	ug/L		NA	<1 U
CARBON DISULFIDE	ug/L		NA	<1 U
CARBON TETRACHLORIDE	ug/L	181	NA	<0.5 U
CHLOROBENZENE	ug/L	47180	NA	<0.25 U
CHLOROETHANE	ug/L		NA	<1 U
CHLOROFORM	ug/L	3615	NA	<0.25 U
CHLOROMETHANE	ug/L		NA	<1 U
CIS-1,2-DICHLOROETHENE	ug/L		NA	19.4
CIS-1,3-DICHLOROPROPENE	ug/L		NA	<0.5 U
DIBROMOCHLOROMETHANE	ug/L		NA	<0.5 U
DIBROMOMETHANE	ug/L		NA	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L		NA	<0.5 U
ETHYLBENZENE	ug/L	57025	NA	<0.5 U
HEXACHLOROBUTADIENE	ug/L		NA	<0.5 U
ISOPROPYLBENZENE	ug/L		NA	<0.5 U
M,P-XYLENE	ug/L	83.6	NA	<1 U
METHYLENE CHLORIDE	ug/L	1699	NA	<0.5 U
NAPHTHALENE	ug/L		NA	<0.4 U
N-BUTYLBENZENE	ug/L		NA	<0.5 U
N-PROPYLBENZENE	ug/L		NA	<0.25 U
O-XYLENE	ug/L	83.6	NA	<0.5 U
P-ISOPROPYLTOLUENE	ug/L		NA	<0.5 U
SEC-BUTYLBENZENE	ug/L		NA	<0.5 U
STYRENE	ug/L	5987	NA	<0.25 U
TERT-BUTYLBENZENE	ug/L		NA	<0.5 U

GWTP Effluent Quarterly Sampling - August 2016

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6386-COMP 8/15/2016	LH18/24-SP650-6386-GRAB 8/15/2016
TETRACHLOROETHENE	ug/L	180.7	NA	<0.5 U
TOLUENE	ug/L	4189	NA	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L		NA	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L		NA	<1 U
TRICHLOROETHENE	ug/L	181	NA	4.73
TRICHLOROFLUOROMETHANE	ug/L		NA	<0.5 U
VINYL CHLORIDE	ug/L	72	NA	<0.5 U
Anions (9056)				
CHLORIDE	mg/L		582	587
SULFATE	mg/L		64.7	54.5

Blue highlighting indicates detection above Daily Maximum Concentration.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

mg/L - milligrams per liter

NA - not analyzed

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

GWTP Influent Monthly Sampling - August 2016

Location ID: Sample Date:	Units	LH18/24-SP140-7381-GRAB 8/1/2016
Location Description:		GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.
Perchlorate (6850)		
PERCHLORATE	ug/L	16800
Volatile Organic Compounds (8260B)		
1,1,1,2-TETRACHLOROETHANE	ug/L	<25 U
1,1,1-TRICHLOROETHANE	ug/L	<25 U
1,1,2,2-TETRACHLOROETHANE	ug/L	<20 U
1,1,2-TRICHLOROETHANE	ug/L	<25 U
1,1-DICHLOROETHANE	ug/L	11.4 J
1,1-DICHLOROETHENE	ug/L	95.9 J
1,1-DICHLOROPROPENE	ug/L	<25 U
1,2,3-TRICHLOROBENZENE	ug/L	<15 U
1,2,3-TRICHLOROPROPANE	ug/L	<50 U
1,2,4-TRICHLOROBENZENE	ug/L	<20 U
1,2,4-TRIMETHYLBENZENE	ug/L	<25 U
1,2-DIBROMO-3-CHLOROPROP	ug/L	<100 U
1,2-DIBROMOETHANE	ug/L	<25 U
1,2-DICHLOROBENZENE	ug/L	<12.5 U
1,2-DICHLOROETHANE	ug/L	78.8
1,2-DICHLOROPROPANE	ug/L	<20 U
1,3,5-TRIMETHYLBENZENE	ug/L	<25 U
1,3-DICHLOROBENZENE	ug/L	<25 U
1,3-DICHLOROPROPANE	ug/L	<20 U
1,4-DICHLOROBENZENE	ug/L	<12.5 U
2,2-DICHLOROPROPANE	ug/L	<25 U
2-BUTANONE	ug/L	<250 U
2-CHLOROTOLUENE	ug/L	<12.5 U
2-HEXANONE	ug/L	<250 U
4-CHLOROTOLUENE	ug/L	<25 U
4-METHYL-2-PENTANONE	ug/L	<250 U
ACETONE	ug/L	<250 U
BENZENE	ug/L	<12.5 U
BROMOBENZENE	ug/L	<12.5 U
BROMOCHLOROMETHANE	ug/L	<20 U
BROMODICHLOROMETHANE	ug/L	<25 U
BROMOFORM	ug/L	<50 U
BROMOMETHANE	ug/L	<50 U
CARBON DISULFIDE	ug/L	<50 U
CARBON TETRACHLORIDE	ug/L	<25 U
CHLOROBENZENE	ug/L	<12.5 U
CHLOROETHANE	ug/L	<50 U
CHLOROFORM	ug/L	19.5 J
CHLOROMETHANE	ug/L	<50 U

GWTP Influent Monthly Sampling - August 2016

Location ID: / Sample Date:	Units	LH18/24-SP140-7381-GRAB 8/1/2016
CIS-1,2-DICHLOROETHENE	ug/L	3970
CIS-1,3-DICHLOROPROPENE	ug/L	<25 U
DIBROMOCHLOROMETHANE	ug/L	<25 U
DIBROMOMETHANE	ug/L	<25 U
DICHLORODIFLUOROMETHANE	ug/L	<25 U
ETHYLBENZENE	ug/L	<25 U
HEXACHLOROBUTADIENE	ug/L	<25 U
ISOPROPYLBENZENE	ug/L	<25 U
M,P-XYLENE	ug/L	<50 U
METHYLENE CHLORIDE	ug/L	1530
NAPHTHALENE	ug/L	<20 U
N-BUTYLBENZENE	ug/L	<25 U
N-PROPYLBENZENE	ug/L	<12.5 U
O-XYLENE	ug/L	<25 U
P-ISOPROPYLTOLUENE	ug/L	<25 U
SEC-BUTYLBENZENE	ug/L	<25 U
STYRENE	ug/L	<12.5 U
TERT-BUTYLBENZENE	ug/L	<25 U
TETRACHLOROETHENE	ug/L	47.6 J
TOLUENE	ug/L	<25 U
TRANS-1,2-DICHLOROETHENE	ug/L	15.9 J
TRANS-1,3-DICHLOROPROPENE	ug/L	<50 U
TRICHLOROETHENE	ug/L	11400
TRICHLOROFLUOROMETHANE	ug/L	<25 U
VINYL CHLORIDE	ug/L	95.2

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

LHAAP-37 Aquifer Rebound Evaluation Sampling - August 2016

Location ID: Sample Date:	Units	MCL/ PCL	35BWW01-081916 8/19/2016	35BWW03-081816 8/18/2016	35BWW03FD-081816 8/18/2016	35BWW04-081716 8/17/2016	35BWW05-081816 8/18/2016	35BWW06-081816 8/18/2016	35BWW06FD-081816 8/18/2016	35BWW07-081916 8/19/2016	35BWW08-081716 8/17/2016	35BWW09-081616 8/16/2016	35BWW10-081816 8/18/2016	35BWW11-081816 8/18/2016	35BWW12-081716 8/17/2016	35BWW13-081916 8/19/2016	35BWW14-081716 8/17/2016
Location Description:			Shallow zone, unimpacted cross gradient	Site 37 - NW, inside the site boundary, within the LUC boundary, center region.	Site 37 - NW, inside the site boundary, within the LUC boundary, center region. Duplicate	Site 37 - Central, inside site and LUC boundaries, west of Goose Prairie Creek.	Site 37 - Central, within both site and LUC boundaries.	Site 37 - Central, inside site boundary, within LUC boundary.	Site 37 - Central, inside site boundary, within LUC boundary. Duplicate	Site 37 - E, outside both site and LUC boundaries.	Site 37 - NW, inside site boundary, within LUC boundary.	Site 37 - WNW, outside the site boundary, within the LUC boundary, near the surrounding road.	Site 37 - NW, inside the site boundary, within the LUC boundary, middle region.	Site 37 - S, inside site boundary, within LUC boundary, beside Building 29-A.	Site 37 - N, inside site boundary, within LUC boundary, beside Goose Prairie Creek.	Site 37 - NE, just outside the site boundary, within LUC boundary.	Site 37 - N, inside site boundary, within LUC boundary.
Total Carbon (415.1)																	
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	76.4	NA	NA	NA	NA	33.1	NA	NA	NA	55.1	NA	71.5
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	15.2 J	NA	NA	NA	NA	7.18 J	NA	NA	NA	10.7 J	NA	15.5 J
Volatile Organic Compounds (8260B)																	
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	1.5
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	10
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	2.77 J	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.126 J
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.2 J
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.163 J
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.497 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.759 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.44
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

LHAAP-37 Aquifer Rebound Evaluation Sampling - August 2016

Location ID: / Sample Date:	Units	MCL/ PCL	35BWW01-081916 8/19/2016	35BWW03-081816 8/18/2016	35BWW03FD-081816 8/18/2016	35BWW04-081716 8/17/2016	35BWW05-081816 8/18/2016	35BWW06-081816 8/18/2016	35BWW06FD-081816 8/18/2016	35BWW07-081916 8/19/2016	35BWW08-081716 8/17/2016	35BWW09-081616 8/16/2016	35BWW10-081816 8/18/2016	35BWW11-081816 8/18/2016	35BWW12-081716 8/17/2016	35BWW13-081916 8/19/2016	35BWW14-081716 8/17/2016
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	6.1	1.25	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	21	0.798 J	4.06	<0.5 U	20.1
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	0.786 J	8.87	<0.5 U	<0.5 U	<0.5 U	1.01	149	23.9	<0.5 U	0.473 J	<0.5 U	39.7
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.301 J
Anions (9056)																	
CHLORIDE	mg/L		NA	NA	NA	11.5	NA	NA	NA	NA	20.6	NA	NA	NA	12.9	NA	30
NITRATE	mg/L	10	NA	NA	NA	0.376 J	NA	NA	NA	NA	0.392 J	NA	NA	NA	<0.2 U	NA	0.537 J
NITRITE	mg/L	1	NA	NA	NA	<0.2 U	NA	NA	NA	NA	<0.2 U	NA	NA	NA	<0.2 U	NA	<0.2 U
SULFATE	mg/L		NA	NA	NA	35.1	NA	NA	NA	NA	73.2	NA	NA	NA	42	NA	91.9
Dechlorinating Bacteria (CENSUS)																	
dehalococcoides	CEQ/mL		NA	NA	NA	<1.60	NA	NA	NA	NA	1.8	NA	NA	NA	<11.1	NA	8.4
Dissolved Gases (RSK-175)																	
CARBON DIOXIDE	ug/L		NA	NA	NA	1070000	NA	NA	NA	NA	767000	NA	NA	NA	723000	NA	1020000
ETHANE	ug/L		NA	NA	NA	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	<2 U	NA	<2 U
ETHENE	ug/L		NA	NA	NA	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	<2 U	NA	<2 U
METHANE	ug/L		NA	NA	NA	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	1.11 J	NA	14.4
Ferrous Iron (SM3500FE)																	
FERROUS IRON	mg/L		NA	NA	NA	<0.04 U	NA	NA	NA	NA	<0.04 U	NA	NA	NA	0.0652	NA	<0.04 U
Sulfide (SM4500-S-(-2)-F-2000)																	
SULFIDE	mg/L		NA	NA	NA	<1 U	NA	NA	NA	NA	<1 U	NA	NA	NA	<1 U	NA	<1 U

Blue Highlighting Indicates concentrations above the MCL/PCL

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

CEQ/mL - cells equivalent per milliliter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Limit

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

LHAAP-37 Aquifer Rebound Evaluation Sampling - August 2016

Location ID: / Sample Date:	Units	MCL/ PCL	35BWW15-081916 8/19/2016	35BWW16-081916 8/19/2016	35BWW17-081916 8/19/2016	35BWW18-081616 8/16/2016	35BWW19-081616 8/16/2016	35BWW20-081816 8/18/2016	35BWW23-081716 8/17/2016	35BWW24-081916 8/19/2016	35BWW25-081916 8/19/2016	35BWW25FD-081916 8/19/2016	35BWW26-081716 8/17/2016	LHSMW58-081816 8/18/2016
Location Description:			Site 37 - N, inside site boundary, within LUC boundary.	Site 37 - N, just outside site boundary, within LUC boundary.	Site 37 - NNE, inside site boundary, within LUC boundary.	Site 37 - WNW, outside site boundary, within LUC boundary.	Site 37 - W, outside site boundary, within LUC boundary.	Site 37 - NW, inside site boundary, within LUC boundary, beside Building 29-A.	Site 37 - NE, outside site boundary, within LUC boundary, S side of road between Buildings 35-B and 36-B.	Site 37 - NE, outside site boundary, within LUC boundary.	Site 37 - N, outside site boundary, within LUC boundary.	Site 37 - N, outside site boundary, within LUC boundary. Duplicate	Site 37 - NW, inside site boundary, within LUC boundary.	Site 37 - Central, inside both site and LUC boundaries.
Total Carbon (415.1)														
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	76.5	NA	NA	NA	112	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	15.3 J	NA	NA	NA	18.2 J	NA
Volatile Organic Compounds (8260B)														
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	0.979 J	0.16 J	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.214 J
1,1-DICHLOROETHENE	ug/L	7	6.63	0.787 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	2.82 J	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	1.73	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

LHAAP-37 Aquifer Rebound Evaluation Sampling - August 2016

Location ID: / Sample Date:	Units	MCL/ PCL	35BWW15-081916 8/19/2016	35BWW16-081916 8/19/2016	35BWW17-081916 8/19/2016	35BWW18-081616 8/16/2016	35BWW19-081616 8/16/2016	35BWW20-081816 8/18/2016	35BWW23-081716 8/17/2016	35BWW24-081916 8/19/2016	35BWW25-081916 8/19/2016	35BWW25FD-081916 8/19/2016	35BWW26-081716 8/17/2016	LHSMW58-081816 8/18/2016
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	14.5	5.13	<0.5 U	<0.5 U	<0.5 U	26.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	19.9
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	20.5	3.43	<0.5 U	<0.5 U	<0.5 U	6.75	<0.5 U	0.415 J	5.55	5.94	<0.5 U	1.93
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)														
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	118	NA	NA	NA	30.2	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	<0.2 U	NA	NA	NA	<0.2 U	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	0.187 J	NA	NA	NA	<0.2 U	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	127	NA	NA	NA	28.7	NA
Dechlorinating Bacteria (CENSUS)														
dehalococcoides	CEQ/mL		NA	NA	NA	NA	NA	NA	1.7	NA	NA	NA	288	NA
Dissolved Gases (RSK-175)														
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	1150000	NA	NA	NA	417000	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	<2 U	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	<2 U	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	<2 U	NA
Ferrous Iron (SM3500FE)														
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	<0.04 U	NA	NA	NA	<0.04 U	NA
Sulfide (SM4500-S-(-2)-F-2000)														
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	<1 U	NA	NA	NA	<1 U	NA

Blue Highlighting Indicates concentrations above the MCL/PCL

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

CEQ/mL - cells equivalent per milliliter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Limit

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

LHAAP-46 Semi-Annual Sampling - August 2016

Sample ID: / Sample Date:	Units	MCL/ PCL	46WW01-080416 8/4/2016	46WW02-080416 8/4/2016	46WW02FF-080416 8/4/2016	46WW03-080416 8/4/2016	46WW05-080316 8/3/2016	46WW05F-080316 8/3/2016	46WW05FF-080316 8/3/2016	46WW06-080416 8/4/2016	46WW06FD-080416 8/4/2016	46WW07-080216 8/2/2016	46WW08-080216 8/2/2016	46WW09-080316 8/3/2016	46WW09F-080316 8/3/2016	46WW09FF-080316 8/3/2016
Location Description:			Site 16 – NE, middle region.	Site 46 - Central, inside site boundary. Intermediate zone.	Site 46 - Central, inside site boundary. Intermediate zone. Field filtered with 0.45 micron filter.	Site 46 - Central, inside site boundary.	Site 46 - N, inside site boundary. Intermediate zone.	Site 46 - N, inside site boundary. Intermediate zone. Field filtered with 10 micron filter.	Site 46 - N, inside site boundary. Intermediate zone. Field filtered with 0.45 micron filter.	Site 46 - W, inside site boundary. Intermediate zone.	Site 46 - W, inside site boundary. Intermediate zone. Duplicate	Site 46 - N, inside site boundary. Intermediate zone.	Site 46 - NNW, inside site boundary. Intermediate zone.	Site 46 - Central, within site boundary. Intermediate zone.	Site 46 - Central, within site boundary. Intermediate zone. Field filtered with 10 micron filter.	Site 46 - Central, within site boundary. Intermediate zone. Field filtered with 0.45 micron filter.
Alkalinity (310.2)																
ALKALINITY, TOTAL	mg/L		NA	26.3 J	NA	NA	58.6	NA	NA	NA	NA	NA	NA	177	NA	NA
Phosphorus (365.4)																
PHOSPHORUS	mg/L		NA	0.14 J	NA	NA	0.204 J	NA	NA	NA	NA	NA	NA	<0.2 U	NA	NA
Total Organic Carbon (415.1)																
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	41.3	NA	NA	33.9	NA	NA	NA	NA	NA	NA	31.2	NA	NA
Metals (6010C)																
IRON	mg/L		NA	2.04	1.66	NA	NA	6.04	6.19	NA	NA	NA	NA	NA	<0.1 U	<0.1 U
MAGNESIUM	mg/L		NA	NA	11.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (6020A)																
MANGANESE	mg/L	1.1	NA	NA	NA	NA	NA	NA	15.2	NA	NA	NA	NA	NA	NA	1.82
Volatile Organic Compounds (8260B)																
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	NA
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	NA	<0.25 U	0.843 J	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
1,1-DICHLOROETHENE	ug/L	7	<1 U	1.4 J	NA	<1 U	1.84 J	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	NA	<0.3 U	<0.3 U	NA	NA	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	NA	NA
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	NA
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	NA	<2 U	<2 U	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	NA	NA
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	NA
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	NA
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
2-BUTANONE	ug/L	15000	<5 U	<5 U	NA	<5 U	<5 U	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	NA	NA
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
2-HEXANONE	ug/L	120	<5 U	<5 U	NA	<5 U	<5 UJ	NA	NA	<5 U	<5 U	<5 UJ	<5 UJ	<5 UJ	NA	NA
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	NA	<5 U	<5 U	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	NA	NA
ACETONE	ug/L	22000	<5 U	<5 U	NA	<5 U	2.67 J	NA	NA	<5 U	2.95 J	3.3 J	11.3	<5 U	NA	NA
BENZENE	ug/L	5	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	NA
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
BROMOFORM	ug/L	120	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
BROMOMETHANE	ug/L	34	<1 UJ	<1 UJ	NA	<1 UJ	<1 U	NA	NA	<1 UJ	<1 UJ	<1 U	<1 U	<1 U	NA	NA
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
CHLOROETHANE	ug/L	98000	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA

LHAAP-46 Semi-Annual Sampling - August 2016

Sample ID: / Sample Date:	Units	MCL/ PCL	46WW01-080416 8/4/2016	46WW02-080416 8/4/2016	46WW02FF-080416 8/4/2016	46WW03-080416 8/4/2016	46WW05-080316 8/3/2016	46WW05F-080316 8/3/2016	46WW05FF-080316 8/3/2016	46WW06-080416 8/4/2016	46WW06FD-080416 8/4/2016	46WW07-080216 8/2/2016	46WW08-080216 8/2/2016	46WW09-080316 8/3/2016	46WW09F-080316 8/3/2016	46WW09FF-080316 8/3/2016
CHLOROMETHANE	ug/L	70	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	1.31	NA	<0.5 U	1.86	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
M,P-XYLENE	ug/L	10000	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	NA
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
STYRENE	ug/L	100	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	NA
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	NA	<1 U	<1 U	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	NA	NA
TRICHLOROETHENE	ug/L	5	<0.5 U	20.7	NA	<0.5 U	23.6	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
VINYL CHLORIDE	ug/L	2	<0.5 U	0.259 J	NA	<0.5 U	0.522 J	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA
Anions (9056)																
CHLORIDE	mg/L		NA	17.8	NA	NA	236	NA	NA	NA	NA	NA	NA	466	NA	NA
NITRATE	mg/L	10	NA	<0.2 U	NA	NA	<2 U	NA	NA	NA	NA	NA	NA	<2 U	NA	NA
NITRITE	mg/L	1	NA	<0.2 U	NA	NA	<2 UJ	NA	NA	NA	NA	NA	NA	<2 UJ	NA	NA
SULFATE	mg/L		NA	158	NA	NA	4060	NA	NA	NA	NA	NA	NA	2040	NA	NA
Dissolved Gases (RSK-175)																
CARBON DIOXIDE	ug/L		NA	528000	NA	NA	668000 J	NA	NA	NA	NA	NA	NA	603000 J	NA	NA
ETHANE	ug/L		NA	<2 U	NA	NA	<20 U	NA	NA	NA	NA	NA	NA	<20 U	NA	NA
ETHENE	ug/L		NA	<2 U	NA	NA	<20 U	NA	NA	NA	NA	NA	NA	<20 U	NA	NA
METHANE	ug/L		NA	<2 U	NA	NA	15	NA	NA	NA	NA	NA	NA	<20 U	NA	NA
Sulfide (SM4500-S-(-2)-F-2000)																
SULFIDE	mg/L		NA	<1 U	NA	NA	1.39 J	NA	NA	NA	NA	NA	NA	<1 U	NA	NA

Blue Highlighting Indicates concentrations above the MCL/PCL

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve. Metals results for "FF" samples are dissolved.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Limit

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

LHAAP-46 Semi-Annual Sampling - August 2016

Sample ID: Sample Date:	Units	MCL/ PCL	46WW10-080416 8/4/2016	46WW11-080316 8/3/2016	46WW11FF-080316 8/3/2016	46WW14-080216 8/2/2016	46WW14FD-080216 8/2/2016	46WW16-080316 8/3/2016	46WW16F-080316 8/3/2016	46WW16FF-080316 8/3/2016	LHSMW19-080316 8/3/2016	LHSMW19FF-080316 8/3/2016	LHSMW25-080416 8/4/2016
Location Description:			Site 46 - W, within site boundary.	Site 46 - Central, within site boundary.	Site 46 - Central, within site boundary. Field filtered with 0.45 micron filter.	Site 46 - NE, within site boundary. Intermediate zone.	Site 46 - NE, within site boundary. Intermediate zone. Duplicate	Site 46 - N, within site boundary. Intermediate zone.	Site 46 - N, within site boundary. Intermediate zone. Field filtered with 10 micron filter.	Site 46 - N, within site boundary. Intermediate zone. Field filtered with 0.45 micron filter.	Site 46 - Central, within site boundary.	Site 46 - Central, within site boundary. Field filtered with 0.45 micron filter.	Site 46 - E, within site boundary. Intermediate zone.
Alkalinity (310.2)													
ALKALINITY, TOTAL	mg/L		NA	45.1	NA	NA	NA	580	NA	NA	438	NA	NA
Phosphorus (365.4)													
PHOSPHORUS	mg/L		NA	<0.2 U	NA	NA	NA	<0.2 U	NA	NA	0.11 J	NA	NA
Total Organic Carbon (415.1)													
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	39.3	NA	NA	NA	47.2	NA	NA	90	NA	NA
Metals (6010C)													
IRON	mg/L		NA	0.188 J	0.0675 J	NA	NA	NA	21	20.9	0.125 J	<0.1 U	NA
MAGNESIUM	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (6020A)													
MANGANESE	mg/L	1.1	NA	NA	0.0616	NA	NA	NA	NA	1.71	NA	0.0574	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	NA	NA	<0.4 U	NA	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	NA	<0.3 U	<0.3 U	<0.3 U	NA	NA	<0.3 U	NA	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	NA	NA	<0.4 U	NA	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	NA	<2 U	<2 U	<2 U	NA	NA	<2 U	NA	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	NA	NA	<0.4 U	NA	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	NA	NA	<0.4 U	NA	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	NA	<5 U	<5 U	<5 U	NA	NA	<5 U	NA	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 UJ	NA	<5 UJ	<5 UJ	<5 UJ	NA	NA	<5 UJ	NA	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	NA	<5 U	<5 U	<5 U	NA	NA	<5 U	NA	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	NA	<5 U	<5 U	3.47 J	NA	NA	<5 U	NA	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	NA	NA	<0.4 U	NA	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
BROMOMETHANE	ug/L	34	<1 UJ	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U

LHAAP-46 Semi-Annual Sampling - August 2016

Sample ID: / Sample Date:	Units	MCL/ PCL	46WW10-080416 8/4/2016	46WW11-080316 8/3/2016	46WW11FF-080316 8/3/2016	46WW14-080216 8/2/2016	46WW14FD-080216 8/2/2016	46WW16-080316 8/3/2016	46WW16F-080316 8/3/2016	46WW16FF-080316 8/3/2016	LHSMW19-080316 8/3/2016	LHSMW19FF-080316 8/3/2016	LHSMW25-080416 8/4/2016
CHLOROMETHANE	ug/L	70	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	0.325 J	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	0.967 J	NA	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	NA	NA	<0.4 U	NA	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	NA	NA	<0.25 U	NA	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	NA	<1 U	<1 U	<1 U	NA	NA	<1 U	NA	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	21.2	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	8.53	NA	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	NA	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	229	NA	NA	NA	302	NA	NA	365	NA	NA
NITRATE	mg/L	10	NA	<2 U	NA	NA	NA	<2 U	NA	NA	<2 U	NA	NA
NITRITE	mg/L	1	NA	<2 UJ	NA	NA	NA	<2 UJ	NA	NA	<2 UJ	NA	NA
SULFATE	mg/L		NA	253	NA	NA	NA	723	NA	NA	733	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	682000 J	NA	NA	NA	739000 J	NA	NA	854000 J	NA	NA
ETHANE	ug/L		NA	<20 U	NA	NA	NA	<20 U	NA	NA	<20 U	NA	NA
ETHENE	ug/L		NA	<20 U	NA	NA	NA	<20 U	NA	NA	<20 U	NA	NA
METHANE	ug/L		NA	45.9	NA	NA	NA	<20 U	NA	NA	<20 U	NA	NA
Sulfide (SM4500-S-(-2)-F-2000)													
SULFIDE	mg/L		NA	<1 U	NA	NA	NA	<1 U	NA	NA	0.519 J	NA	NA

Blue Highlighting Indicates concentrations above the MCL/PCL

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve. Metals results for "FF" samples are dissolved.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Limit

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

LHAAP-50 Surface Water Samping - August 2016

Sample ID: Sample Date:	Units	MCL/ PCL	GPW1-081716 8/17/2016	UPSTREAM GPW1-081716 8/17/2016
Perchlorate (6850)				
PERCHLORATE	ug/L	17	0.162 J	0.137 J
Volatile Organic Compounds (8260B)				
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	NA
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	NA
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	NA
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	NA
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	NA
1,1-DICHLOROETHENE	ug/L	7	<1 U	NA
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	NA
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	NA
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	NA
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	NA
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	NA
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	NA
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	NA
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	NA
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	NA
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	NA
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	NA
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	NA
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	NA
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	NA
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	NA
2-BUTANONE	ug/L	15000	<5 U	NA
2-CHLOROTOLUENE	ug/L	490	<0.25 U	NA
2-HEXANONE	ug/L	120	<5 UJ	NA
4-CHLOROTOLUENE	ug/L	490	<0.5 U	NA
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	NA
ACETONE	ug/L	22000	4.19 J	NA
BENZENE	ug/L	5	<0.25 U	NA
BROMOBENZENE	ug/L	200	<0.25 U	NA
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	NA
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	NA
BROMOFORM	ug/L	120	<1 U	NA
BROMOMETHANE	ug/L	34	<1 U	NA
CARBON DISULFIDE	ug/L	2400	<1 U	NA
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	NA
CHLOROBENZENE	ug/L	100	<0.25 U	NA
CHLOROETHANE	ug/L	98000	<1 U	NA
CHLOROFORM	ug/L	240	<0.25 U	NA
CHLOROMETHANE	ug/L	70	<1 U	NA
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	NA
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	NA
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	NA
DIBROMOMETHANE	ug/L	120	<0.5 U	NA
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	NA
ETHYLBENZENE	ug/L	700	<0.5 U	NA
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	NA
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	NA

LHAAP-50 Surface Water Samping - August 2016

Sample ID: Sample Date:	Units	MCL/ PCL	GPW1-081716 8/17/2016	UPSTREAM GPW1-081716 8/17/2016
M,P-XYLENE	ug/L	10000	<1 U	NA
METHYLENE CHLORIDE	ug/L	5	<0.5 UJ	NA
NAPHTHALENE	ug/L	490	<0.4 U	NA
N-BUTYLBENZENE	ug/L	1200	<0.5 U	NA
N-PROPYLBENZENE	ug/L	980	<0.25 U	NA
O-XYLENE	ug/L	10000	<0.5 U	NA
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	NA
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	NA
STYRENE	ug/L	100	<0.25 U	NA
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	NA
TETRACHLOROETHENE	ug/L	5	<0.5 U	NA
TOLUENE	ug/L	1000	<0.5 U	NA
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	NA
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	NA
TRICHLOROETHENE	ug/L	5	<0.5 U	NA
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	NA
VINYL CHLORIDE	ug/L	2	<0.5 U	NA

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Limit

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

LHAAP Surface Water Sampling - August 2016

Location ID: Sample Date:	Units	PCL	GPW 1 - 082316 8/23/2016	GPW 3 - 082316 8/23/2016	HBW 1 - 082316 8/23/2016	HBW 10 - 082316 8/23/2016	HBW 7 - 082316 8/23/2016
Perchlorate (6850)							
PERCHLORATE	ug/L	17	0.2 U	0.141 J	0.2 U	0.2 U	0.2 U

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

AECOM

Subject:	**Final Minutes, Quarterly Restoration Advisory Board (RAB) Meeting, Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting:	**Karnack Community Center, Karnack, Texas**
Date of Meeting:	**January 19, 2017; 6:00 – 7:00 PM**

Meeting Participants:

LHAAP/BRAC:	Rose M. Zeiler
USACE:	Aaron Williams
USAEC:	Nicholas Smith; Randy Cerar
AECOM:	Debra Richmann, Elspeth Sharp, Craig Holloway; JoLynn Snow
USEPA Region 6:	Rich Mayer; Dorelle Harrison
TCEQ:	April Palmie
RAB:	**Present:** Paul Fortune, Carol Fortune, Richard LeTourneau, Nigel Shivers, Judy VanDeventer, Tom Walker, Terry Britt **Absent:** Charles Dixon, John Pollard, Jr.
Public:	Dan Murphy, Rick Lowerre, Marwan Salameh, Laurie Rodriguez, Robert Speight

An agenda for the RAB meeting, three handouts (Groundwater Treatment Plant [GWTP] – Processed Groundwater Volumes, Harrison Bayou and Goose Prairie Creek – Perchlorate Data, and LHAAP Perimeter Well Monitoring – Perchlorate Data), and a color copy of the AECOM slide presentation were provided for meeting attendees. In addition, RAB application forms were available at the sign-in table.

Welcome and Introduction

Mr. Paul Fortune, RAB Co-Chair, called the meeting to order. Mr. Fortune asked for introductions of new attendees. Mr. Randy Cerar with USAEC, Mr. Dorelle Harrison with USEPA, and Ms. JoLynn Snow and Mr. Craig Holloway with AECOM were introduced to the RAB.

Open Items - Dr. Rose M. Zeiler

RAB Administrative Issues

Dr. Zeiler opened the discussion of RAB Administrative Issues with the minutes from the last (October 2016) RAB meeting.

Minutes

Ms.Richmann said that the draft October 2016 RAB meeting minutes were sent to RAB members along with the January meeting agenda on 1/9/17. Dr. Zeiler asked the RAB members if anyone wanted to make a motion to approve the minutes from the October 2016 RAB meeting. Ms. Judy VanDeventer made a motion to accept the draft October 2016 minutes as written and Mr. Terry Britt seconded the motion. The approved October 2016 RAB minutes will be posted on the LHAAP website.

Website Update

Ms. Richmann said that the website has been updated since the last RAB meeting to include the agenda for the current RAB, the approved meeting minutes from the July 2016 meeting, and additional sampling activities performed through December. The Administrative Record link has also been updated to include documents added to the Administrative Record through the third quarter of 2016.

Postpone Next RAB Meeting Until October 2017

Dr. Zeiler asked if the RAB members might want to postpone the next RAB meeting until the new PBR contract has been awarded. Between now and then, relatively few activities will be occurring, so the meeting topics would be limited, primarily to GWTP operations. Ms. VanDeventer said she doesn't want to suspend the meetings and Mr. Terry Britt suggested instead, the members might be interested in a guided tour of the sites to better understand the changes that have taken place. There was general consensus among the group that the site tour should be conducted in lieu of the April RAB meeting. It was agreed that the participants would assemble at the Karnack Community Center at 5:00 PM on Thursday, April 27th to go over the agenda, then leave from there for the site tour. Dr. Zeiler encouraged people planning to attend to identify sites and topics of interest. Guests of RAB members and members of the public are welcome to attend, but the Army needs to know in advance, so she asked that this information be provided to Mr. Fortune. She also indicated more information on the tour will be forthcoming.

Miscellaneous

Mr. Fortune asked about the schedule for the RFP for the next PBR contract and whether the bidding process had started yet. AW said what he can share with the RAB is that the next PBR contract will be awarded prior to the end of period of performance for the current PBR contract, which ends September 30, 2017.

Site-wide Environmental Restoration Issues – Dr. Zeiler and Ms. Richmann

Dispute-Impacted Sites Update

Ms. Richmann quickly reviewed the dispute-impacted sites listed in slide 9 and shown on the LHAAP sites map on slide 10 of the presentation. Dr. Zeiler told the audience that the Army is now working on post-ROD documents for the formerly disputed sites with signed RODs

(LHAAP-16, LHAAP-17, LHAAP-001-R, and LHAAP-03-R). Ms. Richmann summarized the post-ROD activities that are ongoing or completed at these sites (slide 11).

Post-ROD Activities at LHAAP-16, LHAAP-17, LHAAP-001-R, and LHAAP-003-R

Ms. Richmann said that at LHAAP-16, the Remedial Design has been reviewed by EPA and TCEQ, and will be finalized under the current contract. At LHAAP-17, the final post-ROD activity under the current contract is the Final Pre-Design Investigation Work Plan, which is complete. At the two MMRP sites, LHAAP-001-R and -003-R, respectively, limited groundwater monitoring, consisting of three rounds of sampling, and a single round of sampling for perchlorate is required by the ROD. One round of samples was collected from both sites on September 28-29 and analyzed for perchlorate. Slides 12-15 show the monitoring well locations that were sampled and the perchlorate results for each site. Perchlorate concentrations in all but one of the six samples from LHAAP-001-R are below the detection limit, and the only detected concentration is below the TRRP Tier 1 Groundwater Residential PCL (slide 13). Similarly, perchlorate concentrations in two of the three samples from LHAAP-003-R are below the detection limit and the third concentration is below the PCL. A tech memo documenting the results from LHAAP-003-R is in preparation and will be the last deliverable for this site under the current contract.

Slide 16 identifies the post-ROD deliverables for each site that will be included in the new PBR contract. Dr. Zeiler clarified that these are the first actions for the new contractor. Ms. Richmann said that the current AECOM PBR contract ends September 30, 2017, and reviewed the remaining deliverables and activities AECOM will complete or perform for the duration (slides 17 and 18).

Defense Environmental Restoration Program (DERP) Update – AECOM (Debra Richmann)

MNA Site Updates (LHAAP-37, 46, 50, 58, 67)

Ms. Richmann provided an overview of the current status of the MNA sites at LHAAP (Slide 19). Mr. Fortune asked which site is the one where sampling was suspended until the conditions returned to normal. Dr. Zeiler said it is LHAAP-37 (aka 35(B)) where the bio-plug study was performed, and she summarized the study and results. The study did not produce the expected results (accelerate biological degradation of COCs) and was terminated.

Ms. Richmann continued going through the update slides for the other DERP sites:

- LHAAP-04 – The final ROD has been signed by the Army and paper copies of both the ROD and approval/concurrence letters have been sent to EPA and TCEQ for signature.
- LHAAP-29 – The Final RI Addendum is complete. The FS Addendum, which includes a new remedial alternative not evaluated in the FS, has been drafted and provided to the Army.
- LHAAP-18/24 – A Draft Final Revised FS is in preparation, based on responses to EPA and TCEQ comments on the Draft FS. The Revised FS incorporates recent data obtained between February and June 2016, and includes the complete Final Supplemental to the

Updated Post-Screening Investigation Report as an appendix. A contingency remedy for 1,4-dioxane has also been added. Dr. Zeiler said she appreciated the hard work put in by Mr. Mayer, Ms. Palmie, and AECOM to be able to finalize it under the current PBR contract.

- LHAAP-47 – The Final Post-Screening Investigation Work Plan was approved by EPA and TCEQ in September. The work plan will be implemented under the next PBR contract.
- Groundwater Treatment Plant (GWTP) – Mr. Holloway reviewed slide 25, with the updated monthly treated groundwater volumes through September 2016. In September, the volume was almost 806,000 gallons. Next Mr. Holloway went on to describe the incident that occurred at the plant sometime over the weekend of December 10-11, 2016 that resulted in release of approximately 1,200 gallons of hydrochloric acid (HCl). All of the HCl was released within the secondary containment of the acid storage tank, so no acid was released to the environment. The release occurred when the flange bolts on the tank failed. The acid flowed from the tank into a sump, from which it was pumped into the equalization tank, resulting in irreparable damage to the sump pump and acidification of the contents of the equalization tank. The acid solution was pumped through the pre-treatment system, resulting in additional damage to the manway hatch on the ORP tank. The ICTs and extraction wells had to be shut down, because no water met the discharge criteria for perchlorate and the equalization tank was full.

  Repairs/replacements have been made for the damaged equipment, and chemicals to neutralize the solution in the ORP tank have been added. However, the pH remains too low and the ORP remains too high for effective removal of perchlorate by the fluidized bed reactor (FBR). So, wastewater continues to be cycled through the pre-treatment system and no water has been discharged to Harrison Bayou or through irrigation.

  Mr. Fortune asked about the overall operation of the GWTP, given its age. Dr. Zeiler responded that two of the three units are very effective for removal of metals and VOCs. It is the third unit, the FBR that has been the challenge and it is for removal of perchlorate. She said that frac tanks are scheduled to be delivered and set up outside the GWTP tomorrow to provide some extra capacity and allow some fresh groundwater to be processed through the FBR.

  Mr. LeTourneau asked about possibly injecting the acidic water into a well and said chemical companies do this. Mr. Holloway said that he is working on a solution to handle the water on site.

  In light of the incident at the GWTP, Mr. VanDeventer said she definitely wants to have a meeting of the RAB members in April to get an update on the situation.

Surface Water and Perimeter Well Sampling Update

Ms. Richmann showed the slides with the surface water and perimeter well sampling locations (slides 26 and 28, respectively). Surface water samples were collected from locations GPW-1 and GPW-3 on Goose Prairie Creek, and HBW-1, HBW-7, and HBW-10 on Harrison Bayou in

November 2016. All perchlorate concentrations are below the TRRP Tier 1 groundwater residential PCL of 17 µg/L. Two samples had estimated perchlorate concentrations below 1 µg/L, one sample had a detected concentration of 0.563 µg/L, and perchlorate was not detected in the other two samples. The Harrison Bayou and Goose Prairie Creek handout includes the November 2016 sample results.

Groundwater samples were collected from five of the six perimeter wells in November or December 2016. All perchlorate concentrations are below the TRRP Tier 1 groundwater residential PCL of 17 µg/L. Perchlorate was not detected in three of the wells - 110, 111, and 112; and samples from wells 133 and 134 both had perchlorate concentrations below 1 µg/L. Well 108 was not sampled. The Perimeter Well Monitoring handout includes the November/December 2016 sample results.

Next RAB Meeting Schedule and Closing Remarks

As discussed on page 2 of these minutes, a LHAAP site tour will be held in lieu of a regular RAB meeting on **April 27, 2017**. Interested RAB members and their guests should assemble at the **Karnack Community Center at 5:00 p.m.**

RAB members Mr. LeTourneau, Mr. Britt, and Ms. VanDeventer requested that the RAB be notified of what firm is awarded the new PBR contract at the time it is awarded or when the new contractor is given notice to proceed. Dr. Zeiler said she will make sure the RAB receives notification. Mr. George Rice asked if the RFP for the next contract has been published yet; Mr. Williams responded that it has not been published and that he does not have information on when it will be.

Adjourn

Motion to adjourn was made by Ms. Fortune and seconded by Ms. VanDeventer.

October 2016 Meeting Handouts:

- Meeting Agenda
- PowerPoint Presentation Slides
- Groundwater Treatment Plant [GWTP] – Processed Groundwater Volumes Handout
- Harrison Bayou and Goose Prairie Creek – Perchlorate Data Handout
- LHAAP Perimeter Well Monitoring – Perchlorate Data Handout

Acronyms

µg/L	micrograms per liter
AECOM	AECOM Technical Services, Inc.
BRAC	Base Realignment and Closure
COC	Contaminant of Concern
DERP	Defense Environmental Response Program
FS	Feasibility Study
GWTP	Groundwater Treatment Plant
HCl	Hydrochloric Acid
ICT	Interceptor Collection Trench
LHAAP	Longhorn Army Ammunition Plant
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
ORP	Oxygen-Reduction Potential
PBR	Performance-Based Remediation
PCL	Protective Concentration Level
RAB	Restoration Advisory Board
RFP	Request for Proposal
RI	Remedial Investigation
ROD	Record of Decision
TCEQ	Texas Commission on Environmental Quality
TRRP	Texas Risk Reduction Program
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USEPA	United States Environmental Protection Agency

LONGHORN ARMY AMMUNITION PLANT
RESTORATION ADVISORY BOARD
Karnack, Texas
(479) 635-0110

AGENDA

DATE:	Thursday, January 19, 2017
TIME:	6:00 – 7:00 PM
PLACE:	Karnack Community Center, Karnack, Texas

06:00 Welcome and Introduction

06:05 Open Items {RMZ}
- RAB Administrative Issues
- Minutes (October 2016 RAB Meeting)
- Website
- Postpone next RAB meeting until October 2017

06:15 Sitewide Environmental Restoration Issues {RMZ}
- Dispute Impacted Sites Update
  - Remedial Design for LHAAP-16
  - Post-ROD Activites at LHAAP-16, LHAAP-17, LHAAP-001-R and LHAAP-003-R
    - Limited LTM (LHAAP-001-R and LHAAP-003-R only)
- Updated Schedule,
- Environmental Contract Ending
- Ongoing Outreach – Public Notification Efforts for the January 2017 RAB
- Surface Water and Perimeter Wells Sampling Update

06:35 Defense Environmental Restoration Program (DERP) Update {AECOM}
- MNA Sites Update
- LHAAP-29 Update
- LHAAP-18/24 Update
- LHAAP-47 PSI Update
- Groundwater Treatment Plant (GWTP) Update

Next RAB Meeting Schedule and Closing Remarks

07:00 Adjourn {RMZ}

Longhorn Army Ammunition Plant Restoration Advisory Board Meeting January 19, 2017

AECOM Environment

Agenda

AGENDA

DATE:	Thursday, January 19, 2017
TIME:	6:00 – 7:00 PM
PLACE:	Karnack Community Center, Karnack, Texas

06:00 Welcome and Introduction

06:05 Open Items {RMZ}
- RAB Administrative Issues
- Minutes (October 2016 RAB Meeting)
- Website
- Postpone next RAB meeting until October 2017

06:15 Sitewide Environmental Restoration Issues {RMZ}
- Dispute Impacted Sites Update
  - Remedial Design for LHAAP-16
  - Post-ROD Activites at LHAAP-16, LHAAP-17, LHAAP-001-R and LHAAP-003-R
    - Limited LTM (LHAAP-001-R and LHAAP-003-R only)
- Updated Schedule,
- Environmental Contract Ending
- Ongoing Outreach – Public Notification Efforts for the January 2017 RAB
- Surface Water and Perimeter Wells Sampling Update

06:35 Defense Environmental Restoration Program (DERP) Update {AECOM}
- MNA Sites Update
- LHAAP-29 Update
- LHAAP-18/24 Update
- LHAAP-47 PSI Update
- Groundwater Treatment Plant (GWTP) Update

Next RAB Meeting Schedule and Closing Remarks

07:00 Adjourn {RMZ}

Open Items

- RAB Administrative Issues
- Minutes from October 2016 RAB Meeting
- Website Update
- Postpone next RAB meeting until October 2017

Ongoing Outreach - Notifications for October RAB Meeting

- Published RAB meeting announcement in Marshall News Messenger on January 9th
- Requested the following radio stations to air January RAB Meeting Public Service Announcement (PSA):
  - KMHT Radio 103.9 (Karnack)
  - 98 Rocks (Alpha Media, Shreveport) and
  - Kiss Country 93.7 (Town Square Media, Shreveport)
- Requested PSA to be placed on KTBS Channel 3 and KTAL Channel 6 TV Community/Local Events Calendar
- Sent RAB announcement/agenda by email or USPS to individual RAB members and other interested parties
- Mailed RAB announcement to churches in Karnack on January 9th
- Posted RAB Meeting Fliers at multiple locations in the community:
  - Shady Glade Café, Caddo Grocery, Fyffes Corner Store, Circle S Grocery, Run In Grocery, Family Dollar Store, Convenience Store at FM9 and FM199

The Army Wants You to be Informed!

- The Army is committed to protecting human health and the environment; key to that commitment is engaging the community and increasing public participation in environmental restoration at LHAAP.
- You are encouraged to:
  - Attend RAB meetings and/or become a member of the RAB
  - Visit the Longhorn environmental website at www.longhornaap.com
  - Make suggestions for improving communication – the Army welcomes and appreciates community feedback

Minutes from Past RAB Meetings

- Discussion of October 2016 RAB Meeting Minutes/Motion to accept

Website Update

Postponed Next RAB Meeting

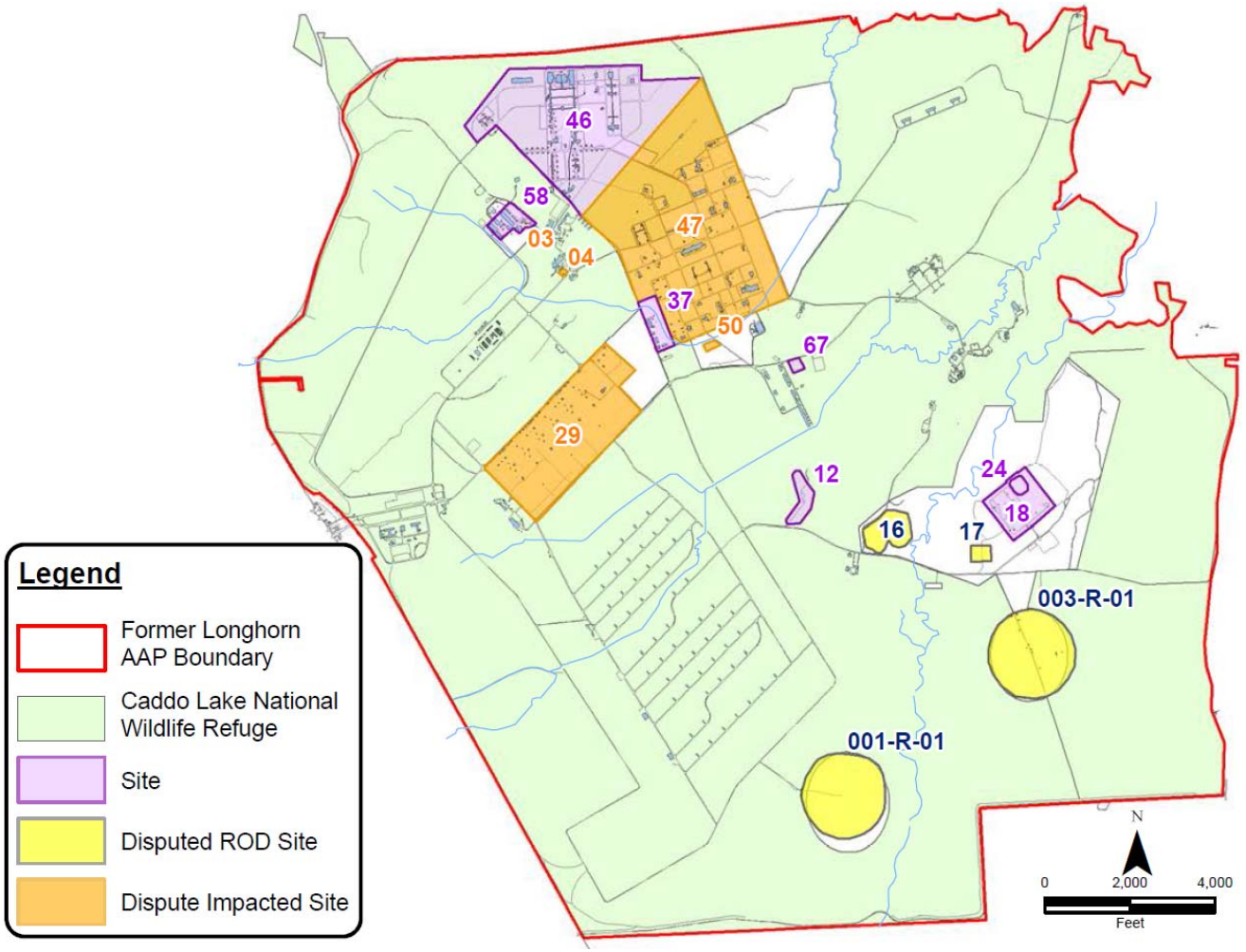
- Remaining effort on the current PBR contract through the end of the Period of Performance (September 30, 2017) will be mainly continuing GWTP Operations and Maintenance.
- Do the RAB members, therefore, wish to postpone the next RAB meeting until October 2017, when the new PBR contract will be in place?

Site-wide Environmental Restoration Issues

Active LHAAP Performance-Based Remediation Sites (* Disputed ROD Site)

LHAAP-03	Building 722 Paint Shop
LHAAP-04	Pilot Wastewater Treatment Plant
LHAAP-12	Landfill 12
LHAAP-16	Landfill 16*
LHAAP-17	Burning Ground No.2/Flashing Area*
LHAAP-18	Burning Ground No.3
LHAAP-24	Unlined Evaporation Pond
LHAAP-29	Former TNT Production Area
LHAAP-37	Chemical Laboratory Waste Pad
LHAAP-46	Plant Area 2
LHAAP-47	Plant Area 3
LHAAP-50	Former Sump Water Tank
LHAAP-58	Maintenance Complex
LHAAP-67	Aboveground Storage Tank Farm
LHAAP-001-R	South Test Area/Bomb Test Area*
LHAAP-003-R	Ground Signal Test Area*

Longhorn Performance-Based Remediation Sites Map

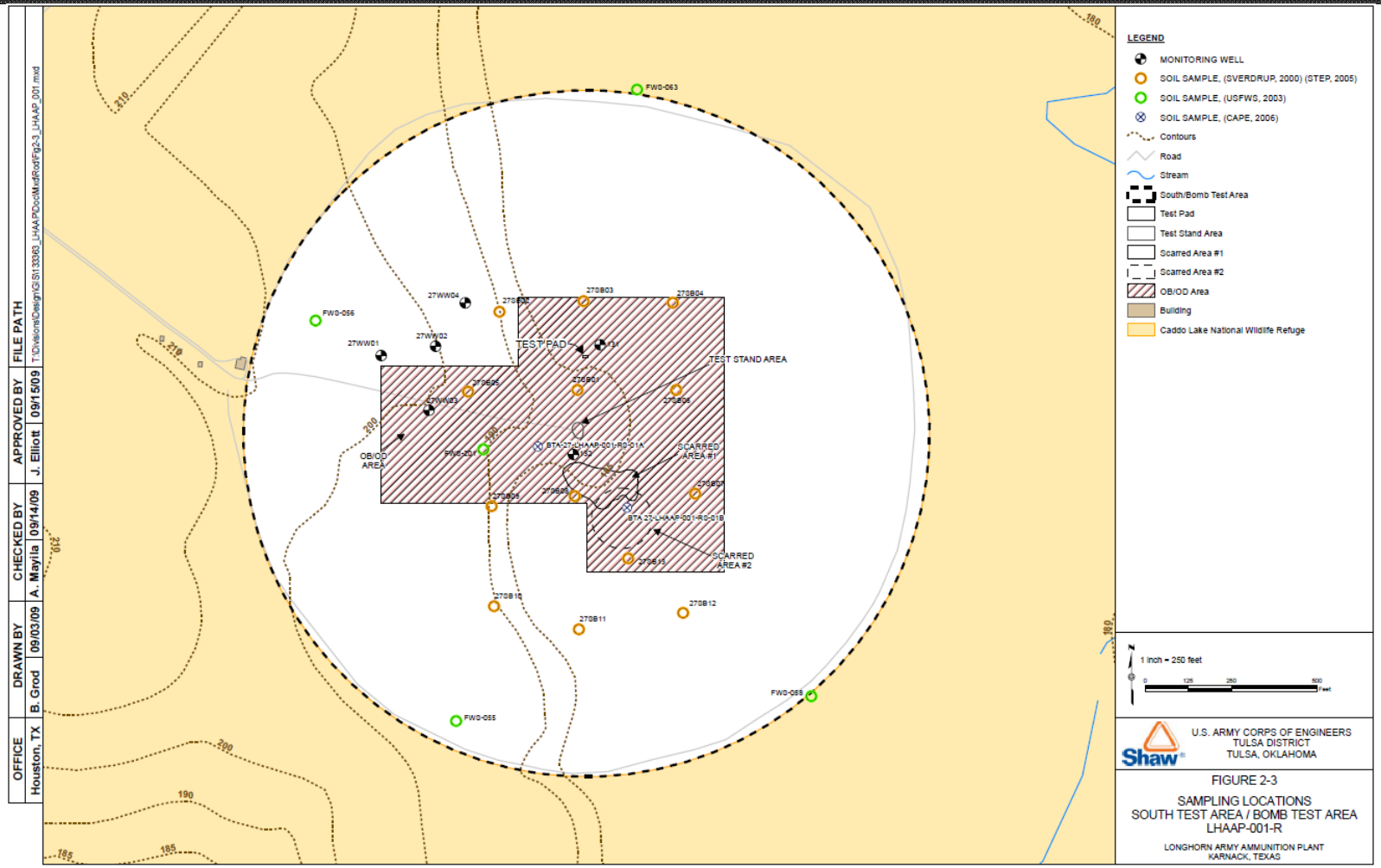


AECOM

Post-ROD Activities at Disputed Sites LHAAP-16, -17, -001-R, and 003-R

- Activity for LHAAP-16
  - In the process of resolving regulatory comment for the Remedial Design, upon which the Remedial Design will be finalized
- Activity for LHAAP-17
  - Completed Pre-Design Investigation Work Plan
- Activities for Military Munitions Response sites LHAAP-001-R and LHAAP-003-R
  - Post-ROD requirements for LHAAP-001-R and LHAAP-003-R include limited groundwater monitoring for perchlorate to confirm levels are below the Texas Risk Reduction Program Tier 1 Groundwater Residential Protective Concentration Level (PCL)
  - Three rounds of sampling from six wells at LHAAP-001-R, and one round of sampling from three wells at LHAAP-003-R are required
  - Sampling at LHAAP-001-R and LHAAP-003-R was performed on 9/28/16 and 9/29/16, respectively

Post-ROD Limited Groundwater Monitoring Locations at LHAAP-001-R



LHAAP-001-R, South Test Area/Bomb Test Area

SELECTED REMEDY: Land Use Controls and Limited Groundwater Monitoring

First Post-ROD Round Limited Groundwater Monitoring Results for LHAAP-001-R

LHAAP-001-R Groundwater Sampling Results - September 2016

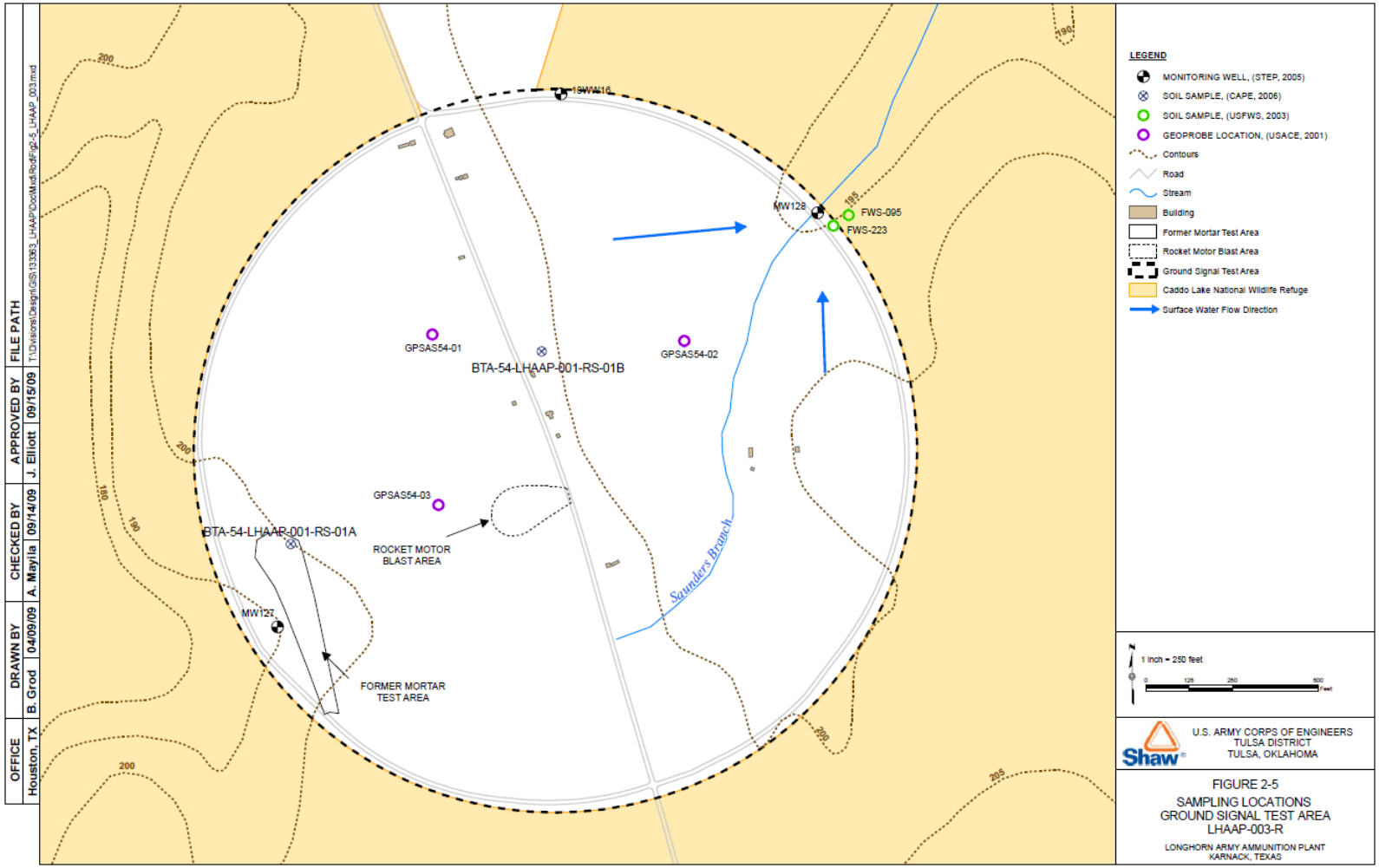
Sample ID: Sample Date:	Units	PCL	131-092816 9/28/2016	132-092816 9/28/2016	132FD-092816 9/28/2016	27WW01-092816 9/28/2016	27WW02-092816 9/28/2016	27WW03-092816 9/28/2016	27WW04-092816 9/28/2016
Perchlorate (6850)									
PERCHLORATE	ug/L	17	<0.2 U	<0.2 U	<0.2 U	<0.2 U	0.705	<0.2 U	<0.2 U

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

Post-ROD Limited Groundwater Monitoring Locations at LHAAP-003-R



LHAAP-003-R, Ground Signal Test Area

SELECTED REMEDY: Land Use Controls and Limited Groundwater Monitoring

Post-ROD Limited Groundwater Monitoring Results for LHAAP-003-R

LHAAP-003-R Groundwater Sampling Results - September 2016

Sample ID: Sample Date:	Units	PCL	127-092916 9/29/2016	128-092916 9/29/2016	128FD-092916 9/29/2016	18WW16-092916 9/29/2016
Perchlorate (6850)						
PERCHLORATE	ug/L	17	<0.2 U	<0.2 U	<0.2 U	5.32

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

Next Deliverables for the Four Disputed ROD Sites Under the New PBR Contract

- LHAAP-16 Draft Remedial Action Work Plan Report
- LHAAP-17 Draft Pre-Design Investigation Report
- LHAAP-001-R Draft Land Use Control Remedial Design (RD)
- LHAAP-003-R Draft Land Use Control RD

Deliverables, Environmental Contract Ending

- Current AECOM PBR contract ends September 30, 2017
- The remaining AECOM contract deliverables (reports and plans) are:
  - Final LHAAP-16 Remedial Design (RD)
  - Final LHAAP-18/24 Revised FS
  - Final LHAAP-37 Remedial Action Completion Report (RACR) – Complete, however EPA is waiting until groundwater rebounds to pre-Bio plug study conditions to issue Certificate of Completion
  - Final LHAAP-50 Year 2 RA-O Report
  - Final LHAAP-67 Year 1 and Year 2 RA-O Reports

Deliverables, Environmental Contract Ending (cont.)

- Groundwater monitoring will continue at LHAAP-18/24; results from each event will be documented in a data validation package
- GWTP Operation and Maintenance, Perimeter Wells and Surface Water Sampling; and Mowing/LUC Monitoring will be performed throughout the remaining contract period of performance (September 30, 2017)

Defense Environmental Restoration Program (DERP) Update

- **Monitored Natural Attenuation Sites Updates**
  - LHAAP-35B (37) – Chemical Laboratory
  - LHAAP-46 – Plant Area 2
  - LHAAP-50 – Former Sump Water Tank
  - LHAAP-35A (58) – Shops Area
  - LHAAP-67 – Aboveground Storage Tank Farm
- Land Use Control Boundary Surveys for groundwater use restriction are complete for all sites
- Final Remedial Action Completion Reports (RACRs) are complete for all MNA sites;
  - Certificate of Completion for LHAAP-35B(37) will not be issued until site groundwater rebounds to pre-Bio plug study conditions
- Year 1 and Year 2 Remedial Action Operation (RA-O) report for LHAAP-46 and LHAAP-58 are final
- Year 1 RA-O report for LHAAP-50 is final and Year 2 RA-O report is draft final
- Year 1 and 2 RA-O reports for LHAAP-67 are draft final
- Year 3 RA-O reports for LHAAP-46 and LHAAP-67 have been drafted
- Quarterly/Semi-Annual Groundwater Monitoring under the current PBR contract is complete for all MNA sites

LHAAP-04 Activities

- Final ROD has received Army signature
- Awaiting EPA signature and TCEQ concurrence

LHAAP-29 - Former TNT Production Area Update

- To address remedy design and implementation questions at the Draft Final ROD stage, the Remedial Investigation (RI) and Feasibility Study (FS) were re-opened to fill data gaps and a Supplemental Investigation was performed
- An RI Addendum based on the Supplemental Investigation results for LHAAP-29 was submitted to EPA and TCEQ and was approved by EPA with TCEQ concurrence in August 2016. The Final RI Addendum documents achievement of the following objectives:
  - Confirmed the extent of methylene chloride DNAPL in the Intermediate Zone groundwater
  - Confirmed the extent of VOC, perchlorate, and explosives contamination in the Shallow Zone groundwater
  - Determined there is no continuing source of VOC contamination in site soil
  - Characterized physical properties (resistivity, hydraulic conductivity, etc.) and microbial activity in Intermediate Zone to support further FS evaluation of remedial alternatives
- An FS Addendum, which incorporates the supplemental data in the Final RI Addendum to develop and evaluate an additional remedial alternative not included in the previous FS, has been drafted

LHAAP-18/24 Former Burning Ground No. 3 and Unlined Evaporation Pond Update

- To evaluate remedial alternatives for LHAAP-18/24, a Draft Revised FS was submitted to EPA and TCEQ; the agencies have provided comments, and the Draft Final Revised FS is in preparation
- The FS was revised to address data gaps and incorporate new data, as well as address 1,4-dioxane, for which a contingency remedy was developed
- The Revised FS also uses supplemental data obtained between February and June 2016, which is documented in the Final Supplemental to the Updated Post-Screening Investigation Report, which includes:
  - DPT soil sampling at 17 locations and analysis for VOCs and perchlorate
  - Installation of seven additional monitoring wells (three screened in the Shallow Zone and four in the Wilcox Fm.), with soil samples collected from well borings to create a vertical profile of VOCs and perchlorate in the unsaturated zone

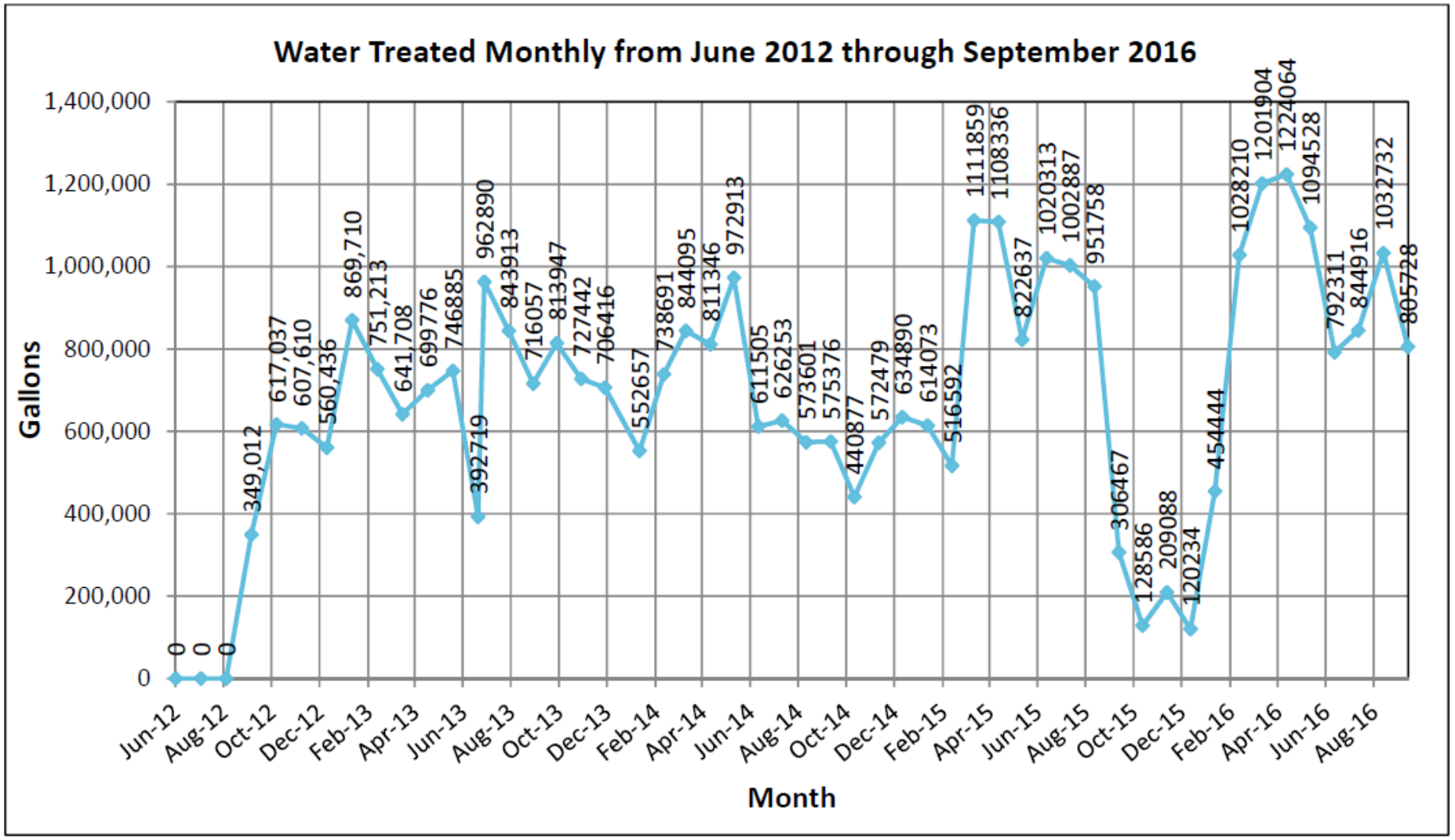
LHAAP- 47 Plant Area 3 Update

- Final LHAAP-47 Post-Screening Investigation Work Plan was reviewed and approved by EPA with TCEQ concurrence on September 30th
  - Objectives:
    - ✓ Re-assess VOCs and perchlorate in Shallow Zone and Intermediate Zone groundwater, and
    - ✓ Re-assess potential VOC- and perchlorate-contaminated groundwater contribution to surface water in Goose Prairies Creek and tributaries
  - Scope:
    - ✓ Collection of two grab groundwater samples from each of seven Shallow Zone soil borings and six Intermediate Zone soil borings, and analysis for VOCs and perchlorate;
    - ✓ Installation and development of 13 Shallow Zone monitoring wells and 4 Intermediate Zone monitoring wells
    - ✓ Re-development of existing wells and synoptic water level survey of all site wells
    - ✓ Collection and analysis of groundwater samples from the new wells and up to 30 existing Shallow Zone wells and 10 existing Intermediate Zone wells for VOCs, and/or perchlorate, plus additional constituents included in the ROD
    - ✓ Collection and analysis of four surface water samples for perchlorate and VOCs
- Post-Screening Investigation will be implemented under the next PBR contract

Groundwater Treatment Plant (GWTP) Update

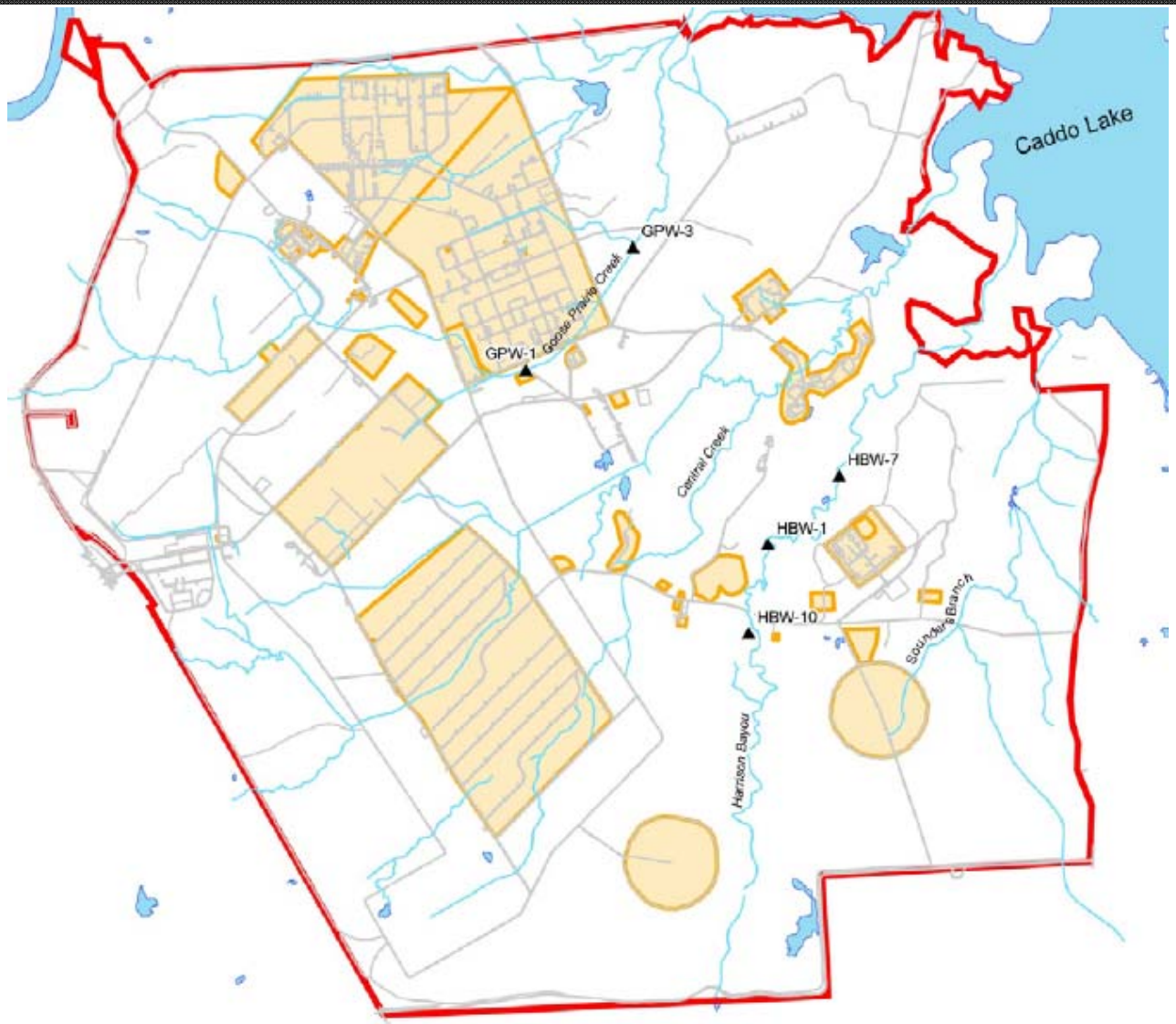
- A failure of the flange bolts on the TK-380 Acid Storage Tank occurred sometime over the weekend between Friday 12/9/16 and Monday 12/12/16
- When the plant operators returned on 12/12/16, they discovered approximately 1,200 gallons of hydrochloric acid (HCl) were released inside the secondary containment; No RELEASE OCCURRED TO THE ENVIRONMENT

GWTP Update (continued)

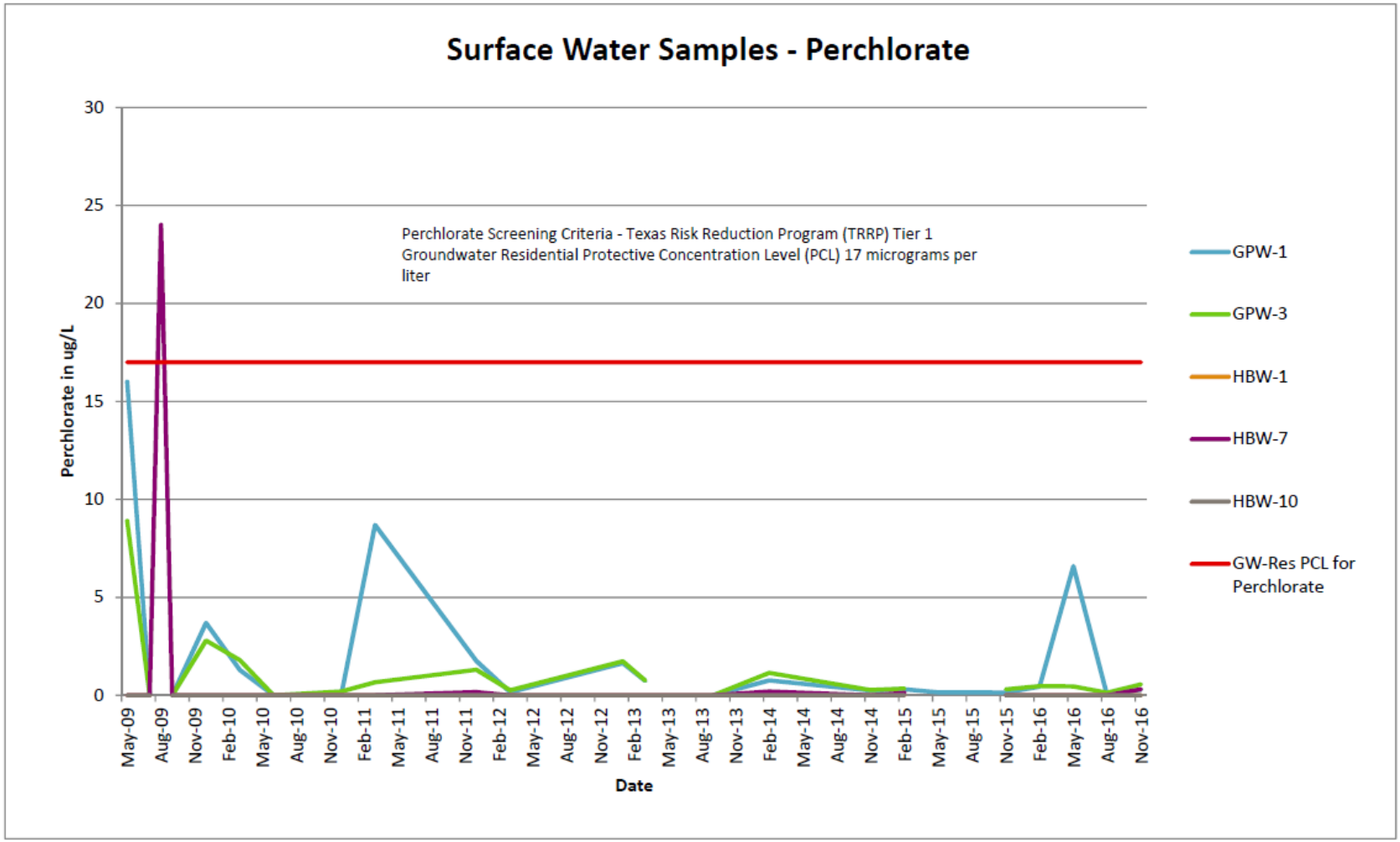


AECOM

Surface Water Sampling Locations



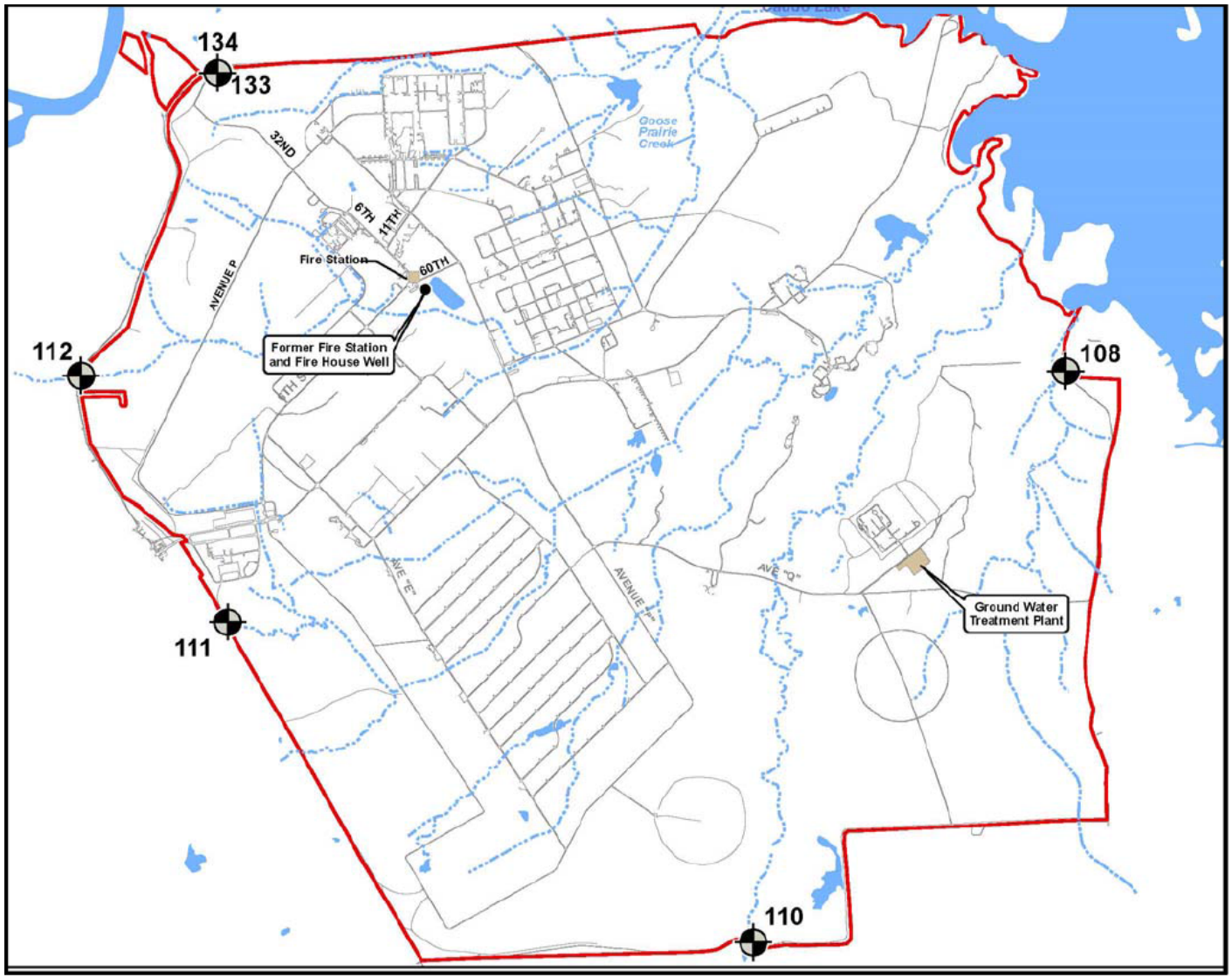
Surface Water Sampling



GPW – Goose Prairie Creek
HBW – Harrison Bayou

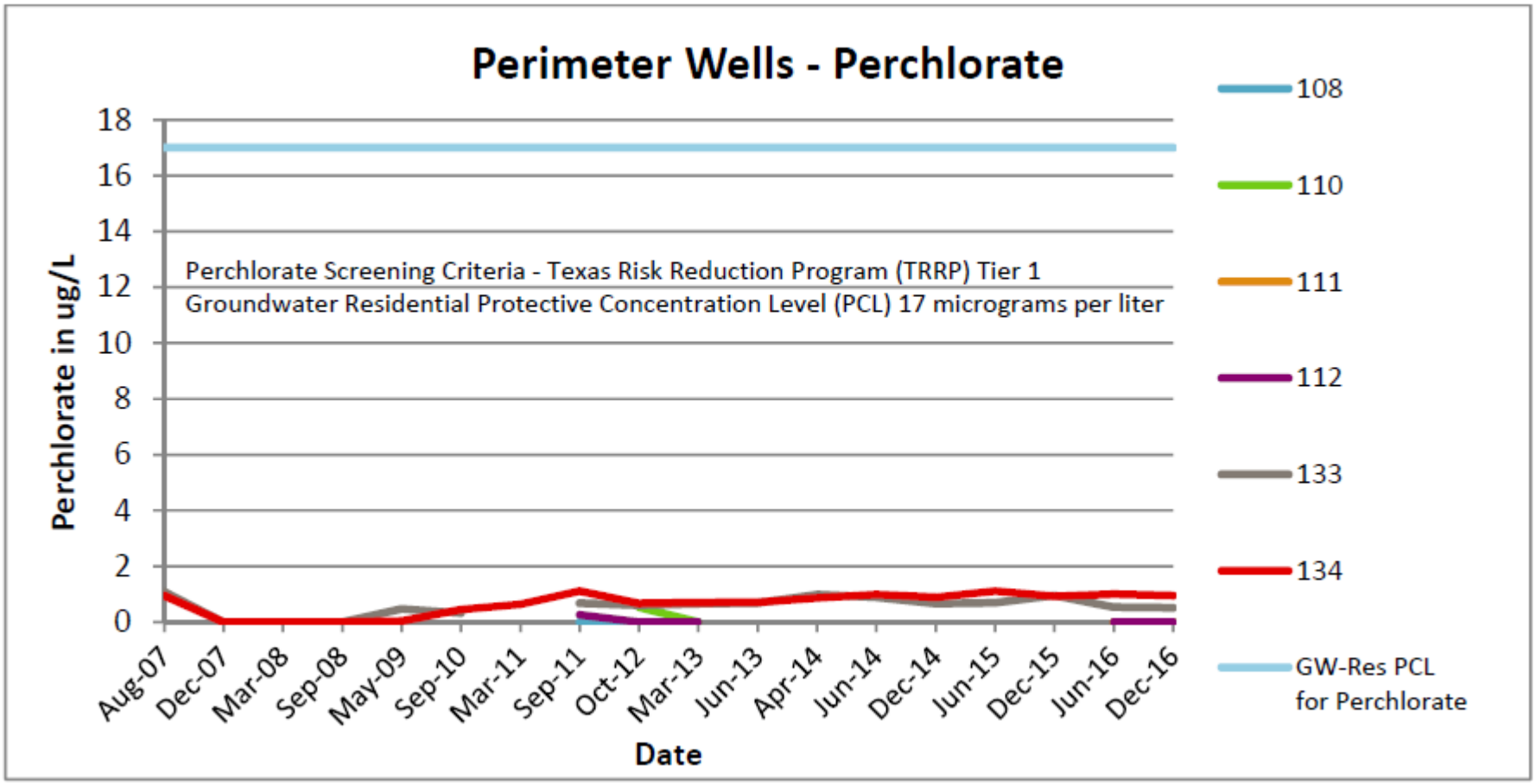
AECOM

Perimeter Well Locations



AECOM

Perimeter Well Sampling Update



AECOM

Next RAB Meeting Schedule and Closing Remarks

- Decision on whether to postpone the next RAB meeting until October 2017
- Other Issues/Remarks?

Questions?

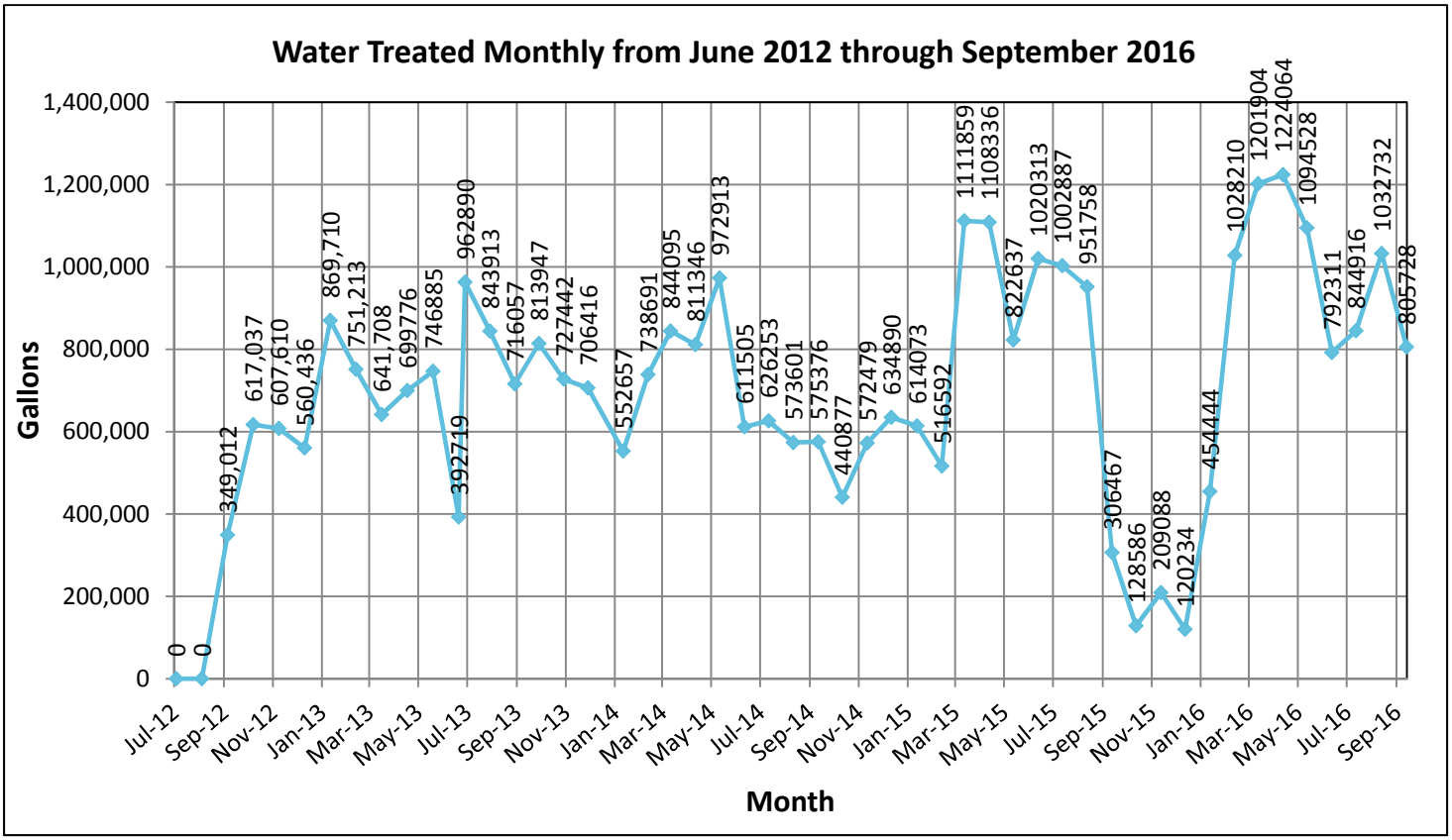
Groundwater Treatment Plant - Processed Groundwater Volumes

The amount of groundwater treated is determined by measuring the number of gallons of processed water.

Processed Water Data
(in gallons)

Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08
1,041,491	848,356	804,822	792,148	665,883	818,872	791,306	568,812	776,904	748,377	690,052	617,199
Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
655,059	619,274	726,118	552,299	598,144	433,800	488,807	526,958	387,644	0	414,853	735,716
Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10
808,322	636,306	727,492	391,898	695,343	802,656	894,731	962,121	1,257,977	1,314,924	1,041,495	1,136,547
Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11
956,567	705,805	849,712	811,679	668,281	1,090,348	817,325	900,338	916,552	784,369	652,524	733,456
Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12
748,102	658,250	684,903	865,453	725,000*	730,000*	980,000*	630,000*	0	0	0	349,012
Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
617,037	607,610	560,436	869,710	751,213	641,708	699,776	746,885	392,719	962,890	843,913	716,057
Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14
813,974	727,442	706,416	552,657	738,691	844,095	811,346	972,913	611,505	626,253	573,601	575,376
Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15
440,877	572,479	634,890	614,073	516,592	1,111,859	1,108,336	822,637	1,020,313	1,002,887	951,758	306,467
Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
128,586	209,088	120,234	454,444	1,028,210	1,201,904	1,224,064	1,094,528	792,311	844,916	1,032,732	805,728

*Indicates Estimate



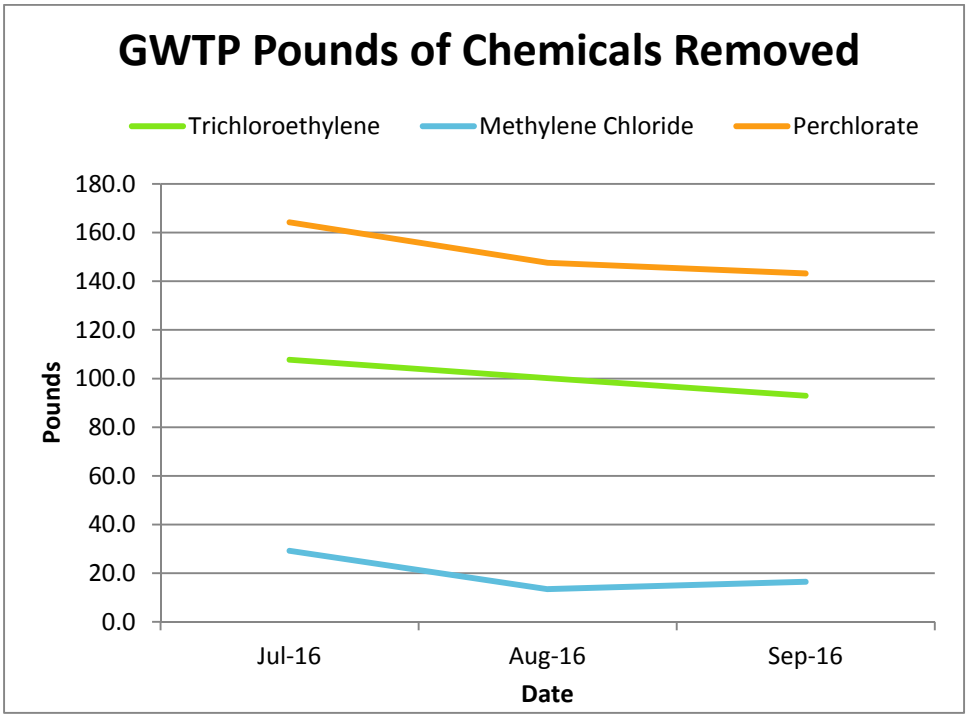
The pounds of chemicals removed for the 3rd Quarter of 2016 can be found below and are calculated by the following formula:

(GWTP Influent Contaminant Concentration [µg/L] x Volume [gallons] x 3.785 [liters per gallon])
(453,600,000 µg per pound)

Approximate Amount of Pounds of Chemicals Removed From LHAAP-18/24, 3rd Quarter 2016

	Trichloroethylene	Methylene Chloride	Perchlorate
Jul-16	108	29	164
Aug-16	100	13	148
Sep-16	93	16	143

ND – no data available



Water Discharge Location and Volume (Gallons)

Month	Harrison Bayou	LHAAP-18/24 Sprinklers	INF Pond
Jul-16	0	636,230	0
Aug-16	0	984,020	0
Sep-16	0	698,656	0

Harrison Bayou and Goose Prairie Creek – Perchlorate Data

Surface water samples are collected quarterly from each location in Harrison Bayou and Goose Prairie Creek, unless the sampling location is dry.

Surface Water Sample Data (in micrograms per liter)

Quarter	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Creek Sample ID	**Jul 1999**	**Sep 1999**	**Feb 2000**	**Apr 2000**	**Aug 2000**	**Dec 2000**	**Feb 2001**	**Apr 2001**	**July 2001**	**Oct 2001**	**Jan 2002**
GPW-1	<1.0U	-	4	<4.0 U	<4.0 U	<4.0 U	-	2.65	<4.0 U	<4.0 U	<4.0 U
GPW-3	<1.0U	<4.0 U	17	8	<4.0 U	<4.0 U	-	2.28	<4.0 U	<4.0 U	<4.0 U
HBW-1	-	<80.0 U	310	23	-	-	<4.0 U	-	<4.0 U	<4.0 U	<4.0 U
HBW-7	-	<8.0 U	370	110	-	-	<4.0 U	-	<4.0 U	<4.0 U	<4.0 U
HBW-10	-	<8.0 U	905	650	<4.0 U	-	<4.0 U	-	<4.0 U	-	-

Quarter	2nd	3rd	4th	1st	2nd	3rd	3rd	4th	2nd	3rd	4th
Creek Sample ID	**June 2002**	**Sept 2002**	**Dec 2002**	**Feb 2003**	**June 2003**	**Aug 2003**	**July 2004**	**Dec 2006**	**May 2007**	**Aug 2007**	**Dec 2007**
GPW-1	<4.0 U	<4.0 U	18.3	18.6	59.9	-	2.25	-	<1.0 U	<1.0 U	10.7
GPW-3	<4.0 U	<4.0 U	5.49	12.6	14.7	-	2.2	-	<1.0 U	<1.0 U	7.48
HBW-1	<4.0 U	<4.0 U	<4.0 U	-	<4.0 U	99.3	<0.2U	<1.0 U	<1.0 U	122	<1.0 U
HBW-7	<4.0 U	<4.0 U	<4.0 U	-	<4.0 U	<4.0 U	<0.2U	<1.0 U	<1.0 U	1.02	<1.0 U
HBW-10	<4.0 U	<4.0 U	<4.0 U	-	<4.0 U	-	<0.2U	<1.0 U	<1.0 U	<1.0 U	<1.0 U

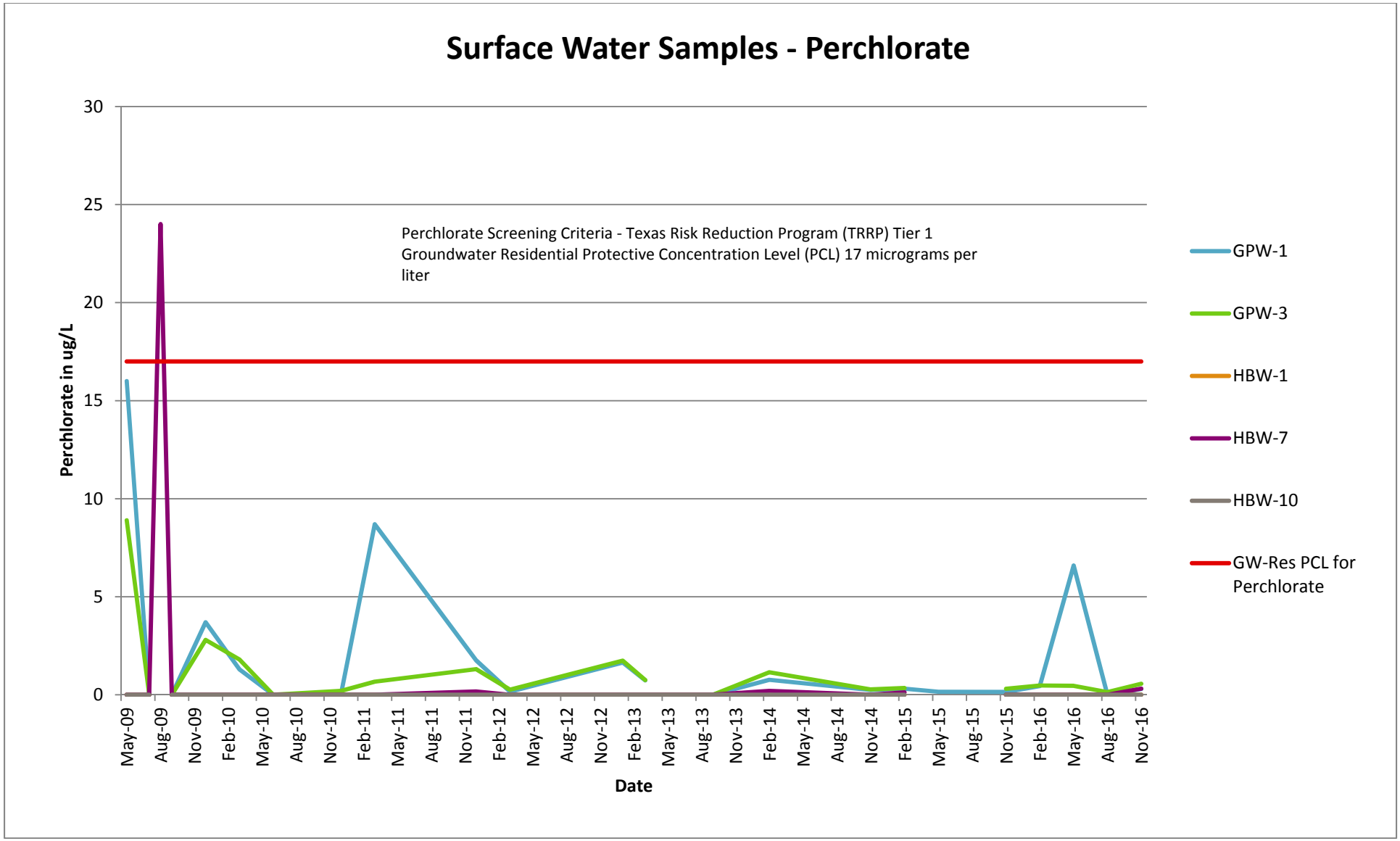
Quarter	1st	2nd	3rd	4th	2nd	3rd	3rd	3rd	4th	1st	2nd
Creek Sample ID	**Mar 2008**	**Jun 2008**	**Sep 2008**	**Dec 2008**	**May 2009**	**Jul 2009**	**Aug 2009**	**Sep 2009**	**Dec 2009**	**Mar 2010**	**Jun 2010**
GPW-1	27	<0.5U	<0.5U	<0.22U	16	<4U	NS	<1.2U	3.7	1.3J	<0.6U
GPW-3	21.9	9.42	1.1	<0.22U	8.9	<4U	NS	<0.6U	2.8	1.8J	<0.6U
HBW-1	<0.5U	<0.5U	<0.5U	<0.22U	<0.55U	<4U	NS	<1.5U	<0.275U	1.5U	<0.6U
HBW-7	<0.5U	<0.5U	<0.5U	<0.22U	<0.55U	<4U	24	<1.2U	<0.275U	1.5U	<0.6U
HBW-10	<0.5U	<0.5U	<0.5U	<0.22U	<0.55U	<4U	NS	<1.5U	<0.275U	1.2U	<0.6U

Quarter	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Creek Sample ID	**Sep 2010**	**Dec 2010**	**Mar 2011**	**Jun 2011**	**Sep 2011**	**Dec 2011**	**Mar 2012**	**Jun 2012**	**Not Applicable**	**Jan & Feb 2013**	**Mar 2013**
GPW-1	dry	<0.1U	8.7	dry	dry	1.76	0.163J	dry	NS	1.65	0.735
GPW-3	dry	0.199J	0.673	dry	dry	1.31	0.261	dry	NS	1.74	0.754
HBW-1	dry	<0.1U	<0.2U	dry	dry	<0.1U	0.1U	dry	NS	<0.2U	<0.2U
HBW-7	dry	<0.1U	<0.2U	dry	dry	0.171J	0.1U	dry	NS	<0.2U	<0.2U
HBW-10	dry	<0.1U	<0.2U	dry	dry	<0.1U	0.1U	dry	NS	<0.2U	<0.2U

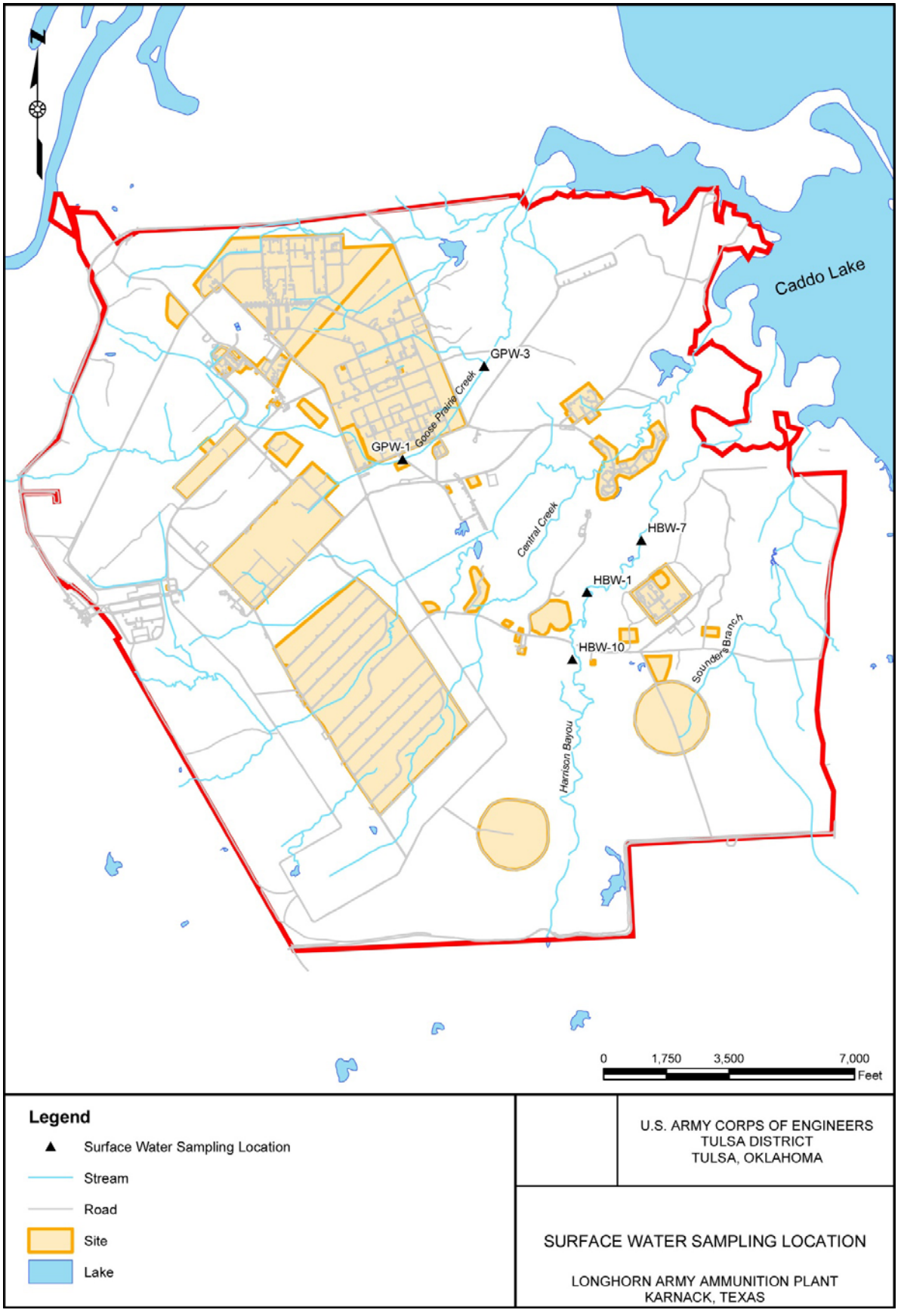
Quarter	2nd	3rd	4th	1st	2nd	3nd	4th	1st	2nd	3rd	4th
Creek Sample ID	**Jun 2013**	**Sept 2013**	**Dec 2013**	**Feb 2014**	**May 2014**	**Aug 2014**	**Nov 2014**	**Feb 2015**	**May 2015**	**Aug 2015**	**Nov 2015**
GPW-1	dry	<0.2 U	dry	0.766	dry	dry	0.244 J	0.311 J	0.156J	dry	0.142 J
GPW-3	dry	<0.2 U	dry	1.15	dry	dry	0.276 J	0.344 J	dry	dry	0.311 J
HBW-1	<0.2U	<0.2 U	dry	<0.2 U	dry	dry	<0.2 U	<0.2 U	dry	dry	<0.2 U
HBW-7	<0.2U	<0.2 U	dry	0.201 J	dry	dry	<0.2 U	0.124 J	dry	dry	<0.2 U
HBW-10	<0.2U	<0.2 U	dry	<0.2 U	dry	dry	<0.2 U	<0.2 U	dry	dry	<0.2 U

Quarter	1st	2nd	3rd	4th
Creek Sample ID	**Feb 2016**	**May 2016**	**Aug 2016**	**Nov 2016**
GPW-1	0.447	6.59	<0.2 U	0.301 J
GPW-3	0.474	0.457	0.141	0.563
HBW-1	<0.2 U	<0.2 U	<0.2 U	<0.2 U
HBW-7	<0.2 U	<0.2 U	<0.2 U	0.318 J
HBW-10	<0.2 U	<0.2 U	<0.2 U	<0.2 U

NS – not sampled U – non-detect J – Estimated Dry – no surface water


Surface Water Samples - Perchlorate
Perchlorate in ug/L
30
25
20
15
10
5
0
Perchlorate Screening Criteria - Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (PCL) 17 micrograms per liter
May-09
Aug-09
Nov-09
Feb-10
May-10
Aug-10
Nov-10
Feb-11
May-11
Aug-11
Nov-11
Feb-12
May-12
Aug-12
Nov-12
Feb-13
May-13
Aug-13
Nov-13
Feb-14
May-14
Aug-14
Nov-14
Feb-15
May-15
Aug-15
Nov-15
Feb-16
May-16
Aug-16
Nov-16
Date
GPW-1
GPW-3
HBW-1
HBW-7
HBW-10
GW-Res PCL for Perchlorate

Longhorn Army Ammuntion Plant Creek Sampling Locations



LHAAP Perimeter Well Monitoring – Perchlorate Data

Groundwater samples are currently collected annually from four wells and semi-annually from two wells on the LHAAP perimeter.

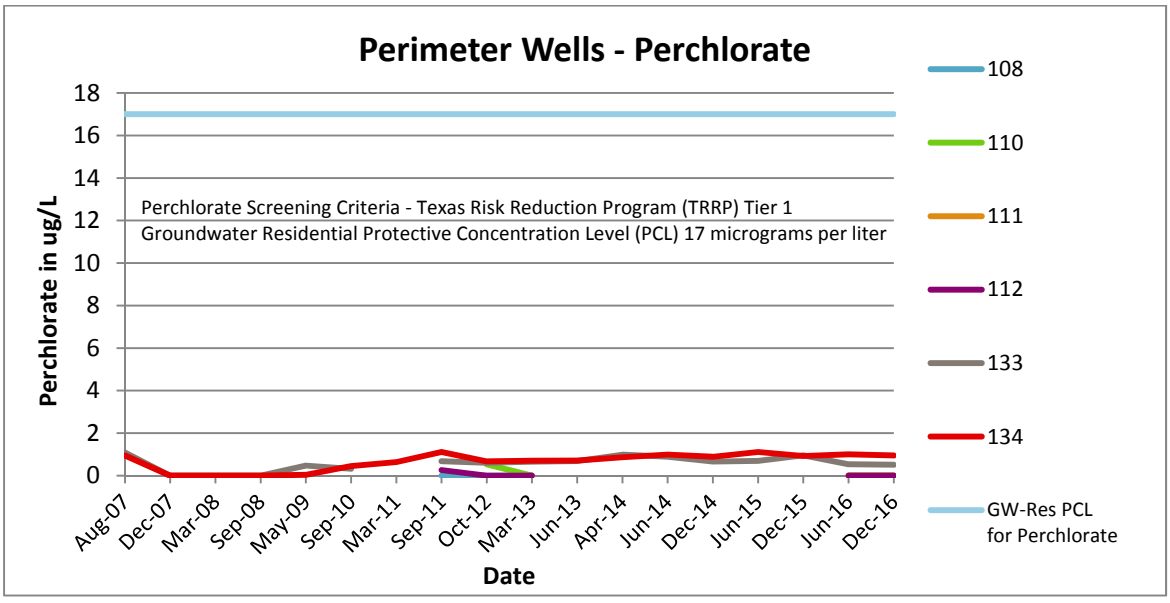
Perimeter Well Sample Data
(in micrograms per liter)

Well ID	Jun 2005	Sep 2005	Sep 2006	May 2007	Aug 2007	Dec 2007	Mar 2008	Sep 2008	May 2009	Sep 2009	Mar 2010
108	NS	NS	10 U	NS	0.5 U	NS	NS	2.5 U	NS	1.2 U	NS
110	NS	NS	10 U	NS	10 U	NS	NS	5.0 U	NS	6 U	NS
111	NS	NS	4 U	NS	0.5 U	NS	NS	0.5 U	NS	0.3 U	NS
112	NS	NS	5 U	NS	3 U	NS	NS	2.0 U	NS	3 U	NS
133	0.541	0.597	1.08	1 U	1.09	0.5 U	0.5 U	0.5 U	0.47 J	0.32	Dry
134	0.881	0.725	0.708 J	1 U	0.949 J	0.5 U	0.5 U	0.829 U	0.04 J	0.3 U	0.3 U

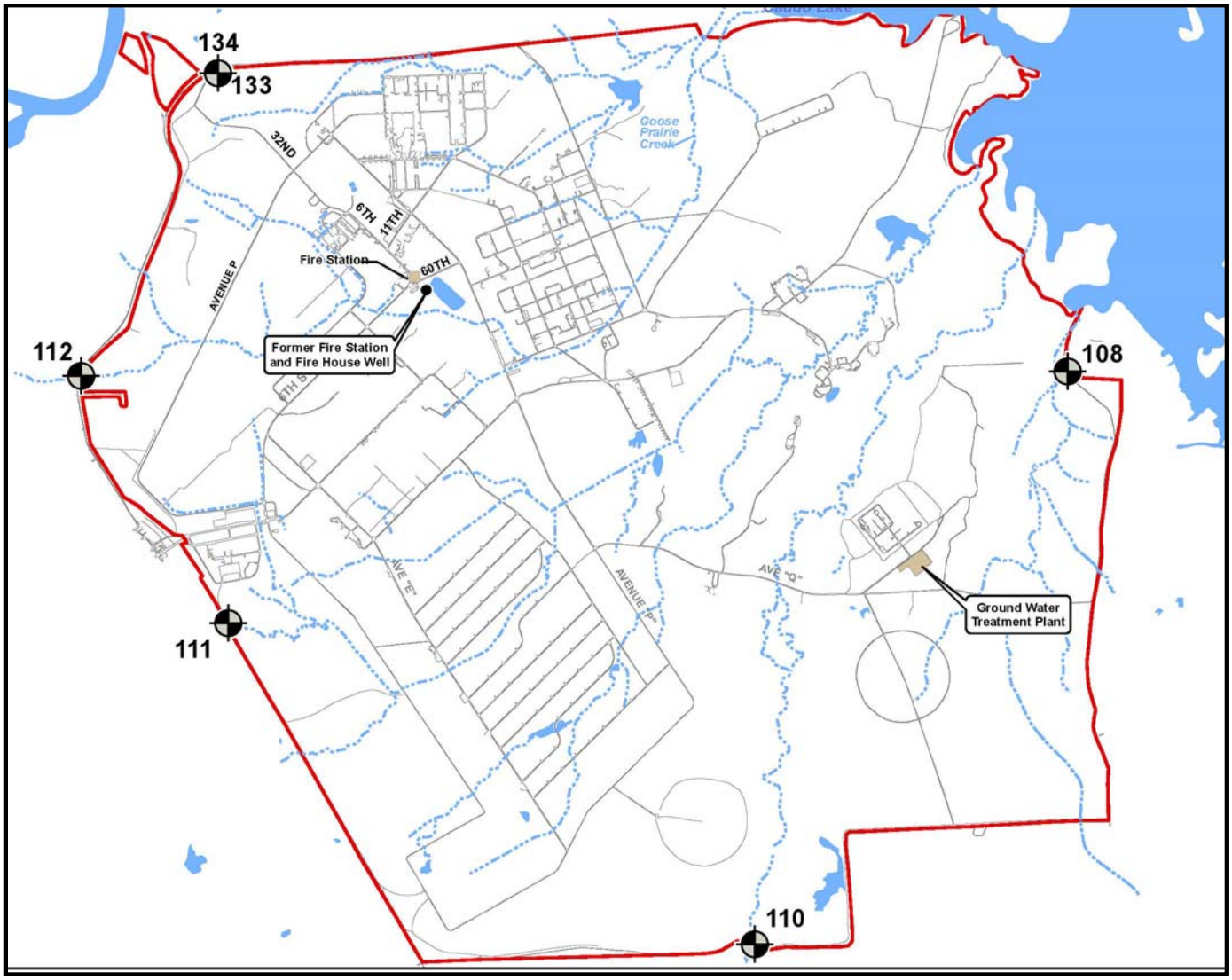
Well ID	Sep 2010	Mar 2011	Sep 2011	Oct 2012	Mar 2013	Jun 2013	Apr 2014	Jun 2014	Dec 2014	Jun 2015	Dec 2015
108	3 U	NS	0.1 U	0.2 U	0.2 U	NS	NS	0.2 U	NS	0.566	NS
110	Dry	NS	Dry	0.535	0.2 U	NS	NS	0.2 U	NS	2U	NS
111	Dry	NS	Dry	Dry	1.32	NS	NS	Dry	NS	0.2U	NS
112	3 U	NS	0.26	0.2 U	0.2 U	NS	NS	0.458	NS	2U	NS
133	0.32	Dry	0.68	0.598	0.655	0.685	0.988	0.887	0.665	0.692	0.952
134	0.45	0.636	1.11	0.671	0.698	0.706	0.863	0.989	0.890	1.11	0.925

Well ID	Jun 2016	Nov/Dec 2016
108	0.2 U	NS
110	0.2 U	0.2 U
111	0.2 U	0.2 U
112	0.2 U	0.2 U
133	0.536	0.513
134	0.997	0.947

Notes:
J – Estimated U – Non-Detect Dry – Well Dry NS – Not Sampled



Longhorn Army Ammuntion Plant Map with Perimeter Well Locations



Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 7, 2017

Mr. Thomas E. Lederle
Chief, ACSIM BRAC Division
2530 Crystal Drive, Room 5000
Taylor Bldg./NC3
Arlington, Virginia 22202

Re: Record of Decision for LHAAP-04, Former Pilot Wastewater Treatment Plant
Longhorn Army Ammunition Plant Superfund Site TX6213820529 (TCEQ ID: SUP126)
Karnack, Harrison County, Texas

Dear Mr. Lederle:

The Texas Commission on Environmental Quality (TCEQ) received the final Record of Decision (ROD) for the LHAAP-04, Former Pilot Wastewater Treatment Plant, at the Longhorn Army Ammunition Plant Federal Superfund Site in Karnack, Texas on January 3, 2017. The TCEQ has completed the review of the above referenced document and concurs that the response action described in the ROD is the most appropriate remedy for LHAAP-04.

Sincerely,

Richard A. Hyde, P.E.
Executive Director

cc: Mr. Carl Edlund, P.E., Director, Superfund Division, U.S. Environmental Protection Agency, Region 6

Subject:	**Final Minutes, Monthly Managers' Meeting, Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting:	**Teleconference – 844-712-3247, Passcode 32317675**
Date of Meeting:	**March 28, 2017 – 10:00 AM**

Attendees:

Army BRAC:	Rose Zeiler (RMZ)
AEC:	Nick Smith (NS)
EPA:	Rich Mayer (RM), Kent Becher (KB) (USGS Liaison), Barry Forsythe (BF), Dorelle Harrison (DH)
TCEQ:	April Palmie (AP)
USACE:	Aaron Williams (AW)
AECOM:	Elspeth Sharp (ES), Craig Holloway (CH), JoLynn Snow (JS)
USFWS:	Paul Bruckwicki (PB)

Welcome **RMZ**

Action Items

AECOM

- Update on GWTP operations. **In Progress** - Summary of activities and progress over the last 4 weeks:
  - CH discussed that AECOM has been collecting effluent samples and in mid-March achieved levels below discharge criteria. AECOM subsequently discharged a portion of the treated water to Harrison Bayou.
  - On March 24, 2017, AECOM began extracting groundwater from ICTs 12E, 13A, 13B, 13C, 13D, 13E, 13F, 14A, 14B, and 14E.
  - An effluent sample will be collected Wednesday, March 29, 2017, with 24-hour turn-around-time so results are received by Friday. Another sample will be collected when the treatment system is close to capacity to determine if discharge criteria are met and if discharge to Harrison Bayou can resume. If discharge criteria are not met, a request to irrigate to LHAAP-18/24 will be made. CH is tracking extraction rates and storage capacities.
  - AW stated that EPA and TCEQ have questions about the plan to sprinkle at LHAAP-18/24. CH and ES stated that 3 sprinkler heads on each line will be used at a time, and only one line will be used for sprinkling each day. The plan is for the groundwater treatment plant operator to check sprinklers twice per day to make sure there is no ponding. If ponding or runoff is observed, discharge via that sprinkler line will cease, and a different line will be used. AW asked if lines could be switched more often during the day. AP stated that she believes it is necessary to switch more often during the day, that ponding will occur if sprinkling is from one line for 8 hours per day. ES concurred that multiple lines could be used a day to avoid ponding. ES stressed that sprinkling to LHAAP-18/24 is not the preferred method and would be the last resort.
  - AW asked when the ion exchange system is going to be online. ES and CH noted that delivery is ahead of the original scheduled date (installation by April 28), and it will likely be delivered in a couple of weeks. AW noted that based on the expected delivery

date of the ion exchange system, sprinkling to LHAAP-18/24 would only be for a couple of weeks, if needed. CH confirmed. CH will send the group the specifications for the ion exchange system.
  - ES discussed the possibility of Harrison Bayou going dry in the near future. She stated that AECOM is preparing the INF Pond to receive treated effluent.
- Review the December 2016 elevated perchlorate result for 18WW08.
  - The December 9, 2016 perchlorate result was 2,390 µg/L, but in June 2016 the perchlorate result was below the detection limit. ES stated that historically the levels were high (36,300 µg/L in 2002; 2,700 µg/L in 2010) but decreased in 2013 and 2014 to non-detect levels in June 2016. The change may be related to groundwater elevation. Although there was not a perfect correlation between the changes in groundwater elevation and the perchlorate concentration, there is a pattern of increased perchlorate concentrations when groundwater elevation is decreased. This well was sampled in March 2017, and these results will be scrutinized further. KB asked if it is possible that a bottle got switched. ES noted that is a possibility, but the March 2017 results will provide more information.

Army
- No outstanding action items.

EPA
- Flow measurements and surface water sampling performed March 9, 2016.
  - KB stated that surface water samples were collected from five locations from Harrison Bayou and from one location at the wetland area adjacent to LHAAP-17. KB expects to receive the surface water sample results in the next couple of weeks and will distribute the field report when complete.
  - RM asked if the results should be presented at the April RAB. RMZ stated that the site tour is planned for the April RAB, so RMZ said it would be better to wait until the next RAB (July).

TCEQ
- No outstanding action items.

AEC
- Schedule for draft CRP/CIP update. NS stated that the contractor is working on it.

USFWS
- No outstanding action items.

Schedule Review **RMZ**
- Restoration – RMZ said there is nothing to discuss until the next contract is in place.
- Contract – AW has nothing to report during this meeting.

Defense Environmental Restoration Program (DERP) PBR Update **AECOM**
ES asked everyone to refer to the Document and Issue Tracker dated 3/28/17, which was distributed with the agenda. It includes currently projected dates for submittal of remaining project milestone deliverables to EPA and TCEQ.

- Item 1 (GWTP Quarterly Report) – ES said the draft GWTP report for Q2 2016 is currently in preparation and will incorporate responses to agency comments on the Q1 2016 report in a separate section of the report. Submittal to EPA and TCEQ is planned for the week of 4/10/17. Submittal of the Q3 2016 report is planned for the week of 5/19/17 and the Q4 2016 report is planned for the week of 6/9/17.

- The following items are complete and not discussed:
  - Item 2 – Supplemental to Updated LHAAP-18/24 PSI Addendum
  - Item 2-1- LHAAP-18/24 Data Gap Sampling
  - Item 2-2 - Previous Regulatory Comments on LHAAP-18/24 FS
  - Item 2-3 - LHAAP-18/24 Revised FS

- Item 3-1 (LHAAP-37 RACR) – Tech memo concluding site has returned to pre-test conditions was finalized on 3/7/2017. ES, RMZ and RM discussed that EPA will issue Certification of Completion.

- The following items are complete and not discussed:
  - Item 4 - LHAAP-46 RACR
  - Item 5 - LHAAP-50 RACR
  - Item 6 - LHAAP-58 RACR
  - Item 7 - LHAAP-67 RACR
  - Item 8 - LHAAP-12 2015 Annual Report

- Item 8-1 (LHAAP-12 2016 RA-O Report) – ES said the validated data for groundwater samples collected in December 2016 were provided to EPA and TCEQ on 2/23/17 in the January 2017 Data Validation Package attachment to the February 2017 MMM agenda. Submittal of the Draft report is planned for the week of 5/15/17.

- Item 9 (LHAAP-46 Yr. 1 and Yr. 2 RA-O Reports) is complete, so was not discussed.

- Item 9-1 (LHAAP-46 Yr. 3 RA-O Report) – The draft report was submitted to TCEQ and EPA on 3/8/17. TCEQ and EPA accepted the Draft as Final with no comments on 3/14/17 and 3/15/17, respectively. Final cover pages and electronic document were sent to TCEQ and EPA on 3/24/17.

- Item 10-1 (LHAAP-67 Yr. 1 RA-O Report) and Item 10-2 (LHAAP-67 Yr. 2. RA-O Report) are complete, so were not discussed.

- Item 10-3 (LHAAP-67 Yr. 3 RA-O Report) – The draft report was submitted to TCEQ and EPA on 3/7/17. Received TCEQ and EPA comments on 3/14/17. Submittal of the Draft Final report is planned for the week of 3/29/17.

- Item 11-1 (LHAAP-50 Yr. 1 RA-O Report) is complete, so was not discussed.

- Item 11-2 (LHAAP-50 Yr. 2 RA-O Report) – is complete, so was not discussed.

- Item 12-1 (LHAAP-58 Yr. 1 and Yr. 2 RA-O Reports) are complete, so were not discussed.

- Item 12-2 (LHAAP-58 Contingency Remedial Action Work Plan) is complete, so was not discussed.

- Item 13 (MMM) – EPA and TCEQ provided concurrence with January 2017 minutes on 3/7/17 and 3/8/17, respectively. Draft February 2017 MMM minutes were submitted to EPA and TCEQ for review on 3/27/17. The next MMM meeting will be held at 10:00 CST on Thursday, April 27, 2017 at the LHAAP site trailer.

- Item 14-1 (LHAAP-29 RI Addendum) is complete, so was not discussed.

- Item 14-2 (LHAAP-29 FS Addendum) – AW said they plan on having comments back to AECOM next week and submittal will go to EPA and TCEQ.

- Item 15-1 (LHAAP-47 PSI Work Plan) is complete, so was not discussed.

- Item 15-2 (LHAAP-16 RD) is complete, so was not discussed.

- Item 15-2a (LHAAP-16 RD Post ROD Requirements) is complete, so was not discussed.

- Items 15-3 (LHAAP-17 RD) – The Army is deferring the RD to the next PBR contract.

- Item 15-3a (LHAAP-17 PDI WP) is complete, so was not discussed.

- Item 15-3b (LHAAP-17 Post-ROD Requirements) is complete, so was not discussed.

- Item 15-4 (LHAAP-001-R-01 RD/RDWP) – The Army is deferring the LUC RD to the follow-on PBR contract, so this item was not discussed.

- Item 15-4a (LHAAP-001-R-01 Limited LTM) and Item 15-4b (LHAAP-001-R-01 Post-ROD Requirements) are complete, so were not discussed.

- Item 15-5 (LHAAP-003-R-01 RD/RDWP) – The Army is deferring the LUC RD to the follow-on PBR contract, so this item was not discussed.

- Item 15-5a (LHAAP-003-R-01 Limited LTM) – is complete, so was not discussed.

- Item 15-5b (LHAAP-003-R-01 Post-ROD Requirements) is complete, so was not discussed.

- Item 15-6 (LHAAP-04 ROD) – The ROD is expected to be signed soon.

- Item 15-7 (Site-wide LUC Management Plan) – The FY2016 Revision Log and signed transmittal letters will be entered into the next Admin Record update.

- Item 16 (RAB/Website) – Submitted Draft January 2017 RAB meeting minutes to RAB members on 3/7/17. The next RAB meeting will be a site tour on 4/27/17 at 5:00 PM CST.

- AP asked what the plan is for the next RAB meeting. ES discussed that there would be a site map handed out for the site tour. A fact sheet for LHAAP-16 RD will also be provided.
- AW said there will be an update on the GWTP operation and contract status.

· Item 17-1 (GWTP O&M – GWTP Sampling and Optimization Memo) is complete so was not discussed.

· Item 17-2 (GWTP Sampling and Analysis Plan) – AECOM to submit memo recommending removal of mercury from GWTP influent/effluent sampling. Final Sampling and Analysis plan will be updated.

· Item 17-3 (GWTP Continuing O&M) – discussed earlier under AECOM Action Items.

· Item 18 (Admin. Record Update) – The 2016 AR Q4 update is currently in preparation and is planned for submittal by 4/21/17.

· Item 19 (LHAAP-02) is complete so was not discussed.

· Item 20 (LHAAP-37 Geochemical Rebound) – The Draft Tech Memo was submitted to EPA and TCEQ on 2/28/17. Received acceptance from EPA and TCEQ on 3/7/17.

· Item 21 (Smart Map) – AECOM continues to upload current data to the Smart Map. Available boring logs and construction diagrams will also be uploaded.

· Upcoming/ongoing field work: LHAAP-02 Year 2 Semiannual Event, April 2017

· Monthly data – See attached February 2017 Validated LHAAP Data.

· Groundwater Treatment Plant Operations – Discussed earlier in meeting.

MMRP Update **Army**

· RMZ, AW, and PB discussed the transferring of LHAAP-003-R will not happen until the next contract because the LUC has not been recorded with the county. Recording the LUC will be one of the first actions under the new contract.

Other Environmental Restoration **Army**

· Quarterly Reporting and Requirements
  - GWTP Evaluation
  - Surface Water/Perimeter Well Quarterly Update
  - Administrative Record Update
  - Website Update
· Annual Reporting
  - LUC Management Plan Update – no update.
· CRP/CIP Revision (Biennial) – discussed earlier in meeting.

USFWS Update

- No update.

Schedule Next Managers' Meeting

- April 2017 MMM will be held in the LHAAP site trailer on 4/27/17 at 10:00 CST.

Other Issues

- RM mentioned elevated perchlorate result at GPW-1A in the validated data package. ES stated that sample was associated with LHAAP-50.

Adjourn

Attachments:

- **February 2017 Validated LHAAP Data:**
  - GWTP Effluent: Weekly, Bi-weekly, Monthly, and Additional Sampling (January, February, March 2017)
  - GWTP Influent: Monthly (February 2017)
  - Surface Water: January/February 2017

ACRONYM LIST

µg/L	Micrograms per Liter
AEC	United States Army Environmental Command
AECOM	AECOM Technical Services, Inc.
AP	April Palmie
AR	Administrative Record
AW	Aaron Williams
BF	Barry Forsythe
BRAC	Base Realignment and Closure
CH	Craig Holloway
CIP	Community Involvement Plan
CRP	Community Relations Plan
CST	Central Standard Time
DERP	Defense Environmental Restoration Program
DH	Dorelle Harrison
EPA	United States Environmental Protection Agency
ES	Elspeth Sharp
FS	Feasibility Study
GWTP	Ground Water Treatment Plant
ICT	Interceptor Collection Trench
INF	Intermediate-Range Nuclear Forces
JS	JoLynn Snow
KB	Kent Becher
LHAAP	Longhorn Army Ammunition Plant
LTM	Long-Term Monitoring
LUC	Land Use Control
MMM	Monthly Managers' Meeting
MMRP	Military Munitions Response Program
NS	Nick Smith
O&M	Operation and Maintenance
PB	Paul Bruckwicki
PBR	Performance-Based Remediation
PDI	Pre-Design Investigation
PSI	Post-Screening Investigation
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RA-O	Remedial Action Operation
RD	Remedial Design
RI	Remedial Investigation
RM	Rich Mayer
RMZ	Rose M. Zeiler
ROD	Record of Decision
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WP	Work Plan

LHAAP Data Validated
February 2017

GWTP Effluent

Weekly, Bi-weekly, Monthly and Additional Sampling - January/February/March 2017

Ammonia (350.1)	Anions (9056)
Ortho-Phosphate (365.2)	Metals (6010C)
Organic Carbon (415.1)	Metals (6020A)
Perchlorate (6850)	Hexavalent Chromium (7196A)
VOC (8260B)	1,4-Dioxane (8270D-SIM)

GWTP Influent

Monthly - February 2017

Perchlorate (6850)	Metals (6010C)
Hexavalent Chromium (7196A)	Metals (6020A)

Surface Water

Surface Water Sampling - January/February 2017

Perchlorate (6850)

GWTP Effluent Weekly Sampling - February/March 2017

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6419-GRAB 2/22/2017	LH18/24-SP650-6420-GRAB 3/1/2017
Location Description:			GWTP–Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.	GWTP–Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.
Ammonia as N (350.1)				
AMMONIA AS N	mg/L		51.8	48.8
Ortho-Phosphate (365.2)				
ORTHO-PHOSPHATE	mg/L		4.33	3.43
Organic Carbon (415.1)				
TOTAL ORGANIC CARBON (TOC)	mg/L		462	373

Limited GWTP Effluent samples collected due to process upset on 12/12/16.

mg/L - milligrams per liter

GWTP Effluent Biweekly Sampling - March 2017

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6421 3/6/2017
Location Description:			GWTP – Collected from a spigot on the discharge of effluent TK-650 Sampled Biweekly.
Perchlorate (6850)			
PERCHLORATE	ug/L	13	1.06
Volatile Organic Compounds (8260B)			
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U
ACETONE	ug/L	22000	<5 U
BENZENE	ug/L	5	<0.25 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U
CHLOROFORM	ug/L	240	<0.25 U
ETHYLBENZENE	ug/L	700	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U
O-XYLENE	ug/L	10000	<0.5 U
STYRENE	ug/L	100	<0.25 U
TETRACHLOROETHENE	ug/L	5	<0.5 U
TOLUENE	ug/L	1000	<0.5 U
TRICHLOROETHENE	ug/L	5	3.49
VINYL CHLORIDE	ug/L	2	<0.5 U
Anions (9056)			
CHLORIDE	mg/L		4190
SULFATE	mg/L		115

Limited GWTP Effluent samples collected due to process upset on 12/12/16.

mg/L - milligrams per liter

NA - not analyzed

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

GWTP Effluent Monthly Sampling - February 2017

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6418-GRAB 2/22/2017
Location Description:			GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Monthly.
Metals (6010C)			
SELENIUM	mg/L	0.012	<0.08 U
Metals (6020A)			
BARIUM	mg/L	2	0.241
LEAD	mg/L	0.0046	<0.001 U
SILVER	mg/L	0.003	<0.001 U
Hexavalent Chromium (7196A)			
HEXAVALENT CHROMIUM	mg/L	0.1244	<0.01 UJ
Volatile Organic Compounds (8260B)			
1,1,1-TRICHLOROETHANE	ug/L	7230	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	216.9	<0.5 U
1,1-DICHLOROETHANE	ug/L	14032	<0.25 U
1,1-DICHLOROETHENE	ug/L	253	<1 U
1,2-DICHLOROETHANE	ug/L	181	<0.5 U
ACETONE	ug/L	2395	13.4
BENZENE	ug/L	181	<0.25 U
CARBON TETRACHLORIDE	ug/L	181	<0.5 U
CHLOROFORM	ug/L	3615	<0.25 U
ETHYLBENZENE	ug/L	57025	<0.5 U
M,P-XYLENE	ug/L	83.6	<1 U
METHYLENE CHLORIDE	ug/L	1699	<0.5 U
O-XYLENE	ug/L	83.6	<0.5 U
STYRENE	ug/L	5987	<0.25 U
TETRACHLOROETHENE	ug/L	180.7	<0.5 U
TOLUENE	ug/L	4189	<0.5 U
TRICHLOROETHENE	ug/L	181	3.7
VINYL CHLORIDE	ug/L	72	<0.5 U
Semi-Volatile Organic Compounds (8270D-SIM)			
1,4-DIOXANE*	ug/L	134.2	20.2

* Calculated Effluent Limit

mg/L - milligrams per liter

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

GWTP Effluent Additional Sampling - January/February 2017

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650-6416-Grab 1/30/2017	LH18/24-SP650-6417-Grab 2/22/2017
Location Description:			GWTP – Collected from a spigot on the discharge of effluent TK-650	
Perchlorate (6850)				
PERCHLORATE	ug/L	13	5400	519 J
Anions (9056)				
CHLORIDE	mg/L		NA	4800
SULFATE	mg/L		NA	131

Blue highlighting indicates detection above Daily Maximum Concentration.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

mg/L - milligrams per liter

NA - not analyzed

ug/L - micrograms per liter

GWTP Influent Monthly Sampling - February 2017

Location ID: Sample Date:	Units	LH18/24-SP140-7418-GRAB 2/22/2017
Location Description:		GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.
Metals (6010C)		
SELENIUM	mg/L	<0.08 U
Metals (6020A)		
SILVER	mg/L	<0.001 U
Perchlorate (6850)		
PERCHLORATE	ug/L	2680
Hexavalent Chromium (7196A)		
HEXAVALENT CHROMIUM	mg/L	<0.01 UJ

mg/L - milligrams per liter

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

LHAAP Surface Water Sampling - January/February 2017

Location ID: Sample Date:	Units	MCL/ PCL	GWP 1-011817 1/18/2017	GPW 1-021517 2/15/2017	GPW 1A-011817 1/18/2017	GPW 3-021517 2/15/2017	HBW 1-021517 2/15/2017	HBW 7-011817 1/18/2017	HBW 7-021517 2/15/2017	HBW 10-021517 2/15/2017
Location Description:			Goose Prairie Creek - Grab sample, collected off a bridge on the north side of LHAAP-50	Goose Prairie Creek - Grab sample, collected off a bridge on the north side of LHAAP-50	Goose Prairie Creek - Grab sample, collected north of culvert at NW corner of intersection of Crockett Avenue and 51st Street	Goose Prairie Creek – Grab sample, collected near a bridge inside of LHAAP-47	Harrison Bayou - Grab sample, south of LHAAP-16, downhill, and below the pump house	Harrison Bayou - Grab sample, collected near the GWTP creek discharge	Harrison Bayou - Grab sample, collected near the GWTP creek discharge	Harrison Bayou - Grab sample, at the backside of the Well field, down in the woods
Perchlorate (6850)										
PERCHLORATE	ug/L	17	0.15 J	<1 U	14.9	<1 U	<1 U	0.343 J	<1 U	<1 U

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Limit

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

ug/L - micrograms per liter

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

March 29, 2017

DAIM-ODB-LO

Mr. Rich Mayer
US Environmental Protection Agency
Federal Facilities Section R6
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Draft Final 3rd Annual Remedial Action Operation Report for LHAAP-67, Above Ground Storage Tank Farm at Longhorn Army Ammunition Plant, Karnack, Texas

Dear Mr. Mayer,

The above-referenced document is being transmitted to you for your records and includes revisions based upon your comments on the Draft. In accordance with the FFA, the Draft Final will be considered Final after 30 days without further comment.

The document was prepared by AECOM on behalf of the Army as part of AECOM's Performance Based Remediation contract for the facility. I ask that Elspeth Sharp, AECOM's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
A. Palmie, TCEQ, Austin, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
N. Smith, USAEC, San Antonio, TX
E. Sharp, AECOM – Austin, TX (for project files)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

March 29, 2017

DAIM-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Draft Final 3rd Annual Remedial Action Operation Report for LHAAP-67, Above Ground Storage Tank Farm at Longhorn Army Ammunition Plant, Karnack, Texas

Dear Ms. Palmie,

The above-referenced document is being transmitted to you for your records and includes revisions based upon your comments on the Draft. In accordance with the FFA, the Draft Final will be considered Final after 30 days without further comment.

The document was prepared by AECOM on behalf of the Army as part of AECOM's Performance Based Remediation contract for the facility. I ask that Elspeth Sharp, AECOM's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

Rose M. Zeiler

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
R. Mayer, USEPA Region 6, Dallas, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
N. Smith, USAEC, San Antonio, TX
E. Sharp, AECOM, Austin, TX (for project files)

Responses to Comments on
Draft 3nd Annual Remedial Action Operation Report for Site LHAAP-67 (Above Ground Storage Tank Farm)
Longhorn Army Ammunition Plant, Karnack, Texas

March 2017

Reviewer: Richard Mayer, EPA

Respondent: Elspeth Sharp, Jen Bush, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
1	1-3	Section 1.4, 5th Paragraph	Vinyl Chloride should be added as a site contaminant per the results of monitoring well 67WW01. Monitoring well 67WW13 also has had vinyl chloride above the TRRP PCLs, but none since January of 2014.	C	Additional text has been added to Section 1.4, paragraph 5 noting that vinyl chloride detections at 67WW01 exceed the MCL of 2 µg/l during the third year RA(O) monitoring period. Note: Vinyl Chloride has an MCL and accordingly is not subject to TRRP PCLs.	
2		Figures 2-5 thru 2-7	Please add the vinyl chloride results for monitoring well 67WW01.	C	Vinyl chloride concentrations have been added to Figures 2-5 through 2-7 for all monitoring wells.	
3	3-4	4th Paragraph	Since the groundwater flow direction appears to be to the north-northwest, there may be a need to install a groundwater monitoring well to the north-northwest of 67WW02 for delineation if the well continues to show exceedances. The same comment would apply for the area north-northwest of the wells 67WW14, 67WW15 and 67WW13.	C	The following text has been added to Section 3.1.1 (Plume Stability) and Section 4 (Summary and Conclusions): If 67WW02 COC concentrations remain above the MCL, a new downgradient monitoring well outside the MCL boundary would be needed in the future to provide a downgradient compliance well/sentry point. Also, an additional well downgradient of 67WW13, 67WW14, and 67WW15 (between 67WW05 and 67WW15) may be necessary to monitor plume migration and attenuation.	
4		General	Has the Army considered re-development of the wells that go dry at this site when bailing?	E	Given that wells 67WW01, 67WW02, 67WW05, and 67WW07 typically have less than 5 feet of water in the water column when gauged, these wells have historically been bailed (rather than pumped) until dry and sampled within 24 hours in accordance with the SOP (AECOM, 2014). Therefore, re-development of these wells is not warranted.	

Responses to Comments on
Draft 3rd Annual Remedial Action Operation Report for Site LHAAP-67 (Above Ground Storage Tank Farm)
Longhorn Army Ammunition Plant, Karnack, Texas

March 2017

Reviewer: April Palmie, TCEQ

Respondent: Elspeth Sharp, Jen Bush, AECOM

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D, E or X[1]	Response	A or D[2]
1		Figures	Figures need to include the LUC boundary	C	Figures 2-2 through 2-7 have been updated to include the LUC boundary.	
2		Figure 2-6	Figure 2-6 is missing the 67WW01 well label	C	A well label has been added to Figure 2-6 for 67WW01.	
3		Figure 2-5 and 2-7	For Figures 2-5 and 2-7 the contour for 1,1-DCE MCL line should be much closer to 48th Street or even across it.	C	The 1,1-DCE 7 µg/L contour on Figure 2-5 has been drawn closer to 67WW02 and on Figure 2-7 has been drawn further north of 67WW02. The 7 µg/L contour north of 67WW02 on Figure 2-7 will be dashed to show the contour is inferred, since there is not a bounding well to the north.	
4			Based on recent results for 67WW02, the 1,1-DCE plume is not delineated to the north. Given groundwater flow direction and the concentrations in 67WW15 and 67WW02, we should be looking into installation of additional monitor wells a) north of 67WW02 and b) between 67WW15 and 67WW05 (close to corner of Ignatius and 48th). These wells would either delineate the plume or serve to monitor plume migration and attenuation.	C	The following text has been added to Section 3.1.1 (Plume Stability) and Section 4 (Summary and Conclusions): If 67WW02 COC concentrations remain above the MCL, a new downgradient monitoring well outside the MCL boundary would be needed in the future to provide a downgradient compliance well/sentry point. Also, an additional well downgradient of 67WW13, 67WW14, and 67WW15 (between 67WW05 and 67WW15) may be necessary to monitor plume migration and attenuation.	
5			It is likely the groundwater plume is outside of the LUC boundary north of 66WW02. This will need to be verified and addressed.	C	Noted.	
6			If 1,1-DCE or 1,2-DCA concentrations increase in 67WW14, a well may need to be installed to the west for delineation and LUC boundary monitoring.	C	The following sentence has been added to Section 3.1.1 and Section 4: If the plume continues to also shift west, as demonstrated by increased concentrations at 67WW14, installation of a monitoring well west of 67WW14 may be needed to confirm the plume is not migrating beyond the monitoring well network at levels exceeding MCLs.	

From: Mayer, Richard <mayer.richard@epa.gov>
Sent: Thursday, April 06, 2017 4:33 PM
To: Zeiler, Rose M CIV (US); Snow, JoLynn
Cc: Aaron.K.Williams@usace.army.mil; Smith, Nicholas B CIV USARMY IMCOM (US; 'Becher, Kent'; Tzhone, Stephen; 'Forsythe, Barry'; Burton, Terry; Turner, Philip; Richmann, Debra; Richard.P.Smith@usace.army.mil; April Palmie; paul_bruckwicki@fws.gov; Harrison, Dorelle
Subject: FW: EPA Approval of the Longhorn AAP Site 67 Draft Final 3rd RAO Report (and the RTCs)

Good Afternoon Rose/JoLynn, EPA has reviewed the Longhorn AAP Site 67 Draft Final 3rd RAO Report (including the RTCs) and grants approval.

From: April Palmie <april.palmie@tceq.texas.gov>
Sent: Wednesday, April 19, 2017 2:50 PM
To: Snow, JoLynn; mayer.richard@epa.gov
Cc: Williams, Aaron K CIV USARMY CESWT (US); Zeiler, Rose M CIV (US); nicholas.b.smith56.civ@mail.mil; Smith, Richard P CIV USARMY CESWF (US); Sharp, Elspeth; Bush, Jen
Subject: RE: FOR AGENCY REVIEW - LHAAP-67 Draft Final Year 3 RA(O)

Good afternoon. I've reviewed the LHAAP-67 Draft Final Year 3 RA(O) and accept the comments and document.

Thank you!

April Palmie
Project and Grant Manager
Superfund Section
Remediation Division
Texas Commission on Environmental Quality
Phone: (512) 239-4152
Email: April.Palmie@tceq.texas.gov

From: Snow, JoLynn [mailto:JoLynn.Snow@aecom.com]
Sent: Wednesday, March 29, 2017 3:50 PM
To: mayer.richard@epa.gov; April Palmie <april.palmie@tceq.texas.gov>
Cc: Williams, Aaron K CIV USARMY CESWT (US) <Aaron.K.Williams@usace.army.mil>; Zeiler, Rose M CIV (US) <rose.m.zeiler.civ@mail.mil>; nicholas.b.smith56.civ@mail.mil; Smith, Richard P CIV USARMY CESWF (US) <Richard.P.Smith@usace.army.mil>; Sharp, Elspeth <elspeth.sharp@aecom.com>; Bush, Jen <jen.bush@aecom.com>
Subject: FOR AGENCY REVIEW - LHAAP-67 Draft Final Year 3 RA(O)

Good afternoon,

Please see the link below for the LHAAP-67 Draft Final Year 3 RA(O) Report, which includes the transmittal letters, RTC tables and lab data. I have also attached the redline Draft Word document to assist with review. Please let me know if you need anything else.

JoLynn Snow has sent you 1 file using AECOM's File Transfer System.

This file will be available for download until 4/5/2017

File	Description	Size
LHAAP-67 Draft Final Yr 3 RAO Report_032917_w-lab data.pdf		45,212KB

Download all files (.zip)

If you are having trouble accessing the links in this email, you can view this message as a web page by copying the following link and pasting it into your browser:

https://sendfiles.aecom.com/message.aspx?msgId=3ca485a3-cd97-453e-91a4-be68a347032d

Thank you,
JoLynn

JoLynn Snow
Project Administrator, AECOM Environment
Direct: 1-210-823-6710
jolynn.snow@aecom.com

AECOM
4921 Shed Road, Suite 400
Bossier City, LA, 71111
318- 742-3191
aecom.com

DRAFT FINAL
3RD ANNUAL REMEDIAL ACTION OPERATION REPORT
LHAAP-67 (ABOVE GROUND STORAGE TANK FARM)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers
Tulsa District

Prepared By:

AECOM Technical Services, Inc.

MARCH 2017

DRAFT FINAL
3RD ANNUAL REMEDIAL ACTION OPERATION REPORT
LHAAP-67 (ABOVE GROUND STORAGE TANK FARM)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Tulsa District

Prepared By:

AECOM Technical Services, Inc.

Contract No. W912DY-09-D-0059

Task Order No. DS01

March 2017

Table of Contents

1 INTRODUCTION 1-1

1.1 Remedial Action Objectives 1-1

1.2 Performance Objectives 1-1

1.3 Site Description 1-2

1.4 Conceptual Site Model 1-3

2 SITE ACTIVITIES AT LHAAP-67 2-1

2.1 Annual LUC Compliance Inspection 2-1

2.2 Groundwater Monitoring 2-1

2.2.1 Approved Modifications to the Groundwater Monitoring Program 2-2

2.2.2 Groundwater Elevations and Flow Direction 2-3

2.2.3 Groundwater Analytical Results 2-4

2.3 Surface Water Sampling 2-4

2.4 Groundwater Monitoring System Maintenance and Repairs 2-4

3 NATURAL ATTENUTION EVALUTION 3-1

3.1 First Line of Evidence: Change in COC Concentrations over Time and with Distance 3-1

3.1.1 Plume Stability 3-3

3.2 Second Line of Evidence: Geochemical Indicators 3-5

3.3 Third Line of Evidence: Predictive Modeling and Microbial Analysis 3-8

4 SUMMARY AND CONCLUSIONS 4-1

5 REFERENCES 5-1

List of Figures

Figure 1-1: LHAAP-67 Site Area Map

Figure 1-2: LHAAP-67 Site Location Map

Figure 2-1: LHAAP-67 Groundwater Monitoring Well Locations

Figure 2-2: LHAAP-67 November 2015 Shallow Zone Potentiometric Map

Figure 2-3: LHAAP-67 May 2016 Shallow Zone Potentiometric Map

Figure 2-4: LHAAP-67 2011 Shallow Zone Potentiometric Map

Figure 2-5: LHAAP-67 November 2015 VOCs in Shallow Zone Groundwater

Figure 2-6: LHAAP-67 March 2016 VOCs in Shallow Zone Groundwater

Figure 2-7: LHAAP-67 May 2016 VOCs in Shallow Zone Groundwater

Figure 2-8: LHAAP-67 COC Concentration and Groundwater Elevation Trends

List of Tables

Table 2-1: Groundwater Elevation Data – LHAAP-67

Table 2-2: Groundwater Analytical Results, Years 1, 2 and 3 – LHAAP-67

Table 2-3: Historical Groundwater COC Concentrations – LHAAP-67

Table 2-4: Well Maintenance Activities Year 3 – LHAAP-67

List of Appendices

APPENDIX A: ANNUAL LUC COMPLIANCE CERTIFICATION DOCUMENTATION

APPENDIX B: PHOTO LOG

APPENDIX C: MONITORING WELL SAMPLING FORMS

APPENDIX D: LABORATORY ANALYTICAL RESULTS

APPENDIX E: MANN-KENDALL TREND TEST RESULTS

APPENDIX F: FIRST ORDER RATE CALCULATIONS

APPENDIX G: DRILLING, CONSTRUCTION, AND DEVELOPMENT LOGS, AND SURVEY DATA FOR MONITORING WELLS INSTALLED IN 2016

Acronyms and Abbreviations

AECOM	AECOM Technical Services, Inc.
AST	above ground storage tank
bgs	below ground surface
CEQ/mL	cells equivalent per milliliter
COC	contaminant of concern
DCA	dichloroethane
DCE	dichloroethene
DO	dissolved oxygen
DPT	direct push technology
ft	feet, foot
IWWP	Installation-Wide Work Plan
LHAAP	Longhorn Army Ammunition Plant
LUC	Land Use Control
MCL	maximum contaminant level
mg/L	micrograms per liter
mg/L	milligram per liter
MNA	Monitored Natural Attenuation
mV	milli-volts
No.	number
%	percent
ORP	oxidation-reduction potential
RACR	Remedial Action Completion Report
RA(O)	Remedial Action Operation
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RD	Remedial Design
ROD	Record of Decision
SU	standard unit
TCA	trichloroethane
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality

TOC	total organic carbon
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound

1 INTRODUCTION

The United States (U.S.) Army Corps of Engineers (USACE), Tulsa District, contracted AECOM Technical Services, Inc. (AECOM), to perform remedial activities at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, under the Huntsville District's Worldwide Environmental Restoration Services Contract Number (No.) W912DY-09-D-0059, Task Order No. DS01. As part of this contract, AECOM is performing groundwater and surface water monitoring as part of Remedial Action Operations (RA(O)) for the Monitored Natural Attenuation (MNA) groundwater remedy at site LHAAP-67. A Final Record of Decision (ROD) was executed for LHAAP-67 in June 2010 (USACE, 2010). Groundwater monitoring at LHAAP-67 is ongoing as described in the Draft Final Remedial Action Completion Report (RACR) (AECOM, 2015). This RA(O) report represents the third year of RA(O) implementation and summarizes the results of site inspections and sampling activities completed between July 2015 and May 2016. A draft first year RA(O) report which covers the period between May 2013 and May 2014 was prepared in March 2015. A draft second year RA(O) report which covers the period between July 2014 and May 2015 was prepared in February 2016. This report encompasses and provides analysis for three years of MNA data.

LHAAP is located in east Texas in the northeastern corner of Harrison County between State Highway 43 in Karnack, Texas, and the western shore of Caddo Lake (see **Figure 1-1**). The nearest cities are Marshall, Texas, approximately 14 miles to the southwest, and Shreveport, Louisiana, approximately 40 miles to the east. Caddo Lake is a large freshwater lake that bounds LHAAP to the north and east. The eastern fence of the LHAAP installation is 3.5 miles from the Texas-Louisiana state border.

1.1 Remedial Action Objectives

The Remedial Action Objectives (RAOs) at the LHAAP-67 site must protect human health and meet applicable or relevant and appropriate requirements. There are no ecological risks at the LHAAP-67 site (USACE, 2010).

The RAOs for the LHAAP-67 site, consistent with the reasonably anticipated future use as a national wildlife refuge, are:

- Protection of human health by preventing human exposure to the contaminated groundwater;
- Protection of human health and the environment by preventing contaminated groundwater from migrating into nearby surface water; and
- Return of groundwater to its potential beneficial use as drinking water, wherever practicable.

1.2 Performance Objectives

The remedy selected for LHAAP-67 is Land Use Control (LUC) and MNA. The performance objectives at LHAAP-67 consist of two components: physical inspections and groundwater/surface water monitoring. As a component of the LUC implementation, the civil survey of the LUC boundary was conducted in November 2014 and recorded in the Harrison County Courthouse in December 2014. Physical inspections are conducted periodically to

confirm compliance with the LUC objectives, which consist of preventing human exposure to groundwater contamination presenting an unacceptable risk to a future maintenance worker and ensuring that there is no withdrawal or use of groundwater from the site for anything other than environmental monitoring and testing until the cleanup levels are attained. Groundwater monitoring has been in-progress at the site since May 2013, and LHAAP-67 will also have Five-Year Reviews completed as part of the site wide Longhorn Five-Year Review.

According to the Remedial Design (RD), groundwater monitoring is being performed to demonstrate that natural attenuation is an effective remedy that will attain the remediation objectives over time and that the groundwater plume will not migrate to nearby surface water bodies at levels that may present an unacceptable risk to human health and the environment (Shaw, August 2011). Groundwater monitoring is being performed in accordance with the Remedial Action Work Plan (RAWP) (AECOM, 2013) to:

- Detect changes in environmental conditions that may reduce the efficacy of natural attenuation processes;
- Identify potentially toxic and/or mobile transformation products;
- Verify that the plume is not expanding and poses no unacceptable risk to downgradient receptors;
- Detect new releases of contaminants to the environment that could impact effectiveness of the natural attenuation remedy; and
- Verify attainment of the remediation objectives.

Work completed as part of the 2015/2016 RA(O) consisted of the following:

- November 2015 groundwater monitoring event consisting of 15 wells;
- March 2016 groundwater monitoring event consisting of 2 wells (67WW01 and 67WW03);
- Installation of groundwater monitoring wells 67WW15 and 67WW16I in May 2016; and
- May 2016 groundwater monitoring event consisting of 17 wells.

This report summarizes the LUC compliance inspection, results of groundwater sampling, and an evaluation of MNA.

1.3 Site Description

LHAAP-67 is in the central portion of LHAAP, on the southeast corner of 48th Street and Ignatus Avenue (see **Figure 1-2**), and covers an area of approximately 1.9 acres. The site topography is relatively flat. The nearest significant surface water body is Central Creek located approximately 870 feet (ft) southeast of LHAAP-67. Central Creek eventually flows into Caddo Lake.

When operational, LHAAP-67 consisted of seven above ground storage tanks (ASTs) used for storing No. 2 fuel oil, kerosene, and solvents. The size of the tanks is unknown. The tanks were surrounded by earthen dikes designed to contain potential spills. The ASTs have been removed and the only structure remaining at the site is a railroad bed.

The LUC area associated with the groundwater use restriction at LHAAP-67 extends beyond the historical site boundaries along the western, eastern, and southern sections of the site, and encompasses a total of 2.6 acres. LHAAP-67 has no known areas of archaeological or historical importance.

1.4 Conceptual Site Model

A detailed Conceptual Site Model of LHAAP-67 was previously presented in the ROD (USACE, 2010). Based upon additional data collected as part of final remedy implementation as presented in the LHAAP-67 Final RACR (AECOM, 2016), the lithologic units at the site have been reclassified.

Historically, two distinct water-bearing zones (shallow and intermediate) had been designated at LHAAP-67; however, during drilling performed for the 2013 investigation, no continuous clay layer (i.e., aquitard) or significant lithological differences between previously identified shallow and intermediate zones were encountered. Co-located monitoring wells 67WW06 (total depth 49.83 ft below ground surface [bgs]) and 67WW07 (total depth 27.86 ft bgs), historically identified as intermediate and shallow zone wells, respectively, had similar static groundwater levels during the four sampling events performed during 2013/2014, with a maximum difference of 1.04 ft noted during the January 2014 event (these small differences were confirmed in the four 2014/2015 sampling events with a maximum difference of 0.08 ft). Therefore, the previously designated shallow and intermediate zones are now considered to be hydraulically connected and constitute a single uppermost groundwater-bearing unit at LHAAP-67 to a depth of approximately 50 ft bgs. Monitoring well 67WW06, which was previously identified as an intermediate zone well, is now re-classified as a shallow zone monitoring well, screened in the uppermost groundwater-bearing unit.

A deeper "intermediate" water-bearing zone was identified at a depth of approximately 68 ft bgs in boring 67DPT14 (drilled in June 2014) with a clear aquitard separating this unit from the shallow zone.

Based on this information, shallow and intermediate water-bearing zones are present in the LHAAP-67 investigation area, but the configuration has been modified from that presented in the RD as discussed above.

The contaminants of concern (COCs) identified in the ROD for LHAAP-67 shallow zone groundwater are trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), 1,1,1-trichloroethane (1,1,1-TCA), and 1,1,2-trichloroethane (1,1,2-TCA). It is also noted that vinyl chloride (VC), a degradation product of TCE, was detected during the third year RA(O) period at 67WW01 with concentrations exceeding the MCL of 2 µg/L. The presence of these COCs in the shallow groundwater zone represents the primary driver for remedial action as they are at concentrations above the human health standard for a hypothetical future maintenance worker under an industrial exposure scenario. There are no ecological risks at the LHAAP-67 site.

The nature and extent of groundwater contamination at LHAAP-67 was evaluated during field investigations conducted between 1998 and 2007. It is believed that historic releases from the ASTs at the site contaminated the soil, with contaminants then leaching from the soil into groundwater. A relatively small area of contamination is observed in the shallow groundwater

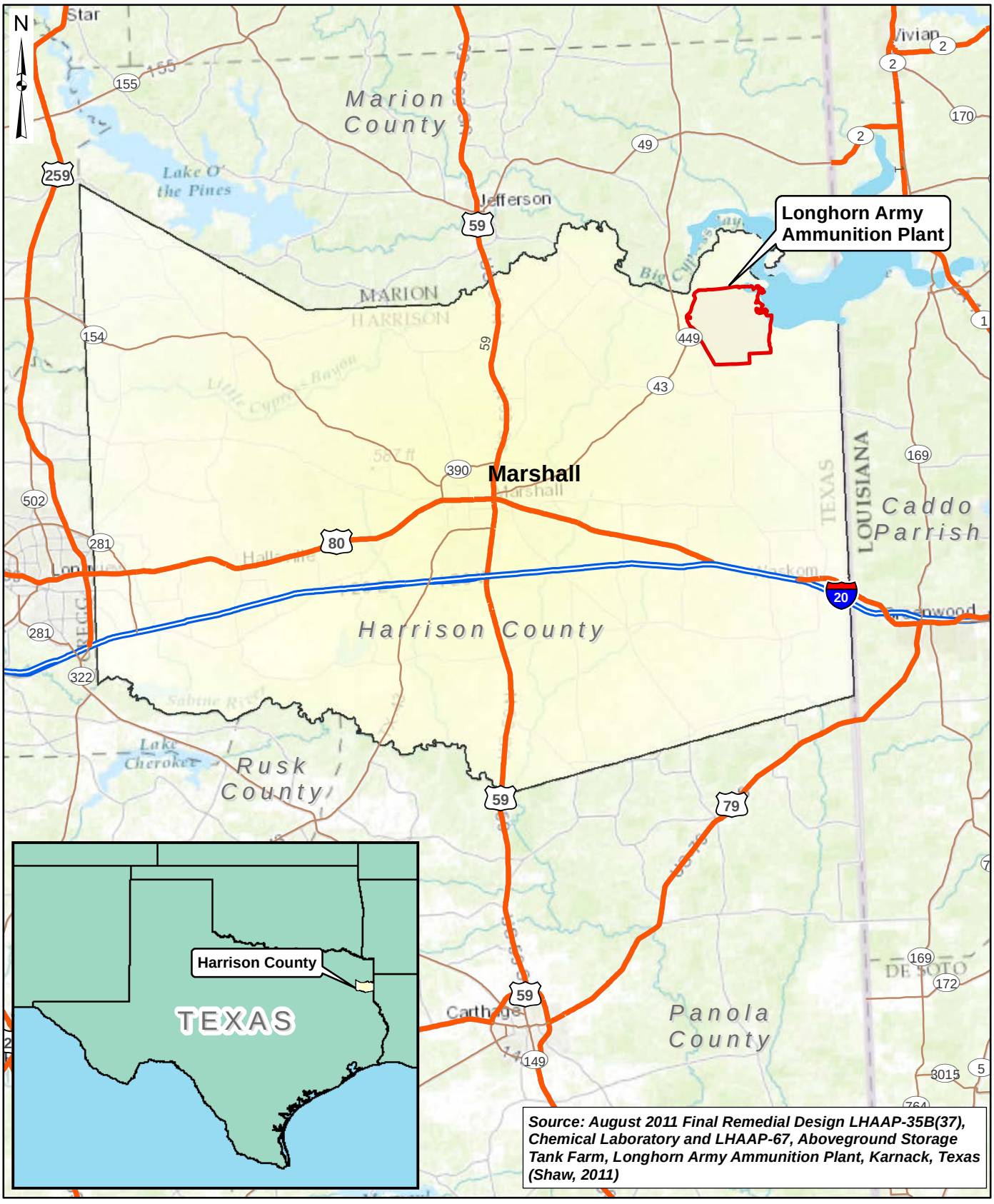
which poses an unacceptable carcinogenic risk and non-carcinogenic hazard to a hypothetical future maintenance worker under an industrial exposure scenario. There is no groundwater contamination in the deeper "intermediate" groundwater zone. The only potentially complete exposure pathway is via use of shallow-zone groundwater as drinking water. However, shallow groundwater is not used as drinking water at the refuge and the pathway is eliminated from any hypothetical receptor because land use controls are in place that prohibit the use of groundwater other than for environmental monitoring and testing. The nearest significant surface water body to LHAAP-67 site is Central Creek, located upgradient and approximately 870 ft from the site. There is no other surface water body in close proximity to the LHAAP-67 site. Therefore, there is no demonstrated complete pathway from groundwater to surface water.

Based on groundwater level data collected in 2015/2016, the dominant shallow zone groundwater gradient appears to be to the north/northwest. The gradient is based on data collected from up to 17 monitoring wells. An earlier draft RA(O), prepared for year 1 in March 2015, indicated that the dominant shallow zone groundwater gradient appeared to be to the north/northeast, but the flow direction began to shift direction by May 2014 towards the north/northwest and continued to show a north/northwesterly flow direction for the entire second and third year RA(O) reporting periods. The apparent change of the shallow zone groundwater gradient may be due to the increase in precipitation the area received during the current monitoring period (i.e., 2015/2016), particularly in 2015, and the resulting rise in groundwater levels. The historical gradient was originally assumed to be to the southeast in the Final RD (Shaw, August 2011) and was based on data collected primarily from three monitoring wells because some of the wells such as 67WW03 and 67WW04 were dry most of the time. Therefore, potential discharge to surface water in Central Creek became an incomplete exposure pathway and surface water sampling as stated in the RAWP was deemed no longer necessary.

To assess the deeper "intermediate" water-bearing zone, a temporary well was installed in soil boring 67DPT14 in June 2014. The temporary well was completed to a depth of 78 ft bgs. Groundwater analyzed from 67DPT14 revealed that no COCs were detected.

As detailed in the RACR (AECOM, 2016), one additional shallow monitoring well, 67WW15, and one intermediate monitoring well, 67WW16I, were installed at the site in May 2016. Shallow well 67WW15 was installed to the west of the LHAAP-67 site boundary to evaluate the effectiveness of MNA in the western quadrant. Intermediate monitoring well 67WW16I was installed to confirm the results of the June 2014 direct push technology (DPT) groundwater sample and to allow continued monitoring of the intermediate zone groundwater. Both wells were initially sampled during the May 2016 monitoring event. The groundwater sample collected at 67WW15 identified the presence of COCs in this well. No COCs were detected in 67WW16I, confirming the June 2014 results from temporary well 67DPT14 and indicating that COCs are confined to the shallow zone groundwater.

00747890



Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAOIYR03\Fig 1-1 LHAAP67 Area Map.mxd

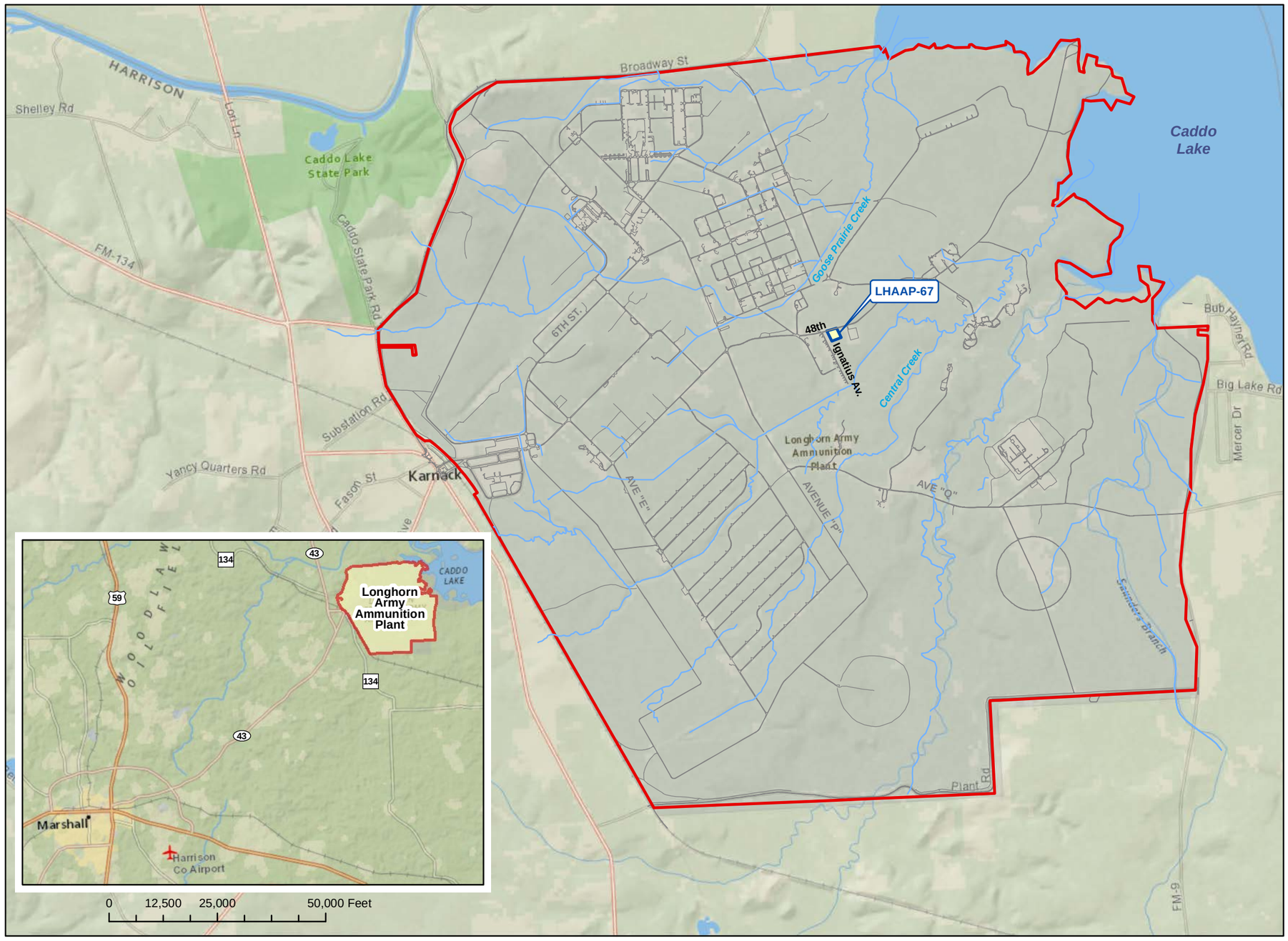
AECOM

Figure 1-1
LHAAP-67 Site Area Map
Remedial Action Operation Report (Year 3)

Longhorn Army Ammunition Plant
Karnack, Texas

60256135

March 2017



Legend

- Streams
- Roads
- LHAAP Boundary
- Site
- Lake/Pond

Source: August 2011 Final Remedial Design LHAAP-35B(37), Chemical Laboratory and LHAAP-67, Aboveground Storage Tank Farm, Longhorn Army Ammunition Plant, Karnack, Texas (Shaw, 2011)

AECOM

Figure 1-2
Site Location Map
Remedial Action Operation Report (Year 3)
LHAAP-67 Site
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 March 2017

L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 1-2 LHAAP67 Site Loc.mxd

2 SITE ACTIVITIES AT LHAAP-67

This section describes the results of the RA-O Year 3 annual LUC compliance inspection, groundwater and surface water monitoring, and monitoring system repairs and/or maintenance performed at LHAAP-67.

2.1 Annual LUC Compliance Inspection

AECOM performed the RA-O Year 3 annual LUC compliance inspection for LHAAP-67 on August 1, 2016. The LUC for this site is groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing; and residential groundwater use until the levels of COCs in groundwater and soil allow unrestricted use and unlimited exposure. The restriction applies to groundwater underlying an approximately 6-acre area defined by the surveyed LUC boundary (AECOM, 2016). The Annual LUC Compliance Certification Documentation Form for the 3rd year RA(O) monitoring period is included in **Appendix A**. No non-compliance issues or concerns were noted during the annual inspection. No damage to bollards, well pads, or protective casings was observed during the Year 3 inspection and minimal encroachment of weeds or brush on the well pads was observed. Area mowing and clearing around the wells is conducted on an as needed basis, but typically is done before sampling events. Maintenance activities that were performed at LHAAP-67 during RA-O Year 3 are presented in Section 2.4.

2.2 Groundwater Monitoring

The 3rd year RA(O) marks the beginning of three years of semiannual monitoring and associated annual reporting. Two semiannual groundwater sampling events were completed in November 2015 and May 2016 with an additional sampling event for wells 67WW01 and 67WW03 conducted in March 2016. The additional March 2016 event was conducted because monitoring wells 67WW01 and 67WW03 had been dry and could not be sampled during two or more sampling events in years 1 and 2 of MNA activities. An additional set of data was needed to better evaluate groundwater conditions at these wells.

As previously noted, an additional two wells, 67WW15 and 67WW16I, were installed in May 2016 to increase the total number of monitoring well at the site from 15 to 17. Monitoring well locations are depicted in **Figure 2-1;** drilling, well construction, and development logs; and survey information for the new monitoring wells installed in 2016 are provided in **Appendix G.**

Prior to collecting groundwater samples, monitoring wells were gauged using a water level probe and the depth to water was recorded to the nearest 0.01 ft from the top of casing. Depth to water measurements were used to calculate the groundwater elevations presented in **Table 2-1.**

If sufficient water was present in the well, a groundwater sample was collected. Monitoring wells 67WW03 and 67WW04 were gauged to be dry in November 2015 (both wells) and May 2016 (67WW04 only) and therefore were not sampled. As described in Sections 1.4 and 2.2.1, monitoring well 67WW06 was not sampled during the November 2015 and May 2016 semiannual sampling events due to its proximity to well 67WW07.

Groundwater samples were collected using the low-flow sampling procedures as described in the Groundwater Sampling Procedures found in the Installation-Wide Work Plan (IWWP) (AECOM, 2014). The objective of using this method was to collect representative samples of

the groundwater in the formation adjacent to the well screen, eliminating the mixing of stagnant water above and below the well screen. After water quality parameters stabilized and were within acceptable ranges, samples were collected at the same low flow rate.

2.2.1 Approved Modifications to the Groundwater Monitoring Program

During the first year of RA(O), minor modifications were made to the groundwater monitoring program, in coordination with U.S. Environmental Protection Agency (USEPA) and the Texas Commission on Environmental Quality (TCEQ).

- Monitoring well 67WW04: While monitoring well 67WW04 was utilized historically to bound the plume to the south, new monitoring wells 67WW09A and 67WW10 now serve that purpose, providing better refinement of the plume boundary within the LUC boundary. Groundwater elevations at monitoring well 67WW04 will continue to be gauged during each sampling event, but will no longer be sampled for volatile organic compounds (VOCs) or evaluated for field parameters. These wells will also continue to be maintained, as needed.
- Monitoring well 67WW06: Based on changes in designation of groundwater bearing zones at LHAAP-67 described in the RACR (AECOM, 2016), co-located shallow zone monitoring wells 67WW06 and 67WW07 are now considered duplicative. Monitoring well 67WW07 was retained for monitoring since it had a shallower screened interval, and monitoring well 67WW06 was discontinued from further monitoring; however, groundwater elevations at monitoring well 67WW06 will continue to be gauged during each sampling event.
- Monitoring wells 67WW01 and 67WW08 were selected in the RAWP for collection of MNA geochemical parameters. However, during the 1st year RA(O), monitoring well 67WW01 was dry on two occasions and had insufficient water to collect MNA geochemical parameters on a third event. Therefore, MNA geochemical parameters were instead collected from monitoring well 67WW11 in October 2013. However, based on an evaluation of COC concentrations and monitoring well locations with respect to the plume, it was determined in coordination with USEPA and TCEQ that future sampling for MNA geochemical parameters will occur at monitoring well 67WW13 in addition to 67WW08. Because this decision to sample 67WW13 instead of 67WW11 was made in April 2015, well into the 2nd year RA(O) monitoring period, MNA geochemical parameters were collected at monitoring well 67WW11 during the July and December 2014 and February 2015 sampling events and at monitoring well 67WW13 during the March and May 2015 sampling events. Monitoring well 67WW01 was also sampled for MNA geochemical parameters during the May 2015 sampling event. Therefore, MNA geochemical parameter data became available for all four impacted wells: 67WW01, 67WW08, 67WW11, and 67WW13. During the 3rd year RA(O), monitoring wells 67WW08 and 67WW11 were sampled for MNA geochemical parameters in November 2015 and monitoring wells 67WW08, 67WW11, and 67WW13 were sampled for MNA geochemical parameters in May 2016.
- The original top and bottom depths/elevations of the screened intervals for monitoring wells 67WW01, 67WW02, and 67WW03 were changed based on the results of a downhole camera survey performed in March 2015 to verify well construction. These

screened intervals are presented in Table 2-1. The changes were minor and do not affect groundwater gauged elevation or gradient.

2.2.2 Groundwater Elevations and Flow Direction

During the November 2015 event, monitoring wells 67WW03 and 67WW04 were dry. The presence of these dry wells did not limit the ability to construct a complete potentiometric surface contour map. Based on the gauging data during this event, the groundwater flow direction is interpreted to be north/northwesterly (**Figure 2-2**).

During the November 2015 event, the groundwater elevation in monitoring well 67WW02 in the central-northern area of the site was anomalously high in comparison to the general pattern of groundwater flow in the vicinity of this well. However, a similar groundwater flow pattern was observed in December 2014. Additionally, the groundwater elevation from monitoring well 67WW01 was not used to contour the potentiometric surface of the shallow zone for November 2015.

During the May 2016 event, monitoring well 67WW04 was noted to be dry similar to November 2015; however, groundwater was present in monitoring well 67WW03. The presence of dry monitoring well 67WW04 did not limit the ability to construct a complete potentiometric contour map. Based on the gauging data during this event, the groundwater flow direction is interpreted to be north/northwesterly (**Figure 2-3**).

The groundwater elevation at monitoring well 67WW02, noted to be high in November 2015, returned to the normal gradient during the May 2016 event. The groundwater elevation from monitoring well 67WW11 was not used to contour the potentiometric surface of the shallow zone for May 2016. Groundwater elevations generally decreased by up to 2 ft across the site between May 2015 and November 2015, but subsequently, between November 2015 and May 2016, rose by up to 2 ft across the site. The observed change in groundwater elevations is likely due to seasonal rain events; however, groundwater data for monitoring well 67WW11 appears to respond more slowly to changing conditions than other site monitoring wells. Therefore, the elevation was inconsistent with the elevations of the surrounding wells.

Based on data collected during the 3rd year of RA(O), the groundwater flow direction was generally to the north/northwest. The interpretation of groundwater flow direction changed slightly from what was presented in the 1st year RA(O) report. This change was most likely due to variations in precipitation and corresponding changes in groundwater elevation. In the first three events of the 1st year RA(O), the groundwater flow direction was interpreted to be predominantly to the north/northeast. The interpretation of groundwater flow direction changed in May 2014 to a north/northwesterly direction and coincided with an increase in groundwater elevation across the site. The groundwater elevations across the site during the 2nd and 3rd year RA(O) remained similar to or higher than the May 2014 groundwater elevations and the interpretation of the predominant groundwater flow direction also remained in a north/northwesterly direction.

The interpreted groundwater flow direction observed during the 2nd and 3rd year RA(O) differs from what was presented in the RD (Shaw, 2011) (see **Figure 2-4**).

2.2.3 Groundwater Analytical Results

Historical analytical results for the 1st, 2nd, and 3rd year RA(O) are presented in **Table 2-2**. Historical COC results are presented in **Table 2-3**. **Figures 2-5 through 2-7** depict the VOC data in wells sampled in November 2015, March 2016 (67WW01 and 67WW03), and May 2016, respectively. As previously noted, only monitoring wells 67WW01 and 67WW03 were sampled during the March 2016 groundwater monitoring event, because they were dry during two or more sampling events in years 1 and 2 of MNA activities. Therefore, an additional set of data was collected in March 2016 to better evaluate groundwater conditions at these wells over the three year RA(O) period.

Over the course of the 3rd year of RA(O), monitoring wells 67WW01, 67WW02 (May 2016 only), 67WW08, 67WW11, 67WW13, 67WW14, and 67WW15, contained VOCs above their respective maximum contaminant levels (MCLs). The highest concentrations of VOCs were detected in wells 67WW01, 67WW08, 67WW13, and 67WW15. The trends of COC concentrations in monitoring wells with COC concentrations greater than the MCL are depicted in graphs presented on **Figure 2-8**. The trend analysis is discussed in **Section 3.0**.

Between December 1998 and May 2016, concentrations of COCs in monitoring well 67WW01 have been above their MCLs as shown on **Table 2-3**. Other monitoring wells such as 67WW02 and 67WW03 also had COC concentrations above their MCLs during the December 1998 monitoring event, but during subsequent monitoring events, COC concentrations decreased below MCLs until the May 2015 monitoring event during which concentrations of 1,1-DCE increased above the MCL in monitoring well 67WW02.

An expanded discussion on the VOCs and their distribution including trends is included **Section 3.1**.

Groundwater monitoring well sampling forms for the November 2015, March 2016, and May 2016 3rd year RA(O) sampling events were completed for each monitoring well sampled and are included in **Appendix C**. Laboratory analytical results are included in **Appendix D**.

2.3 Surface Water Sampling

The shallow zone groundwater flow direction (identified as north/northeast from the 1st year RA(O) report, and north/northwest from the 2nd and 3rd year RA(O) reports) indicates that Central Creek, located south of the LHAAP-67 site, is upgradient from the site and, therefore, surface water sampling for potential impacts from LHAAP-67 is not appropriate. Concurrence was obtained from USEPA and TCEQ to not sample surface water from Central Creek.

As shown in **Figure 1-2**, Goose Prairie Creek is located downstream to the north of LHAAP-67 and is more than 1,500 ft from the site. There is no other surface water body downgradient or in close proximity of LHAAP-67 that is appropriate for surface water sampling. Therefore, based on the change in flow direction from that contained in the RD, TCEQ and USEPA agreed that no surface water monitoring is required for LHAAP-67.

2.4 Groundwater Monitoring System Maintenance and Repairs

In Year 3 of RA(O) at LHAAP-67, groundwater monitoring events took place in November 2015 and May 2016. For two of the wells that were dry during the November 2015 event, another sampling event was performed in March 2016. During these events, the condition of the

monitoring wells was visually assessed and a subset of the wells was photographed during the November 2015 event (see Appendix B). Prior to the first Year 3 sampling event, on August 15, 2015, monitoring well 67WW05 was scraped and power washed. Well 67WW05 was subsequently re-painted on September 1, 2015.

On October 14, the field crew used a bush-hog to remove brush around all of the wells at LHAAP-67 and trimmed back weeds from the well pads. On January 20, 2016, three of the monitoring wells, 67WW06, 67WW10, and 67WW11, were re-developed in accordance with the Installation-Wide Work Plan (AECOM, 2014).

On April 6, 2016, the locations for new wells 67WW15 and 67WW16I were cleared for well installation. Monitoring well 67WW15 was drilled and completed on May 3, 2016. Drilling for monitoring well 67WW16I began on April 28, 2016 and the well was completed on May 3, 2016 (see Appendix G for well logs). Identification labels were attached to the two new wells and they were developed on May 14, 2016 (67WW16I) and May 17, 2016 (67WW15). **Table 2-4** provides a summary of the maintenance and repairs that were performed at the site in RA-O Year 3.

00747897

Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Roads
- Former Railroad Track Location
- Shallow Monitoring Well
- MNA Parameter Analysis Well Location
- Intermediate Monitoring Well

N

70 35 0 70

Feet

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-1 LHAAP67 GW MW Locs.mxd

AECOM

Figure 2-1
LHAAP-67
Groundwater Monitoring Well Locations
Remedial Action Operation Report (Year 3)
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 March 2017

00747898

Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Land Use Control Boundary
- Roads
- Former Railroad Track Location
- Groundwater Elevation Contour (ft msl) (Dashed Where Inferred) Contour Interval = 0.25 feet
- Shallow Monitoring Well
- Current MNA Parameter Analysis Well Location
- 176.01 Groundwater Elevation (ft msl)

Notes:
1. Groundwater elevations are presented in feet above mean sea level (MSL).
2. * Groundwater elevation data for well 67WW01 appears to be an outlier and was not used in contouring.

48th Street

Ignatius Avenue

41-W-2

41-W-1

41-W

42-W

67WW05 175.24

67WW02 175.47

67WW03 Dry

67WW12 175.49

67WW13 175.70

67WW01* 174.75

67WW08 175.64

67WW06 176.01

67WW07 176.00

67WW14 176.15

67WW11 175.73

67WW09 175.97

67WW10 176.02

67WW09A 175.96

67WW04 Dry

175.25 175.50 175.75 176.00

N

70 35 0 70

Feet

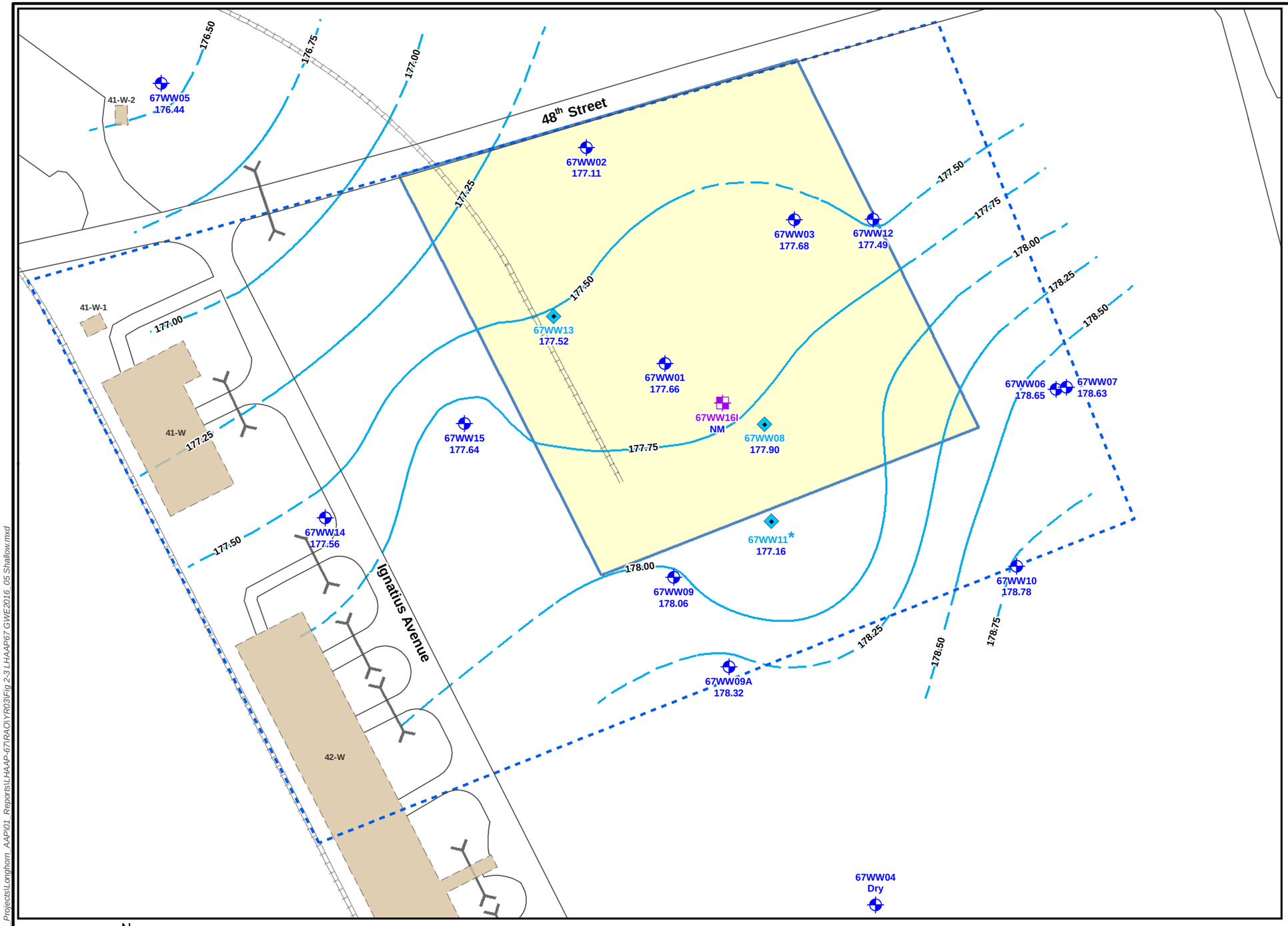
Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-2 LHAAP67 GWE2015_11 Shallow.mxd

AECOM

Figure 2-2
LHAAP-67
Shallow Zone Potentiometric Map - November 2015
Remedial Action Operation Report (Year 3)
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 March 2017

00747899



Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Land Use Control Boundary
- Roads
- Former Railroad Track Location
- Groundwater Elevation Contour (ft msl) (Dashed Where Inferred) Contour Interval = 0.25 feet
- Shallow Monitoring Well
- MNA Parameter Analysis Well Location
- Intermediate Monitoring Well (Groundwater Elevatioons Not Used for Contouring)
- 176.01 Groundwater Elevation (ft msl)
- NM Not Measured

Notes:
1. Groundwater elevations are presented in feet above mean sea level (MSL).
2. * Groundwater elevation data for well 67WW11 appears to be an outlier and was not used on contouring.

N

70 35 0 70
Feet

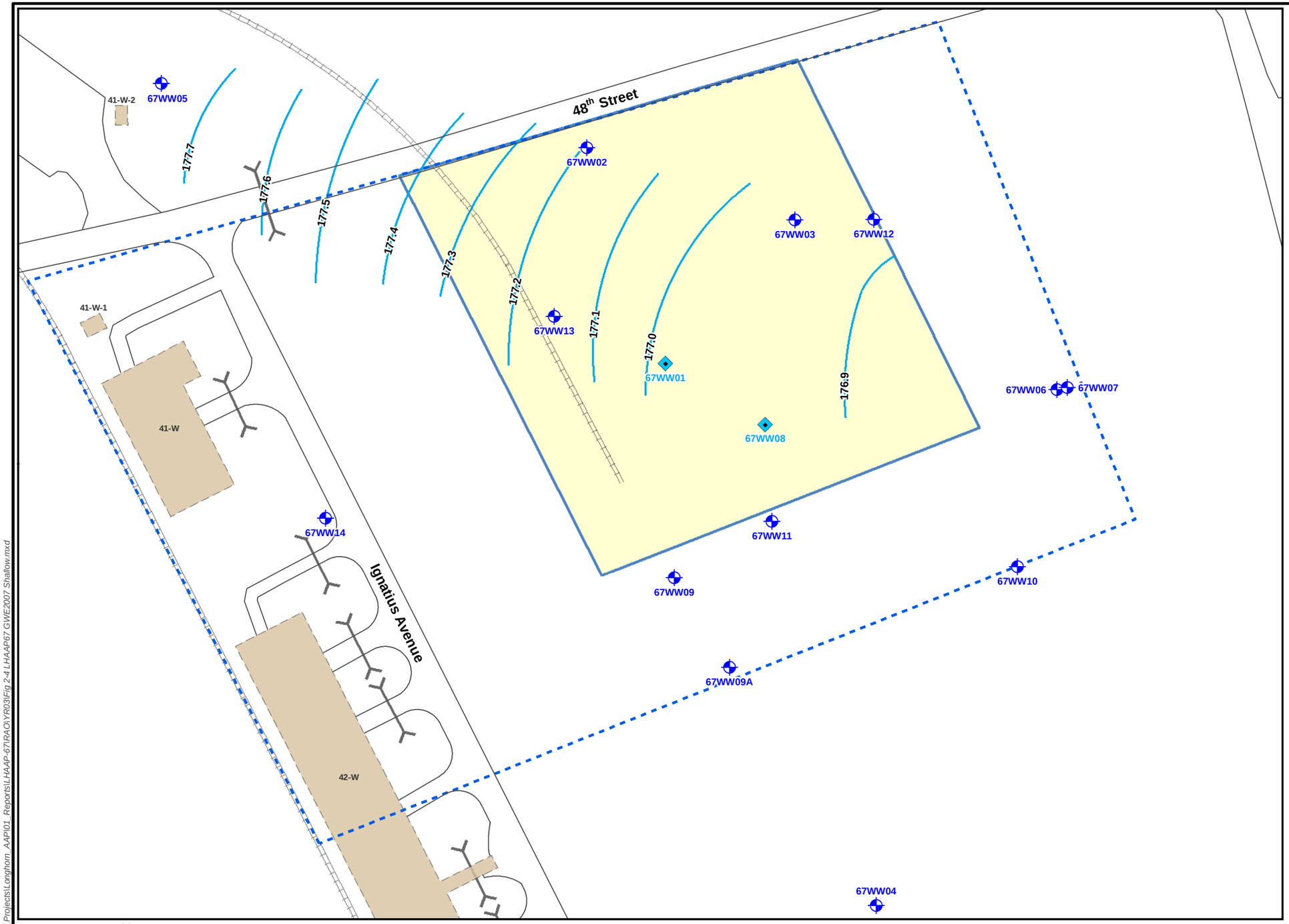
AECOM

Figure 2-3
LHAAP-67
Shallow Zone Potentiometric Map - May 2016
Remedial Action Operation Report (Year 3)
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 March 2017

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-3 LHAAP67 GWE2016_05 Shallow.mxd

00747900



Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Land Use Control Boundary
- Roads
- Former Railroad Track Location
- Groundwater Elevation Contour December 2007 (ft msl)
- Shallow Monitoring Well
- MNA Parameter Analysis Well Location

Source:
August 2011 Final Remedial Design LHAAP-35B(37), Chemical Laboratory and LHAAP-67, Aboveground Storage Tank Farm, Longhorn Army Ammunition Plant, Karnack, Texas (Shaw, 2011).

N

70 35 0 70
Feet

AECOM

Figure 2-4
LHAAP-67
2007 Shallow Zone Potentiometric Map
Remedial Action Operation Report (Year 3)
Longhorn Army Ammunition Plant
Karnack, Texas

60256135 March 2017

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-4 LHAAP67 GWE2007 Shallow.mxd

00747901

67WW05		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW02		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	**0.857 J**
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW12			
Analyte	MCL	Nov 2015	Dup
1,1,1-trichloroethane	200	<0.5 U	<0.5 U
1,1,2-trichloroethane	5	<0.5 U	<0.5 U
1,1-dichloroethene	7	<1 U	<1 U
1,2-dichloroethane	5	<0.5 U	<0.5 U
Trichloroethene	5	<0.5 U	<0.5 U
Vinyl Chloride	2	<0.5 U	<0.5 U

67WW01		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<1.25 U
1,1,2-trichloroethane	5	**2.14 J**
1,1-dichloroethene	7	**694**
1,2-dichloroethane	5	**38.6**
Trichloroethene	5	**2.84**
Vinyl Chloride	2	**2.38 J**

67WW13		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<1.25
1,1,2-trichloroethane	5	**7.66**
1,1-dichloroethene	7	**762**
1,2-dichloroethane	5	**42.6**
Trichloroethene	5	**3.32**
Vinyl Chloride	2	**1.65 J**

67WW08		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<5 U
1,1,2-trichloroethane	5	**4.67 J**
1,1-dichloroethene	7	**1,710**
1,2-dichloroethane	5	**77.6**
Trichloroethene	5	<5 U
Vinyl Chloride	2	<5 U

67WW14		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	**26.3 J**
1,2-dichloroethane	5	**5.83**
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	**0.297 J**

67WW11		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	**28.5**
1,2-dichloroethane	5	**0.513 J**
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	**0.333 J**

67WW07		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	**0.601 J**
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW10		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW09			
Analyte	MCL	Nov 2015	Dup
1,1,1-trichloroethane	200	<0.5 U	<0.5 U
1,1,2-trichloroethane	5	<0.5 U	<0.5 U
1,1-dichloroethene	7	**1.66 J**	**1.62 J**
1,2-dichloroethane	5	<0.5 U	<0.5 U
Trichloroethene	5	<0.5 U	<0.5 U
Vinyl Chloride	2	<0.5 U	<0.5 U

67WW09A		
Analyte	MCL	Nov 2015
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

48th Street

Ignatius Avenue

41-W-2

41-W-1

41-W

42-W

67WW05 67WW02 67WW03 NS 67WW12 67WW13 67WW01 67WW08 67WW06 NS 67WW07 67WW14 67WW11 67WW10 67WW09 67WW09A 67WW04 NS

Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Land Use Control Boundary
- Roads
- Former Railroad Track Location
- 1,1,2-Trichloroethane Concentration Contour (5 µg/L)
- 1,1-Dichloroethene Concentration Contour (7 µg/L)
- 1,2-Dichloroethane Concentration Contour (5 µg/L)
- Vinyl Chloride (2 µg/L)
- Shallow Monitoring Well
- Current MNA Parameter Analysis Well Location
- MCL — Maximum Contaminant Level
- NS — Not Sampled
- <0.5 U — Analyte Below Detection Limits
- 2.67 — Analyte Detected, Result Below Limits
- 67.6 — Analyte Detected, Result Exceeds MCL
- J — Estimated value; analyte concentration was less than the limit of quantification.
- U — Analyte was not detected.

Notes:

1. *All concentrations shown in micrograms per liter (µg/L).*
2. *Monitoring wells 67WW04 and 67WW06 are used for groundwater level gauging only and are not sampled.*

N

70 35 0 70

Feet

AECOM

Figure 2-5
LHAAP-67
VOCs in Shallow Zone Groundwater - November 2015
Remedial Action Operation Report (Year 3)

Longhorn Army Ammunition Plant
Karnack, Texas

60256135 March 2017

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-5 LHAAP67 VOCs2015_11 Shallow.mxd

00747902

67WW01		
Analyte	MCL	Mar 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	2.67
1,1-dichloroethene	7	728
1,2-dichloroethane	5	52.6
Trichloroethene	5	4
Vinyl Chloride	2	3.64

67WW03		
Analyte	MCL	Mar 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

48th Street

Ignatius Avenue

41-W-2

41-W-1

41-W

42-W

67WW05 NS

67WW02 NS

67WW03

67WW12 NS

67WW13 NS

67WW01

67WW15 NS

67WW16I NS

67WW08 NS

67WW11 NS

67WW11 NS

67WW14 NS

67WW09 NS

67WW09A NS

67WW06 NS

67WW07 NS

67WW10 NS

67WW04 NS

Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Land Use Control Boundary
- Roads
- Former Railroad Track Location
- Shallow Monitoring Well
- Current MNA Parameter Analysis Well Location
- Intermediate Monitoring Well
- MCL — Maximum Contaminant Level
- NS — Not Sampled
- <0.5 U — Analyte Below Detection Limits
- 2.67 — Analyte Detected, Result Below Limits
- 67.6 — Analyte Detected, Result Exceeds MCL
- J — Estimated value; analyte concentration was less than the limit of quantification.
- U — Analyte was not detected.

Notes:
1. *All concentrations shown in micrograms per liter (µg/L).*
2. *Monitoring wells 67WW04 and 67WW06 are used for groundwater level gauging only and are not sampled.*

N

70 35 0 70

Feet

Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-6 LHAAP67 VOCs2016_03 Shallow.mxd

AECOM

Figure 2-6
LHAAP-67
VOCs in Shallow Zone Groundwater - March 2016
Remedial Action Operation Report (Year 3)

Longhorn Army Ammunition Plant
Karnack, Texas

60256135

March 2017

00747903

67WW05		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW02			
Analyte	MCL	May 2016	Dup
1,1,1-trichloroethane	200	<0.5 U	<0.5 U
1,1,2-trichloroethane	5	<0.5 U	<0.5 U
1,1-dichloroethene	7	**67.6**	**66.3**
1,2-dichloroethane	5	**0.377 J**	**0.321 J**
Trichloroethene	5	<0.5 U	<0.5 U
Vinyl Chloride	2	0.285 J	0.273 J

67WW03		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW12		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	**0.681 J**
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW01		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<2.5 U
1,1,2-trichloroethane	5	**1.62 J**
1,1-dichloroethene	7	**714**
1,2-dichloroethane	5	**43.3**
Trichloroethene	5	**3.28 J**
Vinyl Chloride	2	**2.98 J**

67WW16		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW13		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<1 U
1,1,2-trichloroethane	5	**7**
1,1-dichloroethene	7	**274**
1,2-dichloroethane	5	**35.7**
Trichloroethene	5	**1.67 J**
Vinyl Chloride	2	<1 U

67WW08		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<5 U
1,1,2-trichloroethane	5	**2.76 J**
1,1-dichloroethene	7	**1,130**
1,2-dichloroethane	5	**56.1**
Trichloroethene	5	<5 U
Vinyl Chloride	2	<0.5 U

67WW15		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<10 U
1,1,2-trichloroethane	5	**25.7**
1,1-dichloroethene	7	**2,460**
1,2-dichloroethane	5	**86.5**
Trichloroethene	5	**6.89**
Vinyl Chloride	2	**1.07**

67WW07		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	**0.33 J**
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW14		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	**10.8**
1,2-dichloroethane	5	**3.54**
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW10		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW09			
Analyte	MCL	May 2016	Dup
1,1,1-trichloroethane	200	<0.5 U	<0.5 U
1,1,2-trichloroethane	5	<0.5 U	<0.5 U
1,1-dichloroethene	7	<1 U	<1 U
1,2-dichloroethane	5	<0.5 U	<0.5 U
Trichloroethene	5	<0.5 U	<0.5 U
Vinyl Chloride	2	<0.5 U	<0.5 U

67WW09A		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	<1 U
1,2-dichloroethane	5	<0.5 U
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

67WW11		
Analyte	MCL	May 2016
1,1,1-trichloroethane	200	<0.5 U
1,1,2-trichloroethane	5	<0.5 U
1,1-dichloroethene	7	**19.3**
1,2-dichloroethane	5	**0.396 J**
Trichloroethene	5	<0.5 U
Vinyl Chloride	2	<0.5 U

48th Street

Ignatius Avenue

41-W-2

41-W-1

41-W

42-W

67WW05 67WW02 67WW03 67WW12 67WW01 67WW16 67WW13 67WW08 67WW15 67WW06 NS 67WW07 67WW16I 67WW14 67WW11 67WW10 67WW09 67WW09A 67WW04 NS

Legend

- LHAAP-67 Site Boundary
- Former Buildings or Concrete Slab
- Land Use Control Boundary
- Roads
- Former Railroad Track Location
- 1,1,2-Trichloroethane Concentration Contour (5 µg/L)
- 1,1-Dichloroethene Concentration Contour (7 µg/L) (Dashed Where Inferred)
- 1,2-Dichloroethane Concentration Contour (5 µg/L)
- Vinyl Chloride (2 µg/L)
- Shallow Monitoring Well
- Current MNA Parameter Analysis Well Location
- Intermediate Monitoring Well (Concentration Not Used for Contouring)
- MCL — Maximum Contaminant Level
- NS — Not Sampled
- <0.5 U — Analyte Below Detection Limits
- 2.67 — Analyte Detected, Result Below Limits
- 67.6 — Analyte Detected, Result Exceeds MCL
- J — Estimated value; analyte concentration was less than the limit of quantification.
- U — Analyte was not detected.

Notes:
1. *All concentrations shown in micrograms per liter (µg/L).*
2. *Monitoring wells 67WW04 and 67WW06 are used for groundwater level gauging only and are not sampled.*

N

70 35 0 70

Feet

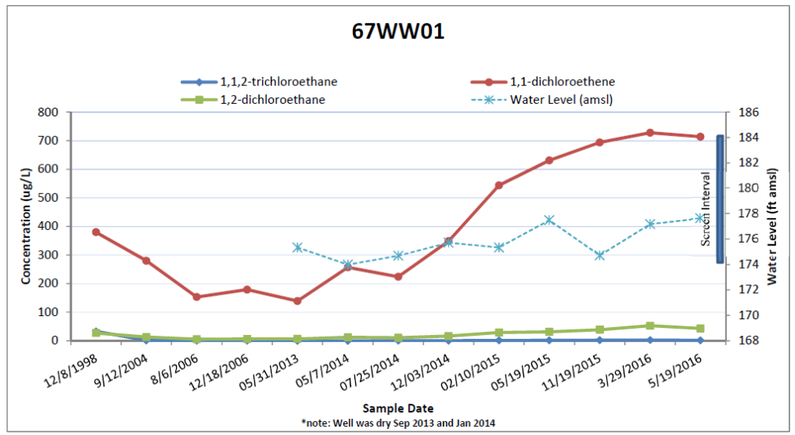
Path: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-67\RAO\YR03\Fig 2-7 LHAAP67 VOCs≥2016_05 Shallow.mxd

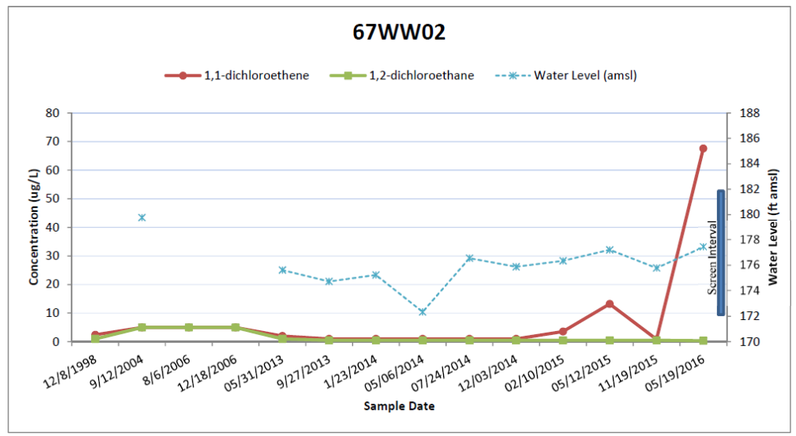
AECOM

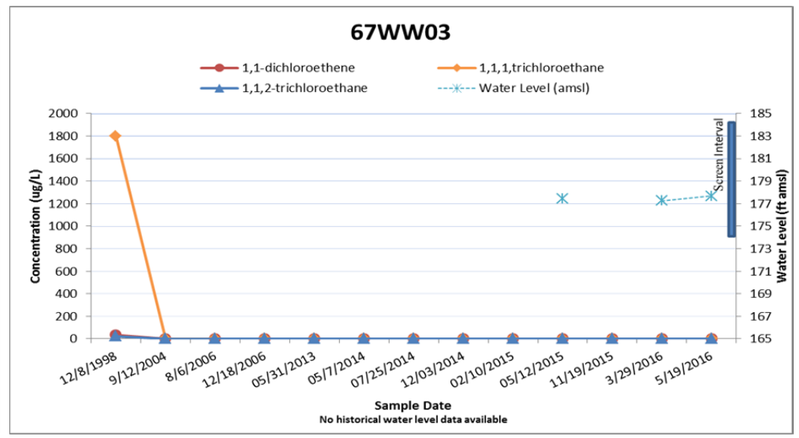
Figure 2-7
LHAAP-67
VOCs in Shallow Zone Groundwater - May 2016
Remedial Action Operation Report (Year 3)

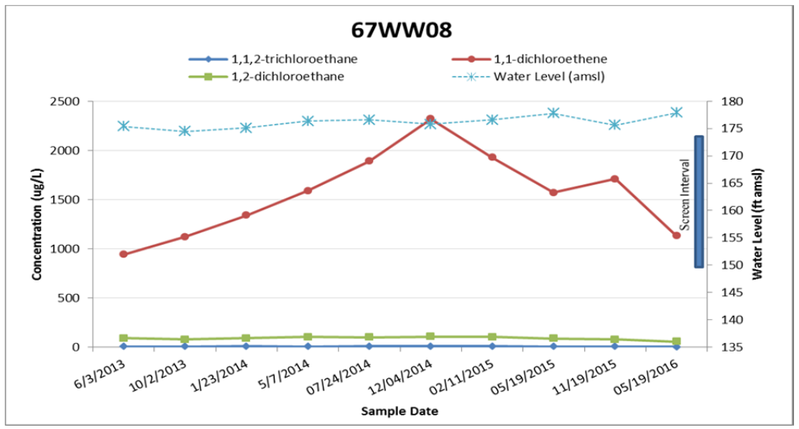
Longhorn Army Ammunition Plant
Karnack, Texas

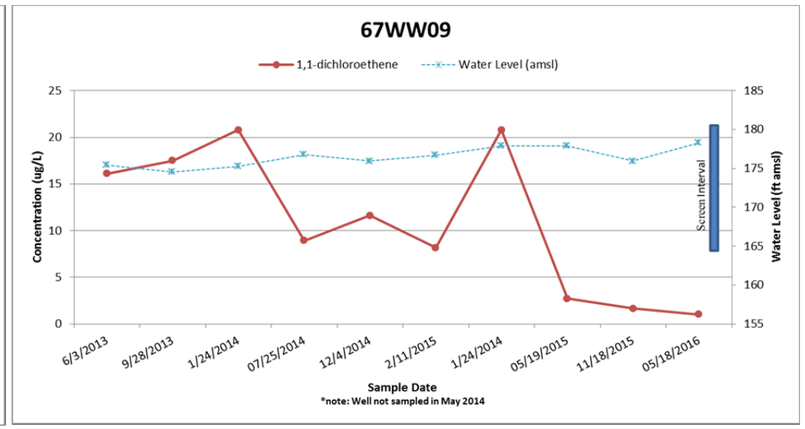
60256135 March 2017

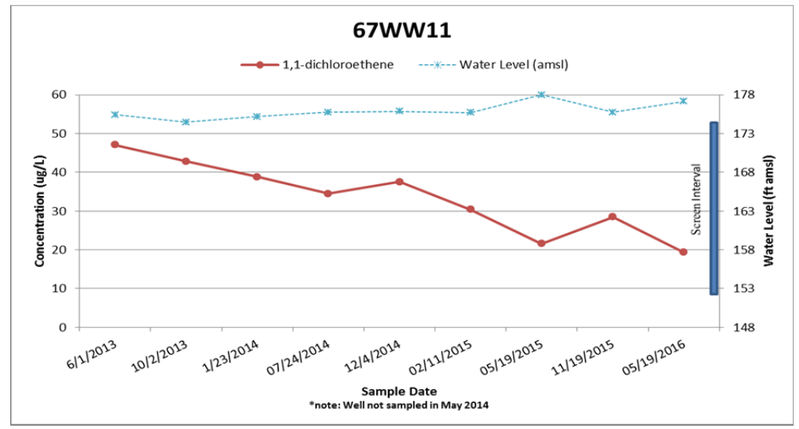


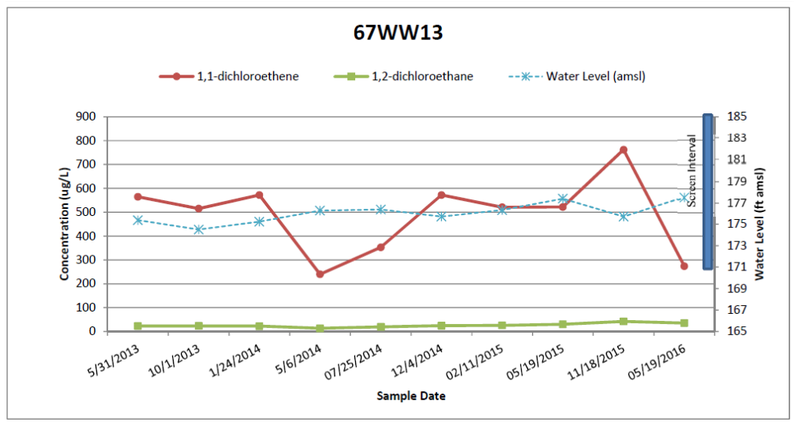












MCLs:

1,1,2-TCA = 5 ug/L

1,1,1-TCA = 200 ug/L

1,1-DCE = 7 ug/L

1,2-DCA = 5 ug/L

Figure 2-8

COC Concentration and Groundwater Elevation Trends
Remedial Action Operation – LHAAP-67 (Year 3)

Longhorn Army Ammunition Plant
Karnack, Texas

60256135

March 2017

Table 2-1: Groundwater Elevation Data - LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Ground Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW01[cd]	05/31/13	200.92	198.21	25.55	17.25	26.98	183.67	173.94	175.37
	09/27/13	200.92	198.21	Dry	17.25	26.98	183.67	173.94	Dry
	01/23/14	200.92	198.21	Dry	17.25	26.98	183.67	173.94	Dry
	05/07/14	200.92	198.21	26.9	17.25	26.98	183.67	173.94	174.02
	07/24/14	200.92	198.21	26.20	17.25	26.98	183.67	173.94	174.72
	12/02/14	200.92	198.21	25.17	17.25	26.98	183.67	173.94	175.75
	02/10/15	200.92	198.21	25.55	17.25	26.98	183.67	173.94	175.37
	05/19/15	200.92	198.21	23.40	17.25	26.98	183.64	173.91	177.52
	11/18/15	200.92	198.21	26.17	17.25	26.98	183.64	173.91	174.75
	03/28/16	200.92	198.21	23.71	17.25	26.98	183.64	173.91	177.21
	05/18/16	200.92	198.21	23.26	17.25	26.98	183.64	173.91	177.66
67WW02[cd]	05/31/13	199.69	196.61	24.38	18.05	27.78	181.64	171.91	175.31
	09/27/13	199.69	196.61	25.28	18.05	27.78	181.64	171.91	174.41
	01/23/14	199.69	196.61	24.77	18.05	27.78	181.64	171.91	174.92
	05/06/14	199.69	196.61	27.68	18.05	27.78	181.64	171.91	172.01
	07/23/14	199.69	196.61	23.45	18.05	27.78	181.64	171.91	176.24
	12/02/14	199.69	196.61	24.13	18.05	27.78	181.64	171.91	175.56
	02/10/15	199.69	196.61	23.65	18.05	27.78	181.64	171.91	176.04
	05/11/15	199.69	196.61	22.79	18.05	27.78	181.97	172.24	176.90
	11/18/15	199.69	196.61	24.22	18.05	27.78	181.97	172.24	175.47
	05/18/16	199.69	196.61	22.58	18.05	27.78	181.97	172.24	177.11
67WW03[c]	05/31/13	200.44	198.12	25.39	15.27	24.9	185.17	175.54	175.05
	09/27/13	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	01/23/14	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	05/06/14	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	07/23/14	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	12/02/14	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	02/10/15	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	05/11/15	200.44	198.12	22.98	15.27	24.9	185.17	175.54	177.46
	11/18/15	200.44	198.12	Dry	15.27	24.9	185.17	175.54	Dry
	03/28/16	200.44	198.12	23.2	15.27	24.9	185.17	175.54	177.24
	05/18/16	200.44	198.12	22.76	15.27	24.9	185.17	175.54	177.68

Table 2-1: Groundwater Elevation Data - LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Ground Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW04[a]	09/27/13	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	01/23/14	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	05/06/14	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	07/25/14	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	12/02/14	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	02/10/15	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	05/11/15	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	11/18/15	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
	05/16/16	203.76	200.5	Dry	14.26	24.26	189.5	179.5	Dry
67WW05[a]	09/28/13	201	197.48	26.40	19.52	29.52	181.48	171.48	174.60
	01/23/14	201	197.48	26.00	19.52	29.52	181.48	171.48	175.00
	05/06/14	201	197.48	25.85	19.52	29.52	181.48	171.48	175.15
	07/23/14	201	197.48	25.20	19.52	29.52	181.48	171.48	175.80
	12/02/14	201	197.48	25.55	19.52	29.52	181.48	171.48	175.45
	02/10/15	201	197.48	26.20	19.52	29.52	181.48	171.48	174.80
	05/11/15	201	197.48	24.68	19.52	29.52	181.48	171.48	176.32
	11/18/15	201	197.48	25.76	19.52	29.52	181.48	171.48	175.24
	05/18/16	201	197.48	24.56	19.52	29.52	181.48	171.48	176.44
67WW06[a]	05/31/13	200.81	196.95	25.32	41.86	51.86	158.95	148.95	175.49
	09/28/13	200.81	196.95	26.32	41.86	51.86	158.95	148.95	174.49
	01/24/14	200.81	196.95	26.61	41.86	51.86	158.95	148.95	174.20
	05/06/14	200.81	196.95	23.75	41.86	51.86	158.95	148.95	177.06
	07/23/14	200.81	196.95	23.75	41.86	51.86	158.95	148.95	177.06
	12/02/14	200.81	196.95	24.80	41.86	51.86	158.95	148.95	176.01
	02/10/15	200.81	196.95	23.95	41.86	51.86	158.95	148.95	176.86
	05/11/15	200.81	196.95	22.38	41.86	51.86	158.95	148.95	178.43
	11/18/15	200.81	196.95	24.80	41.86	51.86	158.95	148.95	176.01
	05/18/16	200.81	196.95	22.16	41.86	51.86	158.95	148.95	178.65

Table 2-1: Groundwater Elevation Data - LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Ground Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW07[a]	05/31/13	200.84	197.04	25.35	17.8	27.8	183.04	173.04	175.49
	09/27/13	200.84	197.04	26.32	17.8	27.8	183.04	173.04	174.52
	01/23/14	200.84	197.04	25.6	17.8	27.8	183.04	173.04	175.24
	05/06/14	200.84	197.04	23.8	17.8	27.8	183.04	173.04	177.04
	07/24/14	200.84	197.04	23.83	17.8	27.8	183.04	173.04	177.01
	12/02/14	200.84	197.04	24.75	17.8	27.8	183.04	173.04	176.09
	02/10/15	200.84	197.04	24.00	17.8	27.8	183.04	173.04	176.84
	05/11/15	200.84	197.04	22.45	17.8	27.8	183.04	173.04	178.39
	11/18/15	200.84	197.04	24.84	17.8	27.8	183.04	173.04	176.00
	05/18/16	200.84	197.04	22.21	17.8	27.8	183.04	173.04	178.63
67WW08[bd]	06/03/13	200.02	197.60	24.65	26.02	50.52	174	149.5	175.37
	10/02/13	200.02	197.60	25.57	26.02	50.52	174	149.5	174.45
	01/23/14	200.02	197.60	24.9	26.02	50.52	174	149.5	175.12
	05/07/14	200.02	197.60	23.65	26.02	50.52	174	149.5	176.37
	07/24/14	200.02	197.60	23.41	26.02	50.52	174	149.5	176.61
	12/04/14	200.02	197.60	24.23	26.02	50.52	174	149.5	175.79
	02/11/15	200.02	197.60	23.46	26.02	50.52	174	149.5	176.56
	05/19/15	200.02	197.60	22.25	26.02	50.52	174	149.5	177.77
	11/19/15	200.02	197.60	24.38	26.02	50.52	174	149.5	175.64
	05/19/16	200.02	197.60	22.12	26.04	50.54	174	149.5	177.90
67WW09[b]	06/01/13	198.21	195.72	22.78	16.99	36.49	181.22	161.72	175.43
	09/28/13	198.21	195.72	23.66	16.99	36.49	181.22	161.72	174.55
	01/24/14	198.21	195.72	22.95	16.99	36.49	181.22	161.72	175.26
	05/06/14	198.21	195.72	21.52	16.99	36.49	181.22	161.72	176.69
	07/25/14	198.21	195.72	21.40	16.99	36.49	181.22	161.72	176.81
	12/04/14	198.21	195.72	22.25	16.99	36.49	181.22	161.72	175.96
	02/11/15	198.21	195.72	21.50	16.99	36.49	181.22	161.72	176.71
	05/19/15	198.21	195.72	20.30	16.99	36.49	181.22	161.72	177.91
	11/18/15	198.21	195.72	22.24	16.99	36.49	181.22	161.72	175.97
	05/18/16	198.21	195.72	20.15	16.99	36.49	181.22	161.72	178.06

Table 2-1: Groundwater Elevation Data - LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Ground Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW09A[b]	09/27/13	202.93	200.4	28.4	23.33	38.03	179.6	164.9	174.53
	01/23/14	202.93	200.4	27.65	23.33	38.03	179.6	164.9	175.28
	05/06/14	202.93	200.4	26.1	23.33	38.03	179.6	164.9	176.83
	07/24/14	202.93	200.4	26.06	23.33	38.03	179.6	164.9	176.87
	12/03/14	202.93	200.4	27.00	23.33	38.03	179.6	164.9	175.93
	02/10/15	202.93	200.4	26.11	23.33	38.03	179.6	164.9	176.82
	05/12/15	202.93	200.4	24.97	23.33	38.03	179.6	164.9	177.96
	11/18/15	202.93	200.4	26.97	23.33	38.03	179.6	164.9	175.96
	05/18/16	202.93	200.4	24.61	23.33	38.03	179.6	164.9	178.32
67WW10[b]	06/01/13	201.51	198.8	26.1	22.71	52.21	178.8	149.3	175.41
	09/27/13	201.51	198.8	27.03	22.71	52.21	178.8	149.3	174.48
	01/24/14	201.51	198.8	26.22	22.71	52.21	178.8	149.3	175.29
	05/06/14	201.51	198.8	24.4	22.71	52.21	178.8	149.3	177.11
	07/24/14	201.51	198.8	24.42	22.71	52.21	178.8	149.3	177.09
	12/03/14	201.51	198.8	25.58	22.71	52.21	178.8	149.3	175.93
	02/10/15	201.51	198.8	24.55	22.71	52.21	178.8	149.3	176.96
	05/12/15	201.51	198.8	23.10	22.71	52.21	178.8	149.3	178.41
	11/18/15	201.51	198.8	25.49	22.71	52.21	178.8	149.3	176.02
	05/18/16	201.51	198.8	22.73	22.71	52.21	178.8	149.3	178.78
67WW11[b]	06/01/13	199.64	197.21	24.21	22.93	47.43	176.71	152.21	175.43
	10/02/13	199.64	197.21	25.17	22.93	47.43	176.71	152.21	174.47
	01/23/14	199.64	197.21	24.45	22.93	47.43	176.71	152.21	175.19
	05/06/14	199.64	197.21	22.86	22.93	47.43	176.71	152.21	176.78
	07/24/14	199.64	197.21	23.89	22.93	47.43	176.71	152.21	175.75
	12/04/14	199.64	197.21	23.77	22.93	47.43	176.71	152.21	175.87
	02/11/15	199.64	197.21	23.95	22.93	47.43	176.71	152.21	175.69
	05/19/15	199.64	197.21	21.67	22.93	47.43	176.71	152.21	177.97
	11/19/15	199.64	197.21	23.91	22.93	47.43	176.71	152.21	175.73
	05/19/16	199.64	197.21	22.48	22.93	47.43	176.71	152.21	177.16

Table 2-1: Groundwater Elevation Data - LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Ground Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW12[b]	06/01/13	201.65	199.07	26.46	26.58	36.08	175.07	165.57	175.19
	10/01/13	201.65	199.07	24.4	26.58	36.08	175.07	165.57	177.25
	01/24/14	201.65	199.07	26.8	26.58	36.08	175.07	165.57	174.85
	05/06/14	201.65	199.07	25.43	26.58	36.08	175.07	165.57	176.22
	07/25/14	201.65	199.07	25.30	26.58	36.08	175.07	165.57	176.35
	12/03/14	201.65	199.07	26.12	26.58	36.08	175.07	165.57	175.53
	02/10/15	201.65	199.07	25.35	26.58	36.08	175.07	165.57	176.30
	05/12/15	201.65	199.07	24.50	26.58	36.08	175.07	165.57	177.15
	11/18/15	201.65	199.07	26.16	26.58	36.08	175.07	165.57	175.49
	05/18/16	201.65	199.07	24.16	26.58	36.08	175.07	165.57	177.49
67WW13	05/31/13	197.92	195.85	22.55	12.57	27.07	185.35	170.85	175.37
	10/01/13	197.92	195.85	23.42	12.57	27.07	185.35	170.85	174.50
	01/24/14	197.92	195.85	22.68	12.57	27.07	185.35	170.85	175.24
	05/06/14	197.92	195.85	21.66	12.57	27.07	185.35	170.85	176.26
	07/25/14	197.92	195.85	21.55	12.57	27.07	185.35	170.85	176.37
	12/04/14	197.92	195.85	22.22	12.57	27.07	185.35	170.85	175.70
	02/11/15	197.92	195.85	21.61	12.57	27.07	185.35	170.85	176.31
	05/19/15	197.92	195.85	20.55	12.57	27.07	185.35	170.85	177.37
	11/18/15	197.92	195.85	22.22	12.57	27.07	185.35	170.85	175.70
	05/19/16	197.92	195.85	20.40	12.57	27.07	185.35	170.85	177.52
67WW14	10/01/13	196.96	194.52	21.8	14.44	29.44	182.52	167.52	175.16
	01/24/14	196.96	194.52	21.47	14.44	29.44	182.52	167.52	175.49
	05/07/14	196.96	194.52	20.58	14.44	29.44	182.52	167.52	176.38
	07/25/14	196.96	194.52	20.25	14.44	29.44	182.52	167.52	176.71
	12/03/14	196.96	194.52	20.85	14.44	29.44	182.52	167.52	176.11
	02/10/15	196.96	194.52	20.40	14.44	29.44	182.52	167.52	176.56
	05/12/15	196.96	194.52	19.64	14.44	29.44	182.52	167.52	177.32
	11/18/15	196.96	194.52	20.81	14.44	29.44	182.52	167.52	176.15
	05/18/16	196.96	194.52	19.4	14.44	29.44	182.52	167.52	177.56

Table 2-1: Groundwater Elevation Data - LHAAP-67

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Screen Interval (ft from TOC)		Screen Interval (ft MSL)		Ground Water Elevation (ft MSL)
					Top	Bottom	Top	Bottom	
67WW15	05/19/16	199.82	197.24	22.18	34.20	43.90	165.62	155.92	177.64
67WW16I[e]	05/18/16	199.51	197.12	21.95	67.70	77.40	131.81	122.11	177.56

Elevations are reported as above mean sea level (FT MSL)

[a] Screen information calculated from Data Gap Investigation Report (Shaw 2007).

[b] Screen information calculated from well construction detail forms

[c] Well screen top and bottom depths and elevations for monitoring wells 67WW01, 67WW02, and 67WW03 were revised/confirmed with a downhole camera survey performed in March 2015.

[d] Monitoring wells LHAAP-67WW01, 67WW02, and 67WW08 were re-surveyed in September 2016 and elevations in the table for these wells are based on the re-survey results.

[e] Intermediate zone monitoring well.

Dry=Insufficient or no water in well.

TOC=Top of Casing

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW01-053113 5/31/2013	67WW01-050714 5/7/2014	67WW01-072514 7/25/2014	67WW01-120314 12/3/2014	67WW01-021015 2/10/2015	67WW01-051915 5/19/2015	67WW01-111915 11/19/2015	67WW01-032916 3/29/2016	67WW01-051916 5/19/2016	67WW02-053113 5/31/2013	67WW02-092713 9/27/2013
Water Quality Field Parameters													
Temperature	°C		28	19.77	21.9	17.6	18.85	21.65	16.27	15.38	17.86	27.07	25.23
pH	pH Units		5.84	5.52	5.91	6.15	6.92	7.11	6.19	5.57	6.28	6.57	6.69
Conductivity	mS/cm		3.41	3.57	3.57	3.69	3.36	3.2	3.95	3.8	3.9	3.02	2.94
Dissolved Oxygen	mg/L		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Turbidity	NTU		69.6	36.6	33	23.3	194	161	284	50.2	26.2	51.4	21
Oxidation Reduction Potential	mV		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Sulfide (376.1)													
SULFIDE	mg/L		NA	<1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	23.4	NA	NA	NA	42.6	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	5.25	NA	NA	NA	12.7	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<2 U	<1 UJ	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<1 U	<0.5 U	0.29 J	0.483 J	1.44	1.72 J	2.14 J	2.67	1.62 J	<1 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	6.37	11	9.2	14.9	23.7	23.5	26.2	38.5	27.6	0.507 J	0.508 J
1,1-DICHLOROETHENE	ug/L	7	139	257	224	349	544	631	694	728	714	<2 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.75 U	<0.75 U	<0.3 U	<1.5 U	<1 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<2 U	<1 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<5 U	<2 U	<2 U	<2 U	<2 U	<5 U	<5 U	<2 U	<10 U	<5 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	6.68	12.2	10.7	16.6	28.7	31.4	38.6	52.6	43.3	<1 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<2 U	<1 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<2 U	<1 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
2-BUTANONE	ug/L	15000	<10 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<12.5 U	<5 U	<25 U	<10 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 UJ	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
2-HEXANONE	ug/L	120	<10 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<12.5 U	<5 U	<25 U	<10 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<10 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<12.5 U	<5 U	<25 U	<10 U	<5 U
ACETONE	ug/L	22000	<10 U	<5 U	<5 U	<5 U	<5 U	<12.5 U	<12.5 U	<5 U	<25 U	<10 U	<5 U
BENZENE	ug/L	5	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	0.168 J	<1.25 U	<1 U	<0.25 U
BROMOBENZENE	ug/L	200	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<2 U	<1 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
BROMOFORM	ug/L	120	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW01-053113 5/31/2013	67WW01-050714 5/7/2014	67WW01-072514 7/25/2014	67WW01-120314 12/3/2014	67WW01-021015 2/10/2015	67WW01-051915 5/19/2015	67WW01-111915 11/19/2015	67WW01-032916 3/29/2016	67WW01-051916 5/19/2016	67WW02-053113 5/31/2013	67WW02-092713 9/27/2013
BROMOMETHANE	ug/L	34	<2 U	<1 U	<1 U	<1 U	<1 UJ	<2.5 U	<2.5 U	<1 U	<5 U	<2 UJ	<1 U
CARBON DISULFIDE	ug/L	2400	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 UJ	<1 U	<0.5 U
CHLOROBENZENE	ug/L	100	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
CHLOROETHANE	ug/L	98000	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 U	<1 U
CHLOROFORM	ug/L	240	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
CHLOROMETHANE	ug/L	70	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 UJ	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	1.12	1.29	1.02	1.26	1.82	1.54 J	1.6 J	2.16	1.47 J	<1 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	NA	<0.5 U
DIBROMOMETHANE	ug/L	120	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 UJ	<2.5 U	<1 UJ	<0.5 U
ETHYLBENZENE	ug/L	700	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 UJ	<1 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
M,P-XYLENE	ug/L	10000	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
NAPHTHALENE	ug/L	490	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<2 U	<1 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
O-XYLENE	ug/L	10000	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
STYRENE	ug/L	100	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.626 U	<0.626 U	<0.25 U	<1.25 U	<1 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
TOLUENE	ug/L	1000	<1 U	<0.5 U	0.473 J	0.398 J	0.287 J	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<2 U	<1 U	<1 U	<1 U	<1 U	<2.5 U	<2.5 U	<1 U	<5 U	<2 U	<1 U
TRICHLOROETHENE	ug/L	5	2.96	3	2.3	3.36	4.07	3.03	2.84	4	3.28 J	<1 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U	<1 U	<0.5 U
VINYL CHLORIDE	ug/L	2	2.18	2.15	1.16	2.16	2.38	1.86 J	2.38 J	3.64	2.98 J	<1 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	981	NA	NA	NA	988	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	<1 U	NA	NA	NA	<1 U	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	<1 U	NA	NA	NA	2.02	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	167	NA	NA	NA	143	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	4.7	NA	NA	NA	86.2	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	<0.5 U	NA	NA	NA	2.5	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	<0.5 U	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	<0.5 U	NA	NA	NA	1	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	<2 U	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	<2 U	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
METHANE	ug/L		NA	33.5	NA	NA	NA	20	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW01-053113 5/31/2013	67WW01-050714 5/7/2014	67WW01-072514 7/25/2014	67WW01-120314 12/3/2014	67WW01-021015 2/10/2015	67WW01-051915 5/19/2015	67WW01-111915 11/19/2015	67WW01-032916 3/29/2016	67WW01-051916 5/19/2016	67WW02-053113 5/31/2013	67WW02-092713 9/27/2013
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	5.69	NA	NA	NA	0.0539	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW02-012314 1/23/2014	67WW02-050614 5/6/2014	67WW02-072414 7/24/2014	67WW02-120314 12/3/2014	67WW02-021015 2/10/2015	67WW02-051215 5/12/2015	67WW02FD-051215 5/12/2015	67WW02-111915 11/19/2015	67WW02-051916 5/19/2016	67WW02FD-051916 5/19/2016	67WW03-051215 5/12/2015
Water Quality Field Parameters													
Temperature	°C		16.2	21.01	22.38	19	19.49	19.34	NA	17.57	18.37	NA	18.52
pH	pH Units		6.78	5.62	7.02	6.27	7.25	6.57	NA	6.29	6.08	NA	6.12
Conductivity	mS/cm		3.04	3	2.94	3.07	2.92	3.03	NA	3.33	3.8	NA	4.56
Dissolved Oxygen	mg/L		NR	NR	NR	NR	NR	NR	NA	NR	NR	NA	NR
Turbidity	NTU		49.7	106	11.6	19.3	8.9	23	NA	49.3	10.6	NA	200
Oxidation Reduction Potential	mV		NR	NR	NR	NR	NR	NR	NA	NR	NR	NA	NR
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	0.406 J	0.44 J	0.335 J	0.406 J	0.592 J	0.883 J	0.873 J	0.302 J	3.27	3.25	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	3.59	13.2	13	0.857 J	67.6	66.3	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.377 J	0.321 J	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 UJ
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 UJ
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 UJ
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW02-012314 1/23/2014	67WW02-050614 5/6/2014	67WW02-072414 7/24/2014	67WW02-120314 12/3/2014	67WW02-021015 2/10/2015	67WW02-051215 5/12/2015	67WW02FD-051215 5/12/2015	67WW02-111915 11/19/2015	67WW02-051916 5/19/2016	67WW02FD-051916 5/19/2016	67WW03-051215 5/12/2015
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U	<1 U	<1 U	<1 UJ	<1 UJ	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.411 J
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.285 J	0.273 J	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW02-012314 1/23/2014	67WW02-050614 5/6/2014	67WW02-072414 7/24/2014	67WW02-120314 12/3/2014	67WW02-021015 2/10/2015	67WW02-051215 5/12/2015	67WW02FD-051215 5/12/2015	67WW02-111915 11/19/2015	67WW02-051916 5/19/2016	67WW02FD-051916 5/19/2016	67WW03-051215 5/12/2015
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW03-032916 3/29/2016	67WW03-051916 5/19/2016	67WW05-053113 5/31/2013	67WW05-092813 9/28/2013	67WW05-012314 1/23/2014	67WW05-050614 5/6/2014	67WW05-072414 7/24/2014	67WW05-120314 12/3/2014	67WW05-021015 2/10/2015	67WW05-051215 5/12/2015	67WW05-111915 11/19/2015
Water Quality Field Parameters													
Temperature	°C		13.21	17.89	26.87	21.75	15.83	22.15	22.72	18.55	19.82	19.69	16.33
pH	pH Units		4.41	6.26	6.94	6.37	6.57	5.56	6.92	5.7	6.83	5.74	5.12
Conductivity	mS/cm		5.5	5.22	2.66	2.67	2.75	2.62	2.49	2.61	2.36	2.43	2.83
Dissolved Oxygen	mg/L		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Turbidity	NTU		28.9	9.1	2.5	16.2	9.7	8.1	28.5	24.8	22.7	100	129
Oxidation Reduction Potential	mV		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<10 UJ	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW03-032916 3/29/2016	67WW03-051916 5/19/2016	67WW05-053113 5/31/2013	67WW05-092813 9/28/2013	67WW05-012314 1/23/2014	67WW05-050614 5/6/2014	67WW05-072414 7/24/2014	67WW05-120314 12/3/2014	67WW05-021015 2/10/2015	67WW05-051215 5/12/2015	67WW05-111915 11/19/2015
BROMOMETHANE	ug/L	34	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 UJ	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	0.456 J	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	697	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW03-032916 3/29/2016	67WW03-051916 5/19/2016	67WW05-053113 5/31/2013	67WW05-092813 9/28/2013	67WW05-012314 1/23/2014	67WW05-050614 5/6/2014	67WW05-072414 7/24/2014	67WW05-120314 12/3/2014	67WW05-021015 2/10/2015	67WW05-051215 5/12/2015	67WW05-111915 11/19/2015
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW05-051916 5/19/2016	67WW06-053113 5/31/2013	67WW06-053113-FD 5/31/2013	67WW06-092813 9/28/2013	67WW06-012414 1/24/2014	67WW07-053113 5/31/2013	67WW07-092713 9/27/2013	67WW07-012314 1/23/2014	67WW07-050614 5/6/2014	67WW07-072514 7/25/2014	67WW07-120314 12/3/2014
Water Quality Field Parameters													
Temperature	°C		18.66	24.28	NA	20.2	15.42	25.72	25.11	14.63	26.29	21.89	17.46
pH	pH Units		5.42	5.27	NA	5.45	5.58	5.52	5.78	5.79	5.45	5.58	5.79
Conductivity	mS/cm		2.77	6.37	NA	6.45	7.09	3.99	4.13	4.14	3.71	3.99	4.06
Dissolved Oxygen	mg/L		NR	1.57	NA	0.82	0.8	NR	NR	NR	NR	NR	NR
Turbidity	NTU		91.8	13.4	NA	5.5	42.9	13.9	9.6	54.4	30.2	8.8	10.7
Oxidation Reduction Potential	mV		NR	22	NA	13	67	NR	NR	NR	NR	NR	NR
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<1 UJ	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	0.212 J	0.193 J	<0.25 U	0.234 J	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<2 U	<2 U	<1 U	0.752 J	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<1 U	<1 U	<0.3 U	<0.3 U	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<5 U	<5 U	<2 U	<2 UJ	<5 UJ	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	2.25	2.2	1.77	2.03	1.67	1.77	1.35	1.44	1.39	1.19
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<10 U	<10 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<10 U	<10 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<10 U	<10 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<10 UJ	<10 UJ	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW05-051916 5/19/2016	67WW06-053113 5/31/2013	67WW06-053113-FD 5/31/2013	67WW06-092813 9/28/2013	67WW06-012414 1/24/2014	67WW07-053113 5/31/2013	67WW07-092713 9/27/2013	67WW07-012314 1/23/2014	67WW07-050614 5/6/2014	67WW07-072514 7/25/2014	67WW07-120314 12/3/2014
BROMOMETHANE	ug/L	34	<1 UJ	<2 U	<2 U	<1 UJ	<1 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<2 U	<2 U	<1 U	<1 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	NA	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	0.918 J	0.846 J	0.966 J	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW05-051916 5/19/2016	67WW06-053113 5/31/2013	67WW06-053113-FD 5/31/2013	67WW06-092813 9/28/2013	67WW06-012414 1/24/2014	67WW07-053113 5/31/2013	67WW07-092713 9/27/2013	67WW07-012314 1/23/2014	67WW07-050614 5/6/2014	67WW07-072514 7/25/2014	67WW07-120314 12/3/2014
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW07-021015 2/10/2015	67WW07-051215 5/12/2015	67WW07-111915 11/19/2015	67WW07-051916 5/19/2016	67WW08-060313 6/3/2013	67WW08-100213 10/2/2013	67WW08-012314 1/23/2014	67WW08-050714 5/7/2014	67WW08-072414 7/24/2014	67WW08-120414 12/4/2014	67WW08-021115 2/11/2015
Water Quality Field Parameters													
Temperature	°C		18.47	18.5	15.55	17.91	29.25	21.82	17.22	19.33	21.72	19.14	18.75
pH	pH Units		6.41	5.98	6.22	6.04	6.62	6.47	6.8	5.55	6.89	6.42	6.61
Conductivity	mS/cm		3.76	3.61	4.08	3.96	4.85	5.11	5.08	5.43	4.98	5.07	4.38
Dissolved Oxygen	mg/L		NR	NR	NR	NR	0	0.74	0.38	0.45	0	0	0
Turbidity	NTU		6.7	35.3	40.8	10.5	7.6	1.5	0.6	9.7	6.1	2.7	3.7
Oxidation Reduction Potential	mV		NR	NR	NR	NR	74	-165	-90	-32	-7	-1	45
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	<1 U	<1 U	<1 U	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	<1 U	<1 U	<1 U
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	10.3	28.9	NA	80.6	70.9	22.9	160
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	3.61	6.32	9.95	10.6	7.58	3.68	22.4
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<4 U	<2 U	<4 U	<4 U	<4 U	<4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.25	5.08 J	6.7	5.01 J	7.74 J	7.36 J	6.96 J
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<0.25 U	<0.25 U	53.2	46.5	54.4	57.3	56.7	63.9	61.1
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	940	1120	1340	1590	1890	2320	1930
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<1 U	<3 U	<1.5 U	<3 U	<3 U	<3 U	<3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<2 U	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<4 U	<2 U	<4 U	<4 U	<4 U	<4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<5 UJ	<20 U	<10 U	<20 U	<20 U	<20 U	<20 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-DICHLOROETHANE	ug/L	5	1.04	0.817 J	0.601 J	0.33 J	89.2	76.5	89.9	101	98.9	106	104
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<4 U	<2 U	<4 U	<4 U	<4 U	<4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<4 U	<2 U	<4 U	<4 U	<4 U	<4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
2-BUTANONE	ug/L	15000	<5 U	<5 UJ	<5 U	<5 U	<10 U	<50 U	<25 U	<50 U	<50 U	<50 U	<50 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-HEXANONE	ug/L	120	<5 U	3.18 J	<5 U	<5 U	<10 U	<50 U	<25 U	<50 U	<50 U	<50 U	<50 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 UJ	<5 U	<5 U	<10 U	<50 U	<25 U	<50 U	<50 U	<50 U	<50 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<10 U	<50 U	<25 U	<50 U	<50 U	<50 U	<50 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.194 J	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<4 U	<2 U	<4 U	<4 U	<4 U	<4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<2 U	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW07-021015 2/10/2015	67WW07-051215 5/12/2015	67WW07-111915 11/19/2015	67WW07-051916 5/19/2016	67WW08-060313 6/3/2013	67WW08-100213 10/2/2013	67WW08-012314 1/23/2014	67WW08-050714 5/7/2014	67WW08-072414 7/24/2014	67WW08-120414 12/4/2014	67WW08-021115 2/11/2015
BROMOMETHANE	ug/L	34	<1 UJ	<1 U	<1 U	<1 U	<2 UJ	<10 U	<5 U	<10 U	<10 U	<10 U	<10 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<2 U	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<2 U	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	3.56	<2.5 UJ	4.11 J	4.88 J	5.13 J	2.53 J	2.57 J
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<2 UJ	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	2.18	<5 U	2.73 J	<5 U	<5 U	2.69 J	2.71 J
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 UJ	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<2 U	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	3.42 J	<5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<4 U	<2 U	<4 U	<4 U	<4 U	<4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<2.5 U	<1.25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<2 U	<10 U	<5 U	<10 U	<10 U	<10 U	<10 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	2.86	<5 U	3.12 J	4.41 J	3.14 J	3.55 J	3.15 J
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.951 J	<5 U	<2.5 U	<5 U	<5 U	<5 U	<5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	1440 J	1360	1490	1380	1340	1410 J	1250
NITRATE	mg/L	10	NA	NA	NA	NA	<20 U	<2 U	<2 U	<2 U	<1 U	2 J	<4 U
NITRITE	mg/L	1	NA	NA	NA	NA	<20 U	<2 U	<2 U	<2 U	<1 U	2.04 J	<4 U
SULFATE	mg/L		NA	NA	NA	NA	300	297	303	365	317	302 J	258
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	<1 U	<0.5 U	<0.5 U	<0.5 U	89.1	78.7	96.5
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	<0.5 U	<0.5 U	0.6	<0.5 U	<0.5 U	<0.5 U
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	89600	NA
ETHANE	ug/L		NA	NA	NA	NA	<5 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
ETHENE	ug/L		NA	NA	NA	NA	1.29 J	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
METHANE	ug/L		NA	NA	NA	NA	10.6	<2 U	7.79	6.97	6.47	14.4	9.4

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW07-021015 2/10/2015	67WW07-051215 5/12/2015	67WW07-111915 11/19/2015	67WW07-051916 5/19/2016	67WW08-060313 6/3/2013	67WW08-100213 10/2/2013	67WW08-012314 1/23/2014	67WW08-050714 5/7/2014	67WW08-072414 7/24/2014	67WW08-120414 12/4/2014	67WW08-021115 2/11/2015
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	0.0795	0.161	0.344	0.282	0.227	0.374	0.0907

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW08-051915 5/19/2015	67WW08-111915 11/19/2015	67WW08-051916 5/19/2016	67WW09-060113 6/3/2013	67WW09-092813 9/28/2013	67WW09-012414 1/24/2014	67WW09-072514 7/25/2014	67WW09-120414 12/4/2014	67WW09-021115 2/11/2015	67WW09FD-021115 2/11/2015	67WW09-051915 5/19/2015
Water Quality Field Parameters													
Temperature	°C		20.12	19.15	18.74	27.95	22.22	16.27	26.09	20.48	18.13	NA	18.88
pH	pH Units		6.53	6.13	5.79	6.64	6.31	6.24	5.41	5.95	6.45	NA	5.48
Conductivity	mS/cm		5.85	5.06	5.42	3.31	3.47	3.39	3.42	3.55	3.29	NA	3.35
Dissolved Oxygen	mg/L		0.66	0.44	0.82	0.52	0.83	0.86	0.61	0	1.02	NA	1.13
Turbidity	NTU		67.1	45.3	9.3	4.5	1.7	0.9	4.4	1.8	3.4	NA	12.5
Oxidation Reduction Potential	mV		-16	113	129	189	157	136	310	166	164	NA	259
Sulfide (376.1)													
SULFIDE	mg/L		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		<1 U	<1 U	<1 U	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		55.2	103	44.2	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		8.32	47.5	65.4	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<4 U	<4 U	<4 U	<1 UJ	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	4.5 J	4.67 J	2.76 J	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	52.1	48.1	31.9	3.6	3.97	4.59	3.03	3.93	2.93	2.92	1.56
1,1-DICHLOROETHENE	ug/L	7	1570	1710	1130	16.1	17.5	20.8	8.93	11.6	8.17	8.29	2.71
1,1-DICHLOROPROPENE	ug/L	9.1	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<3 U	<3 U	<3 U	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<10 U	<10 U	<10 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<4 U	<4 U	<4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<20 U	<20 U	<20 U	<5 UJ	<2 U	<2 UJ	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	85.6	77.6	56.1	<1 U	0.414 J	0.347 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<4 U	<4 U	<4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<4 U	<4 U	<4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<50 U	<50 U	<50 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ
2-HEXANONE	ug/L	120	<50 U	<50 U	<50 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<50 U	<50 U	<50 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<50 U	<50 U	<50 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<4 U	<4 U	<4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<10 U	<10 U	<10 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW08-051915 5/19/2015	67WW08-111915 11/19/2015	67WW08-051916 5/19/2016	67WW09-060113 6/3/2013	67WW09-092813 9/28/2013	67WW09-012414 1/24/2014	67WW09-072514 7/25/2014	67WW09-120414 12/4/2014	67WW09-021115 2/11/2015	67WW09FD-021115 2/11/2015	67WW09-051915 5/19/2015
BROMOMETHANE	ug/L	34	<10 U	<10 U	<10 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 UJ	<1 U
CARBON DISULFIDE	ug/L	2400	<10 U	<10 U	<10 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<10 U	<10 U	<10 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	3.04 J	1.61 J	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<10 U	<10 U	<10 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<5 U	<5 U	<5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<5 U	<5 U	<5 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<5 U	<5 U	<5 UJ	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<10 U	<10 U	<10 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<4 U	<4 U	<4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<2.5 U	<2.5 U	<2.5 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<10 U	<10 U	<10 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<5 U	<5 U	<5 U	<1 U	<0.5 U	0.472 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		1750	1400	1510	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	<2 U	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	3.95 J	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		524	300	365	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		<0.5 U	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		<0.5 U	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		<0.5 U	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		<0.5 U	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		<2 U	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		<2 U	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		5.16	12.1	11.3	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW08-051915 5/19/2015	67WW08-111915 11/19/2015	67WW08-051916 5/19/2016	67WW09-060113 6/3/2013	67WW09-092813 9/28/2013	67WW09-012414 1/24/2014	67WW09-072514 7/25/2014	67WW09-120414 12/4/2014	67WW09-021115 2/11/2015	67WW09FD-021115 2/11/2015	67WW09-051915 5/19/2015
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		0.944	0.0931	0.0585	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW09-111815 11/18/2015	67WW09FD-111815 11/18/2015	67WW09-051816 5/18/2016	67WW09FD-051816 5/18/2016	67WW09A-092713 9/27/2013	67WW09A-092713-FD 9/27/2013	67WW09A-012314 1/23/2014	67WW09A-050614 5/6/2014	67WW09A-072414 7/24/2014	67WW09AFD-072414 7/24/2014	67WW09A-120314 12/3/2014
Water Quality Field Parameters													
Temperature	°C		19.88	NA	18.25	NA	28.67	NA	15.63	19.01	24.26	NA	18.75
pH	pH Units		5.63	NA	5.19	NA	5.62	NA	6.73	5.55	6.89	NA	6.5
Conductivity	mS/cm		3.98	NA	3.95	NA	2.45	NA	2.49	2.53	2.36	NA	2.31
Dissolved Oxygen	mg/L		0	NA	0.6	NA	1.19	NA	0.59	0.46	0.12	NA	0
Turbidity	NTU		0	NA	0.8	NA	21.5	NA	32.1	20.7	5.8	NA	4.3
Oxidation Reduction Potential	mV		224	NA	305	NA	182	NA	18	20	26	NA	30
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	1.08	1.08	0.477 J	0.487 J	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	1.66 J	1.62 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 UJ	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW09-111815 11/18/2015	67WW09FD-111815 11/18/2015	67WW09-051816 5/18/2016	67WW09FD-051816 5/18/2016	67WW09A-092713 9/27/2013	67WW09A-092713-FD 9/27/2013	67WW09A-012314 1/23/2014	67WW09A-050614 5/6/2014	67WW09A-072414 7/24/2014	67WW09AFD-072414 7/24/2014	67WW09A-120314 12/3/2014
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW09-111815 11/18/2015	67WW09FD-111815 11/18/2015	67WW09-051816 5/18/2016	67WW09FD-051816 5/18/2016	67WW09A-092713 9/27/2013	67WW09A-092713-FD 9/27/2013	67WW09A-012314 1/23/2014	67WW09A-050614 5/6/2014	67WW09A-072414 7/24/2014	67WW09AFD-072414 7/24/2014	67WW09A-120314 12/3/2014
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW09AFD-120314 12/3/2014	67WW09A-021015 2/10/2015	67WW09A-051215 5/12/2015	67WW09A-111815 11/18/2015	67WW09A-051816 5/18/2016	67WW10-060113 6/1/2013	67WW10-092713 9/27/2013	67WW10-012414 1/24/2014	67WW10-050614 5/6/2014	67WW10-072414 7/24/2014	67WW10-120314 12/3/2014
Water Quality Field Parameters													
Temperature	°C		NA	17.83	18.84	18.3	18.55	24.32	25.2	15.1	20.2	22.24	19.2
pH	pH Units		NA	7.13	5.67	5.81	5.64	6.27	6.02	6.07	5.29	5.59	5.56
Conductivity	mS/cm		NA	2.25	2.02	2.35	2.48	5.08	6.23	6.45	6.02	6.13	6.09
Dissolved Oxygen	mg/L		NA	0	0.47	0	0.42	0.11	0.6	0.54	0.44	0.52	0
Turbidity	NTU		NA	20.8	31.3	12	0	4.9	1.6	0.4	2.6	54.7	9.1
Oxidation Reduction Potential	mV		NA	-12	112	127	137	190	-9	29	55	174	83
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.39 J	0.362 J	0.319 J	<0.25 U	<0.25 U	0.173 J
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<5 UJ	<2 U	<2 UJ	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW09AFD-120314 12/3/2014	67WW09A-021015 2/10/2015	67WW09A-051215 5/12/2015	67WW09A-111815 11/18/2015	67WW09A-051816 5/18/2016	67WW10-060113 6/1/2013	67WW10-092713 9/27/2013	67WW10-012414 1/24/2014	67WW10-050614 5/6/2014	67WW10-072414 7/24/2014	67WW10-120314 12/3/2014
BROMOMETHANE	ug/L	34	<1 U	<1 UJ	<1 U	<1 U	<1 UJ	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW09AFD-120314 12/3/2014	67WW09A-021015 2/10/2015	67WW09A-051215 5/12/2015	67WW09A-111815 11/18/2015	67WW09A-051816 5/18/2016	67WW10-060113 6/1/2013	67WW10-092713 9/27/2013	67WW10-012414 1/24/2014	67WW10-050614 5/6/2014	67WW10-072414 7/24/2014	67WW10-120314 12/3/2014
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW10-021015 2/10/2015	67WW10-051215 5/12/2015	67WW10-111815 11/18/2015	67WW10-051816 5/18/2016	67WW11-060113 6/1/2013	67WW11-060113-FD 6/1/2013	67WW11-100213 10/2/2013	67WW11 FD-012314 1/23/2014	67WW11-012314 1/23/2014	67WW11-072414 7/24/2014	67WW11-120414 12/4/2014
Water Quality Field Parameters													
Temperature	°C		17.33	18.78	17.68	18.66	23.9	NA	22.65	NA	17.25	22	19.1
pH	pH Units		6.18	5.53	5.77	5.02	6.78	NA	6.23	NA	5.84	6.72	5.63
Conductivity	mS/cm		5.84	5.65	5.95	6.36	4.27	NA	4.74	NA	4.77	4.85	5.17
Dissolved Oxygen	mg/L		0	0.64	0.1	0.5	1.17	NA	0.63	NA	0.48	1.07	0
Turbidity	NTU		0	217	90.8	30.9	9.6	NA	4	NA	1.9	2.9	5.6
Oxidation Reduction Potential	mV		25	117	68	163	168	NA	64	NA	129	194	204
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	<1 U	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	<1 U	<1 U
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	17.6	NA	NA	49.4	140
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	5.7	NA	NA	8.7	9.1 J
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 UJ	<1 UJ	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	0.14 J	<0.25 U	10.6	10.6	10.6	10.7	9.83	10.4	11.1
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	47.1	46.8	42.8	43	38.8	34.5	37.5
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<1 U	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<5 UJ	<5 UJ	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.869 J	0.85 J	0.799 J	0.823 J	0.748 J	0.684 J	0.567 J
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 UJ	<5 U	<5 U	<10 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 UJ	<5 U	<5 U	<10 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 UJ	<5 U	<5 U	<10 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 UJ	<5 U	<5 U	<10 U	<10 U	33.6	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW10-021015 2/10/2015	67WW10-051215 5/12/2015	67WW10-111815 11/18/2015	67WW10-051816 5/18/2016	67WW11-060113 6/1/2013	67WW11-060113-FD 6/1/2013	67WW11-100213 10/2/2013	67WW11 FD-012314 1/23/2014	67WW11-012314 1/23/2014	67WW11-072414 7/24/2014	67WW11-120414 12/4/2014
BROMOMETHANE	ug/L	34	<1 UJ	<1 U	<1 U	<1 UJ	<2 UJ	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<2 UJ	<2 U	0.536 J	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 UJ	<1 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U	<0.5 U	0.296 J	<0.5 U	0.271 J	0.302 J
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	1200	NA	NA	NA	1330 J
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	<1 U	<2 U
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	<1 U	1.97 J
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	375	NA	NA	414	402
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	<0.5 U	NA	NA	22.2	16
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	<0.5 U	NA	NA	<0.5 U	<0.5 U
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	<0.5 U	NA	NA	<0.5 U	<0.5 U
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	<0.5 U	NA	NA	<0.5 U	<0.5 U
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	364000
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	<2 U	NA	NA	<2 U	<2 U
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	<2 U	NA	NA	<2 U	<2 U
METHANE	ug/L		NA	NA	NA	NA	NA	NA	<2 U	NA	NA	<2 U	2.41 J

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW10-021015 2/10/2015	67WW10-051215 5/12/2015	67WW10-111815 11/18/2015	67WW10-051816 5/18/2016	67WW11-060113 6/1/2013	67WW11-060113-FD 6/1/2013	67WW11-100213 10/2/2013	67WW11 FD-012314 1/23/2014	67WW11-012314 1/23/2014	67WW11-072414 7/24/2014	67WW11-120414 12/4/2014
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	<0.04 U	NA	NA	<0.04 U	<0.04 U

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW11-021115 2/11/2015	67WW11-051915 5/19/2015	67WW11-111915 11/19/2015	67WW11-051916 5/19/2016	67WW12-060113 6/1/2013	67WW12-100113 10/1/2013	67WW12-012414 1/24/2014	67WW12-050614 5/6/2014	67WW12-072514 7/25/2014	67WW12-120314 12/3/2014	67WW12-021015 2/10/2015
Water Quality Field Parameters													
Temperature	°C		18.42	19.2	18.49	18.29	27.34	22.99	15.69	20.51	22.61	19.09	19.7
pH	pH Units		6.04	5.49	5.61	5.87	6.71	6.31	6.22	5.39	6.36	6.06	5.32
Conductivity	mS/cm		4.8	4.47	4.89	5.19	4.4	4.54	4.12	4.56	4.52	5.21	3.37
Dissolved Oxygen	mg/L		0	0.69	0.18	0.74	0.57	0.66	0.62	0.8	0.21	0	0.17
Turbidity	NTU		4.7	105	25.9	1.2	2.7	0.3	0	5.2	10.8	0.5	2.1
Oxidation Reduction Potential	mV		165	246	183	169	175	-119	91	43	12	20	139
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		<1 U	NA	<1 U	<1 U	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		121	NA	113	74.8	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		12.9	NA	23.1	22.1	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 UJ	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	9.81	8.25	8.54	6.58	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	30.4	21.6	28.5	19.3	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<5 UJ	<2 UJ	<2 UJ	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	0.559 J	0.518 J	0.513 J	0.396 J	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 UJ	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW11-021115 2/11/2015	67WW11-051915 5/19/2015	67WW11-111915 11/19/2015	67WW11-051916 5/19/2016	67WW12-060113 6/1/2013	67WW12-100113 10/1/2013	67WW12-012414 1/24/2014	67WW12-050614 5/6/2014	67WW12-072514 7/25/2014	67WW12-120314 12/3/2014	67WW12-021015 2/10/2015
BROMOMETHANE	ug/L	34	<1 UJ	<1 U	<1 U	<1 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<2 UJ	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<1 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.299 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<1 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	0.333 J	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		1350	NA	1380	1430	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	<2 U	NA	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	<2 U	NA	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		389	NA	376	409	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		15	NA	13.7	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		<0.5 U	NA	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		<0.5 U	NA	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		<0.5 U	NA	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		<2 U	NA	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		<2 U	NA	<2 U	<2 U	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		1.78 J	NA	2.11 J	<2 U	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW11-021115 2/11/2015	67WW11-051915 5/19/2015	67WW11-111915 11/19/2015	67WW11-051916 5/19/2016	67WW12-060113 6/1/2013	67WW12-100113 10/1/2013	67WW12-012414 1/24/2014	67WW12-050614 5/6/2014	67WW12-072514 7/25/2014	67WW12-120314 12/3/2014	67WW12-021015 2/10/2015
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		<0.04 U	NA	<0.04 U	<0.04 U	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW12-051215 5/12/2015	67WW12-111815 11/18/2015	67WW12FD-111815 11/18/2015	67WW12-051816 5/18/2016	67WW13-053113 5/31/2013	67WW13-100113 10/1/2013	67WW13-012414 1/24/2014	67WW13FD-012414 1/24/2014	67WW13-050614 5/6/2014	67WW13FD-050614 5/6/2014	67WW13-072514 7/25/2014
Water Quality Field Parameters													
Temperature	°C		18.55	17.95	NA	18.41	34.55	21.97	15.8	NA	25.17	NA	25.2
pH	pH Units		5.41	5.21	NA	4.96	6.68	7.09	6.76	NA	5.86	NA	6.24
Conductivity	mS/cm		3.34	3.69	NA	4.06	5.55	6.65	6.87	NA	6.16	NA	6.83
Dissolved Oxygen	mg/L		1.23	0.05	NA	0.36	1.17	0.98	0.16	NA	2.03	NA	1.19
Turbidity	NTU		0	3.1	NA	5.7	0.2	0.3	0	NA	1.2	NA	0.2
Oxidation Reduction Potential	mV		54	178	NA	221	106	37	125	NA	122	NA	178
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA		NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<10 U	<0.4 U	<1 U	<1 U	<0.8 U	<0.8 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.58	3.37	2.99	3.01	1.99 J	1.95 J	3.48
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<0.25 U	<0.25 U	35.5	33.8	32.7	32.4	15.5	14.4	21.9
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	0.681 J	565 J	515	572	569	240	228	353
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<10 U	<0.3 U	<0.75 U	<0.75 U	<0.6 U	<0.6 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<10 U	<0.4 U	<1 U	<1 U	<0.8 U	<0.8 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<50 U	<2 UJ	<5 UJ	<5 UJ	<4 U	<4 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23.1	23.8	22.9	22.9	13.7	12.9	19.8
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<10 U	<0.4 U	<1 U	<1 U	<0.8 U	<0.8 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<10 U	<0.4 U	<1 U	<1 U	<0.8 U	<0.8 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 UJ	<1 UJ	<0.5 U
2-BUTANONE	ug/L	15000	<5 UJ	<5 U	<5 U	<5 U	<100 U	<5 U	<12.5 U	<12.5 U	<10 U	<10 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
2-HEXANONE	ug/L	120	<5 UJ	<5 U	<5 U	<5 U	<100 U	<5 U	<12.5 U	<12.5 U	<10 U	<10 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 UJ	<5 U	<5 U	<5 U	<100 U	<5 U	<12.5 U	<12.5 U	<10 U	<10 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<100 U	<5 U	<12.5 U	<12.5 U	<10 U	<10 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	1.21 J	0.79 J	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<10 U	<0.4 U	<1 U	<1 U	<0.8 U	<0.8 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW12-051215 5/12/2015	67WW12-111815 11/18/2015	67WW12FD-111815 11/18/2015	67WW12-051816 5/18/2016	67WW13-053113 5/31/2013	67WW13-100113 10/1/2013	67WW13-012414 1/24/2014	67WW13FD-012414 1/24/2014	67WW13-050614 5/6/2014	67WW13FD-050614 5/6/2014	67WW13-072514 7/25/2014
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 UJ	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.462 J	<0.25 UJ	<0.626 U	0.359 J	<0.5 U	<0.5 U	0.57 J
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.68	1.66	1.67 J	1.77 J	0.755 J	0.684 J	1.19
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<10 U	<0.4 U	<1 U	<1 U	<0.8 U	<0.8 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<10 U	<0.25 U	<0.626 U	<0.626 U	<0.5 U	<0.5 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U	<2.5 U	<2.5 U	<2 U	<2 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.11	2.81	2.86	2.99	1.25 J	1.27 J	1.72
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	2.55	2.1	2.37 J	2.37 J	0.644 J	0.619 J	0.707 J
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW12-051215 5/12/2015	67WW12-111815 11/18/2015	67WW12FD-111815 11/18/2015	67WW12-051816 5/18/2016	67WW13-053113 5/31/2013	67WW13-100113 10/1/2013	67WW13-012414 1/24/2014	67WW13FD-012414 1/24/2014	67WW13-050614 5/6/2014	67WW13FD-050614 5/6/2014	67WW13-072514 7/25/2014
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW13FD-072514 7/25/2014	67WW13-120414 12/4/2014	67WW13FD-120414 12/4/2014	67WW13-021115 2/11/2015	67WW13-032515 3/25/2015	67WW13-051915 5/19/2015	67WW13-111815 11/18/2015	67WW13-051916 5/19/2016	67WW14-100113 10/1/2013	67WW14-100113-FD 10/1/2013	67WW14-012414 1/24/2014
Water Quality Field Parameters													
Temperature	°C		NA	19.85	NA	16.69	NA	20.22	20.18	18.85	22.78	NA	18.42
pH	pH Units		NA	6.46	NA	7.16	NA	5.95	6.69	5.38	6.47	NA	6.52
Conductivity	mS/cm		NA	6.81	NA	6.08	NA	5.52	6.27	5.74	1.55	NA	1.53
Dissolved Oxygen	mg/L		NA	0.29	NA	1.73	NA	1.25	0.28	0.55	1.34	NA	0.67
Turbidity	NTU		NA	0	NA	0.2	NA	0	0	0	3.6	NA	15.5
Oxidation Reduction Potential	mV		NA	150	NA	145	NA	219	158	244	-60	NA	-37
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA		NA		NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	<1 U	<1 U	NA	<1 U	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	144	224	NA	71.9	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	16.8 J	62.4	NA	93.3	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<2 U	<2 U	<1 U	NA	<1 U	<1 U	<0.8 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	3.56	4.4 J	4.56 J	4.87	NA	5.96	7.66	7	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	22.1	28.8	27.4	29.1	NA	30.2	46.3	22.5	0.197 J	0.304 J	0.275 J
1,1-DICHLOROETHENE	ug/L	7	362	572	522	521	NA	522	762	274	1.82 J	2.22	2.58
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<1.5 U	<1.5 U	<0.75 U	NA	<0.75 U	<0.75 U	<0.6 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<2 U	<2 U	<1 U	NA	<1 U	<1 U	<0.8 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<10 U	<10 U	<5 U	NA	<5 U	<5 U	<4 U	<2 UJ	<2 UJ	<2 UJ
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	20.1	24.9	24.6	26	NA	30.6	42.6	35.7	0.692 J	0.849 J	0.666 J
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<2 U	<2 U	<1 U	NA	<1 U	<1 U	<0.8 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<2 U	<2 U	<1 U	NA	<1 U	<1 U	<0.8 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<25 U	<25 U	<12.5 U	NA	<12.5 U	<12.5 U	<10 U	9.06 J	7.47 J	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 UJ	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<25 U	<25 U	<12.5 U	NA	<12.5 U	<12.5 U	<10 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<25 U	<25 U	<12.5 U	NA	<12.5 U	<12.5 U	<10 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<25 U	<25 U	<12.5 U	NA	<12.5 U	<12.5 U	<10 U	3.27 J	2.59 J	<5 U
BENZENE	ug/L	5	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<2 U	<2 U	<1 U	NA	<1 U	<1 U	<0.8 U	<0.4 U	<0.4 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW13FD-072514 7/25/2014	67WW13-120414 12/4/2014	67WW13FD-120414 12/4/2014	67WW13-021115 2/11/2015	67WW13-032515 3/25/2015	67WW13-051915 5/19/2015	67WW13-111815 11/18/2015	67WW13-051916 5/19/2016	67WW14-100113 10/1/2013	67WW14-100113-FD 10/1/2013	67WW14-012414 1/24/2014
BROMOMETHANE	ug/L	34	<1 U	<5 U	<5 U	<2.5 UJ	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	0.55 J	0.813 J	0.848 J	1.32 J	NA	1.7 J	2.27 J	1.36 J	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	0.64 J	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	1.15	1.31 J	1.49 J	1.6 J	NA	2.08 J	2.75	1.55 J	<0.5 U	<0.5 U	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 UJ	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	2.88 J	2.9 J	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<2 U	<2 U	<1 U	NA	<1 U	<1 U	<0.8 U	<0.4 U	<0.4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	0.431 J	0.353 J	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<1.25 U	<1.25 U	<0.626 U	NA	<0.626 U	<0.626 U	<0.5 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<5 U	<5 U	<2.5 U	NA	<2.5 U	<2.5 U	<2 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	1.71	1.65 J	1.94 J	2.63	NA	2.91	3.32	1.67 J	<0.5 U	<0.5 U	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<2.5 U	<2.5 U	<1.25 U	NA	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	0.728 J	<2.5 U	<2.5 U	0.653 J	NA	0.695 J	1.65 J	<1 U	<0.5 U	<0.5 U	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	1820	1680	NA	1660	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	<2 U	<2 U	NA	<2 U	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	<2 U	3.4 J	NA	<2 U	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	334	344	NA	358	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	122	22.1	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	1.8	2.8	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	14.2	<0.5 U	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	1.3	0.6	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	<2 U	<2 U	NA	<2 U	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	<2 U	<2 U	NA	<2 U	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	<2 U	<2 U	NA	<2 U	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW13FD-072514 7/25/2014	67WW13-120414 12/4/2014	67WW13FD-120414 12/4/2014	67WW13-021115 2/11/2015	67WW13-032515 3/25/2015	67WW13-051915 5/19/2015	67WW13-111815 11/18/2015	67WW13-051916 5/19/2016	67WW14-100113 10/1/2013	67WW14-100113-FD 10/1/2013	67WW14-012414 1/24/2014
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	<0.04 U	<0.04 U	NA	<0.04 U	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW14-050714 5/7/2014	67WW14-072514 7/25/2014	67WW14-120314 12/3/2014	67WW14-021015 2/10/2015	67WW14FD-021015 2/10/2015	67WW14-051215 5/12/2015	67WW14FD-051215 5/12/2015	67WW14-111815 11/18/2015	67WW14-051816 5/18/2016	67WW15-051916 5/19/2016	67WW16-051816 5/18/2016
Water Quality Field Parameters													
Temperature	°C		19.86	25.56	20.74	15.24	NA	20.48	NA	21.67	19.84	18.7	18.98
pH	pH Units		5.67	5.34	6.34	6.79	NA	5.57	NA	6.58	5.36	5.58	4.99
Conductivity	mS/cm		1.68	1.66	1.52	1.51	NA	1.47	NA	2.25	0.021	2.45	1.53
Dissolved Oxygen	mg/L		1.17	0.12	0	0.63	NA	0.68	NA	0.52	1.04	1.5	0.37
Turbidity	NTU		24.8	17.3	8.1	7	NA	161	NA	6.5	172	6.8	8.7
Oxidation Reduction Potential	mV		-5	210	-8	-13	NA	158	NA	136	252	228	94
Sulfide (376.1)													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM4500-S-(-2)-F-2000													
SULFIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Inorganic and Organic Carbon (415.1)													
TOTAL INORGANIC CARBON (TIC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (TOC)	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260B)													
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<8 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25.7	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	0.538 J	0.58 J	0.451 J	0.434 J	0.369 J	0.418 J	0.427 J	3.7	2.15	57.3	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	4.27	3.57	4.73	3.46	3.61	2.77	2.93	26.3 J	10.8	2460	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<6 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<8 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	52.6 J	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<5 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	0.897 J	1.31	0.79 J	0.64 J	0.657 J	0.799 J	0.815 J	5.83	3.54	86.5	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<8 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<8 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.173 J	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<5 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 U	4 J	<5 U	<5 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	0.145 J	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<5 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<8 U	<0.4 U
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: / Sample Date:	Units	MCL/ PCL	67WW14-050714 5/7/2014	67WW14-072514 7/25/2014	67WW14-120314 12/3/2014	67WW14-021015 2/10/2015	67WW14FD-021015 2/10/2015	67WW14-051215 5/12/2015	67WW14FD-051215 5/12/2015	67WW14-111815 11/18/2015	67WW14-051816 5/18/2016	67WW15-051916 5/19/2016	67WW16-051816 5/18/2016
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	<1 U	<1 U	<1 UJ	<20 U	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 UJ	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<5 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	1.38	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	7.49	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 UJ	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	36.7	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	5.21 J	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<5 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.307 J	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<20 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.89	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.297 J	<0.5 U	1.07	<0.5 U
Anions (9056)													
CHLORIDE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRATE	mg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NITRITE	mg/L	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dechlorinating Bacteria (CENSUS)													
dehalococcoides ethenogenes	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tceA reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BAV1 vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
vinyl chloride reductase	CEQ/mL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)													
CARBON DIOXIDE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHENE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHANE	ug/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-2: Groundwater Results for Years 1, 2, and 3 - LHAAP-67

Location ID: Sample Date:	Units	MCL/ PCL	67WW14-050714 5/7/2014	67WW14-072514 7/25/2014	67WW14-120314 12/3/2014	67WW14-021015 2/10/2015	67WW14FD-021015 2/10/2015	67WW14-051215 5/12/2015	67WW14FD-051215 5/12/2015	67WW14-111815 11/18/2015	67WW14-051816 5/18/2016	67WW15-051916 5/19/2016	67WW16-051816 5/18/2016
Ferrous Iron (SM3500FE)													
FERROUS IRON	mg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Blue Highlighting Indicates Analyte Detected Above MCL/PCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

"FD" in Sample ID indicates a field duplicate sample.

CEQ/mL - cells equivalent per milliliter

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

mg/L - milligram per liter

NA - not analyzed

NR – not reportable due to sample being taken from bailer

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Analyte was not detected.

µg/L - microgram per liter

UJ - The analysis was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. 'UJ' not detects are not definite; the analyte may be present.

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW01-981208 12/8/1998	67WW01-040912 9/12/2004	67WW01-060806 8/6/2006	67WW01-061218 12/18/2006	67WW01-053113 5/31/2013	67WW01-050714 5/7/2014	67WW01-072514 7/25/2014	67WW01-120314 12/3/2014	67WW01-021015 2/10/2015	67WW01-051915 5/19/2015	67WW01-111915 11/19/2015	67WW01-032916 3/29/2016	67WW01-051916 5/19/2016
1,1,1-TRICHLOROETHANE	ug/L	200	560	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.25 U	<1.25 U	<0.5 U	<2.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	33	1 J	0.305 J	0.28 J	<1 U	<0.5 U	0.29 J	0.483 J	1.44	1.72 J	2.14 J	2.67	1.62 J
1,1-DICHLOROETHENE	ug/L	7	380	280 J	153	179	139	257	224	349	544	631	694	728	714
1,2-DICHLOROETHANE	ug/L	5	27	13	5.57 J	6.37	6.68	12.2	10.7	16.6	28.7	31.4	38.6	52.6	43.3
TRICHLOROETHENE	ug/L	5	6.3	6	5.38	5.99	2.96	3	2.3	3.36	4.07	3.03	2.84	4	3.28 J

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: Sample Date:	Units	MCL	67WW02-981208 12/8/1998	67WW02-981208FD 12/8/1998	67WW02-040912 9/12/2004	67WW02-060806 8/6/2006	67WW02-061218 12/18/2006	67WW02-053113 5/31/2013	67WW02-092713 9/27/2013	67WW02-012314 1/23/2014	67WW02-050614 5/6/2014	67WW02-072414 7/24/2014	67WW02-120314 12/3/2014	67WW02-021015 2/10/2015	67WW02-051215 5/12/2015
1,1,1-TRICHLOROETHANE	ug/L	200	100	100	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	6.4	5.9	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	2.4	<10 U	<5 U	<5 U	<5 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	3.59	13.2
1,2-DICHLOROETHANE	ug/L	5	<1 U	<10 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROETHENE	ug/L	5	<1 U	<10 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: Sample Date:	Units	MCL	67WW02FD-051215 5/12/2015	67WW02-111915 11/19/2015	67WW02-051916 5/19/2016	67WW02FD-051916 5/19/2016	67WW03-981208 12/8/1998	67WW03-040912 9/12/2004	67WW03-060809 8/9/2006	67WW03-061218 12/18/2006	67WW03-051215 5/12/2015	67WW03-032916 3/29/2016	67WW03-051916 5/19/2016	67WW04-001219 12/19/2000	67WW04-040912 9/12/2004
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1800	<5 U	<5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.1 U	<5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	24	<5 U	<5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.1 U	<5 U
1,1-DICHLOROETHENE	ug/L	7	13	0.857 J	67.6	66.3	36	<5 U	<5 U	<5 U	<1 U	<1 U	<1 U	<0.2 U	<5 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	0.377 J	0.321 J	<20 U	<5 U	<5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.1 U	<5 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<20 U	<5 U	<5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.1 U	1 J

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW05-001219 12/19/2000	67WW05-040912 9/12/2004	67WW05-060808 8/8/2006	67WW05-061217 12/17/2006	67WW05-053113 5/31/2013	67WW05-092813 9/28/2013	67WW05-012314 1/23/2014	67WW05-050614 5/6/2014	67WW05-072414 7/24/2014	67WW05-120314 12/3/2014	67WW05-021015 2/10/2015	67WW05-051215 5/12/2015	67WW05-111915 11/19/2015	67WW05-051916 5/19/2016
1,1,1-TRICHLOROETHANE	ug/L	200	<0.1 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.1 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	<0.2 U	<5 U	<5 U	<5 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-DICHLOROETHANE	ug/L	5	<0.1 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROETHENE	ug/L	5	<0.1 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW06-001219 12/19/2000	67WW06-001219FD 12/19/2000	67WW06-040912 9/12/2004	67WW06-060808 8/8/2006	67WW06-061218 12/18/2006	67WW06-100806 8/6/2010	67WW06-053113 5/31/2013	67WW06-053113-FD 5/31/2013	67WW06-092813 9/28/2013	67WW06-012414 1/24/2014	67WW07-001219 12/19/2000	67WW07-040912 9/12/2004	67WW07-060808 8/8/2006	67WW07-061218 12/18/2006
1,1,1-TRICHLOROETHANE	ug/L	200	<0.1 U	<0.1 U	<5 U	<5 U	<5 U	<1 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.1 U	<5 U	<5 U	<5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.1 U	<0.1 U	<5 U	<5 U	<5 U	<1 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.1 U	<5 U	<5 U	<5 U
1,1-DICHLOROETHENE	ug/L	7	<0.2 U	<0.2 U	<5 U	<5 U	<5 U	<1 U	<2 U	<2 U	<1 U	0.752 J	<0.2 U	<5 U	<5 U	<5 U
1,2-DICHLOROETHANE	ug/L	5	3.51	3.5	<5 U	3.02 J	1.62 J	2.39	2.25	2.2	1.77	2.03	2.28	<5 U	<5 U	1.65 J
TRICHLOROETHENE	ug/L	5	0.14	0.15	<5 U	<5 U	<5 U	<1 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.1 U	<5 U	<5 U	<5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW07-053113 5/31/2013	67WW07-092713 9/27/2013	67WW07-012314 1/23/2014	67WW07-050614 5/6/2014	67WW07-072514 7/25/2014	67WW07-120314 12/3/2014	67WW07-021015 2/10/2015	67WW07-051215 5/12/2015	67WW07-111915 11/19/2015	67WW07-051916 5/19/2016	67WW08-060313 6/3/2013	67WW08-100213 10/2/2013	67WW08-012314 1/23/2014	67WW08-050714 5/7/2014
1,1,1-TRICHLOROETHANE	ug/L	200	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<5 U	<2.5 U	<5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.25	5.08 J	6.7	5.01 J
1,1-DICHLOROETHENE	ug/L	7	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	940	1120	1340	1590
1,2-DICHLOROETHANE	ug/L	5	1.67	1.77	1.35	1.44	1.39	1.19	1.04	0.817 J	0.601 J	0.33 J	89.2	76.5	89.9	101
TRICHLOROETHENE	ug/L	5	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	2.86	<5 U	3.12 J	4.41 J

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW08-072414 7/24/2014	67WW08-120414 12/4/2014	67WW08-021115 2/11/2015	67WW08-051915 5/19/2015	67WW08-111915 11/19/2015	67WW08-051916 5/19/2016	67WW09-060113 6/3/2013	67WW09-092813 9/28/2013	67WW09-012414 1/24/2014	67WW09-072514 7/25/2014	67WW09-120414 12/4/2014	67WW09-021115 2/11/2015	67WW09FD-021115 2/11/2015	67WW09-051915 5/19/2015
1,1,1-TRICHLOROETHANE	ug/L	200	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	7.74 J	7.36 J	6.96 J	4.5 J	4.67 J	2.76 J	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	1890	2320	1930	1570	1710	1130	16.1	17.5	20.8	8.93	11.6	8.17	8.29	2.71
1,2-DICHLOROETHANE	ug/L	5	98.9	106	104	85.6	77.6	56.1	<1 U	0.414 J	0.347 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROETHENE	ug/L	5	3.14 J	3.55 J	3.15 J	<5 U	<5 U	<5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: Sample Date:	Units	MCL	67WW09-111815 11/18/2015	67WW09FD-111815 11/18/2015	67WW09-051816 5/18/2016	67WW09FD-051816 5/18/2016	67WW09A-092713 9/27/2013	67WW09A-092713-FD 9/27/2013	67WW09A-012314 1/23/2014	67WW09A-050614 5/6/2014	67WW09A-072414 7/24/2014	67WW09AFD-072414 7/24/2014	67WW09A-120314 12/3/2014	67WW09AFD-120314 12/3/2014	67WW09A-021015 2/10/2015	67WW09A-051215 5/12/2015
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	1.66 J	1.62 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW09A-111815 11/18/2015	67WW09A-051816 5/18/2016	67WW10-060113 6/1/2013	67WW10-092713 9/27/2013	67WW10-012414 1/24/2014	67WW10-050614 5/6/2014	67WW10-072414 7/24/2014	67WW10-120314 12/3/2014	67WW10-021015 2/10/2015	67WW10-051215 5/12/2015	67WW10-111815 11/18/2015	67WW10-051816 5/18/2016	67WW11-060113 6/1/2013	67WW11-060113-FD 6/1/2013
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	47.1	46.8
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.869 J	0.85 J
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<1 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW11-100213 10/2/2013	67WW11-012314 1/23/2014	67WW11 FD-012314 1/23/2014	67WW11-072414 7/24/2014	67WW11-120414 12/4/2014	67WW11-021115 2/11/2015	67WW11-051915 5/19/2015	67WW11-111915 11/19/2015	67WW11-051916 5/19/2016	67WW12-060113 6/1/2013	67WW12-100113 10/1/2013	67WW12-012414 1/24/2014	67WW12-050614 5/6/2014	67WW12-072514 7/25/2014
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	42.8	38.8	43	34.5	37.5	30.4	21.6	28.5	19.3	<2 U	<1 U	<1 U	<1 U	<1 U
1,2-DICHLOROETHANE	ug/L	5	0.799 J	0.748 J	0.823 J	0.684 J	0.567 J	0.559 J	0.518 J	0.513 J	0.396 J	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: Sample Date:	Units	MCL	67WW12-120314 12/3/2014	67WW12-021015 2/10/2015	67WW12-051215 5/12/2015	67WW12-111815 11/18/2015	67WW12FD-111815 11/18/2015	67WW12-051816 5/18/2016	67WW13-053113 5/31/2013	67WW13-100113 10/1/2013	67WW13-012414 1/24/2014	67WW13FD-012414 1/24/2014	67WW13-050614 5/6/2014	67WW13FD-050614 5/6/2014	67WW13-072514 7/25/2014	67WW13FD-072514 7/25/2014
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U	<1.25 U	<1.25 U	<1 U	<1 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.58	3.37	2.99	3.01	1.99 J	1.95 J	3.48	3.56
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 U	<1 U	<1 U	0.681 J	565 J	515	572	569	240	228	353	362
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	23.1	23.8	22.9	22.9	13.7	12.9	19.8	20.1
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	3.11	2.81	2.86	2.99	1.25 J	1.27 J	1.72	1.71

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: / Sample Date:	Units	MCL	67WW13-120414 12/4/2014	67WW13FD-120414 12/4/2014	67WW13-021115 2/11/2015	67WW13-051915 5/19/2015	67WW13-111815 11/18/2015	67WW13-051916 5/19/2016	67WW14-100113 10/1/2013	67WW14-100113-FD 10/1/2013	67WW14-012414 1/24/2014	67WW14-050714 5/7/2014	67WW14-072514 7/25/2014	67WW14-120314 12/3/2014	67WW14-021015 2/10/2015	67WW14FD-021015 2/10/2015
1,1,1-TRICHLOROETHANE	ug/L	200	<2.5 U	<2.5 U	<1.25 U	<1.25 U	<1.25 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	4.4 J	4.56 J	4.87	5.96	7.66	7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	572	522	521	522	762	274	1.82 J	2.22	2.58	4.27	3.57	4.73	3.46	3.61
1,2-DICHLOROETHANE	ug/L	5	24.9	24.6	26	30.6	42.6	35.7	0.692 J	0.849 J	0.666 J	0.897 J	1.31	0.79 J	0.64 J	0.657 J
TRICHLOROETHENE	ug/L	5	1.65 J	1.94 J	2.63	2.91	3.32	1.67 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-3: Historical Groundwater COC Concentrations - LHAAP-67

Sample ID: Sample Date:	Units	MCL	67WW14-051215 5/12/2015	67WW14FD-051215 5/12/2015	67WW14-111815 11/18/2015	67WW14-051816 5/18/2016	67WW15-051916 5/19/2016	67WW16-051816 5/18/2016
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<10 U	<0.5 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	25.7	<0.5 U
1,1-DICHLOROETHENE	ug/L	7	2.77	2.93	26.3 J	10.8	2460	<1 U
1,2-DICHLOROETHANE	ug/L	5	0.799 J	0.815 J	5.83	3.54	86.5	<0.5 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	6.89	<0.5 U

Blue Highlighting Indicates Analyte Detected Above MCL

J - Estimated value; analyte concentration was less than the limit of quantification

MCL - maximum contaminant level

U - Analyte was not detected.

µg/L - microgram per liter

Table 2-4: Well Maintenance Activities Year 3 RA(O) - LHAAP-67

Well ID	Date Inspected	Pads	Bollards	Protective Casings	Locks	Date Mowed	Photos	Comments
67WW01	11/18/15	Good	Good	Good	In Place	10/14/15	Yes	
	03/28/16						No	
	05/18/16						No	
67WW02	11/18/15	Good	Good	Good	In Place	10/14/15	Yes	
	05/18/16						No	
67WW03	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	03/28/16						No	
	05/18/16						No	
67WW04	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/16/16						No	
67WW05	11/18/15	Good	Good	Good	In Place	10/14/15	Yes	Painted on 9/1/15
	05/18/16						No	
67WW06	11/18/15	Good	Good	Good	In Place	10/14/15	Yes	
	05/18/16						No	
67WW07	11/18/15	Good	Good	Good	In Place	10/14/15	Yes	
	05/18/16						No	
67WW08	11/19/15	Good	Good	Good	In Place	10/14/15	Yes	
	05/19/16						No	
67WW09	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/18/16						No	
67WW09A	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/18/16						No	
67WW10	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/18/16						No	
67WW11	11/19/15	Good	Good	Good	In Place	10/14/15	Yes	
	05/19/16						No	
67WW12	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/18/16						No	
67WW13	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/19/16						No	
67WW14	11/18/15	Good	Good	Good	In Place	10/14/15	No	
	05/18/16						No	
67WW15	05/19/16	Good	Good	Good	In Place	4/6/16	No	Labeled new well on 5/9/16.
67WW16I	05/18/16	Good	Good	Good	In Place	4/6/16	No	Labeled new well on 5/9/16.

3 NATURAL ATTENUTION EVALUTION

The following sections present the results of the natural attenuation evaluation in accordance with the three lines of evidence discussed in the Final RD (Shaw, 2011) for site COCs.

3.1 First Line of Evidence: Change in COC Concentrations over Time and with Distance

Natural attenuation is the combination of multiple mechanisms, including biodegradation, volatilization, dilution, advection, and absorption that reduce contaminant concentrations. The decrease of COC concentrations over time and distance is evidence of natural attenuation. The change in groundwater COC concentrations over time and with distance was evaluated at LHAAP-67. COC concentrations for the November 2015, March 2016, and May 2016 sampling events are provided on **Figures 2-6 through 2-8** as well as **Tables 2-2 and 2-3**. COCs exceeding their respective MCLs are highlighted.

During the 3rd year RA(O) monitoring period, the following monitoring wells contained COCs above their respective MCLs: 67WW01, 67WW02, 67WW08, 67WW11, 67WW13, 67WW14, and 67WW15. Groundwater samples from the other wells in the monitoring program did not contain COCs above the MCL in any of the three sampling events. Based on the general direction of groundwater flow, monitoring wells 67WW04, 67WW09A, and 67WW10 are considered upgradient background monitoring wells and monitoring wells 67WW12, 67WW02, and 67WW05 can be considered downgradient monitoring wells. In-plume monitoring wells include 67WW01, 67WW08, 67WW09, 67WW11, 67WW13, 67WW15, and 67WW16. Monitoring wells 67WW07 and 67WW14 are considered cross-gradient wells. The following discussion is focused on VOC trends observed in the seven monitoring wells with COC concentrations above the MCL: 67WW01, 67WW02, 67WW08, 67WW11, 67WW13, 67WW14, and 67WW15.

Mann-Kendall analysis for the data collected during the 3rd year RA(O) monitoring period was completed for 1,1-DCE, 1,2-DCA, and TCE. The results are presented in **Appendix E** in graphical format with statistical results presented on the right hand side. The USEPA's ProUCL version 5.1 was used for this analysis. As required by the program, the dates are displayed in numerical format rather than in a date format. The concentrations of COCs are presented in micrograms per liter (µg/L). Half the reporting limit was used for non-detects. For duplicate samples, the average concentration in the normal sample and its duplicate was used. The level of significance is 5 percent (%). A summary table of the Mann-Kendall results is as follows:

Mann-Kendall Trend Summary

Monitoring Well	1,1-DCE	1,2-DCA	TCE
67WW01	**Significant Increase**	**Significant Increase**	No significant trend
67WW02	No significant trend	No significant trend	No significant trend
67WW08	No significant trend	No significant trend	No significant trend
67WW09	**Significant Decrease**	**Significant Decrease**	No significant trend
67WW11	**Significant Decrease**	**Significant Decrease**	No significant trend
67WW13	No significant trend	**Significant Increase**	No significant trend

Historical COC results for all wells are present in **Table 2-3**.

Significant Increases

Mann-Kendall analysis identified statistically significant evidence of increasing trends for the following:

- Monitoring well 67WW01 – 1,1-DCE and 1,2-DCA. 1,1,1-TCA and 1,1,2-TCA were detected above the MCL at 67WW01 in 1998; however, these constituents have remained below the MCL since that sampling event. As the degradation of 1,1,1-TCA and 1,1,2-TCA occurs, an increase in concentrations of their degradation daughter products 1,1-DCE and 1,2-DCA is anticipated. In addition to degradation of 1,1,1-TCA and 1,1,2-TCA, the increase in 1,1-DCE and 1,2-DCA at monitoring well 67WW01 may be due to downgradient flow of high concentrations of these COCs in upgradient groundwater in the vicinity of well 67WW08.
- Monitoring well 67WW13 – 1,2-DCA. Over the three year RA(O) period, 1,2-DCA concentrations at 67WW13 have increased over time and correlate with an increase in 1,1,2-TCA concentrations observed at this well. The increase in concentrations may be due to transport of these constituents observed in upgradient groundwater at monitoring well 67WW01 dating back to 1998.

Although no significant trends were identified for monitoring well 67WW02, 1,1-DCE concentrations at this well were observed to be higher than typical in May 2016. Historically, 1,1-DCE was not detected above the reporting limit (<1 µg/L) until February 2015. The initial detection in February 2015 of 3.59 µg/L was below the MCL; however, in May 2015, 1,1-DCE was detected above the MCL with a concentration of 13.2 µg/L. In November 2015, the 1,1-DCE concentration (0.857 J µg/L) decreased to below the MCL and then increased above the MCL once again with a concentration of 67.6 µg/L in May 2016. The concentration detected in May 2016 is the highest concentration of 1,1-DCE detected at this monitoring well to date.

In addition to the higher than typical 1,1-DCE concentration detected at monitoring well 67WW02, initial MCL exceedances were identified at monitoring well 67WW14 during the 3rd year RA(O) sampling events in November 2015 (1,1,-DCE and 1,2-DCA) and May 2016 (1,1-

DCE); however, Mann-Kendall analysis was not performed for 67WW14 since these are first time MCL exceedances. As previously noted, monitoring well 67WW14 is a cross-gradient well located in the southwest quadrant. Groundwater has been sampled at 67WW14 for three years and indicates that 1,1-DCE and 1,2-DCA are the only COCs detected above the reporting limit. Although considered to be cross-gradient, groundwater in the vicinity of monitoring well 67WW14 may be influenced by groundwater from the northeast, near new monitoring well 67WW15, which had much higher concentrations of 1,1,-DCE and 1,2,-DCA during the May 2016 sampling event. Monitoring well 67WW15 was installed in May 2016 and only has one round of sample data. Both monitoring wells 67WW15 and 67WW14 will continue to be sampled to evaluate trends and the potential for monitoring well 67WW14 to be impacted by cross-gradient groundwater.

Mann-Kendall analysis was not performed on monitoring well 67WW15 since this well was installed in May 2016 and only one round of groundwater sampling has been performed to date; however, concentrations of 1,1,2-TCA, 1,1-DCE, 1,2-DCA, and TCE exceeded the MCL and COC concentrations at this new well are higher than current concentrations at all other site wells.

Significant Decreases

Mann-Kendall analysis identified statistically significant evidence of decreasing trends for the following:

- Monitoring well 67WW09 – 1,1-DCE and 1,2-DCA. These decreasing trends may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater observed in 67WW09A). Monitoring well 67WW09A was installed south-southeast of monitoring well 67WW09 to bound the plume to the south and in the upgradient direction. VOC results in monitoring well 67WW09A have remained below the MCLs. Results from future sampling events will continue to be evaluated for COC concentration trends.
- Monitoring well 67WW11 – 1,1-DCE and 1,2-DCA. Similar to the decreasing trends observed for these constituents in monitoring well 67WW09, the decreasing trends observed in monitoring well 67WW11 may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater observed in 67WW09A). Results from future sampling events will continue to be evaluated for COC concentration trends.

3.1.1 Plume Stability

COC plume maps completed for each sampling event are presented in **Figures 2-5 and 2-7** (plume contours were not drawn on **Figure 2-6** since only two monitoring wells were sampled in March 2016). The COC data from the 3rd year RA(O) monitoring period, combined with the COC data from the previous 2nd year RA(O) monitoring period indicated seasonal plume migration to the north/northwest and a shift in the plume to the west (specifically noting first time MCL exceedances in the 3rd year RA(O) monitoring period for 1,1-DCE and 1,2-DCA at monitoring well 67WW14 located in the southwestern quadrant), compared to previous periods. This shift is consistent with the groundwater flow direction to the north/northwest. Based on the general direction of groundwater flow, the following wells are considered to be along the groundwater flow path: 67WW01, 67WW02, 67WW05, 67WW08, 67WW10, 67WW11, 67WW13, 67WW14, and 67WW15.

The COCs in upgradient monitoring well 67WW10, installed in 2013, have remained below the MCLs throughout the 3 year monitoring period. In-plume monitoring well 67WW11, which is the farthest upgradient in-plume monitoring well, exhibited a significant decreasing trend for 1,1-DCE and 1,2-DCA, which may be due to natural attenuation associated with a dilution effect from clean groundwater flowing downgradient from upgradient areas. New in-plume monitoring well 67WW15 (installed in May 2016) exhibits the highest levels of COCs observed to date. Prior to the installation of monitoring well 67WW15, the highest COC concentrations were consistently observed at monitoring well 67WW08. The screen intervals on both of these wells are deeper than the screen intervals of the other Shallow Zone monitoring wells at the site. The May 2016 COC results could indicate a shift in the center of the plume to the west; however, with only one sample from monitoring well 67WW15, it is too early to draw that conclusion.

Monitoring well 67WW05, downgradient of monitoring well 67WW15, was non-detect for the site COCs; therefore, monitoring well 67WW05 defines the downgradient extent of COCs at 67WW15. Monitoring well 67WW01 is typically considered a downgradient well for monitoring well 67WW08. COC concentrations at monitoring well 67WW01 are lower for 1,1,2-TCA, 1,1-DCE, and 1,2-DCA than in monitoring well 67WW08, which is expected with increase distance from the center of the plume. Concentrations of 1,1-DCE and 1,2-DCA at monitoring well 67WW01 exhibit a statistically significant increase over the three year RA(O) period which may be related to transport of COCs from the upgradient area in the vicinity of monitoring well 67WW08. Vinyl chloride concentrations at 67WW01 continue to exceed the MCL of 2 µg/L with concentrations of 2.38 J µg/L (November 2015), 3.64 µg/L (March 2016), and 2.98 J µg/L (May 2016) during the 3rd year RA(O) monitoring period.

Monitoring well 67WW13, located downgradient from monitoring well 67WW01, exhibited a statistically significant increase for 1,2-DCA during the three year RA(O) period. However, 1,1-DCE concentrations decreased substantially between the November 2015 (762 µg/L) and May 2016 (272 µg/L) sampling events. Additionally, vinyl chloride concentrations at 67WW13 have remained less than the MCL since May 2014. Similar to monitoring well 67WW15, monitoring well 67WW13 remains bounded by downgradient monitoring well 67WW05, where COCs have not been detected above MCLs.

At boundary well 67WW02, 1,1-DCE, which was initially not detected above the reporting limit since 1998, began having reportable detections in February 2015 (3.59 µg/L), and then increased to concentrations above the MCL in May 2015 (13.0 µg/L) and May 2016 (67.6 µg/L). However, the 1,1-DCE concentration in November 2015 (0.857 J µg/L), at which time 67WW02 was located on a potentiometric surface high, did not exceed the MCL. This may represent a plume shift towards monitoring well 67WW02 when groundwater flow is directed towards monitoring well 67WW02 from in-plume monitoring wells 67WW01 and 67WW08. Future sampling events will continue to evaluate plume migration towards monitoring well 67WW02.

Monitoring wells 67WW03 and 67WW12 are considered downgradient from the area of monitoring wells 67WW06 and 67WW07. The downgradient monitoring well 67WW03 (located in close proximity to 67WW12) was dry in the first of the three sampling events during the 3rd year RA(O) monitoring period. In the second event (March 2016) and third event (May 2016), this well had no detections of COCs. Prior to March 2016, the well also had no detections of COCs in 2004 and 2006. The high concentrations of 1,1,1-TCA, 1,1,2-TCA, and 1,1-DCE reported in this well in December 1998 appeared to have attenuated before September 2004 and

remain below detection. Similarly, COCs at monitoring well 67WW12, installed to replace the dry monitoring well 67WW03, have not been detected above the reporting limit, except for 1,1-DCE which was detected just slightly above the reporting limit with an estimated ("J" flagged) value of 0.681 J µg/L in May 2016. This concentration is well below the MCL of 7 µg/L established for 1,1-DCE.

No increasing COC concentrations or new detections were observed at perimeter wells 67WW05, 67WW07, 67WW09A, and 67WW10 over the three year RA(O) period. These monitoring wells continue to delineate the plume below MCLs to northwest (67WW05), south (67WW09A), southeast (67WW10), and east (67WW07).

As detailed above, a plume shift may be occurring at both perimeter wells 67WW14 (southwest) and 67WW02 (north) and will continue to be evaluated during future sampling events. If 67WW02 COC concentrations remain above the MCL, a new downgradient monitoring well outside the MCL boundary would be needed in the future to provide a downgradient compliance well/sentry point. Also, an additional well downgradient of 67WW13, 67WW14, and 67WW15 (between 67WW05 and 67WW15) may be necessary to monitor plume migration and attenuation. If the plume continues to also shift west, as demonstrated by increased concentrations at 67WW14, installation of a monitoring well west of 67WW14 may be needed to confirm the plume is not migrating beyond the monitoring well network at levels exceeding MCLs.

A review of the data in individual wells over the course of the monitoring period does not indicate any definitive correlation between groundwater elevations and COC concentrations as depicted in **Figure 2-8**.

3.2 Second Line of Evidence: Geochemical Indicators

Table 2-2 presents geochemical indicators that are useful MNA evaluation parameters. Some geochemical indicators are collected in the field and are recorded for all sampling events for all wells. The field parameters for LHAAP-67 wells include: dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, conductivity, turbidity, ferrous iron, and temperature. DO measurements collected from bailed wells were not included in **Table 2-2** in accordance with the revised IWWP (AECOM, 2014).

DO

DO is the most thermodynamically favored electron acceptor used by microbes for biodegradation of organic carbon, whether natural or anthropogenic (USEPA, 1998). Anaerobic bacteria generally cannot function at DO concentrations greater than about 0.5 milligrams per liter (mg/L) and hence, reductive dechlorination will not occur.

Monitoring wells 67WW01, 67WW02, 67WW03, 67WW05, and 67WW07, all very shallow wells, were sampled by bailing, so the DO concentrations in these wells are not included in **Table 2-2** in accordance with the revised IWWP (AECOM, 2014).

In monitoring wells 67WW08, 67WW13, and 67WW15, where COC concentrations are greater than the MCL, the DO concentrations ranged from 0 mg/L (67WW08, multiple events) to 2.03 mg/L (67WW13, May 2014). Specifically during the 3rd year RA(O) monitoring period, DO measurements in monitoring wells 67WW08 and 67WW13 were 0.44 mg/L and 0.28 mg/L,

respectively in November 2015, and 0.82 mg/L and 0.55 mg/L, respectively in May 2016. The DO measurement collected at new monitoring well 67WW15 in May 26 was 1.5 mg/L.

The low DO levels (<0.5 mg/L) measured in both monitoring wells 67WW08 and 67WW13 are noted to be beneficial for reductive chlorination; however, DO measurements for all three monitoring wells in May 2016 are observed to be greater than 0.5 mg/L.

ORP

The ORP levels indicate how oxidative or reductive the groundwater is in the aquifer matrix and provide real-time data to determine if conditions are conducive for anaerobic biodegradation. ORP values less than 50 milli-volts (mV) indicate that the aquifer is reaching anaerobic conditions and are favorable for the biological reductive dechlorination of chlorinated ethenes and ethanes.

The ORP measurements at LHAAP-67 during the 2014/2015 monitoring period had generally been negative in the most highly contaminated well (67WW08) ranging between -16 mV (May 2015) to 45 mV (February 2015). However, during the 3rd year RA(O) monitoring period, the ORP measurements have generally been positive in all of the wells. Specifically in monitoring wells 67WW08, 67WW13, and 67WW15, all ORP values have been greater than 50 mV, ranging from 113 mV (67WW08, November 2015) to 244 (67WW13, May 2016). These measurements indicate a higher level of oxidative conditions, not supporting reductive dechlorination and could, at least in part, reflect the influence of rising groundwater levels.

Nitrite

After DO has been depleted in the microbiological treatment zone, nitrate may be used as an electron acceptor for anaerobic biodegradation of organic carbon via denitrification. In order for reductive dechlorination to occur, nitrate concentrations in the contaminated portion of the aquifer must be less than 1.0 mg/L (USEPA, 1998).

Nitrate was sampled in monitoring wells 67WW08 and 67WW11 in November 2015 and May 2016 and in monitoring well 67WW13 in May 2016. The nitrate concentrations were not detected at the limit of detection (LOD) of 2 mg/L in any of the samples. Therefore, nitrate reduction is likely not a mode of microbial respiration at the site, and the lack of nitrate is favorable for achieving the highly reducing conditions ideal for anaerobic reductive dechlorination.

Iron Reduction

In some cases, iron (III) (ferric iron) is used as an electron acceptor during anaerobic biodegradation of organic carbon. During this process, iron (III) is reduced to iron (II) (ferrous iron), which may be soluble in water. Ferrous iron concentrations can therefore be used as an indicator of anaerobic degradation of fuel compounds.

Ferrous iron concentrations were measured in monitoring wells 67WW08 and 67WW11 in November 2015 and May 2016 and in monitoring well 67WW13 in May 2016. Ferrous iron was not detected (<0.04 mg/L) in monitoring wells 67WW11 and 67WW13; however, it was detected in monitoring well 67WW08 with concentrations of 0.0931 mg/L and 0.0585 mg/L, respectively. Based on these results, current ferrous iron concentrations indicate that limited reductive dechlorination is occurring.

Sulfate

After DO and nitrate have been depleted in the microbiological treatment zone, sulfate may be used as an electron acceptor for anaerobic biodegradation. This process is termed "sulfate reduction" and results in the production of sulfide. Concentrations of sulfate greater than 20 mg/L may cause competitive exclusion of dechlorination. However, in many plumes with high concentrations of sulfate, reductive dechlorination still occurs (USEPA, 1998).

Sulfate was sampled in monitoring wells 67WW08 and 67WW11 in November 2015 and May 2016 and in monitoring well 67WW13 in May 2016. Sulfate concentrations ranged from 300 mg/L (67WW08, November 2015) to 409 mg/L (67WW11, May 2016). Relatively high concentrations of sulfate and corresponding sulfide concentrations below the laboratory reporting limit of 1 mg/L indicate that the conditions in the aquifer are not conducive for sulfate reduction.

Methane

Methanogenesis occurs in highly reducing conditions and generally occurs after oxygen, nitrate, and sulfate have been depleted. Methane levels above 500 µg/L are considered indicative of methanogenic conditions (USEPA, 1998).

Methane was sampled in monitoring wells 67WW08 and 67WW11 in November 2015 and May 2016 and in monitoring well 67WW13 in May 2016. Methane concentrations were all less than 20 µg/L, ranging from non-detect (<2 µg/L) (67WW11 and 67WW13, May 2016) to 12.1 µg/L (67WW08, November 2015). Based on these results, methanogenic conditions are not occurring in groundwater.

Total Organic Carbon

Regardless of the electron acceptor being used, organic carbon is a required source of reduced carbon and energy to sustain microbial activity. Total organic carbon (TOC) is utilized as a carbon and energy source to support the reductive dechlorination of the chlorinated COCs. TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity (USEPA, 1998).

TOC was analyzed in monitoring wells 67WW08 and 67WW11 in November 2015 and May 2016, and in monitoring well 67WW13 in May 2016. TOC was above 20 mg/L, ranging from 22.1 mg/L (67WW11, May 2016) to 93.3 mg/L (67WW13, May 2016). Based on these results, TOC may be assisting reductive dechlorination.

pH

The pH of groundwater has an effect on the presence and activity of microbial populations in groundwater. This is especially true for bacteria responsible for reductive dechlorination. Microbes capable of degrading chlorinated aliphatic hydrocarbons and petroleum hydrocarbon compounds generally prefer pH values from 6 to 8 standard units (USEPA, 1998). The shallow zone groundwater pH within the plume (67WW01, 67WW08, 67WW11, 67WW13, and 67WW15) during the three year RA(O) period ranged from 5.38 standard units (SU) (67WW13, May 2016) to 6.69 SU (67WW13, November 2015), with a pH geomean value of 5.90 SU among these wells, using pH values collected in November 2015, March 2016 (67WW01 only), and May 2016. The conditions in these wells are marginal for dechlorinating bacteria.

Ethane

Ethane and ethene, the two end products of the reductive dechlorination pathways for chlorinated ethanes and ethenes, were below the laboratory reporting limit (<2 µg/L) in monitoring wells analyzed for MNA parameters in November 2015 (67WW08 and 67WW11) and May 2016 (67WW08, 67WW11, and 67WW13). This indicates that complete dechlorination is not taking place.

MNA Parameter Summary

The qualitative assessment of geochemical indicators during the three year RA(O) period in the shallow groundwater zone at LHAAP-67 indicates current geochemical conditions are not optimal for MNA. Nonetheless, certain parameters observed in a few locations may indicate that conditions could favor natural attenuation, such as the low DO concentrations observed in November 2015. The presence of dissolved iron in 67WW08 also provides evidence that limited reducing anaerobic conditions are present. Although degradation products (1,2-DCA and 1,1-DCE) have been detected in the plume monitoring wells, adequate conditions within the impacted area currently do not exist to sustain complete reductive dechlorination.

3.3 Third Line of Evidence: Predictive Modeling and Microbial Analysis

If the first two lines of evidence for MNA are deemed inadequate or inconclusive, and/or if the need for a contingency remedy is evaluated, data from field or microcosm studies will be necessary to establish the third line of evidence for MNA.

Dechlorinating bacteria, dehalococcoides ethenogenes and its associated functional genes, were analyzed at in-plume wells 67WW08 and 67WW11 in November 2015. Generally, the microbial population count and the functional gene counts were very low (less than 100 cells equivalent per milliliter [CEQ/mL]) and in most cases below the laboratory reporting limits, indicating limited population count of the bacteria and absence of gene expression necessary for anaerobic biological degradation of the COCs. Dehalococcoides ethenogenes were measured to be 9.3 CEQ/mL and 13.7 CEQ/mL for wells 67WW08 and 67WW11, respectively. All of the functional reductase genes were non-detect (<0.5 CEQ/mL) in both wells.

As previously noted in Section 3.1, of the analyzed parameters and wells using Mann-Kendall analysis, the following data sets showed a statistically significant decrease in concentration over time:

- 67WW09 – 1,1-DCE and 1,2-DCA; and
- 67WW11 – 1,1-DCE and 1,2-DCA;

During the 3rd year RA(O) November 2015 and May 2016 semiannual sampling events, all COCs with a statistically significant decreasing trend were detected at concentrations below MCLs, except for 1,1-DCE at 67WW11, which remains above the MCL.

For 1,1-DCE in 67WW11, the first order rate constant was estimated at 0.3 yr^{-1} and the time to achieve the MCL of 7 µg/L is estimated at 3.4 years. Degradation of COCs in other wells is not occurring to allow a determination of time to achieve the MCL (i.e., predictive modeling by assuming some degree of degradation and degradation half-lives is not meaningful for this plume). First order rate constant calculations are provided in **Appendix F**.

4 SUMMARY AND CONCLUSIONS

The LUC for LHAAP-67 is groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing; and residential groundwater use within the LUC boundary until the levels of COCs in groundwater and soil allow unrestricted use and unlimited exposure. The annual LUC compliance inspection for the Year 3 RA(O) was conducted on August 1, 2016. No non-compliance issues or concerns were identified during the annual inspection and site monitoring wells were in good condition. No change in land use or groundwater use has occurred at the site during the entire 3-year RA(O) monitoring period.

No damage to bollards, pads, or protective casings requiring repairs or replacement was observed during annual inspection for Year 3 of RA(O) and wells were deemed to be in good condition. Minimal encroachment of weeds and/or brush on the well pads was observed. Mowing and brush clearing around the well pads was conducted as needed to maintain access to the wells.

VOC data and geochemical indicators were collected over the course of the monitoring period at LHAAP-67 to evaluate effectiveness of MNA as a site remedy. A tiered approach assessing the first two of three lines of evidence was used to evaluate the occurrence of natural attenuation in site groundwater. The first line of evidence evaluated reductions in COC concentrations over time and with distance, the second line of evidence evaluated geochemical indicators, while the third line of evidence evaluated microbial conditions in the aquifer and assessed the time to achieve the MCL for wells that showed significant decreases in COC concentration using the Mann-Kendall test for trends. The results of the tiered evaluation and the conclusions are summarized below.

An assessment of the first line of evidence indicated seasonal plume migration to the north/northwest towards monitoring well 67WW02, having initial MCL exceedances for 1,1-DCE in May 2015 and May 2016 (but no MCL exceedances in November 2015). The assessment also suggested a shift in the plume to the west (specifically noting first time MCL exceedances in year 3 for 1,1-DCE and 1,2-DCA at monitoring well 67WW14, located in the southwestern quadrant), compared to previous periods. This shift is in line with an observed change in groundwater flow direction to the north/northwest. Based on RA(O) Year 3 groundwater level measurements, the groundwater flow direction at LHAAP-67 was generally to the north/northwest. In RA(O) Year 1, the groundwater flow direction was interpreted to be mainly to the north/northeast. Groundwater elevations generally increased across the site in Year 2 and Year 3 as a result of increased precipitation, and the change in groundwater flow direction from Year 1 to Years 2 and 3 of RA(O) may be attributable to the changes (increases) in groundwater elevations. Future sampling events will continue to evaluate plume stability or expansion.

In-plume well 67WW15, recently installed in May 2016, exhibited the highest levels of COCs during the 3rd year RA(O) monitoring period; however, since installation, only one round of groundwater sampling has been performed. Prior to the installation of monitoring well 67WW15, the highest COC concentrations were consistently observed at monitoring well 67WW08. It is noteworthy that 67WW08 is screened across a depth interval similar to that of 67WW15, both being deeper than the other monitoring wells at LHAAP-67. COC concentrations at monitoring well 67WW08 generally remained stable during the 3rd year RA(O)

monitoring period. No statistically significant increasing or decreasing trends were identified for this monitoring well.

Statistically significant increases were identified for 1,1-DCE and 1,2-DCA at monitoring well 67WW01, and 1,2-DCA at monitoring well 67WW13. Both wells are located downgradient of monitoring well 67WW08 and the increases may be due to the migration of concentrations of these COCs in groundwater from the vicinity of monitoring well 67WW08. Additionally, increases in 1,1-DCE and 1,2-DCA at monitoring well 67WW01 may be due to the degradation of 1,1,1-TCA and 1,1,2-TCA observed at this well since 1998.

Statistically significant decreases were identified for 1,1-DCE and 1,2-DCA at both monitoring wells 67WW09 and 67WW11 located on the south side of the plume. The decreasing trends observed at monitoring wells 67WW09 and 67WW11 may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater).

Future sampling events will continue to evaluate trends in COC concentrations as part of the first line of evidence assessment. If 67WW02 COC concentrations remain above the MCL, a new downgradient monitoring well outside the MCL boundary would be needed in the future to provide a downgradient compliance well/sentry point. Also, an additional well downgradient of 67WW13, 67WW14, and 67WW15 (between 67WW05 and 67WW15) may be necessary to monitor plume migration and attenuation. If the plume continues to also shift west, as demonstrated by increased concentrations at 67WW14, installation of a monitoring well west of 67WW14 may be needed to confirm the plume is not migrating beyond the monitoring well network at levels exceeding MCLs.

The qualitative assessment of geochemical indicators performed as the second line of evidence, and the absence of dechlorinating bacteria in the shallow groundwater zone at LHAAP-67 indicate current geochemical conditions are not optimal for MNA. Although, degradation products (1,2-DCA and 1,1-DCE) have been detected in the plume monitoring wells, adequate conditions within the impacted area currently do not exist to sustain complete reductive dechlorination.

An assessment of the third line of evidence was performed on 1,1-DCE at monitoring well 67WW11, as this is the only monitoring well and COC detected above the MCL with a statistically significant decreasing trend in concentrations in the 3rd year RA(O). The first order rate constant was estimated at 0.3 yr^{-1}. From this information, the time to achieve the MCL in this well was estimated at 3.4 years. The primary mechanism for the decrease in concentration in monitoring well 67WW11 is dilution.

After completion of the 3-year RA(O) monitoring period, groundwater monitoring on a semiannual basis will continue to be performed at LHAAP-67 in compliance with the RAWP (AECOM, 2013).

5 REFERENCES

AECOM, 2013, *Final Remedial Action Work Plan for LHAAP-67, Aboveground Storage Tank Farm,* Longhorn Army Ammunition Plant, Karnack, Texas, March.

AECOM, 2014, *Final Installation-Wide Work Plan* for Longhorn Army Ammunition Plant, Karnack, Texas, July.

AECOM, 2015, *Draft Final Remedial Action Completion Report, LHAAP-67, Aboveground Storage Tank Farm*, Longhorn Army Ammunition Plant, Karnack Texas, January.

AECOM, 2016, *Final Remedial Action Completion Report LHAAP-67, Aboveground Storage Tank Farm,* Longhorn Army Ammunition Plant, Karnack, Texas, July.

Shaw, 2011, *Final Remedial Design, LHAAP-35B (37), Chemical Laboratory and LHAAP-67, Above Ground Storage Tank Farm*, Longhorn Army Ammunition Plant, Karnack, Texas, August.

USACE, 2010, *Final Record of Decision, LHAAP-35B (37), Chemical Laboratory and LHAAP-67, Above Ground Storage Tank Farm*, Longhorn Army Ammunition Plant, Karnack, Texas, June.

USEPA, 1998, *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water,* USEPA/600/R-98/128, September.

APPENDIX A: ANNUAL LUC COMPLIANCE CERTIFICATION DOCUMENTATION

Annual Land Use Control Compliance Certification Documentation

In accordance with the Remedial Design dated September 2011 for LHAAP-67 a certification of site was conducted by AECOM Technical Services, Inc. on 8/1/16.

A summary of land use control mechanism is as follows:

- Groundwater restriction – restriction of the use of groundwater to environmental monitoring and testing until cleanup levels are met.

A summary of compliance with land use and restriction covenants is as follows:

- No use of groundwater, installation of new groundwater wells, or tampering with existing wells at LHAAP-67.

I, the undersigned, do document that the certification was performed as indicated above, and that the above information is true and correct to the best of my knowledge, information, and belief

Date: 8/1/16

Name/Title: Scott Beesinger / Senior Technician

Signature: Scott Beesinger

APPENDIX B: PHOTO LOG

Well ID: 67WW01 (November 2015)	
Well ID: 67WW02 (November 2015)	

Well ID: 67WW05 (November 2015)	
Well ID: 67WW06 (November 2015)	

Well ID: 67WW07 (November 2015)	
Well ID: 67WW08 (November 2015)	

Well ID: 67WW11 (November 2015)	

APPENDIX C: MONITORING WELL SAMPLING FORMS

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67			LocID: 67WW01				Date: 11/18/15					
	Project: Longhorn Army Ammunition Plant			Project No. 60256135.0002JA				Recorded By: Scott Beesinger		Checked By:			
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52			Water Interface Probe:		Water Level Indicator: Solinst ID#: 101		Min Recharge Level = (TD-DTW(0.80)) - TD					
	Unit # 21202			Sampling Equipment: Bailer			ID#:						
WELL INFO	Casing I.D. (in): 4"			Static Water Level Reading (ft) from TOC: 26.17				Weather Conditions: CLEAR					
	Total Well Depth (ft) from TOC: 27.01			Screen Intverval (ft) from TOC: 17.01 - 27.01				Condition of Well/Remarks: GOOD					
				Pump Placement (ft) from TOC: NA									
CASING INFO	Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0	
	Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6	

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1521	26.95	NA							Bailing well
11/18/15	1530	26.95	NA							Bailed .75 gallon RAN DRY
11/19/15	0810	26.20	NA	16.27	6.19	3.95	NA	284	-15	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU Ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
67WW01-111915	0810	3-40 ml glass	HCL	N	Bailer	VOC

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW02	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 24.22	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 27.77	Screen Intverval (ft) from TOC: 17.77 - 27.77	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1452	24.22	NA							Bailing well
11/18/15	1459	27.20	NA							Bailed 2.75 gallons RANDY
11/19/15	0740	24.34	NA	17.57	6.29	3.33	NA	49.3	16	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67ww02-111915 TIME: 0740

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCl	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW03	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: DRY	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 24.94	Screen Intverval (ft) from TOC: 14.94 - 24.94	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)

DRY well

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO					
MATRIX SPIKE (MS): YES/NO					
MATRIX DUPLICATE (MD): YES/NO					
CO= LEL= OXY= H2S=					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW04	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: NA ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: DRY	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 24.17	Screen Intverval (ft) from TOC: 14.17 - 24.17	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC:	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)

NOT REQUIRED TO SAMPLE THIS WELL
WATER LEVEL ONLY

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO					
MATRIX SPIKE (MS): YES/NO					
MATRIX DUPLICATE (MD): YES/NO					
CO= LEL= OXY= H2S=					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW05	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 25.76	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: ~~30~~ 30.09	Screen Intverval (ft) from TOC: 20.09 - 30.09	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1537	25.76	NA							Bailing well
11/18/15	1545	30.00	NA							Bail well 3.25 gallons RANDRY
11/19/15	0730	25.89	NA	16.33	5.12	2.83	NA	129	123	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW05-111915 TIME: 0730	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
	3 - 40 ml glass	HCl	N	Bailer	VOC

DUPLICATE (D): YES/NO N O
MATRIX SPIKE (MS): YES/NO N O
MATRIX DUPLICATE (MD): YES/NO N O

CO= LEL= OXY= H2S=

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW06	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: NA ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 24.80	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 49.84	Screen Intverval (ft) from TOC: 39.84 - 49.84	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)

NO SAMPLE REQUIRED ON THIS WELL
WATER LEVEL ONLY

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO					
MATRIX SPIKE (MS): YES/NO					
MATRIX DUPLICATE (MD): YES/NO					
CO= LEL= OXY= H2S=					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW07	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 24.84	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 27.89	Screen Interval (ft) from TOC: 17.89 - 27.89	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1510	24.84	NA							Bailing well
11/18/15	1515	27.83	NA							Bailed 2.50 gallons Ran DRY
11/19/15	0755	25.06	NA	15.55	6.22	4.08	NA	40.8	57	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW07-111915 TIME: 0755

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCl	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW08	Date: 11/19/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 24.38	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 52.00	Screen Intverval (ft) from TOC: 27.50 - 52.00	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 39.75	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/19/15	0945	24.39	100	17.75	7.47	4.57	2.55	18.6	49	
	0950	24.45	100	18.52	6.53	5.04	0.64	29.4	70	
	0955	24.50	100	18.78	6.33	5.08	0.44	36.0	87	
	1000	24.55	100	18.91	6.26	5.08	0.45	46.8	96	
	1005	24.58	100	18.98	6.15	5.08	0.46	46.0	110	
	1010	24.60	100	19.07	6.14	5.07	0.44	45.7	111	
	1015	24.62	100	19.13	6.12	5.06	0.45	45.1	112	
	1020	24.62	100	19.15	6.13	5.06	0.44	45.3	113	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW08-111915 TIME: 1020

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCL	N	Pump	VOC
3-20 ml glass	HCL	N	"	GASES
1-500 ml plastic	ZnAc NaOH	N	"	Sulfide
1-250 ml plastic	H2SO4	N	"	TOC
1-250 ml plastic	NA	N	"	TIC
1-250 ml plastic	NA	N	"	Anions
1-1 Liter plastic	NA	N	"	DHC/Fractionation

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW09	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.24	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 37.61	Screen Interval (ft) from TOC: 17.61 - 37.61	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 27.61	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1405	22.25	100	20.30	6.92	4.12	1.96	0.0	161	
	1410	22.35	100	20.06	6.33	4.03	0.42	0.0	173	
	1415	22.42	100	20.01	6.18	4.00	0.28	0.0	184	
	1420	22.47	100	19.98	5.92	3.98	0.14	0.0	197	
	1425	22.49	100	19.98	5.64	3.98	0.00	0.0	221	
	1430	22.50	100	19.95	5.64	3.98	0.00	0.0	222	
	1435	22.51	100	19.91	5.63	3.98	0.00	0.0	223	
	1440	22.51	100	19.88	5.63	3.98	0.00	0.0	224	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU Ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
67WW09-111815	1440	6- 40 ml glass	HCl	N	Pump	VOC

DUPLICATE (D): YES/NO Yes
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW09A	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 2 11	Static Water Level Reading (ft) from TOC: 26.97	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 38.78	Screen Intverval (ft) from TOC: 24.08 - 38.78	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 31.43	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	0925	26.93	100	16.71	6.42	2.32	1.16	39.3	65	
	0930	27.00	100	17.55	6.03	2.28	0.59	32.3	93	
	0935	27.08	100	17.96	5.87	2.25	0.14	29.8	121	
	0940	27.15	100	18.15	5.83	2.32	0.00	17.3	124	
	0945	27.19	100	18.19	5.83	2.32	0.00	13.2	124	
	0950	27.21	100	18.25	5.83	2.34	0.00	12.9	125	
	0955	27.22	100	18.30	5.82	2.34	0.00	12.3	126	
	1000	27.23	100	18.30	5.81	2.35	0.00	12.0	127	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW09A-111815 TIME: 1000

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67			LocID: 67WW10				Date: 11/18/15					
	Project: Longhorn Army Ammunition Plant			Project No. 60256135.0002JA				Recorded By: Scott Beesinger		Checked By:			
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52			Water Interface Probe:		Water Level Indicator: Solinst ID#: 101		Min Recharge Level = (TD-DTW(0.80)) - TD					
	Unit # 21202			Sampling Equipment: Bladder Pump		ID#:							
WELL INFO	Casing I.D. (in): 4"			Static Water Level Reading (ft) from TOC: 25.49				Weather Conditions: CLEAR					
	Total Well Depth (ft) from TOC: ~~50.58~~ 50.57			Screen Intverval (ft) from TOC: 19.07 - 50.57				Condition of Well/Remarks: Good					
				Pump Placement (ft) from TOC: 34.82									
CASING INFO	Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0	
	Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6	

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	0825	25.49	100	16.48	5.92	5.90	0.51	139	57	
	0830	25.57	100	17.03	5.90	5.89	0.34	137	57	
	0835	25.65	100	17.29	5.85	5.92	0.19	119	62	
	0840	25.69	100	17.50	5.81	5.93	0.10	90.3	65	
	0845	25.72	100	17.67	5.79	5.93	0.12	90.9	66	
	0850	25.74	100	17.62	5.78	5.94	0.11	91.3	67	
	0855	25.75	100	17.68	5.77	5.95	0.10	90.8	68	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 50WW10 - 111815 TIME: 0855

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW11	Date: 11/19/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 23.91	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 46.59	Screen Intverval (ft) from TOC: 22.09-46.59	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 34.34	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/19/15	0830	23.93	100	17.10	5.98	5.02	0.74	96.2	82	
	0835	23.99	100	17.86	5.78	4.95	0.66	103	112	
	0840	24.05	100	18.18	5.78	4.92	0.35	64.3	135	
	0845	24.08	100	18.33	5.75	4.94	0.20	45.1	141	
	0850	24.10	100	18.43	5.62	4.81	0.22	38.8	154	
	0855	24.12	100	18.43	5.63	4.91	0.20	25.5	182	
	0900	24.14	100	18.42	5.63	4.90	0.19	25.2	182	
	0905	24.15	100	18.47	5.61	4.89	0.18	25.0	182	
	0910	24.16	100	18.49	5.61	4.89	0.18	25.9	183	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 50WW11-111915 TIME:

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	Pump	VOC
3 - 20 ml glass	HCL	N	"	BALES
1 - 500 ml plastic	ZnAcetNaOH	N	"	Sulfide
1 - 250 ml glass	H2SO4	N	"	TOC
1 - 250 ml plastic	NA	N	"	TIC
1 - 250 ml plastic	NA	N	"	Anions
~~1 - 1 Liter plastic~~				
1 - 1 Liter plastic	NA	N	"	DHC/Enchantment

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67			LocID: 67WW12				Date: 11/18/15					
	Project: Longhorn Army Ammunition Plant			Project No. 60256135.0002JA				Recorded By: Scott Beesinger		Checked By:			
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52			Water Interface Probe:	Water Level Indicator: Solinst ID#: 101			Min Recharge Level = (TD-DTW(0.80)) - TD					
	Unit # 21202			Sampling Equipment: Bladder Pump		ID#:							
WELL INFO	Casing I.D. (in): 4"			Static Water Level Reading (ft) from TOC: 26.16				Weather Conditions: CLEAR					
	Total Well Depth (ft) from TOC: 36.95			Screen Intverval (ft) from TOC: 27.45 - 36.95				Condition of Well/Remarks: GOOD					
				Pump Placement (ft) from TOC: 31.70									
CASING INFO	Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0	
	Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6	

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	0725	26.17	100	16.76	5.90	3.54	1.53	23.0	165	
	0730	26.23	100	17.43	5.57	3.52	0.99	10.9	168	
	0735	26.28	100	17.58	5.41	3.55	0.44	9.0	172	
	0740	26.32	100	18.00	5.21	3.67	0.25	7.0	177	
	0745	26.35	100	18.01	5.20	3.69	0.07	5.9	178	
	0750	26.37	100	17.98	5.21	3.69	0.06	4.4	176	
	0755	26.39	100	17.97	5.21	3.69	0.06	3.5	177	
	0800	26.41	100	17.95	5.21	3.69	0.05	3.1	178	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW12-111815 TIME: 0800

DUPLICATE (D): YES/NO Yes

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
6 - 40 ml glass	HCl	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW13	Date: 11/18/15
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21202	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.22	Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 28.32	Screen Intverval (ft) from TOC: 13.82 - 28.32	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 24.25	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1315	22.24	100	23.52	6.75	5.84	1.55	0.0	162	
	1320	22.30	100	21.36	6.73	6.15	0.81	0.0	162	
	1325	22.35	100	21.08	6.71	6.17	0.28	0.0	162	
	1330	22.38	100	20.29	6.70	6.27	0.30	0.0	160	
	1335	22.40	100	20.23	6.71	6.27	0.28	0.0	158	
	1340	22.42	100	20.20	6.70	6.26	0.29	0.0	158	
	1345	22.44	100	20.18	6.69	6.27	0.28	0.0	158	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW13-111815 TIME: 1345

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW14		Date: 11/18/15	
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA		Recorded By: Scott Beesinger	Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe:	Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD	
	Unit # 21202	Sampling Equipment: Bladder Pump	ID#:		
WELL INFO	Casing I.D. (in): 2"	Static Water Level Reading (ft) from TOC: 20.81		Weather Conditions: CLEAR	
	Total Well Depth (ft) from TOC: 30.55	Screen Intverval (ft) from TOC: 20.55-30.55		Condition of Well/Remarks: GOOD	
		Pump Placement (ft) from TOC: 25.55			

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
11/18/15	1025	25.50	100	17.77	6.65	2.42	2.35	61.7	105	
	1030	25.59	100	19.19	6.64	2.38	1.88	44.3	117	
	1035	25.66	100	19.84	6.65	2.35	1.64	30.8	121	
	1040	25.72	100	20.35	6.62	2.33	1.12	17.7	126	
	1045	25.75	100	21.55	6.61	2.27	0.55	10.0	133	
	1050	25.77	100	21.60	6.59	2.26	0.53	8.8	134	
	1055	25.79	100	21.63	6.58	2.25	0.52	8.0	135	
	1100	25.80	100	21.67	6.58	2.25	0.52	6.5	136	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
67WW14-111815	1100	9- 40ml glass	HCl	N	Pump	VOC

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO Yes

MATRIX DUPLICATE (MD): YES/NO Yes

CO= LEL= OXY= H2S=

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67		LocID: 67wwo1		Date: 3/28/16
	Project: Longhorn Army Ammunition Plant		Project No. 60256135.0002SA		Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52		Water Interface Probe: Water Level Indicator: Solinst ID#: 101		Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099		Sampling Equipment: Bladder Pump ID#:		
WELL INFO	Casing I.D. (in): 4"		Static Water Level Reading (ft) from TOC: 23.71		Weather Conditions: CLEAR
	Total Well Depth (ft) from TOC: 27.03		Screen Interval (ft) from TOC: 17.03-27.03		Condition of Well/Remarks: GOOD
			Pump Placement (ft) from TOC: NA		

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0	
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6	

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
3/28/16	0840	23.71	NA							Bailing well
3/28/16	0845	~~27~~.00	NA							Bailed ~~2~~.0 gallons RAN DRY
3/29/16	0815	23.62	NA	15.38	5.57	3.80	NA	50.2	[redacted]14	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WWO1-032916 TIME: 0815

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCL	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67			LocID: 67WW03					Date: 3/28/16				
	Project: Longhorn Army Ammunition Plant			Project No. 60256135.00025A					Recorded By: Scott Beesinger			Checked By:	
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52			Water Interface Probe:		Water Level Indicator: Solinst ID#: 101			Min Recharge Level = (TD-DTW(0.80)) - TD				
	Unit # 21099			Sampling Equipment: ~~Bladder Pump~~ Bailer ID#:									
WELL INFO	Casing I.D. (in): 4"			Static Water Level Reading (ft) from TOC: 23.20					Weather Conditions: CLEAR				
	Total Well Depth (ft) from TOC: 24.98			Screen Interval (ft) from TOC: 15.00 - 25.00					Condition of Well/Remarks: GOOD				
				Pump Placement (ft) from TOC: NA									
CASING INFO	Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0	
	Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6	

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
3/28/16	0828	23.20	NA							Bailing well
3/28/16	0833	24.95	NA							Bailed 1.5 gallons (LAW DRY)
3/29/16	0800	23.16	NA	13.21	4.41	5.50	NA	28.9	275	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW03-032916 TIME: 0800

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCl	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67wwo1	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: ~~Bladder Pump~~ Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 23.26	Weather Conditions: Cloudy / Drizzle
	Total Well Depth (ft) from TOC: ~~27.01~~ 27.01	Screen Intverval (ft) from TOC:	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/in ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1500	23.26	NA							Baiting well
5/18/16	1509	26.90	NA							Bailed 2.25 gallons RAN DRY
5/19/16	0748	23.26	NA	17.86	6.28	3.90	NM	26.2	NM	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW01-051916 TIME: 0748

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW02	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: ~~Bladder Pump~~ Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.58	Weather Conditions: Cloudy / Rain
	Total Well Depth (ft) from TOC: 27.51	Screen Interval (ft) from TOC: 17.00 - 27.00	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1435	22.58	NA							Bailing well
5/18/16	1445	27.45	NA							Bailed 3.5 gallons Ran Dry
5/19/16	0720	22.58	NA	18.37	6.08	3.80	NM	10.6	NM	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW02-051916 TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO Yes	6- 40 ml glass	HCL	N	Bailer	VOC
MATRIX SPIKE (MS): YES/NO NO					
MATRIX DUPLICATE (MD): YES/NO NO					
CO= LEL= OXY= H2S=					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67			LocID: 67WW03						Date: 5/18/16					
	Project: Longhorn Army Ammunition Plant			Project No. 60256135.0002JA						Recorded By: Scott Beesinger			Checked By:		
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52			Water Interface Probe:			Water Level Indicator: Solinst ID#: 101			Min Recharge Level = (TD-DTW(0.80)) - TD					
	Unit # 21099			Sampling Equipment: ~~Bladder Pump~~ Bailer ID#:											
WELL INFO	Casing I.D. (in): 4			Static Water Level Reading (ft) from TOC: 22.76						Weather Conditions: CLOUDY / RAIN					
	Total Well Depth (ft) from TOC: 24.95			Screen Intverval (ft) from TOC:						Condition of Well/Remarks: GOOD					
				Pump Placement (ft) from TOC: NA											
CASING INFO	Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0			
	Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6			

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (color, clarity, etc.)
5/18/16	1449	22.76	NA							Bailing well
5/18/16	1454	24.85	NA							Bailed 1.5 gallons RAN DRY
5/19/16	0735	22.80	NA	17.89	6.26	5.22	NM	9.1	NM	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
67WW03-051916	0735	3 - 40 ml glass	HCl	N	Bailer	VOC

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW04	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: DRY	Weather Conditions: CLOUDY
	Total Well Depth (ft) from TOC: 24.18	Screen Intverval (ft) from TOC: 14.00-24.00	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/in ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)

DRY WELL

NO SAMPLE REQUIRED

WATER LEVEL ONLY

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO					
MATRIX SPIKE (MS): YES/NO					
MATRIX DUPLICATE (MD): YES/NO					
CO= LEL= OXY= H2S=					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW05	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: ~~Bladder Pump~~ Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 24.56	Weather Conditions: Cloudy/Rain
	Total Well Depth (ft) from TOC: 30.08	Screen Intverval (ft) from TOC: 20.00 - 30.00	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	14:23	24.56	NA							Bailing well
5/18/16	1430	29.95	NA							Bailed 3 gallons RAN DRY
5/19/16	0705	24.58	NA	18.66	5.42	2.77	NM	91.8	NM	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW05-051916 TIME: 0705

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Baler	Parameter(s)
3 - 40 ml glass	HCL	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW06	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: ~~Bladder Pump~~ ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.16	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 46.91	Screen Intverval (ft) from TOC: 36.55 - 46.55	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)

NO Sample Required

WATER Level only

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
DUPLICATE (D): YES/NO					
MATRIX SPIKE (MS): YES/NO					
MATRIX DUPLICATE (MD): YES/NO					
CO= LEL= OXY= H2S=					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW07	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: ~~Bladder Pump~~ Bailer ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.21	Weather Conditions: Cloudy / DRIZZLE
	Total Well Depth (ft) from TOC: 27.99	Screen Intverval (ft) from TOC: 17.85 - 27.85	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: NA	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1513	22.21	NA							Bailing well
5/18/16	1525	27.90	NA							Bailed ~~1~~ gallons RAN DRY
5/19/16	0800	22.21	NA	17.91	6.04	3.96	NM	10.5	NM	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW07-051916 TIME: 0800

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCl	N	Bailer	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW08	Date: 5/19/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.12	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 57.96	Screen Intverval (ft) from TOC: 26.96 - 51.46	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 39.21	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/19/16	0925	22.14	100	18.39	6.65	5.68	1.36	12.4	104	
	0930	22.20	100	18.54	5.93	5.63	0.75	5.4	95	
	0935	22.25	100	18.65	5.89	5.58	0.67	5.4	105	
	0940	22.30	100	18.67	5.81	5.44	0.80	8.4	125	
	0945	22.33	100	18.68	5.81	5.43	0.81	8.0	126	
	0950	22.35	100	18.73	5.80	5.43	0.81	8.9	127	
	0954	22.36	100	18.74	5.79	5.42	0.82	9.3	129	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: ~~67~~67WW08-051916 TIME: 0955

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCL	N	Pump	VOC
3-20 ml glass	HCL	N		GASES
1-500 ml plastic	ZINC ACETATE + NaOH	N		Sulfide
1-250 ml Amber	NA	N		Ferrous IRON
1-250 ml plastic	H2SO4	N		TOC
1-250 ml plastic	NA	N		TIC
1-250 ml plastic	NA	N		Anions
2-1000 ml Amber	NA	N		DHL

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW09	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 2"	Static Water Level Reading (ft) from TOC: 20.15	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 37.93	Screen Intverval (ft) from TOC: 37.43 - 37.43	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 27.43	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	0905	20.15	100	18.30	5.37	3.90	1.51	7.7	323	
	0910	20.21	100	18.30	5.27	3.94	0.91	4.3	303	
	0915	20.26	100	18.31	5.24	3.95	0.75	3.5	301	
	0920	20.30	100	18.30	5.22	3.95	0.58	2.0	301	
	0925	30.33	100	18.26	5.22	3.95	0.60	1.6	303	
	0930	20.35	100	18.25	5.20	3.95	0.60	1.0	304	
	0935	20.37	100	18.25	5.19	3.95	0.60	0.8	305	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID:	TIME:	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
50WW09-051816	0945	6-40 ml glass	HCL	N	Pump	VOC

DUPLICATE (D): YES/NO Yes
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW09A	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 2"	Static Water Level Reading (ft) from TOC: 24.61	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 37.80	Screen Intverval (ft) from TOC: 22.80-37.50	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 30.15	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1735	24.59	100	18.68	6.05	2.56	1.32	13.1	64	
	1740	24.65	100	18.66	5.82	2.52	0.75	6.6	111	
	1745	24.71	100	18.64	5.70	2.50	0.50	2.2	122	
	1750	24.75	100	18.63	5.67	2.49	0.44	1.1	135	
	1755	24.79	100	18.60	5.66	2.49	0.43	0.6	136	
	1800	24.81	100	18.58	5.65	2.49	0.42	0.3	137	
	1805	24.83	100	18.55	5.64	2.48	0.42	0.0	137	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW09A-051816 TIME: 1805

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3 - 40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW10	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst · ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4 11	Static Water Level Reading (ft) from TOC: 22,73	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 50.70	Screen Intverval (ft) from TOC: 18.70 - 50.20	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 34,45	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1640	22.75	100	19.06	5.51	6.28	1.78	53.5	90	
	1645	22.82	100	18.97	5.33	6.38	0.86	41.2	122	
	1650	22.87	100	18.79	5.18	6.39	0.49	34.7	140	
	1655	22.92	100	18.65	5.05	6.38	0.49	32.0	160	
	1700	22.95	100	18.68	5.04	6.37	0.49	31.6	161	
	1705	22.97	100	18.67	5.03	6.36	0.50	31.2	162	
	1710	22.98	100	18.66	5.02	6.36	0.50	30.9	163	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW10-051816 TIME: 1710

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW11	Date: 5/19/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.48	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 46.75	Screen Intverval (ft) from TOC: 21.75 - 46.25	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 34.00	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/19/16	0820	22.49	100	18.31	6.17	5.19	1.53	18.5	60	
	0825	22.57	100	18.31	6.09	5.30	0.97	7.6	115	
	0830	22.63	100	18.30	5.85	5.21	0.89	5.2	150	
	0835	22.67	100	18.30	5.85	5.20	0.76	3.1	165	
	0840	22.70	100	18.28	5.87	5.20	0.75	2.1	166	
	0845	22.71	100	18.28	5.87	5.20	0.75	1.9	168	
	0850	22.72	100	18.29	5.87	5.19	0.74	1.2	169	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW11-051916 TIME: 0850

DUPLICATE (D): YES/NO

MATRIX SPIKE (MS): YES/NO

MATRIX DUPLICATE (MD): YES/NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
8-40ml glass	HCL	N	Pump	VOC
3-20ml glass	HCL	N		Gases
1-500 ml plastic 2%	NaNaOH	N		Sulfide
1-250 ml Amber	NA	N		Ferrous IRON
1-250 ml plastic	H2SO4	N		TOC
1-250 ml plastic	NA	N		TIC
1-250 ml plastic	NA	N		Anions
2-1000 ml Amber	NA	N		DHC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW12	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 24.16	Weather Conditions: Cloudy / Drizzle
	Total Well Depth (ft) from TOC: 36.96	Screen Intverval (ft) from TOC: 26.96-36.96	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 31.71	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1545	24.17	100	18.40	5.76	4.02	2.85	1.6	131	
	1550	24.23	100	18.30	5.30	3.89	0.96	1.0	176	
	1555	24.28	100	18.31	5.08	3.93	0.75	1.2	215	
	1600	24.32	100	18.52	4.96	4.04	0.38	2.1	217	
	1605	24.35	100	18.53	4.96	4.05	0.37	6.0	219	
	1610	24.37	100	18.46	4.96	4.06	0.37	5.4	220	
	1615	24.37	100	18.41	4.96	4.06	0.36	5.7	221	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW12-050816 TIME: 1615

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO Yes
MATRIX DUPLICATE (MD): YES/NO Yes

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
9-40 ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW13	Date: 5/19/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 20.40	Weather Conditions: CLOUDY
	Total Well Depth (ft) from TOC: 28.60	Screen Interval (ft) from TOC: 13.60 - 28.10	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 24.00	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/19/16	1030	20.42	100	18.87	6.28	5.74	3.27	1.1	136	
	1035	20.50	100	18.82	5.89	5.74	1.16	0.8	170	
	1040	20.57	100	18.80	5.40	5.75	0.73	0.3	220	
	1045	20.61	100	18.80	5.40	5.75	0.57	0.0	240	
	1050	20.63	100	18.81	5.41	5.74	0.56	0.0	241	
	1055	20.65	100	18.84	5.39	5.74	0.55	0.0	243	
	1100	20.66	100	18.85	5.38	5.74	0.55	0.0	244	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW13-051916 TIME: 1100

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCl	N	Pump	VOC
3-20 ml glass	HCl	N		Carbon
1-500 ml Plastic	2NaOH/ZnAc	N		Sulfide
1-250 ml Amber	NA	N		Ferrous IRON
1-250 ml plastic	H2SO4	N		TOC
1-250 ml plastic	NA	N		TIC
1-250 ml plastic	NA	N		Anions
2-1000 ml Amber	NA	N		DHC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67			LocID: 67ww14					Date: 5/18/16				
	Project: Longhorn Army Ammunition Plant			Project No. 60256135.0002JA					Recorded By: Scott Beesinger			Checked By:	
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52			Water Interface Probe:		Water Level Indicator: Solinst ID#: 101			Min Recharge Level = (TD-DTW(0.80)) - TD				
	Unit # 21099			Sampling Equipment: Bladder Pump		ID#:							
WELL INFO	Casing I.D. (in): 2"			Static Water Level Reading (ft) from TOC: 19.40					Weather Conditions: Cloudy				
	Total Well Depth (ft) from TOC: 30.67			Screen Interval (ft) from TOC: 20.40 - 30.40					Condition of Well/Remarks: Good				
				Pump Placement (ft) from TOC: 25.40									
CASING INFO	Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0	
	Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6	

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	0800	19.37	100	20.27	5.64	0.007	2.22	173	236	
	0805	19.45	100	20.18	5.56	0.011	1.54	173	240	
	0810	19.50	100	20.04	5.54	0.015	1.21	172	243	
	0815	19.55	100	19.90	5.38	0.020	1.07	172	250	
	0820	19.57	100	19.87	5.37	0.020	1.06	172	251	
	0825	19.60	100	19.85	5.36	0.021	1.05	172	252	
	0830	19.62	100	19.84	5.36	0.021	1.04	172	252	
						[redacted]	[redacted]			

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW14-051816 TIME: 0830

DUPLICATE (D): YES/NO NO

MATRIX SPIKE (MS): YES/NO NO

MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3- 40 ml glass	HCl	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67 WW15	Date: 5/19/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 22.18	Weather Conditions: CLOUDY
	Total Well Depth (ft) from TOC: 47.43	Screen Intverval (ft) from TOC: 37.53 - 47.23	Condition of Well/Remarks: GOOD
		Pump Placement (ft) from TOC: 42.38	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/19/16	1410	22.18	100	19.49	6.21	2.50	2.47	7.7	198	
	1415	22.25	100	19.14	5.99	2.48	2.14	7.1	205	
	1420	22.29	100	18.92	5.82	2.46	1.88	6.0	210	
	1425	22.31	100	18.81	5.70	2.46	1.55	5.4	216	
	1430	22.33	100	18.79	5.60	2.46	1.54	6.9	225	
	1435	22.35	100	18.77	5.59	2.45	1.53	7.3	226	
	1440	22.37	100	18.73	5.58	2.45	1.52	7.0	227	
	1445	22.38	100	18.70	5.58	2.45	1.50	6.8	228	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW15-051916 TIME: 1445

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40ml glass	HCL	N	Pump	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: 67	LocID: 67WW16	Date: 5/18/16
	Project: Longhorn Army Ammunition Plant	Project No. 60256135.0002JA	Recorded By: Scott Beesinger Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: Horiba U-52	Water Interface Probe: Water Level Indicator: Solinst ID#: 101	Min Recharge Level = (TD-DTW(0.80)) - TD
	Unit # 21099	Sampling Equipment: Bladder Pump ID#:	
WELL INFO	Casing I.D. (in): 4"	Static Water Level Reading (ft) from TOC: 21.95	Weather Conditions: Cloudy
	Total Well Depth (ft) from TOC: 80.19	Screen Interval (ft) from TOC: 70.43-80.13	Condition of Well/Remarks: Good
		Pump Placement (ft) from TOC: 75.28	

CASING INFO												
Casing I.D. (in):	0.75	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft):	0.023	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (FTOC)	Pumping Rate (mL/min)	Temp. (°C)	pH	Cond (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Remarks (odor, clarity, etc.)
5/18/16	1010	21.96	100	18.85	6.11	1.24	1.97	7.7	-59	
	1015	22.00	100	18.91	5.43	1.51	1.02	2.8	-5	
	1020	22.05	100	18.94	5.29	1.55	0.55	1.5	70	
	1025	22.09	100	18.99	5.06	1.55	0.50	0.3	77	
	1030	22.12	100	18.98	5.03	1.54	0.39	7.7	90	
	1035	22.14	100	18.99	5.00	1.54	0.38	8.1	91	
	1040	22.15	100	18.99	4.99	1.54	0.37	8.4	92	
	1045	22.15	100	18.98	4.99	1.53	0.37	8.7	94	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 3-5 min Stabilization: +/-10% C, +/-0.1 pH, +/-3% Cond, +/-10% DO, +/-10%Turb(<=10 NTU ideal), for 4 consecutive readings

SAMPLE ID: 67WW16-051816 TIME: 1045

DUPLICATE (D): YES/NO NO
MATRIX SPIKE (MS): YES/NO NO
MATRIX DUPLICATE (MD): YES/NO NO

CO= LEL= OXY= H2S=

No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
3-40 ml glass	HCL	N	Pump	VOC

APPENDIX D: LABORATORY ANALYTICAL RESULTS

Microbac

Laboratory Report Number: L15111211

Kayla Teague
AECOM Technical Services, Inc.
16000 Dallas Parkway
Dallas, TX 75248

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on December 08 2015

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0019985	H	5.0		J4599413288	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
67WW12-111815	L15111211-01	11/18/2015 08:00	11/20/2015 10:03
67WW12FFD-111815	L15111211-02	11/18/2015 08:00	11/20/2015 10:03
67WW10-111815	L15111211-03	11/18/2015 08:55	11/20/2015 10:03
67WW09A-111815	L15111211-04	11/18/2015 10:00	11/20/2015 10:03
67WW14-111815	L15111211-05	11/18/2015 11:00	11/20/2015 10:03
67WW14MS-111815	L15111211-06	11/18/2015 11:00	11/20/2015 10:03
67WW14MSD-111815	L15111211-07	11/18/2015 11:00	11/20/2015 10:03
67WW13-111815	L15111211-08	11/18/2015 13:45	11/20/2015 10:03
67WW09-111815	L15111211-09	11/18/2015 14:40	11/20/2015 10:03
67WW09FD-111815	L15111211-10	11/18/2015 14:40	11/20/2015 10:03
67WW05-111915	L15111211-11	11/19/2015 07:30	11/20/2015 10:03
67WW02-111915	L15111211-12	11/19/2015 07:40	11/20/2015 10:03
67WW07-111915	L15111211-13	11/19/2015 07:55	11/20/2015 10:03
67WW01-111915	L15111211-14	11/19/2015 08:10	11/20/2015 10:03
67WW11-111915	L15111211-15	11/19/2015 09:10	11/20/2015 10:03
67WW08-111915	L15111211-16	11/19/2015 10:20	11/20/2015 10:03
TRIP BLANK	L15111211-17	11/19/2015 00:01	11/20/2015 10:03

Microbac REPORT L15111211
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 43
2.0 Full Sample Data Package 103
2.1 Volatiles Data 104
2.1.1 Volatiles GCMS Data (8260) 105
2.1.1.1 Summary Data 106
2.1.1.2 QC Summary Data 159
2.1.1.3 Sample Data 211
2.1.1.4 Standards Data 306
2.1.1.5 Raw QC Data 457
2.1.2 RSK 175 476
2.1.2.1 Summary Data 477
2.1.2.2 QC Summary Data 481
2.1.2.3 Sample Data 507
2.1.2.4 Standards Data 512
2.1.2.5 Raw QC Data 552
2.2 General Chemistry Data 565
2.2.1 Method 9056 566
2.2.1.1 Summary Data 567
2.2.1.2 QC Summary Data 573
2.2.1.3 Sample Data 596
2.2.1.4 Standards Data 602
2.2.1.5 Raw QC Data 626
2.2.2 Ferrous Iron Data 630
2.2.2.1 Summary Data 631
2.2.2.2 QC Summary Data 634
2.2.2.3 Raw Data 641
2.2.3 Sulfide Data 649
2.2.3.1 Summary Data 650
2.2.3.2 QC Summary Data 654
2.2.3.3 Raw Data 661
2.2.4 Total Organic Carbon Data 664
2.2.4.1 Summary Data 665
2.2.4.2 QC Summary Data 668
2.2.4.3 Raw Data 680
3.0 Attachments 773

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	8260
Prep Batch Number(s):	548399, 547961	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-08 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2015-12-08 16:38:59

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	8260
Prep Batch Number(s):	548399, 547961	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-08 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	8260
Prep Batch Number(s):	548399, 547961	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-08 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			1
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	8260
Prep Batch Number(s):	548399, 547961	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-08 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			4
Was the ICAL curve verified for each analyte?		X			3
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	8260
Prep Batch Number(s):	548399, 547961	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-08 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	8260
Prep Batch Number(s):	548399, 547961	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-08 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1) Carbon disulfide was below the LCL in LCS WG548399-02 analyzed 11/24/15 on HPMS17, however dilution of sample 08 was analyzed for 1,1-dichloroethene only.

2) 1,1-Dichloroethene was below the LCL in the MS/MSD.

3) Carbon disulfide and trichlorofluoromethane were below the LCL in ICV WG546498-12 analyzed 11/11/15 on HPMS17, however dilution of sample 08 was analyzed for 1,1-dichloroethene only.

4) Chloromethane and bromomethane exceeded the UCL in CCV WG547960-02 analyzed 11/21/15 on HPMS8.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	548346, 548682	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-07 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2015-12-07 13:59:49

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	548346, 548682	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-07 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	548346, 548682	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-07 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	548346, 548682	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-07 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	548346, 548682	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-07 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	548346, 548682	**Reviewer Name:**	Franci Bolden
LRC Date:	2015-12-07 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There were no exceptions.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG547890	**Reviewer Name:**	Adriane Steed
LRC Date:	2015-11-20 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Adriane Steed			2015-11-23 14:41:57

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG547890	**Reviewer Name:**	Adriane Steed
LRC Date:	2015-11-20 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?	X				
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG547890	**Reviewer Name:**	Adriane Steed
LRC Date:	2015-11-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG547890	**Reviewer Name:**	Adriane Steed
LRC Date:	2015-11-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG547890	**Reviewer Name:**	Adriane Steed
LRC Date:	2015-11-20 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG547890	**Reviewer Name:**	Adriane Steed
LRC Date:	2015-11-20 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1. Fractions -15 and -16 were analyzed at dilutions only due to their high analyte concentrations (Cl and/or SO4) which were over 200 ppm. Any sample that has a single anion load greater than 200 ppm (or a total anion load greater than 400 ppm) will be diluted in order to prevent damage to the IC from repeated overloading of the analytical column and oversaturation of the suppressor membranes.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG548281	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2015-11-30 18:32:54

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG548281	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG548281	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG548281	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG548281	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG548281	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	S
Prep Batch Number(s):	WG548030	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2015-11-30 18:33:35

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	S
Prep Batch Number(s):	WG548030	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	S
Prep Batch Number(s):	WG548030	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	S
Prep Batch Number(s):	WG548030	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			X		
Were percent differences for each analyte within the method-required QC limits?			X		
Was the ICAL curve verified for each analyte?			X		
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	S
Prep Batch Number(s):	WG548030	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	S
Prep Batch Number(s):	WG548030	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG548214, WG548464	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2015-11-30 18:34:15

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG548214, WG548464	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG548214, WG548464	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG548214, WG548464	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG548214, WG548464	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L15111211
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG548214, WG548464	**Reviewer Name:**	Deanna Hesson
LRC Date:	2015-11-30 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1.2 Certificate of Analysis

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW12-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 17:21
Collect Date:	11/18/2015 08:00	**Dilution:**	1	**File ID:**	8M408867
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	98.9	75	120	

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW12FFD-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 17:51
Collect Date:	11/18/2015 08:00	**Dilution:**	1	**File ID:**	8M408868
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	105	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW10-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 18:20
Collect Date:	11/18/2015 08:55	**Dilution:**	1	**File ID:**	8M408869
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.140	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	99.9	85	120	
4-Bromofluorobenzene	98.9	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW09A-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 18:50
Collect Date:	11/18/2015 10:00	**Dilution:**	1	**File ID:**	8M408870
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.3	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW14-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 19:19
Collect Date:	11/18/2015 11:00	**Dilution:**	1	**File ID:**	8M408871
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	3.70		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	5.83		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	26.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.297	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	99.3	85	120	
4-Bromofluorobenzene	102	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW14MS-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 15:22
Collect Date:	11/18/2015 11:00	**Dilution:**	1	**File ID:**	8M408863
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	26.8		10.0	5.00	2.50
Benzene	71-43-2	20.8		1.00	0.250	0.125
Bromobenzene	108-86-1	19.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	22.2		1.00	0.400	0.200
Bromodichloromethane	75-27-4	21.0		1.00	0.500	0.250
Bromoform	75-25-2	21.2		2.00	1.00	0.500
Bromomethane	74-83-9	24.3	Q	2.00	1.00	0.500
2-Butanone	78-93-3	22.7		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.1		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.9		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	18.4		1.00	0.500	0.250
Carbon disulfide	75-15-0	14.3		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	21.0		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.6		1.00	0.500	0.250
Chloroethane	75-00-3	21.4		2.00	1.00	0.500
Chloroform	67-66-3	21.7		1.00	0.250	0.125
Chloromethane	74-87-3	21.5	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	19.4		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.2		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.2		1.00	0.500	0.250
Dibromomethane	74-95-3	21.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.2		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	19.6		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	19.2		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	16.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	23.7		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	27.0		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	38.0		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.6		1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.2		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.7		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	20.4		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.4		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	19.7		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.8		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.500	0.250
2-Hexanone	591-78-6	20.5		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	17.7		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.5		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.0		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	20.6		10.0	5.00	2.50
Methylene chloride	75-09-2	21.6		1.00	0.500	0.250
Naphthalene	91-20-3	23.1		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.0		1.00	0.250	0.125
Styrene	100-42-5	19.7		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.9		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.6		1.00	0.500	0.250
Toluene	108-88-3	19.7		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	20.5		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	20.2		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	21.0		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.3		1.00	0.500	0.250
Trichloroethene	79-01-6	19.6		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	19.6		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.9		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.2		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.2		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.3		1.00	0.500	0.250
o-Xylene	95-47-6	19.4		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	39.7		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	99.1	85	120	
4-Bromofluorobenzene	98.2	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW14MSD-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 15:51
Collect Date:	11/18/2015 11:00	**Dilution:**	1	**File ID:**	8M408864
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	24.0		10.0	5.00	2.50
Benzene	71-43-2	20.8		1.00	0.250	0.125
Bromobenzene	108-86-1	19.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	22.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	20.9		1.00	0.500	0.250
Bromoform	75-25-2	20.7		2.00	1.00	0.500
Bromomethane	74-83-9	24.8	Q	2.00	1.00	0.500
2-Butanone	78-93-3	21.5		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.2		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	19.1		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	18.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	14.2		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	20.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.1		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.1		1.00	0.500	0.250
Chloroethane	75-00-3	20.9		2.00	1.00	0.500
Chloroform	67-66-3	21.7		1.00	0.250	0.125
Chloromethane	74-87-3	20.8	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.4		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.0		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	19.5		1.00	0.500	0.250
Dibromomethane	74-95-3	21.5		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.4		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	19.5		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	19.3		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	15.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	23.8		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	26.4		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	37.8		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.5		1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.2		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.6		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.7		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.3		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	19.1		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.5		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.3		1.00	0.500	0.250
2-Hexanone	591-78-6	19.1		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.2		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.0		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	19.4		10.0	5.00	2.50
Methylene chloride	75-09-2	21.0		1.00	0.500	0.250
Naphthalene	91-20-3	22.3		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.1		1.00	0.250	0.125
Styrene	100-42-5	19.8		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	18.9		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.3		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.3		1.00	0.500	0.250
Toluene	108-88-3	19.5		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	20.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	20.3		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	20.7		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.2		1.00	0.500	0.250
Trichloroethene	79-01-6	19.6		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	19.3		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.6		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.6		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.2		1.00	0.500	0.250
Vinyl chloride	75-01-4	20.7		1.00	0.500	0.250
o-Xylene	95-47-6	19.4		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	39.6		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	101	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	97.3	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW13-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 23:12
Collect Date:	11/18/2015 13:45	**Dilution:**	2.5	**File ID:**	8M408879
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	12.5	U	25.0	12.5	6.25
Benzene	71-43-2	0.626	U	2.50	0.626	0.313
Bromobenzene	108-86-1	0.626	U	2.50	0.626	0.313
Bromochloromethane	74-97-5	1.00	U	2.50	1.00	0.500
Bromodichloromethane	75-27-4	1.25	U	2.50	1.25	0.625
Bromoform	75-25-2	2.50	U	5.00	2.50	1.25
Bromomethane	74-83-9	2.50	Q	5.00	2.50	1.25
2-Butanone	78-93-3	12.5	U	25.0	12.5	6.25
n-Butylbenzene	104-51-8	1.25	U	2.50	1.25	0.625
sec-Butylbenzene	135-98-8	1.25	U	2.50	1.25	0.625
tert-Butylbenzene	98-06-6	1.25	U	2.50	1.25	0.625
Carbon disulfide	75-15-0	2.50	U	5.00	2.50	1.25
Carbon tetrachloride	56-23-5	1.25	U	2.50	1.25	0.625
Chlorobenzene	108-90-7	0.626	U	2.50	0.626	0.313
Chlorodibromomethane	124-48-1	1.25	U	2.50	1.25	0.625
Chloroethane	75-00-3	2.50	U	5.00	2.50	1.25
Chloroform	67-66-3	2.27	J	2.50	0.626	0.313
Chloromethane	74-87-3	2.50	Q	5.00	2.50	1.25
2-Chlorotoluene	95-49-8	0.626	U	2.50	0.626	0.313
4-Chlorotoluene	106-43-4	1.25	U	2.50	1.25	0.625
1,2-Dibromo-3-chloropropane	96-12-8	5.00	U	12.5	5.00	2.50
1,2-Dibromoethane	106-93-4	1.25	U	2.50	1.25	0.625
Dibromomethane	74-95-3	1.25	U	2.50	1.25	0.625
1,2-Dichlorobenzene	95-50-1	0.626	U	2.50	0.626	0.313
1,3-Dichlorobenzene	541-73-1	1.25	U	2.50	1.25	0.625
1,4-Dichlorobenzene	106-46-7	0.626	U	2.50	0.626	0.313
Dichlorodifluoromethane	75-71-8	1.25	U	2.50	1.25	0.625
1,1-Dichloroethane	75-34-3	46.3		2.50	0.626	0.313
1,2-Dichloroethane	107-06-2	42.6		2.50	1.25	0.625
cis-1,2-Dichloroethene	156-59-2	2.75		2.50	1.25	0.625
trans-1,2-Dichloroethene	156-60-5	1.25	U	2.50	1.25	0.625

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	1.00	U	2.50	1.00	0.500
1,3-Dichloropropane	142-28-9	1.00	U	2.50	1.00	0.500
2,2-Dichloropropane	594-20-7	1.25	U	2.50	1.25	0.625
cis-1,3-Dichloropropene	10061-01-5	1.25	U	2.50	1.25	0.625
trans-1,3-Dichloropropene	10061-02-6	2.50	U	5.00	2.50	1.25
1,1-Dichloropropene	563-58-6	1.25	U	2.50	1.25	0.625
Ethylbenzene	100-41-4	1.25	U	2.50	1.25	0.625
2-Hexanone	591-78-6	12.5	U	25.0	12.5	6.25
Hexachlorobutadiene	87-68-3	1.25	U	2.50	1.25	0.625
Isopropylbenzene	98-82-8	1.25	U	2.50	1.25	0.625
p-Isopropyltoluene	99-87-6	1.25	U	2.50	1.25	0.625
4-Methyl-2-pentanone	108-10-1	12.5	U	25.0	12.5	6.25
Methylene chloride	75-09-2	1.25	U	2.50	1.25	0.625
Naphthalene	91-20-3	1.00	U	2.50	1.00	0.500
n-Propylbenzene	103-65-1	0.626	U	2.50	0.626	0.313
Styrene	100-42-5	0.626	U	2.50	0.626	0.313
1,1,1,2-Tetrachloroethane	630-20-6	1.25	U	2.50	1.25	0.625
1,1,2,2-Tetrachloroethane	79-34-5	1.00	U	2.50	1.00	0.500
Tetrachloroethene	127-18-4	1.25	U	2.50	1.25	0.625
Toluene	108-88-3	1.25	U	2.50	1.25	0.625
1,2,3-Trichlorobenzene	87-61-6	0.750	U	2.50	0.750	0.375
1,2,4-Trichlorobenzene	120-82-1	1.00	U	2.50	1.00	0.500
1,1,1-Trichloroethane	71-55-6	1.25	U	2.50	1.25	0.625
1,1,2-Trichloroethane	79-00-5	7.66		2.50	1.25	0.625
Trichloroethene	79-01-6	3.32		2.50	1.25	0.625
Trichlorofluoromethane	75-69-4	1.25	U	2.50	1.25	0.625
1,2,3-Trichloropropane	96-18-4	2.50	U	5.00	2.50	1.25
1,2,4-Trimethylbenzene	95-63-6	1.25	U	2.50	1.25	0.625
1,3,5-Trimethylbenzene	108-67-8	1.25	U	2.50	1.25	0.625
Vinyl chloride	75-01-4	1.65	J	2.50	1.25	0.625
o-Xylene	95-47-6	1.25	U	2.50	1.25	0.625
m-,p-Xylene	179601-23-1	2.50	U	5.00	2.50	1.25

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	101	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	100	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS17
Client ID:	67WW13-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/11/2015 17:53
Workgroup #:	WG548399	**Analyst:**	JDS/FJB	**Run Date:**	11/24/2015 22:26
Collect Date:	11/18/2015 13:45	**Dilution:**	20	**File ID:**	17M016672
Sample Tag:	DL02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1-Dichloroethene	75-35-4	762		40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	113	70	120	
Toluene-d8	111	85	120	
4-Bromofluorobenzene	111	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW09-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 19:48
Collect Date:	11/18/2015 14:40	**Dilution:**	1	**File ID:**	8M408872
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	1.08		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.66	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.9	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW09FD-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 20:17
Collect Date:	11/18/2015 14:40	**Dilution:**	1	**File ID:**	8M408873
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	1.08		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.62	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	100	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW05-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 20:47
Collect Date:	11/19/2015 07:30	**Dilution:**	1	**File ID:**	8M408874
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	99.7	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-12	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW02-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 21:16
Collect Date:	11/19/2015 07:40	**Dilution:**	1	**File ID:**	8M408875
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.302	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	0.857	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	102	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-13	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW07-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 21:45
Collect Date:	11/19/2015 07:55	**Dilution:**	1	**File ID:**	8M408876
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.601	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-14	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW01-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 23:40
Collect Date:	11/19/2015 08:10	**Dilution:**	2.5	**File ID:**	8M408880
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	12.5	U	25.0	12.5	6.25
Benzene	71-43-2	0.626	U	2.50	0.626	0.313
Bromobenzene	108-86-1	0.626	U	2.50	0.626	0.313
Bromochloromethane	74-97-5	1.00	U	2.50	1.00	0.500
Bromodichloromethane	75-27-4	1.25	U	2.50	1.25	0.625
Bromoform	75-25-2	2.50	U	5.00	2.50	1.25
Bromomethane	74-83-9	2.50	Q	5.00	2.50	1.25
2-Butanone	78-93-3	12.5	U	25.0	12.5	6.25
n-Butylbenzene	104-51-8	1.25	U	2.50	1.25	0.625
sec-Butylbenzene	135-98-8	1.25	U	2.50	1.25	0.625
tert-Butylbenzene	98-06-6	1.25	U	2.50	1.25	0.625
Carbon disulfide	75-15-0	2.50	U	5.00	2.50	1.25
Carbon tetrachloride	56-23-5	1.25	U	2.50	1.25	0.625
Chlorobenzene	108-90-7	0.626	U	2.50	0.626	0.313
Chlorodibromomethane	124-48-1	1.25	U	2.50	1.25	0.625
Chloroethane	75-00-3	2.50	U	5.00	2.50	1.25
Chloroform	67-66-3	0.626	U	2.50	0.626	0.313
Chloromethane	74-87-3	2.50	Q	5.00	2.50	1.25
2-Chlorotoluene	95-49-8	0.626	U	2.50	0.626	0.313
4-Chlorotoluene	106-43-4	1.25	U	2.50	1.25	0.625
1,2-Dibromo-3-chloropropane	96-12-8	5.00	U	12.5	5.00	2.50
1,2-Dibromoethane	106-93-4	1.25	U	2.50	1.25	0.625
Dibromomethane	74-95-3	1.25	U	2.50	1.25	0.625
1,2-Dichlorobenzene	95-50-1	0.626	U	2.50	0.626	0.313
1,3-Dichlorobenzene	541-73-1	1.25	U	2.50	1.25	0.625
1,4-Dichlorobenzene	106-46-7	0.626	U	2.50	0.626	0.313
Dichlorodifluoromethane	75-71-8	1.25	U	2.50	1.25	0.625
1,1-Dichloroethane	75-34-3	26.2		2.50	0.626	0.313
1,2-Dichloroethane	107-06-2	38.6		2.50	1.25	0.625
1,1-Dichloroethene	75-35-4	694		5.00	2.50	1.25
cis-1,2-Dichloroethene	156-59-2	1.60	J	2.50	1.25	0.625

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	1.25	U	2.50	1.25	0.625
1,2-Dichloropropane	78-87-5	1.00	U	2.50	1.00	0.500
1,3-Dichloropropane	142-28-9	1.00	U	2.50	1.00	0.500
2,2-Dichloropropane	594-20-7	1.25	U	2.50	1.25	0.625
cis-1,3-Dichloropropene	10061-01-5	1.25	U	2.50	1.25	0.625
trans-1,3-Dichloropropene	10061-02-6	2.50	U	5.00	2.50	1.25
1,1-Dichloropropene	563-58-6	1.25	U	2.50	1.25	0.625
Ethylbenzene	100-41-4	1.25	U	2.50	1.25	0.625
2-Hexanone	591-78-6	12.5	U	25.0	12.5	6.25
Hexachlorobutadiene	87-68-3	1.25	U	2.50	1.25	0.625
Isopropylbenzene	98-82-8	1.25	U	2.50	1.25	0.625
p-Isopropyltoluene	99-87-6	1.25	U	2.50	1.25	0.625
4-Methyl-2-pentanone	108-10-1	12.5	U	25.0	12.5	6.25
Methylene chloride	75-09-2	1.25	U	2.50	1.25	0.625
Naphthalene	91-20-3	1.00	U	2.50	1.00	0.500
n-Propylbenzene	103-65-1	0.626	U	2.50	0.626	0.313
Styrene	100-42-5	0.626	U	2.50	0.626	0.313
1,1,1,2-Tetrachloroethane	630-20-6	1.25	U	2.50	1.25	0.625
1,1,2,2-Tetrachloroethane	79-34-5	1.00	U	2.50	1.00	0.500
Tetrachloroethene	127-18-4	1.25	U	2.50	1.25	0.625
Toluene	108-88-3	1.25	U	2.50	1.25	0.625
1,2,3-Trichlorobenzene	87-61-6	0.750	U	2.50	0.750	0.375
1,2,4-Trichlorobenzene	120-82-1	1.00	U	2.50	1.00	0.500
1,1,1-Trichloroethane	71-55-6	1.25	U	2.50	1.25	0.625
1,1,2-Trichloroethane	79-00-5	2.14	J	2.50	1.25	0.625
Trichloroethene	79-01-6	2.84		2.50	1.25	0.625
Trichlorofluoromethane	75-69-4	1.25	U	2.50	1.25	0.625
1,2,3-Trichloropropane	96-18-4	2.50	U	5.00	2.50	1.25
1,2,4-Trimethylbenzene	95-63-6	1.25	U	2.50	1.25	0.625
1,3,5-Trimethylbenzene	108-67-8	1.25	U	2.50	1.25	0.625
Vinyl chloride	75-01-4	2.38	J	2.50	1.25	0.625
o-Xylene	95-47-6	1.25	U	2.50	1.25	0.625
m-,p-Xylene	179601-23-1	2.50	U	5.00	2.50	1.25

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW11-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 22:14
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	8M408877
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	8.54		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.513	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	28.5		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.333	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.9	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW11-111915	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/03/2015 15:29
Workgroup #:	WG548682	**Analyst:**	JDS	**Run Date:**	11/30/2015 17:20
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	16G49078
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.11	J	5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW11-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 20:18
Collect Date:	11/19/2015 09:10	**Dilution:**	10	**File ID:**	I2_112015-24
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	376		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW11-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 20:36
Collect Date:	11/19/2015 09:10	**Dilution:**	100	**File ID:**	I2_112015-25
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1380		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW11-111915	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	11/05/2015 08:15
Workgroup #:	WG548281	**Analyst:**	DCM	**Run Date:**	11/24/2015 11:45
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	00.1511241145-05
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW11-111915	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG548030	**Analyst:**	TB	**Run Date:**	11/23/2015 11:15
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	ET.1511231115-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548464	**Analyst:**	EPT	**Run Date:**	11/25/2015 17:02
Collect Date:	11/19/2015 09:10	**Dilution:**	10	**File ID:**	TC11252015.007
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	23.1		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548464	**Analyst:**	EPT	**Run Date:**	11/25/2015 17:02
Collect Date:	11/19/2015 09:10	**Dilution:**	10	**File ID:**	TC11252015.007
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		113		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW08-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/22/2015 00:09
Collect Date:	11/19/2015 10:20	**Dilution:**	10	**File ID:**	8M408881
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	50.0	U	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	Q	20.0	10.0	5.00
2-Butanone	78-93-3	50.0	U	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	1.61	J	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	Q	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	2.50	U	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	48.1		10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	77.6		10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	1710		20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	5.00	U	10.0	5.00	2.50
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	U	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	U	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	5.00	U	10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	4.67	J	10.0	5.00	2.50
Trichloroethene	79-01-6	5.00	U	10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	5.00	U	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	99.8	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.8	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW08-111915	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/03/2015 15:29
Workgroup #:	WG548346	**Analyst:**	JDS	**Run Date:**	11/24/2015 19:31
Collect Date:	11/19/2015 10:20	**Dilution:**	1	**File ID:**	16G49067
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	12.1		5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW08-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 20:55
Collect Date:	11/19/2015 10:20	**Dilution:**	10	**File ID:**	I2_112015-26
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	300		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW08-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 21:49
Collect Date:	11/19/2015 10:20	**Dilution:**	100	**File ID:**	I2_112015-29
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1400		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW08-111915	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	11/05/2015 08:15
Workgroup #:	WG548281	**Analyst:**	DCM	**Run Date:**	11/24/2015 11:45
Collect Date:	11/19/2015 10:20	**Dilution:**	1	**File ID:**	00.1511241145-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0931		0.0400	0.0400	0.0200

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW08-111915	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG548030	**Analyst:**	TB	**Run Date:**	11/23/2015 11:15
Collect Date:	11/19/2015 10:20	**Dilution:**	1	**File ID:**	ET.1511231115-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548214	**Analyst:**	DIH	**Run Date:**	11/24/2015 13:17
Collect Date:	11/19/2015 10:20	**Dilution:**	3	**File ID:**	TC11242015.010
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	47.5		6.00	3.00	1.50

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548214	**Analyst:**	DIH	**Run Date:**	11/24/2015 13:17
Collect Date:	11/19/2015 10:20	**Dilution:**	3	**File ID:**	TC11242015.010
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		103		6.00	3.00	1.50

Certificate of Analysis

Sample #:	L15111211-17	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 16:51
Collect Date:	11/19/2015 00:01	**Dilution:**	1	**File ID:**	8M408866
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW12-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 17:21
Collect Date:	11/18/2015 08:00	**Dilution:**	1	**File ID:**	8M408867
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	98.9	75	120	

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW12FFD-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 17:51
Collect Date:	11/18/2015 08:00	**Dilution:**	1	**File ID:**	8M408868
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	105	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW10-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 18:20
Collect Date:	11/18/2015 08:55	**Dilution:**	1	**File ID:**	8M408869
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.140	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	99.9	85	120	
4-Bromofluorobenzene	98.9	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW09A-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 18:50
Collect Date:	11/18/2015 10:00	**Dilution:**	1	**File ID:**	8M408870
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.3	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW14-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 19:19
Collect Date:	11/18/2015 11:00	**Dilution:**	1	**File ID:**	8M408871
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	3.70		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	5.83		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	26.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.297	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	99.3	85	120	
4-Bromofluorobenzene	102	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW14MS-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 15:22
Collect Date:	11/18/2015 11:00	**Dilution:**	1	**File ID:**	8M408863
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	26.8		10.0	5.00	2.50
Benzene	71-43-2	20.8		1.00	0.250	0.125
Bromobenzene	108-86-1	19.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	22.2		1.00	0.400	0.200
Bromodichloromethane	75-27-4	21.0		1.00	0.500	0.250
Bromoform	75-25-2	21.2		2.00	1.00	0.500
Bromomethane	74-83-9	24.3	Q	2.00	1.00	0.500
2-Butanone	78-93-3	22.7		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.1		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.9		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	18.4		1.00	0.500	0.250
Carbon disulfide	75-15-0	14.3		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	21.0		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.6		1.00	0.500	0.250
Chloroethane	75-00-3	21.4		2.00	1.00	0.500
Chloroform	67-66-3	21.7		1.00	0.250	0.125
Chloromethane	74-87-3	21.5	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	19.4		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.2		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.2		1.00	0.500	0.250
Dibromomethane	74-95-3	21.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.2		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	19.6		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	19.2		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	16.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	23.7		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	27.0		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	38.0		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.6		1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.2		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.7		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	20.4		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.4		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	19.7		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.8		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.500	0.250
2-Hexanone	591-78-6	20.5		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	17.7		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.5		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.0		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	20.6		10.0	5.00	2.50
Methylene chloride	75-09-2	21.6		1.00	0.500	0.250
Naphthalene	91-20-3	23.1		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.0		1.00	0.250	0.125
Styrene	100-42-5	19.7		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.9		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.6		1.00	0.500	0.250
Toluene	108-88-3	19.7		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	20.5		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	20.2		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	21.0		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.3		1.00	0.500	0.250
Trichloroethene	79-01-6	19.6		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	19.6		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.9		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.2		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.2		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.3		1.00	0.500	0.250
o-Xylene	95-47-6	19.4		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	39.7		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	99.1	85	120	
4-Bromofluorobenzene	98.2	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW14MSD-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 15:51
Collect Date:	11/18/2015 11:00	**Dilution:**	1	**File ID:**	8M408864
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	24.0		10.0	5.00	2.50
Benzene	71-43-2	20.8		1.00	0.250	0.125
Bromobenzene	108-86-1	19.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	22.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	20.9		1.00	0.500	0.250
Bromoform	75-25-2	20.7		2.00	1.00	0.500
Bromomethane	74-83-9	24.8	Q	2.00	1.00	0.500
2-Butanone	78-93-3	21.5		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.2		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	19.1		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	18.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	14.2		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	20.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.1		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.1		1.00	0.500	0.250
Chloroethane	75-00-3	20.9		2.00	1.00	0.500
Chloroform	67-66-3	21.7		1.00	0.250	0.125
Chloromethane	74-87-3	20.8	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.4		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.0		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	19.5		1.00	0.500	0.250
Dibromomethane	74-95-3	21.5		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.4		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	19.5		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	19.3		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	15.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	23.8		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	26.4		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	37.8		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.5		1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.2		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.6		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.7		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.3		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	19.1		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.5		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.3		1.00	0.500	0.250
2-Hexanone	591-78-6	19.1		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.2		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.0		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	19.4		10.0	5.00	2.50
Methylene chloride	75-09-2	21.0		1.00	0.500	0.250
Naphthalene	91-20-3	22.3		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.1		1.00	0.250	0.125
Styrene	100-42-5	19.8		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	18.9		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.3		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.3		1.00	0.500	0.250
Toluene	108-88-3	19.5		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	20.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	20.3		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	20.7		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.2		1.00	0.500	0.250
Trichloroethene	79-01-6	19.6		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	19.3		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.6		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.6		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.2		1.00	0.500	0.250
Vinyl chloride	75-01-4	20.7		1.00	0.500	0.250
o-Xylene	95-47-6	19.4		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	39.6		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	101	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	97.3	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW13-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 23:12
Collect Date:	11/18/2015 13:45	**Dilution:**	2.5	**File ID:**	8M408879
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	12.5	U	25.0	12.5	6.25
Benzene	71-43-2	0.626	U	2.50	0.626	0.313
Bromobenzene	108-86-1	0.626	U	2.50	0.626	0.313
Bromochloromethane	74-97-5	1.00	U	2.50	1.00	0.500
Bromodichloromethane	75-27-4	1.25	U	2.50	1.25	0.625
Bromoform	75-25-2	2.50	U	5.00	2.50	1.25
Bromomethane	74-83-9	2.50	Q	5.00	2.50	1.25
2-Butanone	78-93-3	12.5	U	25.0	12.5	6.25
n-Butylbenzene	104-51-8	1.25	U	2.50	1.25	0.625
sec-Butylbenzene	135-98-8	1.25	U	2.50	1.25	0.625
tert-Butylbenzene	98-06-6	1.25	U	2.50	1.25	0.625
Carbon disulfide	75-15-0	2.50	U	5.00	2.50	1.25
Carbon tetrachloride	56-23-5	1.25	U	2.50	1.25	0.625
Chlorobenzene	108-90-7	0.626	U	2.50	0.626	0.313
Chlorodibromomethane	124-48-1	1.25	U	2.50	1.25	0.625
Chloroethane	75-00-3	2.50	U	5.00	2.50	1.25
Chloroform	67-66-3	2.27	J	2.50	0.626	0.313
Chloromethane	74-87-3	2.50	Q	5.00	2.50	1.25
2-Chlorotoluene	95-49-8	0.626	U	2.50	0.626	0.313
4-Chlorotoluene	106-43-4	1.25	U	2.50	1.25	0.625
1,2-Dibromo-3-chloropropane	96-12-8	5.00	U	12.5	5.00	2.50
1,2-Dibromoethane	106-93-4	1.25	U	2.50	1.25	0.625
Dibromomethane	74-95-3	1.25	U	2.50	1.25	0.625
1,2-Dichlorobenzene	95-50-1	0.626	U	2.50	0.626	0.313
1,3-Dichlorobenzene	541-73-1	1.25	U	2.50	1.25	0.625
1,4-Dichlorobenzene	106-46-7	0.626	U	2.50	0.626	0.313
Dichlorodifluoromethane	75-71-8	1.25	U	2.50	1.25	0.625
1,1-Dichloroethane	75-34-3	46.3		2.50	0.626	0.313
1,2-Dichloroethane	107-06-2	42.6		2.50	1.25	0.625
1,1-Dichloroethene	75-35-4	951	J	5.00	2.50	1.25
cis-1,2-Dichloroethene	156-59-2	2.75		2.50	1.25	0.625

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	1.25	U	2.50	1.25	0.625
1,2-Dichloropropane	78-87-5	1.00	U	2.50	1.00	0.500
1,3-Dichloropropane	142-28-9	1.00	U	2.50	1.00	0.500
2,2-Dichloropropane	594-20-7	1.25	U	2.50	1.25	0.625
cis-1,3-Dichloropropene	10061-01-5	1.25	U	2.50	1.25	0.625
trans-1,3-Dichloropropene	10061-02-6	2.50	U	5.00	2.50	1.25
1,1-Dichloropropene	563-58-6	1.25	U	2.50	1.25	0.625
Ethylbenzene	100-41-4	1.25	U	2.50	1.25	0.625
2-Hexanone	591-78-6	12.5	U	25.0	12.5	6.25
Hexachlorobutadiene	87-68-3	1.25	U	2.50	1.25	0.625
Isopropylbenzene	98-82-8	1.25	U	2.50	1.25	0.625
p-Isopropyltoluene	99-87-6	1.25	U	2.50	1.25	0.625
4-Methyl-2-pentanone	108-10-1	12.5	U	25.0	12.5	6.25
Methylene chloride	75-09-2	1.25	U	2.50	1.25	0.625
Naphthalene	91-20-3	1.00	U	2.50	1.00	0.500
n-Propylbenzene	103-65-1	0.626	U	2.50	0.626	0.313
Styrene	100-42-5	0.626	U	2.50	0.626	0.313
1,1,1,2-Tetrachloroethane	630-20-6	1.25	U	2.50	1.25	0.625
1,1,2,2-Tetrachloroethane	79-34-5	1.00	U	2.50	1.00	0.500
Tetrachloroethene	127-18-4	1.25	U	2.50	1.25	0.625
Toluene	108-88-3	1.25	U	2.50	1.25	0.625
1,2,3-Trichlorobenzene	87-61-6	0.750	U	2.50	0.750	0.375
1,2,4-Trichlorobenzene	120-82-1	1.00	U	2.50	1.00	0.500
1,1,1-Trichloroethane	71-55-6	1.25	U	2.50	1.25	0.625
1,1,2-Trichloroethane	79-00-5	7.66		2.50	1.25	0.625
Trichloroethene	79-01-6	3.32		2.50	1.25	0.625
Trichlorofluoromethane	75-69-4	1.25	U	2.50	1.25	0.625
1,2,3-Trichloropropane	96-18-4	2.50	U	5.00	2.50	1.25
1,2,4-Trimethylbenzene	95-63-6	1.25	U	2.50	1.25	0.625
1,3,5-Trimethylbenzene	108-67-8	1.25	U	2.50	1.25	0.625
Vinyl chloride	75-01-4	1.65	J	2.50	1.25	0.625
o-Xylene	95-47-6	1.25	U	2.50	1.25	0.625
m-,p-Xylene	179601-23-1	2.50	U	5.00	2.50	1.25

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	101	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	100	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

J	Estimated value ; the analyte concentration was greater than the highest standard
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS17
Client ID:	67WW13-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/11/2015 17:53
Workgroup #:	WG548399	**Analyst:**	JDS/FJB	**Run Date:**	11/24/2015 22:26
Collect Date:	11/18/2015 13:45	**Dilution:**	20	**File ID:**	17M016672
Sample Tag:	DL02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	100	U	200	100	50.0
Benzene	71-43-2	5.00	U	20.0	5.00	2.50
Bromobenzene	108-86-1	5.00	U	20.0	5.00	2.50
Bromochloromethane	74-97-5	8.00	U	20.0	8.00	4.00
Bromodichloromethane	75-27-4	10.0	U	20.0	10.0	5.00
Bromoform	75-25-2	20.0	U	40.0	20.0	10.0
Bromomethane	74-83-9	20.0	U	40.0	20.0	10.0
2-Butanone	78-93-3	100	U	200	100	50.0
n-Butylbenzene	104-51-8	10.0	U	20.0	10.0	5.00
sec-Butylbenzene	135-98-8	10.0	U	20.0	10.0	5.00
tert-Butylbenzene	98-06-6	10.0	U	20.0	10.0	5.00
Carbon disulfide	75-15-0	20.0	U	40.0	20.0	10.0
Carbon tetrachloride	56-23-5	10.0	U	20.0	10.0	5.00
Chlorobenzene	108-90-7	5.00	U	20.0	5.00	2.50
Chlorodibromomethane	124-48-1	10.0	U	20.0	10.0	5.00
Chloroethane	75-00-3	20.0	Q	40.0	20.0	10.0
Chloroform	67-66-3	5.00	U	20.0	5.00	2.50
Chloromethane	74-87-3	20.0	U	40.0	20.0	10.0
2-Chlorotoluene	95-49-8	5.00	U	20.0	5.00	2.50
4-Chlorotoluene	106-43-4	10.0	U	20.0	10.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8	40.0	U	100	40.0	20.0
1,2-Dibromoethane	106-93-4	10.0	U	20.0	10.0	5.00
Dibromomethane	74-95-3	10.0	U	20.0	10.0	5.00
1,2-Dichlorobenzene	95-50-1	5.00	U	20.0	5.00	2.50
1,3-Dichlorobenzene	541-73-1	10.0	U	20.0	10.0	5.00
1,4-Dichlorobenzene	106-46-7	3.23	J	20.0	5.00	2.50
Dichlorodifluoromethane	75-71-8	10.0	U	20.0	10.0	5.00
1,1-Dichloroethane	75-34-3	37.4		20.0	5.00	2.50
1,2-Dichloroethane	107-06-2	39.1		20.0	10.0	5.00
1,1-Dichloroethene	75-35-4	762		40.0	20.0	10.0
cis-1,2-Dichloroethene	156-59-2	10.0	U	20.0	10.0	5.00

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	10.0	U	20.0	10.0	5.00
1,2-Dichloropropane	78-87-5	8.00	U	20.0	8.00	4.00
1,3-Dichloropropane	142-28-9	8.00	U	20.0	8.00	4.00
2,2-Dichloropropane	594-20-7	10.0	U	20.0	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5	10.0	U	20.0	10.0	5.00
trans-1,3-Dichloropropene	10061-02-6	20.0	U	40.0	20.0	10.0
1,1-Dichloropropene	563-58-6	10.0	U	20.0	10.0	5.00
Ethylbenzene	100-41-4	10.0	U	20.0	10.0	5.00
2-Hexanone	591-78-6	100	Q	200	100	50.0
Hexachlorobutadiene	87-68-3	10.0	U	20.0	10.0	5.00
Isopropylbenzene	98-82-8	10.0	U	20.0	10.0	5.00
p-Isopropyltoluene	99-87-6	10.0	U	20.0	10.0	5.00
4-Methyl-2-pentanone	108-10-1	100	Q	200	100	50.0
Methylene chloride	75-09-2	10.0	U	20.0	10.0	5.00
Naphthalene	91-20-3	8.00	U	20.0	8.00	4.00
n-Propylbenzene	103-65-1	5.00	U	20.0	5.00	2.50
Styrene	100-42-5	5.00	U	20.0	5.00	2.50
1,1,1,2-Tetrachloroethane	630-20-6	10.0	U	20.0	10.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5	8.00	U	20.0	8.00	4.00
Tetrachloroethene	127-18-4	10.0	U	20.0	10.0	5.00
Toluene	108-88-3	10.0	U	20.0	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6	3.92	J	20.0	6.00	3.00
1,2,4-Trichlorobenzene	120-82-1	4.86	J	20.0	8.00	4.00
1,1,1-Trichloroethane	71-55-6	10.0	U	20.0	10.0	5.00
1,1,2-Trichloroethane	79-00-5	7.33	J	20.0	10.0	5.00
Trichloroethene	79-01-6	10.0	U	20.0	10.0	5.00
Trichlorofluoromethane	75-69-4	10.0	Q	20.0	10.0	5.00
1,2,3-Trichloropropane	96-18-4	20.0	U	40.0	20.0	10.0
1,2,4-Trimethylbenzene	95-63-6	10.0	U	20.0	10.0	5.00
1,3,5-Trimethylbenzene	108-67-8	10.0	U	20.0	10.0	5.00
Vinyl chloride	75-01-4	10.0	U	20.0	10.0	5.00
o-Xylene	95-47-6	10.0	U	20.0	10.0	5.00
m-,p-Xylene	179601-23-1	20.0	U	40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	113	70	120	
Toluene-d8	111	85	120	
4-Bromofluorobenzene	111	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW09-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 19:48
Collect Date:	11/18/2015 14:40	**Dilution:**	1	**File ID:**	8M408872
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	1.08		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.66	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.9	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW09FD-111815	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 20:17
Collect Date:	11/18/2015 14:40	**Dilution:**	1	**File ID:**	8M408873
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	1.08		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.62	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	100	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW05-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 20:47
Collect Date:	11/19/2015 07:30	**Dilution:**	1	**File ID:**	8M408874
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	99.7	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-12	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW02-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 21:16
Collect Date:	11/19/2015 07:40	**Dilution:**	1	**File ID:**	8M408875
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.302	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	0.857	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	102	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-13	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW07-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 21:45
Collect Date:	11/19/2015 07:55	**Dilution:**	1	**File ID:**	8M408876
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.601	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-14	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW01-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 23:40
Collect Date:	11/19/2015 08:10	**Dilution:**	2.5	**File ID:**	8M408880
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	12.5	U	25.0	12.5	6.25
Benzene	71-43-2	0.626	U	2.50	0.626	0.313
Bromobenzene	108-86-1	0.626	U	2.50	0.626	0.313
Bromochloromethane	74-97-5	1.00	U	2.50	1.00	0.500
Bromodichloromethane	75-27-4	1.25	U	2.50	1.25	0.625
Bromoform	75-25-2	2.50	U	5.00	2.50	1.25
Bromomethane	74-83-9	2.50	Q	5.00	2.50	1.25
2-Butanone	78-93-3	12.5	U	25.0	12.5	6.25
n-Butylbenzene	104-51-8	1.25	U	2.50	1.25	0.625
sec-Butylbenzene	135-98-8	1.25	U	2.50	1.25	0.625
tert-Butylbenzene	98-06-6	1.25	U	2.50	1.25	0.625
Carbon disulfide	75-15-0	2.50	U	5.00	2.50	1.25
Carbon tetrachloride	56-23-5	1.25	U	2.50	1.25	0.625
Chlorobenzene	108-90-7	0.626	U	2.50	0.626	0.313
Chlorodibromomethane	124-48-1	1.25	U	2.50	1.25	0.625
Chloroethane	75-00-3	2.50	U	5.00	2.50	1.25
Chloroform	67-66-3	0.626	U	2.50	0.626	0.313
Chloromethane	74-87-3	2.50	Q	5.00	2.50	1.25
2-Chlorotoluene	95-49-8	0.626	U	2.50	0.626	0.313
4-Chlorotoluene	106-43-4	1.25	U	2.50	1.25	0.625
1,2-Dibromo-3-chloropropane	96-12-8	5.00	U	12.5	5.00	2.50
1,2-Dibromoethane	106-93-4	1.25	U	2.50	1.25	0.625
Dibromomethane	74-95-3	1.25	U	2.50	1.25	0.625
1,2-Dichlorobenzene	95-50-1	0.626	U	2.50	0.626	0.313
1,3-Dichlorobenzene	541-73-1	1.25	U	2.50	1.25	0.625
1,4-Dichlorobenzene	106-46-7	0.626	U	2.50	0.626	0.313
Dichlorodifluoromethane	75-71-8	1.25	U	2.50	1.25	0.625
1,1-Dichloroethane	75-34-3	26.2		2.50	0.626	0.313
1,2-Dichloroethane	107-06-2	38.6		2.50	1.25	0.625
1,1-Dichloroethene	75-35-4	694		5.00	2.50	1.25
cis-1,2-Dichloroethene	156-59-2	1.60	J	2.50	1.25	0.625

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	1.25	U	2.50	1.25	0.625
1,2-Dichloropropane	78-87-5	1.00	U	2.50	1.00	0.500
1,3-Dichloropropane	142-28-9	1.00	U	2.50	1.00	0.500
2,2-Dichloropropane	594-20-7	1.25	U	2.50	1.25	0.625
cis-1,3-Dichloropropene	10061-01-5	1.25	U	2.50	1.25	0.625
trans-1,3-Dichloropropene	10061-02-6	2.50	U	5.00	2.50	1.25
1,1-Dichloropropene	563-58-6	1.25	U	2.50	1.25	0.625
Ethylbenzene	100-41-4	1.25	U	2.50	1.25	0.625
2-Hexanone	591-78-6	12.5	U	25.0	12.5	6.25
Hexachlorobutadiene	87-68-3	1.25	U	2.50	1.25	0.625
Isopropylbenzene	98-82-8	1.25	U	2.50	1.25	0.625
p-Isopropyltoluene	99-87-6	1.25	U	2.50	1.25	0.625
4-Methyl-2-pentanone	108-10-1	12.5	U	25.0	12.5	6.25
Methylene chloride	75-09-2	1.25	U	2.50	1.25	0.625
Naphthalene	91-20-3	1.00	U	2.50	1.00	0.500
n-Propylbenzene	103-65-1	0.626	U	2.50	0.626	0.313
Styrene	100-42-5	0.626	U	2.50	0.626	0.313
1,1,1,2-Tetrachloroethane	630-20-6	1.25	U	2.50	1.25	0.625
1,1,2,2-Tetrachloroethane	79-34-5	1.00	U	2.50	1.00	0.500
Tetrachloroethene	127-18-4	1.25	U	2.50	1.25	0.625
Toluene	108-88-3	1.25	U	2.50	1.25	0.625
1,2,3-Trichlorobenzene	87-61-6	0.750	U	2.50	0.750	0.375
1,2,4-Trichlorobenzene	120-82-1	1.00	U	2.50	1.00	0.500
1,1,1-Trichloroethane	71-55-6	1.25	U	2.50	1.25	0.625
1,1,2-Trichloroethane	79-00-5	2.14	J	2.50	1.25	0.625
Trichloroethene	79-01-6	2.84		2.50	1.25	0.625
Trichlorofluoromethane	75-69-4	1.25	U	2.50	1.25	0.625
1,2,3-Trichloropropane	96-18-4	2.50	U	5.00	2.50	1.25
1,2,4-Trimethylbenzene	95-63-6	1.25	U	2.50	1.25	0.625
1,3,5-Trimethylbenzene	108-67-8	1.25	U	2.50	1.25	0.625
Vinyl chloride	75-01-4	2.38	J	2.50	1.25	0.625
o-Xylene	95-47-6	1.25	U	2.50	1.25	0.625
m-,p-Xylene	179601-23-1	2.50	U	5.00	2.50	1.25

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW11-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 22:14
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	8M408877
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	8.54		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.513	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	28.5		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.333	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.9	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW08-111915	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/22/2015 00:09
Collect Date:	11/19/2015 10:20	**Dilution:**	10	**File ID:**	8M408881
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	50.0	U	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	Q	20.0	10.0	5.00
2-Butanone	78-93-3	50.0	U	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	1.61	J	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	Q	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	2.50	U	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	48.1		10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	77.6		10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	1710		20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	U	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	U	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	5.00	U	10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	4.67	J	10.0	5.00	2.50
Trichloroethene	79-01-6	5.00	U	10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	5.00	U	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	99.8	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	99.8	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-17	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/30/2015 14:52
Workgroup #:	WG547961	**Analyst:**	TMB	**Run Date:**	11/21/2015 16:51
Collect Date:	11/19/2015 00:01	**Dilution:**	1	**File ID:**	8M408866
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	101	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 093015
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 22
Method: 624 SOP: MSV10 Rev: 13
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53451

Internal Standard: STD72206 Surrogate Standard: STD72206
CCV: STD72739 LCS: STD72747 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG540912

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M407744	WG540912-01 50ng BFB STD 8260	NA	1	1	STD72715	09/30/15 09:14
8M407745	WG540912-01 50ng BFB STD 8260	NA	1	1	STD72715	09/30/15 09:38
8M407746	RINSE	NA	1	1		09/30/15 10:01
8M407747	WG540912-02 0.3ug/L STD 8260	NA	1	1	STD72739	09/30/15 10:30
8M407748	WG540912-03 0.4ug/L STD 8260	NA	1	1	STD72739	09/30/15 10:59
8M407749	WG540912-04 1ug/L STD 8260	NA	1	1	STD72739	09/30/15 11:32
8M407750	WG540912-05 2ug/L STD 8260	NA	1	1	STD72739	09/30/15 12:01
8M407751	WG540912-06 5ug/L STD 8260	NA	1	1	STD72739	09/30/15 12:29
8M407752	WG540912-07 20ug/L STD 8260	NA	1	1	STD72739	09/30/15 12:58
8M407753	WG540912-08 50ug/L STD 8260	NA	1	1	STD72739	09/30/15 13:27
8M407754	WG540912-09 100ug/L STD 8260	NA	1	1	STD72739	09/30/15 13:56
8M407755	WG540912-10 200ug/L STD 8260	NA	1	1	STD72739	09/30/15 14:24
8M407756	WG540912-11 300ug/L STD 8260	NA	1	1	STD72739	09/30/15 14:52
8M407757	RINSE	NA	1	1		09/30/15 15:25
8M407758	RINSE	NA	1	1		09/30/15 15:54
8M407759	WG540912-12 50ug/L ALT SRC STD 8260	NA	1	1	STD727747	09/30/15 16:22
8M407760	RINSE	NA	1	1		09/30/15 16:52
8M407761	WG540912-12 50ug/L ALT SRC STD 8260	NA	1	1	STD72747	09/30/15 17:27
8M407762	CCV	NA	1	1	STD72739	09/30/15 17:56
8M407763	RINSE	NA	1	1		09/30/15 18:24

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 8M407744				
			Tune failed, DNR.	
16	X			
File ID: 8M407759				
			Carbon disulfide was low, DNR. Made a new lcs adds mix.	

Approved: October 01, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 100515

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 22

Method: 624 SOP: MSV10 Rev: 13

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53462

Internal Standard: STD72767 Surrogate Standard: STD72767

CCV: STD72810 LCS: STD72811 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG540826

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M407827	WG540826-01 50ng BFB STD 8260	NA	1	1	STD72715	10/05/15 11:26
8M407828	WG540826-02 5ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 11:49
8M407829	WG540826-03 20ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 12:17
8M407830	WG540826-04 50ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 12:51
8M407831	WG540826-05 100ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 13:20
8M407832	WG540826-06 200ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 13:49
8M407833	WG540826-07 300ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 14:17
8M407834	WG540826-08 400ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 14:47
8M407835	WG540826-09 500ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 15:15
8M407836	RINSE	NA	1	1		10/05/15 15:50
8M407837	RINSE	NA	1	1		10/05/15 16:19
8M407838	WG540826-10 100ug/L ALT SRC STD A9/F	NA	1	1	STD72811	10/05/15 16:48

Approved: October 09, 2015

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 111115

Analyst1: ADC Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 23

Method: 5035/5030B/ 5030C SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD72995 Surrogate Standard: STD72996

CCV: STD73343 LCS: STD73034 MS/MSD: STD73034

Column 1 ID: RTX-VMS Column 2 ID: NA

Workgroups: WG546498 (ICAL)

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M016364	TEST BFB	NA	1	1	STD72715	11/11/15 13:32
17M016366	WG546498-01 50ng BFB STD	NA	1	1	STD72715	11/11/15 14:17
17M016367	WG546498-02 50ug/L CCV STD	NA	1	1	STD73185	11/11/15 14:34
17M016368	RINSE	NA	1	1	STD73185	11/11/15 14:54
17M016369	WG546498-03 0.3ug/L STD	NA	1	1	STD73185	11/11/15 15:14
17M016370	WG546498-04 0.4ug/L STD	NA	1	1	STD73185	11/11/15 15:34
17M016371	WG546498-05 1.0ug/L STD	NA	1	1	STD73185	11/11/15 15:54
17M016372	WG546498-06 2.0ug/L STD 8260	NA	1	1	STD73185	11/11/15 16:14
17M016373	WG546498-07 5.0ug/L STD 8260	NA	1	1	STD73185	11/11/15 16:33
17M016374	WG546498-08 20.0ug/L STD 8260	NA	1	1	STD73185	11/11/15 16:53
17M016375	WG546498-09 100.0ug/L STD 8260	NA	1	1	STD73185	11/11/15 17:13
17M016376	WG546498-10 200.0ug/L STD 8260	NA	1	1	STD73185	11/11/15 17:33
17M016377	WG546498-11 300.0ug/L STD 8260	NA	1	1	STD73185	11/11/15 17:53
17M016378	RINSE	NA	1	1		11/11/15 18:13
17M016379	WG546498-12 50.0ug/L ALT 8260	NA	1	1	STD73387	11/11/15 18:33

Approved: November 16, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 112115
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 22
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53560

Internal Standard: STD73295 Surrogate Standard: STD73295
CCV: STD73419 LCS: STD73575 MS/MSD: STD73575

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG547961

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M408854	WG547960-01 50ng BFB STD 8260	NA	1	1	STD73273	11/21/15 11:07
8M408855	WG547960-012 50ug/L CCV STD 8260	NA	1	1	STD73419	11/21/15 11:31
8M408856	WG547960-012 50ug/L CCV STD 8260	NA	1	1	STD73419	11/21/15 12:00
8M408857	WG547960-01 50ng BFB STD 8260	NA	1	1	STD73419	11/21/15 12:26
8M408858	WG547960-012 50ug/L CCV STD 8260	NA	1	1	STD73419	11/21/15 12:49
8M408859	WG547960-02 50ug/L CCV STD 8260	NA	1	1	STD73419	11/21/15 13:24
8M408860	WG000000-01 100ug/L A9CCV STD 8260	NA	1	1	STD73389	11/21/15 13:53
8M408861	WG547961-01 VBLK1121 BLANK STD 826	NA	1	1		11/21/15 14:22
8M408862	WG547961-02 20ug/L LCS STD 8260	NA	1	1	STD73575	11/21/15 14:52
8M408863	L15111211-06 A MS 826-LOW	<2	1	1	STD73575	11/21/15 15:22
8M408864	L15111211-07 A MSD 826-LOW	<2	1	1	STD73575	11/21/15 15:51
8M408865	RINSE	NA	1	1		11/21/15 16:21
8M408866	L15111211-17 A TB 826-LOW	<2	1	1		11/21/15 16:51
8M408867	L15111211-01 A 826-LOW	<2	1	1		11/21/15 17:21
8M408868	L15111211-02 A 826-LOW	<2	1	1		11/21/15 17:51
8M408869	L15111211-03 A 826-LOW	<2	1	1		11/21/15 18:20
8M408870	L15111211-04 A 826-LOW	<2	1	1		11/21/15 18:50
8M408871	L15111211-05 A REF 826-LOW	<2	1	1		11/21/15 19:19
8M408872	L15111211-09 A 826-LOW	<2	1	1		11/21/15 19:48
8M408873	L15111211-10 A 826-LOW	<2	1	1		11/21/15 20:17
8M408874	L15111211-11 A 826-LOW	<2	1	1		11/21/15 20:47
8M408875	L15111211-12 A 826-LOW	<2	1	1		11/21/15 21:16
8M408876	L15111211-13 A 826-LOW	<2	1	1		11/21/15 21:45
8M408877	L15111211-15 A 826-LOW	<2	1	1		11/21/15 22:14
8M408878	L15111182-05 A 826-SPE	<2	1	1		11/21/15 22:43
8M408879	L15111211-08 A 2.5X 826-LOW	<2	1	2.5		11/21/15 23:12
8M408880	L15111211-14 A 2.5X 826-LOW	<2	1	2.5		11/21/15 23:40
8M408881	L15111211-16 A 10X 826-LOW	<2	1	10		11/22/15 00:09
8M408882	CCV	NA	1	1		11/22/15 00:38
8M408883	RINSE	NA	1	1		11/22/15 01:06
8M408884	RINSE	NA	1	1		11/22/15 01:36
8M408885	RINSE	NA	1	1		11/22/15 02:05
8M408886	RINSE	NA	1	1		11/22/15 02:33

Approved: November 24, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 112115

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 22

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53560

Internal Standard: STD73295 Surrogate Standard: STD73295

CCV: STD73419 LCS: STD73575 MS/MSD: STD73575

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG547961

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
File ID: 8M408855				
	VC was high, DNR.			
3	X			
File ID: 8M408856				
	VC was high, DNR. Increased the voltage by 20.			
5	X			
File ID: 8M408858				
	VC was high, DNR.			
7				
File ID: 8M408860				
	Not needed. DNR.			
26	X	20	Over Calibration Range	11-DCE
File ID: 8M408879				

Approved: November 24, 2015

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS17 Dataset: 112415
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 22
Method: 624 SOP: MSV10 Rev: 13
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID:

Internal Standard: STD73495 Surrogate Standard: STD73496
CCV: STD73185 LCS: STD73387 MS/MSD: NA

Column 1 ID: RTX-VMS Column 2 ID: NA
Workgroups: WG548399

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
17M016665	WG548398-01 50ng BFB STD	NA	1	1	STD72715	11/24/15 20:08
17M016666	WG548398-02 50ug/L CCV STD	NA	1	1	STD73343	11/24/15 20:26
17M016667	RINSE	NA	1	1		11/24/15 20:47
17M016668	WG548399-01 BLK 8260	NA	1	1		11/24/15 21:07
17M016669	WG548399-02 20ug/L LCS 8260	NA	1	1	STD73387	11/24/15 21:26
17M016670	L15111384-02 A MS 826-SPE	7	1	1	STD73387	11/24/15 21:46
17M016671	L15111384-03 A MSD 826-SPE	7	1	1	STD73387	11/24/15 22:06
17M016672	L15111211-08 B D1 20X 826-LOW	<2	1	20		11/24/15 22:26
17M016673	L15110809-04 C 00 826-SPE1	<2	1	1		11/24/15 22:46
17M016674	RINSE	NA	1	1		11/24/15 23:06
17M016675	L15111380-11 A TB 826-LOW	<2	2	1		11/24/15 23:25
17M016676	L15111384-01 A REF 826-SPE	7	1	1		11/24/15 23:45
17M016677	L15110793-07 B 00 50X 826-SPE1	<2	1	50		11/25/15 00:05
17M016678	L15110809-02 C D1 10X 826-SPE1	<2	1	10		11/25/15 00:25
17M016679	RINSE	NA	1	1		11/25/15 00:45
17M016680	L15111380-01 A 826-LOW	<2	2	1		11/25/15 01:04
17M016681	L15111380-02 A 826-LOW	<2	2	1		11/25/15 01:24
17M016682	L15111380-03 A 826-LOW	<2	2	1		11/25/15 01:44
17M016683	L15111380-04 A 826-LOW	<2	2	1		11/25/15 02:04
17M016684	L15111380-05 A 826-LOW	<2	2	1		11/25/15 02:24
17M016685	L15111380-06 A 826-LOW	<2	2	1		11/25/15 02:43
17M016686	L15111380-07 A 826-LOW	<2	2	1		11/25/15 03:03
17M016687	L15111380-08 A 826-LOW	<2	2	1		11/25/15 03:23
17M016688	RINSE	NA	1	1		11/25/15 03:43
17M016689	L15111384-04 A 826-SPE	7	1	1		11/25/15 04:03
17M016690	L15111384-05 A 5X 826-SPE	7	1	5		11/25/15 04:22
17M016691	L15111384-06 A 10X 826-SPE	7	1	10		11/25/15 04:42
17M016692	L15111384-07 A 10X 826-SPE	7	1	10		11/25/15 05:02
17M016693	CCV	NA	1	1		11/25/15 05:22
17M016694	RINSE	NA	1	1		11/25/15 05:42
17M016695	RINSE	NA	1	1		11/25/15 06:02

Comments

Approved: December 01, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS17	Dataset:	112415		
Analyst1:	ADC	Analyst2:	NA		
Method:	8260B	SOP:	MSV01	Rev:	22
Method:	624	SOP:	MSV10	Rev:	13
Method:	5030B/5030C/5035A	SOP:	PAT01	Rev:	18
Maintenance Log ID:					

Internal Standard:	STD73495	Surrogate Standard:	STD73496		
CCV:	STD73185	LCS:	STD73387	MS/MSD:	NA

Column 1 ID: RTX-VMS Column 2 ID: NA

Workgroups: WG548399

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
27	X		Analyzed too dilute	
File ID: 17M016691				
	L15111384-06			
28	X		Analyzed too dilute	
File ID: 17M016692				
	L15111384-07			

Approved: December 01, 2015

Microbac Laboratories Inc.

Data Checklist

Date: 30-SEP-2015
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 70802
Analytical Workgroups: WG540912

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
01-OCT-2015
Tiffany Bailey

Secondary Reviewer:
01-OCT-2015

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-01-2015 16:52:52

Microbac Laboratories Inc.

Data Checklist

Date: 05-OCT-2015
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 70874
Analytical Workgroups: WG540826

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
06-OCT-2015
Tiffany Bailey

Secondary Reviewer:
09-OCT-2015

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-09-2015 12:12:03

Microbac Laboratories Inc.

Data Checklist

Date: 11-NOV-2015
Analyst: ADC
Analyst: NA
Method: 8260
Instrument: HPMS17
Curve Workgroup: WG546498
Runlog ID: 71668
Analytical Workgroups:

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
13-NOV-2015

Secondary Reviewer:
16-NOV-2015

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-16-2015 09:59:26

Microbac Laboratories Inc.

Data Checklist

Date: 21-NOV-2015
Analyst: TMB
Analyst: NA
Method: 8260B
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 71870
Analytical Workgroups: WG547961

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	WTD
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
23-NOV-2015
Tiffany Bailey

Secondary Reviewer:
24-NOV-2015
Wade D

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-24-2015 16:54:44

Microbac Laboratories Inc.

Data Checklist

Date: 24-NOV-2015
Analyst: ADC
Analyst: NA
Method: 8260
Instrument: HPMS17
Curve Workgroup: NA
Runlog ID: 71986
Analytical Workgroups: WG548399

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
01-DEC-2015

Secondary Reviewer:
01-DEC-2015

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-01-2015 17:09:38

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG547961

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW12-111815	01	11/18/15					11/21/2015	3.4	14		11/21/15	3.4	14	
67WW12FFD-111815	02	11/18/15					11/21/2015	3.4	14		11/21/15	3.4	14	
67WW10-111815	03	11/18/15					11/21/2015	3.4	14		11/21/15	3.4	14	
67WW09A-111815	04	11/18/15					11/21/2015	3.4	14		11/21/15	3.4	14	
67WW14-111815	05	11/18/15					11/21/2015	3.3	14		11/21/15	3.3	14	
67WW14MS-111815	06	11/18/15					11/21/2015	3.2	14		11/21/15	3.2	14	
67WW14MSD-111815	07	11/18/15					11/21/2015	3.2	14		11/21/15	3.2	14	
67WW13-111815	08	11/18/15					11/21/2015	3.4	14		11/21/15	3.4	14	
67WW09-111815	09	11/18/15					11/21/2015	3.2	14		11/21/15	3.2	14	
67WW09FD-111815	10	11/18/15					11/21/2015	3.2	14		11/21/15	3.2	14	
67WW05-111915	11	11/19/15					11/21/2015	2.6	14		11/21/15	2.6	14	
67WW02-111915	12	11/19/15					11/21/2015	2.6	14		11/21/15	2.6	14	
67WW07-111915	13	11/19/15					11/21/2015	2.6	14		11/21/15	2.6	14	
67WW01-111915	14	11/19/15					11/21/2015	2.6	14		11/21/15	2.6	14	
67WW11-111915	15	11/19/15					11/21/2015	2.5	14		11/21/15	2.5	14	
67WW08-111915	16	11/19/15					11/22/2015	2.6	14		11/22/15	2.6	14	
TRIP BLANK	17	11/19/15					11/21/2015	2.7	14		11/21/15	2.7	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4515102
Report generated 12/08/2015 11:31

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG548399

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW13-111815	08	11/18/15					11/24/2015	6.4	14		11/24/15	6.4	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4515102
Report generated 12/08/2015 11:31

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L15111211
Instrument Id: HPMS17
Workgroup (AAB#): WG548399

Method: 8260
CAL ID: HPMS17-11-NOV-15
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L15111211-08	20.0	DL02	113	105	111	111
WG548399-01	1.00	01	115	106	111	112
WG548399-02	1.00	01	113	109	105	110

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4515112
Report generated: 12/08/2015 11:32

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L15111211
Instrument Id: HPMS8
Workgroup (AAB#): WG547961

Method: 8260
CAL ID: HPMS8-30-SEP-15
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L15111211-01	1.00	01	103	109	98.9	100
L15111211-02	1.00	01	105	108	101	100
L15111211-03	1.00	01	106	108	98.9	99.9
L15111211-04	1.00	01	103	109	99.3	101
L15111211-05	1.00	01	103	108	102	99.3
L15111211-06	1.00	01	104	107	98.2	99.1
L15111211-07	1.00	01	101	108	97.3	100
L15111211-08	2.50	DL01	101	105	100	101
L15111211-09	1.00	01	104	108	99.9	101
L15111211-10	1.00	01	104	106	100	101
L15111211-11	1.00	01	104	107	99.7	100
L15111211-12	1.00	01	102	106	102	101
L15111211-13	1.00	01	103	106	101	102
L15111211-14	2.50	DL01	102	106	101	100
L15111211-15	1.00	01	103	105	99.9	101
L15111211-16	10.0	DL01	99.8	106	99.8	101
L15111211-17	1.00	01	102	105	101	100
WG547961-01	1.00	01	103	106	99.2	99.7
WG547961-02	1.00	01	101	107	97.1	99.1

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4515112
Report generated: 12/08/2015 11:32

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG548399
Blank File ID:	17M016668	Blank Sample ID:	WG548399-01
Prep Date:	11/24/15 21:07	Instrument ID:	HPMS17
Analyzed Date:	11/24/15 21:07	Method:	8260B
Analyst:	JDS/FJB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548399-02	17M016669	11/24/15 21:26	01
67WW13-111815	L15111211-08	17M016672	11/24/15 22:26	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 4525788
Report generated 12/08/2015 11:31

METHOD BLANK SUMMARY

Login Number: L15111211
Blank File ID: 8M408861
Prep Date: 11/21/15 14:22
Analyzed Date: 11/21/15 14:22
Analyst: TMB

Work Group: WG547961
Blank Sample ID: WG547961-01
Instrument ID: HPMS8
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG547961-02	8M408862	11/21/15 14:52	01
67WW14MS-111815	L15111211-06	8M408863	11/21/15 15:22	01
67WW14MSD-111815	L15111211-07	8M408864	11/21/15 15:51	01
TRIP BLANK	L15111211-17	8M408866	11/21/15 16:51	01
67WW12-111815	L15111211-01	8M408867	11/21/15 17:21	01
67WW12FFD-111815	L15111211-02	8M408868	11/21/15 17:51	01
67WW10-111815	L15111211-03	8M408869	11/21/15 18:20	01
67WW09A-111815	L15111211-04	8M408870	11/21/15 18:50	01
67WW14-111815	L15111211-05	8M408871	11/21/15 19:19	01
67WW09-111815	L15111211-09	8M408872	11/21/15 19:48	01
67WW09FD-111815	L15111211-10	8M408873	11/21/15 20:17	01
67WW05-111915	L15111211-11	8M408874	11/21/15 20:47	01
67WW02-111915	L15111211-12	8M408875	11/21/15 21:16	01
67WW07-111915	L15111211-13	8M408876	11/21/15 21:45	01
67WW11-111915	L15111211-15	8M408877	11/21/15 22:14	01
67WW13-111815	L15111211-08	8M408879	11/21/15 23:12	DL01
67WW01-111915	L15111211-14	8M408880	11/21/15 23:40	DL01
67WW08-111915	L15111211-16	8M408881	11/22/15 00:09	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4525788
Report generated 12/08/2015 11:31

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number:L15111211 Prep Date:11/24/15 21:07 Sample ID:WG548399-01
Instrument ID:HPMS17 Run Date:11/24/15 21:07 Prep Method:5030B/5030C/503
File ID:17M016668 Analyst:JDS/FJB Method:8260B
Workgroup (AAB#):WG548399 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS17-11-NOV-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4525789
08-DEC-2015 11:31

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/24/15 21:07 Sample ID: WG548399-01
Instrument ID: HPMS17 Run Date: 11/24/15 21:07 Prep Method: 5030B/5030C/503
File ID: 17M016668 Analyst: JDS/FJB Method: 8260B
Workgroup (AAB#): WG548399 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS17-11-NOV-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	106	85 - 115	PASS
1,2-Dichloroethane-d4	115	70 - 120	PASS
Toluene-d8	112	85 - 120	PASS
4-Bromofluorobenzene	111	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4525789
08-DEC-2015 11:31

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/21/15 14:22 Sample ID: WG547961-01
Instrument ID: HPMS8 Run Date: 11/21/15 14:22 Prep Method: 5030B/5030C/503
File ID: 8M408861 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG547961 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-30-SEP-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4525789
08-DEC-2015 11:31

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/21/15 14:22 Sample ID: WG547961-01
Instrument ID: HPMS8 Run Date: 11/21/15 14:22 Prep Method: 5030B/5030C/503
File ID: 8M408861 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG547961 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-30-SEP-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	106	85 - 115	PASS
1,2-Dichloroethane-d4	103	70 - 120	PASS
Toluene-d8	99.7	85 - 120	PASS
4-Bromofluorobenzene	99.2	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4525789
08-DEC-2015 11:31

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Run Date: 11/24/2015 Sample ID: WG548399-02
Instrument ID: HPMS17 Run Time: 21:26 Prep Method: 5030B/5030C/503
File ID: 17M016669 Analyst: JDS/FJB Method: 8260B
Workgroup (AAB#): WG548399 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD73387 Cal ID: HPMS17-11-NOV-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	22.1	110	40 - 140	
Benzene	20.0	19.9	99.7	80 - 120	
Bromobenzene	20.0	20.1	101	75 - 125	
Bromochloromethane	20.0	20.7	103	65 - 130	
Bromodichloromethane	20.0	20.2	101	75 - 120	
Bromoform	20.0	21.8	109	70 - 130	
Bromomethane	20.0	20.4	102	30 - 145	
2-Butanone	20.0	20.9	104	30 - 150	
n-Butylbenzene	20.0	20.9	105	70 - 135	
sec-Butylbenzene	20.0	21.2	106	70 - 125	
tert-Butylbenzene	20.0	21.3	106	70 - 130	
Carbon disulfide	20.0	5.45	27.3	35 - 160	*
Carbon tetrachloride	20.0	20.1	100	65 - 140	
Chlorobenzene	20.0	21.4	107	80 - 120	
Chlorodibromomethane	20.0	20.9	104	60 - 135	
Chloroethane	20.0	26.1	131	60 - 135	
Chloroform	20.0	19.8	98.9	65 - 135	
Chloromethane	20.0	16.5	82.4	40 - 125	
2-Chlorotoluene	20.0	20.5	102	75 - 125	
4-Chlorotoluene	20.0	21.3	107	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	21.3	106	50 - 130	
1,2-Dibromoethane	20.0	20.5	103	80 - 120	
Dibromomethane	20.0	19.8	98.8	75 - 125	
1,2-Dichlorobenzene	20.0	21.2	106	70 - 120	
1,3-Dichlorobenzene	20.0	21.3	107	75 - 125	
1,4-Dichlorobenzene	20.0	21.2	106	75 - 125	
Dichlorodifluoromethane	20.0	22.3	111	30 - 155	
1,1-Dichloroethane	20.0	18.8	94.0	70 - 135	
1,2-Dichloroethane	20.0	21.4	107	70 - 130	
1,1-Dichloroethene	20.0	18.9	94.7	70 - 130	
cis-1,2-Dichloroethene	20.0	20.2	101	70 - 125	
trans-1,2-Dichloroethene	20.0	20.1	101	60 - 140	
1,2-Dichloropropane	20.0	20.3	102	75 - 125	
1,3-Dichloropropane	20.0	21.8	109	75 - 125	
2,2-Dichloropropane	20.0	21.2	106	70 - 135	
cis-1,3-Dichloropropene	20.0	21.7	108	70 - 130	
trans-1,3-Dichloropropene	20.0	21.0	105	55 - 140	
1,1-Dichloropropene	20.0	19.3	96.6	75 - 130	
Ethylbenzene	20.0	20.6	103	75 - 125	
2-Hexanone	20.0	19.8	98.8	55 - 130	
Hexachlorobutadiene	20.0	20.4	102	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4515103
Report generated: 12/08/2015 11:32

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Run Date: 11/24/2015 Sample ID: WG548399-02
Instrument ID: HPMS17 Run Time: 21:26 Prep Method: 5030B/5030C/503
File ID: 17M016669 Analyst: JDS/FJB Method: 8260B
Workgroup (AAB#): WG548399 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD73387 Cal ID: HPMS17-11-NOV-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.5	108	75 - 125	
p-Isopropyltoluene	20.0	20.6	103	75 - 130	
4-Methyl-2-pentanone	20.0	19.2	95.8	60 - 135	
Methylene chloride	20.0	18.5	92.6	55 - 140	
Naphthalene	20.0	18.6	92.8	55 - 140	
n-Propylbenzene	20.0	21.3	107	70 - 130	
Styrene	20.0	20.7	103	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	21.1	106	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	21.5	107	65 - 130	
Tetrachloroethene	20.0	20.5	102	45 - 150	
Toluene	20.0	20.4	102	75 - 120	
1,2,3-Trichlorobenzene	20.0	20.3	102	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.7	104	65 - 135	
1,1,1-Trichloroethane	20.0	20.3	101	65 - 130	
1,1,2-Trichloroethane	20.0	20.4	102	75 - 125	
Trichloroethene	20.0	21.2	106	70 - 125	
Trichlorofluoromethane	20.0	22.8	114	60 - 145	
1,2,3-Trichloropropane	20.0	20.9	105	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.2	101	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.5	102	75 - 130	
Vinyl chloride	20.0	21.0	105	50 - 145	
o-Xylene	20.0	21.3	106	80 - 120	
m-,p-Xylene	40.0	42.9	107	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	109	85 - 115	PASS
1,2-Dichloroethane-d4	113	70 - 120	PASS
Toluene-d8	110	85 - 120	PASS
4-Bromofluorobenzene	105	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4515103
Report generated: 12/08/2015 11:32

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Run Date: 11/21/2015 Sample ID: WG547961-02
Instrument ID: HPMS8 Run Time: 14:52 Prep Method: 5030B/5030C/503
File ID: 8M408862 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG547961 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD73575 Cal ID: HPMS8-30-SEP-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	25.5	128	40 - 140	
Benzene	20.0	21.5	108	80 - 120	
Bromobenzene	20.0	19.4	97.0	75 - 125	
Bromochloromethane	20.0	22.9	114	65 - 130	
Bromodichloromethane	20.0	20.9	104	75 - 120	
Bromoform	20.0	20.8	104	70 - 130	
Bromomethane	20.0	24.9	125	30 - 145	
2-Butanone	20.0	23.4	117	30 - 150	
n-Butylbenzene	20.0	21.0	105	70 - 135	
sec-Butylbenzene	20.0	20.0	100	70 - 125	
tert-Butylbenzene	20.0	18.9	94.6	70 - 130	
Carbon disulfide	20.0	15.4	77.2	35 - 160	
Carbon tetrachloride	20.0	22.4	112	65 - 140	
Chlorobenzene	20.0	20.6	103	80 - 120	
Chlorodibromomethane	20.0	20.3	102	60 - 135	
Chloroethane	20.0	22.3	111	60 - 135	
Chloroform	20.0	22.0	110	65 - 135	
Chloromethane	20.0	22.6	113	40 - 125	
2-Chlorotoluene	20.0	20.4	102	75 - 125	
4-Chlorotoluene	20.0	19.7	98.3	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.4	92.0	50 - 130	
1,2-Dibromoethane	20.0	19.7	98.6	80 - 120	
Dibromomethane	20.0	22.0	110	75 - 125	
1,2-Dichlorobenzene	20.0	20.5	103	70 - 120	
1,3-Dichlorobenzene	20.0	19.8	98.8	75 - 125	
1,4-Dichlorobenzene	20.0	19.4	97.0	75 - 125	
Dichlorodifluoromethane	20.0	17.4	87.2	30 - 155	
1,1-Dichloroethane	20.0	21.3	107	70 - 135	
1,2-Dichloroethane	20.0	21.1	105	70 - 130	
1,1-Dichloroethene	20.0	20.7	104	70 - 130	
cis-1,2-Dichloroethene	20.0	21.3	106	70 - 125	
trans-1,2-Dichloroethene	20.0	21.1	106	60 - 140	
1,2-Dichloropropane	20.0	20.8	104	75 - 125	
1,3-Dichloropropane	20.0	19.8	99.1	75 - 125	
2,2-Dichloropropane	20.0	19.7	98.7	70 - 135	
cis-1,3-Dichloropropene	20.0	21.4	107	70 - 130	
trans-1,3-Dichloropropene	20.0	19.2	96.1	55 - 140	
1,1-Dichloropropene	20.0	20.6	103	75 - 130	
Ethylbenzene	20.0	19.0	95.2	75 - 125	
2-Hexanone	20.0	19.5	97.3	55 - 130	
Hexachlorobutadiene	20.0	18.6	93.0	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4515103
Report generated: 12/08/2015 11:32

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Run Date: 11/21/2015 Sample ID: WG547961-02
Instrument ID: HPMS8 Run Time: 14:52 Prep Method: 5030B/5030C/503
File ID: 8M408862 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG547961 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD73575 Cal ID: HPMS8-30-SEP-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.2	106	75 - 125	
p-Isopropyltoluene	20.0	19.6	98.0	75 - 130	
4-Methyl-2-pentanone	20.0	20.3	101	60 - 135	
Methylene chloride	20.0	20.8	104	55 - 140	
Naphthalene	20.0	22.1	111	55 - 140	
n-Propylbenzene	20.0	19.7	98.7	70 - 130	
Styrene	20.0	20.1	100	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	19.5	97.4	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.4	96.9	65 - 130	
Tetrachloroethene	20.0	20.2	101	45 - 150	
Toluene	20.0	20.4	102	75 - 120	
1,2,3-Trichlorobenzene	20.0	20.3	101	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.1	100	65 - 135	
1,1,1-Trichloroethane	20.0	22.3	111	65 - 130	
1,1,2-Trichloroethane	20.0	19.7	98.3	75 - 125	
Trichloroethene	20.0	20.4	102	70 - 125	
Trichlorofluoromethane	20.0	20.9	105	60 - 145	
1,2,3-Trichloropropane	20.0	19.5	97.5	75 - 125	
1,2,4-Trimethylbenzene	20.0	19.8	99.2	75 - 130	
1,3,5-Trimethylbenzene	20.0	19.6	98.2	75 - 130	
Vinyl chloride	20.0	22.4	112	50 - 145	
o-Xylene	20.0	19.9	99.6	80 - 120	
m-,p-Xylene	40.0	40.9	102	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	107	85 - 115	PASS
1,2-Dichloroethane-d4	101	70 - 120	PASS
Toluene-d8	99.1	85 - 120	PASS
4-Bromofluorobenzene	97.1	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4515103
Report generated: 12/08/2015 11:32

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L15111211 Cal ID: HPMS8- 30-SEP-15 Worknum: WG547961

Instrument ID: HPMS8 Contract #: Prep Method: 5030B/5030C/

Parent ID: L15111211-05 File ID: 8M408871 Dil: 1 Method: 5035A

Sample ID: L15111211-06 MS File ID: 8M408863 Dil: 1 Matrix: 8260B

Sample ID: L15111211-07 MSD File ID: 8M408864 Dil: 1 Units: Water ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	19.5	97.5	20.0	18.9	94.7	2.88	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	21.0	105	20.0	20.7	103	1.65	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	19.9	99.5	20.0	19.3	96.7	2.93	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	20.3	102	20.0	20.2	101	0.541	75 - 125	30	
1,1-Dichloroethane	3.70	20.0	23.7	99.9	20.0	23.8	100	0.290	70 - 135	30	
1,1-Dichloroethene	26.3	20.0	38.0	58.4	20.0	37.8	57.1	0.710	70 - 130	30	*
1,1-Dichloropropene	U	20.0	19.8	98.9	20.0	19.5	97.7	1.20	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	20.5	102	20.0	20.3	102	0.849	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	19.9	99.5	20.0	20.6	103	3.47	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	20.2	101	20.0	20.3	102	0.901	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	19.2	95.8	20.0	19.6	97.8	2.08	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	18.3	91.5	20.0	19.3	96.3	5.20	50 - 130	30	
1,2-Dibromoethane	U	20.0	20.2	101	20.0	19.5	97.6	3.20	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	20.2	101	20.0	20.4	102	0.956	70 - 120	30	
1,2-Dichloroethane	5.83	20.0	27.0	106	20.0	26.4	103	2.34	70 - 130	30	
1,2-Dichloropropane	U	20.0	20.7	104	20.0	20.6	103	0.603	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	19.2	95.8	20.0	19.2	96.1	0.317	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	19.6	98	20.0	19.5	97.7	0.226	75 - 125	30	
1,3-Dichloropropane	U	20.0	20.4	102	20.0	19.7	98.4	3.55	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	19.2	96	20.0	19.3	96.4	0.385	75 - 125	30	
2,2-Dichloropropane	U	20.0	19.8	98.9	20.0	19.3	96.5	2.46	70 - 135	30	
2-Butanone	U	20.0	22.7	113	20.0	21.5	107	5.49	30 - 150	30	
2-Chlorotoluene	U	20.0	19.4	97.2	20.0	20.4	102	4.69	75 - 125	30	
2-Hexanone	U	20.0	20.5	102	20.0	19.1	95.4	7.06	55 - 130	30	
4-Chlorotoluene	U	20.0	19.2	96.1	20.0	19.0	94.8	1.45	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	20.6	103	20.0	19.4	97	5.80	60 - 135	30	
Acetone	U	20.0	26.8	134	20.0	24.0	120	10.9	40 - 140	30	
Benzene	U	20.0	20.8	104	20.0	20.8	104	0.182	80 - 120	30	
Bromobenzene	U	20.0	19.2	95.8	20.0	19.2	95.9	0.0882	75 - 125	30	
Bromochloromethane	U	20.0	22.2	111	20.0	22.8	114	2.34	65 - 130	30	
Bromodichloromethane	U	20.0	21.0	105	20.0	20.9	105	0.236	75 - 120	30	
Bromoform	U	20.0	21.2	106	20.0	20.7	103	2.66	70 - 130	30	
Bromomethane	U	20.0	24.3	122	20.0	24.8	124	1.96	30 - 145	30	
Carbon disulfide	U	20.0	14.3	71.7	20.0	14.2	71	0.920	35 - 160	30	
Carbon tetrachloride	U	20.0	21.0	105	20.0	20.5	102	2.60	65 - 140	30	
Chlorobenzene	U	20.0	20.4	102	20.0	20.1	101	1.60	80 - 120	30	
Chloroethane	U	20.0	21.4	107	20.0	20.9	104	2.34	60 - 135	30	
Chloroform	U	20.0	21.7	109	20.0	21.7	108	0.266	65 - 135	30	
Chloromethane	U	20.0	21.5	107	20.0	20.8	104	2.94	40 - 125	30	
cis-1,2-Dichloroethene	U	20.0	20.6	103	20.0	20.5	102	0.505	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	21.4	107	20.0	21.1	106	1.21	70 - 130	30	

MS_MSD - Modified 03/06/2008

PDF File ID: 4515104

Report generated 12/08/2015 11:32

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L15111211 Cal ID: HPMS8 30-SEP-15 Worknum: WG547961

Instrument ID: HPMS8 Contract #: Prep Method: 5030B/5030C/

Parent ID: L15111211-05 File ID: 8M408871 Dil: 1 Method: 5035A

Sample ID: L15111211-06 MS File ID: 8M408863 Dil: 1 Matrix: 8260B

Sample ID: L15111211-07 MSD File ID: 8M408864 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Chlorodibromomethane	U	20.0	20.6	103	20.0	20.1	101	2.22	60 - 135	30	
Dibromomethane	U	20.0	21.7	109	20.0	21.5	108	0.894	75 - 125	30	
Dichlorodifluoromethane	U	20.0	16.9	84.3	20.0	15.9	79.4	5.93	30 - 155	30	
Ethylbenzene	U	20.0	18.5	92.4	20.0	18.3	91.5	0.982	75 - 125	30	
Hexachlorobutadiene	U	20.0	17.7	88.5	20.0	18.2	91.1	2.87	50 - 140	30	
Isopropylbenzene	U	20.0	20.5	102	20.0	20.3	101	0.864	75 - 125	30	
m-,p-Xylene	U	40.0	39.7	99.2	40.0	39.6	98.9	0.237	75 - 130	30	
Methylene chloride	U	20.0	21.6	108	20.0	21.0	105	2.55	55 - 140	30	
n-Butylbenzene	U	20.0	20.1	101	20.0	20.2	101	0.698	70 - 135	30	
n-Propylbenzene	U	20.0	19.0	95	20.0	19.1	95.5	0.472	70 - 130	30	
Naphthalene	U	20.0	23.1	115	20.0	22.3	111	3.55	55 - 140	30	
o-Xylene	U	20.0	19.4	97.1	20.0	19.4	96.8	0.315	80 - 120	30	
p-Isopropyltoluene	U	20.0	19.0	95	20.0	19.0	94.8	0.228	75 - 130	30	
sec-Butylbenzene	U	20.0	18.9	94.7	20.0	19.1	95.5	0.884	70 - 125	30	
Styrene	U	20.0	19.7	98.6	20.0	19.8	98.9	0.267	65 - 135	30	
tert-Butylbenzene	U	20.0	18.4	92.2	20.0	18.3	91.5	0.737	70 - 130	30	
Tetrachloroethene	U	20.0	19.6	97.8	20.0	19.3	96.3	1.55	45 - 150	30	
Toluene	U	20.0	19.7	98.7	20.0	19.5	97.5	1.24	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	20.2	101	20.0	20.2	101	0.0571	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	19.7	98.7	20.0	19.1	95.4	3.40	55 - 140	30	
Trichloroethene	U	20.0	19.6	97.8	20.0	19.6	98.1	0.338	70 - 125	30	
Trichlorofluoromethane	U	20.0	19.6	97.8	20.0	19.3	96.4	1.41	60 - 145	30	
Vinyl chloride	0.297	20.0	21.3	105	20.0	20.7	102	2.83	50 - 145	30	

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 4515104

Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15111211
Instrument: HPMS17
Analyst: ADC
Workgroup: WG546498

Tune ID: WG546498-01
Run Date: 11/11/2015
Run Time: 14:17
File ID: 17M016366
Cal ID: HPMS17 - 11-NOV-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.7	8344	PASS
75.0	95.0	30.0	60.0	48.1	22677	PASS
95.0	95.0	100	100	100	47164	PASS
96.0	95.0	5.00	9.00	6.75	3185	PASS
173	174	0	2.00	0.643	273	PASS
174	95.0	50.0	100	90.1	42488	PASS
175	174	5.00	9.00	7.71	3275	PASS
176	174	95.0	101	97.8	41568	PASS
177	176	5.00	9.00	6.69	2779	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG546498-02	STD-CCV	01	11/11/2015 14:34	
WG546498-03	STD	01	11/11/2015 15:14	
WG546498-04	STD	01	11/11/2015 15:34	
WG546498-05	STD	01	11/11/2015 15:54	
WG546498-06	STD	01	11/11/2015 16:14	
WG546498-07	STD	01	11/11/2015 16:33	
WG546498-08	STD	01	11/11/2015 16:53	
WG546498-09	STD	01	11/11/2015 17:13	
WG546498-10	STD	01	11/11/2015 17:33	
WG546498-11	STD	01	11/11/2015 17:53	
WG546498-12	SSCV	01	11/11/2015 18:33	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4515106
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15111211
Instrument: HPMS17
Analyst: JDS/FJB
Workgroup: WG548398

Tune ID: WG548398-01
Run Date: 11/24/2015
Run Time: 20:08
File ID: 17M016665
Cal ID: HPMS17 - 11-NOV-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.7	8138	PASS
75.0	95.0	30.0	60.0	49.1	22627	PASS
95.0	95.0	100	100	100	46107	PASS
96.0	95.0	5.00	9.00	6.70	3090	PASS
173	174	0	2.00	1.03	451	PASS
174	95.0	50.0	100	95.2	43909	PASS
175	174	5.00	9.00	7.24	3179	PASS
176	174	95.0	101	98.1	43053	PASS
177	176	5.00	9.00	6.65	2861	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG548398-02	CCV	01	11/24/2015 20:26	
WG548399-01	BLANK	01	11/24/2015 21:07	
WG548399-02	LCS	01	11/24/2015 21:26	
L15111211-08	67WW13-111815	DL02	11/24/2015 22:26	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4515106
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15111211
Instrument: HPMS8
Analyst: TMB
Workgroup: WG540912

Tune ID: WG540912-01
Run Date: 09/30/2015
Run Time: 09:38
File ID: 8M407745
Cal ID: HPMS8-30-SEP-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.5	9471	PASS
75.0	95.0	30.0	60.0	51.7	21732	PASS
95.0	95.0	100	100	100	42018	PASS
96.0	95.0	5.00	9.00	6.75	2835	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	78.3	32893	PASS
175	174	5.00	9.00	7.63	2510	PASS
176	174	95.0	101	95.1	31272	PASS
177	176	5.00	9.00	6.85	2141	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG540912-02	STD	01	09/30/2015 10:30	
WG540912-03	STD	01	09/30/2015 10:59	
WG540912-04	STD	01	09/30/2015 11:32	
WG540912-05	STD	01	09/30/2015 12:01	
WG540912-06	STD	01	09/30/2015 12:29	
WG540912-07	STD	01	09/30/2015 12:58	
WG540912-08	STD-CCV	01	09/30/2015 13:27	
WG540912-09	STD	01	09/30/2015 13:56	
WG540912-10	STD	01	09/30/2015 14:24	
WG540912-11	STD	01	09/30/2015 14:52	
WG540912-12	SSCV	01	09/30/2015 17:27	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4515106
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15111211
Instrument: HPMS8
Analyst: TMB
Workgroup: WG540826

Tune ID: WG540826-01
Run Date: 10/05/2015
Run Time: 11:26
File ID: 8M407827
Cal ID: HPMS8-05-OCT-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.7	8565	PASS
75.0	95.0	30.0	60.0	52.2	18121	PASS
95.0	95.0	100	100	100	34714	PASS
96.0	95.0	5.00	9.00	6.52	2262	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.2	25773	PASS
175	174	5.00	9.00	7.16	1845	PASS
176	174	95.0	101	98.5	25378	PASS
177	176	5.00	9.00	6.88	1746	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG540826-02	STD	01	10/05/2015 11:49	
WG540826-03	STD	01	10/05/2015 12:17	
WG540826-04	STD	01	10/05/2015 12:51	
WG540826-05	STD-CCV	01	10/05/2015 13:20	
WG540826-06	STD	01	10/05/2015 13:49	
WG540826-07	STD	01	10/05/2015 14:17	
WG540826-08	STD	01	10/05/2015 14:47	
WG540826-09	STD	01	10/05/2015 15:15	
WG540826-10	SSCV	01	10/05/2015 16:48	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4515106
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L15111211
Instrument: HPMS8
Analyst: TMB
Workgroup: WG547960

Tune ID: WG547960-01
Run Date: 11/21/2015
Run Time: 12:26
File ID: 8M408857
Cal ID: HPMS8-30-SEP-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.5	17684	PASS
75.0	95.0	30.0	60.0	52.2	37730	PASS
95.0	95.0	100	100	100	72293	PASS
96.0	95.0	5.00	9.00	6.78	4898	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	79.3	57328	PASS
175	174	5.00	9.00	6.95	3984	PASS
176	174	95.0	101	96.0	55026	PASS
177	176	5.00	9.00	5.86	3224	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG547960-02	CCV	01	11/21/2015 13:24	
WG547961-01	BLANK	01	11/21/2015 14:22	
WG547961-02	LCS	01	11/21/2015 14:52	
L15111211-06	67WW14MS-111815	01	11/21/2015 15:22	
L15111211-07	67WW14MSD-111815	01	11/21/2015 15:51	
L15111211-17	TRIP BLANK	01	11/21/2015 16:51	
L15111211-01	67WW12-111815	01	11/21/2015 17:21	
L15111211-02	67WW12FFD-111815	01	11/21/2015 17:51	
L15111211-03	67WW10-111815	01	11/21/2015 18:20	
L15111211-04	67WW09A-111815	01	11/21/2015 18:50	
L15111211-05	67WW14-111815	01	11/21/2015 19:19	
L15111211-09	67WW09-111815	01	11/21/2015 19:48	
L15111211-10	67WW09FD-111815	01	11/21/2015 20:17	
L15111211-11	67WW05-111915	01	11/21/2015 20:47	
L15111211-12	67WW02-111915	01	11/21/2015 21:16	
L15111211-13	67WW07-111915	01	11/21/2015 21:45	
L15111211-15	67WW11-111915	01	11/21/2015 22:14	
L15111211-08	67WW13-111815	DL01	11/21/2015 23:12	
L15111211-14	67WW01-111915	DL01	11/21/2015 23:40	
L15111211-16	67WW08-111915	DL01	11/22/2015 00:09	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4515106
Report generated 12/08/2015 11:32

Response Factor Report HPMS17

Method Path : D:\MassHunter\GCMS\1\methods\
Method File : 8260_VMS.M
Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
Last Update : Thu Nov 12 09:48:27 2015
Response Via : Initial Calibration
Curve: WG546498
Calibration Files
0.3 =17M016369.D 0.4 =17M016370.D 1 =17M016371.D 2 =17M016372.D 5 =17M016373.D 20 =17M016374.D 50 =17M016367.D
100 =17M016375.D 200 =17M016376.D 300 =17M016377.D

		Compound	0.3	0.4	1	2	5	20	50	100	200	300	Avg	%RSD	Linear	Quadratic
1)	I	Fluorobenzene	ISTD													
2)	T	Dichlorodifluo...			0.304	0.313	0.357	0.359	0.367	0.386	0.374	0.385	0.356	8.72		
3)	P	Chloromethane			0.416	0.390	0.413	0.367	0.354	0.370	0.356	0.364	0.379	6.53		
4)	C	Vinyl Chloride		0.347	0.309	0.317	0.362	0.333	0.331	0.350	0.343	0.352	0.338	5.08#		
5)	T	1,3-Butadiene			0.255	0.224	0.215	0.204	0.205	0.209	0.210	0.217	0.217	7.55		
6)	T	Bromomethane			0.195	0.195	0.194	0.164	0.156	0.169	0.172	0.183	0.178	8.61		
7)	T	Chloroethane			0.205	0.184	0.201	0.172	0.178	0.151	0.145	0.147	0.173	13.74		
8)	T	Trichlorofluor...		0.446	0.403	0.411	0.454	0.406	0.405	0.412	0.284	0.292	0.390	15.58		0.992
9)	T	Diethyl ether			0.194	0.218	0.215	0.200	0.175	0.194	0.196	0.205	0.200	6.77		
10)	C	1,1-Dichloroet...		0.386	0.369	0.381	0.434	0.387	0.385	0.401	0.384	0.406	0.392	4.85#		
11)	T	Carbon Disulfide		0.997	0.810	0.781	0.811	0.782	0.803	0.808	0.805	0.843	0.827	8.04		
12)	T	1,1,2-Trichlor...		0.233	0.230	0.238	0.272	0.237	0.242	0.250	0.237	0.252	0.243	5.36		
13)	T	Iodomethane											0.000	-1.00		
14)	T	Acrolein					0.032	0.026	0.021	0.026	0.027	0.028	0.027	12.92		
15)	T	Methylene Chlo...			0.355	0.317	0.329	0.268	0.252	0.267	0.262	0.273	0.290	13.00		
16)	T	Acetone					0.064	0.054	0.040	0.047	0.049	0.053	0.051	15.38	0.993	
17)	T	trans-1,2-Dich...		0.270	0.254	0.248	0.278	0.251	0.242	0.254	0.252	0.261	0.257	4.33		
18)	T	Methyl acetate	0.172	0.111	0.153	0.118	0.144	0.143	0.126	0.146	0.153	0.163	0.143	13.64		
19)	T	Methyl Tert Bu...		0.643	0.635	0.653	0.758	0.648	0.570	0.651	0.646	0.682	0.654	7.52		
20)	P	1,1-Dichloroet...		0.489	0.465	0.479	0.547	0.484	0.474	0.494	0.485	0.501	0.491	4.81		
21)	T	Acrylonitrile				0.075	0.075	0.068	0.057	0.064	0.067	0.070	0.068	9.16		
22)	T	Vinyl Acetate					0.018	0.025	0.026	0.030	0.032	0.035	0.028	21.73	0.993	
23)	T	cis-1,2-Dichlo...		0.347	0.275	0.285	0.321	0.285	0.274	0.286	0.284	0.295	0.295	8.21		
24)	T	2,2-Dichloropr...		0.392	0.314	0.325	0.376	0.354	0.389	0.390	0.379	0.387	0.367	8.09		
25)	T	Cyclohexane		0.471	0.474	0.483	0.483	0.451	0.467	0.469	0.469	0.487	0.473	2.32		
26)	T	Bromochloromet...			0.155	0.163	0.192	0.172	0.165	0.179	0.178	0.186	0.174	7.21		
27)	C	Chloroform	0.563	0.544	0.449	0.466	0.526	0.461	0.447	0.470	0.462	0.476	0.486	8.59#		
28)	T	Carbon Tetrach...		0.344	0.346	0.370	0.418	0.372	0.371	0.393	0.385	0.401	0.378	6.46		
29)	S	Dibromofluorom...					0.269	0.248	0.257	0.261	0.248		0.256	3.37		
30)	T	1,1,1-Trichlor...		0.447	0.402	0.422	0.480	0.410	0.405	0.426	0.418	0.431	0.427	5.68		
31)	T	1,1-Dichloropr...		0.360	0.339	0.354	0.404	0.349	0.351	0.366	0.359	0.373	0.362	5.11		
32)	T	2-Butanone					0.086	0.084	0.068	0.081	0.084	0.091	0.082	9.16		
33)	T	Benzene		1.123	1.044	1.052	1.185	1.047	1.027	1.066	1.052	1.075	1.074	4.61		
34)	S	1,2-Dichloroet...					0.265	0.239	0.239	0.248	0.240		0.246	4.59		
35)	T	1,2-Dichloroet...		0.311	0.303	0.323	0.369	0.323	0.298	0.326	0.322	0.335	0.323	6.44		
36)	T	Methylcyclohexane	0.633	0.558	0.479	0.486	0.486	0.450	0.478	0.476	0.479	0.499	0.502	10.67		
37)	T	Trichloroethene		0.313	0.290	0.289	0.325	0.287	0.283	0.298	0.294	0.305	0.298	4.64		
38)	T	Dibromomethane		0.177	0.151	0.156	0.178	0.154	0.140	0.157	0.157	0.165	0.159	7.63		
39)	C	1,2-Dichloropr...		0.289	0.282	0.293	0.332	0.290	0.281	0.297	0.293	0.302	0.295	5.19#		

40)	T	Bromodichlorom...	0.365	0.338	0.361	0.408	0.361	0.347	0.372	0.370	0.382	0.367	5.53
41)	T	1,4-Dioxane					0.001	0.002	0.002	0.002	0.002	0.002	14.12
42)	T	2-Chloroethyl ...		0.144	0.146	0.157	0.152	0.133	0.147	0.152	0.162	0.149	5.95
43)	T	cis-1,3-Dichlo...	0.407	0.400	0.415	0.484	0.432	0.416	0.444	0.442	0.456	0.433	6.17
44)	T	4-Methyl-2-Pen...				0.082	0.074	0.058	0.071	0.076	0.080	0.073	11.50
45)	T	trans-1,3-Dich...	0.344	0.340	0.356	0.414	0.370	0.348	0.383	0.384	0.396	0.370	6.91
46)	I	Chlorobenzene-d5	----------ISTD----------										
47)	S	Toluene-d8				1.349	1.225	1.331	1.300	1.238		1.289	4.28
48)	C	Toluene	1.641	1.494	1.580	1.811	1.538	1.544	1.579	1.529	1.538	1.584	5.98#
49)	T	Tetrachloroethene	0.450	0.402	0.416	0.471	0.403	0.414	0.426	0.422	0.438	0.427	5.32
50)	T	1,1,2-Trichlor...	0.352	0.286	0.290	0.334	0.279	0.254	0.282	0.282	0.292	0.295	10.17
51)	T	Dibromochlorom...	0.363	0.356	0.366	0.425	0.372	0.351	0.389	0.393	0.408	0.380	6.59
52)	T	1,3-Dichloropr...	0.460	0.454	0.472	0.539	0.457	0.423	0.464	0.463	0.475	0.467	6.58
53)	T	1,2-Dibromoethane	0.294	0.287	0.296	0.333	0.283	0.260	0.289	0.289	0.301	0.292	6.56
54)	T	2-Hexanone			0.212	0.203	0.188	0.151	0.179	0.190	0.202	0.189	10.69
55)	P	Chlorobenzene	1.044	0.969	1.007	1.137	0.988	0.993	1.028	1.015	1.006	1.021	4.78
56)	T	1-Chlorohexane			0.124	0.110	0.104	0.095	0.103	0.100	0.101	0.102	0.105	8.37
57)	C	Ethylbenzene	0.576	0.532	0.535	0.614	0.535	0.542	0.561	0.552	0.554	0.556	4.68#
58)	T	1,1,1,2-Tetrac...	0.363	0.353	0.373	0.425	0.371	0.364	0.383	0.383	0.384	0.378	5.49
59)	T	m-,p-Xylene	0.672	0.629	0.657	0.754	0.655	0.662	0.681	0.657	0.632	0.667	5.52
60)	T	o-Xylene	0.655	0.625	0.637	0.741	0.637	0.642	0.667	0.662	0.654	0.658	5.15
61)	T	Styrene	1.087	1.036	1.079	1.220	1.064	1.063	1.110	1.105	1.073	1.093	4.81
62)	P	Bromoform	0.220	0.219	0.242	0.283	0.248	0.225	0.263	0.274	0.281	0.251	10.31
63)	T	Isopropylbenzene	1.787	1.651	1.716	1.956	1.683	1.687	1.735	1.660	1.555	1.714	6.46
64)	I	1,4-Dichlorobenzen...	----------ISTD----------										
65)	T	1,3,5-Trimethy...	2.902	2.679	2.778	3.133	2.629	2.726	2.724	2.598	2.469	2.737	6.97
66)	S	p-Bromofluorob...				0.871	0.809	0.896	0.887	0.859		0.864	3.95
67)	T	Bromobenzene	0.938	0.870	0.817	0.818	0.951	0.806	0.806	0.838		0.856	6.88
68)	T	n-Propylbenzene	3.686	3.447	3.602	4.131	3.513	3.654	3.611	3.354	3.160	3.573	7.48
69)	P	1,1,2,2-Tetrac...	0.678	0.590	0.605	0.717	0.595	0.534	0.609	0.613	0.643	0.621	8.57
70)	T	2-Chlorotoluene	2.275	2.115	2.156	2.497	2.102	2.157	2.191	2.115	2.058	2.185	6.05
71)	T	1,2,3-Trichlor...		0.197	0.184	0.202	0.158	0.143	0.164	0.164	0.170	0.173	11.67
72)	T	trans-1,4-Dich...	0.186	0.136	0.151	0.148	0.131	0.120	0.136	0.140	0.144	0.144	12.70
73)	T	1,2,4-Trimethy...	2.899	2.683	2.733	3.139	2.641	2.725	2.723	2.603	2.448	2.733	7.10
74)	T	4-Chlorotoluene	2.395	2.117	2.258	2.567	2.133	2.256	2.238	2.167	2.105	2.248	6.70
75)	T	tert-Butylbenzene	0.485	0.479	0.492	0.561	0.477	0.498	0.508	0.507	0.510	0.502	5.07
76)	T	sec-Butylbenzene	3.569	3.291	3.426	3.890	3.252	3.390	3.382	3.152	2.921	3.364	8.02
77)	T	p-Isopropyltol...	2.965	2.848	2.901	3.367	2.820	2.976	2.947	2.789	2.570	2.909	7.29
78)	T	1,3-Dichlorobe...	1.618	1.522	1.552	1.750	1.507	1.543	1.573	1.554	1.522	1.571	4.76
79)	T	1,4-Dichlorobe...	1.968	1.586	1.531	1.540	1.762	1.488	1.525	1.566	1.547	1.516	1.603	9.28
80)	T	n-Butylbenzene	2.805	2.560	2.658	3.036	2.571	2.765	2.711	2.590	2.402	2.678	6.76
81)	T	1,2-Dichlorobe...	1.695	1.467	1.426	1.445	1.691	1.421	1.416	1.484	1.463	1.451	1.496	7.10
82)	T	1,2-Dibromo-3-...				0.114	0.133	0.111	0.099	0.117	0.117	0.124	0.116	9.10
83)	T	Hexachlorobuta...	0.696	0.634	0.665	0.758	0.655	0.706	0.682	0.705	0.695	0.689	5.16
84)	T	1,2,4-Trichlor...	1.229	1.131	1.145	1.349	1.158	1.168	1.175	1.192	1.198	1.194	5.45
85)	T	Naphthalene	2.380	2.183	2.277	2.624	2.160	1.937	2.124	2.113	2.102	2.211	8.92
86)	T	1,2,3-Trichlor...	1.132	1.062	1.083	1.275	1.067	1.029	1.066	1.092	1.109	1.102	6.48

(#) = Out of Range

8260_VMS.M Thu Nov 12 09:59:47 2015

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Calibration: Tue Oct 06 11:55:21 2015
Curve: WG540826
Calibration Files

	Compound		5 8M407828.D	20 8M407829.D	50 8M407830.D	100 8M407831.D	200 8M407832.D	300 8M407833.D	400 8M407834.D	500 8M407835.D	Avg	%RSD
I	Fluorobenzene	ISTD										
T	Acetonitrile		0.020	0.019	0.020	0.019	0.019	0.019	0.019	0.019	0.019	3.019
T	3-Chloro-1-propene		0.474	0.484	0.476	0.471	0.484	0.465	0.458	0.432	0.468	3.632
T	2-Chloro-1,3-butadiene		0.448	0.481	0.482	0.486	0.514	0.495	0.486	0.460	0.481	4.206
T	Ethyl Acetate		0.104	0.129	0.132	0.131	0.132	0.128	0.128	0.133	0.127	7.528
T	Methacrylonitrile		0.046	0.055	0.058	0.057	0.057	0.056	0.057	0.060	0.056	7.551
T	Isobutyl Alcohol				0.005	0.005	0.005	0.005	0.005	0.006	0.005	4.964
T	1-Butanol				0.002	0.002	0.003	0.003	0.003	0.003	0.003	10.874
T	Methyl methacrylate		0.120	0.147	0.158	0.162	0.162	0.158	0.160	0.165	0.154	9.638
T	2-Nitropropane				0.021	0.022	0.025	0.026	0.029	0.031	0.026	14.916
I	Chlorobenzene-d5	ISTD										
I	1,4-Dichlorobenzene-d4	ISTD										
T	Cyclohexanone				0.057	0.052	0.054	0.051	0.052	0.054	0.053	3.733

Tue Oct 06 11:57:17 2015

Calibration Table Report
Method: 8260WT.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Calibration: Wed Sep 30 15:45:31 2015
Curve: WG540912
Calibration Files

	Compound	0.3 8M407747.D	0.4 8M407748.D	1 8M407749.D	2 8M407750.D	5 8M407751.D	20 8M407752.D	50 8M407753.D	100 8M407754.D	200 8M407755.D	300 8M407756.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane		0.380	0.381	0.359	0.346	0.426	0.391	0.412	0.377	0.348	0.380	7.176		
P	Chloromethane			0.693	0.621	0.587	0.619	0.579	0.579	0.515	0.447	0.580	12.684		
C	Vinyl Chloride		0.547	0.520	0.465	0.459	0.488	0.424	0.407	0.355		0.458	13.571		
T	1,3-Butadiene					0.415	0.434	0.316	0.248	0.208	0.174	0.299	36.091		1.007
T	Bromomethane			0.104	0.099	0.100	0.128	0.142	0.174	0.183	0.185	0.139	26.623		1.000
T	Chloroethane		0.143	0.197	0.184	0.189	0.202	0.190	0.198	0.194	0.186	0.187	9.444		
T	Trichlorofluoromethane		0.452	0.468	0.421	0.434	0.455	0.428	0.456	0.442	0.431	0.443	3.518		
T	Diethyl ether			0.169	0.169	0.169	0.164	0.164	0.176		0.184	0.170	4.169		
T	Isoprene		0.296	0.323	0.283	0.302	0.340	0.346	0.362	0.340	0.334	0.325	8.057		
T	Acrolein				0.021	0.021	0.020	0.020	0.021		0.024	0.021	7.793		
T	1,1,2-Trichloro-1,2,2-Trifluoroethane			0.245	0.229	0.236	0.244	0.233	0.251	0.239	0.228	0.238	3.475		
T	Acetone					0.038	0.037	0.033	0.034	0.042	0.039	0.037	8.864		
C	1,1-Dichloroethene		0.427	0.426	0.381	0.398	0.408	0.387	0.419	0.413	0.389	0.405	4.243		
T	Tert-Butyl Alcohol				0.011	0.011	0.011	0.010	0.011		0.012	0.011	6.872		
T	Dimethyl Sulfide		0.193	0.233	0.224	0.224	0.238	0.236	0.247	0.252	0.246	0.233	7.587		
T	Iodomethane				0.047	0.081	0.127	0.149	0.172	0.165	0.153	0.128	36.698	0.997	
T	Methyl acetate					0.149	0.139	0.127	0.137	0.146	0.145	0.140	5.557		
T	Methylene Chloride			0.270	0.237	0.247	0.257	0.244	0.253	0.257	0.248	0.252	4.037		
T	Carbon Disulfide			0.873	0.793	0.800	0.856	0.843	0.864	0.807	0.740	0.822	5.489		
T	Acrylonitrile			0.050	0.050	0.052	0.054	0.055	0.058		0.071	0.056	13.209		
T	Methyl Tert Butyl Ether			0.456	0.433	0.479	0.485	0.464	0.497	0.514	0.489	0.477	5.314		
T	trans-1,2-Dichloroethene		0.375	0.384	0.364	0.378	0.395	0.384	0.409	0.401	0.375	0.385	3.701		
T	n-Hexane					0.371	0.385	0.388	0.404	0.375	0.358	0.380	4.129		
T	Diisopropyl ether			0.990	0.981	0.965	0.946	0.947	0.950		0.862	0.949	4.398		
T	Vinyl Acetate		0.248	0.230	0.237	0.265	0.261	0.253	0.253	0.264	0.258	0.252	4.767		
P	1,1-Dichloroethane		0.482	0.508	0.482	0.490	0.497	0.477	0.504	0.496	0.464	0.489	2.856		
T	Ethyl-Tert-Butyl ether			0.749	0.754	0.756	0.741	0.738	0.765		0.729	0.747	1.610		
T	2-Butanone					0.061	0.063	0.059	0.065	0.067	0.068	0.064	5.457		
T	Propionitrile			0.017	0.019	0.019	0.019	0.018	0.019		0.021	0.019	7.390		
T	2,2-Dichloropropane		0.393	0.438	0.390	0.399	0.421	0.403	0.428	0.414	0.389	0.408	4.343		
T	cis-1,2-Dichloroethene		0.265	0.291	0.270	0.271	0.278	0.269	0.280	0.281	0.266	0.275	3.128		
C	Chloroform	0.453	0.499	0.475	0.451	0.465	0.477	0.460	0.474	0.462	0.427	0.464	4.130		
T	1-Bromopropane			0.036	0.044	0.045	0.048	0.048	0.048	0.046	0.045	0.045	8.589		
T	Bromochloromethane		0.117	0.143	0.125	0.136	0.138	0.136	0.142	0.143	0.137	0.135	6.408		
T	Tetrahydrofuran			0.046	0.041	0.041	0.040	0.039	0.040		0.045	0.042	6.813		
S	Dibromofluoromethane			0.228	0.229	0.236	0.244	0.239	0.247	0.244	0.237	0.238	2.882		
T	1,1,1-Trichloroethane		0.396	0.411	0.383	0.413	0.432	0.420	0.449	0.436	0.411	0.417	4.879		
T	Cyclohexane			0.500	0.472	0.470	0.505	0.502	0.528	0.506	0.485	0.496	3.912		
T	1,1-Dichloropropene			0.372	0.320	0.353	0.376	0.358	0.382	0.366	0.344	0.359	5.566		
T	Tert-Amyl-Methyl ether			0.553	0.552	0.554	0.550	0.539	0.564		0.567	0.554	1.666		
T	Carbon Tetrachloride		0.342	0.387	0.342	0.352	0.388	0.378	0.409	0.384	0.37	0.3725	6.23053		
S	1,2-Dichloroethane-d4			0.227	0.237	0.235	0.251	0.242	0.251	0.252	0.245	0.2426	3.75472		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.282	0.308	0.304	0.32	0.332	0.319	0.338	0.344	0.323	0.3188	5.97586		
T	Benzene	0.948	1.053	1.068	1.016	1.012	1.055	1.009	1.017	0.904	0.765	0.9846	9.33012		
T	Trichloroethene		0.296	0.263	0.255	0.248	0.271	0.259	0.276	0.265	0.254	0.2651	5.51495		
T	Methylcyclohexane					0.405	0.421	0.417	0.43	0.403	0.385	0.4101	3.90762		
C	1,2-Dichloropropane		0.238	0.269	0.253	0.265	0.275	0.263	0.278	0.28	0.267	0.2652	4.99091		
T	Bromodichloromethane		0.331	0.324	0.32	0.329	0.357	0.348	0.364	0.365	0.343	0.3424	5.04612		
T	1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.0012	13.1586		
T	Dibromomethane		0.113	0.119	0.121	0.13	0.132	0.125	0.13	0.135	0.131	0.1263	5.73877		
T	2-Chloroethyl Vinyl Ether					0.1	0.109	0.103	0.112	0.115	0.117	0.1093	6.11607		
T	4-Methyl-2-Pentanone					0.051	0.055	0.051	0.056	0.06	0.063	0.0561	8.3812		
T	cis-1,3-Dichloropropene		0.36	0.371	0.355	0.364	0.398	0.387	0.405	0.404	0.376	0.3801	5.00621		

T	Dimethyl Disulfide					0.158	0.19	0.202	0.22	0.232	0.227	0.2049	13.705
I	Chlorobenzene-d5	ISTD											
S	Toluene-d8			1.192	1.154	1.143	1.206	1.188	1.231	1.129	1.036	1.16	5.2193
C	Toluene		1.586	1.558	1.513	1.462	1.54	1.446	1.465	1.226	0.99	1.4206	13.5587
T	Ethyl Methacrylate			0.229	0.248	0.275	0.293	0.284	0.312	0.318	0.307	0.2832	11.1162
T	Paraldehyde											0	0
T	trans-1,3-Dichloropropene			0.382	0.396	0.43	0.454	0.443	0.474	0.47	0.437	0.4358	7.50736
T	1,1,2-Trichloroethane		0.215	0.213	0.222	0.233	0.23	0.218	0.234	0.237	0.228	0.2255	3.87257
T	2-Hexanone					0.062	0.072	0.065	0.073	0.076	0.077	0.0709	8.49385
T	1,3-Dichloropropane		0.409	0.416	0.386	0.399	0.412	0.389	0.418	0.411	0.387	0.4029	3.20744
T	Tetrachloroethene		0.274	0.335	0.293	0.297	0.304	0.295	0.319	0.307	0.293	0.302	5.77936
T	Dibromochloromethane		0.265	0.264	0.262	0.285	0.303	0.293	0.318	0.324	0.31	0.2915	8.29724
T	1,2-Dibromoethane		0.235	0.211	0.202	0.225	0.233	0.22	0.235	0.239	0.226	0.2251	5.51845
T	1-Chlorohexane		0.511	0.53	0.496	0.497	0.518	0.521	0.539	0.499	0.464	0.5083	4.39894
P	Chlorobenzene		1.019	0.978	0.95	0.944	0.986	0.956	1.013	0.935	0.787	0.9519	7.22423
T	1,1,1,2-Tetrachloroethane		0.265	0.325	0.323	0.339	0.363	0.358	0.402	0.41	0.382	0.352	12.8056
C	Ethylbenzene		0.553	0.548	0.513	0.519	0.561	0.544	0.602	0.603	0.549	0.5545	5.65783
T	m-,p-Xylene		0.653	0.672	0.647	0.659	0.677	0.656	0.688	0.594	0.478	0.6359	10.2214
T	o-Xylene			0.69	0.616	0.608	0.654	0.636	0.672	0.662	0.607	0.6431	4.84917
T	Styrene		0.957	1.011	0.983	1.079	1.09	1.068	1.114	1.015	0.854	1.0189	7.95219
P	Bromoform			0.143	0.145	0.164	0.179	0.174	0.193	0.203	0.201	0.1753	13.4432
T	Isopropylbenzene		1.674	1.711	1.59	1.59	1.701	1.607	1.616	1.333	1.062	1.5426	13.7434
I	1,4-Dichlorobenzene-d4	ISTD											
P	1,1,2,2-Tetrachloroethane		0.466	0.431	0.447	0.482	0.487	0.445	0.461	0.475	0.456	0.4612	3.98563
S	p-Bromofluorobenzene				0.839	0.861	0.897	0.872	0.9	0.883	0.855	0.8723	2.5773
T	1,2,3-Trichloropropane			0.117	0.121	0.128	0.136	0.124	0.131	0.136	0.132	0.1282	5.47011
T	trans-1,4-Dichloro-2-Butene			0.165	0.121	0.159	0.173	0.169	0.184	0.195	0.191	0.1695	13.7331
T	n-Propylbenzene		3.853	4.064	3.646	3.829	3.894	3.605	3.431	2.634		3.6196	12.2626
T	Bromobenzene	0.716	0.667	0.795	0.742	0.733	0.765	0.727	0.757	0.745	0.701	0.7348	4.83527
T	1,3,5-Trimethylbenzene		2.694	2.781	2.538	2.617	2.699	2.581	2.572	2.175	1.741	2.4886	13.2002
T	2-Chlorotoluene		2.572	2.712	2.449	2.619	2.629	2.438	2.425	2.115	1.617	2.3974	14.1849
T	4-Chlorotoluene		2.301	2.388	2.204	2.076	2.232	2.159	2.12	1.736	1.443	2.0734	14.4053
T	a-Methylstyrene					1.309	1.407	1.402	1.437	1.365	1.219	1.3567	5.94098
T	tert-Butylbenzene			0.554	0.526	0.527	0.551	0.531	0.57	0.571	0.55	0.5475	3.2892
T	1,2,4-Trimethylbenzene		2.628	2.739	2.592	2.702	2.752	2.637	2.622	2.21	1.751	2.5147	13.0606
T	sec-Butylbenzene			3.403	3.108	3.202	3.306	3.103	3.049	2.467		3.0914	9.77187
T	p-Isopropyltoluene			2.69	2.604	2.632	2.712	2.601	2.619	2.181	1.735	2.4717	13.7983
T	1,3-Dichlorobenzene		1.534	1.588	1.433	1.519	1.547	1.468	1.495	1.403	1.213	1.4666	7.58144
T	1,4-Dichlorobenzene	1.487	1.624	1.584	1.427	1.505	1.506	1.438	1.464	1.381	1.188	1.4604	8.193
T	n-Butylbenzene			2.514	2.27	2.452	2.509	2.482	2.49	2.075	1.64	2.3041	13.4157
T	1,2-Dichlorobenzene	1.241	1.291	1.402	1.288	1.325	1.343	1.269	1.306	1.257	1.11	1.2833	5.96211
T	1,2-Dibromo-3-Chloropropane				0.068	0.075	0.084	0.078	0.083	0.09	0.087	0.0808	9.2848
T	1,2,4-Trichlorobenzene		0.786	0.858	0.844	0.9	0.906	0.905	0.947	0.946	0.843	0.8816	6.03392
T	Hexachlorobutadiene		0.419	0.411	0.423	0.422	0.427	0.417	0.442	0.432	0.402	0.4217	2.75284
T	Naphthalene		1.416	1.32	1.314	1.295	1.264	1.247	1.273	1.259	1.084	1.2746	6.86659
T	1,2,3-Trichlorobenzene	0.681	0.712	0.793	0.719	0.764	0.777	0.762	0.79	0.8	0.72	0.7518	5.44426

Thu Oct 01 09:11:48 2015

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15111211 Run Date: 11/11/2015 Sample ID: WG546498-12
Instrument ID: HPMS17 Run Time: 18:33 Method: 8260B
File ID: 17M016379 Analyst: ADC QC Key: DOD4
ICal Workgroup: WG546498 Cal ID: HPMS17 - 11-NOV-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.9	ug/L	0.496	1.90	20	
1,1-Dichloroethene	CCC	50.0	48.4	ug/L	0.380	3.30	20	
1,2-Dichloropropane	CCC	50.0	51.7	ug/L	0.306	3.50	20	
Ethylbenzene	CCC	50.0	51.4	ug/L	0.571	2.90	20	
Toluene	CCC	50.0	51.1	ug/L	1.62	2.10	20	
Vinyl Chloride	CCC	50.0	55.3	ug/L	0.374	10.6	20	
Bromoform	SPCC	50.0	56.3	ug/L	0.283	12.7	20	
Chlorobenzene	SPCC	50.0	53.9	ug/L	1.10	7.70	20	
Chloromethane	SPCC	50.0	50.3	ug/L	0.381	0.600	20	
1,1-Dichloroethane	SPCC	50.0	50.8	ug/L	0.498	1.50	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.8	ug/L	0.643	3.50	20	
Acetone		50.0	56.9	ug/L	0.0569	13.7	20	
Benzene		50.0	50.9	ug/L	1.09	1.80	20	
Bromobenzene		50.0	49.8	ug/L	0.853	0.300	20	
Bromochloromethane		50.0	54.7	ug/L	0.190	9.40	20	
Bromodichloromethane		50.0	51.3	ug/L	0.377	2.50	20	
Bromomethane		50.0	48.8	ug/L	0.174	2.40	20	
2-Butanone		50.0	55.4	ug/L	0.0913	10.7	20	
n-Butylbenzene		50.0	50.8	ug/L	2.72	1.60	20	
sec-Butylbenzene		50.0	52.8	ug/L	3.55	5.50	20	
tert-Butylbenzene		50.0	53.1	ug/L	0.533	6.20	20	
Carbon Disulfide		50.0	15.9	ug/L	0.263	68.1	20	*
Carbon Tetrachloride		50.0	52.5	ug/L	0.396	4.90	20	
Dibromochloromethane		50.0	52.2	ug/L	0.397	4.30	20	
Chloroethane		50.0	45.5	ug/L	0.157	8.90	20	
2-Chlorotoluene		50.0	52.6	ug/L	2.30	5.10	20	
4-Chlorotoluene		50.0	51.7	ug/L	2.32	3.40	20	
1,2-Dibromo-3-Chloropropane		50.0	53.9	ug/L	0.126	7.70	20	
1,2-Dibromoethane		50.0	51.2	ug/L	0.300	2.50	20	
Dibromomethane		50.0	52.4	ug/L	0.167	4.70	20	
1,2-Dichlorobenzene		50.0	53.0	ug/L	1.59	6.00	20	
1,3-Dichlorobenzene		50.0	52.2	ug/L	1.64	4.50	20	
1,4-Dichlorobenzene		50.0	49.5	ug/L	1.59	0.900	20	
Dichlorodifluoromethane		50.0	57.1	ug/L	0.406	14.2	20	
1,2-Dichloroethane		50.0	52.0	ug/L	0.337	4.10	20	
cis-1,2-Dichloroethene		50.0	49.6	ug/L	0.292	0.800	20	
trans-1,2-Dichloroethene		50.0	49.9	ug/L	0.256	0.300	20	
1,3-Dichloropropane		50.0	52.4	ug/L	0.490	4.90	20	
2,2-Dichloropropane		50.0	52.8	ug/L	0.388	5.60	20	
cis-1,3-Dichloropropene		50.0	54.7	ug/L	0.473	9.40	20	
trans-1,3-Dichloropropene		50.0	51.8	ug/L	0.384	3.60	20	
1,1-Dichloropropene		50.0	50.7	ug/L	0.367	1.40	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4515105
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15111211 Run Date: 11/11/2015 Sample ID: WG546498-12
Instrument ID: HPMS17 Run Time: 18:33 Method: 8260B
File ID: 17M016379 Analyst: ADC QC Key: DOD4
ICal Workgroup: WG546498 Cal ID: HPMS17 - 11-NOV-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	53.0	ug/L	0.201	6.00	20	
Hexachlorobutadiene		50.0	51.9	ug/L	0.715	3.90	20	
Isopropylbenzene		50.0	53.1	ug/L	1.82	6.20	20	
p-Isopropyltoluene		50.0	50.5	ug/L	2.94	0.900	20	
4-Methyl-2-Pentanone		50.0	53.5	ug/L	0.0785	7.00	20	
Methylene Chloride		50.0	46.9	ug/L	0.272	6.30	20	
Naphthalene		50.0	53.4	ug/L	2.36	6.70	20	
n-Propylbenzene		50.0	53.5	ug/L	3.83	7.10	20	
Styrene		50.0	51.3	ug/L	1.12	2.70	20	
1,1,1,2-Tetrachloroethane		50.0	50.7	ug/L	0.383	1.30	20	
Tetrachloroethene		50.0	51.7	ug/L	0.441	3.30	20	
1,2,3-Trichlorobenzene		50.0	53.3	ug/L	1.17	6.60	20	
1,2,4-Trichlorobenzene		50.0	53.3	ug/L	1.27	6.60	20	
1,1,1-Trichloroethane		50.0	52.3	ug/L	0.446	4.50	20	
1,1,2-Trichloroethane		50.0	49.6	ug/L	0.292	0.800	20	
Trichloroethene		50.0	50.7	ug/L	0.302	1.40	20	
Trichlorofluoromethane		50.0	35.2	ug/L	0.286	29.5	20	*
1,2,3-Trichloropropane		50.0	49.5	ug/L	0.171	1.00	20	
1,2,4-Trimethylbenzene		50.0	50.0	ug/L	2.74	0.100	20	
1,3,5-Trimethylbenzene		50.0	51.3	ug/L	2.81	2.70	20	
o-Xylene		50.0	53.1	ug/L	0.699	6.20	20	
m-,p-Xylene		100	107	ug/L	0.710	6.60	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4515105
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15111211 Run Date: 09/30/2015 Sample ID: WG540912-12
Instrument ID: HPMS8 Run Time: 17:27 Method: 8260B
File ID: 8M407761 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG540912 Cal ID: HPMS8 - 30-SEP-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	53.5	ug/L	0.497	7.10	20	
1,1-Dichloroethene	CCC	50.0	49.6	ug/L	0.402	0.800	20	
1,2-Dichloropropane	CCC	50.0	51.4	ug/L	0.273	2.90	20	
Ethylbenzene	CCC	50.0	49.2	ug/L	0.546	1.60	20	
Toluene	CCC	50.0	50.2	ug/L	1.42	0.300	20	
Vinyl Chloride	CCC	50.0	44.0	ug/L	0.404	12.0	20	
Bromoform	SPCC	50.0	51.2	ug/L	0.180	2.40	20	
Chlorobenzene	SPCC	50.0	51.8	ug/L	0.986	3.50	20	
Chloromethane	SPCC	50.0	49.6	ug/L	0.576	0.700	20	
1,1-Dichloroethane	SPCC	50.0	51.9	ug/L	0.507	3.70	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.9	ug/L	0.442	4.10	20	
Acetone		50.0	59.2	ug/L	0.0439	18.4	20	
Benzene		50.0	52.9	ug/L	1.04	5.80	20	
Bromobenzene		50.0	49.3	ug/L	0.724	1.40	20	
Bromochloromethane		50.0	53.5	ug/L	0.145	7.00	20	
Bromodichloromethane		50.0	52.2	ug/L	0.358	4.40	20	
Bromomethane		50.0	45.2	ug/L	0.141	9.70	20	
2-Butanone		50.0	54.2	ug/L	0.0693	8.40	20	
n-Butylbenzene		50.0	52.9	ug/L	2.44	5.70	20	
sec-Butylbenzene		50.0	51.8	ug/L	3.20	3.60	20	
tert-Butylbenzene		50.0	51.7	ug/L	0.566	3.40	20	
Carbon Disulfide		50.0	48.8	ug/L	0.802	2.50	20	
Carbon Tetrachloride		50.0	54.5	ug/L	0.406	9.00	20	
Dibromochloromethane		50.0	49.3	ug/L	0.287	1.40	20	
Chloroethane		50.0	55.9	ug/L	0.209	11.7	20	
2-Chlorotoluene		50.0	53.2	ug/L	2.55	6.40	20	
4-Chlorotoluene		50.0	52.9	ug/L	2.19	5.80	20	
1,2-Dibromo-3-Chloropropane		50.0	47.3	ug/L	0.0765	5.30	20	
1,2-Dibromoethane		50.0	47.8	ug/L	0.215	4.40	20	
Dibromomethane		50.0	51.7	ug/L	0.131	3.40	20	
1,2-Dichlorobenzene		50.0	50.8	ug/L	1.30	1.60	20	
1,3-Dichlorobenzene		50.0	50.5	ug/L	1.48	1.00	20	
1,4-Dichlorobenzene		50.0	48.6	ug/L	1.42	2.80	20	
Dichlorodifluoromethane		50.0	58.7	ug/L	0.446	17.4	20	
1,2-Dichloroethane		50.0	52.5	ug/L	0.335	5.10	20	
cis-1,2-Dichloroethene		50.0	51.1	ug/L	0.281	2.20	20	
trans-1,2-Dichloroethene		50.0	51.7	ug/L	0.398	3.30	20	
1,3-Dichloropropane		50.0	48.2	ug/L	0.388	3.60	20	
2,2-Dichloropropane		50.0	56.9	ug/L	0.465	13.9	20	
cis-1,3-Dichloropropene		50.0	55.2	ug/L	0.420	10.5	20	
trans-1,3-Dichloropropene		50.0	49.1	ug/L	0.428	1.80	20	
1,1-Dichloropropene		50.0	52.7	ug/L	0.378	5.40	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4515105
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15111211 Run Date: 09/30/2015 Sample ID: WG540912-12
Instrument ID: HPMS8 Run Time: 17:27 Method: 8260B
File ID: 8M407761 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG540912 Cal ID: HPMS8 - 30-SEP-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	48.3	ug/L	0.0684	3.50	20	
Hexachlorobutadiene		50.0	51.2	ug/L	0.432	2.40	20	
Isopropylbenzene		50.0	54.1	ug/L	1.67	8.20	20	
p-Isopropyltoluene		50.0	51.9	ug/L	2.57	3.80	20	
4-Methyl-2-Pentanone		50.0	50.6	ug/L	0.0568	1.30	20	
Methylene Chloride		50.0	50.4	ug/L	0.254	0.800	20	
Naphthalene		50.0	44.3	ug/L	1.13	11.3	20	
n-Propylbenzene		50.0	50.9	ug/L	3.69	1.90	20	
Styrene		50.0	52.5	ug/L	1.07	5.10	20	
1,1,1,2-Tetrachloroethane		50.0	49.6	ug/L	0.349	0.900	20	
Tetrachloroethene		50.0	50.4	ug/L	0.304	0.700	20	
1,2,3-Trichlorobenzene		50.0	48.6	ug/L	0.731	2.70	20	
1,2,4-Trichlorobenzene		50.0	49.3	ug/L	0.869	1.40	20	
1,1,1-Trichloroethane		50.0	55.1	ug/L	0.460	10.3	20	
1,1,2-Trichloroethane		50.0	47.4	ug/L	0.214	5.20	20	
Trichloroethene		50.0	50.9	ug/L	0.270	1.90	20	
Trichlorofluoromethane		50.0	49.4	ug/L	0.438	1.20	20	
1,2,3-Trichloropropane		50.0	49.0	ug/L	0.126	2.10	20	
1,2,4-Trimethylbenzene		50.0	51.5	ug/L	2.59	3.00	20	
1,3,5-Trimethylbenzene		50.0	52.6	ug/L	2.62	5.30	20	
o-Xylene		50.0	51.6	ug/L	0.664	3.20	20	
m-,p-Xylene		100	105	ug/L	0.668	5.10	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4515105
Report generated 12/08/2015 11:32

Login Number: L15111211 Run Date: 11/21/2015 Sample ID: WG547960-02
Instrument ID: HPMS8 Run Time: 13:24 Method: 8260B
File ID: 8M408859 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG547961 Cal ID: HPMS8 - 30-SEP-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	53.2	ug/L	0.494	6.46	20	
1,1-Dichloroethene	CCC	50.0	55.5	ug/L	0.450	11.1	20	
1,2-Dichloropropane	CCC	50.0	52.1	ug/L	0.277	4.29	20	
Ethylbenzene	CCC	50.0	48.2	ug/L	0.535	3.57	20	
Toluene	CCC	50.0	49.2	ug/L	1.40	1.56	20	
Vinyl Chloride	CCC	50.0	58.3	ug/L	0.534	16.5	20	
Bromoform	SPCC	50.0	53.7	ug/L	0.188	7.49	20	
Chlorobenzene	SPCC	50.0	49.1	ug/L	0.934	1.87	20	
Chloromethane	SPCC	50.0	61.4	ug/L	0.712	22.8	20	*
1,1-Dichloroethane	SPCC	50.0	53.6	ug/L	0.524	7.15	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.6	ug/L	0.458	0.747	20	
Xylenes		150	148	ug/L	0.627	1.38	20	
Acetone		50.0	51.8	ug/L	0.0384	3.55	20	
Benzene		50.0	52.4	ug/L	1.03	4.76	20	
Bromobenzene		50.0	48.6	ug/L	0.715	2.73	20	
Bromochloromethane		50.0	55.6	ug/L	0.150	11.1	20	
Bromodichloromethane		50.0	54.1	ug/L	0.371	8.29	20	
Bromomethane		50.0	65.1	ug/L	0.207	30.2	20	*
2-Butanone		50.0	53.3	ug/L	0.0681	6.57	20	
n-Butylbenzene		50.0	52.2	ug/L	2.40	4.35	20	
sec-Butylbenzene		50.0	46.8	ug/L	2.89	6.42	20	
tert-Butylbenzene		50.0	47.4	ug/L	0.519	5.17	20	
Carbon Disulfide		50.0	52.9	ug/L	0.870	5.79	20	
Carbon Tetrachloride		50.0	55.8	ug/L	0.416	11.6	20	
Dibromochloromethane		50.0	52.5	ug/L	0.306	5.08	20	
Chloroethane		50.0	55.1	ug/L	0.206	10.3	20	
2-Chlorotoluene		50.0	46.4	ug/L	2.23	7.11	20	
4-Chlorotoluene		50.0	48.4	ug/L	2.01	3.21	20	
1,2-Dibromo-3-Chloropropane		50.0	47.3	ug/L	0.0764	5.49	20	
1,2-Dibromoethane		50.0	49.8	ug/L	0.224	0.498	20	
Dibromomethane		50.0	53.7	ug/L	0.136	7.50	20	
1,2-Dichlorobenzene		50.0	48.8	ug/L	1.25	2.42	20	
1,3-Dichlorobenzene		50.0	48.5	ug/L	1.42	3.08	20	
1,4-Dichlorobenzene		50.0	48.2	ug/L	1.41	3.66	20	
Dichlorodifluoromethane		50.0	58.3	ug/L	0.443	16.6	20	
1,2-Dichloroethane		50.0	53.7	ug/L	0.342	7.34	20	
cis-1,2-Dichloroethene		50.0	53.9	ug/L	0.296	7.76	20	
trans-1,2-Dichloroethene		50.0	54.7	ug/L	0.421	9.42	20	
1,3-Dichloropropane		50.0	49.2	ug/L	0.397	1.59	20	
2,2-Dichloropropane		50.0	53.9	ug/L	0.440	7.81	20	
cis-1,3-Dichloropropene		50.0	53.4	ug/L	0.406	6.76	20	
trans-1,3-Dichloropropene		50.0	51.4	ug/L	0.448	2.85	20	

CCV - Modified 03/05/2008
PDF File ID: 4515109
Report generated 12/08/2015 11:32

Login Number: L15111211 Run Date: 11/21/2015 Sample ID: WG547960-02
Instrument ID: HPMS8 Run Time: 13:24 Method: 8260B
File ID: 8M408859 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG547961 Cal ID: HPMS8 - 30-SEP-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	53.7	ug/L	0.385	7.36	20	
2-Hexanone		50.0	47.6	ug/L	0.0675	4.84	20	
Hexachlorobutadiene		50.0	47.9	ug/L	0.404	4.19	20	
Isopropylbenzene		50.0	50.0	ug/L	1.54	0.0830	20	
p-Isopropyltoluene		50.0	49.1	ug/L	2.43	1.84	20	
4-Methyl-2-Pentanone		50.0	50.4	ug/L	0.0565	0.794	20	
Methylene Chloride		50.0	53.1	ug/L	0.268	6.26	20	
Naphthalene		50.0	55.6	ug/L	1.42	11.2	20	
n-Propylbenzene		50.0	46.2	ug/L	3.34	7.66	20	
Styrene		50.0	50.3	ug/L	1.02	0.546	20	
1,1,1,2-Tetrachloroethane		50.0	52.1	ug/L	0.367	4.28	20	
Tetrachloroethene		50.0	49.0	ug/L	0.296	2.07	20	
1,2,3-Trichlorobenzene		50.0	51.9	ug/L	0.780	3.71	20	
1,2,4-Trichlorobenzene		50.0	52.4	ug/L	0.924	4.82	20	
1,1,1-Trichloroethane		50.0	54.0	ug/L	0.450	7.94	20	
1,1,2-Trichloroethane		50.0	50.3	ug/L	0.227	0.673	20	
Trichloroethene		50.0	51.3	ug/L	0.272	2.51	20	
Trichlorofluoromethane		50.0	54.8	ug/L	0.485	9.55	20	
1,2,3-Trichloropropane		50.0	49.4	ug/L	0.127	1.28	20	
1,2,4-Trimethylbenzene		50.0	49.0	ug/L	2.46	2.10	20	
1,3,5-Trimethylbenzene		50.0	47.9	ug/L	2.39	4.14	20	
o-Xylene		50.0	48.1	ug/L	0.619	3.79	20	
m-,p-Xylene		100	99.8	ug/L	0.635	0.173	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4515109
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 Run Date: 11/24/2015 Sample ID: WG548398-02

Instrument ID: HPMS17 Run Time: 20:26 Method: 8260B

File ID: 17M016666 Analyst: JDS/FJB QC Key: DOD4

Workgroup (AAB#): WG548399 Cal ID: HPMS17 - 11-NOV-15

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.7	ug/L	0.465	4.52	20	
1,1-Dichloroethene	CCC	50.0	53.5	ug/L	0.420	7.09	20	
1,2-Dichloropropane	CCC	50.0	46.3	ug/L	0.274	7.40	20	
Ethylbenzene	CCC	50.0	50.6	ug/L	0.562	1.19	20	
Toluene	CCC	50.0	50.0	ug/L	1.58	0.0940	20	
Vinyl Chloride	CCC	50.0	51.0	ug/L	0.345	1.98	20	
Bromoform	SPCC	50.0	53.1	ug/L	0.266	6.13	20	
Chlorobenzene	SPCC	50.0	50.4	ug/L	1.03	0.731	20	
Chloromethane	SPCC	50.0	41.3	ug/L	0.313	17.4	20	
1,1-Dichloroethane	SPCC	50.0	48.4	ug/L	0.475	3.27	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.4	ug/L	0.588	5.18	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4515109
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L15111211
Instrument ID: HPMS8
Workgroup (AAB#): WG547961

ICAL CCV Number: WG540912-08
CAL ID: HPMS8-30-SEP-15
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG540912-08	NA	NA	378981	687265	938292
Upper Limit	NA	NA	757962	1374530	1876584
Lower Limit	NA	NA	189491	343633	469146
L15111211-01	1.00	01	547227	1016804	1336501
L15111211-02	1.00	01	530873	1007755	1305424
L15111211-03	1.00	01	525972	987298	1269526
L15111211-04	1.00	01	515296	961396	1256452
L15111211-05	1.00	01	495539	954154	1228466
L15111211-06	1.00	01	649744	1147230	1495020
L15111211-07	1.00	01	647897	1159215	1505803
L15111211-08	2.50	DL01	457927	886549	1170691
L15111211-09	1.00	01	496885	935979	1218443
L15111211-10	1.00	01	494889	928038	1213299
L15111211-11	1.00	01	479503	923988	1200353
L15111211-12	1.00	01	467996	894432	1185737
L15111211-13	1.00	01	470029	889283	1170960
L15111211-14	2.50	DL01	457302	879537	1138219
L15111211-15	1.00	01	465980	890437	1174647
L15111211-16	10.0	DL01	458828	866802	1140843
L15111211-17	1.00	01	566345	1071479	1408544
WG547961-01	1.00	01	592739	1107901	1444769
WG547961-02	1.00	01	638089	1130573	1484555

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4525797
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L15111211
Instrument ID: HPMS17
Workgroup (AAB#): WG548399

ICAL CCV Number: WG546498-02
CAL ID: HPMS17-11-NOV-15
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG546498-02	NA	NA	185646	339437	458822
Upper Limit	NA	NA	371292	678874	917644
Lower Limit	NA	NA	92823	169719	229411
L15111211-08	20.0	DL02	133190	246465	333107
WG548399-01	1.00	01	132306	244149	329539
WG548399-02	1.00	01	137777	240799	320627

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4525797
Report generated 12/08/2015 11:32

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L15111211
Instrument ID: HPMS8
Workgroup (AAB#): WG547961

ICAL CCV Number: WG540912-08
CAL ID: HPMS8-30-SEP-15
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG540912-08	NA	NA	17.6	14.58	10.72
Upper Limit	NA	NA	18.1	15.08	11.22
Lower Limit	NA	NA	17.1	14.08	10.22
L15111211-01	1.00	01	17.6	14.58	10.72
L15111211-02	1.00	01	17.6	14.58	10.72
L15111211-03	1.00	01	17.6	14.58	10.71
L15111211-04	1.00	01	17.6	14.58	10.72
L15111211-05	1.00	01	17.6	14.58	10.72
L15111211-06	1.00	01	17.6	14.58	10.71
L15111211-07	1.00	01	17.6	14.58	10.71
L15111211-08	2.50	DL01	17.59	14.58	10.71
L15111211-09	1.00	01	17.6	14.58	10.72
L15111211-10	1.00	01	17.6	14.58	10.72
L15111211-11	1.00	01	17.6	14.58	10.71
L15111211-12	1.00	01	17.6	14.58	10.72
L15111211-13	1.00	01	17.6	14.58	10.72
L15111211-14	2.50	DL01	17.6	14.58	10.72
L15111211-15	1.00	01	17.6	14.58	10.72
L15111211-16	10.0	DL01	17.6	14.58	10.71
L15111211-17	1.00	01	17.6	14.58	10.71
WG547961-01	1.00	01	17.6	14.58	10.71
WG547961-02	1.00	01	17.6	14.58	10.72

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4525799
Report generated: 12/08/2015 11:32

Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L15111211
Instrument ID: HPMS17
Workgroup (AAB#): WG548399

ICAL CCV Number: WG546498-02
CAL ID: HPMS17 - 11-NOV-15
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG546498-02	NA	NA	9.305	7.976	5.141
Upper Limit	NA	NA	9.805	8.476	5.641
Lower Limit	NA	NA	8.805	7.476	4.641
L15111211-08	20.0	DL02	9.3	7.97	5.14
WG548399-01	1.00	01	9.3	7.97	5.14
WG548399-02	1.00	01	9.3	7.97	5.14

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4525799
Report generated: 12/08/2015 11:32

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408867.D Vial: 11
Acq On : 21 Nov 2015 17:21 Operator: TMB
Sample : L15111211-01 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:52 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

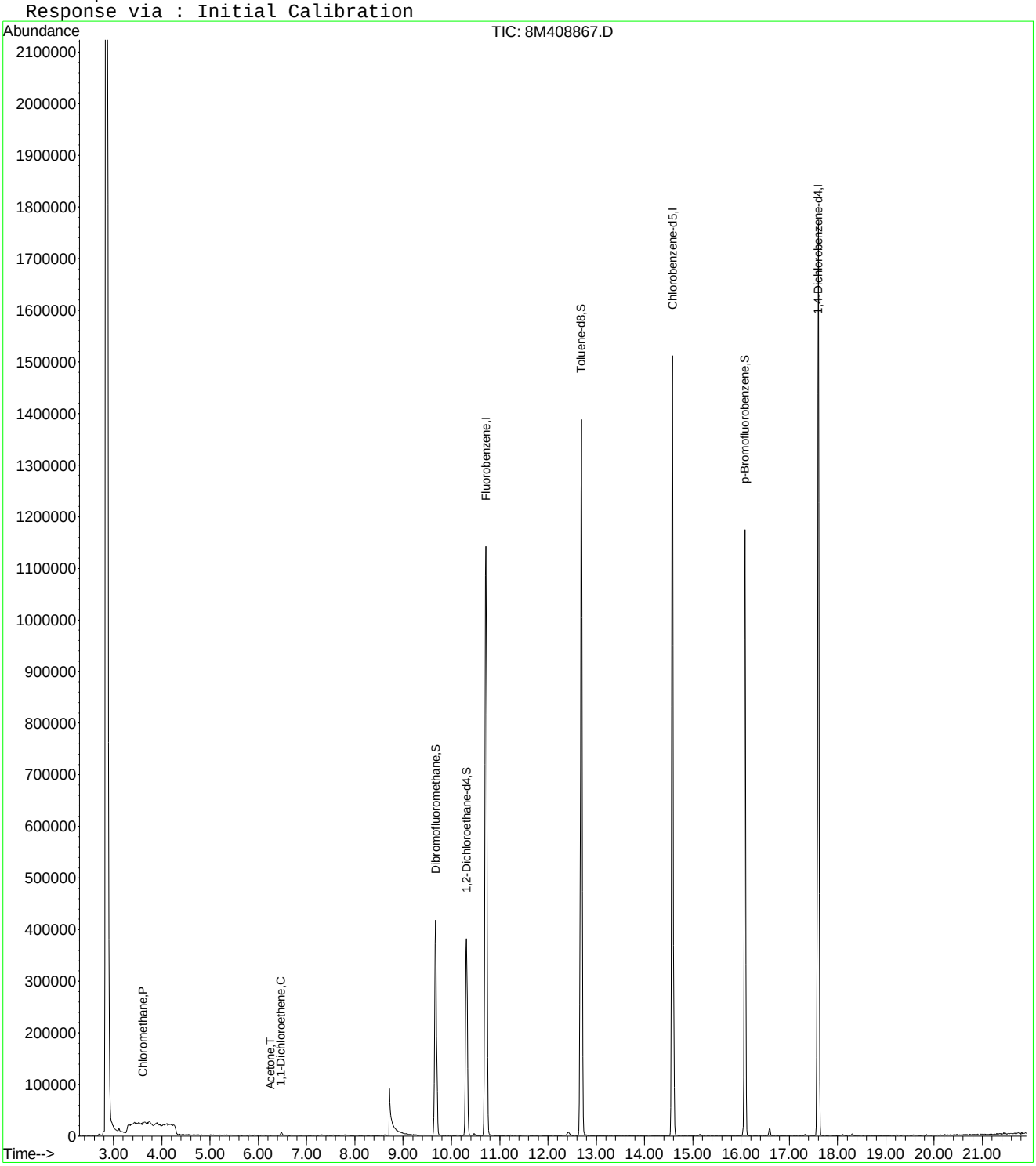
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1336501	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1016804	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	547227	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	347084	27.2864 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.16%		
43) 1,2-Dichloroethane-d4	10.31	65	332398	25.6301 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.52%		
58) Toluene-d8	12.69	98	1179947	25.0107 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.04%		
80) p-Bromofluorobenzene	16.08	95	472107	24.7260 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.92%		
Target Compounds					Qvalue
3) Chloromethane	3.62	50	3870	0.1248 ug/L #	72
5) 1,3-Butadiene	3.89	54	259	Below Cal #	1
13) Acetone	6.25	43	1076	0.5424 ug/L #	48
14) 1,1-Dichloroethene	6.47	61	7722	0.3564 ug/L	90

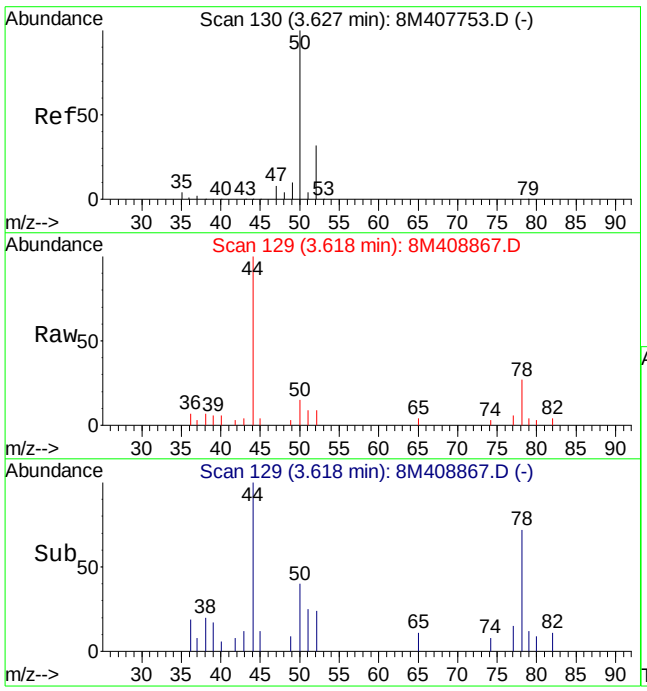
(#) = qualifier out of range (m) = manual integration
8M408867.D 8260WT.M Mon Nov 23 08:53:52 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408867.D Vial: 11
Acq On : 21 Nov 2015 17:21 Operator: TMB
Sample : L15111211-01 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

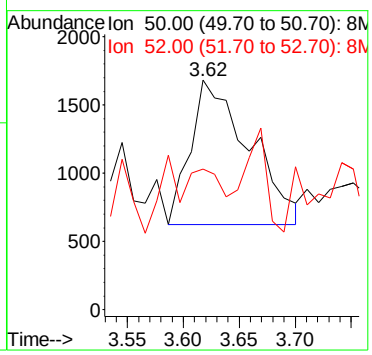


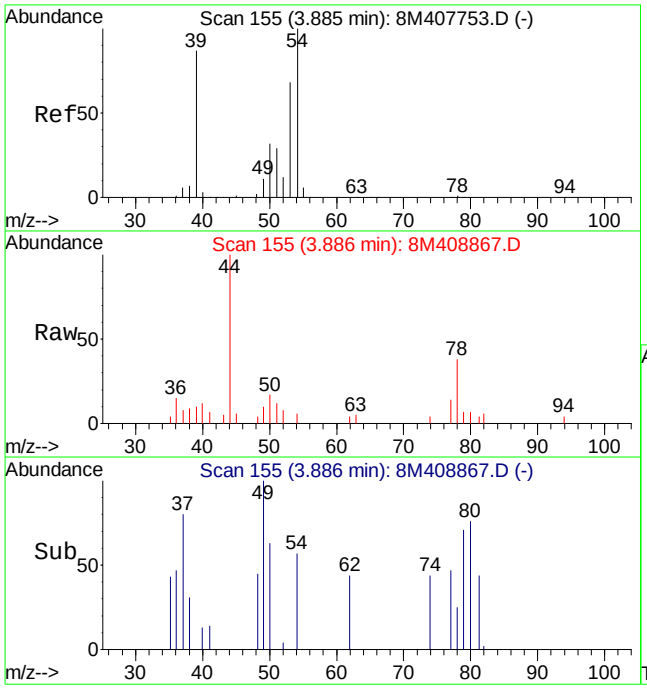


#3
Chloromethane
Concen: 0.12 ug/L
RT: 3.62 min Scan# 129
Delta R.T. -0.00 min
Lab File: 8M408867.D
Acq: 21 Nov 2015 17:21

Tgt Ion: 50 Resp: 3870

Ion	Ratio	Lower	Upper
50	100		
52	16.6	19.2	44.8#

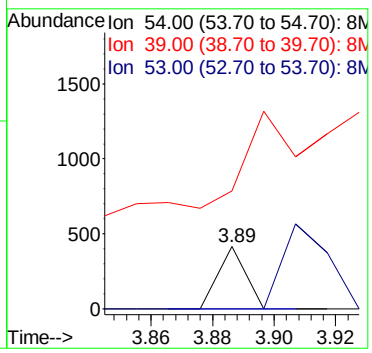


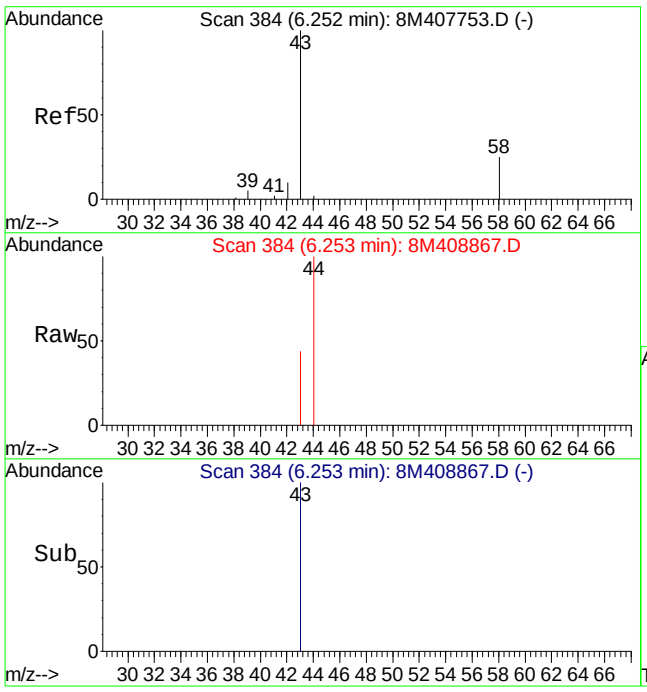


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.89 min Scan# 155
Delta R.T. -0.00 min
Lab File: 8M408867.D
Acq: 21 Nov 2015 17:21

Tgt Ion: 54 Resp: 259

Ion	Ratio	Lower	Upper
54	100		
39	816.6	60.8	142.0#
53	225.1	42.4	99.0#

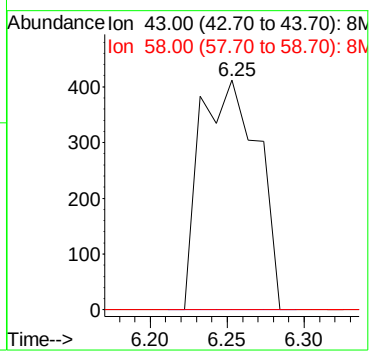


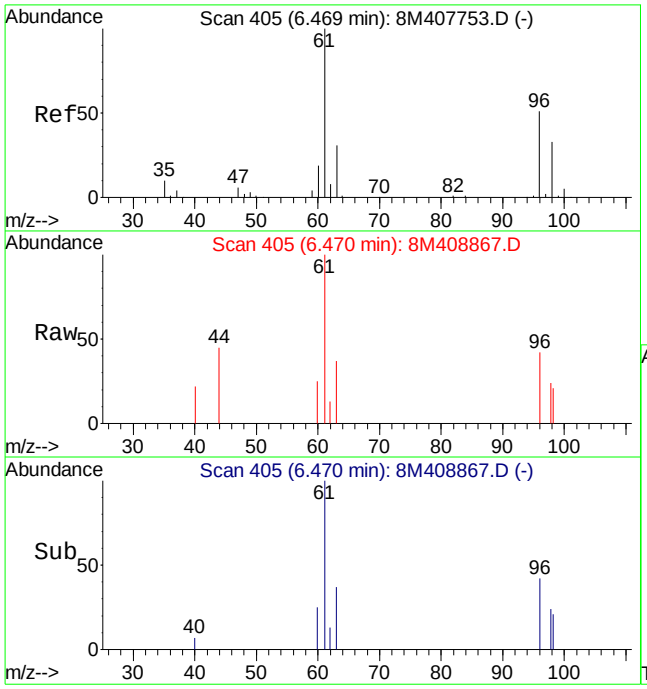


#13
Acetone
Concen: 0.54 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408867.D
Acq: 21 Nov 2015 17:21

Tgt Ion: 43 Resp: 1076

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

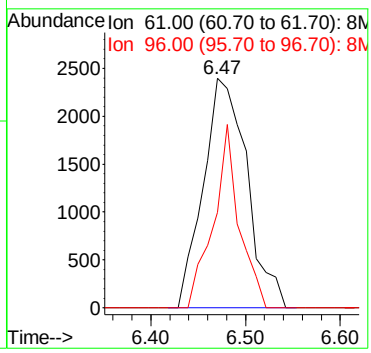




#14
1,1-Dichloroethene
Concen: 0.36 ug/L
RT: 6.47 min Scan# 405
Delta R.T. -0.00 min
Lab File: 8M408867.D
Acq: 21 Nov 2015 17:21

Tgt Ion: 61 Resp: 7722

Ion	Ratio	Lower	Upper
61	100		
96	46.7	32.3	75.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408868.D Vial: 12
Acq On : 21 Nov 2015 17:51 Operator: TMB
Sample : L15111211-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:53 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

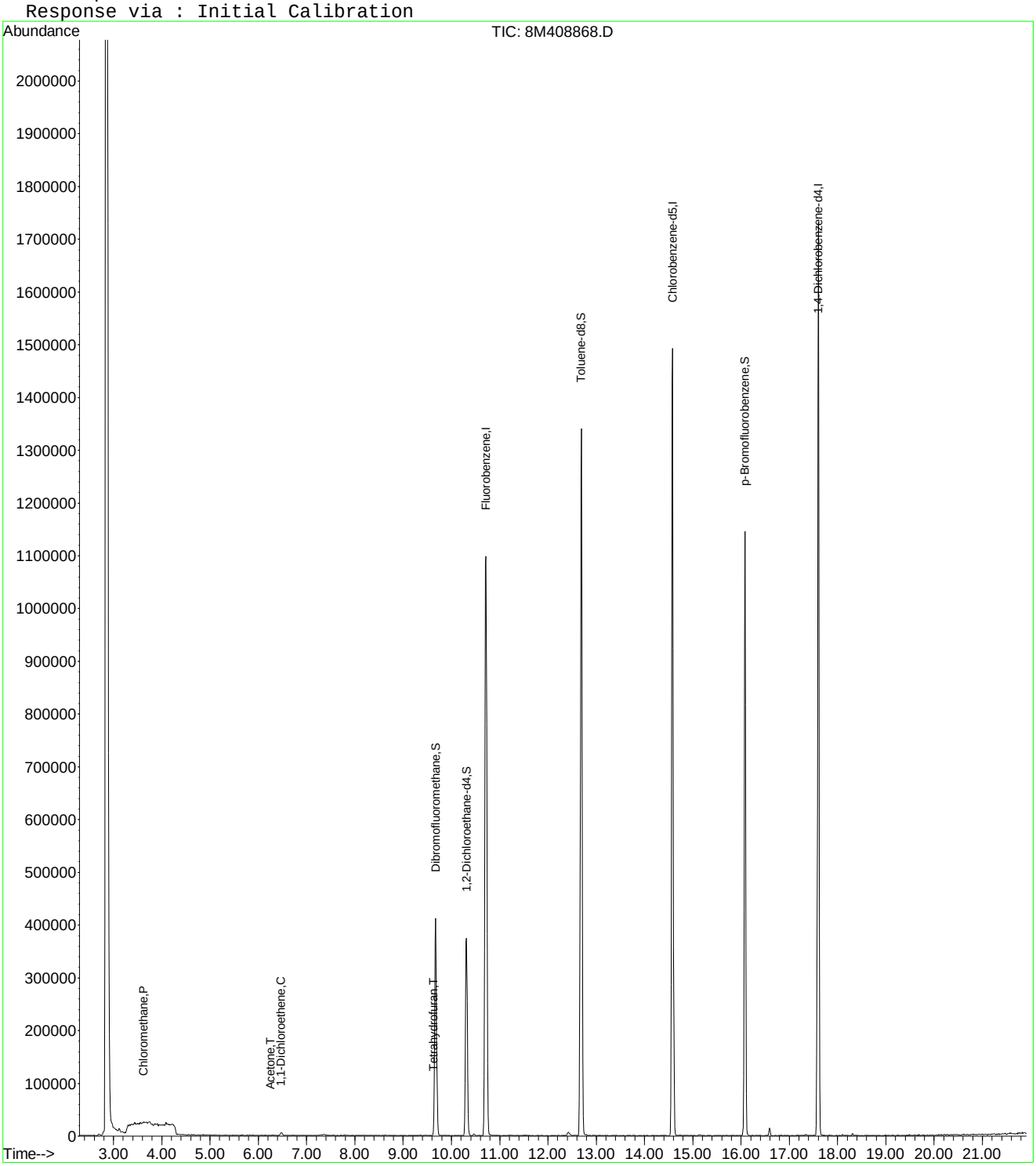
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1305424	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1007755	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	530873	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	334343	26.9105 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.64%		
43) 1,2-Dichloroethane-d4	10.31	65	330968	26.1274 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 104.52%		
58) Toluene-d8	12.69	98	1173462	25.0966 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.40%		
80) p-Bromofluorobenzene	16.08	95	467763	25.2531 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.00%		
Target Compounds					Qvalue
3) Chloromethane	3.63	50	4869	0.1608 ug/L #	74
13) Acetone	6.25	43	827	0.4268 ug/L #	48
14) 1,1-Dichloroethene	6.47	61	6534	0.3087 ug/L	87
36) Tetrahydrofuran	9.63	42	389	0.1775 ug/L #	40

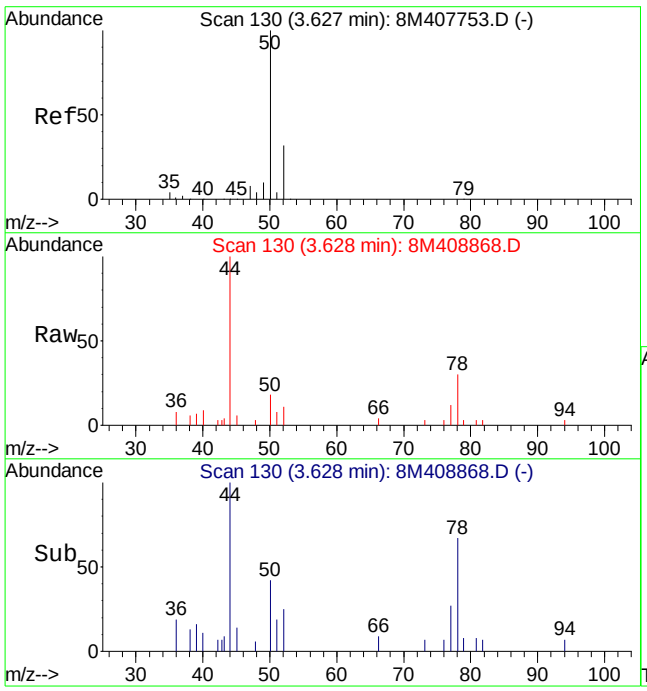
(#) = qualifier out of range (m) = manual integration
8M408868.D 8260WT.M Mon Nov 23 08:53:53 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408868.D Vial: 12
Acq On : 21 Nov 2015 17:51 Operator: TMB
Sample : L15111211-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

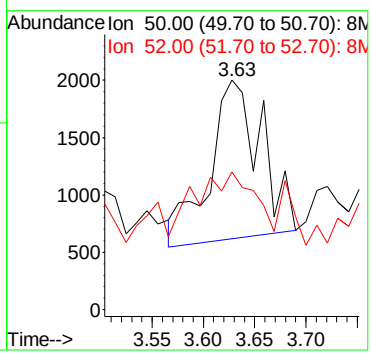


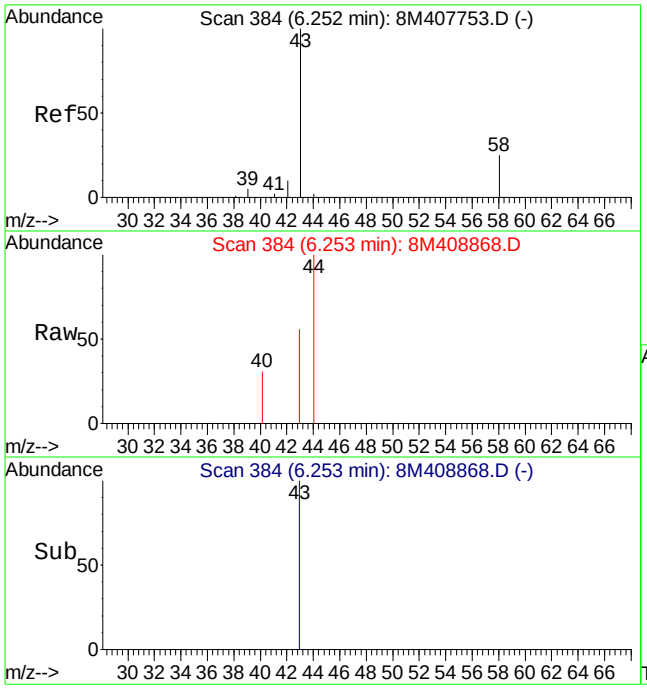


#3
Chloromethane
Concen: 0.16 ug/L
RT: 3.63 min Scan# 130
Delta R.T. 0.01 min
Lab File: 8M408868.D
Acq: 21 Nov 2015 17:51

Tgt Ion: 50 Resp: 4869

Ion	Ratio	Lower	Upper
50	100		
52	46.7	19.2	44.8#

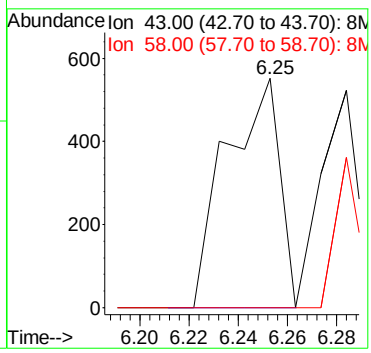


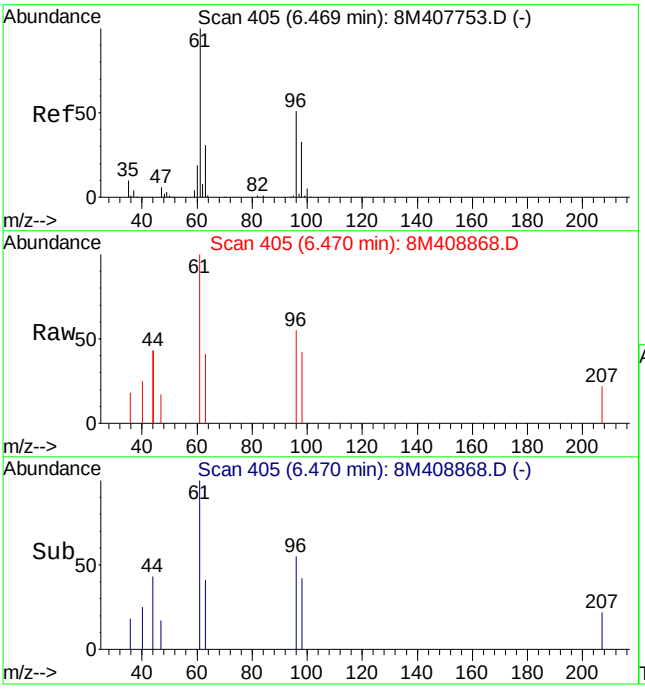


#13
Acetone
Concen: 0.43 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408868.D
Acq: 21 Nov 2015 17:51

Tgt Ion: 43 Resp: 827

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

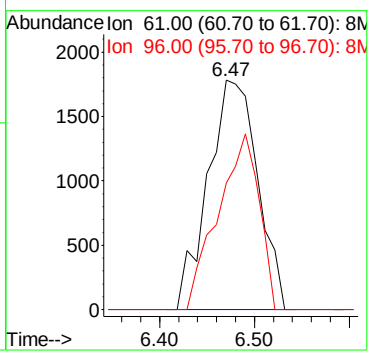


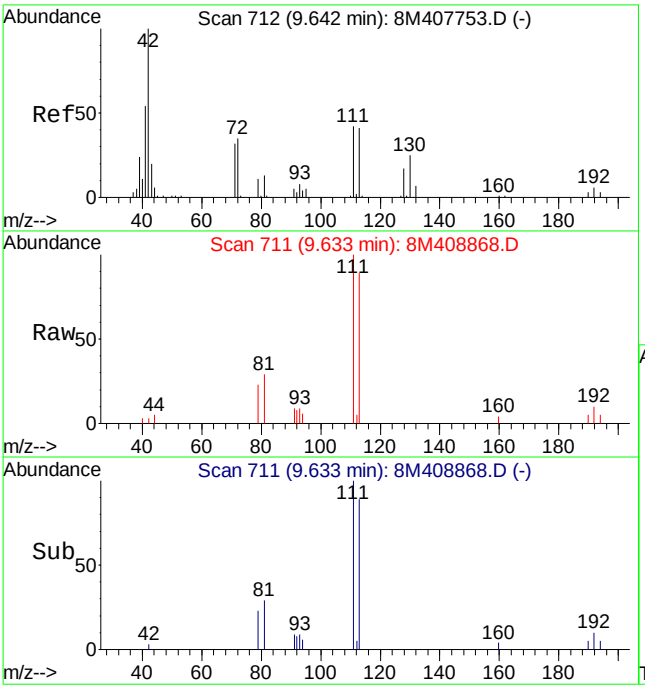


#14
1,1-Dichloroethene
Concen: 0.31 ug/L
RT: 6.47 min Scan# 405
Delta R.T. -0.00 min
Lab File: 8M408868.D
Acq: 21 Nov 2015 17:51

Tgt Ion: 61 Resp: 6534

Ion	Ratio	Lower	Upper
61	100		
96	63.1	32.3	75.3

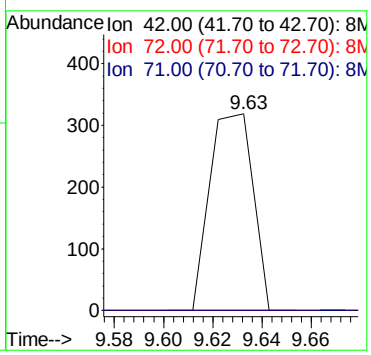




#36
Tetrahydrofuran
Concen: 0.18 ug/L
RT: 9.63 min Scan# 711
Delta R.T. -0.00 min
Lab File: 8M408868.D
Acq: 21 Nov 2015 17:51

Tgt Ion: 42 Resp: 389

Ion	Ratio	Lower	Upper
42	100		
72	0.0	22.4	52.4#
71	0.0	19.5	45.5#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408869.D Vial: 13
Acq On : 21 Nov 2015 18:20 Operator: TMB
Sample : L15111211-03 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:54 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

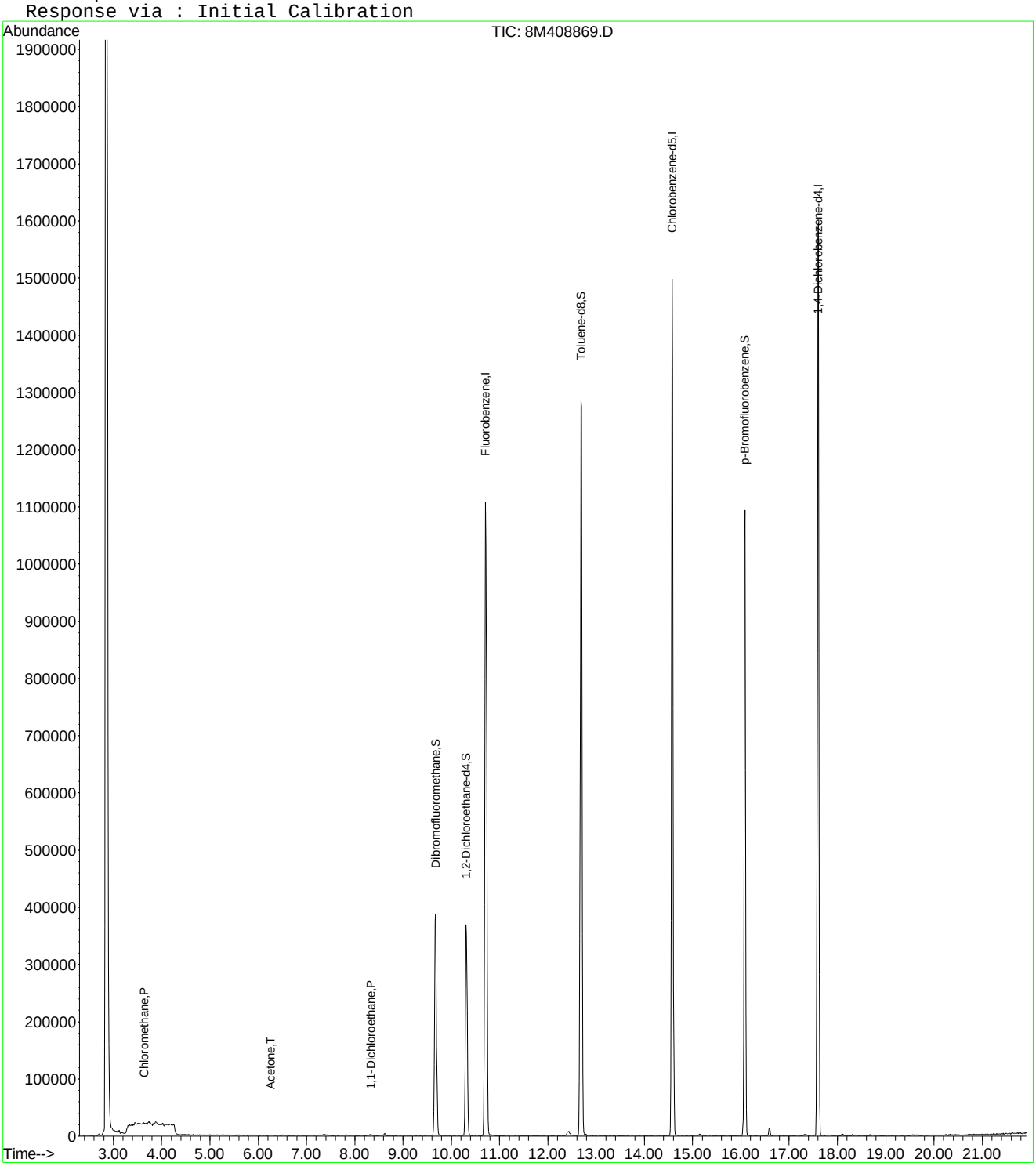
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	1269526	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	987298	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	525972	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.68	111	325147	26.9104 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.64%		
43) 1,2-Dichloroethane-d4	10.31	65	325923	26.4567 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.84%		
58) Toluene-d8	12.69	98	1144439	24.9831 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.92%		
80) p-Bromofluorobenzene	16.08	95	453739	24.7243 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.88%		
Target Compounds					Qvalue
3) Chloromethane	3.64	50	5877	0.1996 ug/L	85
5) 1,3-Butadiene	3.91	54	217	Below Cal #	1
13) Acetone	6.27	43	721	0.3826 ug/L #	48
27) 1,1-Dichloroethane	8.33	63	3472	0.1399 ug/L #	68

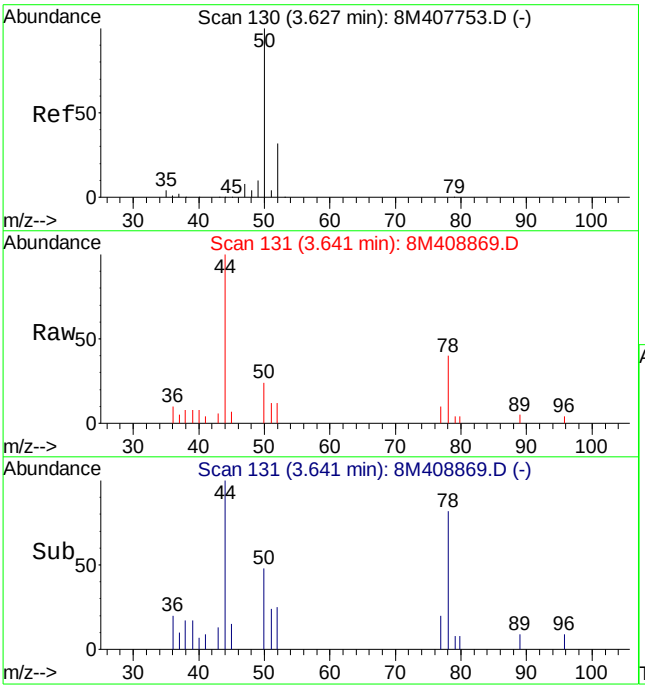
(#) = qualifier out of range (m) = manual integration
8M408869.D 8260WT.M Mon Nov 23 08:53:55 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408869.D Vial: 13
Acq On : 21 Nov 2015 18:20 Operator: TMB
Sample : L15111211-03 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

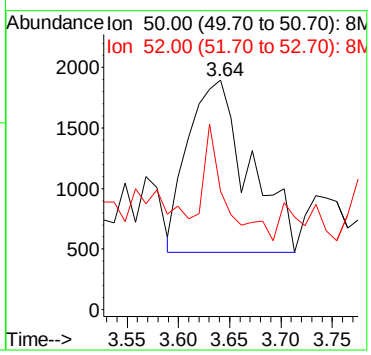


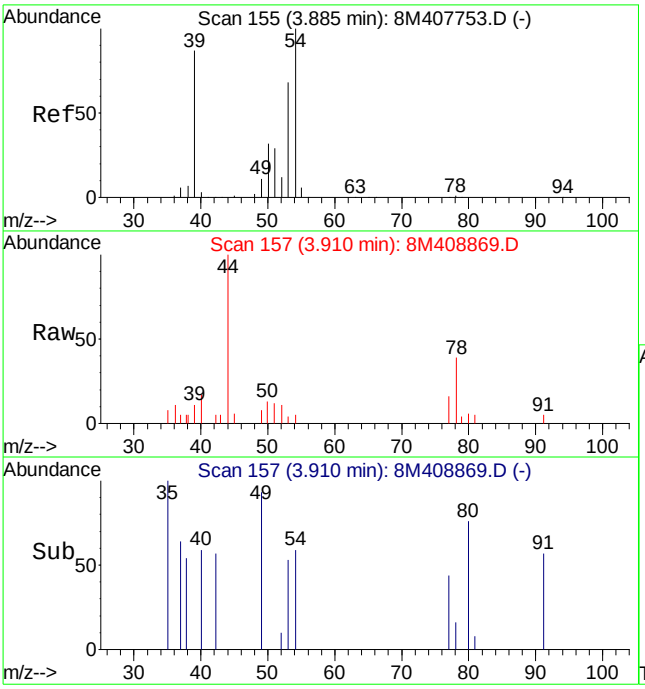


#3
Chloromethane
Concen: 0.20 ug/L
RT: 3.64 min Scan# 131
Delta R.T. 0.02 min
Lab File: 8M408869.D
Acq: 21 Nov 2015 18:20

Tgt Ion: 50 Resp: 5877

Ion	Ratio	Lower	Upper
50	100		
52	23.9	19.2	44.8

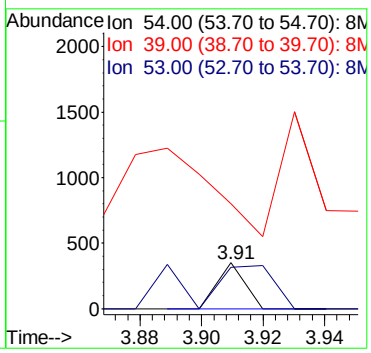


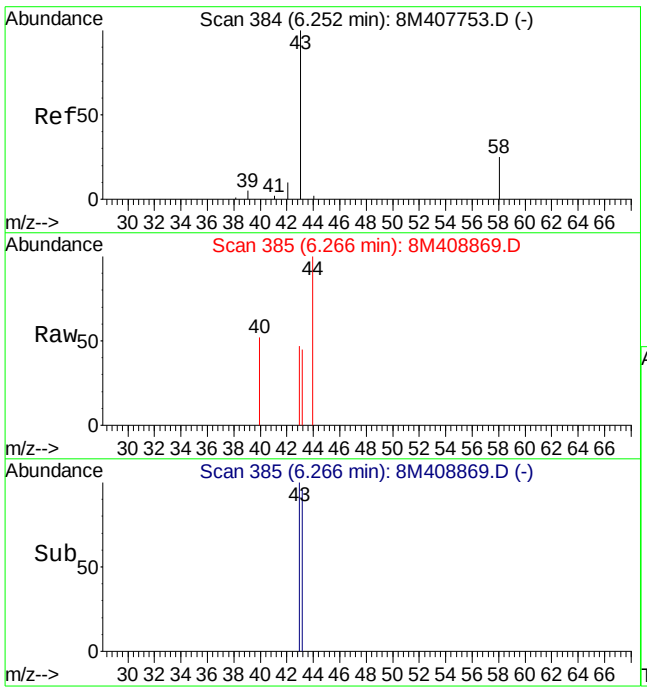


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.91 min Scan# 157
Delta R.T. 0.02 min
Lab File: 8M408869.D
Acq: 21 Nov 2015 18:20

Tgt Ion: 54 Resp: 217

Ion	Ratio	Lower	Upper
54	100		
39	767.3	60.8	142.0#
53	281.1	42.4	99.0#

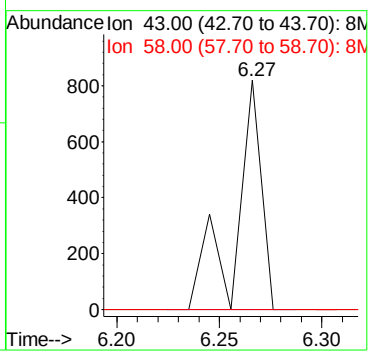


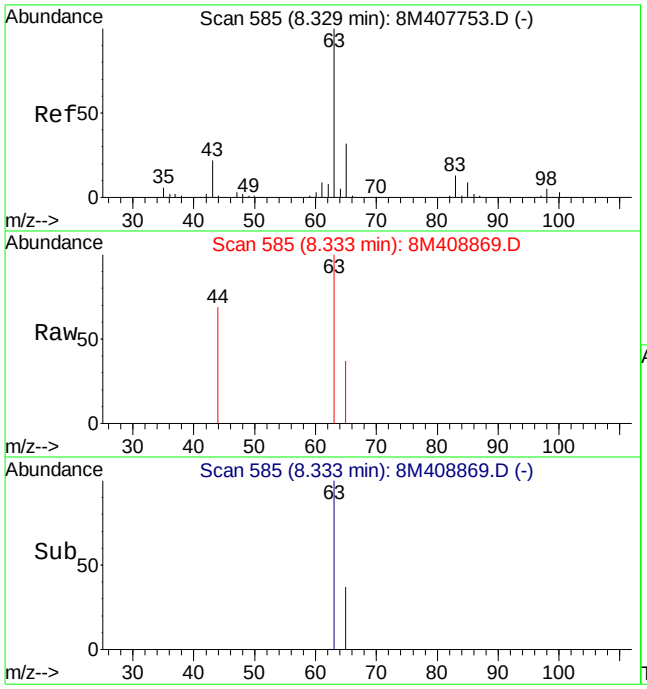


#13
Acetone
Concen: 0.38 ug/L
RT: 6.27 min Scan# 385
Delta R.T. 0.02 min
Lab File: 8M408869.D
Acq: 21 Nov 2015 18:20

Tgt Ion: 43 Resp: 721

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

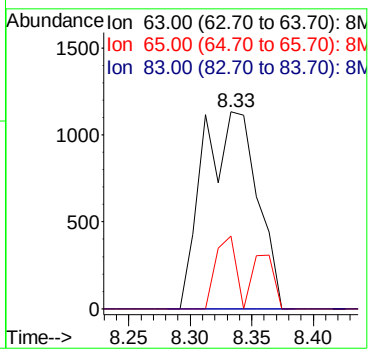




#27
1,1-Dichloroethane
Concen: 0.14 ug/L
RT: 8.33 min Scan# 585
Delta R.T. -0.00 min
Lab File: 8M408869.D
Acq: 21 Nov 2015 18:20

Tgt Ion: 63 Resp: 3472

Ion	Ratio	Lower	Upper
63	100		
65	13.7	18.4	43.0#
83	0.0	7.7	18.1#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408870.D Vial: 14
Acq On : 21 Nov 2015 18:50 Operator: TMB
Sample : L15111211-04 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:55 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

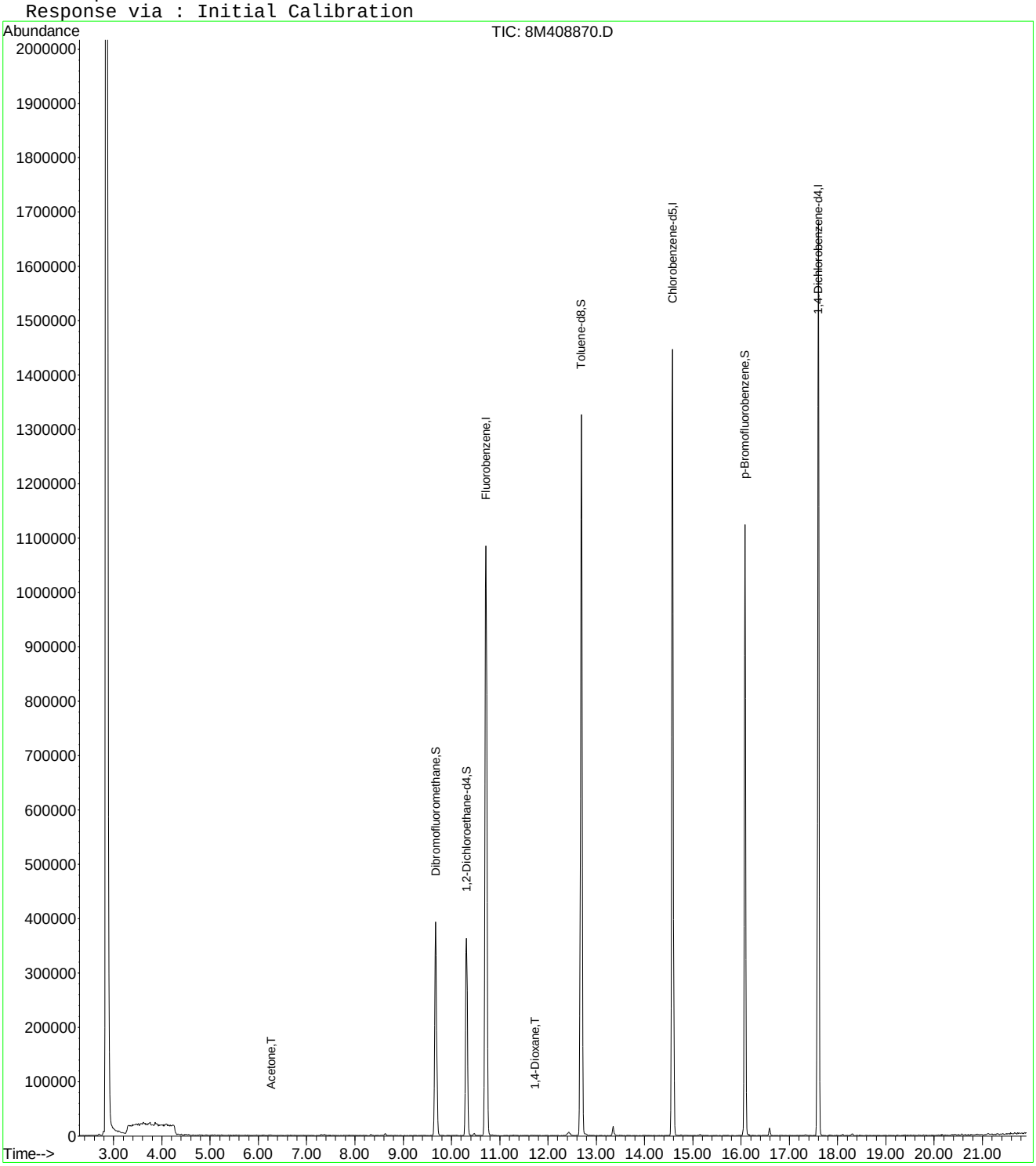
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	1256452	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	961396	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	515296	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	326177	27.2765	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.12%			
43) 1,2-Dichloroethane-d4	10.31	65	314785	25.8184	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.28%			
58) Toluene-d8	12.69	98	1123995	25.1978	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.80%			
80) p-Bromofluorobenzene	16.08	95	446522	24.8351	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.36%			
Target Compounds						Qvalue
13) Acetone	6.27	43	772	0.4140	ug/L	91
51) 1,4-Dioxane	11.73	88	216	3.5194	ug/L #	10

(#) = qualifier out of range (m) = manual integration
8M408870.D 8260WT.M Mon Nov 23 08:53:56 2015 Page 1

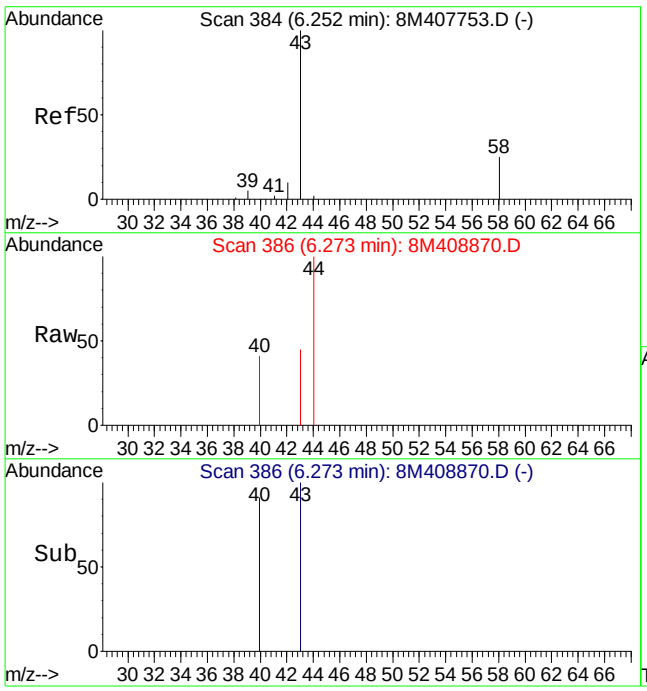
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408870.D Vial: 14
Acq On : 21 Nov 2015 18:50 Operator: TMB
Sample : L15111211-04 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



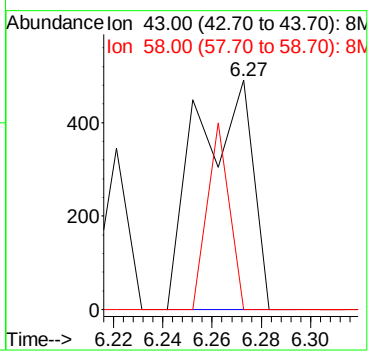
8M408870.D 8260WT.M Mon Nov 23 08:53:56 2015 Page 2

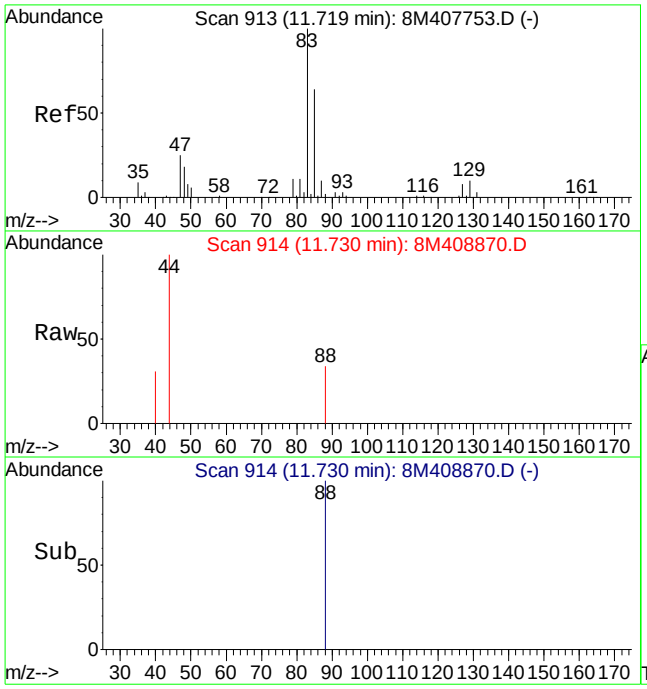


#13
Acetone
Concen: 0.41 ug/L
RT: 6.27 min Scan# 386
Delta R.T. 0.03 min
Lab File: 8M408870.D
Acq: 21 Nov 2015 18:50

Tgt Ion: 43 Resp: 772

Ion	Ratio	Lower	Upper
43	100		
58	32.1	16.4	38.2

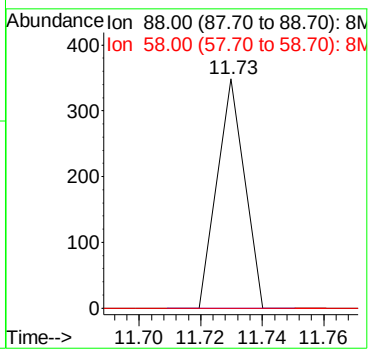




#51
1,4-Dioxane
Concen: 3.52 ug/L
RT: 11.73 min Scan# 914
Delta R.T. 0.02 min
Lab File: 8M408870.D
Acq: 21 Nov 2015 18:50

Tgt Ion: 88 Resp: 216

Ion	Ratio	Lower	Upper
88	100		
58	0.0	46.9	109.3#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408871.D Vial: 15
Acq On : 21 Nov 2015 19:19 Operator: TMB
Sample : L15111211-05 A REF 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

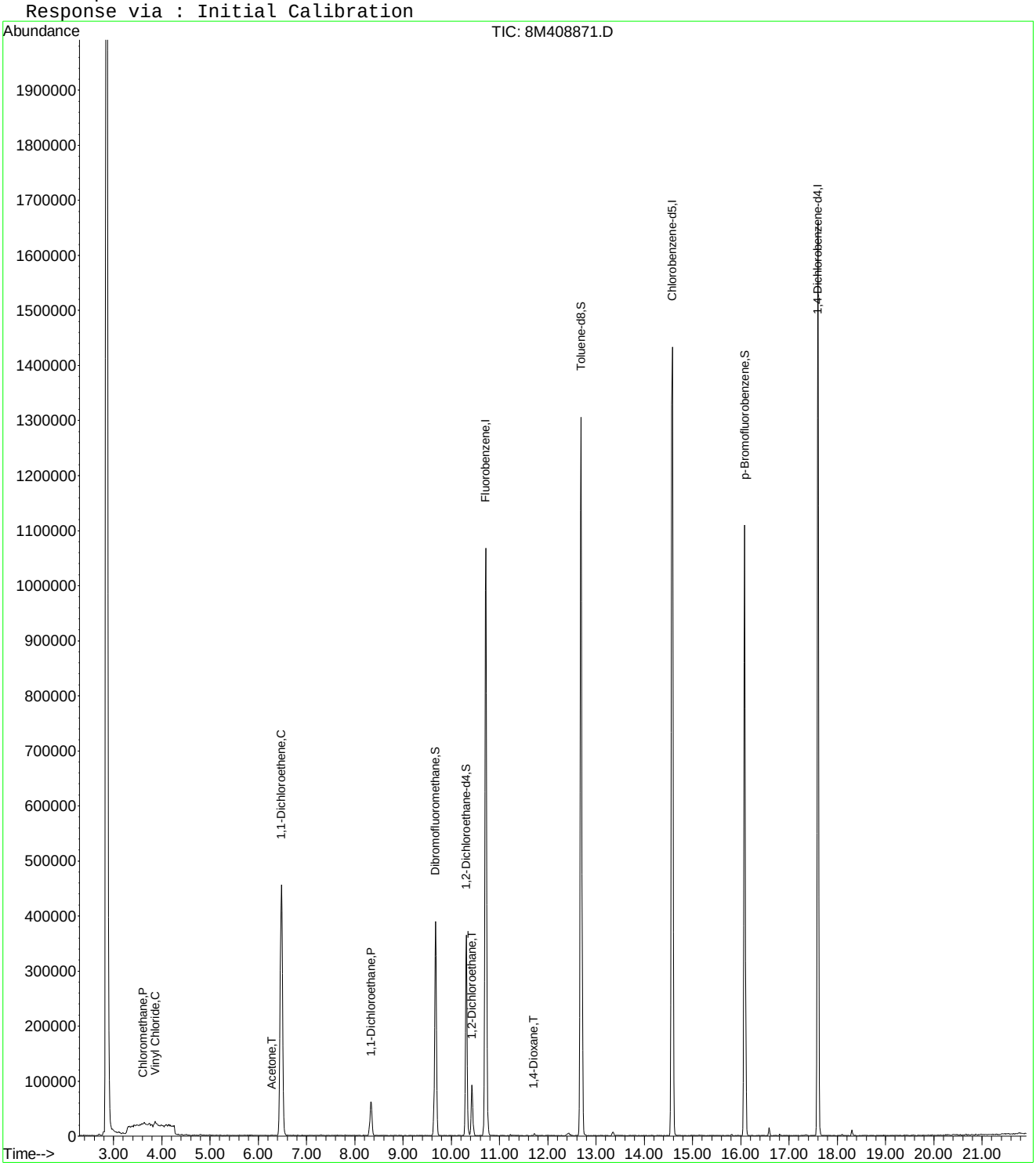
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1228466	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	954154	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	495539	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	315896	27.0186 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 108.08%		
43) 1,2-Dichloroethane-d4	10.31	65	307226	25.7725 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.08%		
58) Toluene-d8	12.69	98	1098608	24.8156 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.28%		
80) p-Bromofluorobenzene	16.08	95	438805	25.3790 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.52%		
Target Compounds					Qvalue
3) Chloromethane	3.62	50	4708	0.1652 ug/L	88
4) Vinyl Chloride	3.86	62	6698	0.2974 ug/L	97
5) 1,3-Butadiene	3.91	54	205	Below Cal # 1	
13) Acetone	6.28	43	654	0.3587 ug/L #	48
14) 1,1-Dichloroethene	6.48	61	524770	26.3487 ug/L	99
27) 1,1-Dichloroethane	8.34	63	88893	3.7011 ug/L	98
45) 1,2-Dichloroethane	10.43	62	91298	5.8275 ug/L	91
51) 1,4-Dioxane	11.71	88	2802	46.6950 ug/L #	57

(#) = qualifier out of range (m) = manual integration
8M408871.D 8260WT.M Mon Nov 23 08:53:57 2015 Page 1

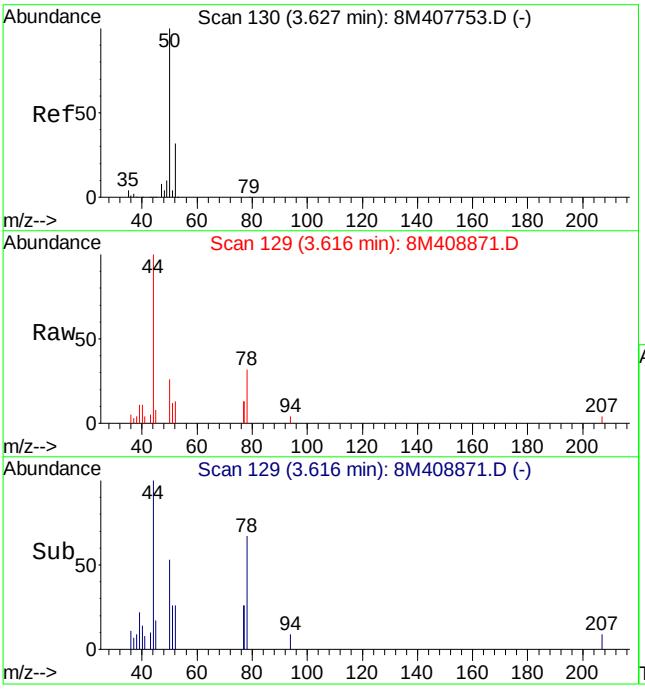
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408871.D Vial: 15
Acq On : 21 Nov 2015 19:19 Operator: TMB
Sample : L15111211-05 A REF 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



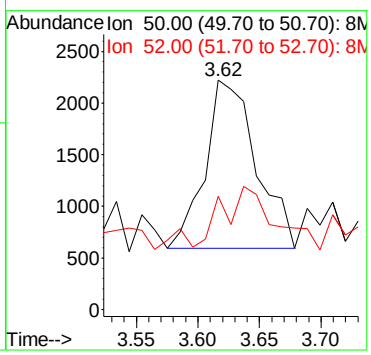
8M408871.D 8260WT.M Mon Nov 23 08:53:57 2015 Page 2

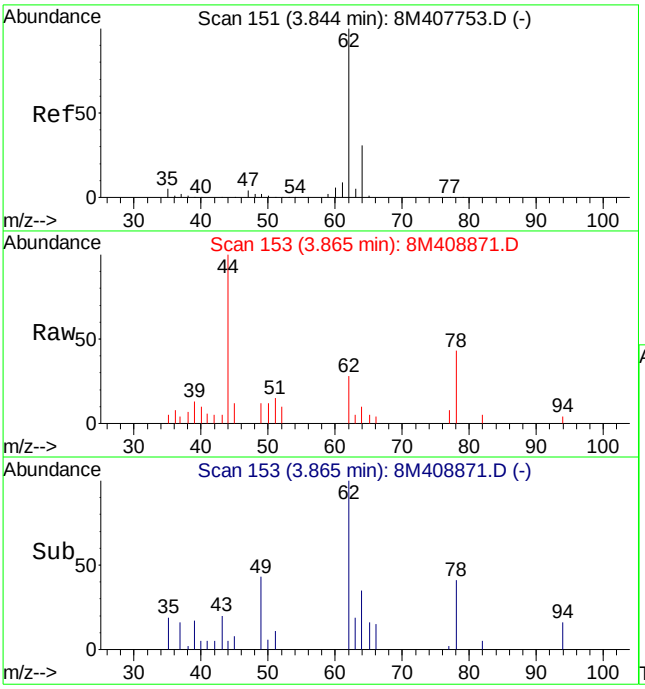


#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.62 min Scan# 129
Delta R.T. -0.00 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 50 Resp: 4708

Ion	Ratio	Lower	Upper
50	100		
52	38.5	19.2	44.8

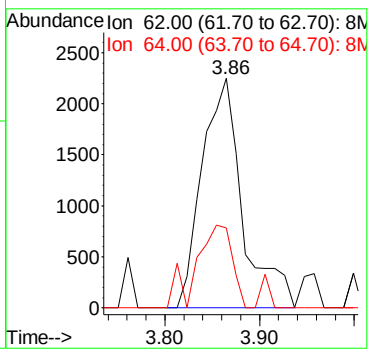


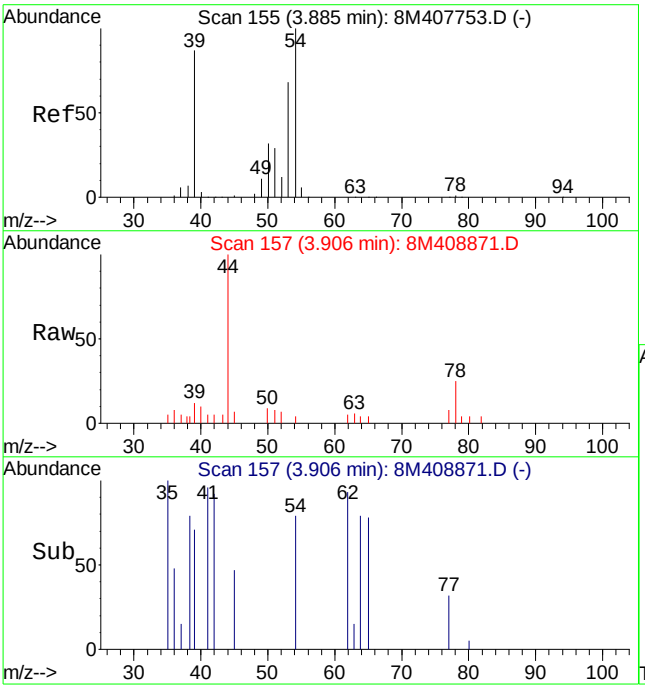


#4
Vinyl Chloride
Concen: 0.30 ug/L
RT: 3.86 min Scan# 153
Delta R.T. 0.02 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 62 Resp: 6698

Ion	Ratio	Lower	Upper
62	100		
64	32.1	18.2	42.6

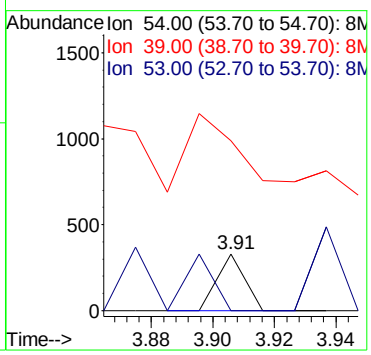


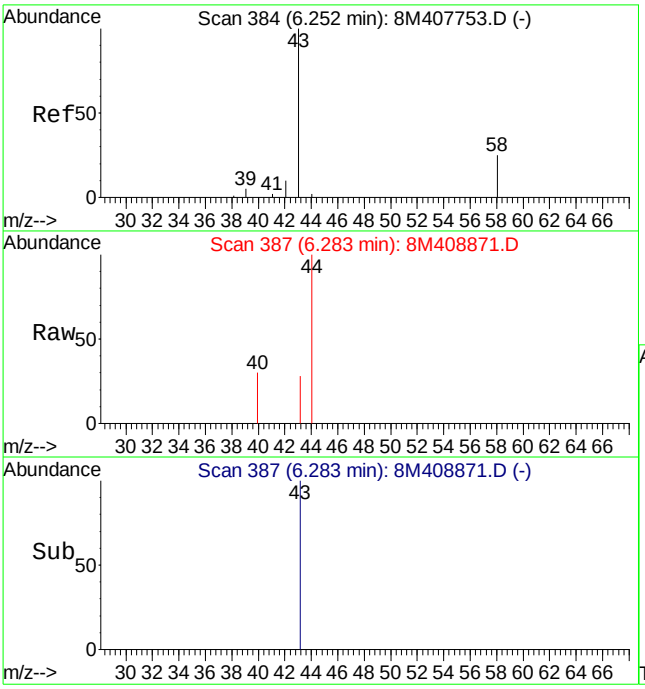


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.91 min Scan# 157
Delta R.T. 0.02 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 54 Resp: 205

Ion	Ratio	Lower	Upper
54	100		
39	748.8	60.8	142.0#
53	211.2	42.4	99.0#

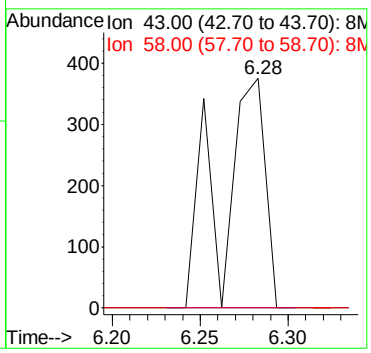


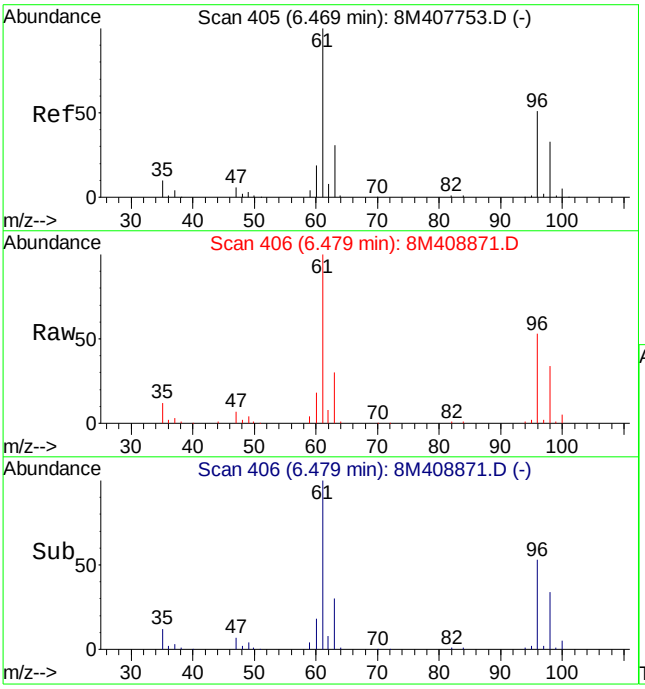


#13
Acetone
Concen: 0.36 ug/L
RT: 6.28 min Scan# 387
Delta R.T. 0.04 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 43 Resp: 654

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

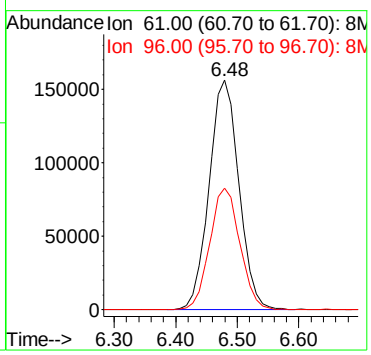


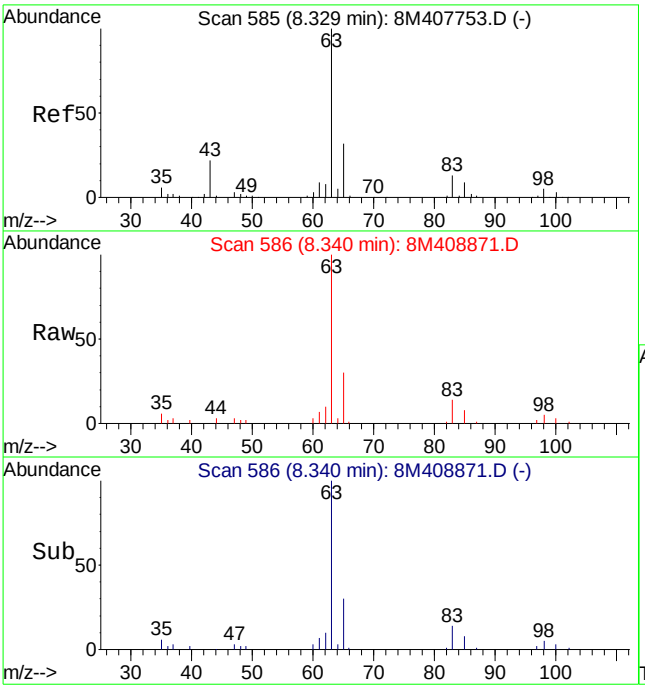


#14
1,1-Dichloroethene
Concen: 26.35 ug/L
RT: 6.48 min Scan# 406
Delta R.T. 0.01 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 61 Resp: 524770

Ion	Ratio	Lower	Upper
61	100		
96	53.3	32.3	75.3

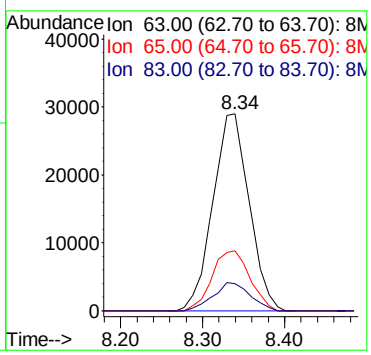


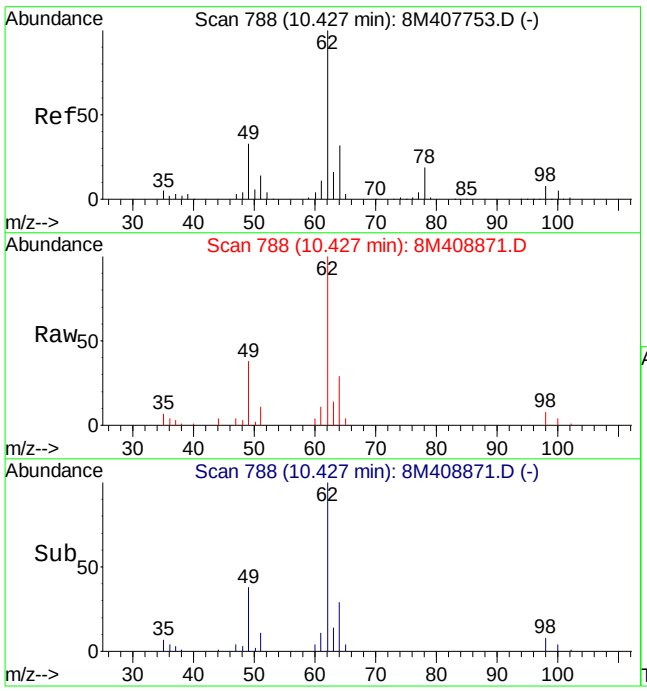


#27
1,1-Dichloroethane
Concen: 3.70 ug/L
RT: 8.34 min Scan# 586
Delta R.T. 0.01 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 63 Resp: 88893

Ion	Ratio	Lower	Upper
63	100		
65	31.7	18.4	43.0
83	14.4	7.7	18.1

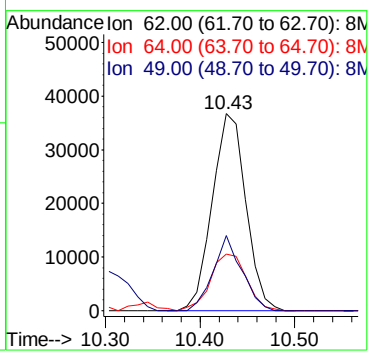


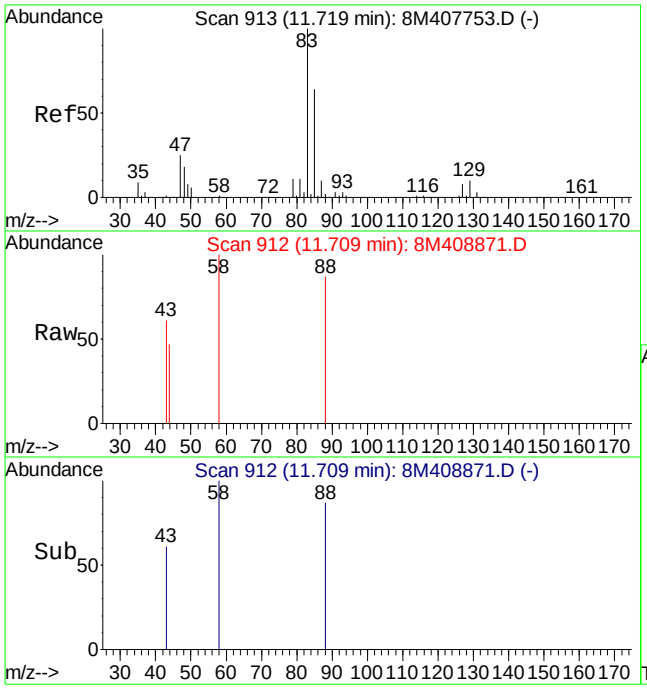


#45
1,2-Dichloroethane
Concen: 5.83 ug/L
RT: 10.43 min Scan# 788
Delta R.T. -0.00 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 62 Resp: 91298

Ion	Ratio	Lower	Upper
62	100		
64	31.0	18.8	44.0
49	32.3	25.3	58.9

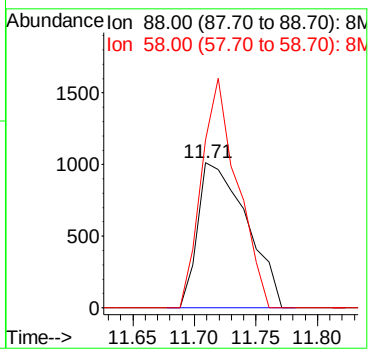




#51
1,4-Dioxane
Concen: 46.69 ug/L
RT: 11.71 min Scan# 912
Delta R.T. -0.01 min
Lab File: 8M408871.D
Acq: 21 Nov 2015 19:19

Tgt Ion: 88 Resp: 2802

Ion	Ratio	Lower	Upper
88	100		
58	115.8	46.9	109.3#



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\112115\8M408863.D Vial: 7
Acq On : 21 Nov 2015 15:22 Operator: TMB
Sample : L15111211-06 A MS 826-LOW Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 15:44:06 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	1495020	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1147230	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	649744	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.68	111	381197	26.7907 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.16%		
43) 1,2-Dichloroethane-d4	10.31	65	376773	25.9713 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.88%		
58) Toluene-d8	12.69	98	1318280	24.7661 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.08%		
80) p-Bromofluorobenzene	16.08	95	556477	24.5462 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.20%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.17	85	383123	16.8563 ug/L	100
3) Chloromethane	3.63	50	744347	21.4624 ug/L	99
4) Vinyl Chloride	3.85	62	582851	21.2671 ug/L	100
5) 1,3-Butadiene	3.89	54	394410	19.0160 ug/L	93
6) Bromomethane	4.75	94	220203	24.3200 ug/L	96
7) Chloroethane	4.90	64	238947	21.3709 ug/L	96
8) Trichlorofluoromethane	5.39	101	518107	19.5598 ug/L	98
9) Diethyl ether	5.92	59	3546	0.3478 ug/L #	20
10) Isoprene	5.95	67	336839	17.3211 ug/L	97
11) Acrolein	6.16	56	205	0.1620 ug/L #	12
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	306642	21.5359 ug/L	100
13) Acetone	6.25	43	59468	26.7995 ug/L	99
14) 1,1-Dichloroethene	6.47	61	921715	38.0279 ug/L	100
15) Tert-Butyl Alcohol	6.57	59	400	0.6101 ug/L #	58
16) Dimethyl Sulfide	6.74	62	340957	24.5100 ug/L	99
17) Iodomethane	7.00	142	186802	21.2703 ug/L	94
18) Methyl acetate	7.01	43	148400	17.6852 ug/L	98
19) Methylene Chloride	7.26	84	324630	21.5653 ug/L	99
20) Carbon Disulfide	7.30	76	704699	14.3370 ug/L	100
21) Acrylonitrile	7.44	53	80823	24.2627 ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	651787	22.8410 ug/L	97
23) trans-1,2-Dichloroethene	7.71	61	464188	20.1669 ug/L	98
24) n-Hexane	7.79	57	367263	16.1520 ug/L	94
26) Vinyl Acetate	8.30	43	524955	34.8113 ug/L	98
27) 1,1-Dichloroethane	8.33	63	692252	23.6837 ug/L	99
29) 2-Butanone	8.89	43	86727	22.6854 ug/L	99
31) 2,2-Dichloropropane	9.11	77	482953	19.7708 ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	337784	20.5680 ug/L	99
33) Chloroform	9.39	83	603511	21.7365 ug/L	99
34) 1-Bromopropane	9.52	122	70857	26.2743 ug/L	98
35) Bromochloromethane	9.61	130	179798	22.2397 ug/L	98
38) 1,1,1-Trichloroethane	9.91	97	523739	21.0146 ug/L	98
39) Cyclohexane	9.94	56	544086	18.3456 ug/L	99
40) 1,1-Dichloropropene	10.11	75	424372	19.7766 ug/L	99
42) Carbon Tetrachloride	10.25	117	467625	20.9944 ug/L	98
45) 1,2-Dichloroethane	10.43	62	514293	26.9741 ug/L	97
46) Benzene	10.47	78	1223047	20.7720 ug/L	99
47) Trichloroethene	11.22	130	309981	19.5563 ug/L	96
48) Methylcyclohexane	11.31	83	456125	18.5977 ug/L	99
49) 1,2-Dichloropropane	11.43	63	328784	20.7277 ug/L	97

(#) = qualifier out of range (m) = manual integration
8M408863.D 8260WT.M Sat Nov 21 15:44:07 2015 Page 1

Data File : C:\MSDchem\2\data\112115\8M408863.D Vial: 7
Acq On : 21 Nov 2015 15:22 Operator: TMB
Sample : L15111211-06 A MS 826-LOW Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 15:44:06 2015 Quant Results File: 8260WT.RES

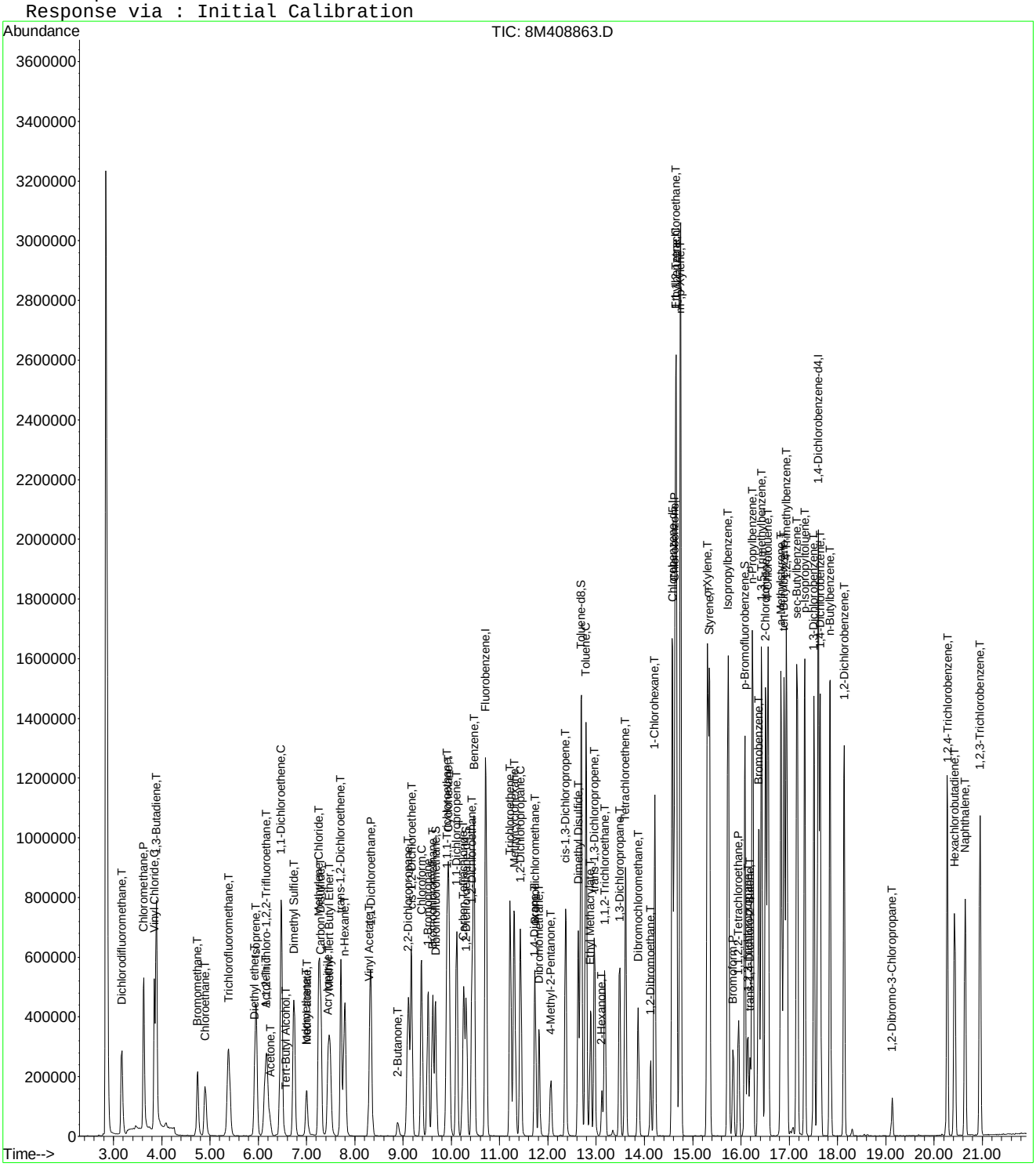
Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	Bromodichloromethane	11.73	83	429459	20.9759 ug/L		99
51)	1,4-Dioxane	11.72	88	6090	83.3941 ug/L		67
52)	Dibromomethane	11.81	93	164188	21.7377 ug/L		96
54)	4-Methyl-2-Pentanone	12.06	58	68926	20.5509 ug/L		96
55)	cis-1,3-Dichloropropene	12.36	75	485935	21.3805 ug/L		99
56)	Dimethyl Disulfide	12.63	79	246605	20.1222 ug/L		98
59)	Toluene	12.79	91	1286647	19.7369 ug/L		100
60)	Ethyl Methacrylate	12.88	69	282594	21.7432 ug/L		93
62)	trans-1,3-Dichloropropene	12.96	75	394679	19.7344 ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	210488	20.3429 ug/L		100
64)	2-Hexanone	13.12	58	66620	20.4790 ug/L	#	92
65)	1,3-Dichloropropane	13.49	76	377176	20.3982 ug/L		96
66)	Tetrachloroethene	13.60	164	271078	19.5605 ug/L		98
67)	Dibromochloromethane	13.87	129	275189	20.5707 ug/L		100
68)	1,2-Dibromoethane	14.13	107	208209	20.1554 ug/L		100
69)	1-Chlorohexane	14.21	91	437763	18.7665 ug/L		99
70)	Chlorobenzene	14.63	112	892543	20.4331 ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.66	131	314802	19.4909 ug/L		99
72)	Ethylbenzene	14.66	106	470018	18.4712 ug/L		94
73)	m-,p-Xylene	14.75	106	1157573	39.6679 ug/L		98
74)	o-Xylene	15.31	106	572917	19.4145 ug/L		96
75)	Styrene	15.35	104	922401	19.7285 ug/L		99
76)	Bromoform	15.84	173	170895	21.2499 ug/L		99
77)	Isopropylbenzene	15.73	105	1448034	20.4557 ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	238638	19.9074 ug/L		99
81)	1,2,3-Trichloropropane	16.15	110	66298	19.9032 ug/L	#	47
82)	trans-1,4-Dichloro-2-Buten	16.19	53	83720	19.0053 ug/L		75
83)	n-Propylbenzene	16.24	91	1788270	19.0096 ug/L		99
84)	Bromobenzene	16.37	156	365891	19.1606 ug/L		97
85)	1,3,5-Trimethylbenzene	16.42	105	1238647	19.1512 ug/L		98
86)	2-Chlorotoluene	16.51	91	1211168	19.4383 ug/L		99
87)	4-Chlorotoluene	16.56	91	1036098	19.2275 ug/L		98
88)	a-Methylstyrene	16.83	118	619238	17.5624 ug/L		98
89)	tert-Butylbenzene	16.89	134	262265	18.4325 ug/L		92
90)	1,2,4-Trimethylbenzene	16.94	105	1252314	19.1611 ug/L		99
91)	sec-Butylbenzene	17.16	105	1521065	18.9318 ug/L		98
92)	p-Isopropyltoluene	17.32	119	1220523	18.9999 ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	746732	19.5912 ug/L		97
94)	1,4-Dichlorobenzene	17.64	146	728881	19.2034 ug/L		98
95)	n-Butylbenzene	17.84	91	1204130	20.1081 ug/L		97
96)	1,2-Dichlorobenzene	18.14	146	672628	20.1678 ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.13	75	38422	18.2900 ug/L		89
98)	1,2,4-Trichlorobenzene	20.28	180	462029	20.1642 ug/L		98
99)	Hexachlorobutadiene	20.42	225	193992	17.7007 ug/L		98
100)	Naphthalene	20.64	128	764466	23.0769 ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	400056	20.4742 ug/L		98

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDchem\2\data\112115\8M408863.D Vial: 7
Acq On : 21 Nov 2015 15:22 Operator: TMB
Sample : L15111211-06 A MS 826-LOW Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 15:44 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\112115\8M408864.D Vial: 8
Acq On : 21 Nov 2015 15:51 Operator: TMB
Sample : L15111211-07 A MSD 826-LOW Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 16:13:50 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1505803	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1159215	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	647897	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.68	111	385435	26.8946	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.56%			
43) 1,2-Dichloroethane-d4	10.31	65	367313	25.1379	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.56%			
58) Toluene-d8	12.69	98	1347891	25.0606	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.24%			
80) p-Bromofluorobenzene	16.08	95	549993	24.3294	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.18	85	363657	15.8853	ug/L	97
3) Chloromethane	3.63	50	727988	20.8404	ug/L	98
4) Vinyl Chloride	3.85	62	570656	20.6730	ug/L	100
5) 1,3-Butadiene	3.89	54	391318	18.6726	ug/L	93
6) Bromomethane	4.75	94	226402	24.8024	ug/L	99
7) Chloroethane	4.90	64	235095	20.8759	ug/L	97
8) Trichlorofluoromethane	5.39	101	514524	19.2854	ug/L	98
9) Diethyl ether	5.91	59	2276	0.2216	ug/L	86
10) Isoprene	5.96	67	326488	16.6686	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	297448	20.7406	ug/L	97
13) Acetone	6.26	43	53695	24.0246	ug/L	96
14) 1,1-Dichloroethene	6.47	61	921797	37.7590	ug/L	99
16) Dimethyl Sulfide	6.74	62	336760	24.0350	ug/L	98
17) Iodomethane	7.00	142	191637	21.6309	ug/L	97
18) Methyl acetate	7.01	43	140358	16.6071	ug/L	99
19) Methylene Chloride	7.26	84	318738	21.0223	ug/L	100
20) Carbon Disulfide	7.30	76	703283	14.2057	ug/L	99
21) Acrylonitrile	7.44	53	76554	22.8166	ug/L	99
22) Methyl Tert Butyl Ether	7.48	73	627678	21.8386	ug/L	98
23) trans-1,2-Dichloroethene	7.71	61	467269	20.1553	ug/L	99
24) n-Hexane	7.80	57	368307	16.0819	ug/L	95
26) Vinyl Acetate	8.30	43	507478	33.4113	ug/L	99
27) 1,1-Dichloroethane	8.33	63	699267	23.7523	ug/L	98
29) 2-Butanone	8.89	43	82681	21.4722	ug/L	98
31) 2,2-Dichloropropane	9.11	77	474611	19.2901	ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	338506	20.4644	ug/L	100
33) Chloroform	9.39	83	606248	21.6787	ug/L	99
34) 1-Bromopropane	9.52	122	71501	26.3233	ug/L	96
35) Bromochloromethane	9.61	130	185391	22.7673	ug/L	98
36) Tetrahydrofuran	9.65	42	959	0.3794	ug/L #	61
38) 1,1,1-Trichloroethane	9.91	97	518878	20.6705	ug/L	98
39) Cyclohexane	9.95	56	538429	18.0248	ug/L	98
40) 1,1-Dichloropropene	10.11	75	422327	19.5404	ug/L	99
41) Tert-Amyl-Methyl ether	10.11	73	67065	2.0094	ug/L #	55
42) Carbon Tetrachloride	10.26	117	458906	20.4554	ug/L	99
45) 1,2-Dichloroethane	10.43	62	506022	26.3502	ug/L	97
46) Benzene	10.47	78	1234110	20.8098	ug/L	99
47) Trichloroethene	11.22	130	313274	19.6225	ug/L	97
48) Methylcyclohexane	11.30	83	448553	18.1580	ug/L	99
49) 1,2-Dichloropropane	11.43	63	329165	20.6031	ug/L	94

(#) = qualifier out of range (m) = manual integration
8M408864.D 8260WT.M Sat Nov 21 16:13:50 2015 Page 1

Data File : C:\MSDchem\2\data\112115\8M408864.D Vial: 8
Acq On : 21 Nov 2015 15:51 Operator: TMB
Sample : L15111211-07 A MSD 826-LOW Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 16:13:50 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

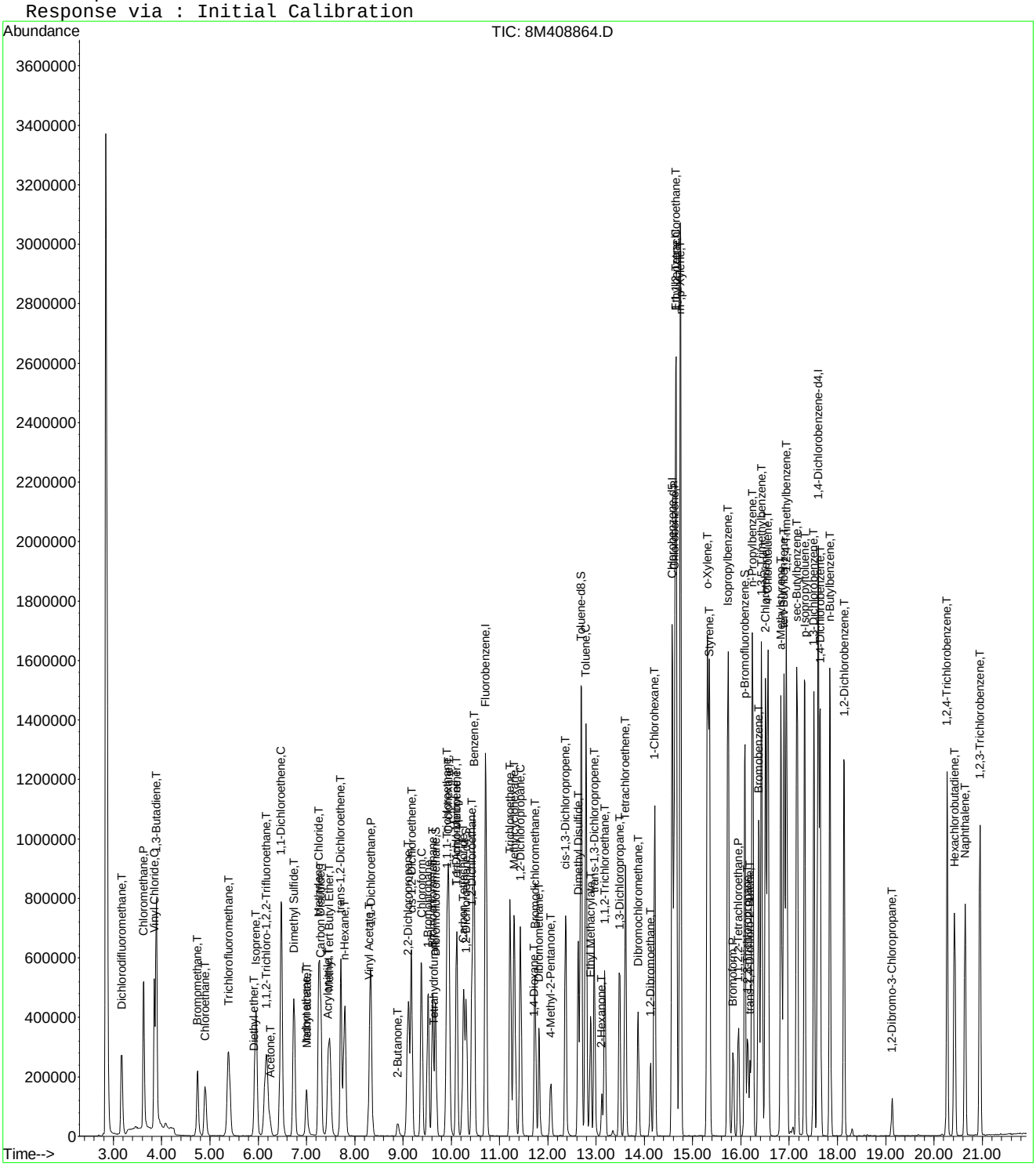
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	Bromodichloromethane	11.73	83	431538	20.9266	ug/L		99
51)	1,4-Dioxane	11.71	88	4362	59.3038	ug/L		91
52)	Dibromomethane	11.82	93	163900	21.5442	ug/L		96
54)	4-Methyl-2-Pentanone	12.06	58	65510	19.3925	ug/L		96
55)	cis-1,3-Dichloropropene	12.36	75	483556	21.1234	ug/L		98
56)	Dimethyl Disulfide	12.63	79	231599	18.7624	ug/L		93
59)	Toluene	12.79	91	1284085	19.4939	ug/L		99
60)	Ethyl Methacrylate	12.89	69	274470	20.8998	ug/L		96
62)	trans-1,3-Dichloropropene	12.96	75	385454	19.0739	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	211539	20.2331	ug/L		99
64)	2-Hexanone	13.12	58	62724	19.0820	ug/L	#	94
65)	1,3-Dichloropropane	13.49	76	367821	19.6866	ug/L		95
66)	Tetrachloroethene	13.60	164	269688	19.2590	ug/L		97
67)	Dibromochloromethane	13.87	129	271954	20.1187	ug/L		100
68)	1,2-Dibromoethane	14.13	107	203749	19.5198	ug/L		98
69)	1-Chlorohexane	14.21	91	437485	18.5607	ug/L		98
70)	Chlorobenzene	14.63	112	887589	20.1096	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.66	131	309059	18.9375	ug/L		97
72)	Ethylbenzene	14.66	106	470285	18.2906	ug/L		96
73)	m-,p-Xylene	14.75	106	1166903	39.5742	ug/L		98
74)	o-Xylene	15.31	106	577081	19.3534	ug/L		97
75)	Styrene	15.35	104	934532	19.7813	ug/L		100
76)	Bromoform	15.84	173	168151	20.6925	ug/L		99
77)	Isopropylbenzene	15.73	105	1450569	20.2797	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	231088	19.3325	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	68447	20.6069	ug/L	#	37
82)	trans-1,4-Dichloro-2-Buten	16.19	53	78545	17.8813	ug/L		80
83)	n-Propylbenzene	16.24	91	1791631	19.0996	ug/L		99
84)	Bromobenzene	16.37	156	365173	19.1775	ug/L		99
85)	1,3,5-Trimethylbenzene	16.43	105	1239047	19.2120	ug/L		99
86)	2-Chlorotoluene	16.51	91	1265741	20.3721	ug/L		99
87)	4-Chlorotoluene	16.56	91	1018275	18.9506	ug/L		98
88)	a-Methylstyrene	16.83	118	581877	16.5498	ug/L		98
89)	tert-Butylbenzene	16.89	134	259600	18.2972	ug/L		93
90)	1,2,4-Trimethylbenzene	16.94	105	1274957	19.5632	ug/L		97
91)	sec-Butylbenzene	17.16	105	1530209	19.0999	ug/L		98
92)	p-Isopropyltoluene	17.32	119	1214281	18.9567	ug/L		96
93)	1,3-Dichlorobenzene	17.51	146	742925	19.5469	ug/L		98
94)	1,4-Dichlorobenzene	17.65	146	729614	19.2775	ug/L		97
95)	n-Butylbenzene	17.84	91	1209118	20.2490	ug/L		97
96)	1,2-Dichlorobenzene	18.14	146	677157	20.3615	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	19.13	75	40357	19.2659	ug/L		97
98)	1,2,4-Trichlorobenzene	20.27	180	464884	20.3466	ug/L		99
99)	Hexachlorobutadiene	20.43	225	199066	18.2155	ug/L		99
100)	Naphthalene	20.64	128	735700	22.2719	ug/L		99
101)	1,2,3-Trichlorobenzene	20.95	180	395546	20.3011	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M408864.D 8260WT.M Sat Nov 21 16:13:50 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\112115\8M408864.D Vial: 8
Acq On : 21 Nov 2015 15:51 Operator: TMB
Sample : L15111211-07 A MSD 826-LOW Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 16:13 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



8M408864.D 8260WT.M Sat Nov 21 16:13:50 2015 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408879.D Vial: 23
Acq On : 21 Nov 2015 23:12 Operator: TMB
Sample : L15111211-08 A 2.5X 826-LOW Inst : HPMS8
Misc : 1,2.5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:10 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

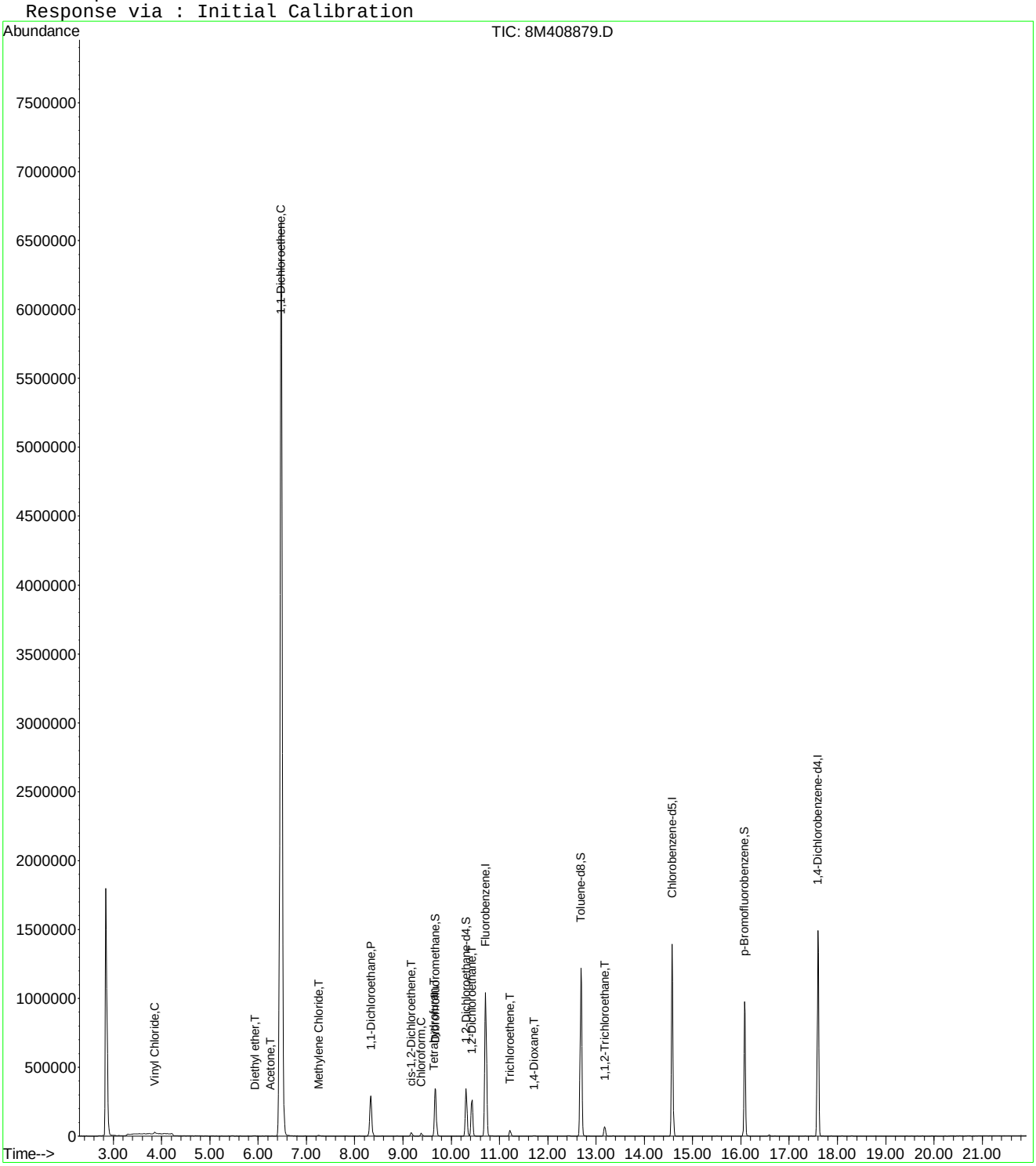
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1170691	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	886549	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	457927	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	292663	26.2668	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 105.08%			
43) 1,2-Dichloroethane-d4	10.31	65	286321	25.2042	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.80%			
58) Toluene-d8	12.68	98	1039166	25.2629	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.04%			
80) p-Bromofluorobenzene	16.07	95	400096	25.0408	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.16%			
Target Compounds						Qvalue
4) Vinyl Chloride	3.86	62	14191	0.6613	ug/L	98
9) Diethyl ether	5.94	59	1764	0.2210	ug/L #	55
13) Acetone	6.26	43	292	0.1680	ug/L #	48
14) 1,1-Dichloroethene	6.47	61	7219782	380.3952	ug/L	98
19) Methylene Chloride	7.26	84	2412	0.2046	ug/L	98
27) 1,1-Dichloroethane	8.33	63	423894	18.5202	ug/L	98
32) cis-1,2-Dichloroethene	9.17	96	14137	1.0993	ug/L	83
33) Chloroform	9.38	83	19766	0.9091	ug/L	96
36) Tetrahydrofuran	9.65	42	429	0.2183	ug/L #	40
45) 1,2-Dichloroethane	10.43	62	254271	17.0309	ug/L	91
47) Trichloroethene	11.22	130	16498	1.3292	ug/L	95
51) 1,4-Dioxane	11.71	88	2062	36.0588	ug/L	94
63) 1,1,2-Trichloroethane	13.18	97	24488	3.0626	ug/L	92

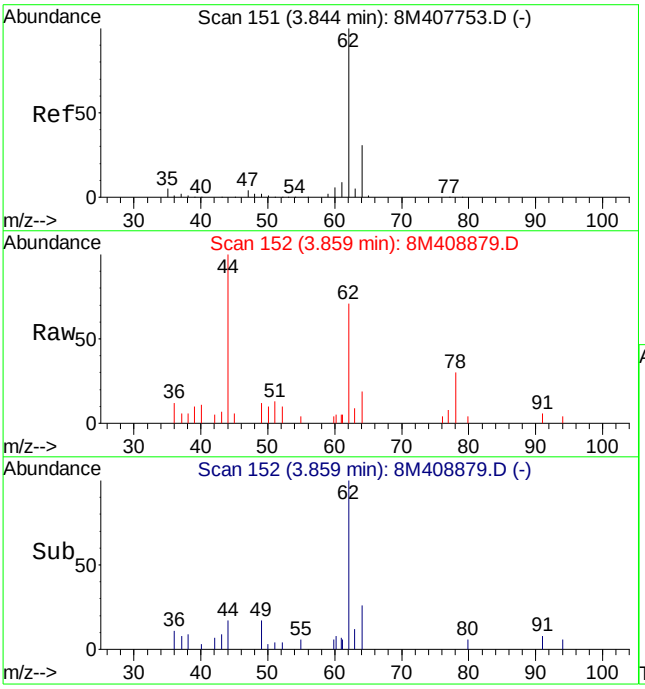
(#) = qualifier out of range (m) = manual integration
8M408879.D 8260WT.M Mon Nov 23 08:54:10 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408879.D Vial: 23
Acq On : 21 Nov 2015 23:12 Operator: TMB
Sample : L15111211-08 A 2.5X 826-LOW Inst : HPMS8
Misc : 1,2.5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

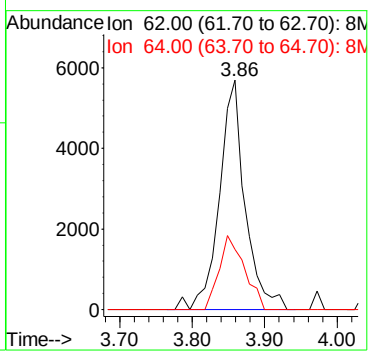


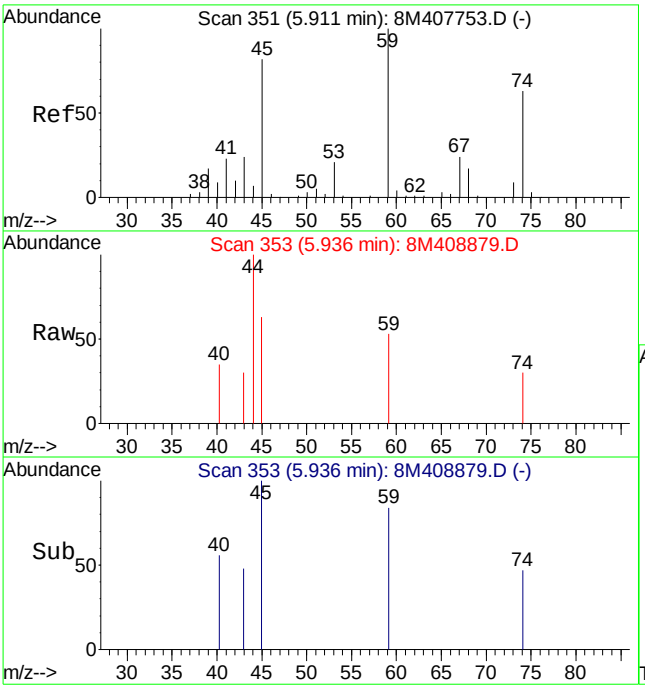


#4
Vinyl Chloride
Concen: 0.66 ug/L
RT: 3.86 min Scan# 152
Delta R.T. 0.01 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 62 Resp: 14191

Ion	Ratio	Lower	Upper
62	100		
64	31.7	18.2	42.6

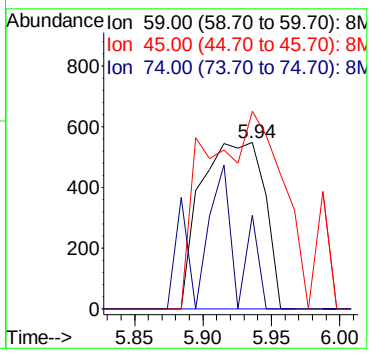


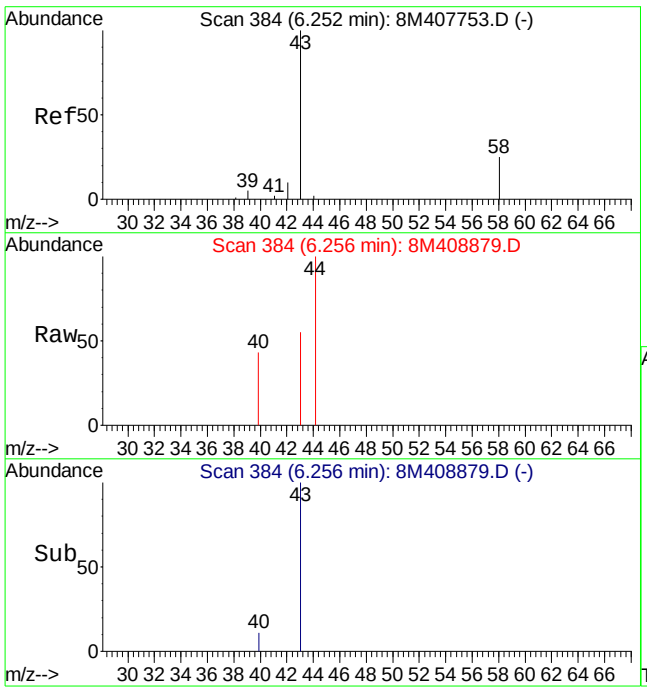


#9
Diethyl ether
Concen: 0.22 ug/L
RT: 5.94 min Scan# 353
Delta R.T. 0.02 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 59 Resp: 1764

Ion	Ratio	Lower	Upper
59	100		
45	142.3	49.3	115.1#
74	51.1	38.6	90.2

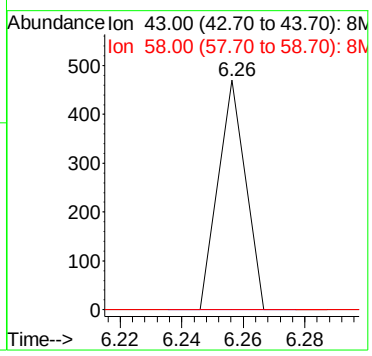


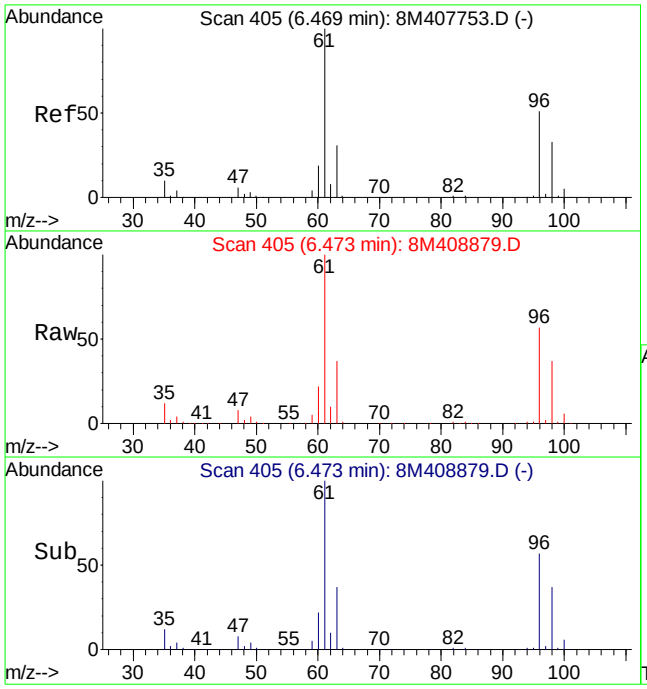


#13
Acetone
Concen: 0.17 ug/L
RT: 6.26 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 43 Resp: 292

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

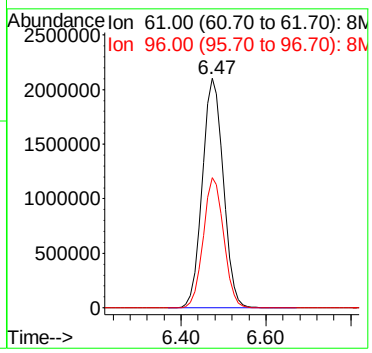


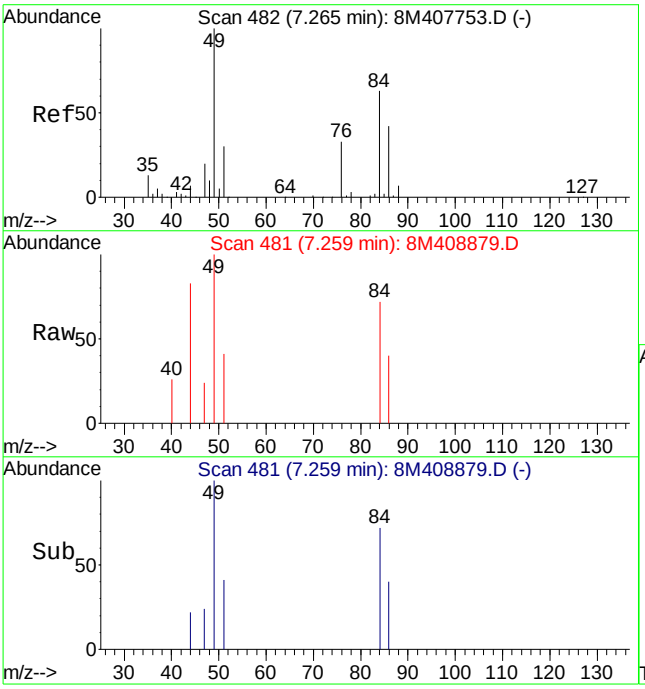


#14
1,1-Dichloroethene
Concen: 380.40 ug/L
RT: 6.47 min Scan# 405
Delta R.T. 0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 61 Resp: 7219782

Ion	Ratio	Lower	Upper
61	100		
96	55.2	32.3	75.3

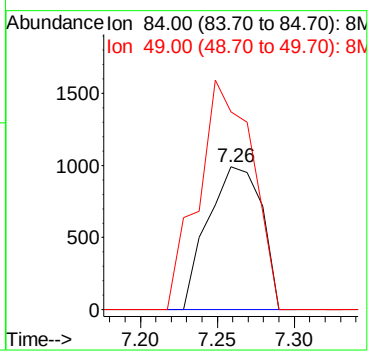


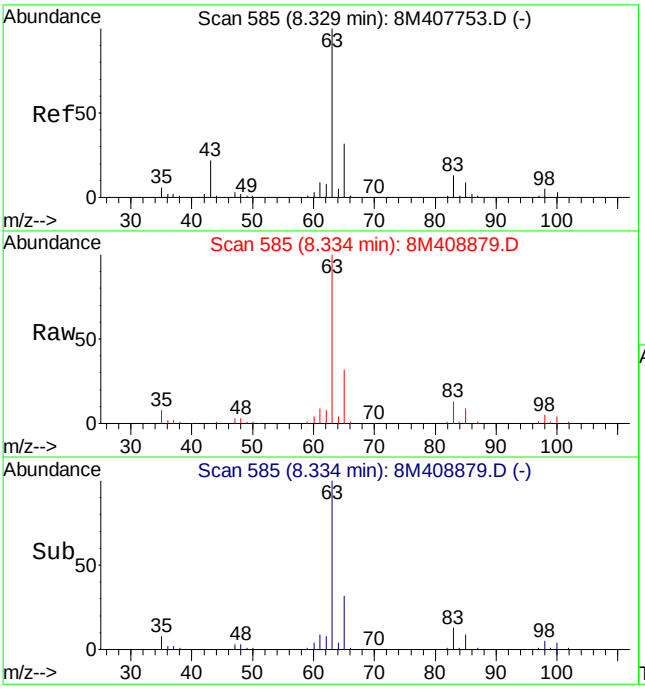


#19
Methylene Chloride
Concen: 0.20 ug/L
RT: 7.26 min Scan# 481
Delta R.T. 0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 84 Resp: 2412

Ion	Ratio	Lower	Upper
84	100		
49	161.1	98.6	230.2

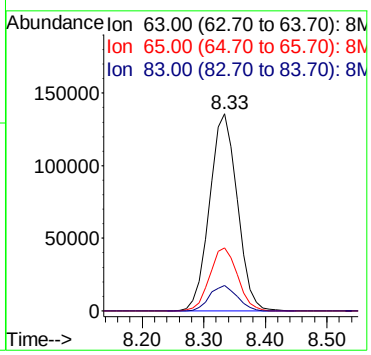


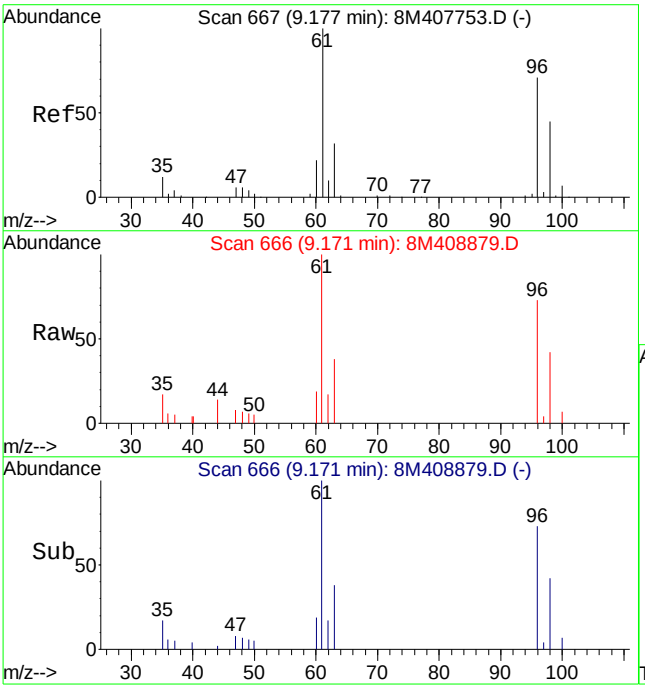


#27
1,1-Dichloroethane
Concen: 18.52 ug/L
RT: 8.33 min Scan# 585
Delta R.T. 0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 63 Resp: 423894

Ion	Ratio	Lower	Upper
63	100		
65	31.9	18.4	43.0
83	12.7	7.7	18.1

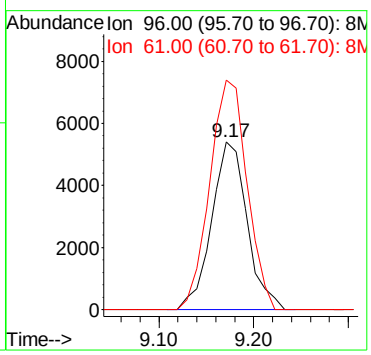


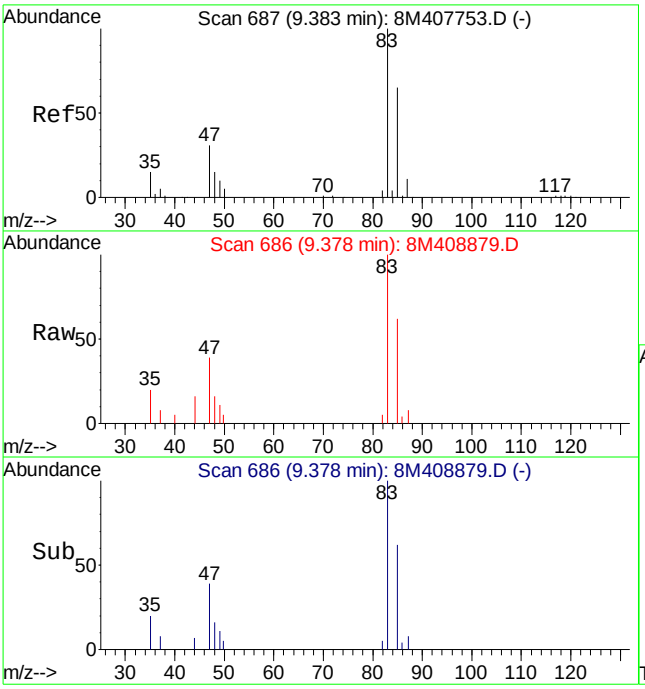


#32
cis-1,2-Dichloroethene
Concen: 1.10 ug/L
RT: 9.17 min Scan# 666
Delta R.T. 0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 96 Resp: 14137

Ion	Ratio	Lower	Upper
96	100		
61	143.7	99.8	233.0

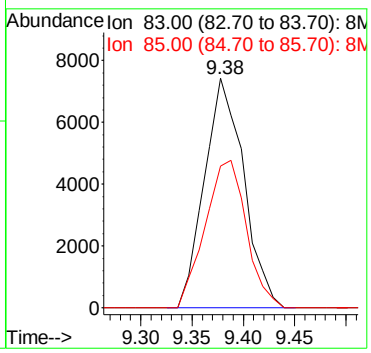


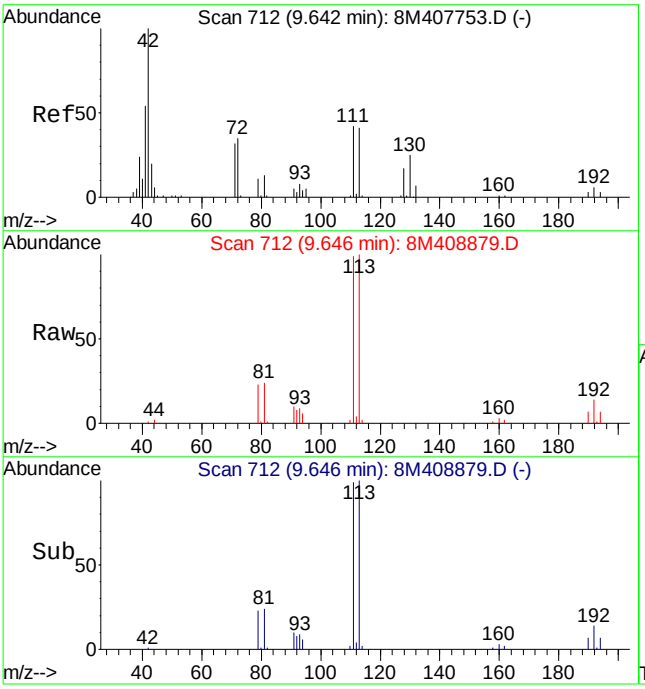


#33
Chloroform
Concen: 0.91 ug/L
RT: 9.38 min Scan# 686
Delta R.T. -0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 83 Resp: 19766

Ion	Ratio	Lower	Upper
83	100		
85	67.5	38.8	90.4

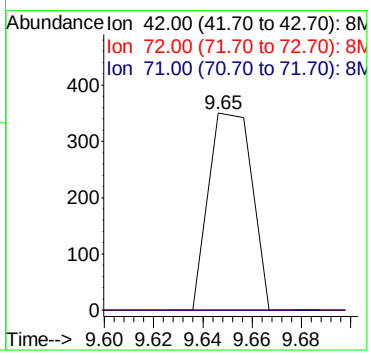


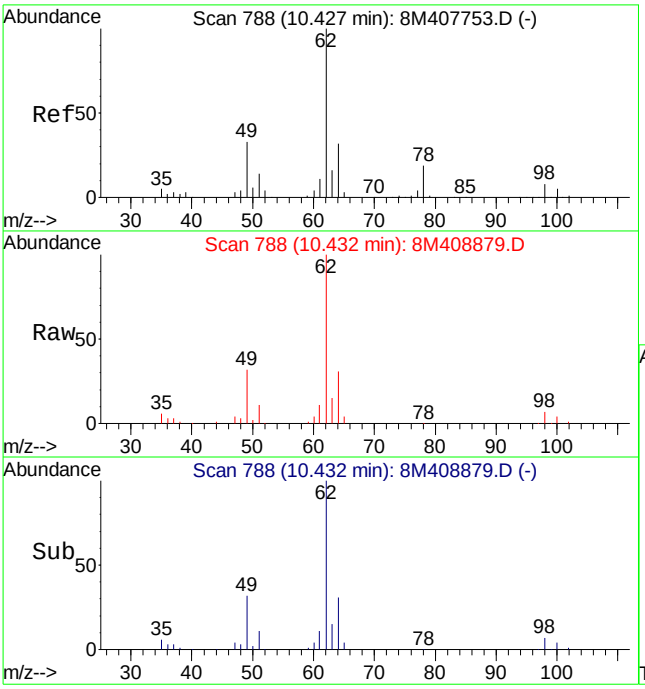


#36
Tetrahydrofuran
Concen: 0.22 ug/L
RT: 9.65 min Scan# 712
Delta R.T. 0.01 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 42 Resp: 429

Ion	Ratio	Lower	Upper
42	100		
72	0.0	22.4	52.4#
71	0.0	19.5	45.5#

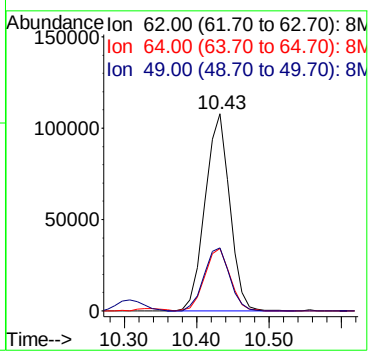


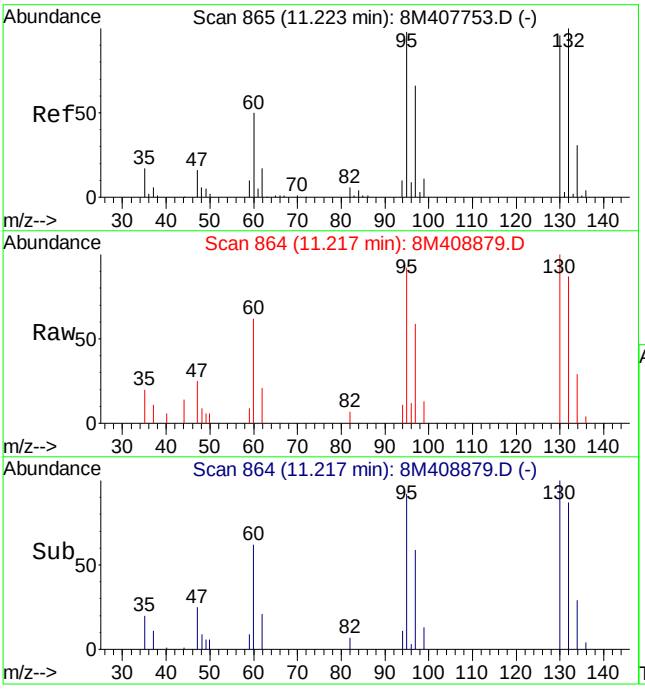


#45
1,2-Dichloroethane
Concen: 17.03 ug/L
RT: 10.43 min Scan# 788
Delta R.T. -0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 62 Resp: 254271

Ion	Ratio	Lower	Upper
62	100		
64	32.6	18.8	44.0
49	33.2	25.3	58.9

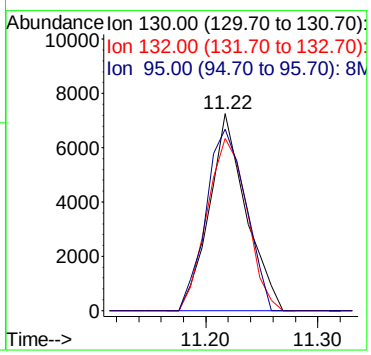


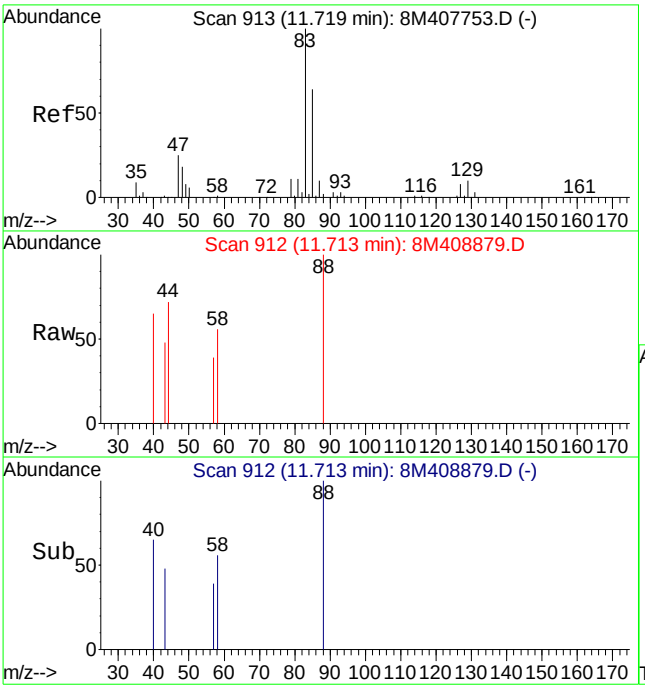


#47
Trichloroethene
Concen: 1.33 ug/L
RT: 11.22 min Scan# 864
Delta R.T. -0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion:130 Resp: 16498

Ion	Ratio	Lower	Upper
130	100		
132	95.5	59.0	137.6
95	100.8	65.0	151.8

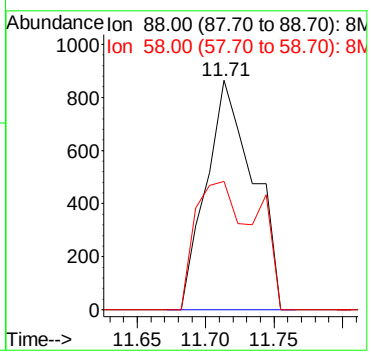


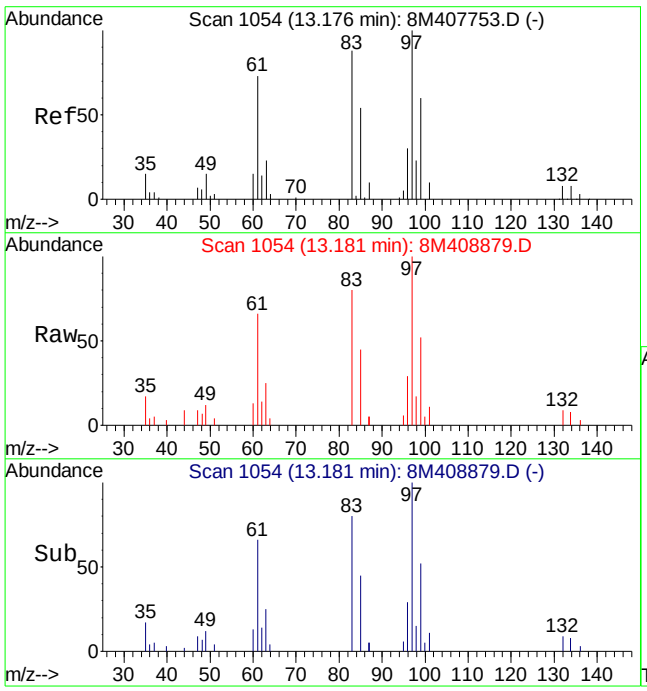


#51
1,4-Dioxane
Concen: 36.06 ug/L
RT: 11.71 min Scan# 912
Delta R.T. -0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 88 Resp: 2062

Ion	Ratio	Lower	Upper
88	100		
58	72.6	46.9	109.3

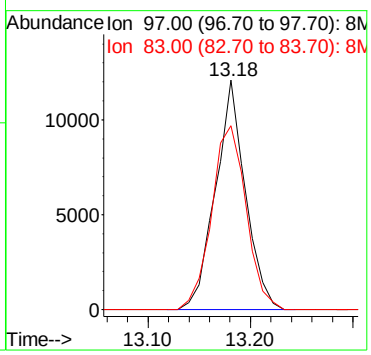




#63
1,1,2-Trichloroethane
Concen: 3.06 ug/L
RT: 13.18 min Scan# 1054
Delta R.T. -0.00 min
Lab File: 8M408879.D
Acq: 21 Nov 2015 23:12

Tgt Ion: 97 Resp: 24488

Ion	Ratio	Lower	Upper
97	100		
83	92.6	51.1	119.1



Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016672.D
Acq On : 24 Nov 2015 22:26
Operator : JDS/FJB
Sample : L15111211-08 B D1 20X 826-LOW
Misc : 1,20
ALS Vial : 7 Sample Multiplier: 1

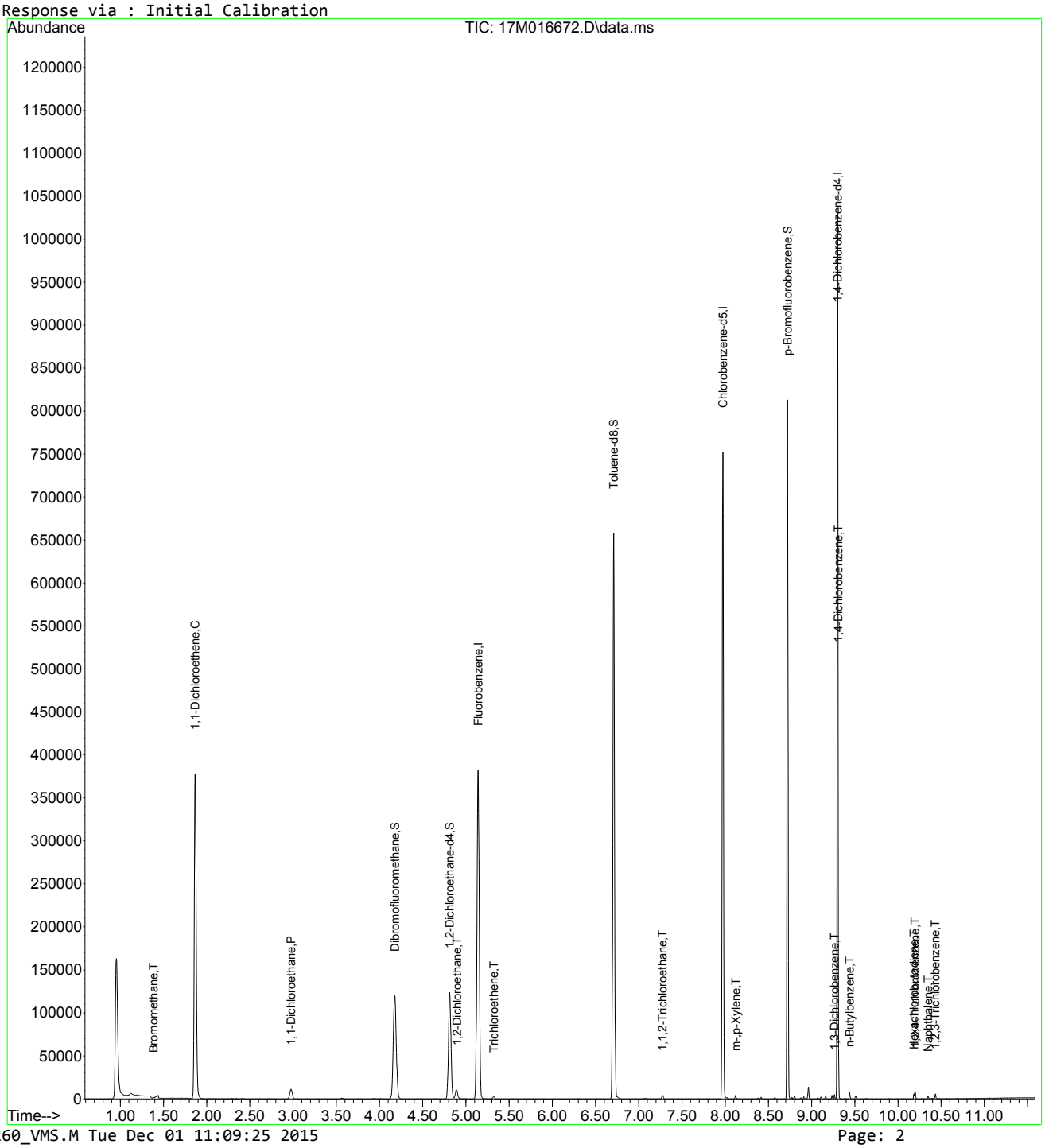
Quant Time: Dec 01 11:09:24 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

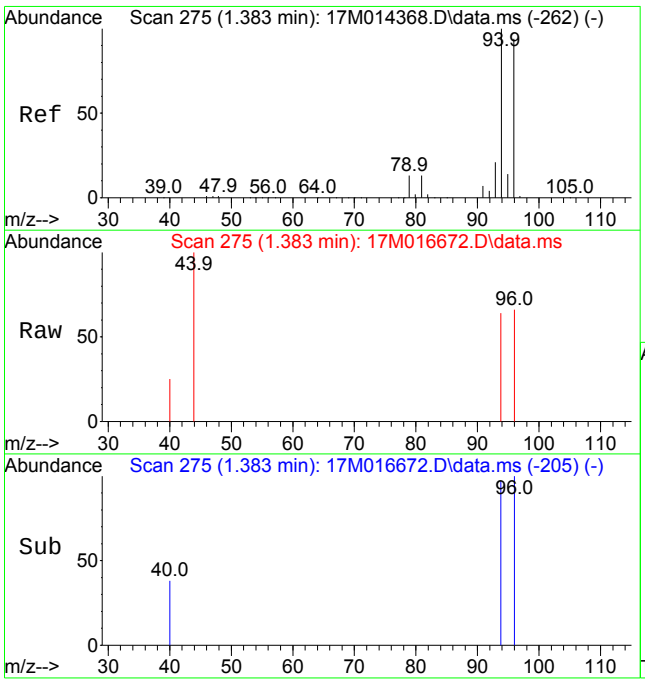
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	333107	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	246465	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	133190	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	89303	26.1340	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 104.536%			
34) 1,2-Dichloroethane-d4	4.811	65	92446	28.1712	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.685%			
47) Toluene-d8	6.711	98	353607	27.8330	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 111.332%#			
66) p-Bromofluorobenzene	8.723	95	127655	27.7261	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.904%			
Target Compounds						Qvalue
6) Bromomethane	1.383	94	515	0.2166	ug/L	96
10) 1,1-Dichloroethene	1.867	61	199358	38.1248	ug/L	99
16) Acetone	2.344	43	196	Below Cal #		42
20) 1,1-Dichloroethane	2.976	63	12228	1.8689	ug/L	96
35) 1,2-Dichloroethane	4.895	62	8420	1.9546	ug/L	98
37) Trichloroethene	5.324	130	904	0.2275	ug/L	84
50) 1,1,2-Trichloroethane	7.275	97	1065	0.3667	ug/L	99
59) m-,p-Xylene	8.124	106	812	0.1236	ug/L	100
78) 1,3-Dichlorobenzene	9.264	146	1098	0.1312	ug/L	90
79) 1,4-Dichlorobenzene	9.308	146	1380	0.1616	ug/L #	72
80) n-Butylbenzene	9.441	91	2504	0.1755	ug/L	99
83) Hexachlorobutadiene	10.185	225	714	0.1946	ug/L	97
84) 1,2,4-Trichlorobenzene	10.199	180	1544	0.2428	ug/L	96
85) Naphthalene	10.347	128	1661	0.1410	ug/L	93
86) 1,2,3-Trichlorobenzene	10.434	180	1151	0.1961	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016672.D
Acq On : 24 Nov 2015 22:26
Operator : JDS/FJB
Sample : L15111211-08 B D1 20X 826-LOW
Misc : 1,20
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 11:09:24 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

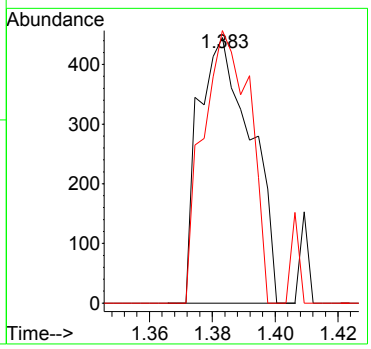


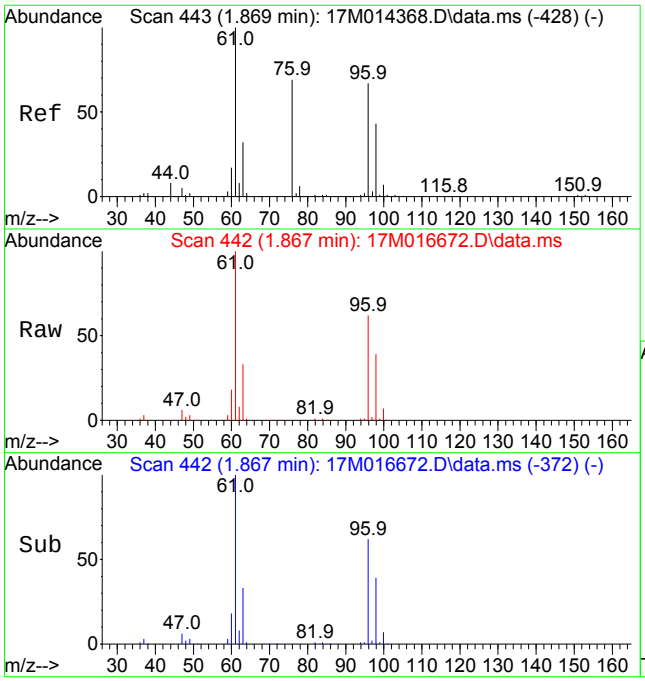


#6
Bromomethane
Concen: 0.2166 ug/L
RT: 1.383 min Scan# 275
Delta R.T. 0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 94 Resp: 515

Ion	Ratio	Lower	Upper
94	100		
96	97.5	56.0	130.8

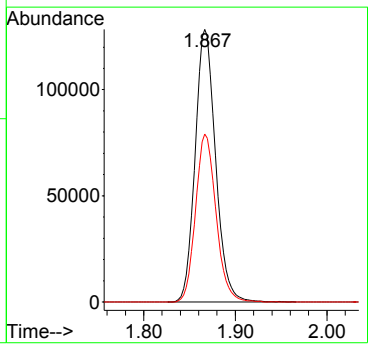


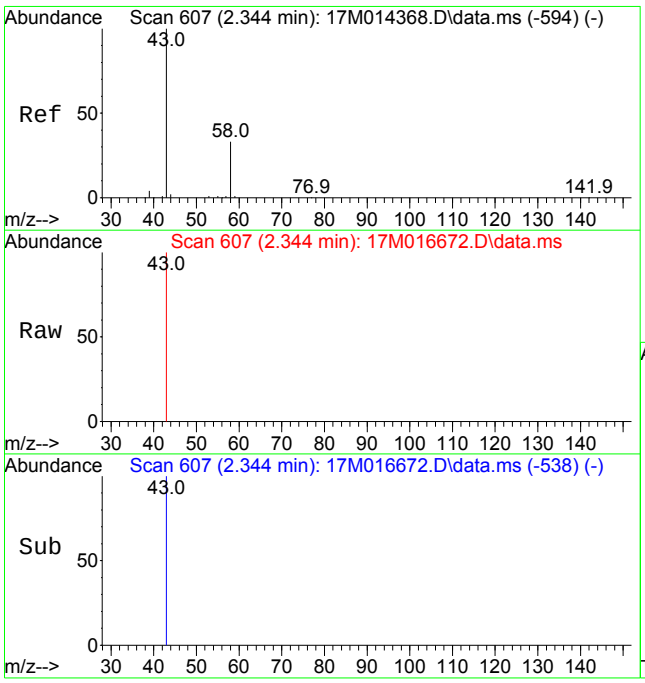


#10
1,1-Dichloroethene
Concen: 38.1248 ug/L
RT: 1.867 min Scan# 442
Delta R.T. 0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 61 Resp: 199358

Ion	Ratio	Lower	Upper
61	100		
96	61.6	48.4	72.6

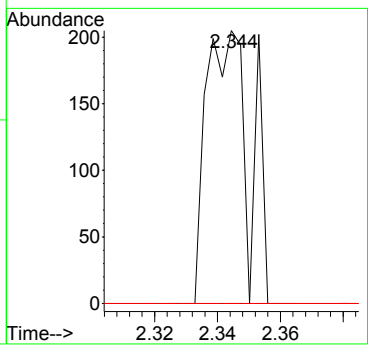


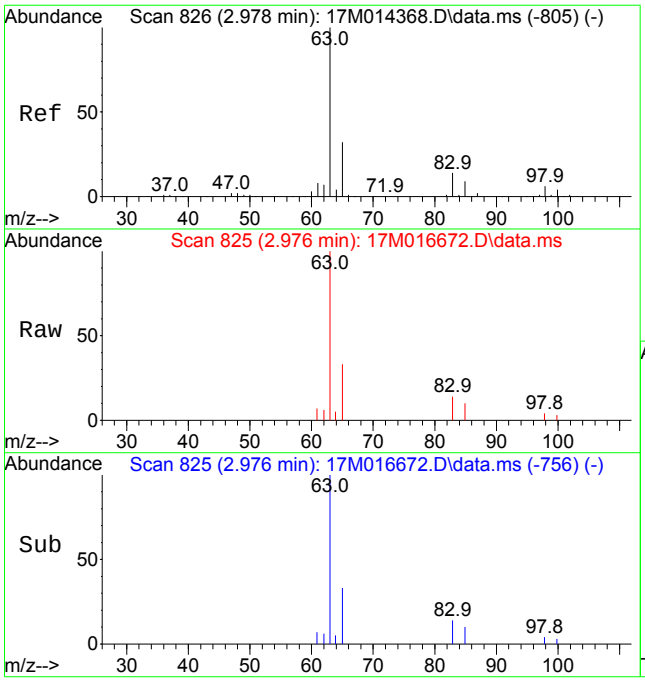


#16
Acetone
Concen: Below Cal
RT: 2.344 min Scan# 607
Delta R.T. 0.000 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 43 Resp: 196

Ion	Ratio	Lower	Upper
43	100		
58	0.0	19.4	45.4#

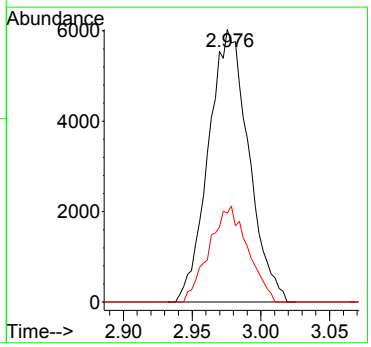


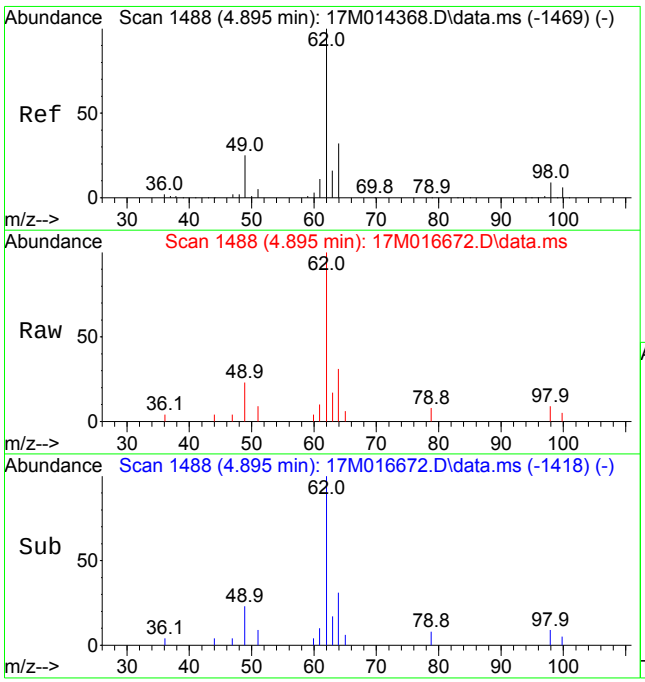


#20
1,1-Dichloroethane
Concen: 1.8689 ug/L
RT: 2.976 min Scan# 825
Delta R.T. 0.001 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 63 Resp: 12228

Ion	Ratio	Lower	Upper
63	100		
65	33.7	25.4	38.0

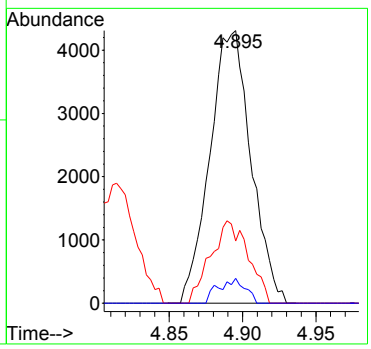


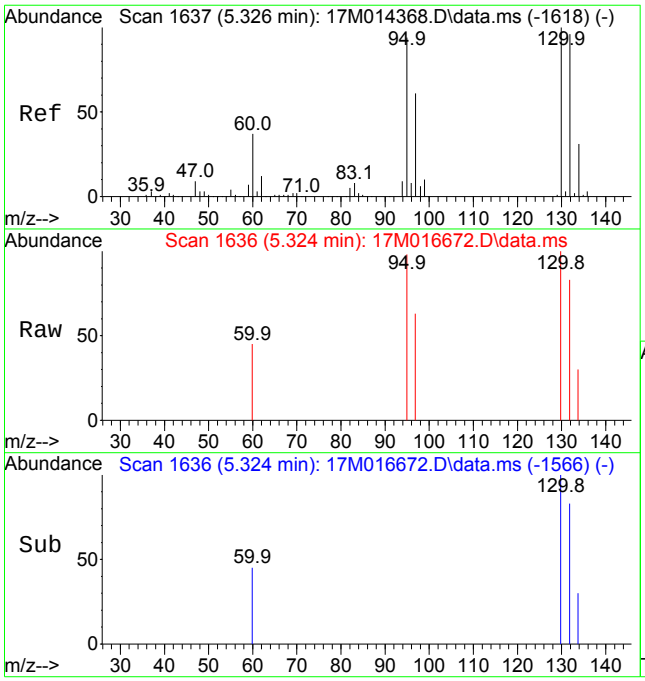


#35
1,2-Dichloroethane
Concen: 1.9546 ug/L
RT: 4.895 min Scan# 1488
Delta R.T. 0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 62 Resp: 8420

Ion	Ratio	Lower	Upper
62	100		
49	27.6	16.9	39.3
98	5.9	4.9	11.5

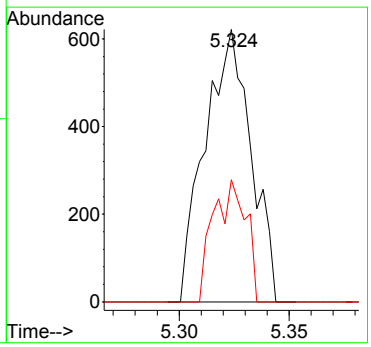


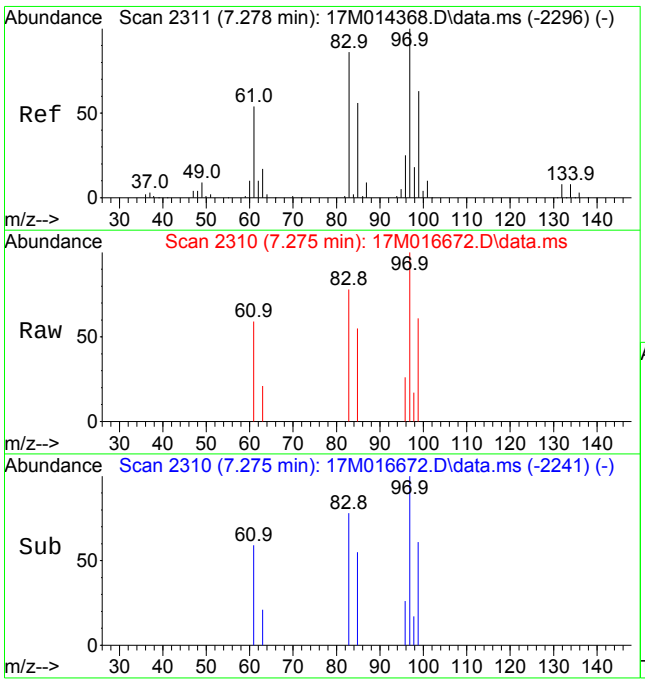


#37
Trichloroethene
Concen: 0.2275 ug/L
RT: 5.324 min Scan# 1636
Delta R.T. 0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:130 Resp: 904

Ion	Ratio	Lower	Upper
130	100		
60	32.0	25.3	58.9

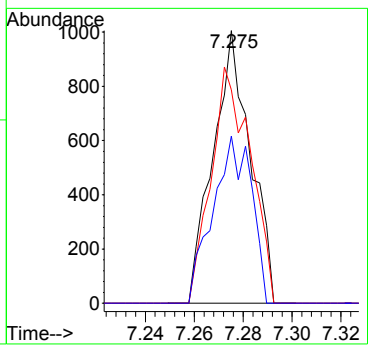


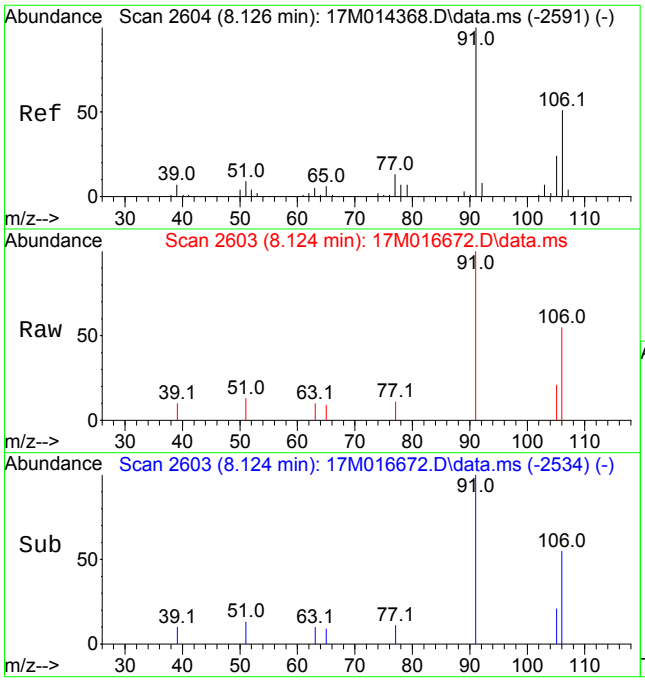


#50
1,1,2-Trichloroethane
Concen: 0.3667 ug/L
RT: 7.275 min Scan# 2310
Delta R.T. 0.000 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 97 Resp: 1065

Ion	Ratio	Lower	Upper
97	100		
83	91.5	53.6	125.2
99	63.3	37.7	88.1

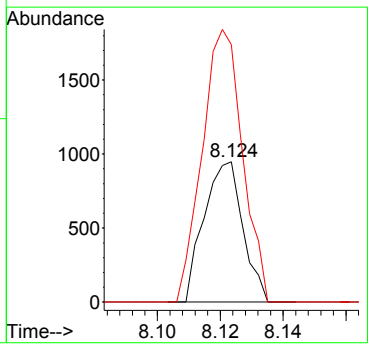


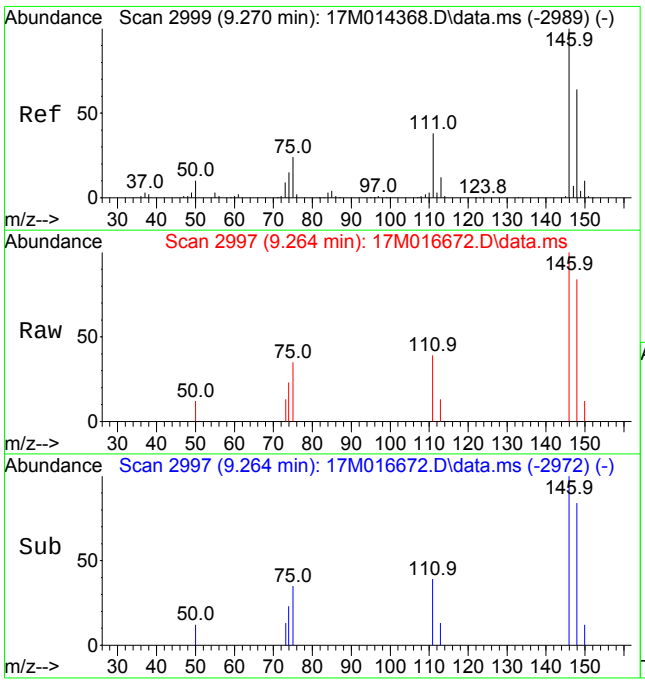


#59
m-,p-Xylene
Concen: 0.1236 ug/L
RT: 8.124 min Scan# 2603
Delta R.T. 0.001 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:106 Resp: 812

Ion	Ratio	Lower	Upper
106	100		
91	202.8	121.7	283.9

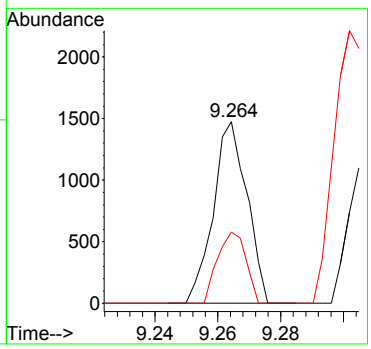


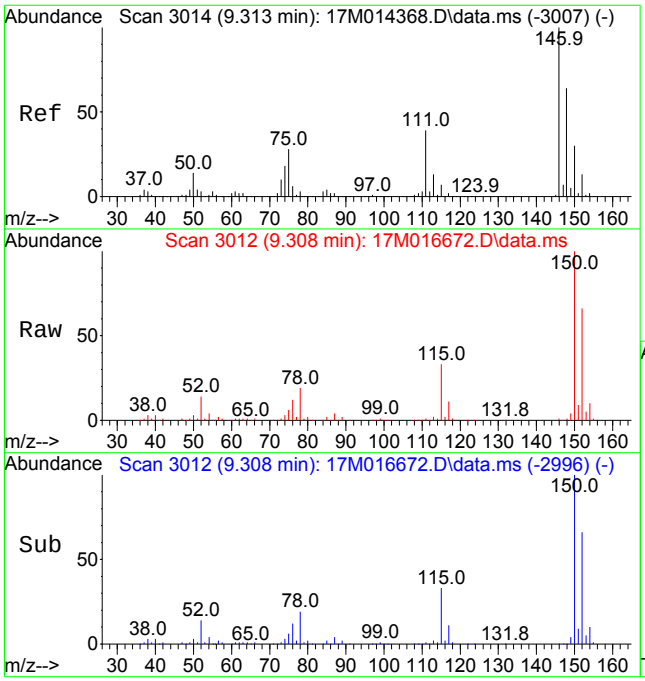


#78
1,3-Dichlorobenzene
Concen: 0.1312 ug/L
RT: 9.264 min Scan# 2997
Delta R.T. -0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:146 Resp: 1098

Ion	Ratio	Lower	Upper
146	100		
111	33.2	23.8	55.4

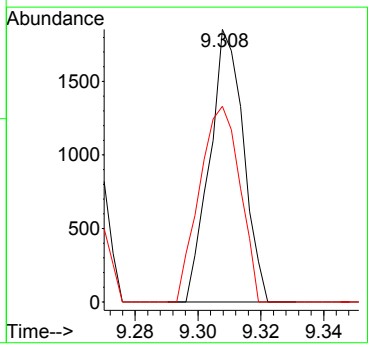


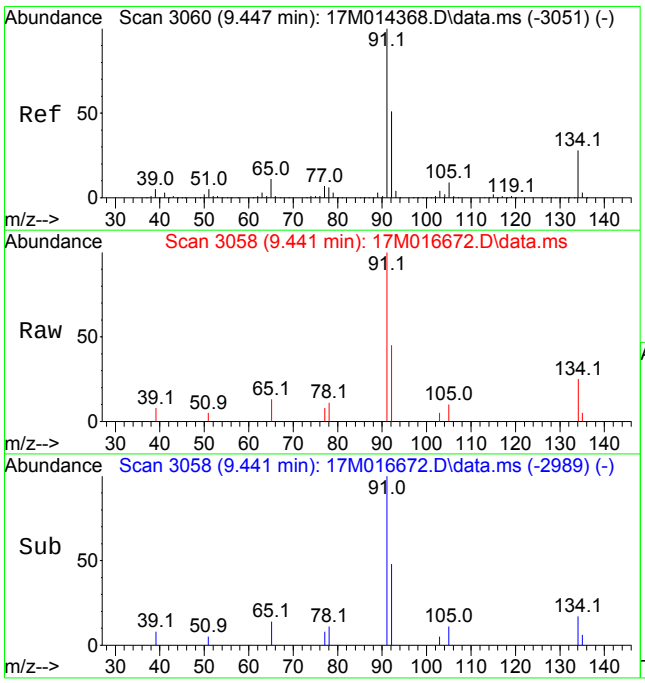


#79
1,4-Dichlorobenzene
Concen: 0.1616 ug/L
RT: 9.308 min Scan# 3012
Delta R.T. -0.002 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:146 Resp: 1380

Ion	Ratio	Lower	Upper
146	100		
148	86.1	51.1	76.7#

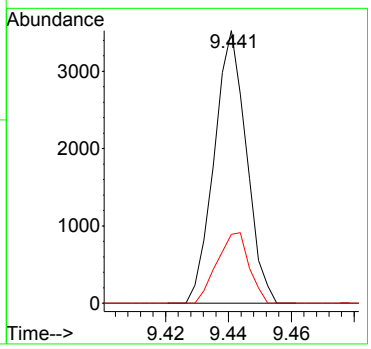


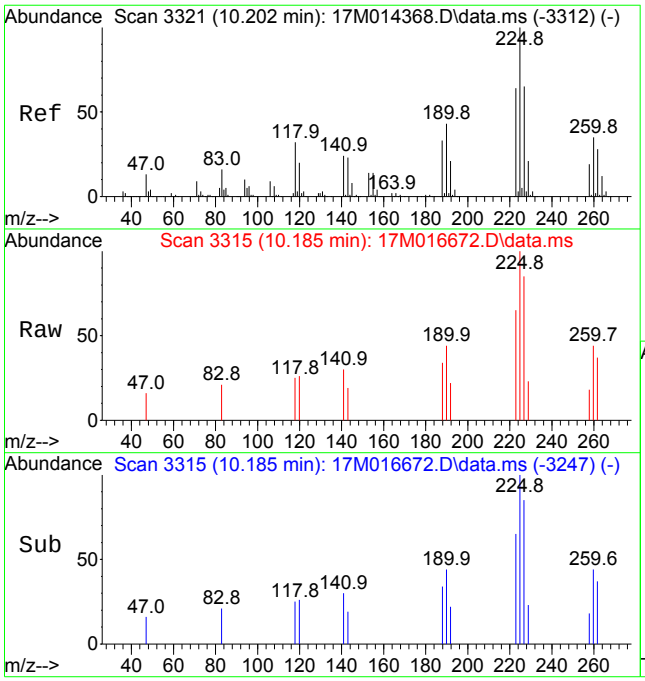


#80
n-Butylbenzene
Concen: 0.1755 ug/L
RT: 9.441 min Scan# 3058
Delta R.T. -0.000 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion: 91 Resp: 2504

Ion	Ratio	Lower	Upper
91	100		
134	25.7	15.8	36.8

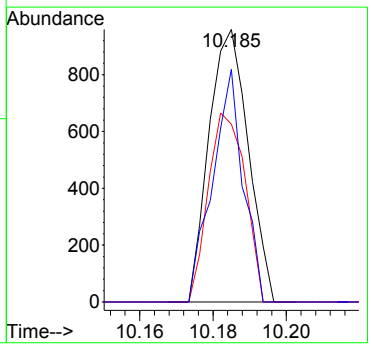


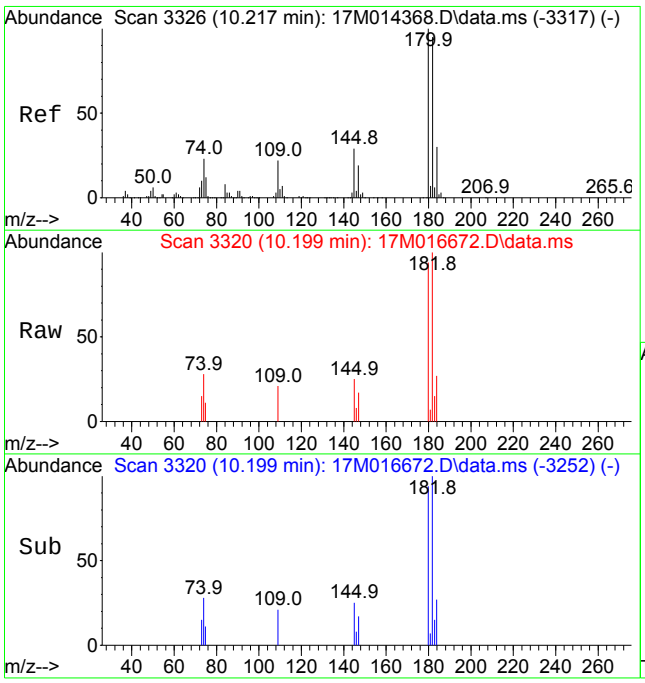


#83
Hexachlorobutadiene
Concen: 0.1946 ug/L
RT: 10.185 min Scan# 3315
Delta R.T. -0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:225 Resp: 714

Ion	Ratio	Lower	Upper
225	100		
223	65.3	50.0	75.0
227	66.4	51.1	76.7

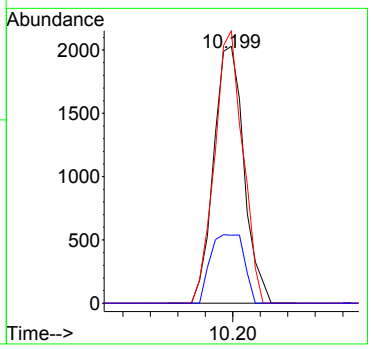


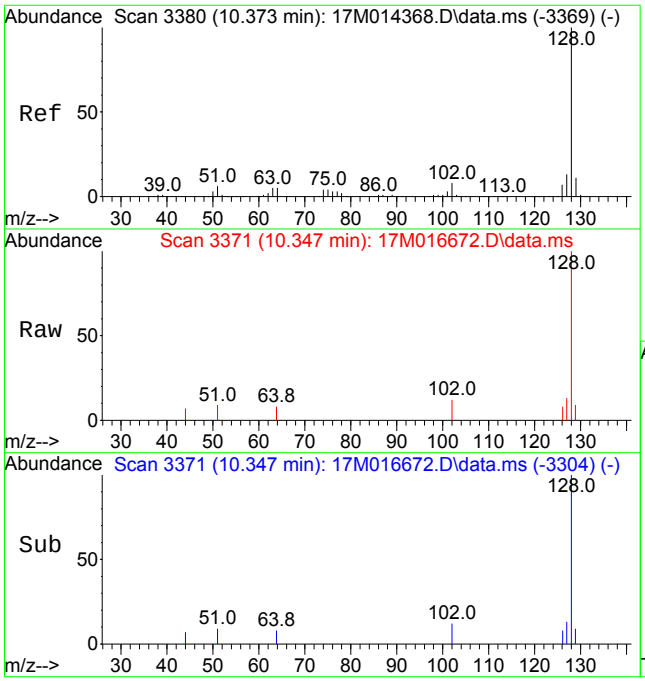


#84
1,2,4-Trichlorobenzene
Concen: 0.2428 ug/L
RT: 10.199 min Scan# 3320
Delta R.T. -0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:180 Resp: 1544

Ion	Ratio	Lower	Upper
180	100		
182	99.1	57.5	134.3
145	29.7	19.9	46.3

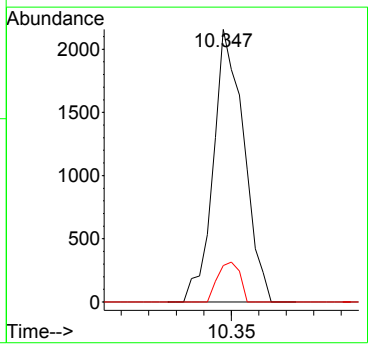


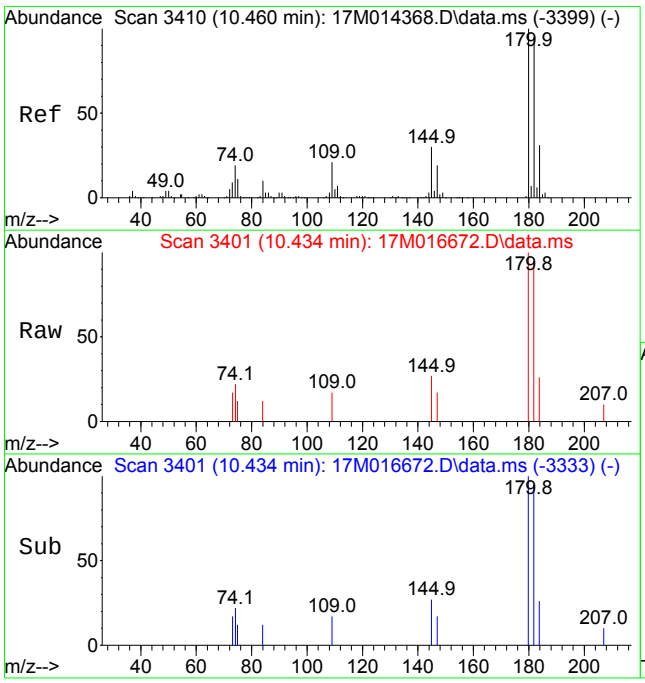


#85
Naphthalene
Concen: 0.1410 ug/L
RT: 10.347 min Scan# 3371
Delta R.T. -0.006 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:128 Resp: 1661

Ion	Ratio	Lower	Upper
128	100		
127	10.6	7.9	18.5

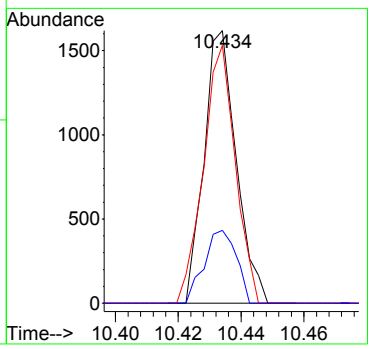




#86
1,2,3-Trichlorobenzene
Concen: 0.1961 ug/L
RT: 10.434 min Scan# 3401
Delta R.T. -0.003 min
Lab File: 17M016672.D
Acq: 24 Nov 2015 22:26

Tgt Ion:180 Resp: 1151

Ion	Ratio	Lower	Upper
180	100		
182	93.7	57.8	134.8
145	26.8	18.4	42.8



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408872.D Vial: 16
Acq On : 21 Nov 2015 19:48 Operator: TMB
Sample : L15111211-09 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:58 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

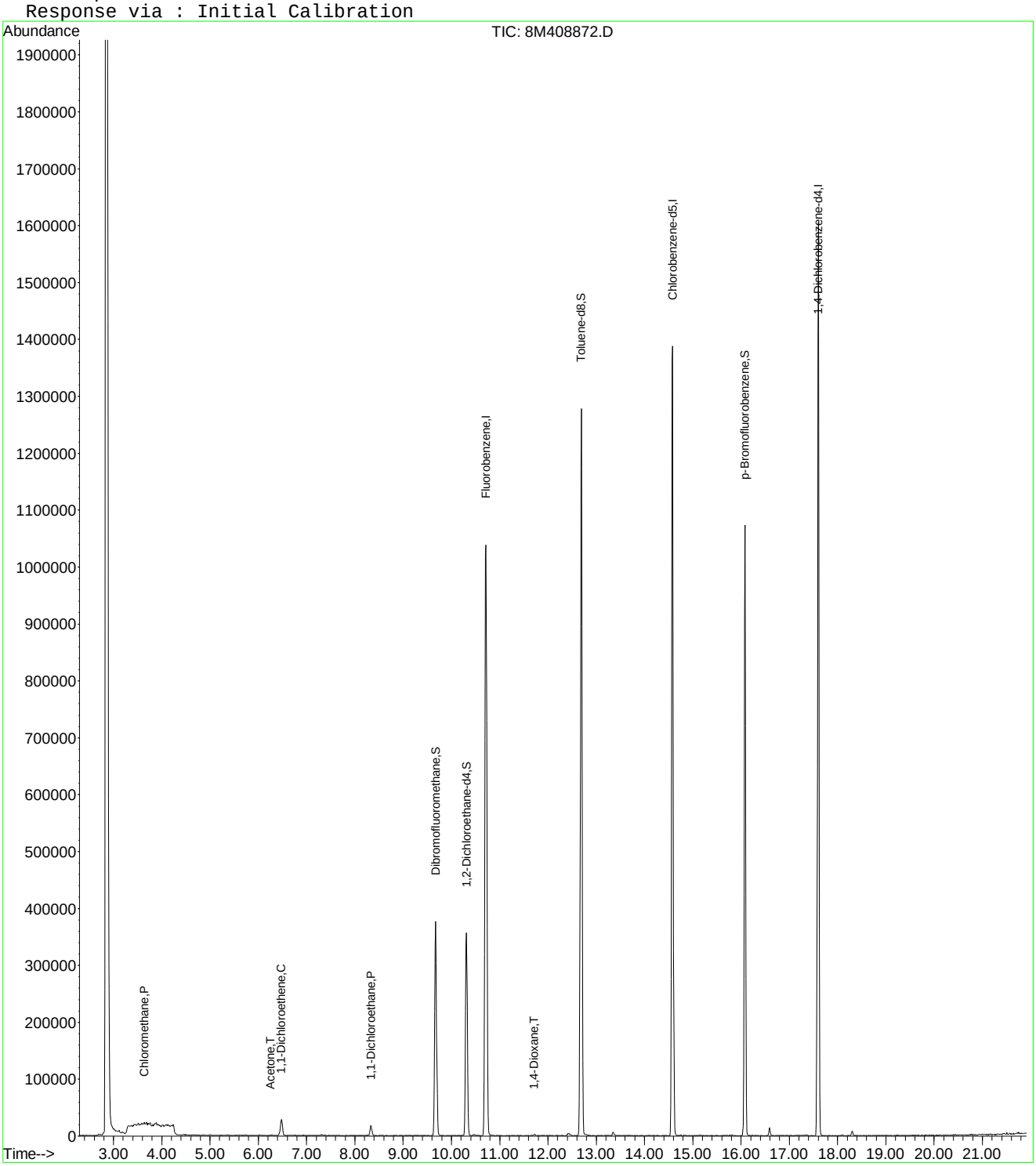
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1218443	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	935979	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	496885	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	312591	26.9558 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.84%		
43) 1,2-Dichloroethane-d4	10.31	65	306922	25.9588 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.84%		
58) Toluene-d8	12.69	98	1094535	25.2037 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.80%		
80) p-Bromofluorobenzene	16.08	95	433131	24.9829 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.92%		
Target Compounds					Qvalue
3) Chloromethane	3.64	50	3874	0.1371 ug/L	79
5) 1,3-Butadiene	3.90	54	206	Below Cal # 1	
13) Acetone	6.25	43	601	0.3323 ug/L #	48
14) 1,1-Dichloroethene	6.48	61	32827	1.6618 ug/L	99
27) 1,1-Dichloroethane	8.33	63	25639	1.0763 ug/L	97
51) 1,4-Dioxane	11.71	88	1177	19.7759 ug/L	81

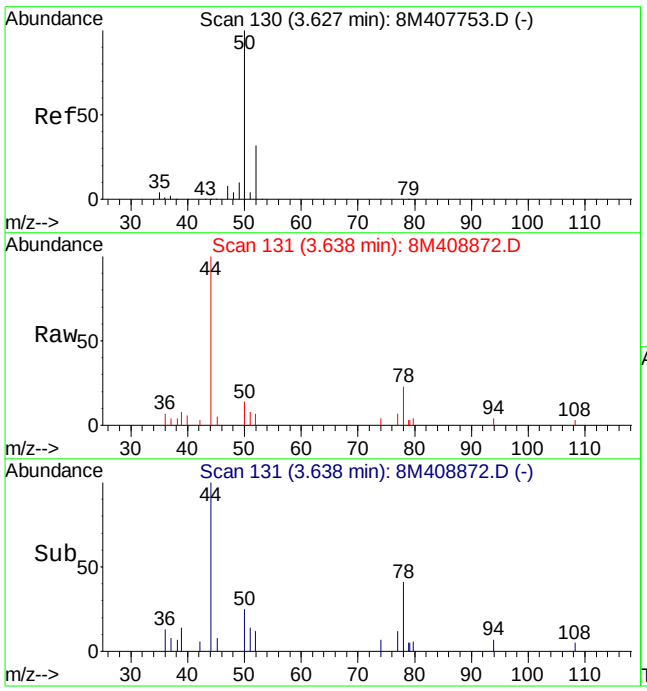
(#) = qualifier out of range (m) = manual integration
8M408872.D 8260WT.M Mon Nov 23 08:53:58 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408872.D Vial: 16
Acq On : 21 Nov 2015 19:48 Operator: TMB
Sample : L15111211-09 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

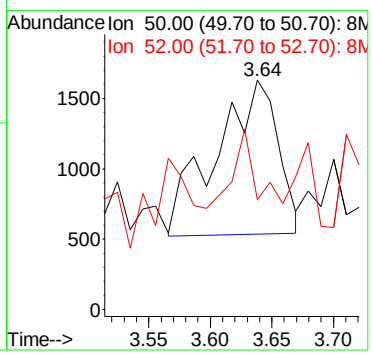


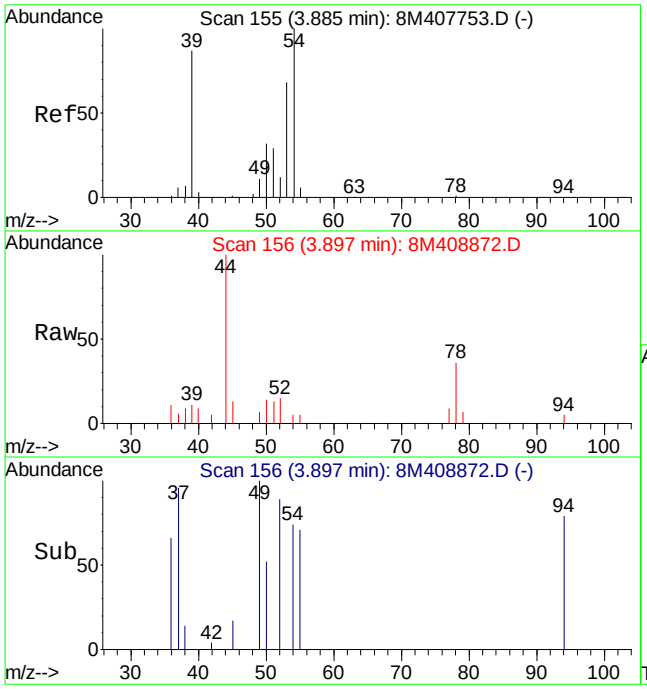


#3
Chloromethane
Concen: 0.14 ug/L
RT: 3.64 min Scan# 131
Delta R.T. 0.02 min
Lab File: 8M408872.D
Acq: 21 Nov 2015 19:48

Tgt Ion: 50 Resp: 3874

Ion	Ratio	Lower	Upper
50	100		
52	43.8	19.2	44.8

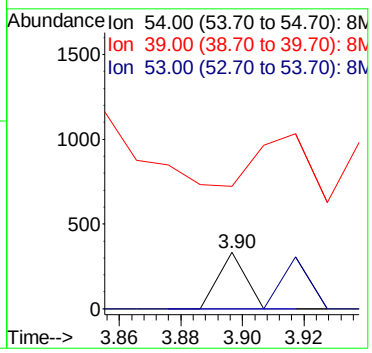


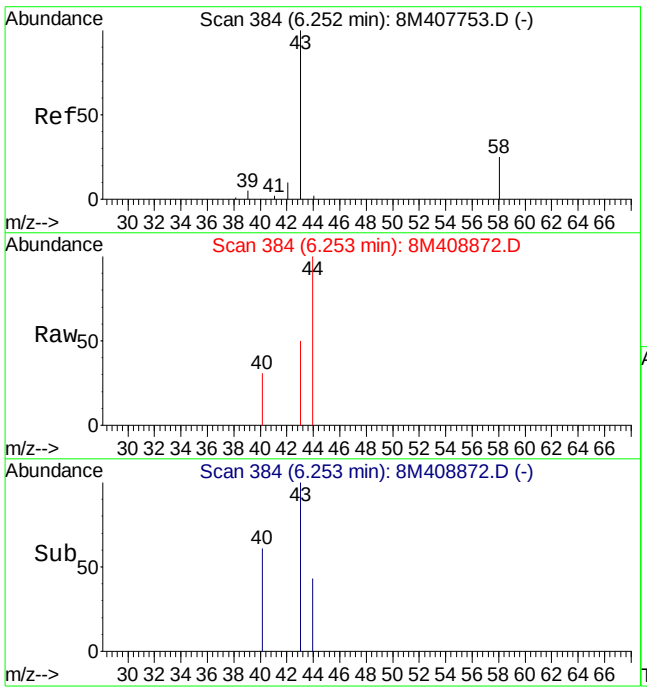


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.90 min Scan# 156
Delta R.T. 0.01 min
Lab File: 8M408872.D
Acq: 21 Nov 2015 19:48

Tgt Ion: 54 Resp: 206

Ion	Ratio	Lower	Upper
54	100		
39	291.3	60.8	142.0#
53	0.0	42.4	99.0#

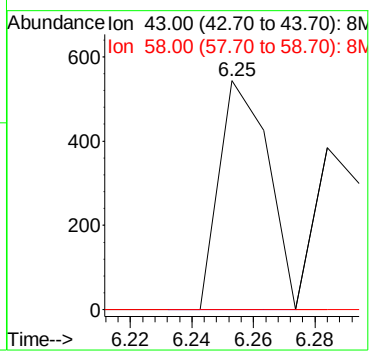


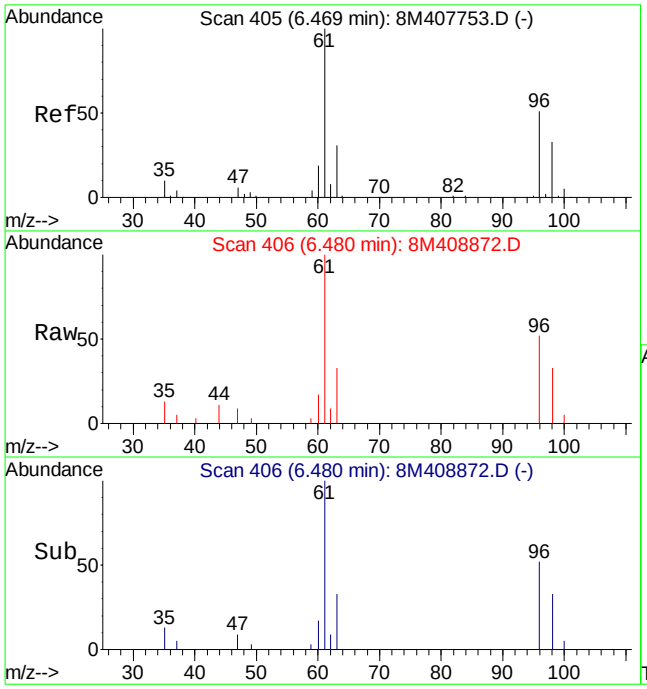


#13
Acetone
Concen: 0.33 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408872.D
Acq: 21 Nov 2015 19:48

Tgt Ion: 43 Resp: 601

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

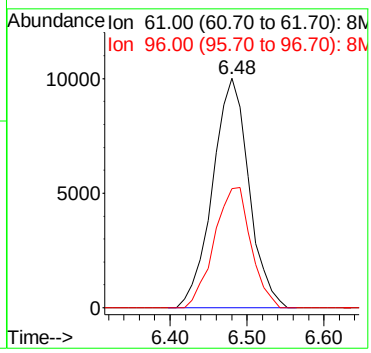


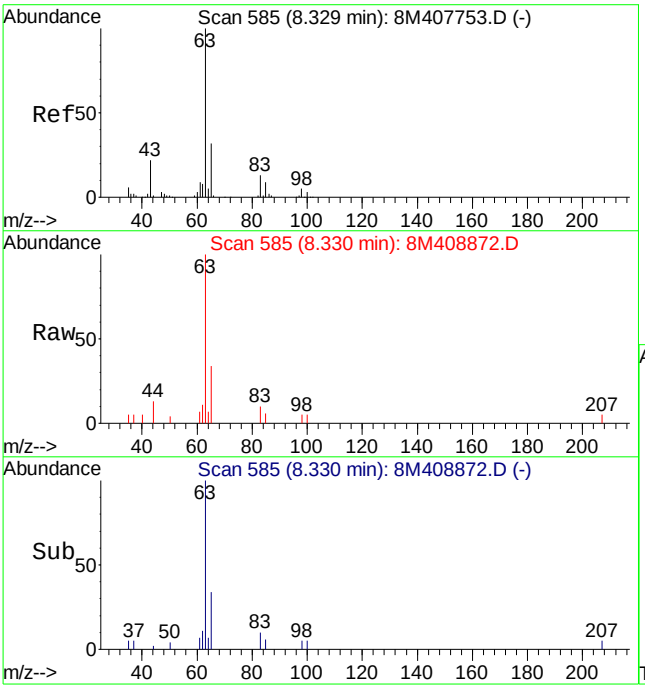


#14
1,1-Dichloroethene
Concen: 1.66 ug/L
RT: 6.48 min Scan# 406
Delta R.T. 0.01 min
Lab File: 8M408872.D
Acq: 21 Nov 2015 19:48

Tgt Ion: 61 Resp: 32827

Ion	Ratio	Lower	Upper
61	100		
96	52.9	32.3	75.3

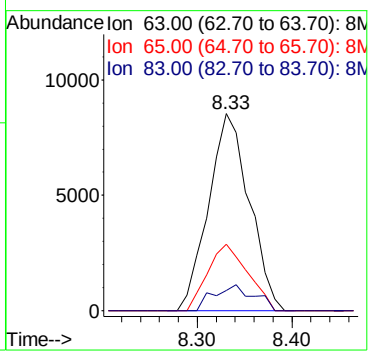


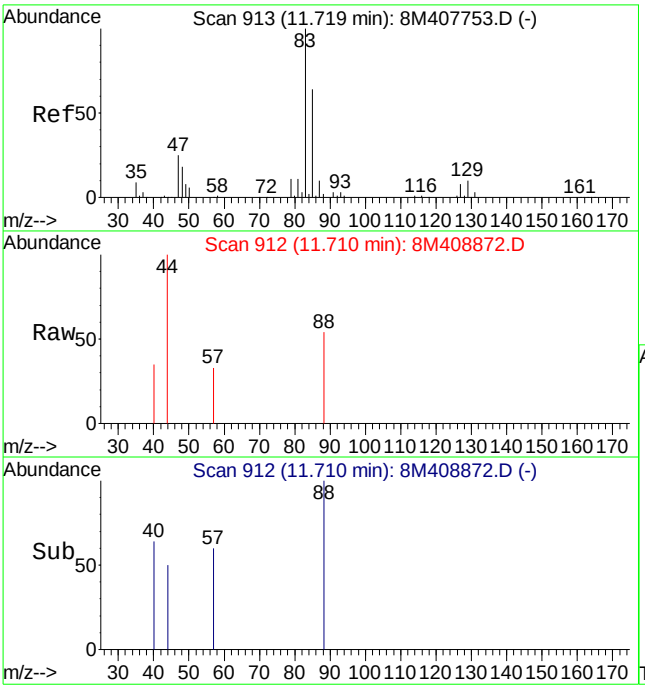


#27
1,1-Dichloroethane
Concen: 1.08 ug/L
RT: 8.33 min Scan# 585
Delta R.T. -0.00 min
Lab File: 8M408872.D
Acq: 21 Nov 2015 19:48

Tgt Ion: 63 Resp: 25639

Ion	Ratio	Lower	Upper
63	100		
65	33.0	18.4	43.0
83	12.8	7.7	18.1

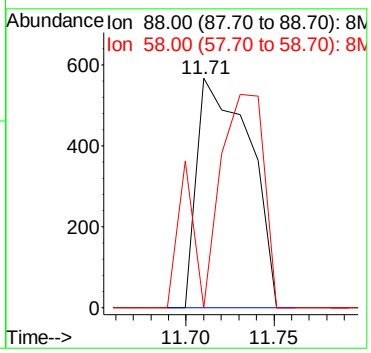




#51
1,4-Dioxane
Concen: 19.78 ug/L
RT: 11.71 min Scan# 912
Delta R.T. -0.00 min
Lab File: 8M408872.D
Acq: 21 Nov 2015 19:48

Tgt Ion: 88 Resp: 1177

Ion	Ratio	Lower	Upper
88	100		
58	94.6	46.9	109.3



Data File : C:\MSDCHEM\2\DATA\112115\8M408873.D Vial: 17
Acq On : 21 Nov 2015 20:17 Operator: TMB
Sample : L15111211-10 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:59 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

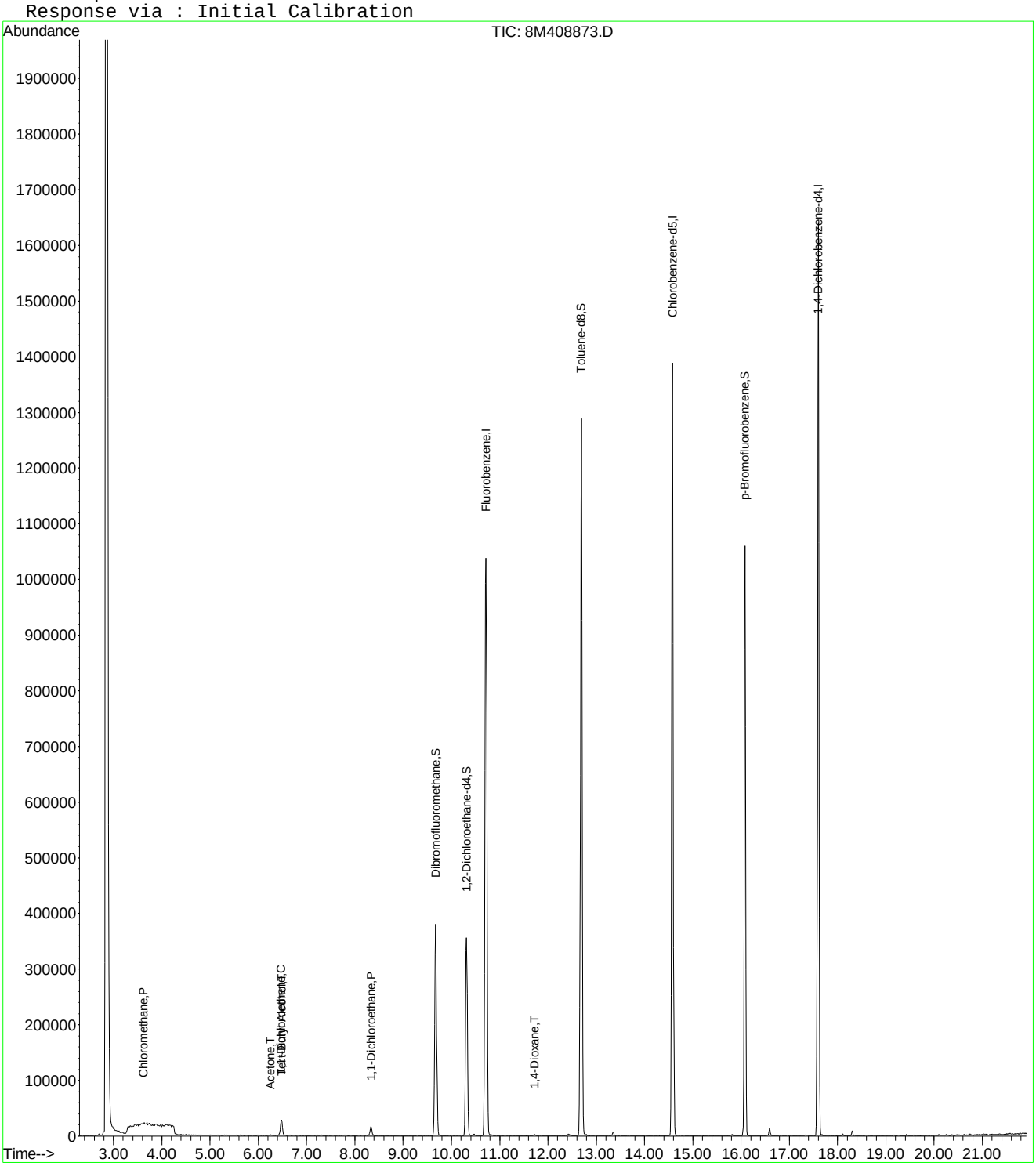
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1213299	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	928038	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	494889	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	307378	26.6187 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.48%		
43) 1,2-Dichloroethane-d4	10.31	65	307540	26.1213 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 104.48%		
58) Toluene-d8	12.69	98	1088221	25.2728 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.08%		
80) p-Bromofluorobenzene	16.08	95	431941	25.0148 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.04%		
Target Compounds					Qvalue
3) Chloromethane	3.63	50	6189	0.2199 ug/L	86
13) Acetone	6.25	43	757	0.4204 ug/L #	48
14) 1,1-Dichloroethene	6.48	61	31771	1.6152 ug/L	96
15) Tert-Butyl Alcohol	6.49	59	809	1.5204 ug/L #	58
27) 1,1-Dichloroethane	8.34	63	25547	1.0770 ug/L	96
51) 1,4-Dioxane	11.72	88	1518	25.6135 ug/L	73

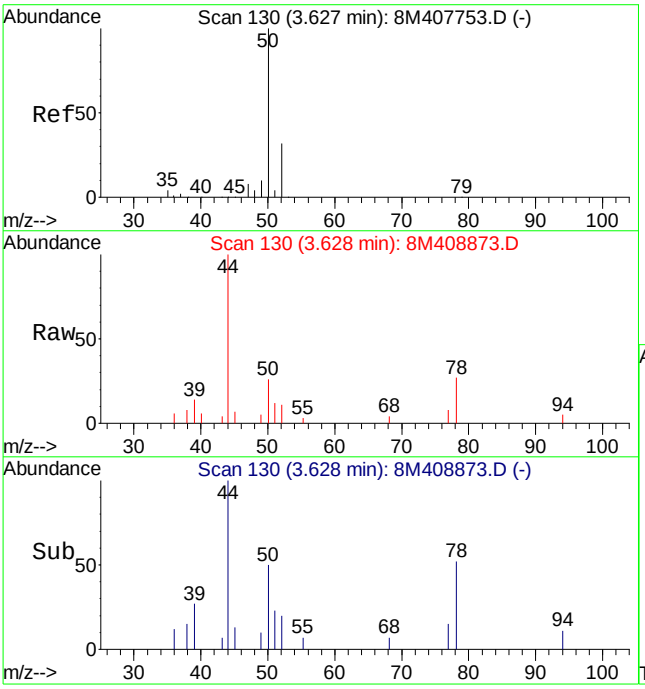
(#) = qualifier out of range (m) = manual integration
8M408873.D 8260WT.M Mon Nov 23 08:54:00 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408873.D Vial: 17
Acq On : 21 Nov 2015 20:17 Operator: TMB
Sample : L15111211-10 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

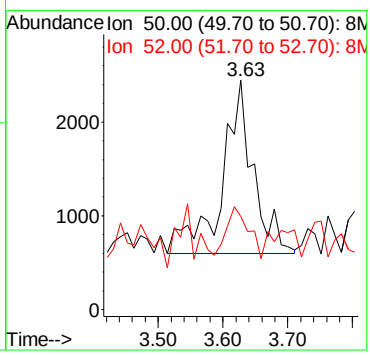


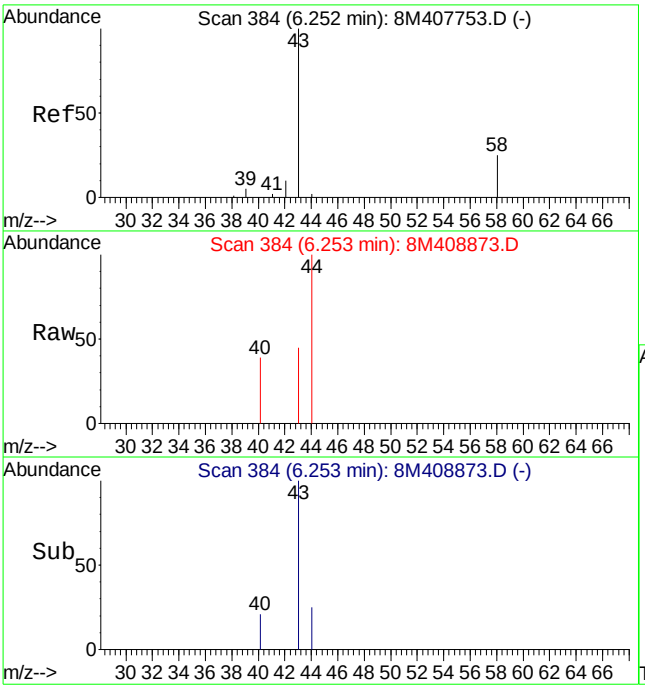


#3
Chloromethane
Concen: 0.22 ug/L
RT: 3.63 min Scan# 130
Delta R.T. 0.01 min
Lab File: 8M408873.D
Acq: 21 Nov 2015 20:17

Tgt Ion: 50 Resp: 6189

Ion	Ratio	Lower	Upper
50	100		
52	24.4	19.2	44.8

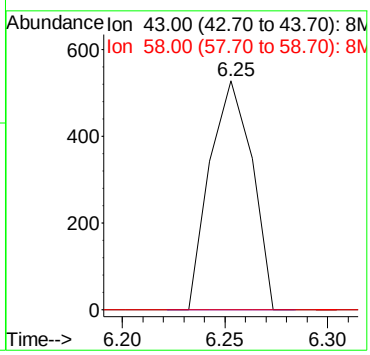


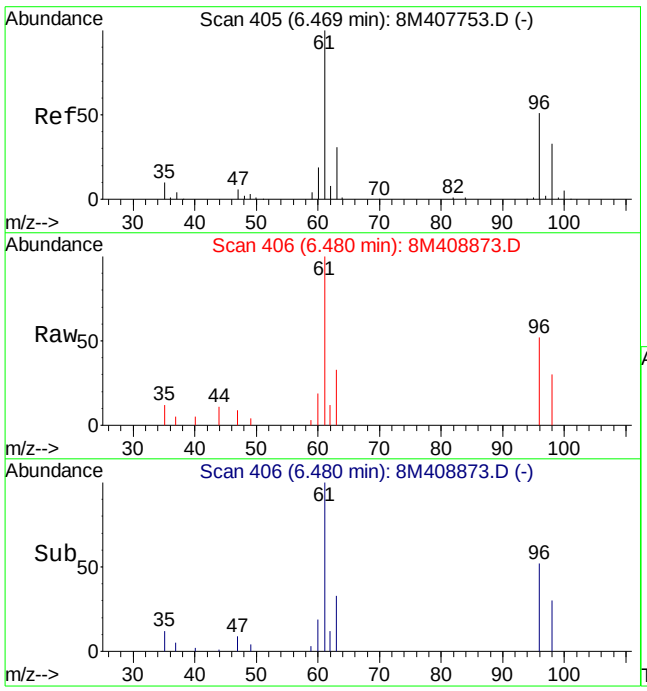


#13
Acetone
Concen: 0.42 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408873.D
Acq: 21 Nov 2015 20:17

Tgt Ion: 43 Resp: 757

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

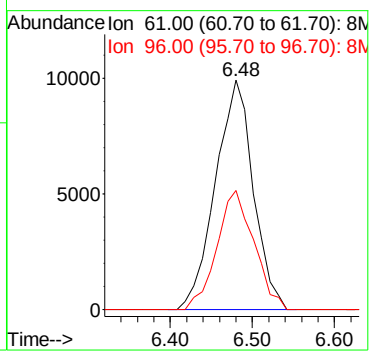


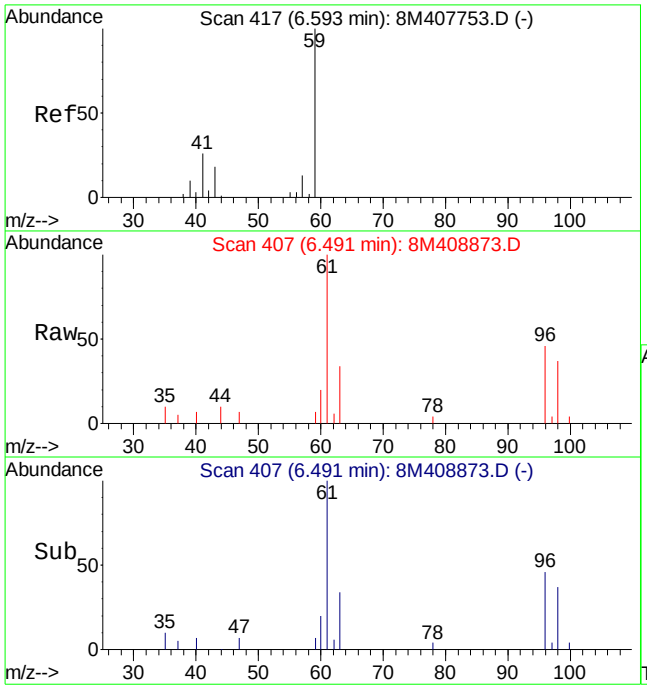


#14
1,1-Dichloroethene
Concen: 1.62 ug/L
RT: 6.48 min Scan# 406
Delta R.T. 0.01 min
Lab File: 8M408873.D
Acq: 21 Nov 2015 20:17

Tgt Ion: 61 Resp: 31771

Ion	Ratio	Lower	Upper
61	100		
96	50.9	32.3	75.3

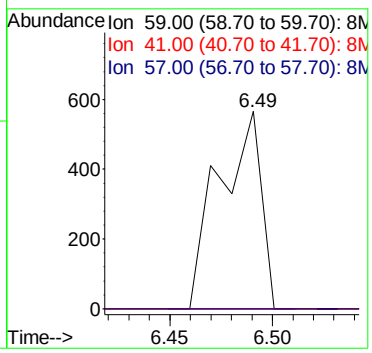


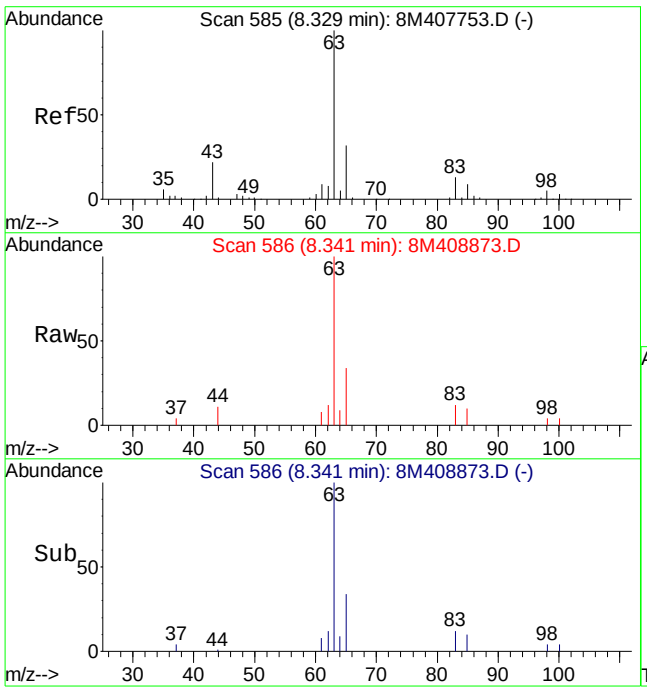


#15
Tert-Butyl Alcohol
Concen: 1.52 ug/L
RT: 6.49 min Scan# 407
Delta R.T. -0.09 min
Lab File: 8M408873.D
Acq: 21 Nov 2015 20:17

Tgt Ion: 59 Resp: 809

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.2	33.0#
57	0.0	6.5	15.3#

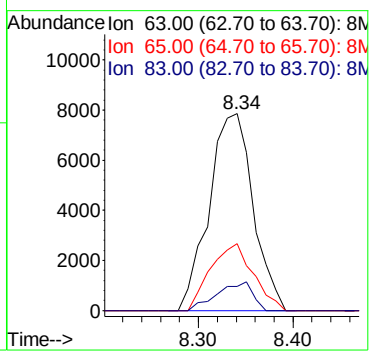


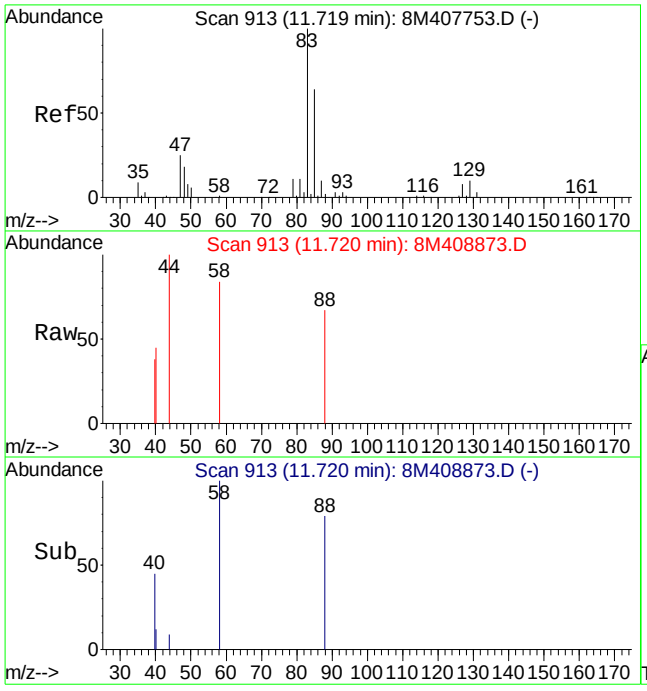


#27
1,1-Dichloroethane
Concen: 1.08 ug/L
RT: 8.34 min Scan# 586
Delta R.T. 0.01 min
Lab File: 8M408873.D
Acq: 21 Nov 2015 20:17

Tgt Ion: 63 Resp: 25547

Ion	Ratio	Lower	Upper
63	100		
65	33.0	18.4	43.0
83	11.8	7.7	18.1

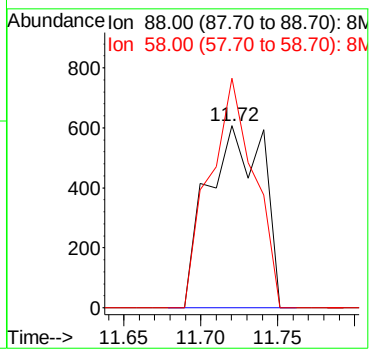




#51
1,4-Dioxane
Concen: 25.61 ug/L
RT: 11.72 min Scan# 913
Delta R.T. 0.01 min
Lab File: 8M408873.D
Acq: 21 Nov 2015 20:17

Tgt Ion: 88 Resp: 1518

Ion	Ratio	Lower	Upper
88	100		
58	101.8	46.9	109.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408874.D Vial: 18
Acq On : 21 Nov 2015 20:47 Operator: TMB
Sample : L15111211-11 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:01 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

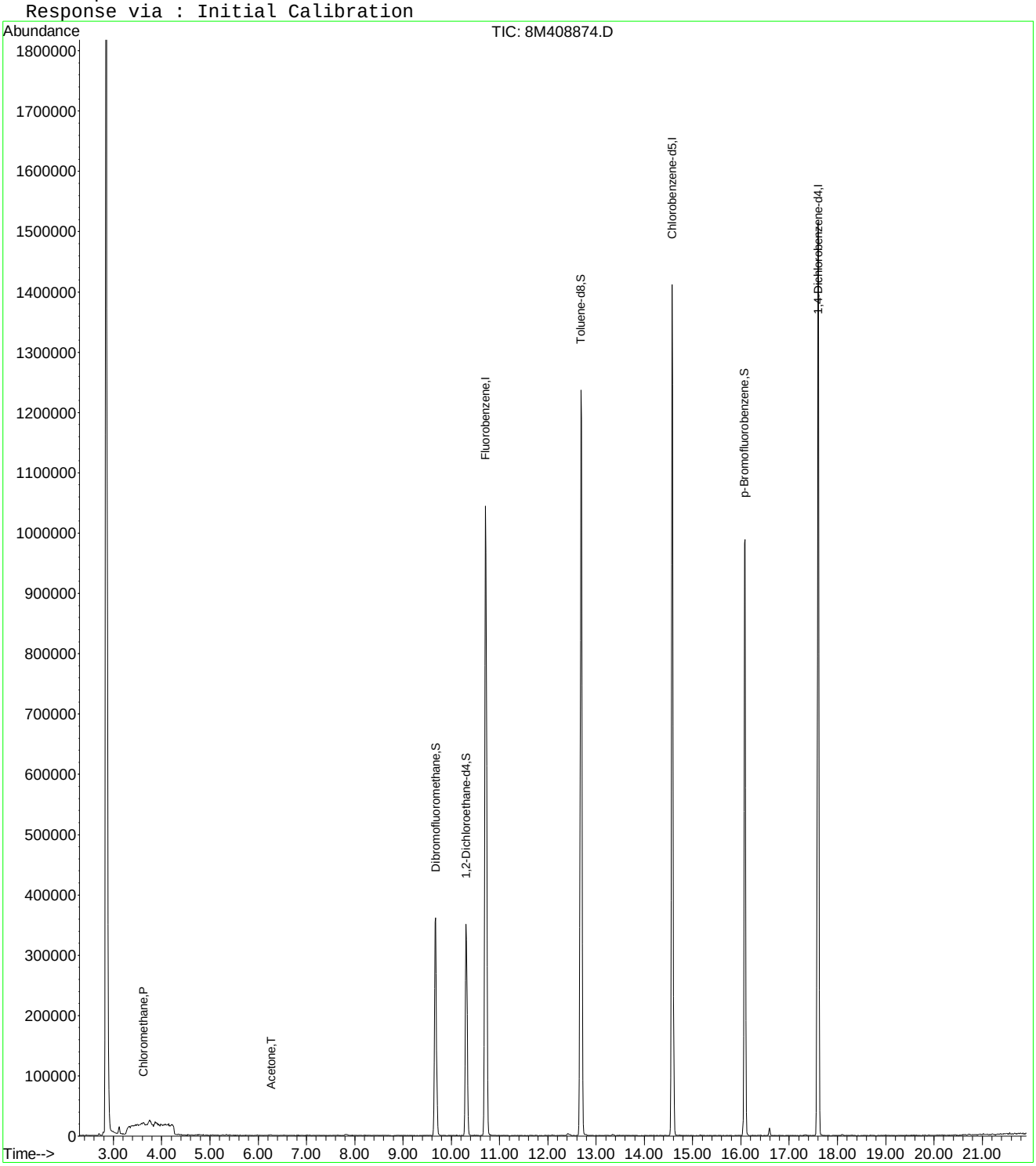
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	1200353	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	923988	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	479503	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.68	111	306073	26.7915 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.16%		
43) 1,2-Dichloroethane-d4	10.31	65	303294	26.0385 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 104.16%		
58) Toluene-d8	12.68	98	1072333	25.0129 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.04%		
80) p-Bromofluorobenzene	16.07	95	417124	24.9318 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.72%		
Target Compounds					Qvalue
3) Chloromethane	3.63	50	5867	0.2107 ug/L #	73
5) 1,3-Butadiene	3.82	54	392	Below Cal #	1
13) Acetone	6.28	43	1859	1.0434 ug/L #	48

(#) = qualifier out of range (m) = manual integration
8M408874.D 8260WT.M Mon Nov 23 08:54:02 2015 Page 1

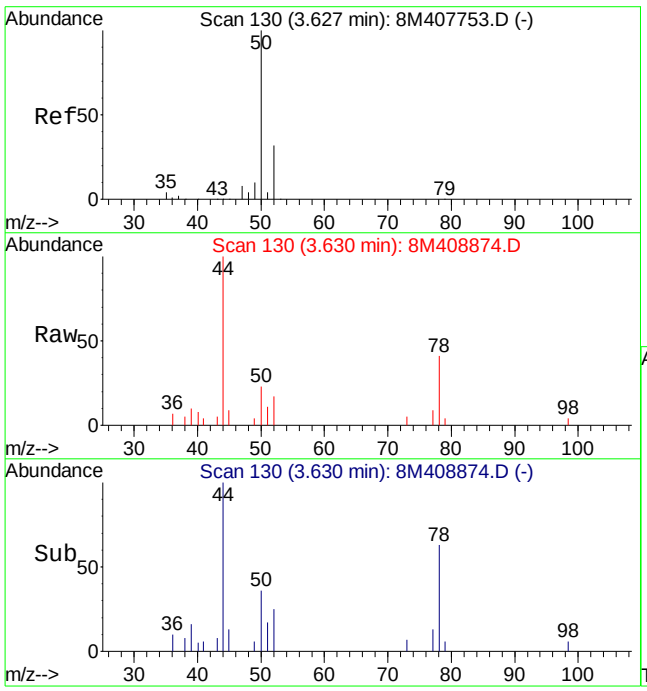
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408874.D Vial: 18
Acq On : 21 Nov 2015 20:47 Operator: TMB
Sample : L15111211-11 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



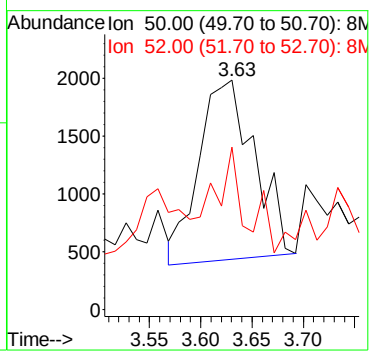
8M408874.D 8260WT.M Mon Nov 23 08:54:02 2015 Page 2

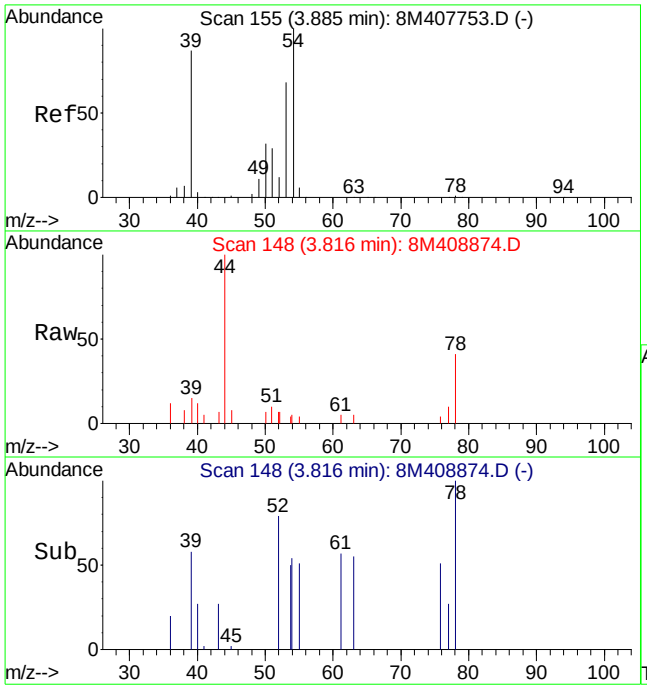


#3
Chloromethane
Concen: 0.21 ug/L
RT: 3.63 min Scan# 130
Delta R.T. 0.01 min
Lab File: 8M408874.D
Acq: 21 Nov 2015 20:47

Tgt Ion: 50 Resp: 5867

Ion	Ratio	Lower	Upper
50	100		
52	16.8	19.2	44.8#

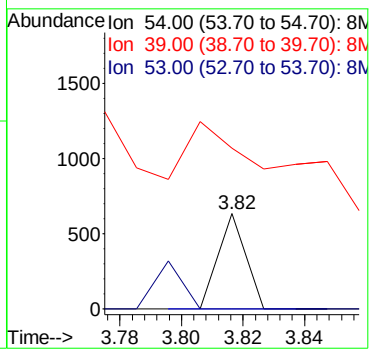


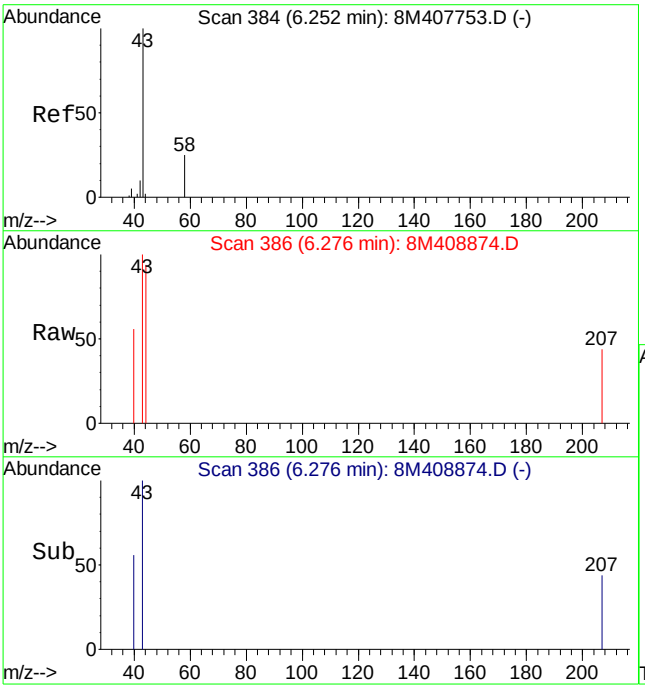


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.82 min Scan# 148
Delta R.T. -0.07 min
Lab File: 8M408874.D
Acq: 21 Nov 2015 20:47

Tgt Ion: 54 Resp: 392

Ion	Ratio	Lower	Upper
54	100		
39	304.3	60.8	142.0#
53	0.0	42.4	99.0#

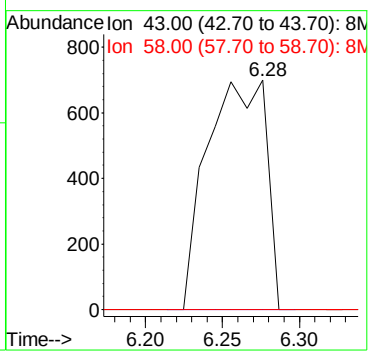




#13
Acetone
Concen: 1.04 ug/L
RT: 6.28 min Scan# 386
Delta R.T. 0.03 min
Lab File: 8M408874.D
Acq: 21 Nov 2015 20:47

Tgt Ion: 43 Resp: 1859

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408875.D Vial: 19
Acq On : 21 Nov 2015 21:16 Operator: TMB
Sample : L15111211-12 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:02 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

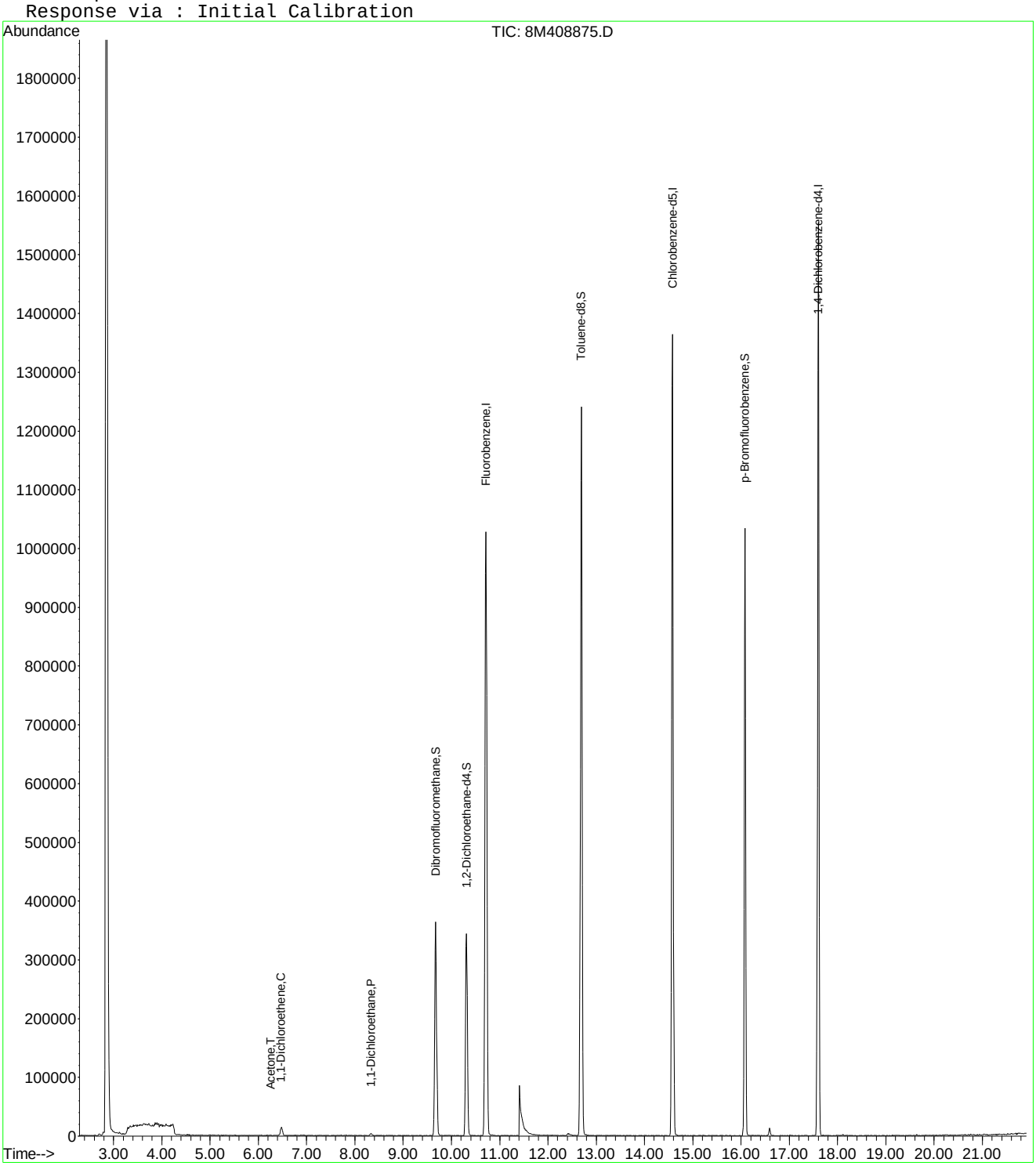
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1185737	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	894432	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	467996	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	300299	26.6101 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.44%		
43) 1,2-Dichloroethane-d4	10.31	65	294030	25.5544 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.20%		
58) Toluene-d8	12.69	98	1052413	25.3595 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.44%		
80) p-Bromofluorobenzene	16.08	95	414603	25.3904 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.56%		
Target Compounds					Qvalue
13) Acetone	6.26	43	876	0.4977 ug/L #	48
14) 1,1-Dichloroethene	6.47	61	16466	0.8566 ug/L	98
27) 1,1-Dichloroethane	8.33	63	7012	0.3025 ug/L #	89

(#) = qualifier out of range (m) = manual integration
8M408875.D 8260WT.M Mon Nov 23 08:54:03 2015 Page 1

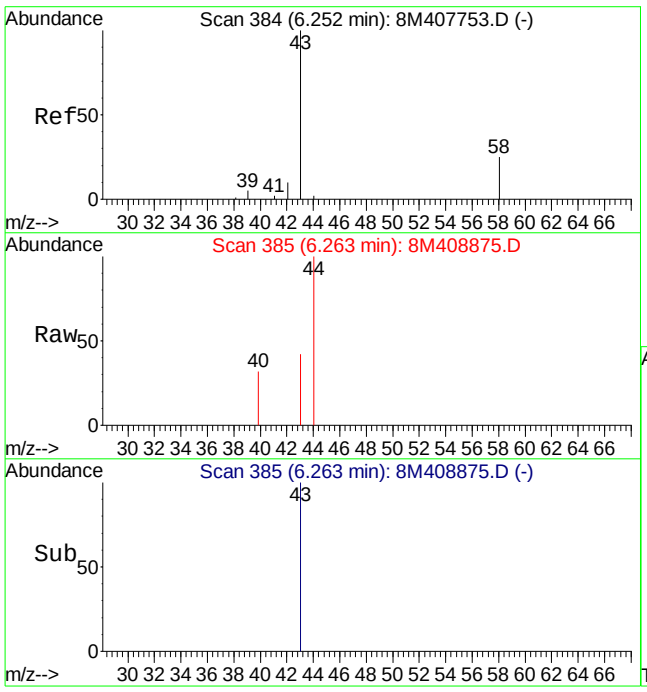
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408875.D Vial: 19
Acq On : 21 Nov 2015 21:16 Operator: TMB
Sample : L15111211-12 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



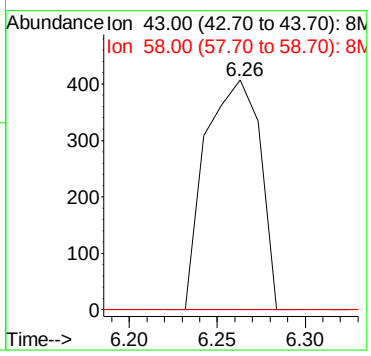
8M408875.D 8260WT.M Mon Nov 23 08:54:03 2015 Page 2

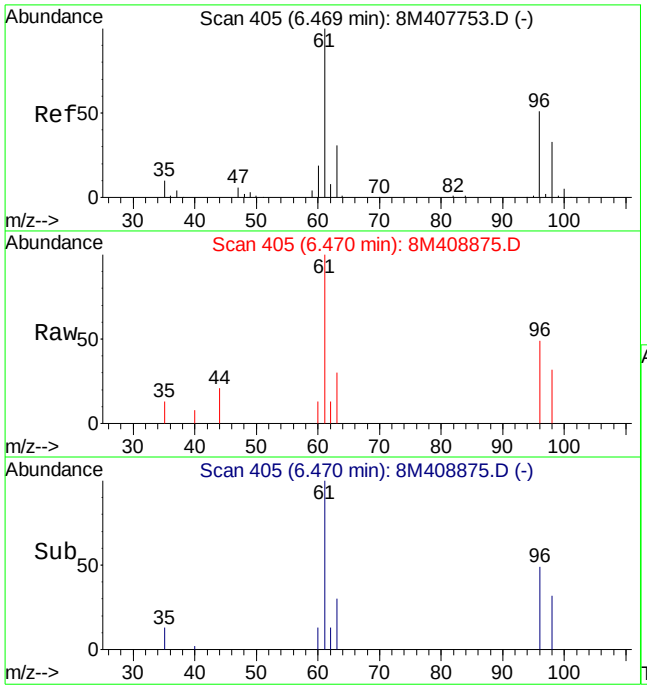


#13
Acetone
Concen: 0.50 ug/L
RT: 6.26 min Scan# 385
Delta R.T. 0.02 min
Lab File: 8M408875.D
Acq: 21 Nov 2015 21:16

Tgt Ion: 43 Resp: 876

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

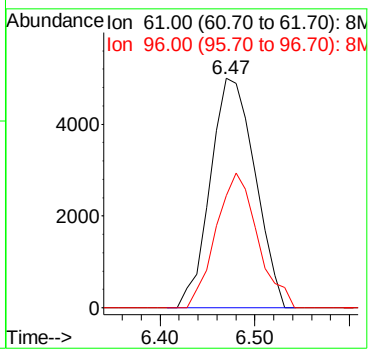


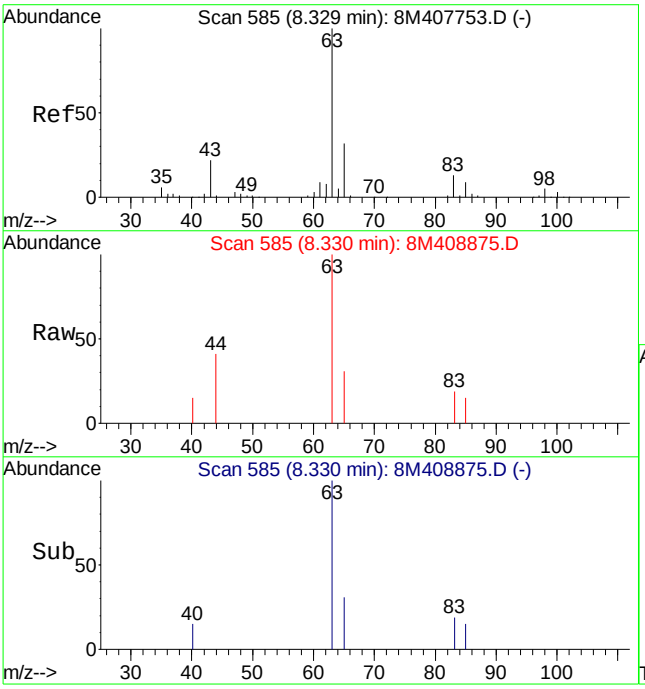


#14
1,1-Dichloroethene
Concen: 0.86 ug/L
RT: 6.47 min Scan# 405
Delta R.T. -0.00 min
Lab File: 8M408875.D
Acq: 21 Nov 2015 21:16

Tgt Ion: 61 Resp: 16466

Ion	Ratio	Lower	Upper
61	100		
96	54.9	32.3	75.3

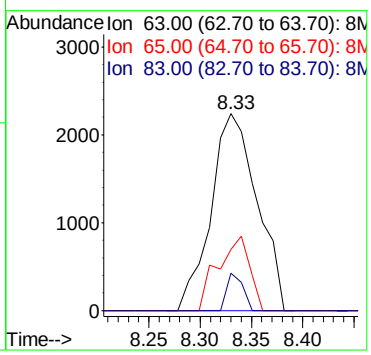




#27
1,1-Dichloroethane
Concen: 0.30 ug/L
RT: 8.33 min Scan# 585
Delta R.T. -0.00 min
Lab File: 8M408875.D
Acq: 21 Nov 2015 21:16

Tgt Ion: 63 Resp: 7012

Ion	Ratio	Lower	Upper
63	100		
65	25.9	18.4	43.0
83	6.6	7.7	18.1#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408876.D Vial: 20
Acq On : 21 Nov 2015 21:45 Operator: TMB
Sample : L15111211-13 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:03 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

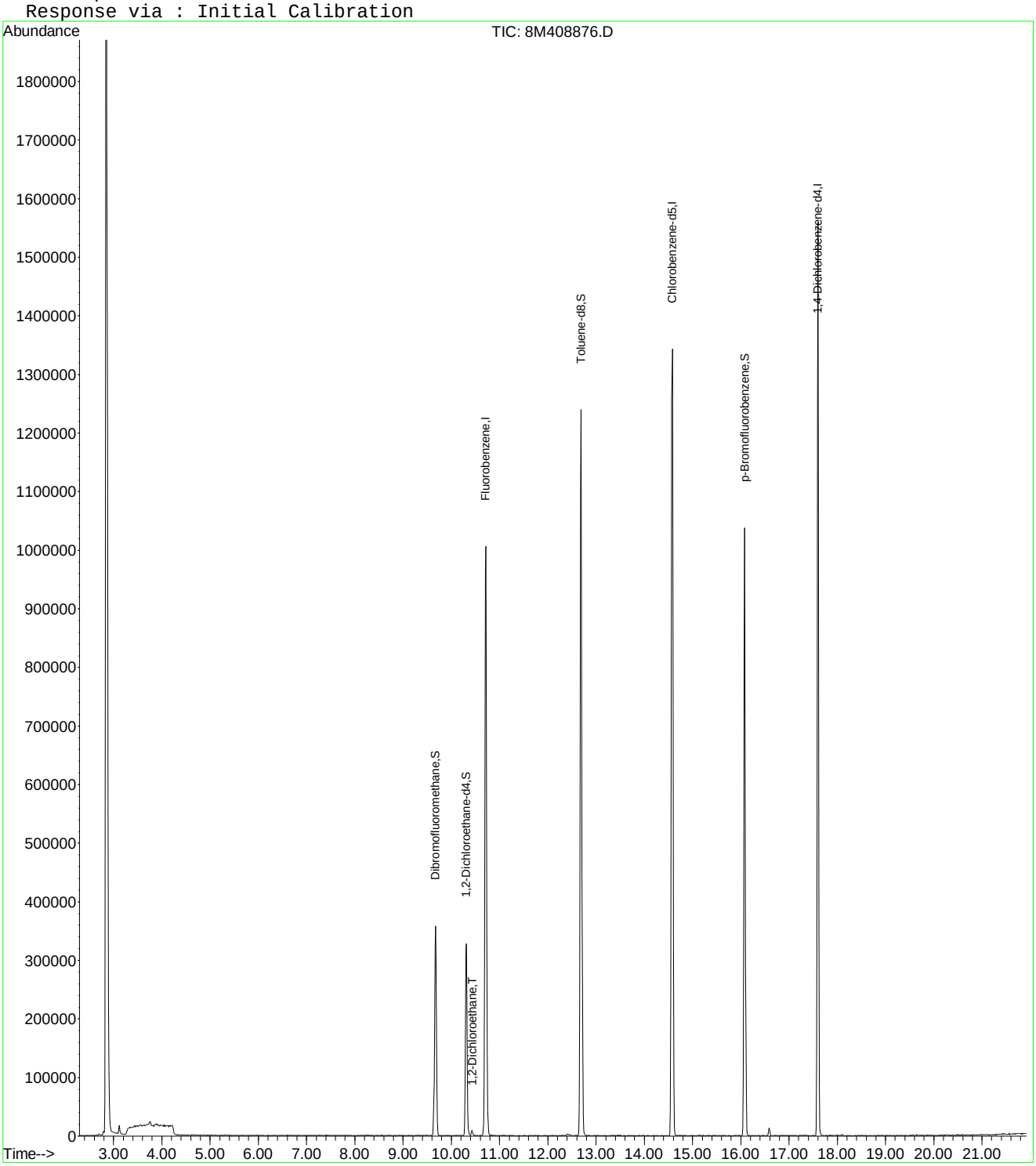
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	1170960	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	889283	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	470029	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	296077	26.5671	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.28%			
43) 1,2-Dichloroethane-d4	10.31	65	293775	25.8544	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.40%			
58) Toluene-d8	12.69	98	1052898	25.5181	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.08%			
80) p-Bromofluorobenzene	16.08	95	412167	25.1321	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.52%			
Target Compounds						Qvalue
45) 1,2-Dichloroethane	10.44	62	8971	0.6007	ug/L	90

(#) = qualifier out of range (m) = manual integration
8M408876.D 8260WT.M Mon Nov 23 08:54:04 2015 Page 1

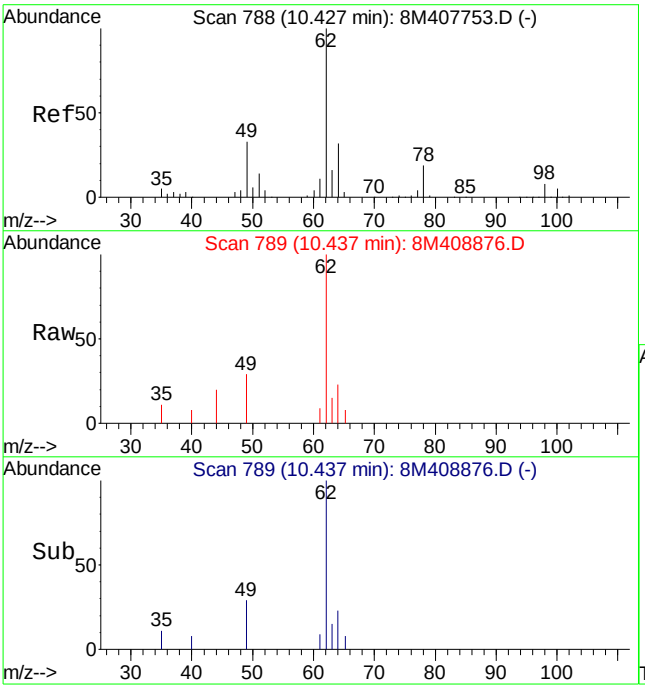
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408876.D Vial: 20
Acq On : 21 Nov 2015 21:45 Operator: TMB
Sample : L15111211-13 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



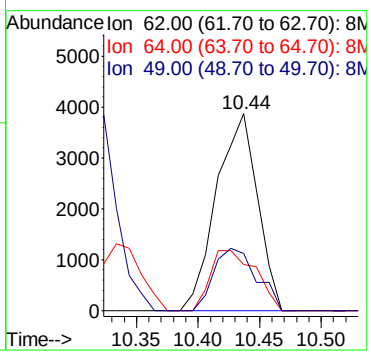
8M408876.D 8260WT.M Mon Nov 23 08:54:04 2015 Page 2



#45
1,2-Dichloroethane
Concen: 0.60 ug/L
RT: 10.44 min Scan# 789
Delta R.T. 0.00 min
Lab File: 8M408876.D
Acq: 21 Nov 2015 21:45

Tgt Ion: 62 Resp: 8971

Ion	Ratio	Lower	Upper
62	100		
64	33.8	18.8	44.0
49	33.0	25.3	58.9



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408880.D Vial: 24
Acq On : 21 Nov 2015 23:40 Operator: TMB
Sample : L15111211-14 A 2.5X 826-LOW Inst : HPMS8
Misc : 1,2.5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:12 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

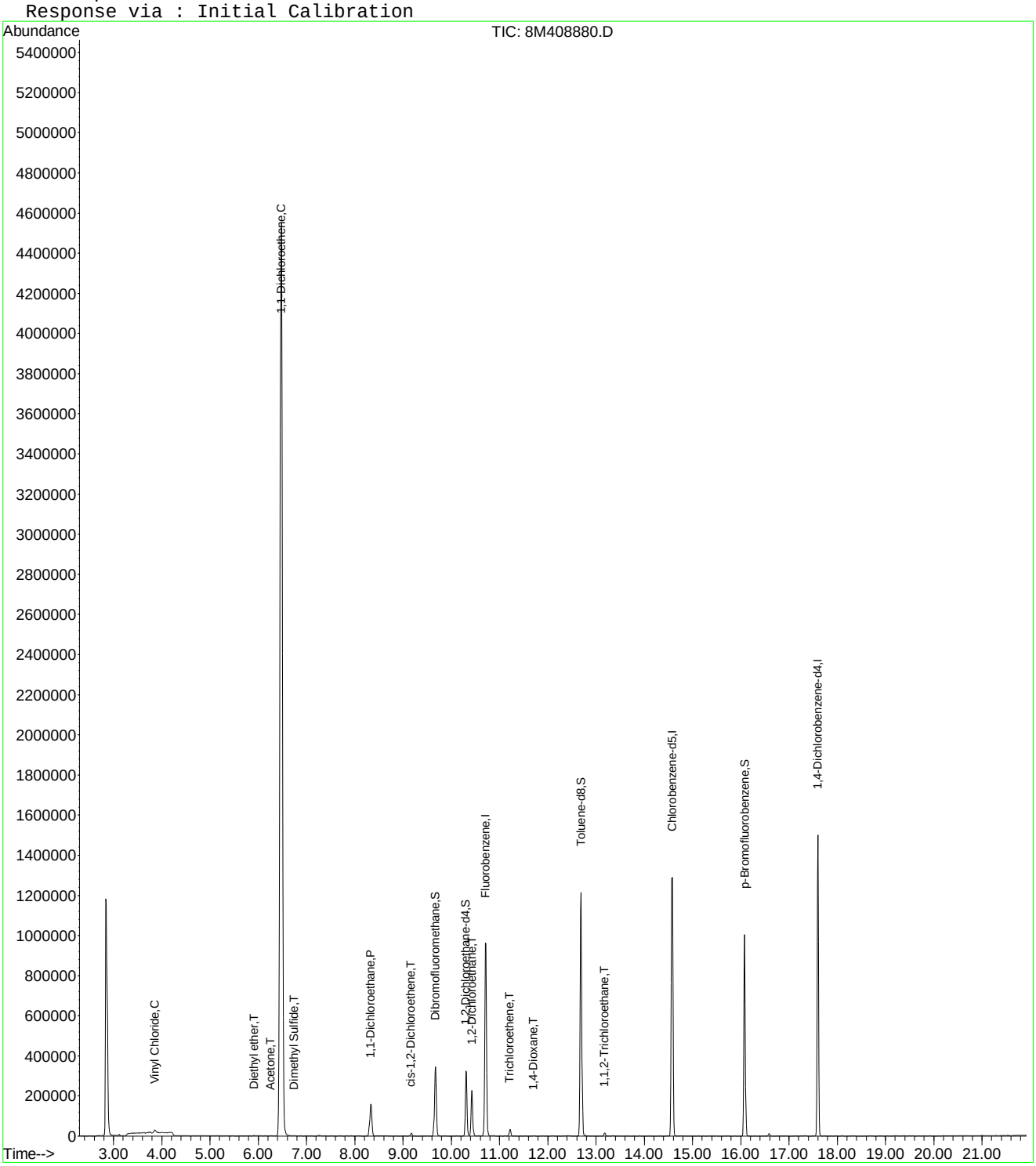
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1138219	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	879537	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	457302	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	286186	26.4183 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 105.68%		
43) 1,2-Dichloroethane-d4	10.30	65	282733	25.5984 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.40%		
58) Toluene-d8	12.69	98	1024741	25.1108 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.44%		
80) p-Bromofluorobenzene	16.08	95	401541	25.1656 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.68%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.85	62	19878	0.9527 ug/L	98
5) 1,3-Butadiene	3.98	54	242	Below Cal #	1
9) Diethyl ether	5.91	59	1871	0.2410 ug/L #	51
13) Acetone	6.25	43	1618	0.9577 ug/L #	48
14) 1,1-Dichloroethene	6.48	61	5123927	277.6709 ug/L	100
16) Dimethyl Sulfide	6.74	62	1543	0.1457 ug/L	76
27) 1,1-Dichloroethane	8.33	63	232941	10.4677 ug/L	97
32) cis-1,2-Dichloroethene	9.17	96	7983	0.6385 ug/L	89
45) 1,2-Dichloroethane	10.43	62	224094	15.4379 ug/L	93
47) Trichloroethene	11.21	130	13733	1.1380 ug/L	99
51) 1,4-Dioxane	11.70	88	1089	19.5870 ug/L #	52
63) 1,1,2-Trichloroethane	13.18	97	6776	0.8542 ug/L	98

(#) = qualifier out of range (m) = manual integration
8M408880.D 8260WT.M Mon Nov 23 08:54:12 2015 Page 1

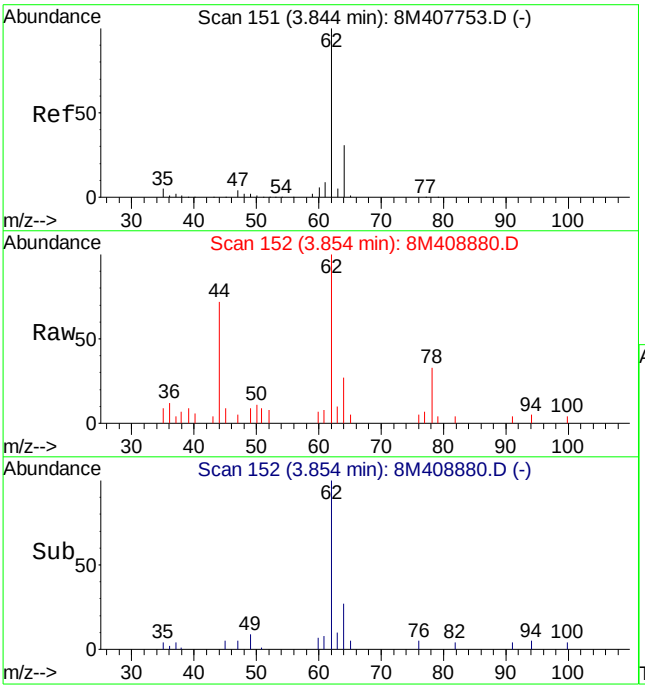
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408880.D Vial: 24
Acq On : 21 Nov 2015 23:40 Operator: TMB
Sample : L15111211-14 A 2.5X 826-LOW Inst : HPMS8
Misc : 1,2.5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



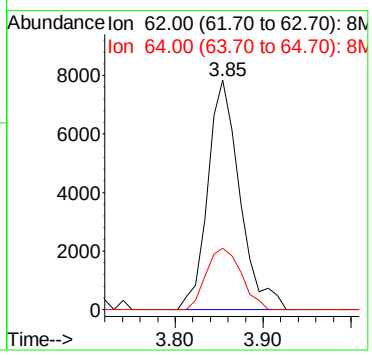
8M408880.D 8260WT.M Mon Nov 23 08:54:12 2015 Page 2

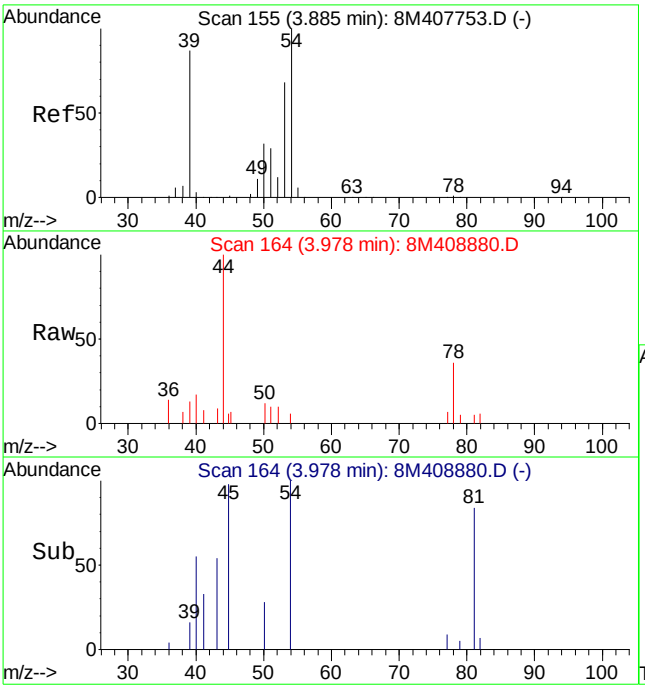


#4
Vinyl Chloride
Concen: 0.95 ug/L
RT: 3.85 min Scan# 152
Delta R.T. 0.01 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 62 Resp: 19878

Ion	Ratio	Lower	Upper
62	100		
64	29.1	18.2	42.6

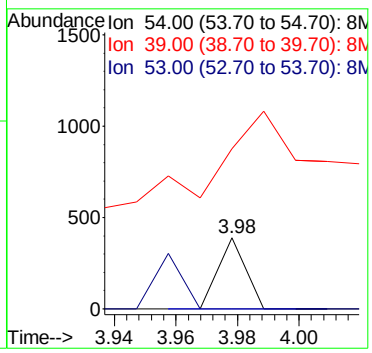


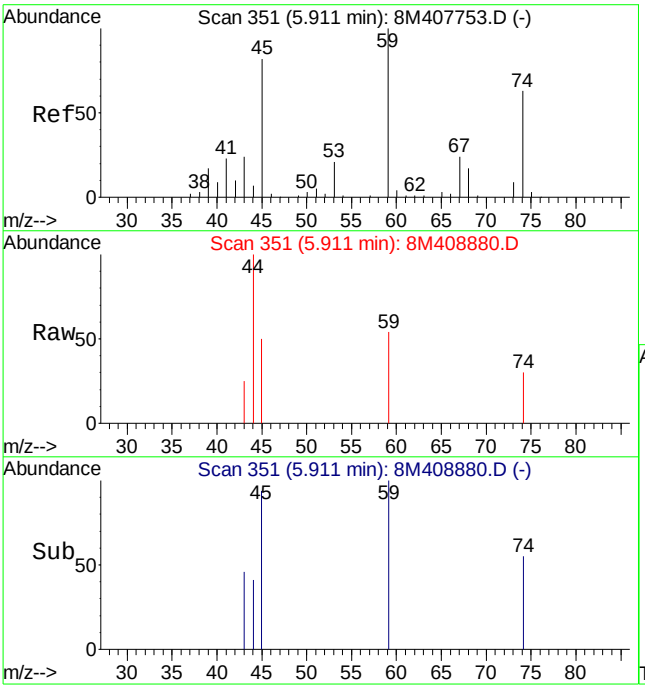


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.98 min Scan# 164
Delta R.T. 0.09 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 54 Resp: 242

Ion	Ratio	Lower	Upper
54	100		
39	479.8	60.8	142.0#
53	0.0	42.4	99.0#

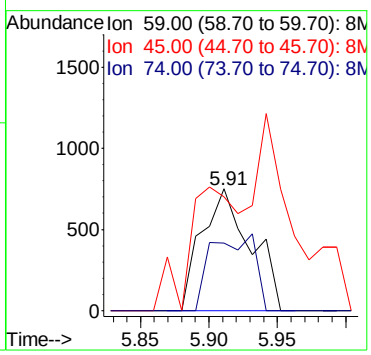


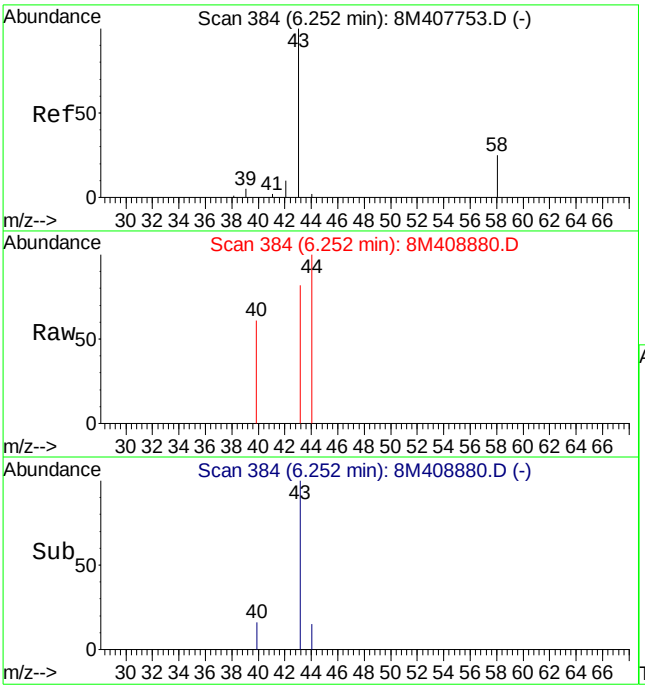


#9
Diethyl ether
Concen: 0.24 ug/L
RT: 5.91 min Scan# 351
Delta R.T. -0.00 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 59 Resp: 1871

Ion	Ratio	Lower	Upper
59	100		
45	102.2	49.3	115.1
74	0.0	38.6	90.2#

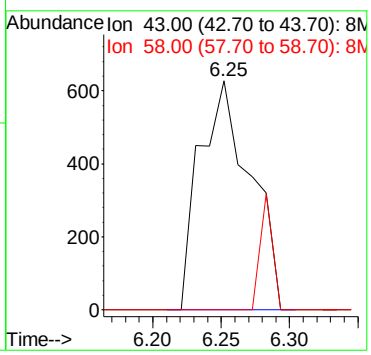


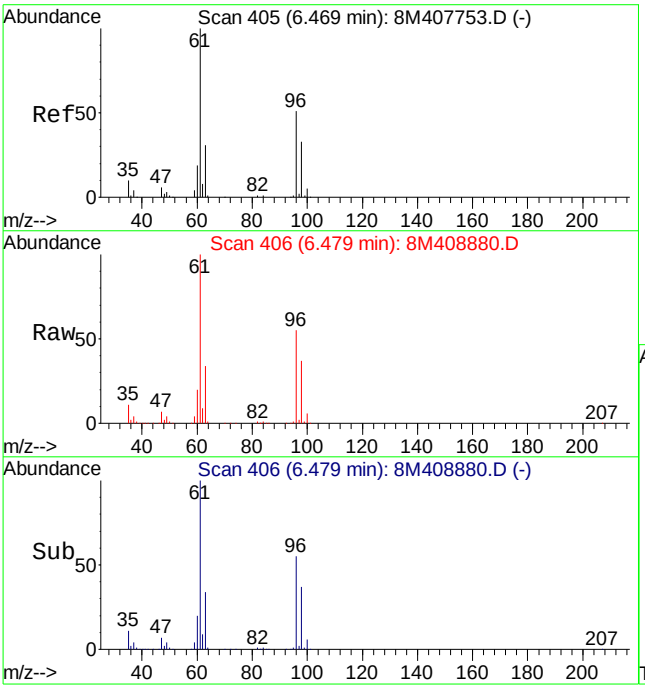


#13
Acetone
Concen: 0.96 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 43 Resp: 1618

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

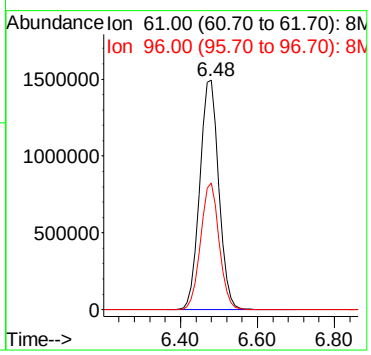


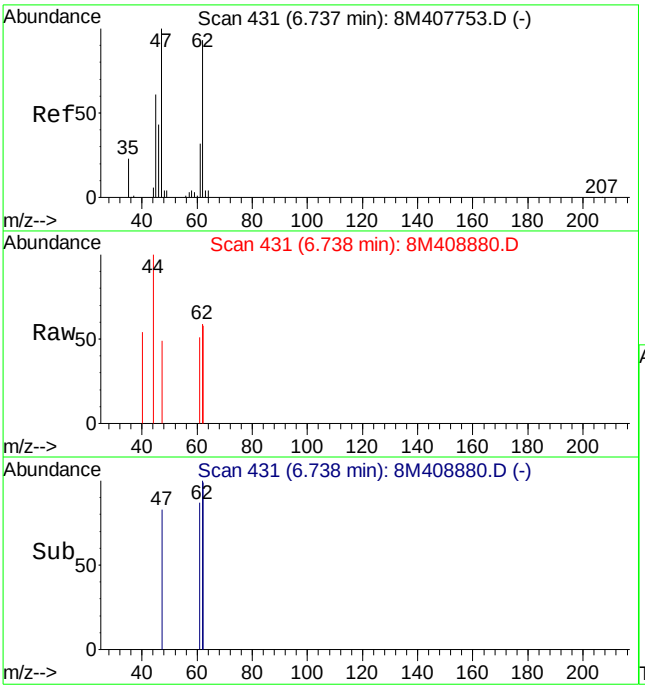


#14
1,1-Dichloroethene
Concen: 277.67 ug/L
RT: 6.48 min Scan# 406
Delta R.T. 0.01 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 61 Resp: 5123927

Ion	Ratio	Lower	Upper
61	100		
96	53.8	32.3	75.3

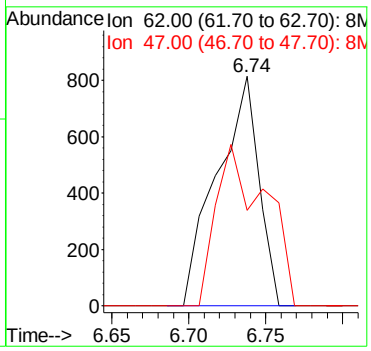


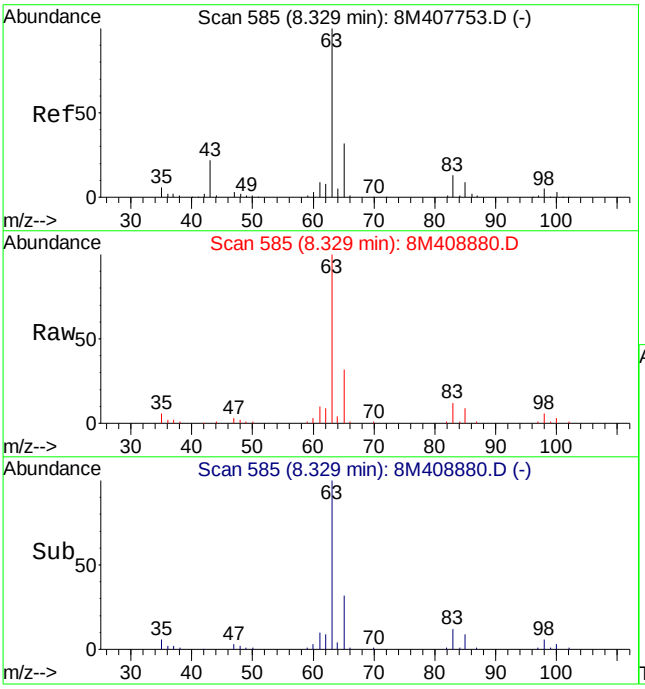


#16
Dimethyl Sulfide
Concen: 0.15 ug/L
RT: 6.74 min Scan# 431
Delta R.T. -0.00 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 62 Resp: 1543

Ion	Ratio	Lower	Upper
62	100		
47	82.4	64.3	149.9

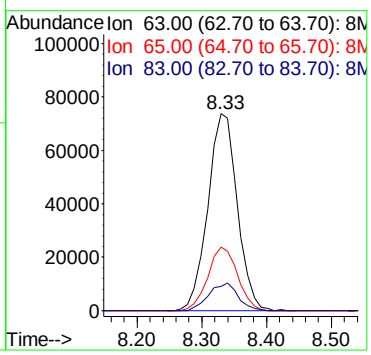


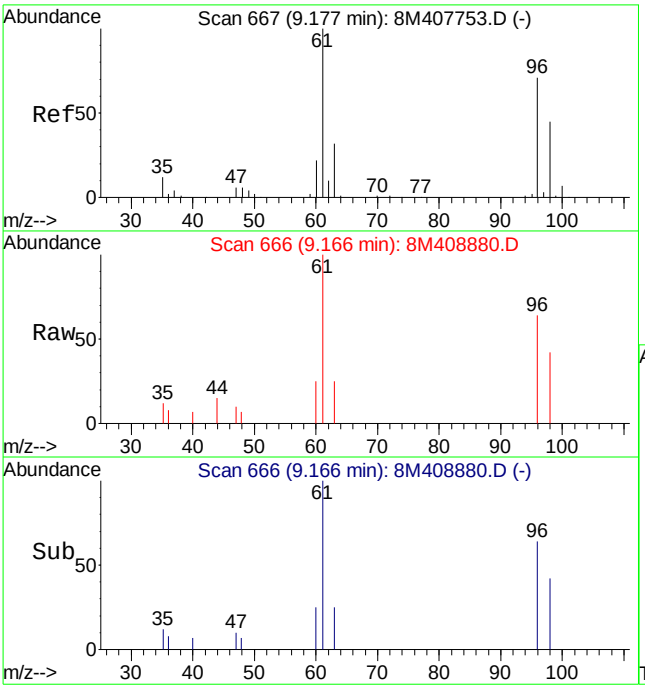


#27
1,1-Dichloroethane
Concen: 10.47 ug/L
RT: 8.33 min Scan# 585
Delta R.T. -0.00 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 63 Resp: 232941

Ion	Ratio	Lower	Upper
63	100		
65	32.6	18.4	43.0
83	13.8	7.7	18.1

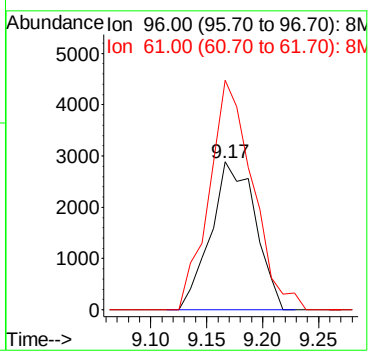


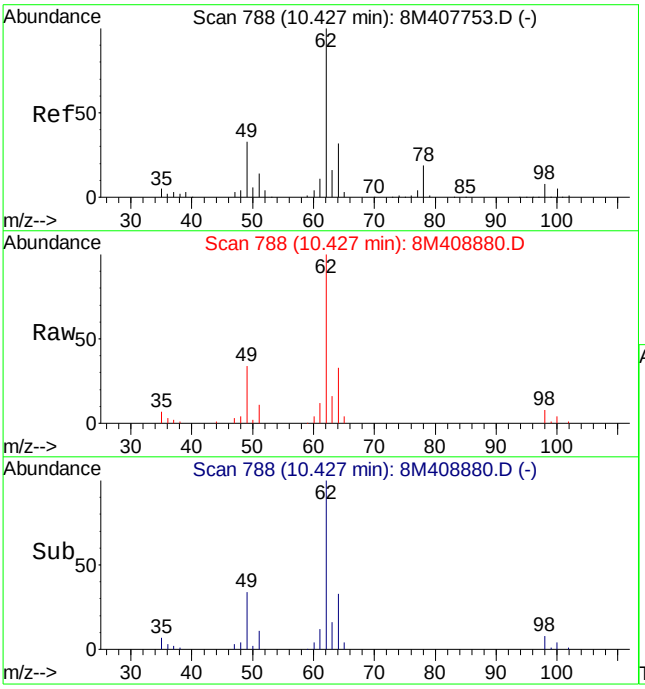


#32
cis-1,2-Dichloroethene
Concen: 0.64 ug/L
RT: 9.17 min Scan# 666
Delta R.T. -0.00 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 96 Resp: 7983

Ion	Ratio	Lower	Upper
96	100		
61	151.7	99.8	233.0

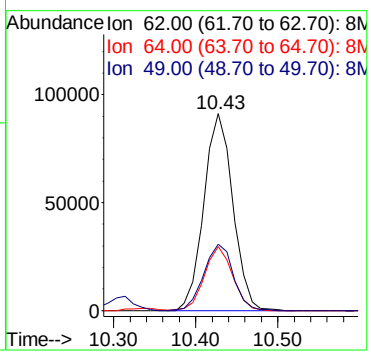


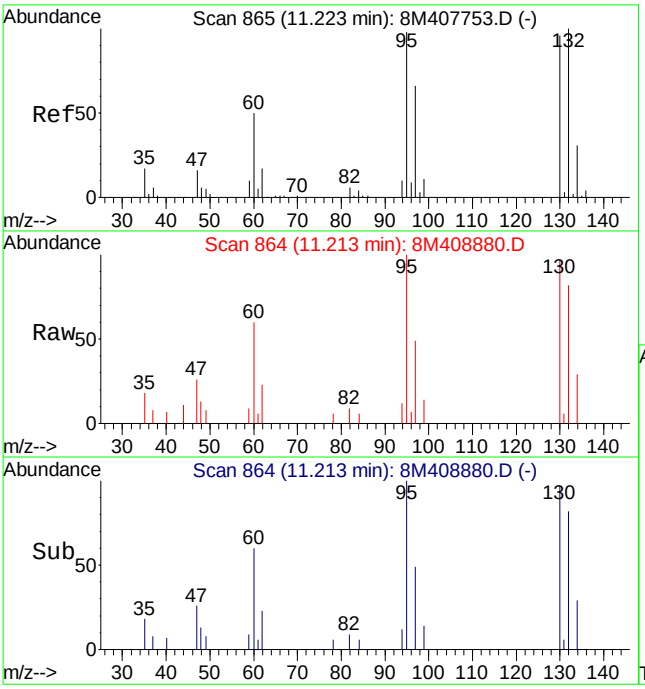


#45
1,2-Dichloroethane
Concen: 15.44 ug/L
RT: 10.43 min Scan# 788
Delta R.T. -0.00 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 62 Resp: 224094

Ion	Ratio	Lower	Upper
62	100		
64	31.6	18.8	44.0
49	34.2	25.3	58.9

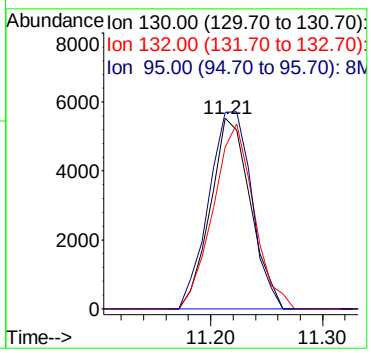


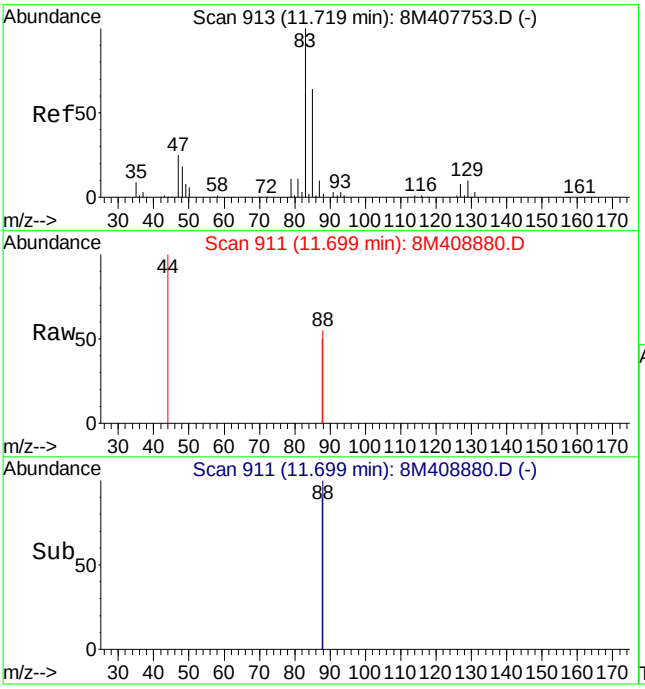


#47
Trichloroethene
Concen: 1.14 ug/L
RT: 11.21 min Scan# 864
Delta R.T. -0.01 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion:130 Resp: 13733

Ion	Ratio	Lower	Upper
130	100		
132	98.5	59.0	137.6
95	110.6	65.0	151.8

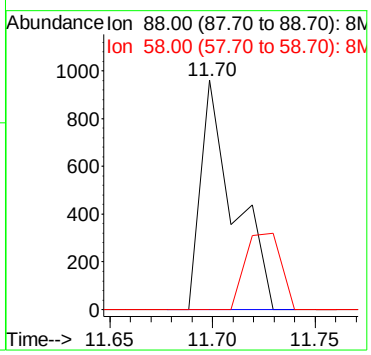


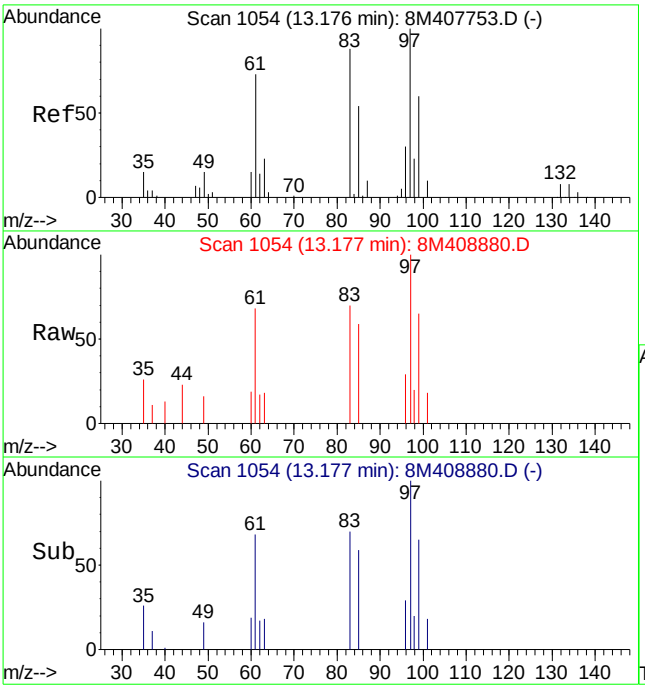


#51
1,4-Dioxane
Concen: 19.59 ug/L
RT: 11.70 min Scan# 911
Delta R.T. -0.02 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 88 Resp: 1089

Ion	Ratio	Lower	Upper
88	100		
58	36.0	46.9	109.3#

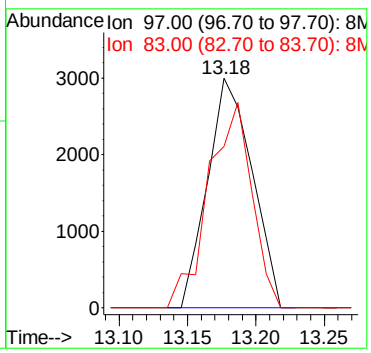




#63
1,1,2-Trichloroethane
Concen: 0.85 ug/L
RT: 13.18 min Scan# 1054
Delta R.T. -0.01 min
Lab File: 8M408880.D
Acq: 21 Nov 2015 23:40

Tgt Ion: 97 Resp: 6776

Ion	Ratio	Lower	Upper
97	100		
83	87.0	51.1	119.1



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408877.D Vial: 21
Acq On : 21 Nov 2015 22:14 Operator: TMB
Sample : L15111211-15 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:05 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

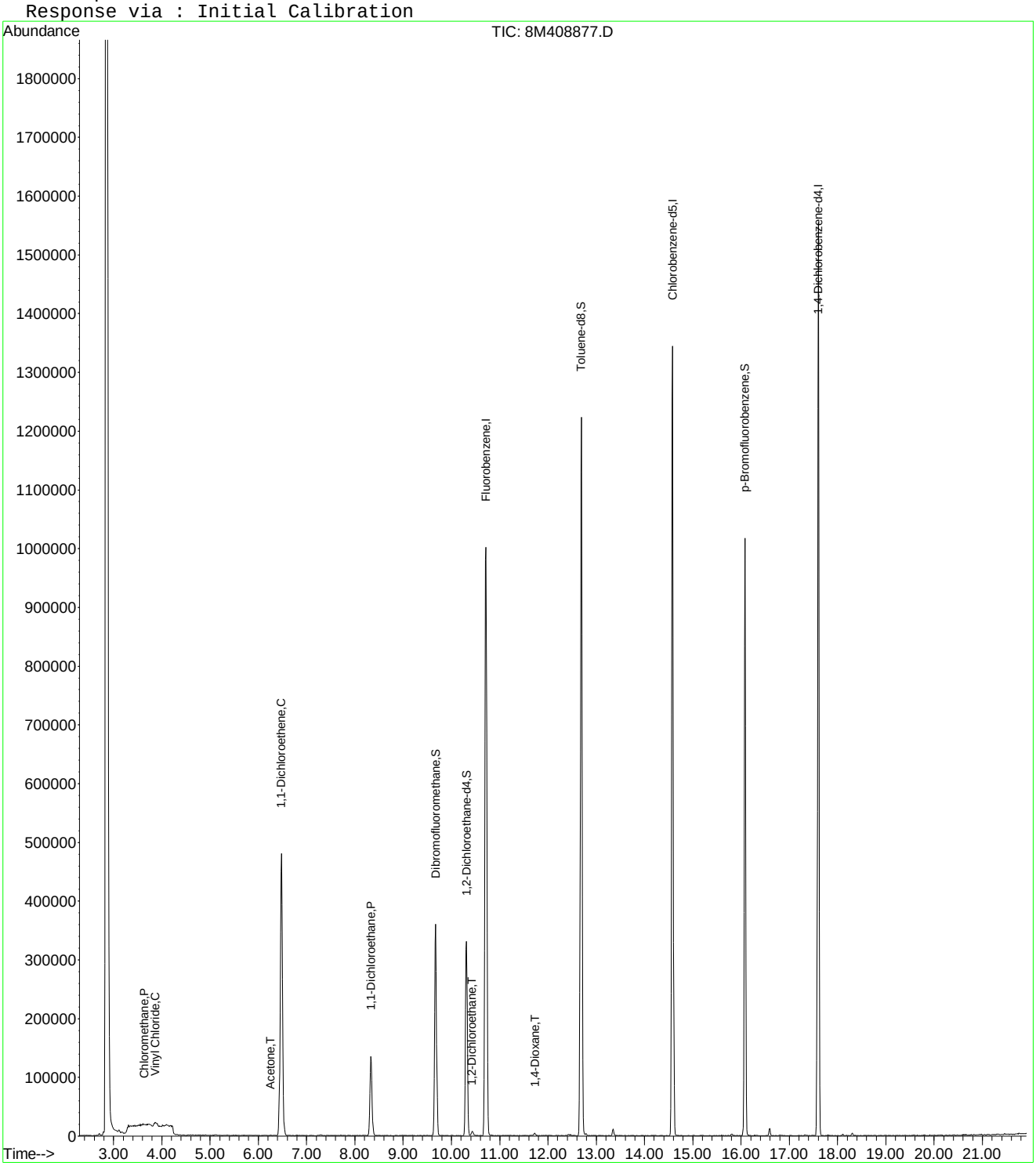
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1174647	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	890437	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	465980	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	294808	26.3702 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 105.48%		
43) 1,2-Dichloroethane-d4	10.31	65	293226	25.7251 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.92%		
58) Toluene-d8	12.69	98	1047557	25.3557 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.44%		
80) p-Bromofluorobenzene	16.08	95	406057	24.9747 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.88%		
Target Compounds					Qvalue
3) Chloromethane	3.64	50	3590	0.1317 ug/L	100
4) Vinyl Chloride	3.87	62	7178	0.3333 ug/L	89
5) 1,3-Butadiene	3.91	54	223	Below Cal #	1
13) Acetone	6.25	43	855	0.4904 ug/L #	48
14) 1,1-Dichloroethene	6.48	61	543341	28.5311 ug/L	99
27) 1,1-Dichloroethane	8.33	63	196150	8.5411 ug/L	98
45) 1,2-Dichloroethane	10.43	62	7682	0.5128 ug/L	86
51) 1,4-Dioxane	11.73	88	4632	80.7284 ug/L	81

(#) = qualifier out of range (m) = manual integration
8M408877.D 8260WT.M Mon Nov 23 08:54:05 2015 Page 1

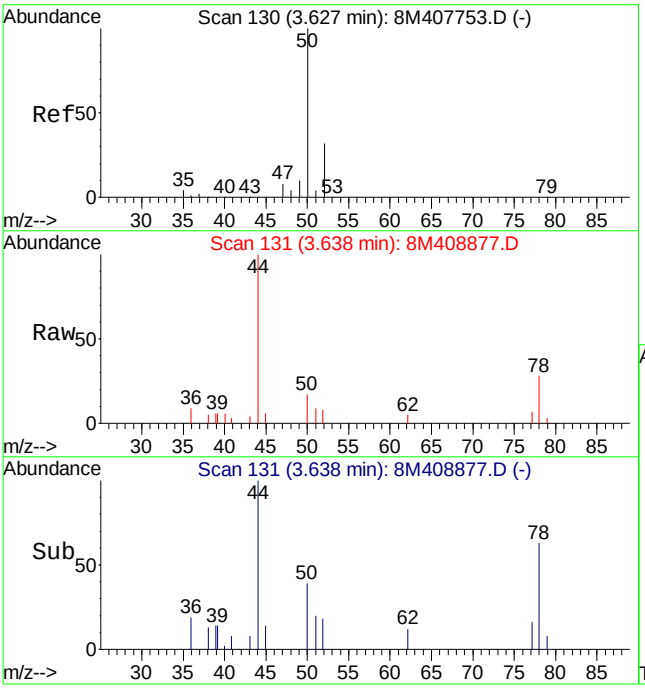
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408877.D Vial: 21
Acq On : 21 Nov 2015 22:14 Operator: TMB
Sample : L15111211-15 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



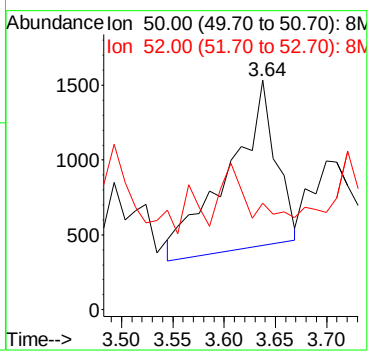
8M408877.D 8260WT.M Mon Nov 23 08:54:05 2015 Page 2

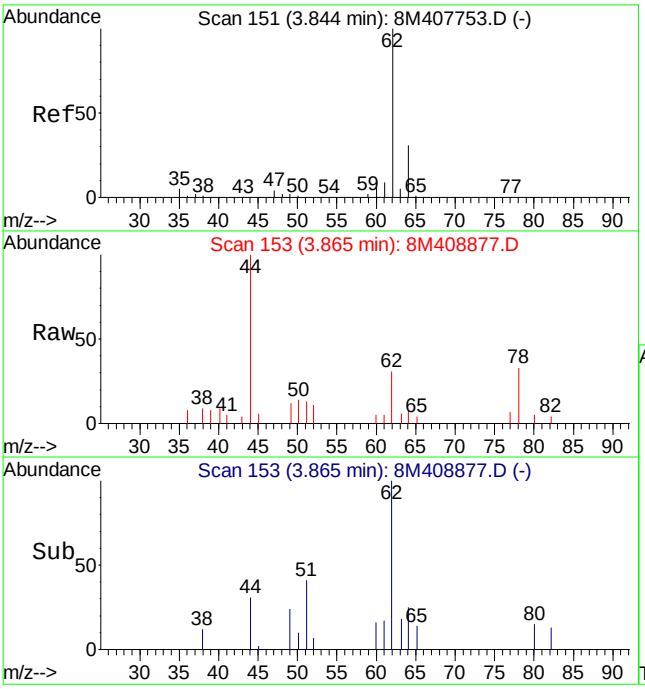


#3
Chloromethane
Concen: 0.13 ug/L
RT: 3.64 min Scan# 131
Delta R.T. 0.02 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 50 Resp: 3590

Ion	Ratio	Lower	Upper
50	100		
52	31.9	19.2	44.8

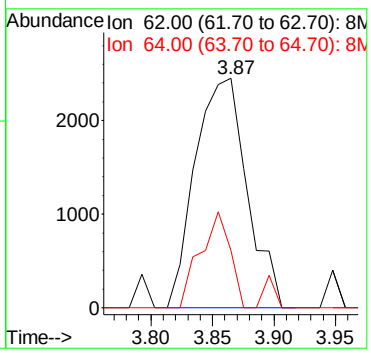


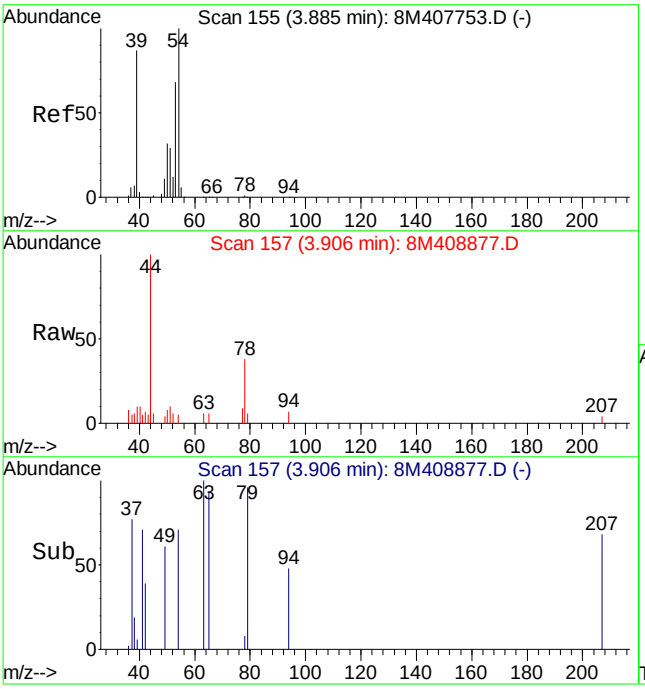


#4
Vinyl Chloride
Concen: 0.33 ug/L
RT: 3.87 min Scan# 153
Delta R.T. 0.02 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 62 Resp: 7178

Ion	Ratio	Lower	Upper
62	100		
64	24.2	18.2	42.6

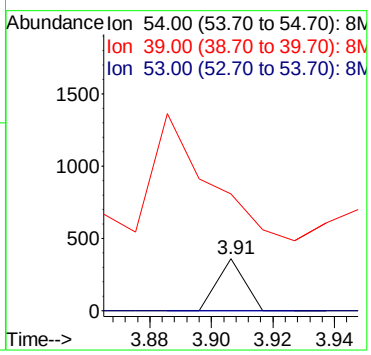


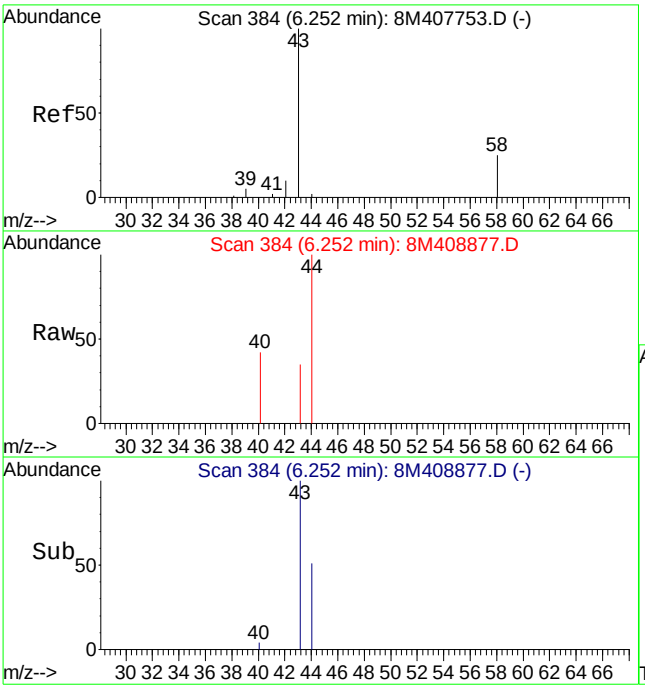


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.91 min Scan# 157
Delta R.T. 0.02 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 54 Resp: 223

Ion	Ratio	Lower	Upper
54	100		
39	492.4	60.8	142.0#
53	0.0	42.4	99.0#

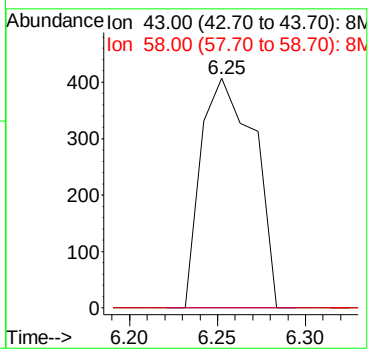


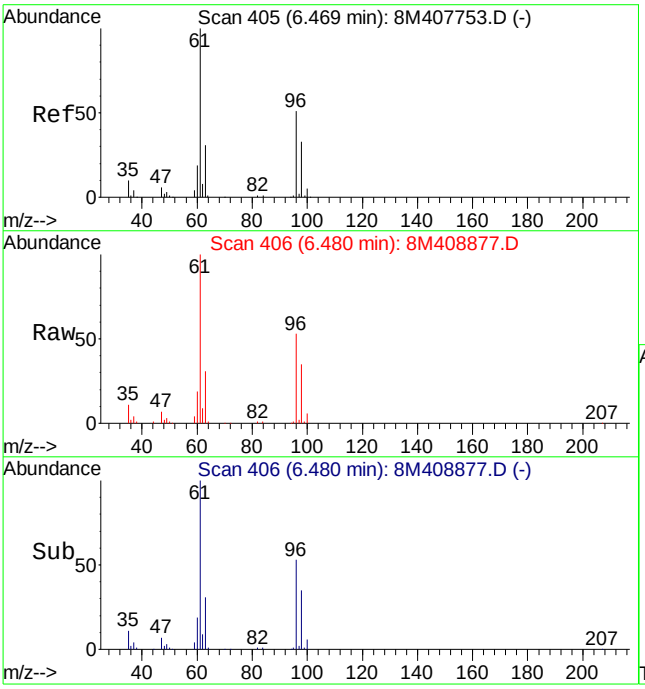


#13
Acetone
Concen: 0.49 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 43 Resp: 855

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

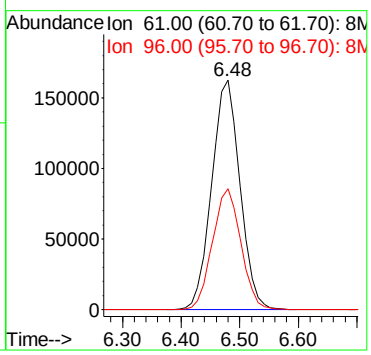


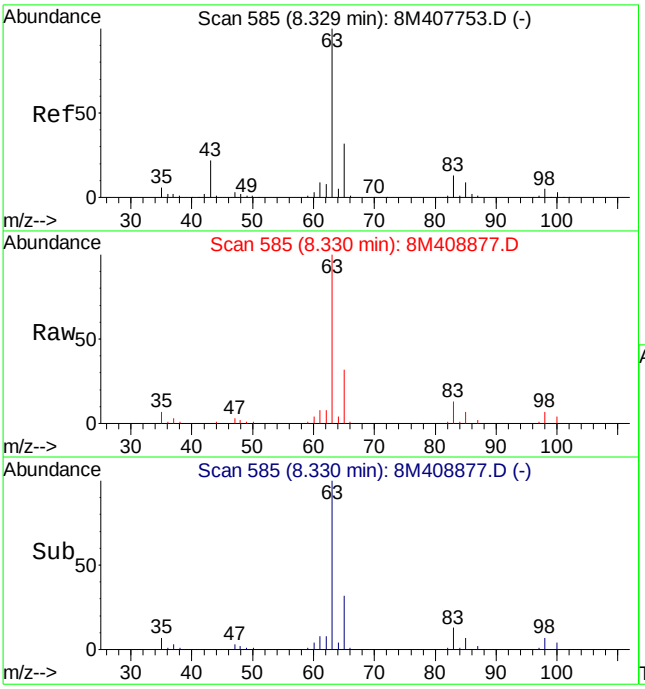


#14
1,1-Dichloroethene
Concen: 28.53 ug/L
RT: 6.48 min Scan# 406
Delta R.T. 0.01 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 61 Resp: 543341

Ion	Ratio	Lower	Upper
61	100		
96	53.0	32.3	75.3

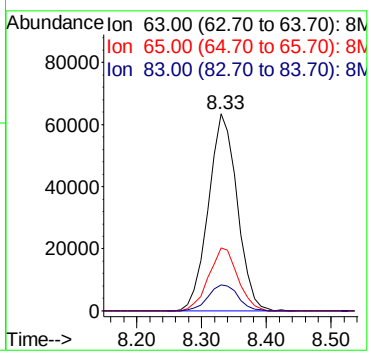


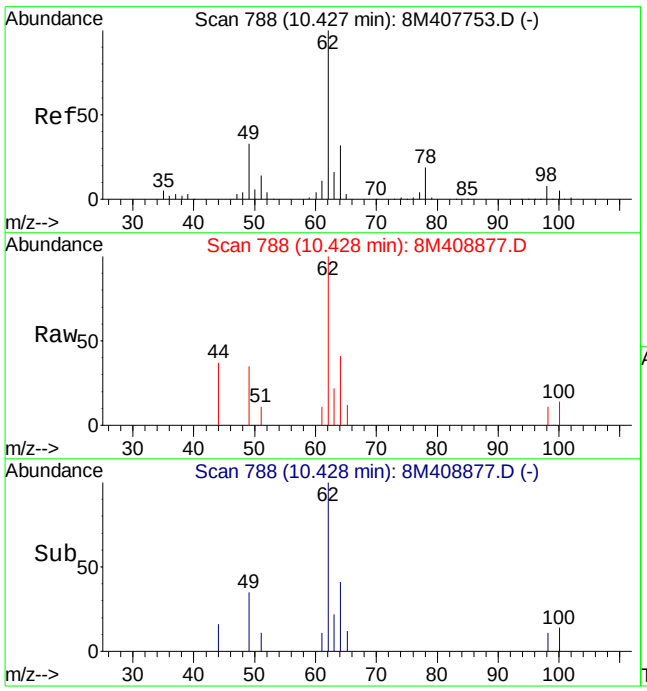


#27
1,1-Dichloroethane
Concen: 8.54 ug/L
RT: 8.33 min Scan# 585
Delta R.T. -0.00 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 63 Resp: 196150

Ion	Ratio	Lower	Upper
63	100		
65	32.2	18.4	43.0
83	13.6	7.7	18.1

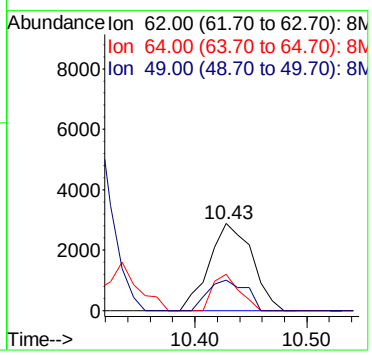


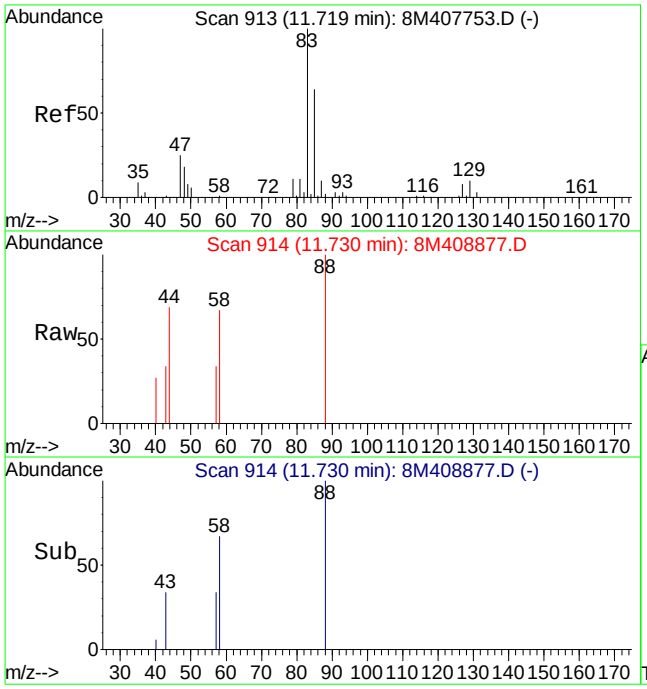


#45
1,2-Dichloroethane
Concen: 0.51 ug/L
RT: 10.43 min Scan# 788
Delta R.T. -0.00 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 62 Resp: 7682

Ion	Ratio	Lower	Upper
62	100		
64	25.9	18.8	44.0
49	31.1	25.3	58.9

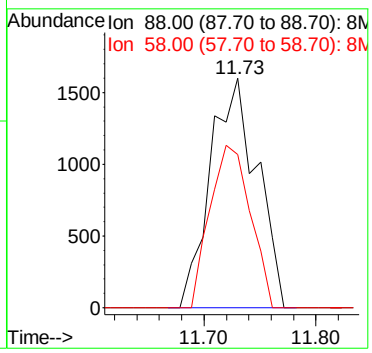




#51
1,4-Dioxane
Concen: 80.73 ug/L
RT: 11.73 min Scan# 914
Delta R.T. 0.02 min
Lab File: 8M408877.D
Acq: 21 Nov 2015 22:14

Tgt Ion: 88 Resp: 4632

Ion	Ratio	Lower	Upper
88	100		
58	61.4	46.9	109.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408881.D Vial: 25
Acq On : 22 Nov 2015 00:09 Operator: TMB
Sample : L15111211-16 A 10X 826-LOW Inst : HPMS8
Misc : 1,10 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:54:14 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

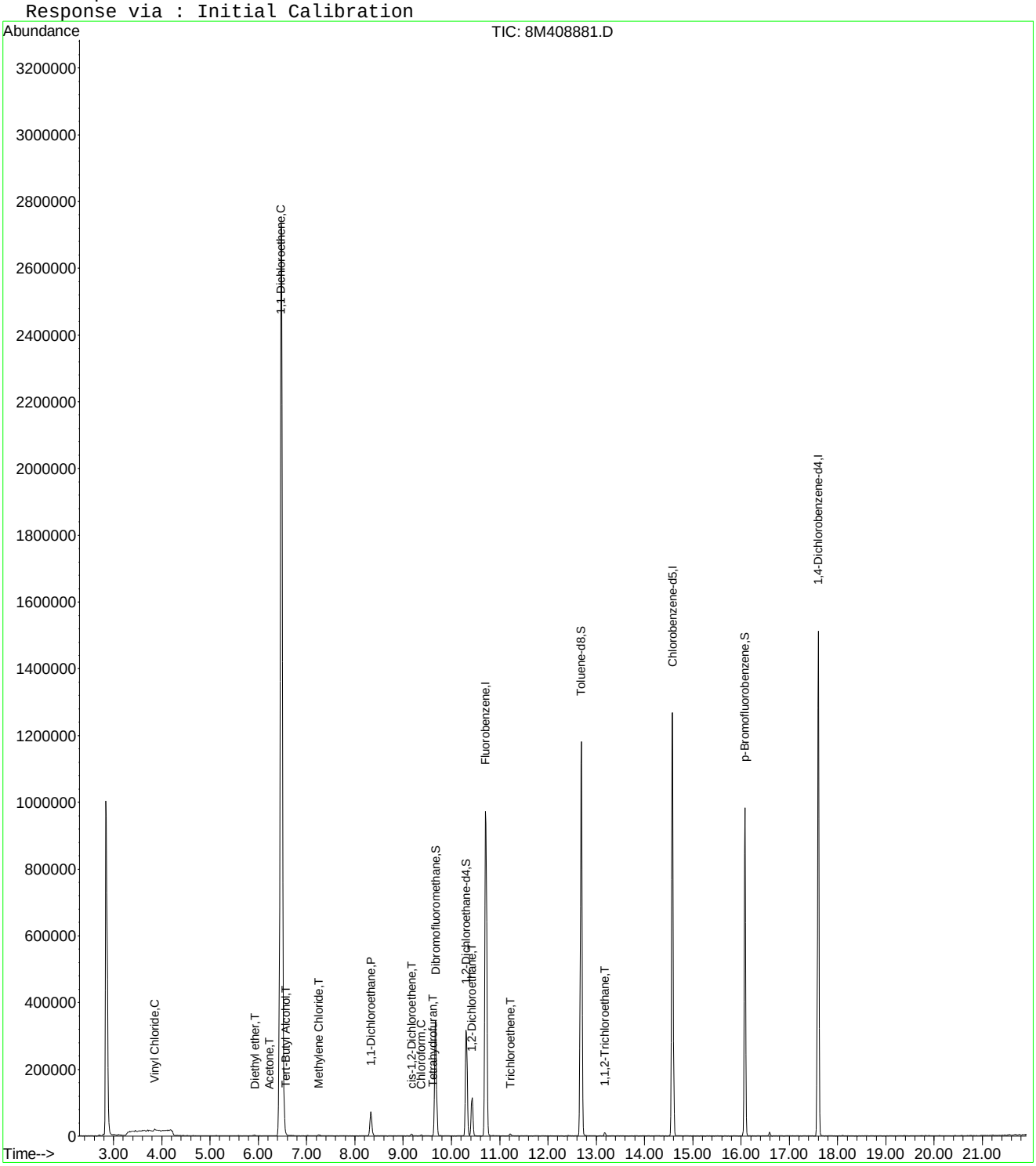
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	1140843	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	866802	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	458828	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	288176	26.5408 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.16%		
43) 1,2-Dichloroethane-d4	10.30	65	276078	24.9383 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.76%		
58) Toluene-d8	12.69	98	1017161	25.2913 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.16%		
80) p-Bromofluorobenzene	16.08	95	399540	24.9569 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.84%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.86	62	3076	0.1471 ug/L	99
9) Diethyl ether	5.93	59	1471	0.1891 ug/L #	43
13) Acetone	6.23	43	307	0.1813 ug/L #	48
14) 1,1-Dichloroethene	6.47	61	3166128	171.1811 ug/L	99
15) Tert-Butyl Alcohol	6.57	59	216	0.4317 ug/L #	58
19) Methylene Chloride	7.26	84	1896	0.1651 ug/L	94
27) 1,1-Dichloroethane	8.33	63	107238	4.8079 ug/L	99
32) cis-1,2-Dichloroethene	9.18	96	3122	0.2491 ug/L	88
33) Chloroform	9.37	83	3412	0.1610 ug/L	87
36) Tetrahydrofuran	9.62	42	645	0.3368 ug/L #	40
45) 1,2-Dichloroethane	10.43	62	112831	7.7551 ug/L	91
47) Trichloroethene	11.22	130	2773	0.2293 ug/L	94
63) 1,1,2-Trichloroethane	13.18	97	3654	0.4674 ug/L	89

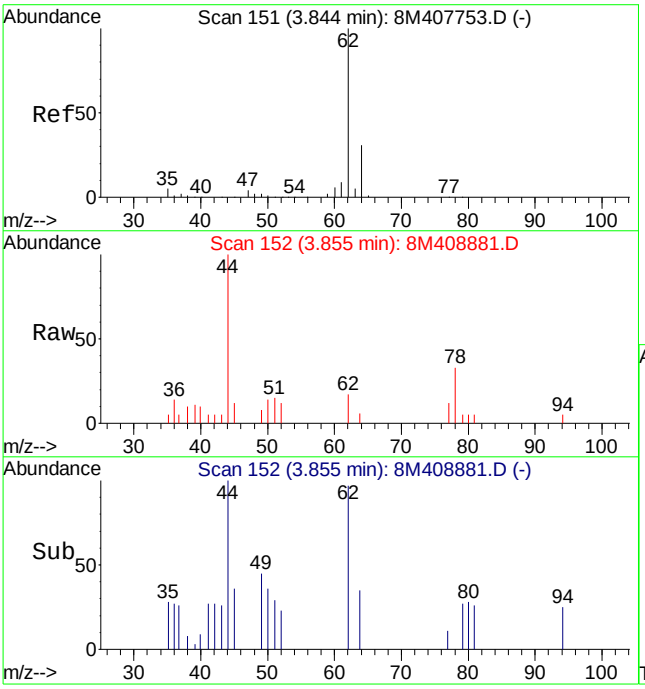
(#) = qualifier out of range (m) = manual integration
8M408881.D 8260WT.M Mon Nov 23 08:54:14 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408881.D Vial: 25
Acq On : 22 Nov 2015 00:09 Operator: TMB
Sample : L15111211-16 A 10X 826-LOW Inst : HPMS8
Misc : 1,10 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:54 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

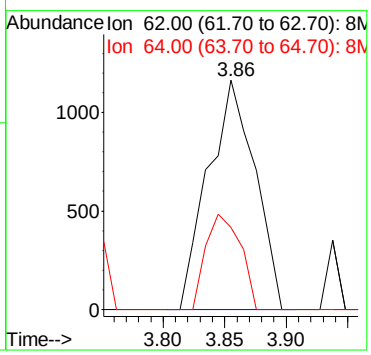


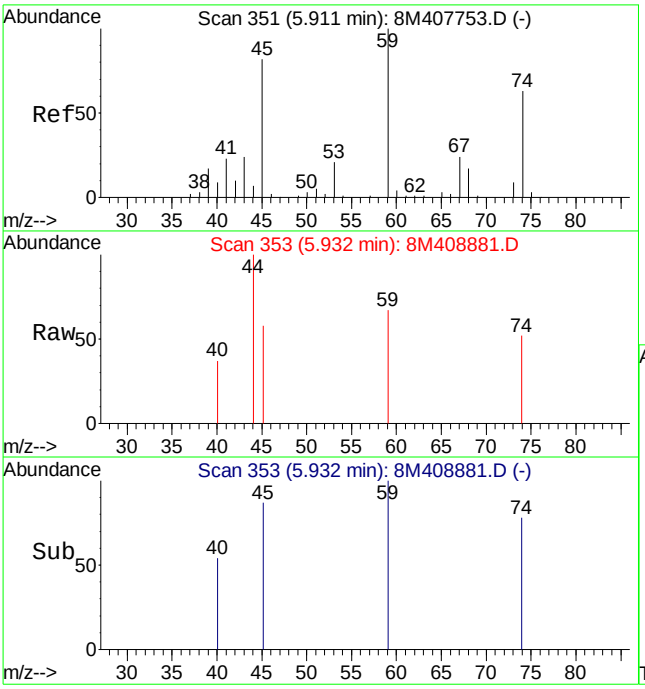


#4
Vinyl Chloride
Concen: 0.15 ug/L
RT: 3.86 min Scan# 152
Delta R.T. 0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 62 Resp: 3076

Ion	Ratio	Lower	Upper
62	100		
64	30.8	18.2	42.6

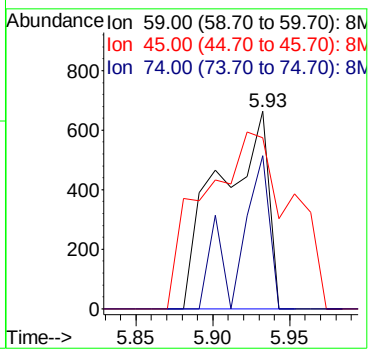


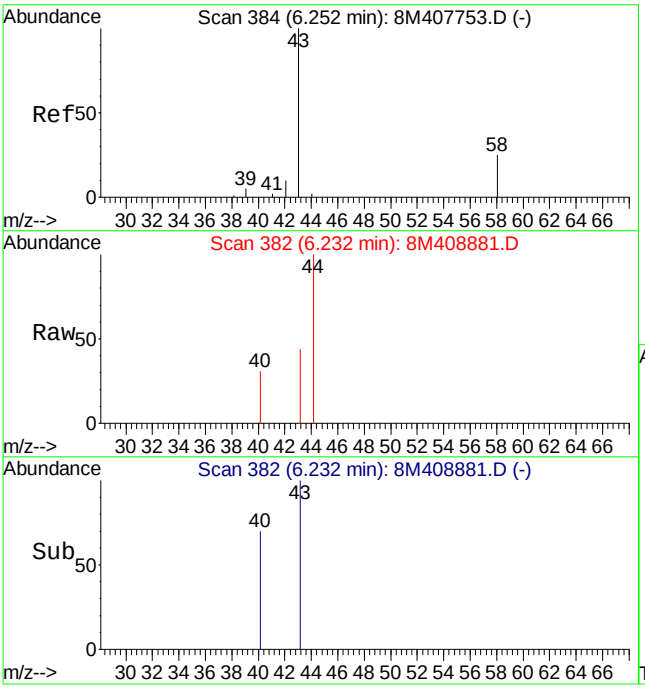


#9
Diethyl ether
Concen: 0.19 ug/L
RT: 5.93 min Scan# 353
Delta R.T. 0.02 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 59 Resp: 1471

Ion	Ratio	Lower	Upper
59	100		
45	158.7	49.3	115.1#
74	48.2	38.6	90.2

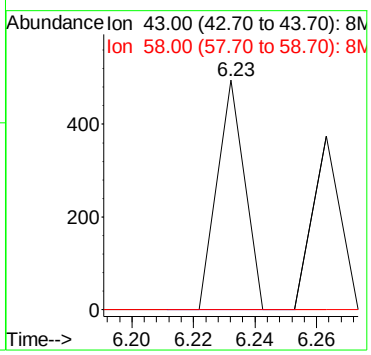


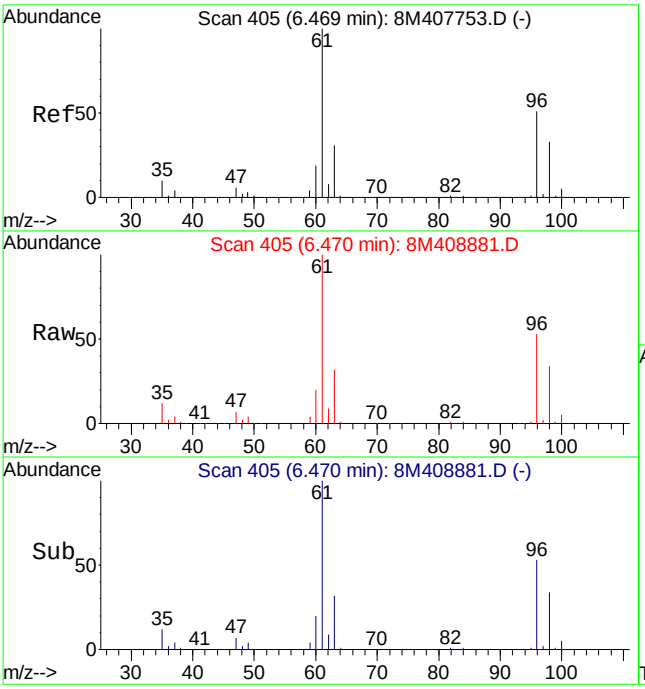


#13
Acetone
Concen: 0.18 ug/L
RT: 6.23 min Scan# 382
Delta R.T. -0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 43 Resp: 307

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

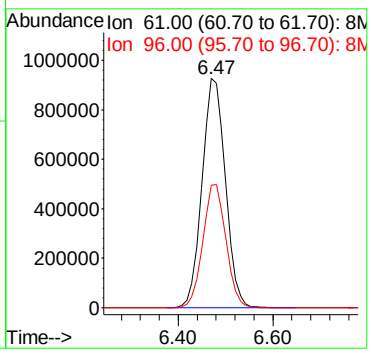


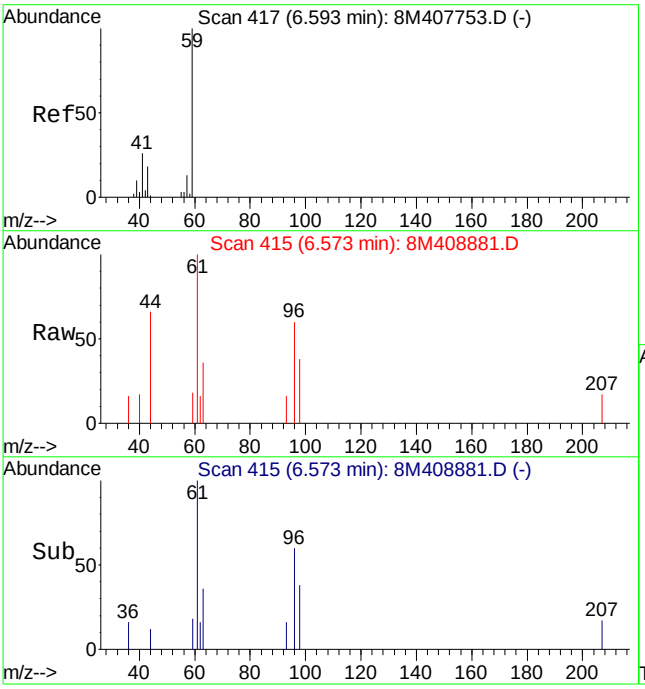


#14
1,1-Dichloroethene
Concen: 171.18 ug/L
RT: 6.47 min Scan# 405
Delta R.T. -0.00 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 61 Resp: 3166128

Ion	Ratio	Lower	Upper
61	100		
96	53.2	32.3	75.3

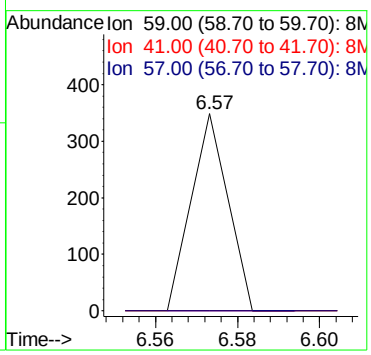


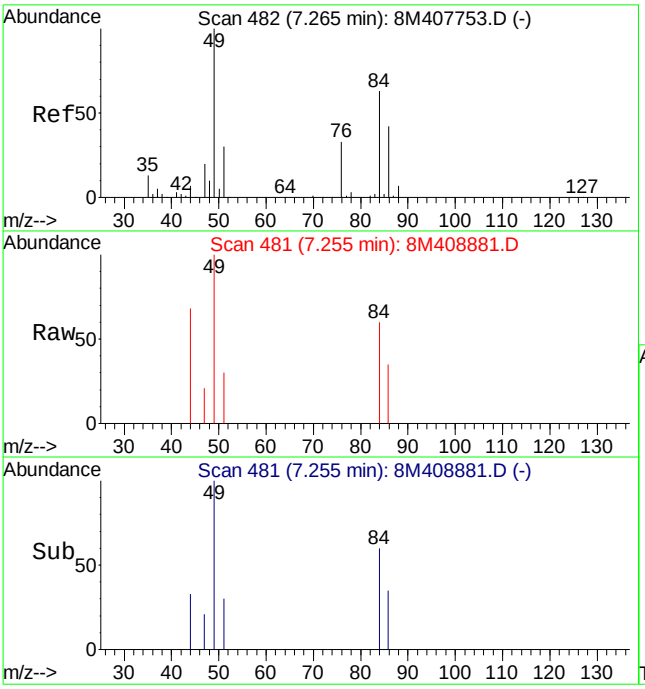


#15
Tert-Butyl Alcohol
Concen: 0.43 ug/L
RT: 6.57 min Scan# 415
Delta R.T. -0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 59 Resp: 216

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.2	33.0#
57	0.0	6.5	15.3#

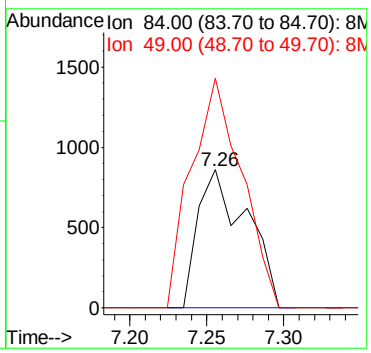


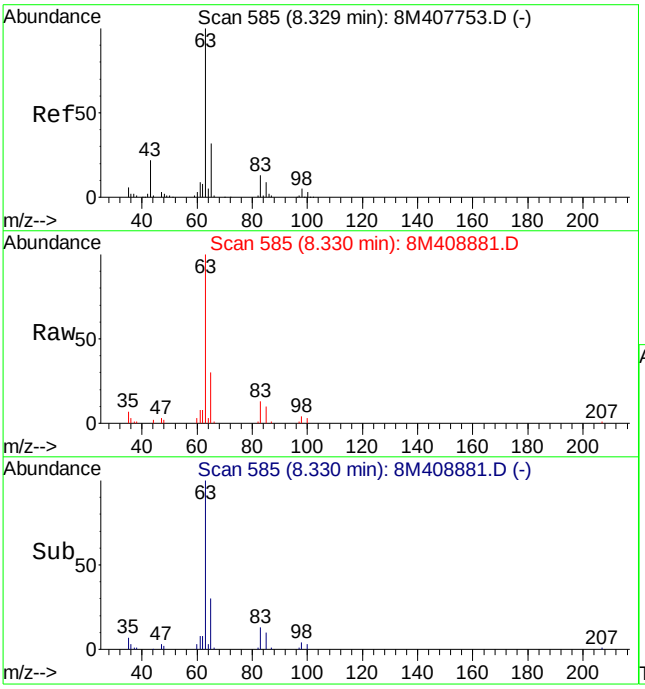


#19
Methylene Chloride
Concen: 0.17 ug/L
RT: 7.26 min Scan# 481
Delta R.T. -0.00 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 84 Resp: 1896

Ion	Ratio	Lower	Upper
84	100		
49	172.6	98.6	230.2

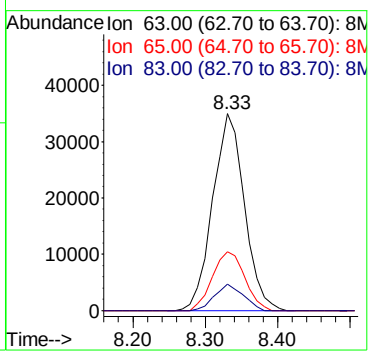


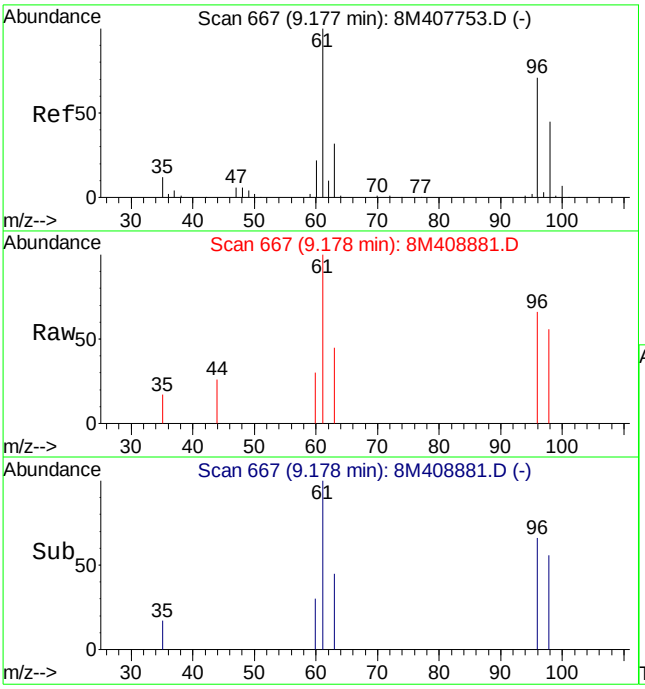


#27
1,1-Dichloroethane
Concen: 4.81 ug/L
RT: 8.33 min Scan# 585
Delta R.T. -0.00 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 63 Resp: 107238

Ion	Ratio	Lower	Upper
63	100		
65	30.5	18.4	43.0
83	12.1	7.7	18.1

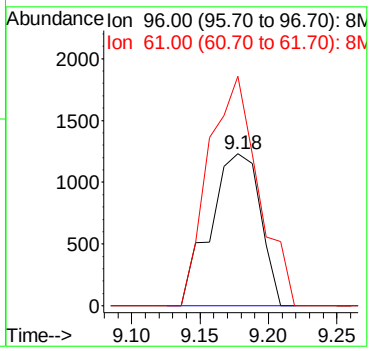


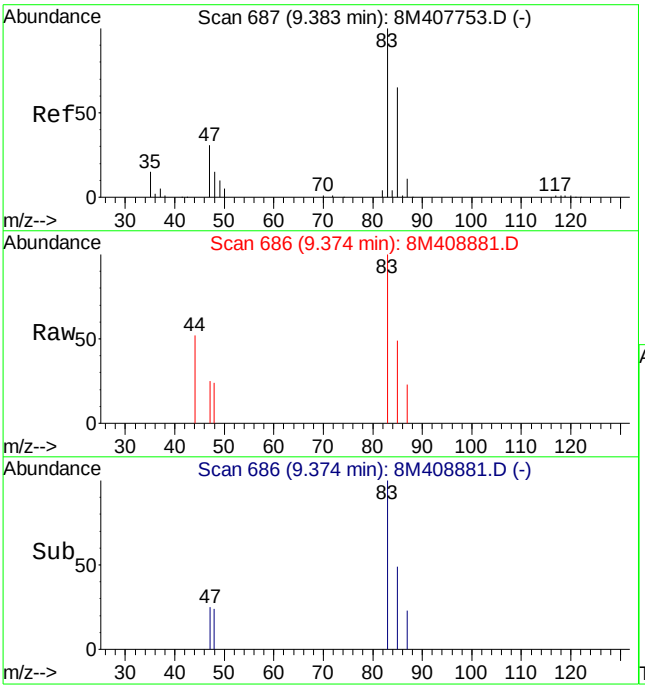


#32
cis-1,2-Dichloroethene
Concen: 0.25 ug/L
RT: 9.18 min Scan# 667
Delta R.T. 0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 96 Resp: 3122

Ion	Ratio	Lower	Upper
96	100		
61	150.5	99.8	233.0

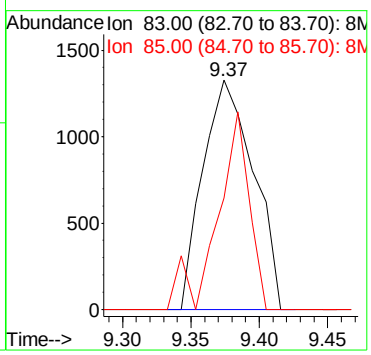


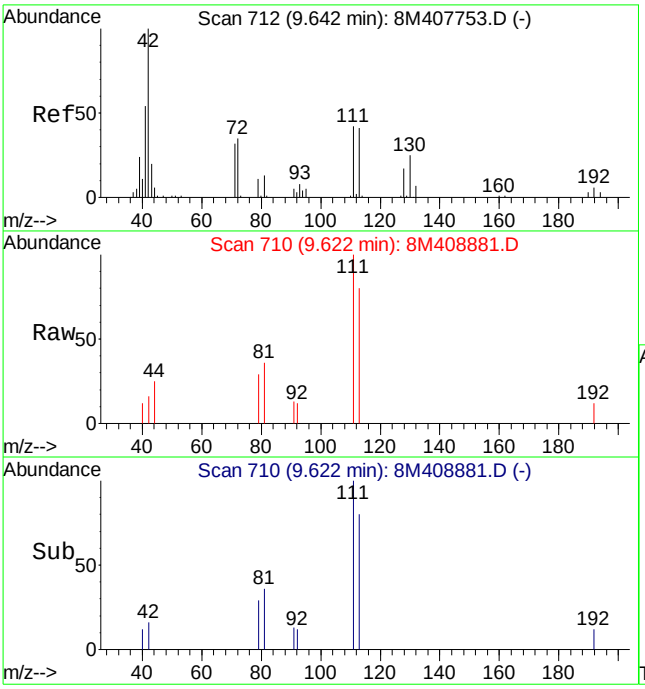


#33
Chloroform
Concen: 0.16 ug/L
RT: 9.37 min Scan# 686
Delta R.T. -0.00 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 83 Resp: 3412

Ion	Ratio	Lower	Upper
83	100		
85	54.0	38.8	90.4

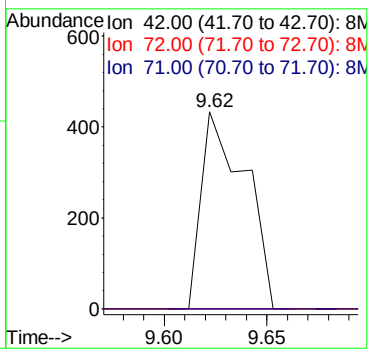


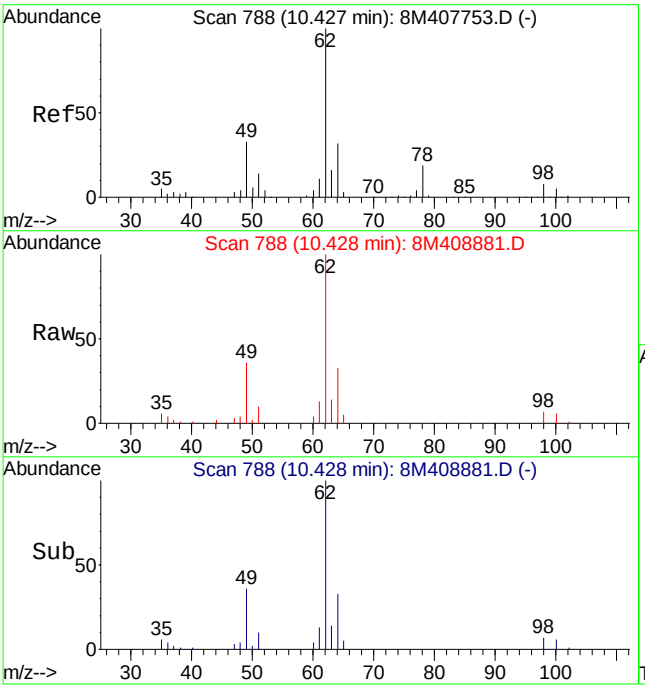


#36
Tetrahydrofuran
Concen: 0.34 ug/L
RT: 9.62 min Scan# 710
Delta R.T. -0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 42 Resp: 645

Ion	Ratio	Lower	Upper
42	100		
72	0.0	22.4	52.4#
71	0.0	19.5	45.5#

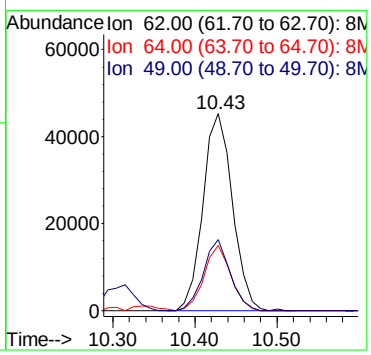


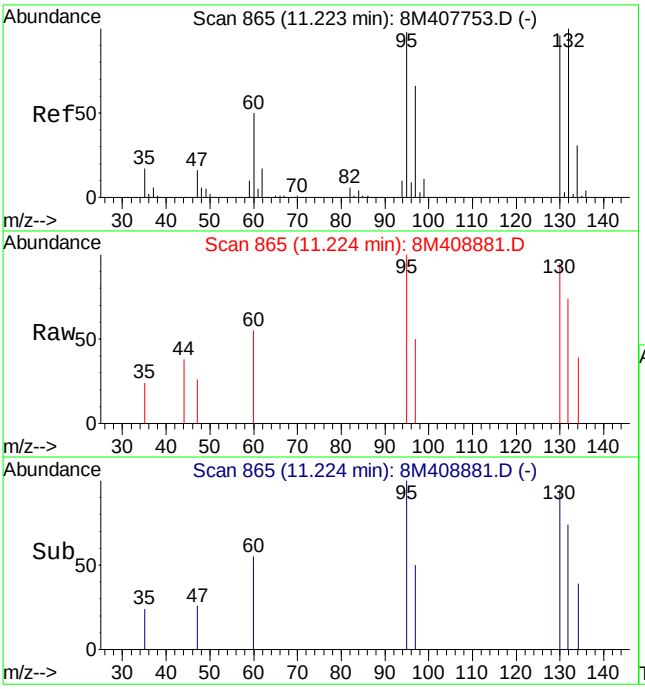


#45
1,2-Dichloroethane
Concen: 7.76 ug/L
RT: 10.43 min Scan# 788
Delta R.T. -0.00 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 62 Resp: 112831

Ion	Ratio	Lower	Upper
62	100		
64	30.1	18.8	44.0
49	32.7	25.3	58.9

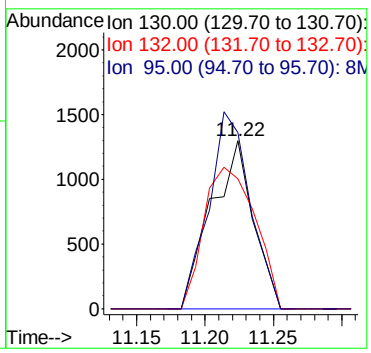


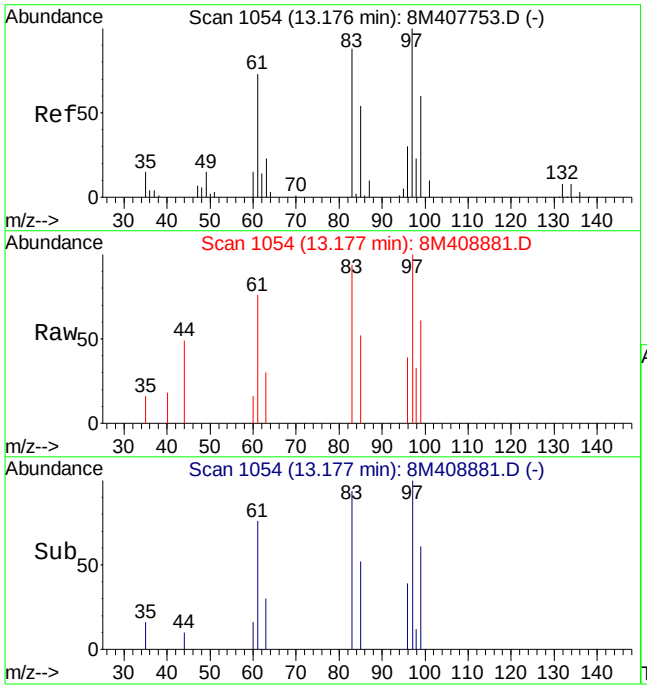


#47
Trichloroethene
Concen: 0.23 ug/L
RT: 11.22 min Scan# 865
Delta R.T. 0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion:130 Resp: 2773

Ion	Ratio	Lower	Upper
130	100		
132	102.6	59.0	137.6
95	115.4	65.0	151.8

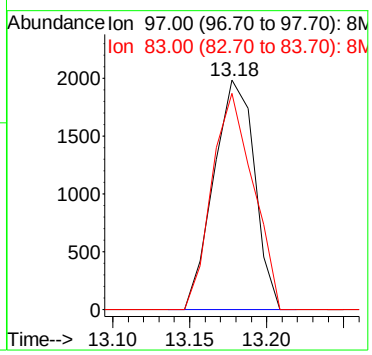




#63
1,1,2-Trichloroethane
Concen: 0.47 ug/L
RT: 13.18 min Scan# 1054
Delta R.T. -0.01 min
Lab File: 8M408881.D
Acq: 22 Nov 2015 00:09

Tgt Ion: 97 Resp: 3654

Ion	Ratio	Lower	Upper
97	100		
83	95.6	51.1	119.1



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408866.D Vial: 10
Acq On : 21 Nov 2015 16:51 Operator: TMB
Sample : L15111211-17 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:50 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

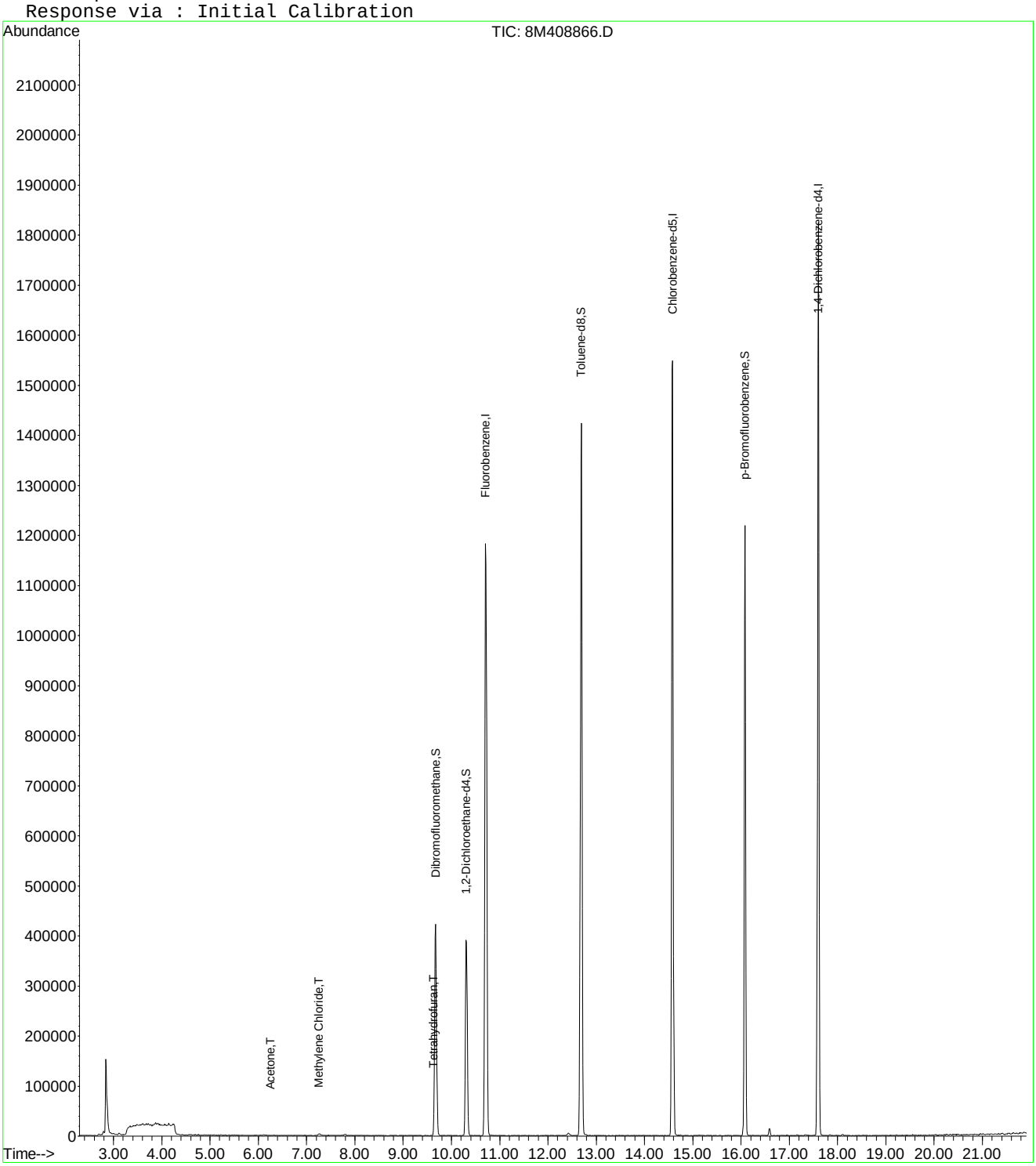
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	1408544	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1071479	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	566345	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	350581	26.1517 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 104.60%		
43) 1,2-Dichloroethane-d4	10.30	65	348456	25.4941 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 101.96%		
58) Toluene-d8	12.69	98	1243492	25.0127 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.04%		
80) p-Bromofluorobenzene	16.08	95	499508	25.2779 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.12%		
Target Compounds					Qvalue
5) 1,3-Butadiene	3.90	54	275	Below Cal #	1
13) Acetone	6.25	43	487	0.2329 ug/L #	48
19) Methylene Chloride	7.26	84	2071	0.1460 ug/L	79
36) Tetrahydrofuran	9.63	42	1835	0.7761 ug/L #	50

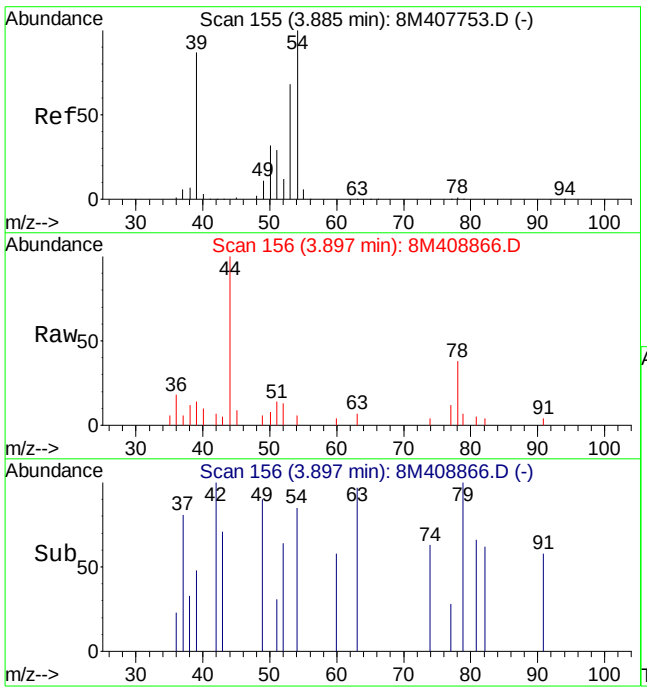
(#) = qualifier out of range (m) = manual integration
8M408866.D 8260WT.M Mon Nov 23 08:53:51 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408866.D Vial: 10
Acq On : 21 Nov 2015 16:51 Operator: TMB
Sample : L15111211-17 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

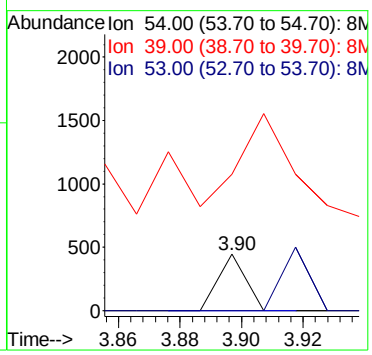


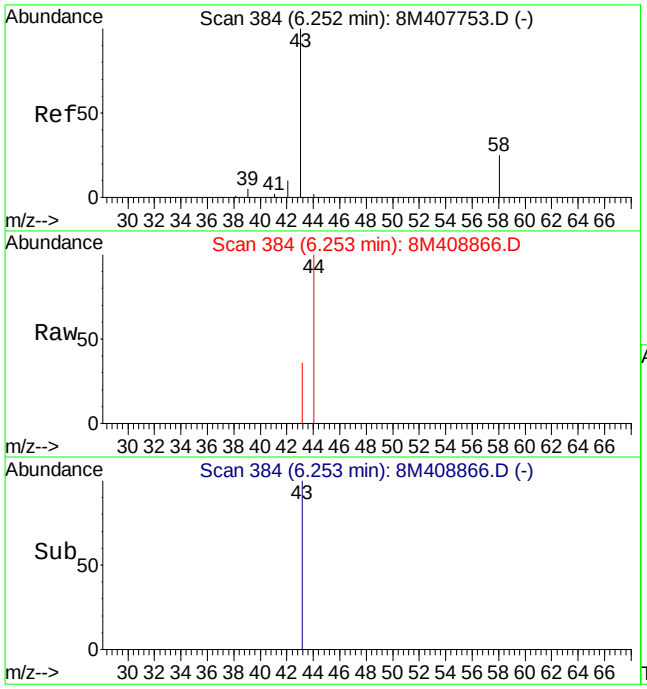


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.90 min Scan# 156
Delta R.T. 0.01 min
Lab File: 8M408866.D
Acq: 21 Nov 2015 16:51

Tgt Ion: 54 Resp: 275

Ion	Ratio	Lower	Upper
54	100		
39	532.0	60.8	142.0#
53	112.7	42.4	99.0#

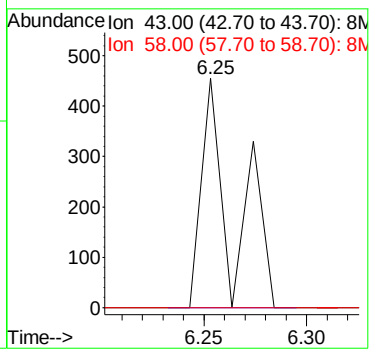


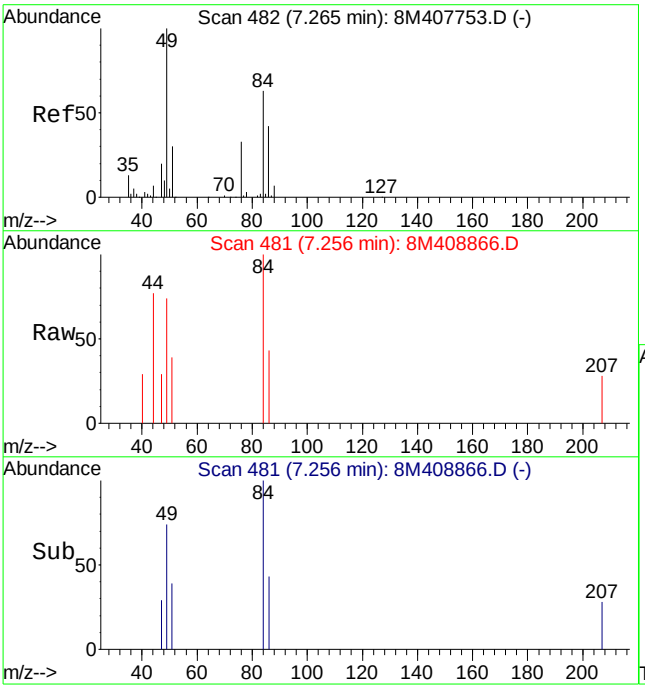


#13
Acetone
Concen: 0.23 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.01 min
Lab File: 8M408866.D
Acq: 21 Nov 2015 16:51

Tgt Ion: 43 Resp: 487

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

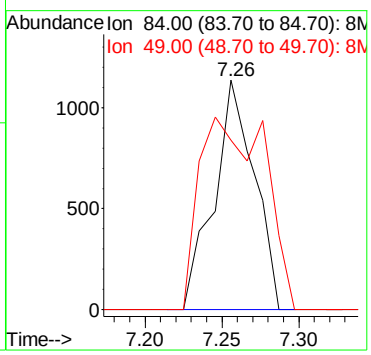


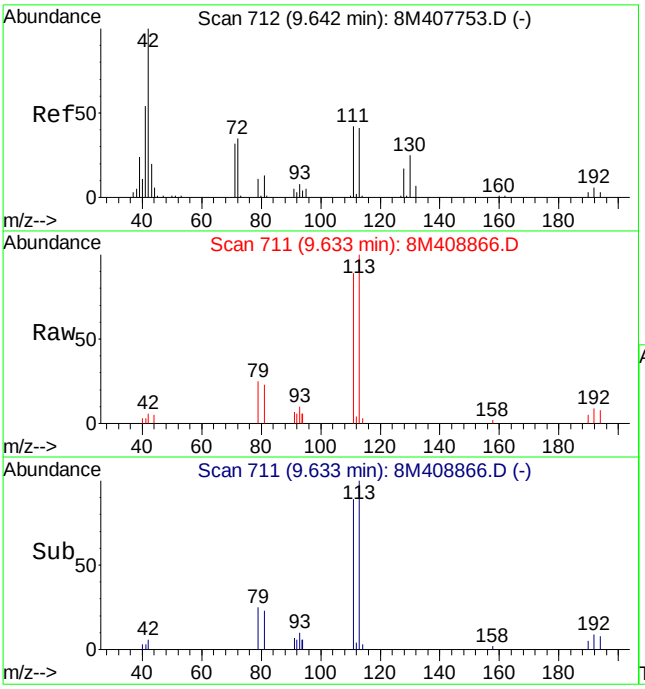


#19
Methylene Chloride
Concen: 0.15 ug/L
RT: 7.26 min Scan# 481
Delta R.T. -0.00 min
Lab File: 8M408866.D
Acq: 21 Nov 2015 16:51

Tgt Ion: 84 Resp: 2071

Ion	Ratio	Lower	Upper
84	100		
49	136.9	98.6	230.2

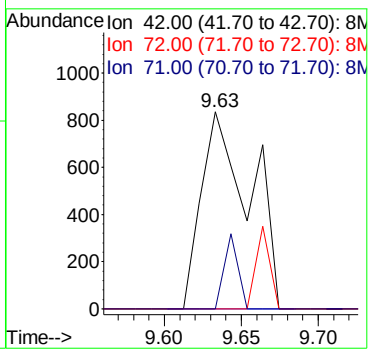




#36
Tetrahydrofuran
Concen: 0.78 ug/L
RT: 9.63 min Scan# 711
Delta R.T. -0.00 min
Lab File: 8M408866.D
Acq: 21 Nov 2015 16:51

Tgt Ion: 42 Resp: 1835

Ion	Ratio	Lower	Upper
42	100		
72	11.9	22.4	52.4#
71	0.0	19.5	45.5#



2.1.1.4 Standards Data

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016367.D
Acq On : 11 Nov 2015 14:34
Operator : ADC
Sample : WG546498-02 50ug/L CCV STD
Misc : 1,1 STD73185
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 12 09:55:23 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	458822	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.976	117	339437	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.305	152	185646	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.174	111	117230	24.9068	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.627%			
34) 1,2-Dichloroethane-d4	4.814	65	109219	24.1633	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.653%			
47) Toluene-d8	6.713	98	451841	25.8239	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.296%			
66) p-Bromofluorobenzene	8.723	95	166533	25.9500	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.800%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.039	85	335655	51.4419	ug/L	100
3) Chloromethane	1.149	50	324623	46.7065	ug/L	100
4) Vinyl Chloride	1.195	62	302744	48.7635	ug/L	100
5) 1,3-Butadiene	1.204	54	187905	47.0884	ug/L	99
6) Bromomethane	1.380	94	144179	44.0291	ug/L	99
7) Chloroethane	1.450	64	162615	51.3007	ug/L	100
8) Trichlorofluoromethane	1.531	101	371160	50.8195	ug/L	100
9) Diethyl ether	1.748	59	160210	43.7335	ug/L	100
10) 1,1-Dichloroethene	1.864	61	352128	48.8893	ug/L	100
11) Carbon Disulfide	1.875	76	735227	48.4661	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.893	101	221329	49.5559	ug/L	100
14) Acrolein	2.113	56	19271	39.2750	ug/L	100
15) Methylene Chloride	2.289	84	231020	43.3508	ug/L	100
16) Acetone	2.344	43	36680	39.7538	ug/L	100
17) trans-1,2-Dichloroethene	2.417	96	221824	47.1071	ug/L	100
18) Methyl acetate	2.449	43	114978	43.8882	ug/L #	100
19) Methyl Tert Butyl Ether	2.530	73	521300	43.4294	ug/L	100
20) 1,1-Dichloroethane	2.975	63	432976	48.0443	ug/L	100
21) Acrylonitrile	3.033	53	52338	41.9566	ug/L	100
22) Vinyl Acetate	3.274	86	23768	42.3588	ug/L	100
23) cis-1,2-Dichloroethene	3.566	96	250754	46.3794	ug/L	100
24) 2,2-Dichloropropane	3.694	77	356884	52.9451	ug/L	100
25) Cyclohexane	3.795	56	427191	49.2519	ug/L	100
26) Bromochloromethane	3.806	130	150619	47.1793	ug/L	100
27) Chloroform	3.934	83	408941	45.8012	ug/L	100
28) Carbon Tetrachloride	4.079	117	339341	48.9449	ug/L	100
30) 1,1,1-Trichloroethane	4.177	97	368726	47.0816	ug/L	100
31) 1,1-Dichloropropene	4.345	75	321276	48.3906	ug/L	100
32) 2-Butanone	4.365	43	62587	41.3567	ug/L	100
33) Benzene	4.646	78	939455	47.6412	ug/L	100
35) 1,2-Dichloroethane	4.892	62	272253	45.8836	ug/L	100
36) Methylcyclohexane	5.298	83	436849	47.3782	ug/L	100
37) Trichloroethene	5.321	130	258556	47.2500	ug/L	100
38) Dibromomethane	5.741	93	128239	43.8243	ug/L	100
39) 1,2-Dichloropropane	5.851	63	256757	47.3682	ug/L	100
40) Bromodichloromethane	5.937	83	316920	47.0276	ug/L	100
41) 1,4-Dioxane	6.149	88	3229	98.0789	ug/L	99
42) 2-Chloroethyl Vinyl Ether	6.528	63	121436	44.3247	ug/L	100
43) cis-1,3-Dichloropropene	6.545	75	380601	47.9030	ug/L	100
44) 4-Methyl-2-Pentanone	7.814	58	53208	39.5325	ug/L	99
45) trans-1,3-Dichloropropene	7.145	75	318685	46.8800	ug/L	100
48) Toluene	6.757	91	1047176	48.6967	ug/L	100
49) Tetrachloroethene	7.087	166	281120	48.5026	ug/L	100
50) 1,1,2-Trichloroethane	7.275	97	172931	43.2287	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016367.D
Acq On : 11 Nov 2015 14:34
Operator : ADC
Sample : WG546498-02 50ug/L CCV STD
Misc : 1,1 STD73185
ALS Vial : 1 Sample Multiplier: 1

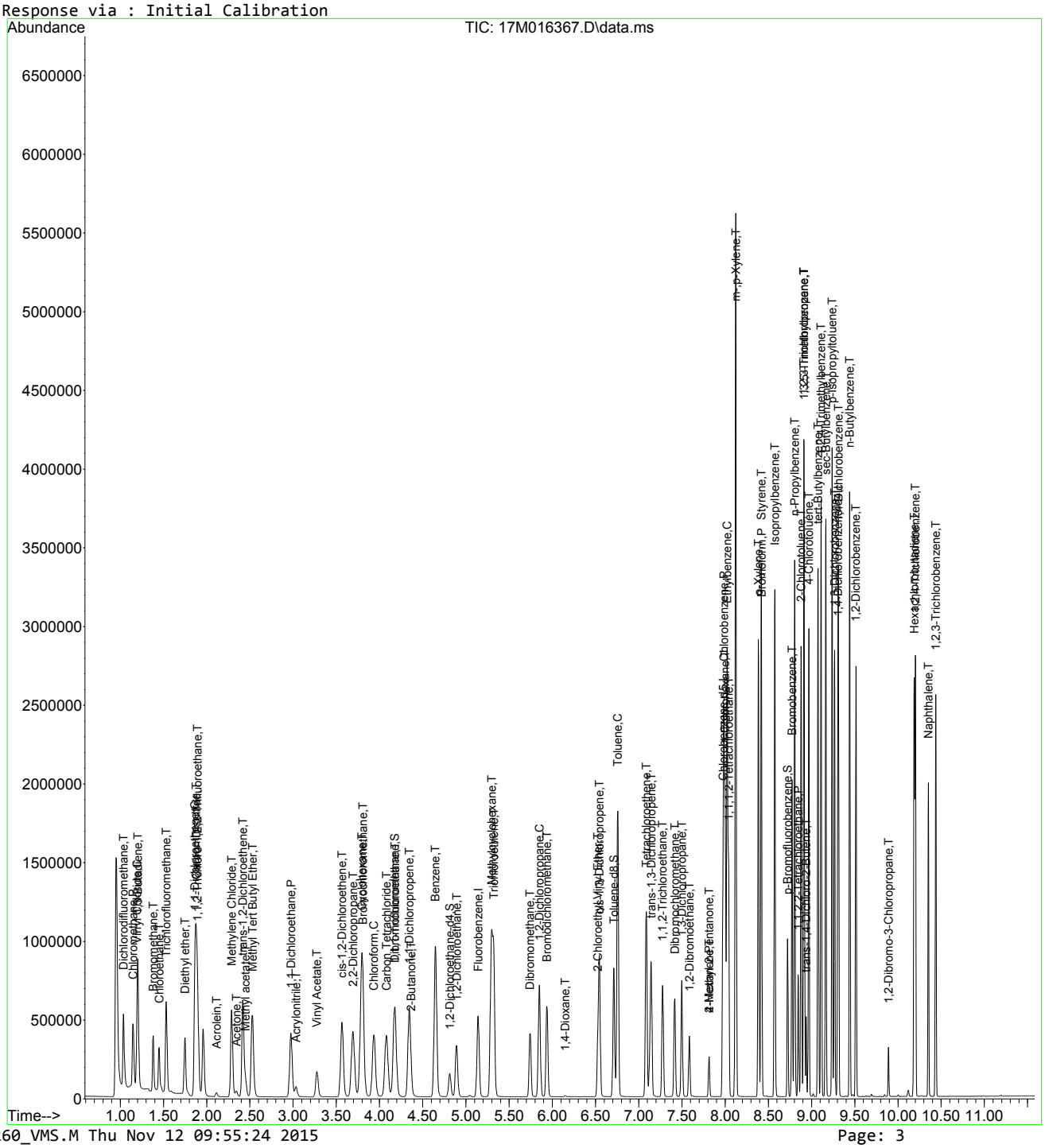
Quant Time: Nov 12 09:55:23 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.417	129	238478	46.1774	ug/L		100
52) 1,3-Dichloropropane	7.498	76	287243	45.2709	ug/L		100
53) 1,2-Dibromoethane	7.585	107	176507	44.4634	ug/L		100
54) 2-Hexanone	7.814	43	103462	40.2276	ug/L		99
55) Chlorobenzene	7.984	112	674203	48.6490	ug/L		100
56) 1-Chlorohexane	7.999	69	69305	48.6888	ug/L		98
57) Ethylbenzene	8.022	106	367709	48.7457	ug/L		100
58) 1,1,1,2-Tetrachloroethane	8.039	131	247369	48.2138	ug/L		100
59) m-,p-Xylene	8.123	106	899052	99.3448	ug/L		100
60) o-Xylene	8.384	106	435980	48.8219	ug/L		100
61) Styrene	8.419	104	720887	48.5753	ug/L		100
62) Bromoform	8.422	173	152687	44.8427	ug/L		100
63) Isopropylbenzene	8.575	105	1145537	49.2114	ug/L		100
65) 1,3,5-Trimethylbenzene	8.914	105	1011949	49.7817	ug/L		100
67) Bromobenzene	8.775	156	299300	47.1063	ug/L		99
68) n-Propylbenzene	8.804	91	1356725	51.1343	ug/L		100
69) 1,1,2,2-Tetrachloroethane	8.844	83	198425	43.0559	ug/L		100
70) 2-Chlorotoluene	8.879	91	800522	49.3327	ug/L		100
71) 1,2,3-Trichloropropane	8.911	110	52918	41.2540	ug/L		100
72) trans-1,4-Dichloro-2-B...	8.937	53	45281	42.4657	ug/L	#	99
73) 1,2,4-Trimethylbenzene	9.111	105	1011612	49.8516	ug/L		100
74) 4-Chlorotoluene	8.969	91	823222	49.3067	ug/L		99
75) tert-Butylbenzene	9.076	134	184752	49.5630	ug/L		100
76) sec-Butylbenzene	9.166	105	1259196	50.4106	ug/L		100
77) p-Isopropyltoluene	9.238	119	1105207	51.1600	ug/L		100
78) 1,3-Dichlorobenzene	9.267	146	573087	49.1162	ug/L		100
79) 1,4-Dichlorobenzene	9.310	146	565458	47.5085	ug/L		100
80) n-Butylbenzene	9.441	91	1026625	51.6336	ug/L		100
81) 1,2-Dichlorobenzene	9.513	146	525641	47.3213	ug/L		100
82) 1,2-Dibromo-3-Chloropr...	9.890	75	36703	42.4356	ug/L		100
83) Hexachlorobutadiene	10.188	225	262150	51.2717	ug/L		100
84) 1,2,4-Trichlorobenzene	10.202	180	433827	48.9385	ug/L		100
85) Naphthalene	10.353	128	719141	43.7967	ug/L		100
86) 1,2,3-Trichlorobenzene	10.437	180	382234	46.7201	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016367.D
Acq On : 11 Nov 2015 14:34
Operator : ADC
Sample : WG546498-02 50ug/L CCV STD
Misc : 1,1 STD73185
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 12 09:55:23 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016369.D
Acq On : 11 Nov 2015 15:14
Operator : ADC
Sample : WG546498-03 0.3ug/L STD
Misc : 1,1 STD73185
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 12 09:49:10 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	5.141	96	439106	25.00000	ug/L		0.0000
46) Chlorobenzene-d5	7.973	117	325410	25.00000	ug/L		0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	177701	25.00000	ug/L		0.0000
System Monitoring Compounds							
29) Dibromofluoromethane	4.180	111	805	0.1787	ug/L		0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.715%			
34) 1,2-Dichloroethane-d4	4.811	65	993	0.2296	ug/L		0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.918%			
47) Toluene-d8	6.710	98	2790	0.1663	ug/L		0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.665%			
66) p-Bromofluorobenzene	8.723	95	1579	0.2570	ug/L		0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.028%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.038	85	2307	0.3694	ug/L		95
3) Chloromethane	1.148	50	3131	0.4707	ug/L		98
4) Vinyl Chloride	1.195	62	1967	0.3311	ug/L		97
5) 1,3-Butadiene	1.206	54	2510	0.6572	ug/L		92
6) Bromomethane	1.383	94	1901	0.6066	ug/L		75
7) Chloroethane	1.426	64	13916	4.5872	ug/L	#	58
8) Trichlorofluoromethane	1.545	101	2531	0.3193	ug/L	#	77
9) Diethyl ether	1.745	59	2180	0.6218	ug/L	#	65
10) 1,1-Dichloroethene	1.867	61	2371	0.3440	ug/L	#	69
11) Carbon Disulfide	1.881	76	5882	0.4052	ug/L	#	68
12) 1,1,2-Trichloro-1,2,2-...	1.895	101	1495	0.3498	ug/L	#	91
14) Acrolein	2.118	56	410	0.8731	ug/L		80
15) Methylene Chloride	2.286	84	3861	0.7570	ug/L	#	66
16) Acetone	2.344	43	1441	1.0431	ug/L		93
17) trans-1,2-Dichloroethene	2.417	96	1871	0.4152	ug/L	#	75
18) Methyl acetate	2.446	43	906	0.3614	ug/L	#	57
19) Methyl Tert Butyl Ether	2.532	73	3666	0.3191	ug/L	#	62
20) 1,1-Dichloroethane	2.975	63	2707	0.3139	ug/L	#	74
21) Acrylonitrile	3.033	53	314	0.2630	ug/L	#	54
23) cis-1,2-Dichloroethene	3.572	96	2030	0.3923	ug/L		78
24) 2,2-Dichloropropane	3.702	77	2489	0.3858	ug/L		97
25) Cyclohexane	3.798	56	2908	0.3503	ug/L	#	67
26) Bromochloromethane	3.801	130	869	0.2844	ug/L		99
27) Chloroform	3.931	83	2965	0.3470	ug/L	#	91
28) Carbon Tetrachloride	4.087	117	2090	0.3150	ug/L	#	94
30) 1,1,1-Trichloroethane	4.189	97	2828	0.3773	ug/L		90
31) 1,1-Dichloropropene	4.342	75	2168	0.3412	ug/L	#	66
32) 2-Butanone	4.362	43	768	0.5303	ug/L	#	28
33) Benzene	4.646	78	6827	0.3618	ug/L		97
35) 1,2-Dichloroethane	4.892	62	1698	0.2990	ug/L		88
36) Methylcyclohexane	5.292	83	3337	0.3782	ug/L	#	80
37) Trichloroethene	5.324	130	1957	0.3737	ug/L		98
38) Dibromomethane	5.743	93	1009	0.3603	ug/L		89
39) 1,2-Dichloropropane	5.851	63	1623	0.3129	ug/L		94
40) Bromodichloromethane	5.937	83	2224	0.3448	ug/L		98
42) 2-Chloroethyl Vinyl Ether	6.525	63	864	0.3295	ug/L		100
43) cis-1,3-Dichloropropene	6.545	75	2413	0.3173	ug/L	#	74
44) 4-Methyl-2-Pentanone	7.816	58	692	0.5372	ug/L	#	1
45) trans-1,3-Dichloropropene	7.148	75	1977	0.3039	ug/L	#	75
48) Toluene	6.757	91	7140	0.3463	ug/L		98
49) Tetrachloroethene	7.087	166	1943	0.3497	ug/L		96
50) 1,1,2-Trichloroethane	7.275	97	1612	0.4203	ug/L		83
51) Dibromochloromethane	7.420	129	1509	0.3048	ug/L		98
52) 1,3-Dichloropropane	7.495	76	1902	0.3127	ug/L	#	59

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016369.D
Acq On : 11 Nov 2015 15:14
Operator : ADC
Sample : WG546498-03 0.3ug/L STD
Misc : 1,1 STD73185
ALS Vial : 3 Sample Multiplier: 1

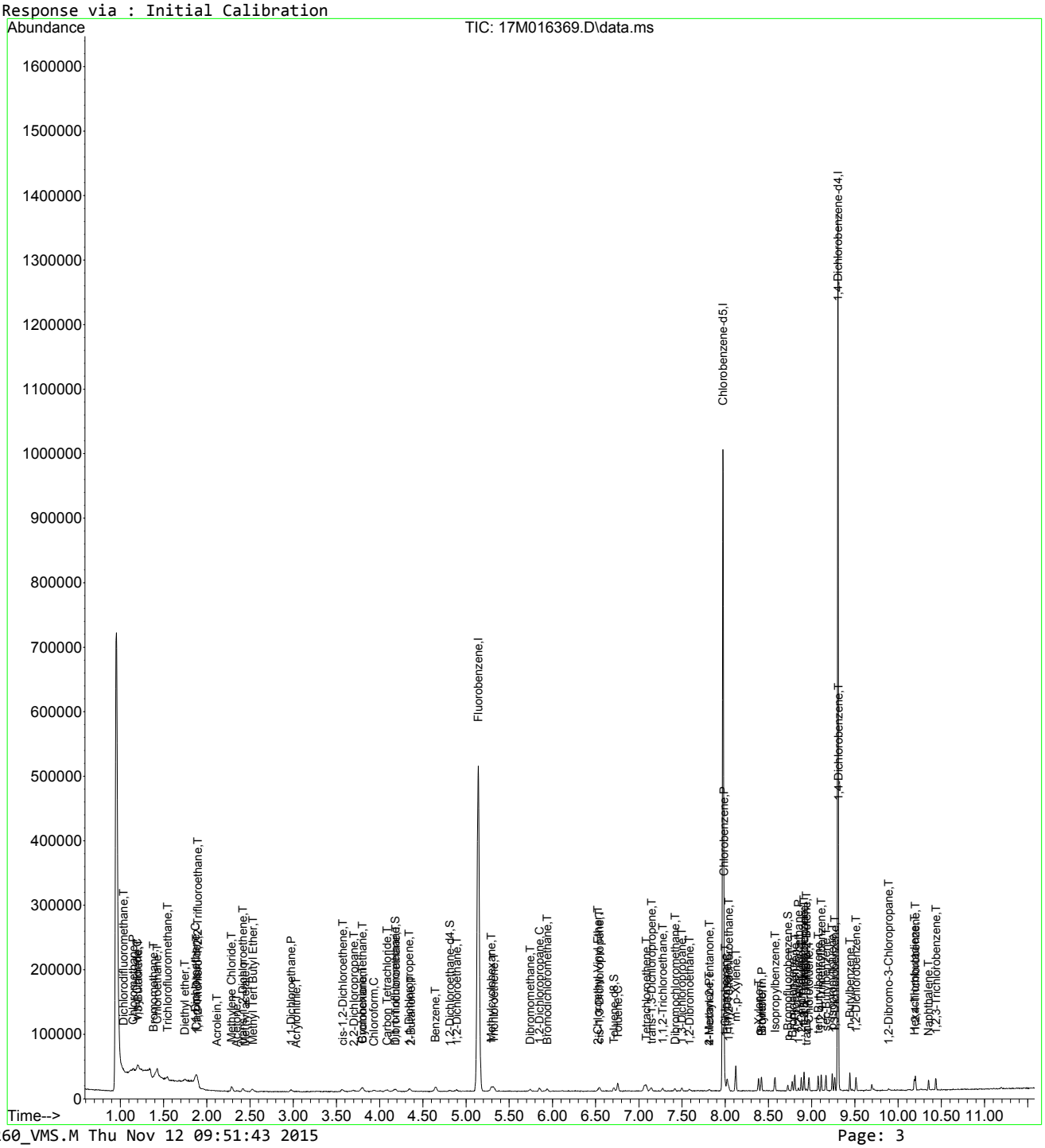
Quant Time: Nov 12 09:49:10 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 1,2-Dibromoethane	7.585	107	1289	0.3387	ug/L		71
54) 2-Hexanone	7.814	43	1273	0.5163	ug/L		96
55) Chlorobenzene	7.984	112	4633	0.3487	ug/L	#	1
56) 1-Chlorohexane	7.999	69	849	0.6222	ug/L	#	1
57) Ethylbenzene	8.019	106	2418	0.3344	ug/L		100
58) 1,1,1,2-Tetrachloroethane	8.039	131	1431	0.2909	ug/L	#	66
59) m-,p-Xylene	8.120	106	5961	0.6871	ug/L		97
60) o-Xylene	8.387	106	2794	0.3264	ug/L		99
61) Styrene	8.419	104	4886	0.3434	ug/L		97
62) Bromoform	8.422	173	887	0.2717	ug/L	#	91
63) Isopropylbenzene	8.575	105	8316	0.3726	ug/L		93
65) 1,3,5-Trimethylbenzene	8.911	105	6999	0.3597	ug/L		95
67) Bromobenzene	8.775	156	2001	0.3290	ug/L		86
68) n-Propylbenzene	8.804	91	9056	0.3566	ug/L	#	98
69) 1,1,2,2-Tetrachloroethane	8.844	83	1383	0.3135	ug/L		93
70) 2-Chlorotoluene	8.879	91	5492	0.3536	ug/L		99
71) 1,2,3-Trichloropropane	8.911	110	821	0.6687	ug/L	#	18
72) trans-1,4-Dichloro-2-B...	8.937	53	553	0.5418	ug/L	#	44
73) 1,2,4-Trimethylbenzene	9.111	105	7227	0.3721	ug/L		94
74) 4-Chlorotoluene	8.966	91	6024	0.3769	ug/L		99
75) tert-Butylbenzene	9.076	134	1256	0.3520	ug/L		93
76) sec-Butylbenzene	9.163	105	8905	0.3724	ug/L		96
77) p-Isopropyltoluene	9.235	119	7255	0.3508	ug/L		98
78) 1,3-Dichlorobenzene	9.264	146	3977	0.3561	ug/L		82
79) 1,4-Dichlorobenzene	9.310	146	4196	0.3683	ug/L		86
80) n-Butylbenzene	9.441	91	7271	0.3820	ug/L		99
81) 1,2-Dichlorobenzene	9.513	146	3615	0.3400	ug/L		83
82) 1,2-Dibromo-3-Chloropr...	9.890	75	220	0.2657	ug/L		86
83) Hexachlorobutadiene	10.188	225	1776	0.3629	ug/L		97
84) 1,2,4-Trichlorobenzene	10.199	180	3287	0.3874	ug/L		97
85) Naphthalene	10.350	128	5757	0.3663	ug/L		99
86) 1,2,3-Trichlorobenzene	10.437	180	2990	0.3818	ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016369.D
Acq On : 11 Nov 2015 15:14
Operator : ADC
Sample : WG546498-03 0.3ug/L STD
Misc : 1,1 STD73185
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 12 09:49:10 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016369.D
Acq On : 11 Nov 2015 15:14
Operator : ADC
Sample : WG546498-03 0.3ug/L STD
Misc : 1,1 STD73185
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 12 09:49:10 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	100	0.000
2	T	Dichlorodifluoromethane	-1.000	0.369	0.0	0	0.000
3	P	Chloromethane	-1.000	0.471	0.0	0	0.000
4	C	Vinyl Chloride	-1.000	0.331	0.0	0	0.000
5	T	1,3-Butadiene	-1.000	0.657	0.0	0	0.000
6	T	Bromomethane	-1.000	0.607	0.0	0	0.000
7	T	Chloroethane	-1.000	4.587	0.0	0	-0.024
8	T	Trichlorofluoromethane	-1.000	0.319	0.0	0	0.014
9	T	Diethyl ether	-1.000	0.622	0.0	0	0.000
10	C	1,1-Dichloroethene	-1.000	0.344	0.0	0	0.000
11	T	Carbon Disulfide	-1.000	0.405	0.0	0	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.000	0.350	0.0	0	0.000
13	T	Iodomethane	-1.000	0.000	0.0	0	0.000
14	T	Acrolein	-1.000	0.873	0.0	0	0.000
15	T	Methylene Chloride	-1.000	0.757	0.0	0	0.000
16	T	Acetone	-1.000	1.043	0.0	0	0.000
17	T	trans-1,2-Dichloroethene	-1.000	0.415	0.0	0	0.000
18	T	Methyl acetate	0.300	0.361	-20.3	100	0.000
19	T	Methyl Tert Butyl Ether	-1.000	0.319	0.0	0	0.000
20	P	1,1-Dichloroethane	-1.000	0.314	0.0	0	0.000
21	T	Acrylonitrile	-1.000	0.263	0.0	0	0.000
22	T	Vinyl Acetate	-1.000	0.000	0.0	0	-3.274#
23	T	cis-1,2-Dichloroethene	-1.000	0.392	0.0	0	0.000
24	T	2,2-Dichloropropane	-1.000	0.386	0.0	0	0.000
25	T	Cyclohexane	-1.000	0.350	0.0	0	0.000
26	T	Bromochloromethane	-1.000	0.284	0.0	0	0.000
27	C	Chloroform	0.300	0.347	-15.7#	100	0.000
28	T	Carbon Tetrachloride	-1.000	0.315	0.0	0	0.000
29	S	Dibromofluoromethane	-1.000	0.179	0.0	0	0.000
30	T	1,1,1-Trichloroethane	-1.000	0.377	0.0	0	0.012
31	T	1,1-Dichloropropene	-1.000	0.341	0.0	0	0.000
32	T	2-Butanone	-1.000	0.530	0.0	0	0.000
33	T	Benzene	-1.000	0.362	0.0	0	0.000
34	S	1,2-Dichloroethane-d4	-1.000	0.230	0.0	0	0.000
35	T	1,2-Dichloroethane	-1.000	0.299	0.0	0	0.000
36	T	Methylcyclohexane	0.300	0.378	-26.0#	100	0.000
37	T	Trichloroethene	-1.000	0.374	0.0	0	0.000
38	T	Dibromomethane	-1.000	0.360	0.0	0	0.000
39	C	1,2-Dichloropropane	-1.000	0.313	0.0	0	0.000
40	T	Bromodichloromethane	-1.000	0.345	0.0	0	0.000
41	T	1,4-Dioxane	-1.000	0.000	0.0	0	-6.149#
42	T	2-Chloroethyl Vinyl Ether	-1.000	0.330	0.0	0	0.000
43	T	cis-1,3-Dichloropropene	-1.000	0.317	0.0	0	0.000
44	T	4-Methyl-2-Pentanone	-1.000	0.537	0.0	0	0.000
45	T	trans-1,3-Dichloropropene	-1.000	0.304	0.0	0	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	100	0.000
47	S	Toluene-d8	-1.000	0.166	0.0	0	0.000
48	C	Toluene	-1.000	0.346	0.0	0	0.000
49	T	Tetrachloroethene	-1.000	0.350	0.0	0	0.000
50	T	1,1,2-Trichloroethane	-1.000	0.420	0.0	0	0.000
51	T	Dibromochloromethane	-1.000	0.305	0.0	0	0.000
52	T	1,3-Dichloropropane	-1.000	0.313	0.0	0	0.000
53	T	1,2-Dibromoethane	-1.000	0.339	0.0	0	0.000
54	T	2-Hexanone	-1.000	0.516	0.0	0	0.000
55	P	Chlorobenzene	-1.000	0.349	0.0	0	0.000

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016369.D
Acq On : 11 Nov 2015 15:14
Operator : ADC
Sample : WG546498-03 0.3ug/L STD
Misc : 1,1 STD73185
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 12 09:49:10 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	-1.000	0.622	0.0	0	0.000
57	C	Ethylbenzene	-1.000	0.334	0.0	0	0.000
58	T	1,1,1,2-Tetrachloroethane	-1.000	0.291	0.0	0	0.000
59	T	m-,p-Xylene	-1.000	0.687	0.0	0	0.000
60	T	o-Xylene	-1.000	0.326	0.0	0	0.000
61	T	Styrene	-1.000	0.343	0.0	0	0.000
62	P	Bromoform	-1.000	0.272	0.0	0	0.000
63	T	Isopropylbenzene	-1.000	0.373	0.0	0	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	100	0.000
65	T	1,3,5-Trimethylbenzene	-1.000	0.360	0.0	0	0.000
66	S	p-Bromofluorobenzene	-1.000	0.257	0.0	0	0.000
67	T	Bromobenzene	0.300	0.329	-9.7	100	0.000
68	T	n-Propylbenzene	-1.000	0.357	0.0	0	0.000
69	P	1,1,2,2-Tetrachloroethane	-1.000	0.314	0.0	0	0.000
70	T	2-Chlorotoluene	-1.000	0.354	0.0	0	0.000
71	T	1,2,3-Trichloropropane	-1.000	0.669	0.0	0	0.000
72	T	trans-1,4-Dichloro-2-Butene	-1.000	0.542	0.0	0	0.000
73	T	1,2,4-Trimethylbenzene	-1.000	0.372	0.0	0	0.000
74	T	4-Chlorotoluene	-1.000	0.377	0.0	0	0.000
75	T	tert-Butylbenzene	-1.000	0.352	0.0	0	0.000
76	T	sec-Butylbenzene	-1.000	0.372	0.0	0	0.000
77	T	p-Isopropyltoluene	-1.000	0.351	0.0	0	0.000
78	T	1,3-Dichlorobenzene	-1.000	0.356	0.0	0	0.000
79	T	1,4-Dichlorobenzene	0.300	0.368	-22.7	100	0.000
80	T	n-Butylbenzene	-1.000	0.382	0.0	0	0.000
81	T	1,2-Dichlorobenzene	0.300	0.340	-13.3	100	0.000
82	T	1,2-Dibromo-3-Chloropropane	-1.000	0.266	0.0	0	0.000
83	T	Hexachlorobutadiene	-1.000	0.363	0.0	0	0.000
84	T	1,2,4-Trichlorobenzene	-1.000	0.387	0.0	0	0.000
85	T	Naphthalene	-1.000	0.366	0.0	0	0.000
86	T	1,2,3-Trichlorobenzene	-1.000	0.382	0.0	0	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016370.D
Acq On : 11 Nov 2015 15:34
Operator : ADC
Sample : WG546498-04 0.4ug/L STD
Misc : 1,1 STD73185
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 12 09:49:12 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	441960	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	330272	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	179952	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.183	111	716	0.1579	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.632%#		
34) 1,2-Dichloroethane-d4	4.805	65	795	0.1826	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.730%#		
47) Toluene-d8	6.713	98	2899	0.1703	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.681%#		
66) p-Bromofluorobenzene	8.723	95	1391	0.2236	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.894%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.038	85	2219	0.3531	ug/L	91
3) Chloromethane	1.148	50	3970	0.5930	ug/L	96
4) Vinyl Chloride	1.195	62	2454	0.4104	ug/L	93
5) 1,3-Butadiene	1.206	54	2446	0.6363	ug/L	90
6) Bromomethane	1.380	94	2302	0.7298	ug/L	80
7) Chloroethane	1.461	64	3782	1.2386	ug/L #	69
8) Trichlorofluoromethane	1.548	101	3151	0.4003	ug/L #	89
9) Diethyl ether	1.748	59	2054	0.5821	ug/L	76
10) 1,1-Dichloroethene	1.867	61	2730	0.3935	ug/L	90
11) Carbon Disulfide	1.887	76	7051	0.4825	ug/L #	61
12) 1,1,2-Trichloro-1,2,2-...	1.895	101	1648	0.3831	ug/L #	86
14) Acrolein	2.040	56	209	0.4422	ug/L	85
15) Methylene Chloride	2.289	84	3898	0.7594	ug/L #	71
16) Acetone	2.269	43	352	Below Cal		97
17) trans-1,2-Dichloroethene	2.422	96	1909	0.4209	ug/L	94
18) Methyl acetate	2.451	43	783	0.3103	ug/L #	51
19) Methyl Tert Butyl Ether	2.530	73	4547	0.3933	ug/L #	81
20) 1,1-Dichloroethane	2.978	63	3455	0.3980	ug/L	93
21) Acrylonitrile	3.045	53	813	0.6766	ug/L #	57
23) cis-1,2-Dichloroethene	3.566	96	2457	0.4718	ug/L	78
24) 2,2-Dichloropropane	3.688	77	2771	0.4268	ug/L	98
25) Cyclohexane	3.801	56	3331	0.3987	ug/L #	76
26) Bromochloromethane	3.806	130	1045	0.3398	ug/L	90
27) Chloroform	3.928	83	3848	0.4474	ug/L	94
28) Carbon Tetrachloride	4.084	117	2434	0.3645	ug/L #	94
30) 1,1,1-Trichloroethane	4.171	97	3164	0.4194	ug/L	97
31) 1,1-Dichloropropene	4.342	75	2548	0.3984	ug/L #	83
32) 2-Butanone	4.374	43	1298	0.8904	ug/L #	41
33) Benzene	4.652	78	7938	0.4179	ug/L	99
35) 1,2-Dichloroethane	4.892	62	2197	0.3844	ug/L #	87
36) Methylcyclohexane	5.295	83	3944	0.4441	ug/L #	90
37) Trichloroethene	5.324	130	2213	0.4198	ug/L	96
38) Dibromomethane	5.738	93	1249	0.4431	ug/L	98
39) 1,2-Dichloropropane	5.848	63	2044	0.3915	ug/L	92
40) Bromodichloromethane	5.934	83	2582	0.3978	ug/L	99
42) 2-Chloroethyl Vinyl Ether	6.528	63	1041	0.3945	ug/L	96
43) cis-1,3-Dichloropropene	6.545	75	2878	0.3760	ug/L #	67
44) 4-Methyl-2-Pentanone	7.816	58	659	0.5083	ug/L #	68
45) trans-1,3-Dichloropropene	7.145	75	2430	0.3711	ug/L #	72
48) Toluene	6.757	91	8674	0.4146	ug/L	100
49) Tetrachloroethene	7.084	166	2376	0.4213	ug/L	96
50) 1,1,2-Trichloroethane	7.275	97	1862	0.4784	ug/L	92
51) Dibromochloromethane	7.417	129	1919	0.3819	ug/L	96
52) 1,3-Dichloropropane	7.498	76	2429	0.3934	ug/L	77

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016370.D
Acq On : 11 Nov 2015 15:34
Operator : ADC
Sample : WG546498-04 0.4ug/L STD
Misc : 1,1 STD73185
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 12 09:49:12 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

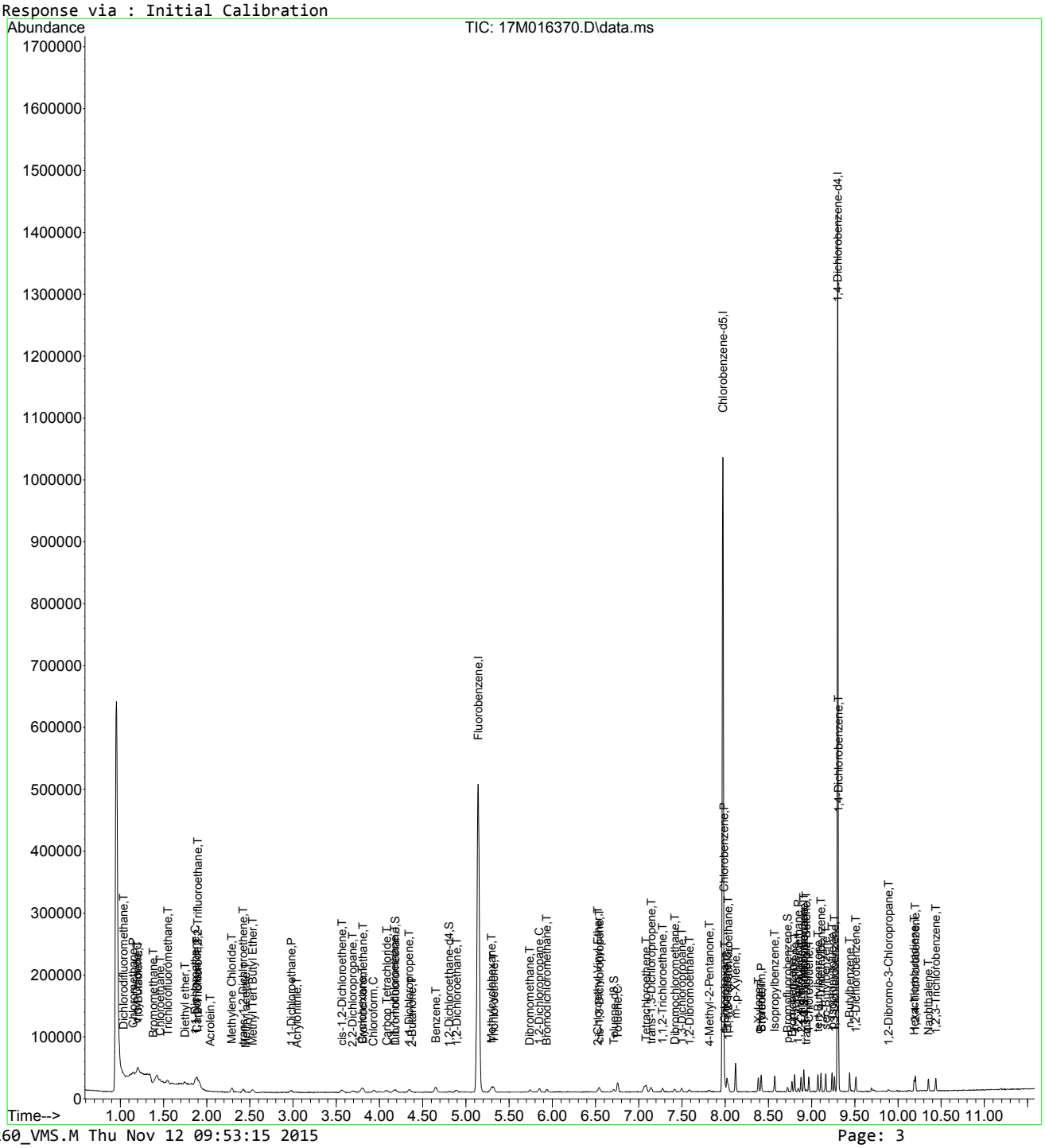
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) 1,2-Dibromoethane	7.588	107	1554	0.4023 ug/L	65
55) Chlorobenzene	7.984	112	5515	0.4090 ug/L #	15
56) 1-Chlorohexane	7.996	69	783	0.5653 ug/L #	1
57) Ethylbenzene	8.019	106	3043	0.4146 ug/L	90
58) 1,1,1,2-Tetrachloroethane	8.037	131	1919	0.3844 ug/L	78
59) m-,p-Xylene	8.120	106	7103	0.8067 ug/L	95
60) o-Xylene	8.384	106	3462	0.3984 ug/L	99
61) Styrene	8.419	104	5746	0.3979 ug/L	94
62) Bromoform	8.419	173	1165	0.3516 ug/L #	90
63) Isopropylbenzene	8.572	105	9444	0.4170 ug/L	96
65) 1,3,5-Trimethylbenzene	8.911	105	8355	0.4240 ug/L	95
67) Bromobenzene	8.775	156	2505	0.4067 ug/L	95
68) n-Propylbenzene	8.804	91	10612	0.4126 ug/L #	96
69) 1,1,2,2-Tetrachloroethane	8.844	83	1952	0.4370 ug/L	86
70) 2-Chlorotoluene	8.879	91	6551	0.4165 ug/L	98
71) 1,2,3-Trichloropropane	8.911	110	844	0.6788 ug/L #	36
72) trans-1,4-Dichloro-2-B...	8.937	53	535	0.5176 ug/L #	60
73) 1,2,4-Trimethylbenzene	9.111	105	8347	0.4244 ug/L	97
74) 4-Chlorotoluene	8.966	91	6896	0.4261 ug/L	100
75) tert-Butylbenzene	9.076	134	1397	0.3866 ug/L	95
76) sec-Butylbenzene	9.163	105	10277	0.4244 ug/L	97
77) p-Isopropyltoluene	9.238	119	8537	0.4077 ug/L	99
78) 1,3-Dichlorobenzene	9.264	146	4658	0.4118 ug/L	86
79) 1,4-Dichlorobenzene	9.310	146	4566	0.3958 ug/L #	78
80) n-Butylbenzene	9.441	91	8075	0.4190 ug/L	99
81) 1,2-Dichlorobenzene	9.513	146	4223	0.3922 ug/L	74
82) 1,2-Dibromo-3-Chloropr...	9.892	75	280	0.3340 ug/L	98
83) Hexachlorobutadiene	10.188	225	2004	0.4043 ug/L	97
84) 1,2,4-Trichlorobenzene	10.202	180	3538	0.4117 ug/L	96
85) Naphthalene	10.353	128	6853	0.4306 ug/L	100
86) 1,2,3-Trichlorobenzene	10.437	180	3258	0.4108 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016370.D
Acq On : 11 Nov 2015 15:34
Operator : ADC
Sample : WG546498-04 0.4ug/L STD
Misc : 1,1 STD73185
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 12 09:49:12 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016370.D
Acq On : 11 Nov 2015 15:34
Operator : ADC
Sample : WG546498-04 0.4ug/L STD
Misc : 1,1 STD73185
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 12 09:49:12 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	100	0.000
2	T	Dichlorodifluoromethane	-1.000	0.353	0.0	0	0.000
3	P	Chloromethane	-1.000	0.593	0.0	0	0.000
4	C	Vinyl Chloride	0.400	0.410	-2.5#	100	0.000
5	T	1,3-Butadiene	-1.000	0.636	0.0	0	0.000
6	T	Bromomethane	-1.000	0.730	0.0	0	0.000
7	T	Chloroethane	-1.000	1.239	0.0	0	0.011
8	T	Trichlorofluoromethane	0.400	0.400	0.0	100	0.017
9	T	Diethyl ether	-1.000	0.582	0.0	0	0.000
10	C	1,1-Dichloroethene	0.400	0.393	1.8#	100	0.000
11	T	Carbon Disulfide	0.400	0.483	-20.7	100	0.012
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.400	0.383	4.3	100	0.000
13	T	Iodomethane	-1.000	0.000	0.0	0	0.000
14	T	Acrolein	-1.000	0.442	0.0	0	-0.073
15	T	Methylene Chloride	-1.000	0.759	0.0	0	0.000
16	T	Acetone	-1.000	-0.212	0.0	0	-0.075
17	T	trans-1,2-Dichloroethene	0.400	0.421	-5.2	100	0.000
18	T	Methyl acetate	0.400	0.310	22.5	100	0.000
19	T	Methyl Tert Butyl Ether	0.400	0.393	1.8	100	0.000
20	P	1,1-Dichloroethane	0.400	0.398	0.5	100	0.000
21	T	Acrylonitrile	-1.000	0.677	0.0	0	0.012
22	T	Vinyl Acetate	-1.000	0.000	0.0	0	-3.274#
23	T	cis-1,2-Dichloroethene	0.400	0.472	-18.0	100	0.000
24	T	2,2-Dichloropropane	0.400	0.427	-6.7	100	0.000
25	T	Cyclohexane	0.400	0.399	0.3	100	0.000
26	T	Bromochloromethane	-1.000	0.340	0.0	0	0.000
27	C	Chloroform	0.400	0.447	-11.7#	100	0.000
28	T	Carbon Tetrachloride	0.400	0.364	9.0	100	0.000
29	S	Dibromofluoromethane	-1.000	0.158	0.0	0	0.000
30	T	1,1,1-Trichloroethane	0.400	0.419	-4.7	100	0.000
31	T	1,1-Dichloropropene	0.400	0.398	0.5	100	0.000
32	T	2-Butanone	-1.000	0.890	0.0	0	0.000
33	T	Benzene	0.400	0.418	-4.5	100	0.000
34	S	1,2-Dichloroethane-d4	-1.000	0.183	0.0	0	0.000
35	T	1,2-Dichloroethane	0.400	0.384	4.0	100	0.000
36	T	Methylcyclohexane	0.400	0.444	-11.0	100	0.000
37	T	Trichloroethene	0.400	0.420	-5.0	100	0.000
38	T	Dibromomethane	0.400	0.443	-10.7	100	0.000
39	C	1,2-Dichloropropane	0.400	0.391	2.3#	100	0.000
40	T	Bromodichloromethane	0.400	0.398	0.5	100	0.000
41	T	1,4-Dioxane	-1.000	0.000	0.0	0	-6.149#
42	T	2-Chloroethyl Vinyl Ether	-1.000	0.394	0.0	0	0.000
43	T	cis-1,3-Dichloropropene	0.400	0.376	6.0	100	0.000
44	T	4-Methyl-2-Pentanone	-1.000	0.508	0.0	0	0.000
45	T	trans-1,3-Dichloropropene	0.400	0.371	7.3	100	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	100	0.000
47	S	Toluene-d8	-1.000	0.170	0.0	0	0.000
48	C	Toluene	0.400	0.415	-3.7#	100	0.000
49	T	Tetrachloroethene	0.400	0.421	-5.2	100	0.000
50	T	1,1,2-Trichloroethane	0.400	0.478	-19.5	100	0.000
51	T	Dibromochloromethane	0.400	0.382	4.5	100	0.000
52	T	1,3-Dichloropropane	0.400	0.393	1.8	100	0.000
53	T	1,2-Dibromoethane	0.400	0.402	-0.5	100	0.000
54	T	2-Hexanone	-1.000	0.101	0.0	0	-0.061
55	P	Chlorobenzene	0.400	0.409	-2.2	100	0.000

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016370.D
Acq On : 11 Nov 2015 15:34
Operator : ADC
Sample : WG546498-04 0.4ug/L STD
Misc : 1,1 STD73185
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 12 09:49:12 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	-1.000	0.565	0.0	0	0.000
57	C	Ethylbenzene	0.400	0.415	-3.7#	100	0.000
58	T	1,1,1,2-Tetrachloroethane	0.400	0.384	4.0	100	0.000
59	T	m-,p-Xylene	0.800	0.807	-0.9	100	0.000
60	T	o-Xylene	0.400	0.398	0.5	100	0.000
61	T	Styrene	0.400	0.398	0.5	100	0.000
62	P	Bromoform	0.400	0.352	12.0	100	0.000
63	T	Isopropylbenzene	0.400	0.417	-4.2	100	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	100	0.000
65	T	1,3,5-Trimethylbenzene	0.400	0.424	-6.0	100	0.000
66	S	p-Bromofluorobenzene	-1.000	0.224	0.0	0	0.000
67	T	Bromobenzene	0.400	0.407	-1.7	100	0.000
68	T	n-Propylbenzene	0.400	0.413	-3.2	100	0.000
69	P	1,1,2,2-Tetrachloroethane	0.400	0.437	-9.2	100	0.000
70	T	2-Chlorotoluene	0.400	0.416	-4.0	100	0.000
71	T	1,2,3-Trichloropropane	-1.000	0.679	0.0	0	0.000
72	T	trans-1,4-Dichloro-2-Butene	0.400	0.518	-29.5#	100	0.000
73	T	1,2,4-Trimethylbenzene	0.400	0.424	-6.0	100	0.000
74	T	4-Chlorotoluene	0.400	0.426	-6.5	100	0.000
75	T	tert-Butylbenzene	0.400	0.387	3.3	100	0.000
76	T	sec-Butylbenzene	0.400	0.424	-6.0	100	0.000
77	T	p-Isopropyltoluene	0.400	0.408	-2.0	100	0.000
78	T	1,3-Dichlorobenzene	0.400	0.412	-3.0	100	0.000
79	T	1,4-Dichlorobenzene	0.400	0.396	1.0	100	0.000
80	T	n-Butylbenzene	0.400	0.419	-4.7	100	0.000
81	T	1,2-Dichlorobenzene	0.400	0.392	2.0	100	0.000
82	T	1,2-Dibromo-3-Chloropropane	-1.000	0.334	0.0	0	0.000
83	T	Hexachlorobutadiene	0.400	0.404	-1.0	100	0.000
84	T	1,2,4-Trichlorobenzene	0.400	0.412	-3.0	100	0.000
85	T	Naphthalene	0.400	0.431	-7.7	100	0.000
86	T	1,2,3-Trichlorobenzene	0.400	0.411	-2.7	100	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016371.D
Acq On : 11 Nov 2015 15:54
Operator : ADC
Sample : WG546498-05 1.0ug/L STD
Misc : 1,1 STD73185
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 12 09:49:14 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	445058	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	332322	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	180826	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.168	111	618	0.1354	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.542%#		
34) 1,2-Dichloroethane-d4	4.811	65	856	0.1952	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.781%#		
47) Toluene-d8	6.713	98	3321	0.1939	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.776%#		
66) p-Bromofluorobenzene	8.723	95	994	0.1590	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.636%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.041	85	5409	0.8546	ug/L	99
3) Chloromethane	1.148	50	7399	1.0975	ug/L	99
4) Vinyl Chloride	1.195	62	5503	0.9138	ug/L	98
5) 1,3-Butadiene	1.209	54	4534	1.1713	ug/L	92
6) Bromomethane	1.383	94	3471	1.0927	ug/L	90
7) Chloroethane	1.458	64	3649	1.1868	ug/L	100
8) Trichlorofluoromethane	1.545	101	7176	0.9336	ug/L #	93
9) Diethyl ether	1.748	59	3461	0.9740	ug/L	91
10) 1,1-Dichloroethene	1.869	61	6561	0.9391	ug/L	94
11) Carbon Disulfide	1.884	76	14418	0.9798	ug/L #	93
12) 1,1,2-Trichloro-1,2,2-...	1.898	101	4094	0.9450	ug/L	97
14) Acrolein	2.113	56	698	1.4665	ug/L #	63
15) Methylene Chloride	2.292	84	6316	1.2218	ug/L	83
16) Acetone	2.347	43	2407	2.1169	ug/L	83
17) trans-1,2-Dichloroethene	2.419	96	4523	0.9902	ug/L	93
18) Methyl acetate	2.448	43	2044	0.8043	ug/L #	82
19) Methyl Tert Butyl Ether	2.532	73	11296	0.9702	ug/L	93
20) 1,1-Dichloroethane	2.981	63	8285	0.9478	ug/L	95
21) Acrylonitrile	3.039	53	1509	1.2471	ug/L	76
23) cis-1,2-Dichloroethene	3.566	96	4887	0.9319	ug/L	97
24) 2,2-Dichloropropane	3.693	77	5589	0.8548	ug/L	92
25) Cyclohexane	3.798	56	8433	1.0023	ug/L	95
26) Bromochloromethane	3.806	130	2760	0.8913	ug/L	99
27) Chloroform	3.940	83	8002	0.9239	ug/L	95
28) Carbon Tetrachloride	4.081	117	6155	0.9152	ug/L	99
30) 1,1,1-Trichloroethane	4.180	97	7156	0.9420	ug/L	97
31) 1,1-Dichloropropene	4.345	75	6043	0.9383	ug/L	91
32) 2-Butanone	4.383	43	2111	1.4381	ug/L #	64
33) Benzene	4.649	78	18589	0.9718	ug/L	99
35) 1,2-Dichloroethane	4.895	62	5395	0.9374	ug/L #	86
36) Methylcyclohexane	5.297	83	8495	0.9498	ug/L #	92
37) Trichloroethene	5.321	130	5165	0.9731	ug/L	98
38) Dibromomethane	5.740	93	2682	0.9449	ug/L #	53
39) 1,2-Dichloropropane	5.850	63	5018	0.9544	ug/L	99
40) Bromodichloromethane	5.937	83	6016	0.9203	ug/L	99
42) 2-Chloroethyl Vinyl Ether	6.528	63	2565	0.9652	ug/L	94
43) cis-1,3-Dichloropropene	6.542	75	7125	0.9245	ug/L #	87
44) 4-Methyl-2-Pentanone	7.813	58	1421	1.0884	ug/L	92
45) trans-1,3-Dichloropropene	7.145	75	6054	0.9181	ug/L	93
48) Toluene	6.757	91	19859	0.9433	ug/L	98
49) Tetrachloroethene	7.084	166	5340	0.9411	ug/L	97
50) 1,1,2-Trichloroethane	7.272	97	3805	0.9715	ug/L	97
51) Dibromochloromethane	7.414	129	4728	0.9351	ug/L	99
52) 1,3-Dichloropropane	7.495	76	6040	0.9723	ug/L	88

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016371.D
Acq On : 11 Nov 2015 15:54
Operator : ADC
Sample : WG546498-05 1.0ug/L STD
Misc : 1,1 STD73185
ALS Vial : 5 Sample Multiplier: 1

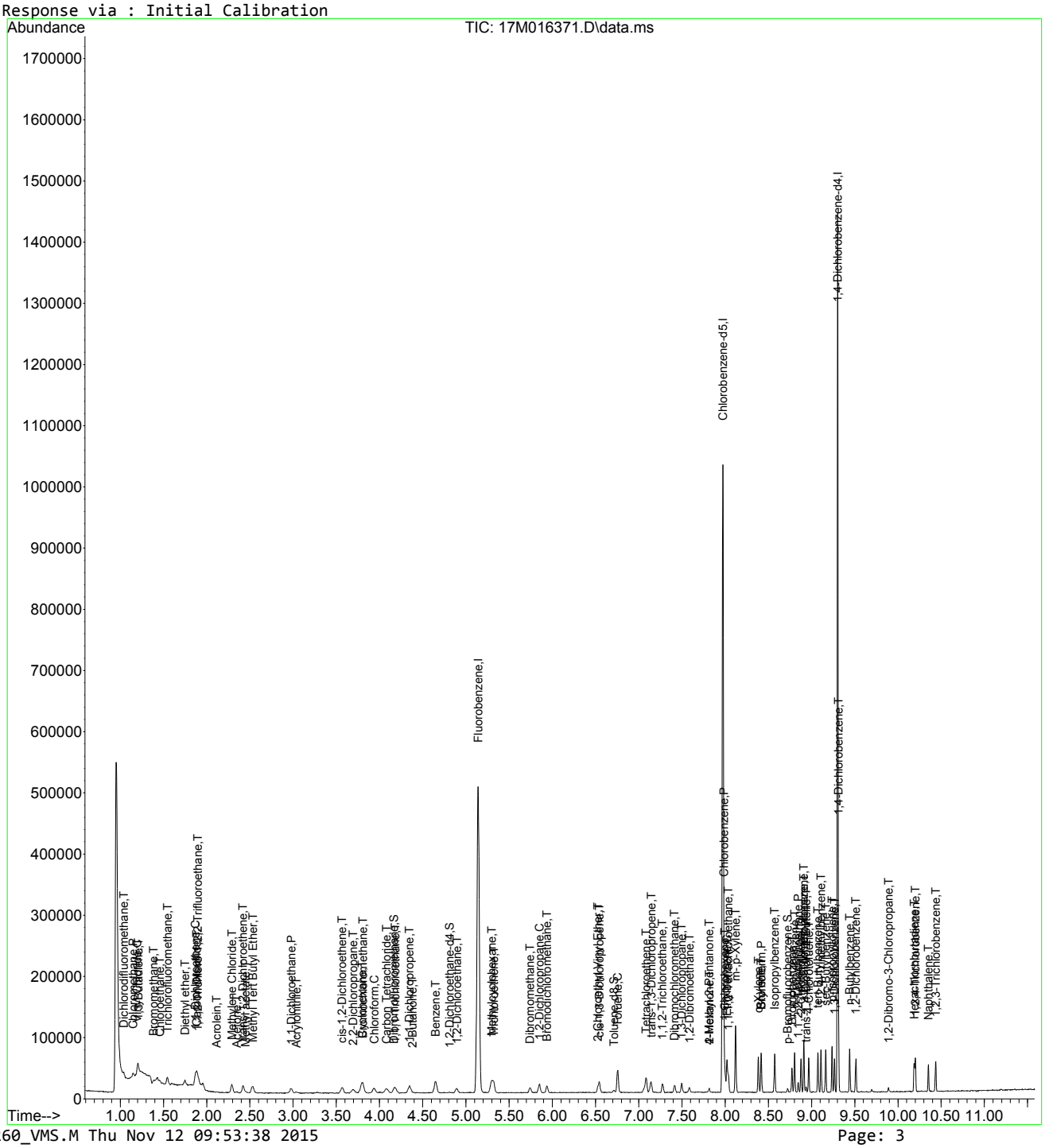
Quant Time: Nov 12 09:49:14 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) 1,2-Dibromoethane	7.585	107	3809	0.9801 ug/L	96
54) 2-Hexanone	7.816	43	2683	1.0655 ug/L	98
55) Chlorobenzene	7.984	112	12879	0.9492 ug/L #	64
56) 1-Chlorohexane	7.996	69	1649	1.1833 ug/L #	1
57) Ethylbenzene	8.019	106	7075	0.9580 ug/L	99
58) 1,1,1,2-Tetrachloroethane	8.036	131	4693	0.9343 ug/L	95
59) m-,p-Xylene	8.120	106	16718	1.8869 ug/L	97
60) o-Xylene	8.384	106	8304	0.9498 ug/L	100
61) Styrene	8.416	104	13773	0.9479 ug/L	97
62) Bromoform	8.419	173	2916	0.8747 ug/L	96
63) Isopropylbenzene	8.572	105	21951	0.9632 ug/L	98
65) 1,3,5-Trimethylbenzene	8.911	105	19374	0.9785 ug/L	98
67) Bromobenzene	8.775	156	5908	0.9546 ug/L	97
68) n-Propylbenzene	8.804	91	24929	0.9646 ug/L #	98
69) 1,1,2,2-Tetrachloroethane	8.844	83	4271	0.9515 ug/L	97
70) 2-Chlorotoluene	8.879	91	15301	0.9681 ug/L	99
71) 1,2,3-Trichloropropane	8.908	110	1422	1.1381 ug/L	78
72) trans-1,4-Dichloro-2-B...	8.937	53	987	0.9503 ug/L #	79
73) 1,2,4-Trimethylbenzene	9.108	105	19409	0.9820 ug/L	99
74) 4-Chlorotoluene	8.966	91	15311	0.9415 ug/L	96
75) tert-Butylbenzene	9.073	134	3468	0.9552 ug/L	99
76) sec-Butylbenzene	9.163	105	23806	0.9785 ug/L	99
77) p-Isopropyltoluene	9.238	119	20603	0.9791 ug/L	100
78) 1,3-Dichlorobenzene	9.264	146	11012	0.9689 ug/L	96
79) 1,4-Dichlorobenzene	9.310	146	11073	0.9551 ug/L	93
80) n-Butylbenzene	9.441	91	18519	0.9562 ug/L	100
81) 1,2-Dichlorobenzene	9.513	146	10314	0.9533 ug/L	93
82) 1,2-Dibromo-3-Chloropr...	9.889	75	842	0.9995 ug/L	93
83) Hexachlorobutadiene	10.188	225	4589	0.9214 ug/L	97
84) 1,2,4-Trichlorobenzene	10.202	180	8177	0.9470 ug/L	99
85) Naphthalene	10.353	128	15793	0.9875 ug/L	99
86) 1,2,3-Trichlorobenzene	10.437	180	7685	0.9644 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016371.D
Acq On : 11 Nov 2015 15:54
Operator : ADC
Sample : WG546498-05 1.0ug/L STD
Misc : 1,1 STD73185
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 12 09:49:14 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016371.D
Acq On : 11 Nov 2015 15:54
Operator : ADC
Sample : WG546498-05 1.0ug/L STD
Misc : 1,1 STD73185
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 12 09:49:14 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	100	0.000
2	T	Dichlorodifluoromethane	1.000	0.855	14.5	100	0.000
3	P	Chloromethane	1.000	1.097	-9.7	100	0.000
4	C	Vinyl Chloride	1.000	0.914	8.6#	100	0.000
5	T	1,3-Butadiene	1.000	1.171	-17.1	100	0.000
6	T	Bromomethane	1.000	1.093	-9.3	100	0.000
7	T	Chloroethane	1.000	1.187	-18.7	100	0.000
8	T	Trichlorofluoromethane	1.000	0.934	6.6	100	0.014
9	T	Diethyl ether	1.000	0.974	2.6	100	0.000
10	C	1,1-Dichloroethene	1.000	0.939	6.1#	100	0.000
11	T	Carbon Disulfide	1.000	0.980	2.0	100	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.000	0.945	5.5	100	0.000
13	T	Iodomethane	-1.000	0.000	0.0	0	0.000
14	T	Acrolein	-1.000	1.467	0.0	0	0.000
15	T	Methylene Chloride	1.000	1.222	-22.2	100	0.000
16	T	Acetone	-1.000	2.117	0.0	0	0.000
17	T	trans-1,2-Dichloroethene	1.000	0.990	1.0	100	0.000
18	T	Methyl acetate	1.000	0.804	19.6	75	0.000
19	T	Methyl Tert Butyl Ether	1.000	0.970	3.0	100	0.000
20	P	1,1-Dichloroethane	1.000	0.948	5.2	100	0.000
21	T	Acrylonitrile	-1.000	1.247	0.0	0	0.000
22	T	Vinyl Acetate	-1.000	0.000	0.0	0	-3.274#
23	T	cis-1,2-Dichloroethene	1.000	0.932	6.8	100	0.000
24	T	2,2-Dichloropropane	1.000	0.855	14.5	100	0.000
25	T	Cyclohexane	1.000	1.002	-0.2	100	0.000
26	T	Bromochloromethane	1.000	0.891	10.9	100	0.000
27	C	Chloroform	1.000	0.924	7.6#	100	0.000
28	T	Carbon Tetrachloride	1.000	0.915	8.5	100	0.000
29	S	Dibromofluoromethane	-1.000	0.135	0.0	0	0.000
30	T	1,1,1-Trichloroethane	1.000	0.942	5.8	100	0.000
31	T	1,1-Dichloropropene	1.000	0.938	6.2	100	0.000
32	T	2-Butanone	-1.000	1.438	0.0	0	0.018
33	T	Benzene	1.000	0.972	2.8	100	0.000
34	S	1,2-Dichloroethane-d4	-1.000	0.195	0.0	0	0.000
35	T	1,2-Dichloroethane	1.000	0.937	6.3	100	0.000
36	T	Methylcyclohexane	1.000	0.950	5.0	100	0.000
37	T	Trichloroethene	1.000	0.973	2.7	100	0.000
38	T	Dibromomethane	1.000	0.945	5.5	100	0.000
39	C	1,2-Dichloropropane	1.000	0.954	4.6#	100	0.000
40	T	Bromodichloromethane	1.000	0.920	8.0	100	0.000
41	T	1,4-Dioxane	-1.000	0.000	0.0	0	-6.149#
42	T	2-Chloroethyl Vinyl Ether	1.000	0.965	3.5	100	0.000
43	T	cis-1,3-Dichloropropene	1.000	0.924	7.6	100	0.000
44	T	4-Methyl-2-Pentanone	-1.000	1.088	0.0	0	0.000
45	T	trans-1,3-Dichloropropene	1.000	0.918	8.2	100	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	100	0.000
47	S	Toluene-d8	-1.000	0.194	0.0	0	0.000
48	C	Toluene	1.000	0.943	5.7#	100	0.000
49	T	Tetrachloroethene	1.000	0.941	5.9	100	0.000
50	T	1,1,2-Trichloroethane	1.000	0.972	2.8	100	0.000
51	T	Dibromochloromethane	1.000	0.935	6.5	100	0.000
52	T	1,3-Dichloropropane	1.000	0.972	2.8	100	0.000
53	T	1,2-Dibromoethane	1.000	0.980	2.0	100	0.000
54	T	2-Hexanone	-1.000	1.066	0.0	0	0.000
55	P	Chlorobenzene	1.000	0.949	5.1	100	0.000

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016371.D
Acq On : 11 Nov 2015 15:54
Operator : ADC
Sample : WG546498-05 1.0ug/L STD
Misc : 1,1 STD73185
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 12 09:49:14 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	1.000	1.183	-18.3	100	0.000
57	C	Ethylbenzene	1.000	0.958	4.2#	100	0.000
58	T	1,1,1,2-Tetrachloroethane	1.000	0.934	6.6	100	0.000
59	T	m-,p-Xylene	2.000	1.887	5.6	100	0.000
60	T	o-Xylene	1.000	0.950	5.0	100	0.000
61	T	Styrene	1.000	0.948	5.2	100	0.000
62	P	Bromoform	1.000	0.875	12.5	100	0.000
63	T	Isopropylbenzene	1.000	0.963	3.7	100	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	100	0.000
65	T	1,3,5-Trimethylbenzene	1.000	0.978	2.2	100	0.000
66	S	p-Bromofluorobenzene	-1.000	0.159	0.0	0	0.000
67	T	Bromobenzene	1.000	0.955	4.5	100	0.000
68	T	n-Propylbenzene	1.000	0.965	3.5	100	0.000
69	P	1,1,2,2-Tetrachloroethane	1.000	0.951	4.9	100	0.000
70	T	2-Chlorotoluene	1.000	0.968	3.2	100	0.000
71	T	1,2,3-Trichloropropane	1.000	1.138	-13.8	100	0.000
72	T	trans-1,4-Dichloro-2-Butene	1.000	0.950	5.0	100	0.000
73	T	1,2,4-Trimethylbenzene	1.000	0.982	1.8	100	0.000
74	T	4-Chlorotoluene	1.000	0.941	5.9	100	0.000
75	T	tert-Butylbenzene	1.000	0.955	4.5	100	0.000
76	T	sec-Butylbenzene	1.000	0.978	2.2	100	0.000
77	T	p-Isopropyltoluene	1.000	0.979	2.1	100	0.000
78	T	1,3-Dichlorobenzene	1.000	0.969	3.1	100	0.000
79	T	1,4-Dichlorobenzene	1.000	0.955	4.5	100	0.000
80	T	n-Butylbenzene	1.000	0.956	4.4	100	0.000
81	T	1,2-Dichlorobenzene	1.000	0.953	4.7	100	0.000
82	T	1,2-Dibromo-3-Chloropropane	-1.000	0.999	0.0	0	0.000
83	T	Hexachlorobutadiene	1.000	0.921	7.9	100	0.000
84	T	1,2,4-Trichlorobenzene	1.000	0.947	5.3	100	0.000
85	T	Naphthalene	1.000	0.987	1.3	100	0.000
86	T	1,2,3-Trichlorobenzene	1.000	0.964	3.6	100	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016372.D
Acq On : 11 Nov 2015 16:14
Operator : ADC
Sample : WG546498-06 2.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 12 09:49:16 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	441729	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	328196	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	179770	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.171	111	953	0.2103	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.841%#		
34) 1,2-Dichloroethane-d4	4.814	65	759	0.1744	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.698%#		
47) Toluene-d8	6.710	98	2962	0.1751	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.700%#		
66) p-Bromofluorobenzene	8.723	95	1652	0.2658	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.063%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.038	85	11070	1.7622	ug/L	99
3) Chloromethane	1.151	50	13794	2.0615	ug/L	99
4) Vinyl Chloride	1.195	62	11207	1.8750	ug/L	98
5) 1,3-Butadiene	1.206	54	7924	2.0626	ug/L	99
6) Bromomethane	1.383	94	6882	2.1829	ug/L	83
7) Chloroethane	1.455	64	6503	2.1309	ug/L #	74
8) Trichlorofluoromethane	1.542	101	14507	1.9268	ug/L	97
9) Diethyl ether	1.748	59	7718	2.1884	ug/L	93
10) 1,1-Dichloroethene	1.869	61	13450	1.9397	ug/L	98
11) Carbon Disulfide	1.884	76	27593	1.8893	ug/L #	90
12) 1,1,2-Trichloro-1,2,2-...	1.898	101	8397	1.9529	ug/L	99
14) Acrolein	2.115	56	1360	2.8790	ug/L	85
15) Methylene Chloride	2.289	84	11187	2.1805	ug/L	90
16) Acetone	2.344	43	2472	2.2118	ug/L	96
17) trans-1,2-Dichloroethene	2.419	96	8767	1.9338	ug/L	98
18) Methyl acetate	2.448	43	4481	1.7766	ug/L #	91
19) Methyl Tert Butyl Ether	2.532	73	23088	1.9979	ug/L	95
20) 1,1-Dichloroethane	2.975	63	16937	1.9521	ug/L	98
21) Acrylonitrile	3.042	53	2643	2.2007	ug/L	91
22) Vinyl Acetate	3.282	86	272	4.0182	ug/L #	1
23) cis-1,2-Dichloroethene	3.566	96	10057	1.9321	ug/L	97
24) 2,2-Dichloropropane	3.693	77	11469	1.7673	ug/L	94
25) Cyclohexane	3.792	56	17078	2.0452	ug/L	98
26) Bromochloromethane	3.812	130	5776	1.8793	ug/L	100
27) Chloroform	3.937	83	16478	1.9169	ug/L	98
28) Carbon Tetrachloride	4.079	117	13065	1.9574	ug/L	97
30) 1,1,1-Trichloroethane	4.174	97	14902	1.9764	ug/L	100
31) 1,1-Dichloropropene	4.345	75	12522	1.9590	ug/L	94
32) 2-Butanone	4.374	43	3362	2.3075	ug/L #	40
33) Benzene	4.649	78	37184	1.9586	ug/L	100
35) 1,2-Dichloroethane	4.889	62	11420	1.9991	ug/L #	95
36) Methylcyclohexane	5.295	83	17144	1.9313	ug/L	96
37) Trichloroethene	5.324	130	10227	1.9413	ug/L	97
38) Dibromomethane	5.743	93	5519	1.9590	ug/L	98
39) 1,2-Dichloropropane	5.850	63	10340	1.9814	ug/L	100
40) Bromodichloromethane	5.937	83	12772	1.9686	ug/L	99
42) 2-Chloroethyl Vinyl Ether	6.525	63	5173	1.9612	ug/L	97
43) cis-1,3-Dichloropropene	6.545	75	14648	1.9150	ug/L	95
44) 4-Methyl-2-Pentanone	7.811	58	2934	2.2643	ug/L	89
45) trans-1,3-Dichloropropene	7.145	75	12566	1.9200	ug/L	96
48) Toluene	6.757	91	41495	1.9957	ug/L	99
49) Tetrachloroethene	7.084	166	10927	1.9498	ug/L	99
50) 1,1,2-Trichloroethane	7.275	97	7614	1.9685	ug/L	96
51) Dibromochloromethane	7.414	129	9610	1.9246	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016372.D
Acq On : 11 Nov 2015 16:14
Operator : ADC
Sample : WG546498-06 2.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 6 Sample Multiplier: 1

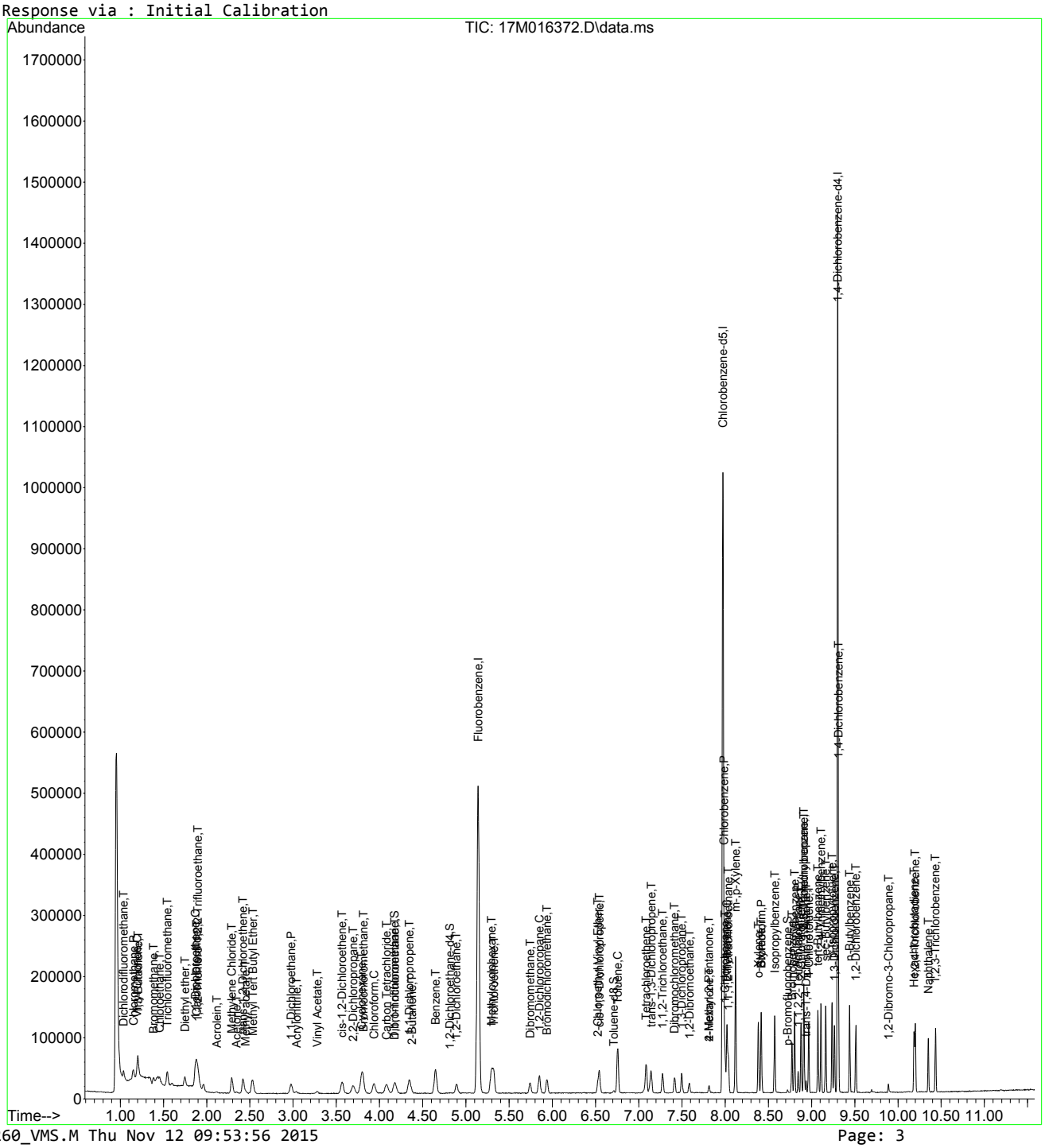
Quant Time: Nov 12 09:49:16 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 1,3-Dichloropropane	7.495	76	12384	2.0186	ug/L		97
53) 1,2-Dibromoethane	7.588	107	7777	2.0262	ug/L		100
54) 2-Hexanone	7.814	43	5573	2.2411	ug/L		99
55) Chlorobenzene	7.984	112	26437	1.9730	ug/L		85
56) 1-Chlorohexane	7.999	69	2876	2.0897	ug/L	#	83
57) Ethylbenzene	8.019	106	14041	1.9251	ug/L		94
58) 1,1,1,2-Tetrachloroethane	8.036	131	9797	1.9749	ug/L		97
59) m-,p-Xylene	8.120	106	34517	3.9447	ug/L		100
60) o-Xylene	8.384	106	16733	1.9380	ug/L		97
61) Styrene	8.416	104	28327	1.9741	ug/L		99
62) Bromoform	8.419	173	6362	1.9325	ug/L		98
63) Isopropylbenzene	8.575	105	45060	2.0020	ug/L		99
65) 1,3,5-Trimethylbenzene	8.911	105	39947	2.0294	ug/L		98
67) Bromobenzene	8.775	156	11767	1.9125	ug/L		97
68) n-Propylbenzene	8.804	91	51807	2.0164	ug/L		99
69) 1,1,2,2-Tetrachloroethane	8.844	83	8705	1.9506	ug/L		100
70) 2-Chlorotoluene	8.879	91	31003	1.9730	ug/L		99
71) 1,2,3-Trichloropropane	8.911	110	2646	2.1302	ug/L		90
72) trans-1,4-Dichloro-2-B...	8.937	53	2166	2.0977	ug/L	#	81
73) 1,2,4-Trimethylbenzene	9.108	105	39303	2.0001	ug/L		99
74) 4-Chlorotoluene	8.966	91	32473	2.0085	ug/L		100
75) tert-Butylbenzene	9.073	134	7070	1.9586	ug/L		97
76) sec-Butylbenzene	9.163	105	49271	2.0370	ug/L		99
77) p-Isopropyltoluene	9.238	119	41728	1.9947	ug/L		99
78) 1,3-Dichlorobenzene	9.264	146	22316	1.9751	ug/L		98
79) 1,4-Dichlorobenzene	9.310	146	22145	1.9214	ug/L		97
80) n-Butylbenzene	9.441	91	38221	1.9851	ug/L		99
81) 1,2-Dichlorobenzene	9.513	146	20783	1.9322	ug/L		95
82) 1,2-Dibromo-3-Chloropr...	9.889	75	1645	1.9641	ug/L		95
83) Hexachlorobutadiene	10.185	225	9564	1.9317	ug/L		99
84) 1,2,4-Trichlorobenzene	10.199	180	16464	1.9180	ug/L		99
85) Naphthalene	10.353	128	32754	2.0600	ug/L		98
86) 1,2,3-Trichlorobenzene	10.434	180	15576	1.9661	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016372.D
Acq On : 11 Nov 2015 16:14
Operator : ADC
Sample : WG546498-06 2.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 12 09:49:16 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016372.D
Acq On : 11 Nov 2015 16:14
Operator : ADC
Sample : WG546498-06 2.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 12 09:49:16 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	100	0.000
2	T	Dichlorodifluoromethane	2.000	1.762	11.9	100	0.000
3	P	Chloromethane	2.000	2.061	-3.0	100	0.000
4	C	Vinyl Chloride	2.000	1.875	6.3#	100	0.000
5	T	1,3-Butadiene	2.000	2.063	-3.2	100	0.000
6	T	Bromomethane	2.000	2.183	-9.1	100	0.000
7	T	Chloroethane	2.000	2.131	-6.5	100	0.000
8	T	Trichlorofluoromethane	2.000	1.927	3.6	100	0.011
9	T	Diethyl ether	2.000	2.188	-9.4	100	0.000
10	C	1,1-Dichloroethene	2.000	1.940	3.0#	100	0.000
11	T	Carbon Disulfide	2.000	1.889	5.5	100	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.000	1.953	2.3	100	0.000
13	T	Iodomethane	-1.000	0.000	0.0	0	0.000
14	T	Acrolein	-1.000	2.879	0.0	0	0.000
15	T	Methylene Chloride	2.000	2.180	-9.0	100	0.000
16	T	Acetone	-1.000	2.212	0.0	0	0.000
17	T	trans-1,2-Dichloroethene	2.000	1.934	3.3	100	0.000
18	T	Methyl acetate	2.000	1.777	11.2	108	0.000
19	T	Methyl Tert Butyl Ether	2.000	1.998	0.1	100	0.000
20	P	1,1-Dichloroethane	2.000	1.952	2.4	100	0.000
21	T	Acrylonitrile	2.000	2.201	-10.1	100	0.000
22	T	Vinyl Acetate	-1.000	4.018	0.0	0	0.000
23	T	cis-1,2-Dichloroethene	2.000	1.932	3.4	100	0.000
24	T	2,2-Dichloropropane	2.000	1.767	11.7	100	0.000
25	T	Cyclohexane	2.000	2.045	-2.2	100	0.000
26	T	Bromochloromethane	2.000	1.879	6.0	100	0.000
27	C	Chloroform	2.000	1.917	4.1#	100	0.000
28	T	Carbon Tetrachloride	2.000	1.957	2.1	100	0.000
29	S	Dibromofluoromethane	-1.000	0.210	0.0	0	0.000
30	T	1,1,1-Trichloroethane	2.000	1.976	1.2	100	0.000
31	T	1,1-Dichloropropene	2.000	1.959	2.0	100	0.000
32	T	2-Butanone	-1.000	2.308	0.0	0	0.000
33	T	Benzene	2.000	1.959	2.0	100	0.000
34	S	1,2-Dichloroethane-d4	-1.000	0.174	0.0	0	0.000
35	T	1,2-Dichloroethane	2.000	1.999	0.0	100	0.000
36	T	Methylcyclohexane	2.000	1.931	3.4	100	0.000
37	T	Trichloroethene	2.000	1.941	2.9	100	0.000
38	T	Dibromomethane	2.000	1.959	2.0	100	0.000
39	C	1,2-Dichloropropane	2.000	1.981	0.9#	100	0.000
40	T	Bromodichloromethane	2.000	1.969	1.5	100	0.000
41	T	1,4-Dioxane	-1.000	0.000	0.0	0	-6.149#
42	T	2-Chloroethyl Vinyl Ether	2.000	1.961	1.9	100	0.000
43	T	cis-1,3-Dichloropropene	2.000	1.915	4.2	100	0.000
44	T	4-Methyl-2-Pentanone	-1.000	2.264	0.0	0	0.000
45	T	trans-1,3-Dichloropropene	2.000	1.920	4.0	100	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	100	0.000
47	S	Toluene-d8	-1.000	0.175	0.0	0	0.000
48	C	Toluene	2.000	1.996	0.2#	100	0.000
49	T	Tetrachloroethene	2.000	1.950	2.5	100	0.000
50	T	1,1,2-Trichloroethane	2.000	1.969	1.5	100	0.000
51	T	Dibromochloromethane	2.000	1.925	3.7	100	0.000
52	T	1,3-Dichloropropane	2.000	2.019	-1.0	100	0.000
53	T	1,2-Dibromoethane	2.000	2.026	-1.3	100	0.000
54	T	2-Hexanone	2.000	2.241	-12.1	100	0.000
55	P	Chlorobenzene	2.000	1.973	1.3	100	0.000

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016372.D
Acq On : 11 Nov 2015 16:14
Operator : ADC
Sample : WG546498-06 2.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 12 09:49:16 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	2.000	2.090	-4.5	100	0.000
57	C	Ethylbenzene	2.000	1.925	3.7#	100	0.000
58	T	1,1,1,2-Tetrachloroethane	2.000	1.975	1.2	100	0.000
59	T	m-,p-Xylene	4.000	3.945	1.4	100	0.000
60	T	o-Xylene	2.000	1.938	3.1	100	0.000
61	T	Styrene	2.000	1.974	1.3	100	0.000
62	P	Bromoform	2.000	1.932	3.4	100	0.000
63	T	Isopropylbenzene	2.000	2.002	-0.1	100	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	100	0.000
65	T	1,3,5-Trimethylbenzene	2.000	2.029	-1.4	100	0.000
66	S	p-Bromofluorobenzene	-1.000	0.266	0.0	0	0.000
67	T	Bromobenzene	2.000	1.913	4.3	100	0.000
68	T	n-Propylbenzene	2.000	2.016	-0.8	100	0.000
69	P	1,1,2,2-Tetrachloroethane	2.000	1.951	2.4	100	0.000
70	T	2-Chlorotoluene	2.000	1.973	1.3	100	0.000
71	T	1,2,3-Trichloropropane	2.000	2.130	-6.5	100	0.000
72	T	trans-1,4-Dichloro-2-Butene	2.000	2.098	-4.9	100	0.000
73	T	1,2,4-Trimethylbenzene	2.000	2.000	0.0	100	0.000
74	T	4-Chlorotoluene	2.000	2.009	-0.4	100	0.000
75	T	tert-Butylbenzene	2.000	1.959	2.0	100	0.000
76	T	sec-Butylbenzene	2.000	2.037	-1.8	100	0.000
77	T	p-Isopropyltoluene	2.000	1.995	0.2	100	0.000
78	T	1,3-Dichlorobenzene	2.000	1.975	1.2	100	0.000
79	T	1,4-Dichlorobenzene	2.000	1.921	3.9	100	0.000
80	T	n-Butylbenzene	2.000	1.985	0.7	100	0.000
81	T	1,2-Dichlorobenzene	2.000	1.932	3.4	100	0.000
82	T	1,2-Dibromo-3-Chloropropane	2.000	1.964	1.8	100	0.000
83	T	Hexachlorobutadiene	2.000	1.932	3.4	100	0.000
84	T	1,2,4-Trichlorobenzene	2.000	1.918	4.1	100	0.000
85	T	Naphthalene	2.000	2.060	-3.0	100	0.000
86	T	1,2,3-Trichlorobenzene	2.000	1.966	1.7	100	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016373.D
Acq On : 11 Nov 2015 16:33
Operator : ADC
Sample : WG546498-07 5.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:55:30 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	432623	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	320606	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	175287	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.180	111	23235	5.2355	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 20.942%#			
34) 1,2-Dichloroethane-d4	4.814	65	22950	5.3849	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 21.540%#			
47) Toluene-d8	6.710	98	86498	5.2339	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 20.936%#			
66) p-Bromofluorobenzene	8.723	95	30541	5.0403	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 20.161%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.038	85	30889	5.0207	ug/L	99
3) Chloromethane	1.148	50	35766	5.4576	ug/L	99
4) Vinyl Chloride	1.195	62	31301	5.3470	ug/L	98
5) 1,3-Butadiene	1.206	54	18569	4.9351	ug/L	98
6) Bromomethane	1.383	94	16788	5.4372	ug/L	100
7) Chloroethane	1.452	64	17410	5.8250	ug/L	83
8) Trichlorofluoromethane	1.539	101	39315	5.3920	ug/L	98
9) Diethyl ether	1.748	59	18562	5.3738	ug/L	99
10) 1,1-Dichloroethene	1.866	61	37561	5.5308	ug/L	99
11) Carbon Disulfide	1.881	76	70129	4.9029	ug/L	99
12) 1,1,2-Trichloro-1,2,2-...	1.898	101	23545	5.5910	ug/L	100
14) Acrolein	2.113	56	2740	5.9224	ug/L	91
15) Methylene Chloride	2.292	84	28500	5.6719	ug/L	95
16) Acetone	2.347	43	5507	5.8137	ug/L #	72
17) trans-1,2-Dichloroethene	2.422	96	24016	5.4089	ug/L	100
18) Methyl acetate	2.451	43	12641	5.1174	ug/L #	98
19) Methyl Tert Butyl Ether	2.529	73	65593	5.7955	ug/L	99
20) 1,1-Dichloroethane	2.978	63	47350	5.5723	ug/L	100
21) Acrylonitrile	3.036	53	6503	5.5288	ug/L	96
22) Vinyl Acetate	3.276	86	1562	6.2614	ug/L #	76
23) cis-1,2-Dichloroethene	3.566	96	27739	5.4413	ug/L	100
24) 2,2-Dichloropropane	3.693	77	32509	5.1149	ug/L	99
25) Cyclohexane	3.792	56	41807	5.1119	ug/L	97
26) Bromochloromethane	3.803	130	16652	5.5319	ug/L	100
27) Chloroform	3.934	83	45552	5.4108	ug/L	99
28) Carbon Tetrachloride	4.081	117	36188	5.5357	ug/L	99
30) 1,1,1-Trichloroethane	4.180	97	41493	5.6190	ug/L	99
31) 1,1-Dichloropropene	4.345	75	34916	5.5775	ug/L	99
32) 2-Butanone	4.374	43	7475	5.2385	ug/L #	95
33) Benzene	4.646	78	102565	5.5162	ug/L	99
35) 1,2-Dichloroethane	4.892	62	31926	5.7064	ug/L	98
36) Methylcyclohexane	5.297	83	41963	4.8267	ug/L	98
37) Trichloroethene	5.323	130	28145	5.4549	ug/L	98
38) Dibromomethane	5.743	93	15419	5.5884	ug/L	99
39) 1,2-Dichloropropane	5.850	63	28726	5.6205	ug/L	99
40) Bromodichloromethane	5.937	83	35304	5.5560	ug/L	96
41) 1,4-Dioxane	6.157	88	236	7.6025	ug/L #	1
42) 2-Chloroethyl Vinyl Ether	6.528	63	13598	5.2639	ug/L	100
43) cis-1,3-Dichloropropene	6.545	75	41870	5.5889	ug/L	99
44) 4-Methyl-2-Pentanone	7.813	58	7057	5.5607	ug/L	100
45) trans-1,3-Dichloropropene	7.145	75	35851	5.5932	ug/L	98
48) Toluene	6.754	91	116097	5.7160	ug/L	99
49) Tetrachloroethene	7.087	166	30215	5.5193	ug/L	100
50) 1,1,2-Trichloroethane	7.275	97	21414	5.6674	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016373.D
Acq On : 11 Nov 2015 16:33
Operator : ADC
Sample : WG546498-07 5.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:55:30 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

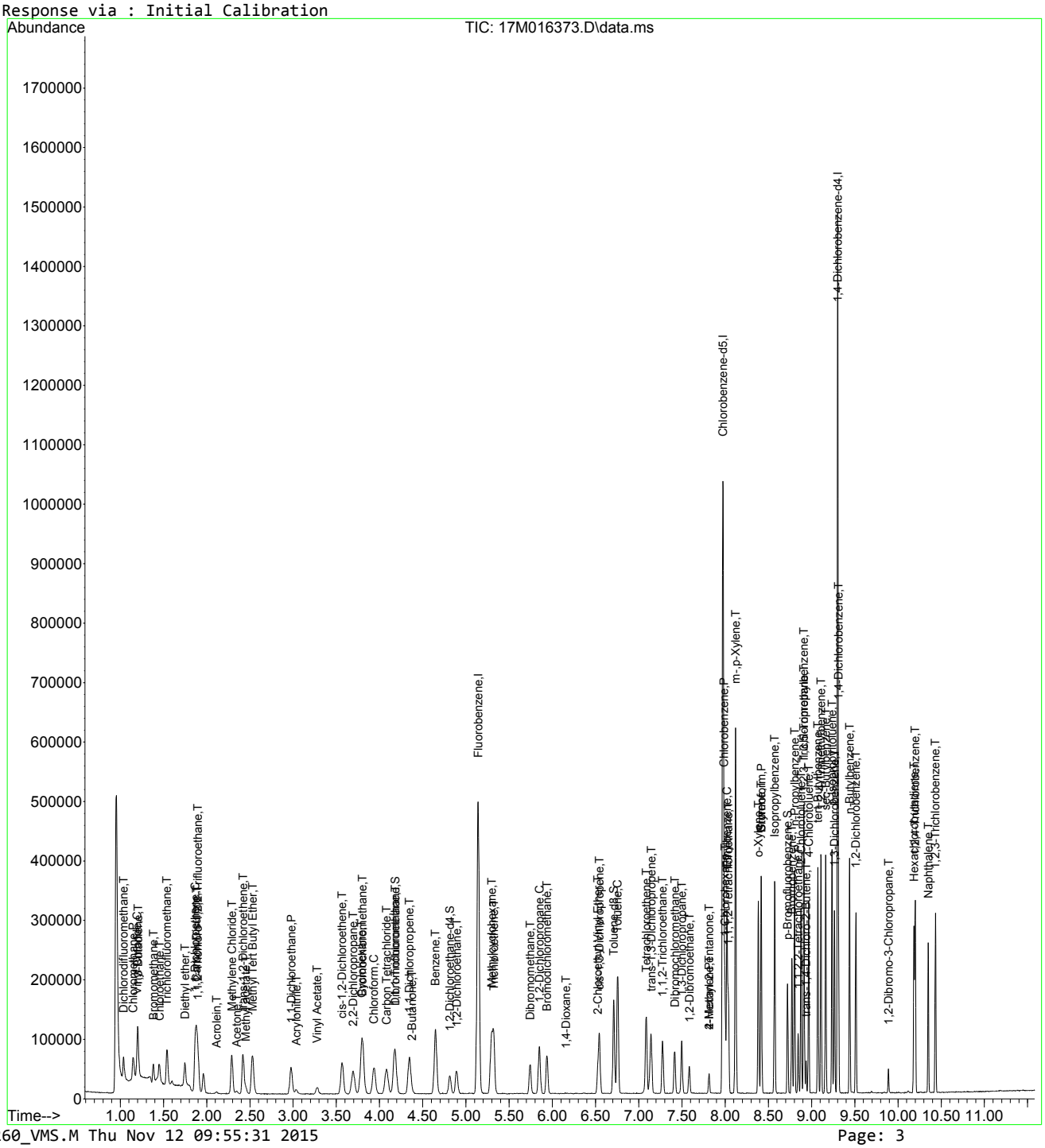
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.417	129	27260	5.5885	ug/L		98
52) 1,3-Dichloropropane	7.498	76	34573	5.7689	ug/L		98
53) 1,2-Dibromoethane	7.585	107	21349	5.6938	ug/L		100
54) 2-Hexanone	7.813	43	12998	5.3507	ug/L		97
55) Chlorobenzene	7.984	112	72910	5.5700	ug/L		94
56) 1-Chlorohexane	7.999	69	6646	4.9432	ug/L		70
57) Ethylbenzene	8.019	106	39341	5.5216	ug/L		99
58) 1,1,1,2-Tetrachloroethane	8.036	131	27278	5.6289	ug/L		97
59) m-,p-Xylene	8.120	106	96707	11.3137	ug/L		100
60) o-Xylene	8.384	106	47483	5.6295	ug/L		98
61) Styrene	8.416	104	78212	5.5797	ug/L		99
62) Bromoform	8.419	173	18171	5.6501	ug/L		99
63) Isopropylbenzene	8.572	105	125413	5.7041	ug/L		99
65) 1,3,5-Trimethylbenzene	8.911	105	109819	5.7217	ug/L		99
67) Bromobenzene	8.772	156	33338	5.5571	ug/L		99
68) n-Propylbenzene	8.804	91	144838	5.7815	ug/L		99
69) 1,1,2,2-Tetrachloroethane	8.844	83	25151	5.7800	ug/L		99
70) 2-Chlorotoluene	8.879	91	87536	5.7133	ug/L		99
71) 1,2,3-Trichloropropane	8.908	110	7088	5.8522	ug/L		95
72) trans-1,4-Dichloro-2-B...	8.937	53	5177	5.1421	ug/L	#	94
73) 1,2,4-Trimethylbenzene	9.108	105	110041	5.7432	ug/L		99
74) 4-Chlorotoluene	8.966	91	89996	5.7088	ug/L		99
75) tert-Butylbenzene	9.073	134	19681	5.5918	ug/L		96
76) sec-Butylbenzene	9.163	105	136371	5.7821	ug/L		99
77) p-Isopropyltoluene	9.238	119	118047	5.7873	ug/L		99
78) 1,3-Dichlorobenzene	9.264	146	61365	5.5701	ug/L		99
79) 1,4-Dichlorobenzene	9.310	146	61766	5.4961	ug/L		99
80) n-Butylbenzene	9.441	91	106426	5.6690	ug/L		100
81) 1,2-Dichlorobenzene	9.513	146	59292	5.6533	ug/L		100
82) 1,2-Dibromo-3-Chloropr...	9.889	75	4656	5.7013	ug/L		96
83) Hexachlorobutadiene	10.185	225	26568	5.5033	ug/L		99
84) 1,2,4-Trichlorobenzene	10.199	180	47276	5.6482	ug/L		100
85) Naphthalene	10.350	128	91986	5.9331	ug/L		100
86) 1,2,3-Trichlorobenzene	10.434	180	44703	5.7869	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016373.D
Acq On : 11 Nov 2015 16:33
Operator : ADC
Sample : WG546498-07 5.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:55:30 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



8260_VMS.M Thu Nov 12 09:55:31 2015 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016373.D
Acq On : 11 Nov 2015 16:33
Operator : ADC
Sample : WG546498-07 5.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:49:18 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	100	0.000
2	T	Dichlorodifluoromethane	5.000	5.021	-0.4	100	0.000
3	P	Chloromethane	5.000	5.458	-9.2	100	0.000
4	C	Vinyl Chloride	5.000	5.347	-6.9#	100	0.000
5	T	1,3-Butadiene	5.000	4.935	1.3	100	0.000
6	T	Bromomethane	5.000	5.437	-8.7	100	0.000
7	T	Chloroethane	5.000	5.825	-16.5	100	0.000
8	T	Trichlorofluoromethane	5.000	5.392	-7.8	100	0.000
9	T	Diethyl ether	5.000	5.374	-7.5	100	0.000
10	C	1,1-Dichloroethene	5.000	5.531	-10.6#	100	0.000
11	T	Carbon Disulfide	5.000	4.903	1.9	100	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.000	5.591	-11.8	100	0.000
13	T	Iodomethane	-1.000	0.000	0.0	0	0.000
14	T	Acrolein	5.000	5.922	-18.4	100	0.000
15	T	Methylene Chloride	5.000	5.672	-13.4	100	0.000
16	T	Acetone	5.000	5.814	-16.3	100	0.000
17	T	trans-1,2-Dichloroethene	5.000	5.409	-8.2	100	0.000
18	T	Methyl acetate	5.000	5.117	-2.3	102	0.000
19	T	Methyl Tert Butyl Ether	5.000	5.795	-15.9	100	0.000
20	P	1,1-Dichloroethane	5.000	5.572	-11.4	100	0.000
21	T	Acrylonitrile	5.000	5.529	-10.6	100	0.000
22	T	Vinyl Acetate	5.000	6.261	-25.2#	100	0.000
23	T	cis-1,2-Dichloroethene	5.000	5.441	-8.8	100	0.000
24	T	2,2-Dichloropropane	5.000	5.115	-2.3	100	0.000
25	T	Cyclohexane	5.000	5.112	-2.2	100	0.000
26	T	Bromochloromethane	5.000	5.532	-10.6	100	0.000
27	C	Chloroform	5.000	5.411	-8.2#	100	0.000
28	T	Carbon Tetrachloride	5.000	5.536	-10.7	100	0.000
29	S	Dibromofluoromethane	5.000	5.235	-4.7	100	0.000
30	T	1,1,1-Trichloroethane	5.000	5.619	-12.4	100	0.000
31	T	1,1-Dichloropropene	5.000	5.578	-11.6	100	0.000
32	T	2-Butanone	5.000	5.239	-4.8	100	0.000
33	T	Benzene	5.000	5.516	-10.3	100	0.000
34	S	1,2-Dichloroethane-d4	5.000	5.385	-7.7	100	0.000
35	T	1,2-Dichloroethane	5.000	5.706	-14.1	100	0.000
36	T	Methylcyclohexane	5.000	4.827	3.5	100	0.000
37	T	Trichloroethene	5.000	5.455	-9.1	100	0.000
38	T	Dibromomethane	5.000	5.588	-11.8	100	0.000
39	C	1,2-Dichloropropane	5.000	5.620	-12.4#	100	0.000
40	T	Bromodichloromethane	5.000	5.556	-11.1	100	0.000
41	T	1,4-Dioxane	-1.000	7.602	0.0	0	0.000
42	T	2-Chloroethyl Vinyl Ether	5.000	5.264	-5.3	100	0.000
43	T	cis-1,3-Dichloropropene	5.000	5.589	-11.8	100	0.000
44	T	4-Methyl-2-Pentanone	5.000	5.561	-11.2	100	0.000
45	T	trans-1,3-Dichloropropene	5.000	5.593	-11.9	100	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	100	0.000
47	S	Toluene-d8	5.000	5.234	-4.7	100	0.000
48	C	Toluene	5.000	5.716	-14.3#	100	0.000
49	T	Tetrachloroethene	5.000	5.519	-10.4	100	0.000
50	T	1,1,2-Trichloroethane	5.000	5.667	-13.3	100	0.000
51	T	Dibromochloromethane	5.000	5.588	-11.8	100	0.000
52	T	1,3-Dichloropropane	5.000	5.769	-15.4	100	0.000
53	T	1,2-Dibromoethane	5.000	5.694	-13.9	100	0.000
54	T	2-Hexanone	5.000	5.351	-7.0	100	0.000
55	P	Chlorobenzene	5.000	5.570	-11.4	100	0.000

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016373.D
Acq On : 11 Nov 2015 16:33
Operator : ADC
Sample : WG546498-07 5.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:49:18 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	5.000	4.943	1.1	100	0.000
57	C	Ethylbenzene	5.000	5.522	-10.4#	100	0.000
58	T	1,1,1,2-Tetrachloroethane	5.000	5.629	-12.6	100	0.000
59	T	m-,p-Xylene	10.000	11.314	-13.1	100	0.000
60	T	o-Xylene	5.000	5.630	-12.6	100	0.000
61	T	Styrene	5.000	5.580	-11.6	100	0.000
62	P	Bromoform	5.000	5.650	-13.0	100	0.000
63	T	Isopropylbenzene	5.000	5.704	-14.1	100	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	100	0.000
65	T	1,3,5-Trimethylbenzene	5.000	5.722	-14.4	100	0.000
66	S	p-Bromofluorobenzene	5.000	5.040	-0.8	100	0.000
67	T	Bromobenzene	5.000	5.557	-11.1	100	0.000
68	T	n-Propylbenzene	5.000	5.781	-15.6	100	0.000
69	P	1,1,2,2-Tetrachloroethane	5.000	5.780	-15.6	100	0.000
70	T	2-Chlorotoluene	5.000	5.713	-14.3	100	0.000
71	T	1,2,3-Trichloropropane	5.000	5.852	-17.0	100	0.000
72	T	trans-1,4-Dichloro-2-Butene	5.000	5.142	-2.8	100	0.000
73	T	1,2,4-Trimethylbenzene	5.000	5.743	-14.9	100	0.000
74	T	4-Chlorotoluene	5.000	5.709	-14.2	100	0.000
75	T	tert-Butylbenzene	5.000	5.592	-11.8	100	0.000
76	T	sec-Butylbenzene	5.000	5.782	-15.6	100	0.000
77	T	p-Isopropyltoluene	5.000	5.787	-15.7	100	0.000
78	T	1,3-Dichlorobenzene	5.000	5.570	-11.4	100	0.000
79	T	1,4-Dichlorobenzene	5.000	5.496	-9.9	100	0.000
80	T	n-Butylbenzene	5.000	5.669	-13.4	100	0.000
81	T	1,2-Dichlorobenzene	5.000	5.653	-13.1	100	0.000
82	T	1,2-Dibromo-3-Chloropropane	5.000	5.701	-14.0	100	0.000
83	T	Hexachlorobutadiene	5.000	5.503	-10.1	100	0.000
84	T	1,2,4-Trichlorobenzene	5.000	5.648	-13.0	100	0.000
85	T	Naphthalene	5.000	5.933	-18.7	100	0.000
86	T	1,2,3-Trichlorobenzene	5.000	5.787	-15.7	100	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016374.D
Acq On : 11 Nov 2015 16:53
Operator : ADC
Sample : WG546498-08 20.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 12 09:55:33 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	432020	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	326915	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	182702	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	42853	9.6694	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 38.678%#			
34) 1,2-Dichloroethane-d4	4.814	65	41338	9.7129	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 38.852%#			
47) Toluene-d8	6.710	98	160163	9.5043	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 38.017%#			
66) p-Bromofluorobenzene	8.723	95	59106	9.3586	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 37.434%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.038	85	123979	20.1796	ug/L	99
3) Chloromethane	1.148	50	126802	19.3760	ug/L	100
4) Vinyl Chloride	1.195	62	115155	19.6989	ug/L	100
5) 1,3-Butadiene	1.206	54	70591	18.7874	ug/L	99
6) Bromomethane	1.380	94	56601	18.3570	ug/L	100
7) Chloroethane	1.452	64	59359	19.8879	ug/L	90
8) Trichlorofluoromethane	1.539	101	140439	19.6669	ug/L	99
9) Diethyl ether	1.748	59	68959	19.9920	ug/L	100
10) 1,1-Dichloroethene	1.867	61	133678	19.7112	ug/L	100
11) Carbon Disulfide	1.881	76	270202	18.9167	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.895	101	81830	19.4585	ug/L	99
14) Acrolein	2.113	56	9085	19.6642	ug/L	95
15) Methylene Chloride	2.289	84	92582	18.4508	ug/L	99
16) Acetone	2.344	43	18531	21.0453	ug/L	97
17) trans-1,2-Dichloroethene	2.420	96	86627	19.5376	ug/L	97
18) Methyl acetate	2.448	43	49421	20.0348	ug/L #	100
19) Methyl Tert Butyl Ether	2.530	73	224023	19.8211	ug/L	100
20) 1,1-Dichloroethane	2.975	63	167386	19.7259	ug/L	100
21) Acrylonitrile	3.036	53	23363	19.8908	ug/L	98
22) Vinyl Acetate	3.277	86	8716	18.6688	ug/L #	98
23) cis-1,2-Dichloroethene	3.566	96	98647	19.3777	ug/L	98
24) 2,2-Dichloropropane	3.693	77	122341	19.2757	ug/L	100
25) Cyclohexane	3.792	56	155883	19.0871	ug/L	99
26) Bromochloromethane	3.806	130	59579	19.8201	ug/L	100
27) Chloroform	3.934	83	159418	18.9624	ug/L	100
28) Carbon Tetrachloride	4.081	117	128615	19.7017	ug/L	100
30) 1,1,1-Trichloroethane	4.180	97	141801	19.2295	ug/L	100
31) 1,1-Dichloropropene	4.345	75	120635	19.2973	ug/L	99
32) 2-Butanone	4.365	43	28955	20.3201	ug/L	95
33) Benzene	4.649	78	361894	19.4908	ug/L	100
35) 1,2-Dichloroethane	4.892	62	111640	19.9823	ug/L	99
36) Methylcyclohexane	5.297	83	155527	17.9140	ug/L	99
37) Trichloroethene	5.324	130	99096	19.2329	ug/L	100
38) Dibromomethane	5.743	93	53396	19.3796	ug/L	100
39) 1,2-Dichloropropane	5.851	63	100181	19.6287	ug/L	99
40) Bromodichloromethane	5.937	83	124598	19.6361	ug/L	100
41) 1,4-Dioxane	6.152	88	996	32.1298	ug/L	83
42) 2-Chloroethyl Vinyl Ether	6.528	63	52665	20.4156	ug/L	100
43) cis-1,3-Dichloropropene	6.545	75	149360	19.9649	ug/L	100
44) 4-Methyl-2-Pentanone	7.814	58	25486	20.1103	ug/L	100
45) trans-1,3-Dichloropropene	7.145	75	127855	19.9749	ug/L	100
48) Toluene	6.757	91	402334	19.4263	ug/L	100
49) Tetrachloroethene	7.087	166	105353	18.8732	ug/L	100
50) 1,1,2-Trichloroethane	7.278	97	72898	18.9208	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016374.D
Acq On : 11 Nov 2015 16:53
Operator : ADC
Sample : WG546498-08 20.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 8 Sample Multiplier: 1

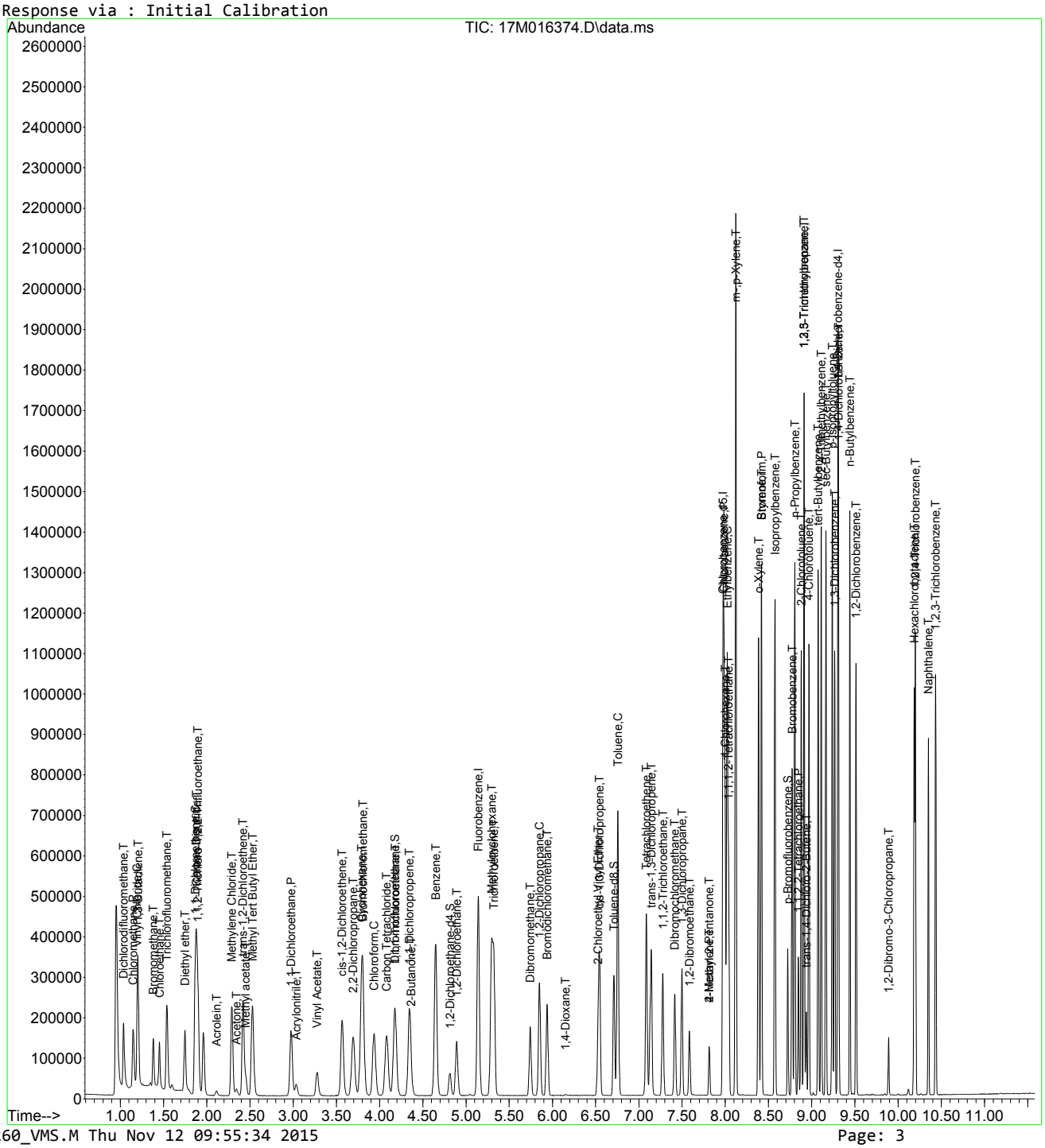
Quant Time: Nov 12 09:55:33 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.414	129	97313	19.5649	ug/L		100
52) 1,3-Dichloropropane	7.498	76	119400	19.5388	ug/L		98
53) 1,2-Dibromoethane	7.585	107	73953	19.3429	ug/L		100
54) 2-Hexanone	7.814	43	49286	19.8972	ug/L		100
55) Chlorobenzene	7.984	112	258377	19.3581	ug/L		100
56) 1-Chlorohexane	7.999	69	24751	18.0543	ug/L		82
57) Ethylbenzene	8.022	106	139900	19.2563	ug/L		100
58) 1,1,1,2-Tetrachloroethane	8.036	131	97056	19.6414	ug/L		99
59) m-,p-Xylene	8.120	106	342429	39.2876	ug/L		100
60) o-Xylene	8.384	106	166521	19.3616	ug/L		99
61) Styrene	8.419	104	278369	19.4757	ug/L		100
62) Bromoform	8.419	173	64836	19.7711	ug/L		100
63) Isopropylbenzene	8.575	105	440028	19.6273	ug/L		100
65) 1,3,5-Trimethylbenzene	8.911	105	384226	19.2062	ug/L		100
67) Bromobenzene	8.775	156	117847	18.8466	ug/L		99
68) n-Propylbenzene	8.804	91	513406	19.6618	ug/L		100
69) 1,1,2,2-Tetrachloroethane	8.844	83	86968	19.1751	ug/L		100
70) 2-Chlorotoluene	8.879	91	307191	19.2359	ug/L		100
71) 1,2,3-Trichloropropane	8.911	110	23108	18.3049	ug/L		97
72) trans-1,4-Dichloro-2-B...	8.937	53	19213	18.3088	ug/L	#	97
73) 1,2,4-Trimethylbenzene	9.111	105	385956	19.3261	ug/L		100
74) 4-Chlorotoluene	8.966	91	311813	18.9769	ug/L		99
75) tert-Butylbenzene	9.073	134	69746	19.0121	ug/L		99
76) sec-Butylbenzene	9.163	105	475309	19.3351	ug/L		100
77) p-Isopropyltoluene	9.238	119	412112	19.3841	ug/L		99
78) 1,3-Dichlorobenzene	9.264	146	220206	19.1768	ug/L		99
79) 1,4-Dichlorobenzene	9.310	146	217507	18.5689	ug/L		100
80) n-Butylbenzene	9.441	91	375849	19.2078	ug/L		100
81) 1,2-Dichlorobenzene	9.513	146	207637	18.9939	ug/L		99
82) 1,2-Dibromo-3-Chloropr...	9.890	75	16258	19.1002	ug/L		99
83) Hexachlorobutadiene	10.185	225	95794	19.0374	ug/L		100
84) 1,2,4-Trichlorobenzene	10.199	180	169274	19.4029	ug/L		99
85) Naphthalene	10.350	128	315706	19.5368	ug/L		100
86) 1,2,3-Trichlorobenzene	10.434	180	155899	19.3625	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016374.D
Acq On : 11 Nov 2015 16:53
Operator : ADC
Sample : WG546498-08 20.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 12 09:55:33 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016375.D
Acq On : 11 Nov 2015 17:13
Operator : ADC
Sample : WG546498-09 100.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 12 09:55:36 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	435819	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.976	117	329330	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.305	152	183512	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	227102	50.7971	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 203.188%#			
34) 1,2-Dichloroethane-d4	4.814	65	216427	50.4089	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 201.636%#			
47) Toluene-d8	6.713	98	856306	50.4420	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 201.768%#			
66) p-Bromofluorobenzene	8.723	95	325380	51.2920	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 205.168%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.036	85	672429	108.4947	ug/L	100
3) Chloromethane	1.146	50	645008	97.7016	ug/L	100
4) Vinyl Chloride	1.195	62	610828	103.5801	ug/L	100
5) 1,3-Butadiene	1.204	54	364239	96.0949	ug/L	99
6) Bromomethane	1.380	94	294852	94.7939	ug/L	99
7) Chloroethane	1.447	64	263145	87.3968	ug/L	93
8) Trichlorofluoromethane	1.525	101	718507	111.8531	ug/L	99
9) Diethyl ether	1.751	59	337490	96.9892	ug/L	100
10) 1,1-Dichloroethene	1.858	61	699242	102.2065	ug/L	100
11) Carbon Disulfide	1.872	76	1408250	97.7315	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.890	101	435206	102.5865	ug/L	100
14) Acrolein	2.116	56	45618	97.8782	ug/L	98
15) Methylene Chloride	2.286	84	465653	91.9915	ug/L	99
16) Acetone	2.347	43	82674	95.1744	ug/L	100
17) trans-1,2-Dichloroethene	2.417	96	442162	98.8546	ug/L	100
18) Methyl acetate	2.451	43	254121	102.1203	ug/L #	100
19) Methyl Tert Butyl Ether	2.533	73	1134395	99.4943	ug/L	100
20) 1,1-Dichloroethane	2.973	63	861653	100.6580	ug/L	100
21) Acrylonitrile	3.036	53	112295	94.7724	ug/L	97
22) Vinyl Acetate	3.277	86	51476	92.0281	ug/L	100
23) cis-1,2-Dichloroethene	3.563	96	498482	97.0654	ug/L	99
24) 2,2-Dichloropropane	3.691	77	680182	106.2335	ug/L	100
25) Cyclohexane	3.795	56	816785	99.1396	ug/L	100
26) Bromochloromethane	3.804	130	312915	103.1896	ug/L	99
27) Chloroform	3.937	83	818816	96.5474	ug/L	100
28) Carbon Tetrachloride	4.079	117	685171	104.0420	ug/L	100
30) 1,1,1-Trichloroethane	4.177	97	743102	99.8928	ug/L	100
31) 1,1-Dichloropropene	4.345	75	637540	101.0947	ug/L	100
32) 2-Butanone	4.368	43	141619	98.5194	ug/L	96
33) Benzene	4.649	78	1857716	99.1801	ug/L	100
35) 1,2-Dichloroethane	4.892	62	568138	100.8038	ug/L	100
36) Methylcyclohexane	5.298	83	830648	94.8424	ug/L	99
37) Trichloroethene	5.324	130	518925	99.8367	ug/L	100
38) Dibromomethane	5.743	93	273038	98.2326	ug/L	100
39) 1,2-Dichloropropane	5.851	63	517749	100.5593	ug/L	100
40) Bromodichloromethane	5.937	83	649100	101.4034	ug/L	100
41) 1,4-Dioxane	6.149	88	6000	191.8656	ug/L	98
42) 2-Chloroethyl Vinyl Ether	6.528	63	256923	98.7279	ug/L	99
43) cis-1,3-Dichloropropene	6.545	75	774345	102.6042	ug/L	100
44) 4-Methyl-2-Pentanone	7.814	58	124090	97.0627	ug/L	99
45) trans-1,3-Dichloropropene	7.148	75	666807	103.2676	ug/L	100
48) Toluene	6.760	91	2080036	99.6962	ug/L	100
49) Tetrachloroethene	7.087	166	561598	99.8681	ug/L	100
50) 1,1,2-Trichloroethane	7.278	97	371905	95.8206	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016375.D
Acq On : 11 Nov 2015 17:13
Operator : ADC
Sample : WG546498-09 100.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 9 Sample Multiplier: 1

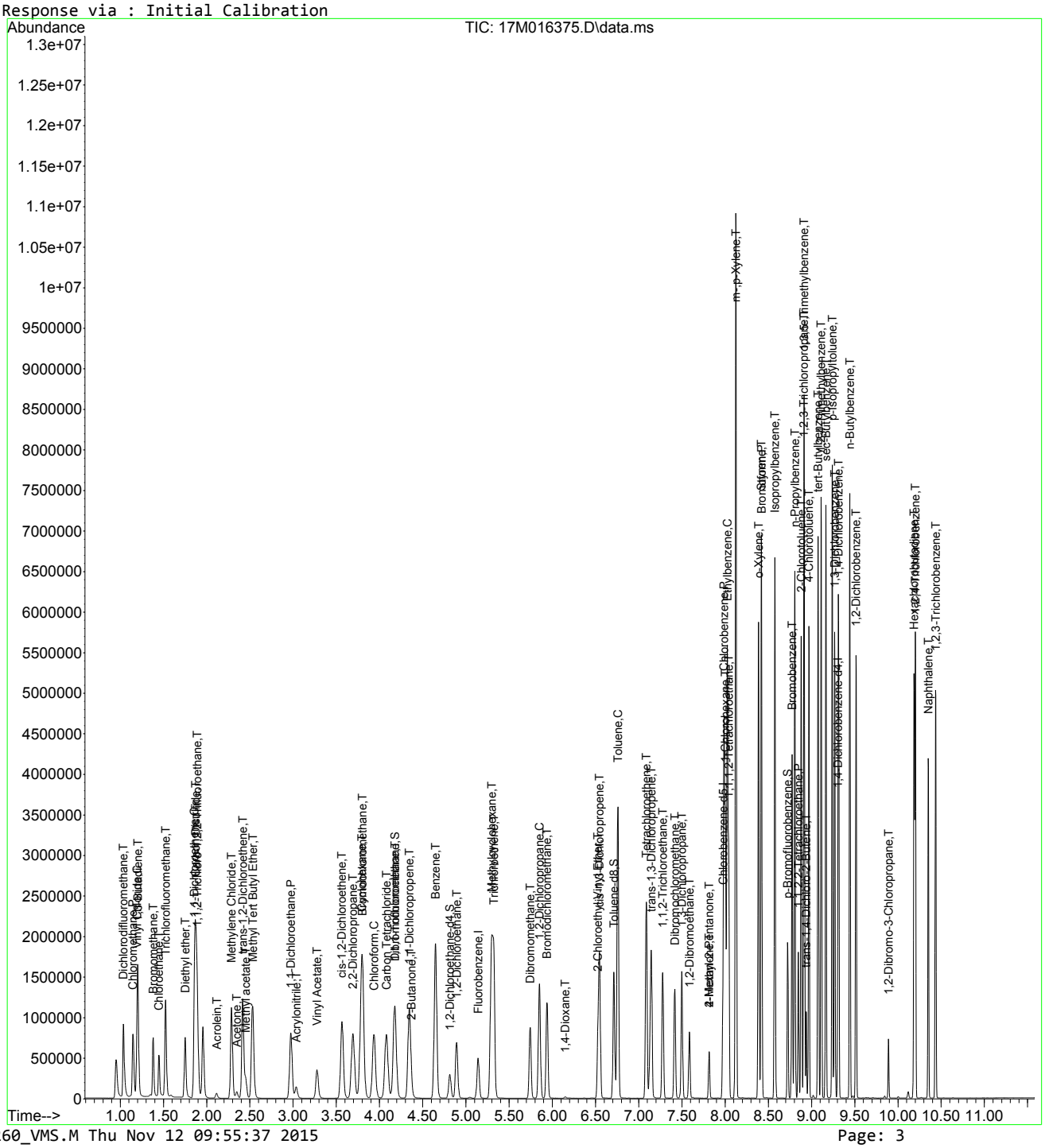
Quant Time: Nov 12 09:55:36 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.417	129	512307	102.2445	ug/L		100
52) 1,3-Dichloropropane	7.498	76	610983	99.2491	ug/L		99
53) 1,2-Dibromoethane	7.585	107	380846	98.8822	ug/L		100
54) 2-Hexanone	7.814	43	236286	94.6911	ug/L		99
55) Chlorobenzene	7.987	112	1353581	100.6690	ug/L		99
56) 1-Chlorohexane	8.002	69	132271	95.7760	ug/L		91
57) Ethylbenzene	8.025	106	739094	100.9856	ug/L		97
58) 1,1,1,2-Tetrachloroethane	8.039	131	504662	101.3805	ug/L		99
59) m-,p-Xylene	8.123	106	1793260	204.2356	ug/L		97
60) o-Xylene	8.387	106	878654	101.4130	ug/L		100
61) Styrene	8.419	104	1461980	101.5355	ug/L		99
62) Bromoform	8.422	173	346760	104.9655	ug/L		99
63) Isopropylbenzene	8.575	105	2285181	101.1825	ug/L		99
65) 1,3,5-Trimethylbenzene	8.914	105	1999382	99.5012	ug/L		99
67) Bromobenzene	8.775	156	615182	97.9484	ug/L		100
68) n-Propylbenzene	8.807	91	2650686	101.0647	ug/L		99
69) 1,1,2,2-Tetrachloroethane	8.847	83	447119	98.1479	ug/L		100
70) 2-Chlorotoluene	8.882	91	1608621	100.2851	ug/L		100
71) 1,2,3-Trichloropropane	8.911	110	120391	94.9462	ug/L		99
72) trans-1,4-Dichloro-2-B...	8.937	53	100016	94.8885	ug/L	#	95
73) 1,2,4-Trimethylbenzene	9.111	105	1998749	99.6424	ug/L		99
74) 4-Chlorotoluene	8.969	91	1642797	99.5391	ug/L		99
75) tert-Butylbenzene	9.076	134	373097	101.2538	ug/L		98
76) sec-Butylbenzene	9.166	105	2482748	100.5500	ug/L		100
77) p-Isopropyltoluene	9.241	119	2163497	101.3129	ug/L		99
78) 1,3-Dichlorobenzene	9.267	146	1154638	100.1085	ug/L		100
79) 1,4-Dichlorobenzene	9.313	146	1149692	97.7177	ug/L		99
80) n-Butylbenzene	9.444	91	1990054	101.2528	ug/L		99
81) 1,2-Dichlorobenzene	9.516	146	1089096	99.1869	ug/L		100
82) 1,2-Dibromo-3-Chloropr...	9.890	75	85646	100.1744	ug/L		99
83) Hexachlorobutadiene	10.185	225	500717	99.0697	ug/L		100
84) 1,2,4-Trichlorobenzene	10.202	180	862453	98.4217	ug/L		99
85) Naphthalene	10.350	128	1559335	96.0701	ug/L		100
86) 1,2,3-Trichlorobenzene	10.437	180	782232	96.7234	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016375.D
Acq On : 11 Nov 2015 17:13
Operator : ADC
Sample : WG546498-09 100.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 12 09:55:36 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016376.D
Acq On : 11 Nov 2015 17:33
Operator : ADC
Sample : WG546498-10 200.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 12 09:55:39 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	423136	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.976	117	320833	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.308	152	183130	25.00000	ug/L	# 0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	420579	96.8928	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 387.571%#			
34) 1,2-Dichloroethane-d4	4.814	65	405549	97.2893	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 389.157%#			
47) Toluene-d8	6.713	98	1589278	96.0983	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 384.393%#			
66) p-Bromofluorobenzene	8.726	95	628947	99.3522	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 397.409%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.036	85	1264469	210.1340	ug/L	100
3) Chloromethane	1.146	50	1204363	187.8971	ug/L	100
4) Vinyl Chloride	1.192	62	1161924	202.9371	ug/L	100
5) 1,3-Butadiene	1.204	54	712072	193.4925	ug/L	99
6) Bromomethane	1.380	94	582345	192.8336	ug/L	99
7) Chloroethane	1.447	64	489582	167.4758	ug/L	95
8) Trichlorofluoromethane	1.519	101	962068	166.0101	ug/L	99
9) Diethyl ether	1.754	59	664790	196.7764	ug/L	99
10) 1,1-Dichloroethene	1.852	61	1300715	195.8211	ug/L	99
11) Carbon Disulfide	1.864	76	2724227	194.7261	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.881	101	800798	194.4217	ug/L	100
14) Acrolein	2.119	56	90976	201.0493	ug/L	97
15) Methylene Chloride	2.286	84	887378	180.5595	ug/L	99
16) Acetone	2.356	43	164198	195.3327	ug/L	100
17) trans-1,2-Dichloroethene	2.414	96	851904	196.1699	ug/L	99
18) Methyl acetate	2.454	43	519405	214.9829	ug/L #	100
19) Methyl Tert Butyl Ether	2.535	73	2188063	197.6605	ug/L	100
20) 1,1-Dichloroethane	2.973	63	1641677	197.5284	ug/L	100
21) Acrylonitrile	3.042	53	225747	196.2319	ug/L	97
22) Vinyl Acetate	3.280	86	108500	195.6239	ug/L	99
23) cis-1,2-Dichloroethene	3.563	96	960093	192.5549	ug/L	100
24) 2,2-Dichloropropane	3.694	77	1283660	206.4964	ug/L	100
25) Cyclohexane	3.792	56	1586635	198.3547	ug/L	99
26) Bromochloromethane	3.806	130	602274	204.5643	ug/L	100
27) Chloroform	3.937	83	1564805	190.0381	ug/L	99
28) Carbon Tetrachloride	4.079	117	1303376	203.8475	ug/L	99
30) 1,1,1-Trichloroethane	4.174	97	1414455	195.8398	ug/L	100
31) 1,1-Dichloropropene	4.345	75	1215152	198.4622	ug/L	100
32) 2-Butanone	4.377	43	285771	204.7598	ug/L	95
33) Benzene	4.649	78	3559886	195.7526	ug/L	100
35) 1,2-Dichloroethane	4.892	62	1090735	199.3282	ug/L	100
36) Methylcyclohexane	5.298	83	1621652	190.7083	ug/L	99
37) Trichloroethene	5.324	130	995167	197.2003	ug/L	99
38) Dibromomethane	5.743	93	530177	196.4626	ug/L	100
39) 1,2-Dichloropropane	5.851	63	991101	198.2655	ug/L	100
40) Bromodichloromethane	5.940	83	1254068	201.7847	ug/L	100
41) 1,4-Dioxane	6.160	88	12975	427.3457	ug/L	98
42) 2-Chloroethyl Vinyl Ether	6.531	63	515167	203.8971	ug/L	99
43) cis-1,3-Dichloropropene	6.548	75	1497163	204.3271	ug/L	100
44) 4-Methyl-2-Pentanone	7.819	58	255733	206.0290	ug/L	99
45) trans-1,3-Dichloropropene	7.148	75	1298472	207.1204	ug/L	100
48) Toluene	6.760	91	3923514	193.0347	ug/L	99
49) Tetrachloroethene	7.090	166	1081912	197.4901	ug/L	100
50) 1,1,2-Trichloroethane	7.278	97	722575	191.1007	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016376.D
Acq On : 11 Nov 2015 17:33
Operator : ADC
Sample : WG546498-10 200.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 10 Sample Multiplier: 1

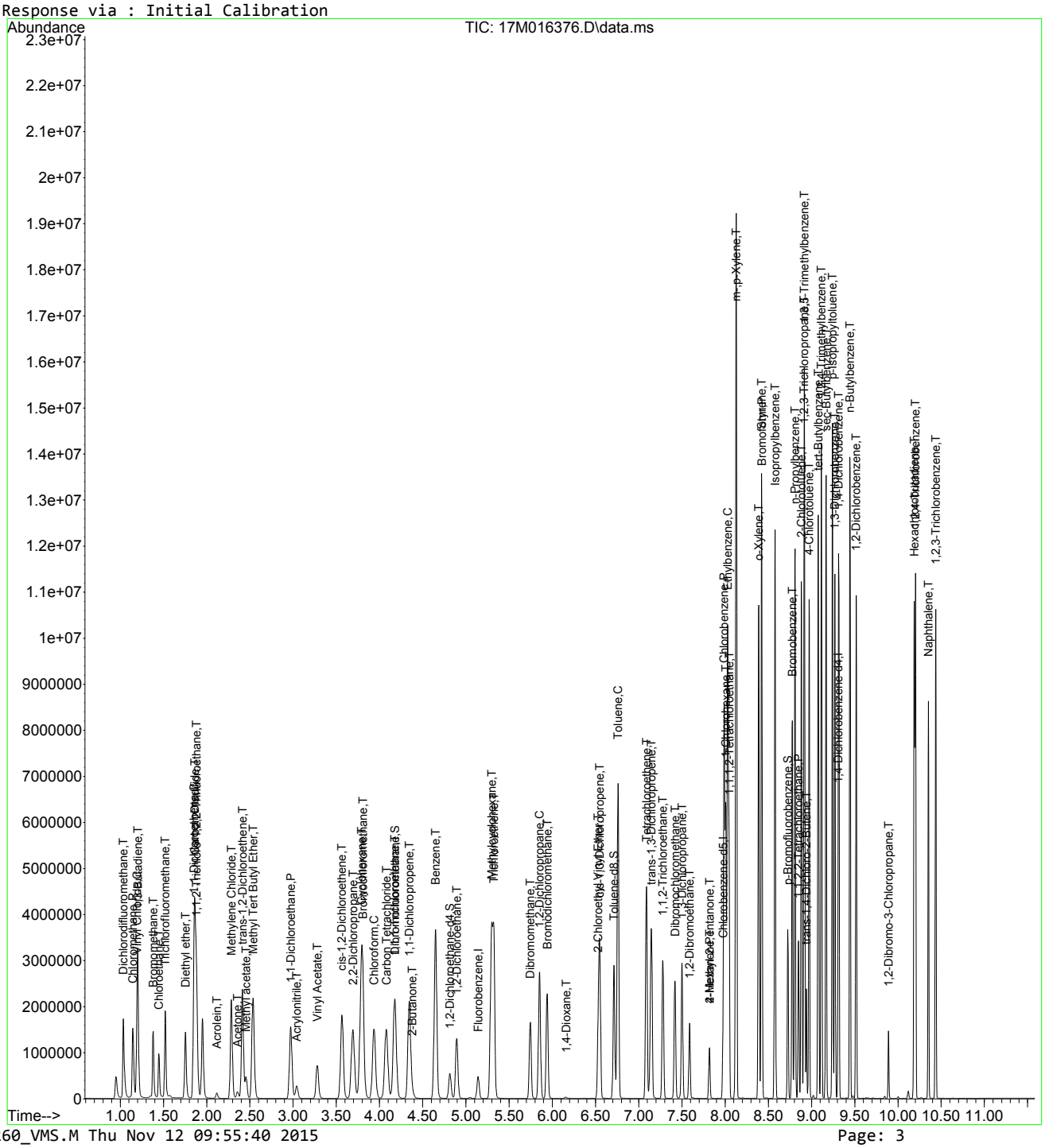
Quant Time: Nov 12 09:55:39 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.420	129	1009082	206.7227	ug/L		100
52) 1,3-Dichloropropane	7.501	76	1187193	197.9571	ug/L		99
53) 1,2-Dibromoethane	7.588	107	742133	197.7892	ug/L		100
54) 2-Hexanone	7.819	43	487942	200.7205	ug/L		99
55) Chlorobenzene	7.987	112	2606043	198.9506	ug/L		100
56) 1-Chlorohexane	8.005	69	259970	193.2269	ug/L		99
57) Ethylbenzene	8.028	106	1416629	198.6864	ug/L		94
58) 1,1,1,2-Tetrachloroethane	8.045	131	983720	202.8513	ug/L		99
59) m-,p-Xylene	8.129	106	3371507	394.1526	ug/L		91
60) o-Xylene	8.390	106	1697857	201.1541	ug/L		97
61) Styrene	8.422	104	2836707	202.2289	ug/L		99
62) Bromoform	8.425	173	703885	218.7114	ug/L		99
63) Isopropylbenzene	8.578	105	4261510	193.6870	ug/L		97
65) 1,3,5-Trimethylbenzene	8.917	105	3806148	189.8118	ug/L		97
67) Bromobenzene	8.778	156	1229913	196.2334	ug/L		99
68) n-Propylbenzene	8.810	91	4913490	187.7312	ug/L		96
69) 1,1,2,2-Tetrachloroethane	8.847	83	897807	197.4902	ug/L		100
70) 2-Chlorotoluene	8.882	91	3098585	193.5759	ug/L		99
71) 1,2,3-Trichloropropane	8.914	110	240327	189.9290	ug/L		99
72) trans-1,4-Dichloro-2-B...	8.940	53	204813	194.7181	ug/L	#	99
73) 1,2,4-Trimethylbenzene	9.114	105	3814185	190.5429	ug/L		97
74) 4-Chlorotoluene	8.972	91	3174219	192.7311	ug/L		97
75) tert-Butylbenzene	9.079	134	742569	201.9442	ug/L		93
76) sec-Butylbenzene	9.169	105	4617155	187.3825	ug/L		97
77) p-Isopropyltoluene	9.241	119	4086031	191.7410	ug/L		96
78) 1,3-Dichlorobenzene	9.270	146	2276647	197.7997	ug/L		99
79) 1,4-Dichlorobenzene	9.313	146	2266056	193.0044	ug/L		99
80) n-Butylbenzene	9.444	91	3793868	193.4324	ug/L		97
81) 1,2-Dichlorobenzene	9.516	146	2143436	195.6157	ug/L		99
82) 1,2-Dibromo-3-Chloropr...	9.890	75	171231	200.6953	ug/L		98
83) Hexachlorobutadiene	10.188	225	1033545	204.9194	ug/L		99
84) 1,2,4-Trichlorobenzene	10.202	180	1746090	199.6766	ug/L		99
85) Naphthalene	10.353	128	3095323	191.0995	ug/L		99
86) 1,2,3-Trichlorobenzene	10.437	180	1600471	198.3119	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016376.D
Acq On : 11 Nov 2015 17:33
Operator : ADC
Sample : WG546498-10 200.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 12 09:55:39 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016377.D
Acq On : 11 Nov 2015 17:53
Operator : ADC
Sample : WG546498-11 300.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 12 09:55:42 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.141	96	420818	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.979	117	319267	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.308	152	178164	25.00000	ug/L	# 0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.174	111	2005	0.4645	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.858%#		
34) 1,2-Dichloroethane-d4	4.895	65	75388	18.1848	ug/L	0.0811
Spiked Amount 25.000	Range 80 - 120		Recovery =	72.739%#		
47) Toluene-d8	6.713	98	7696	0.4676	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery =	1.870%#		
66) p-Bromofluorobenzene	8.726	95	4059	0.6591	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.636%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.036	85	1945784	325.1385	ug/L	100
3) Chloromethane	1.146	50	1837720	288.2887	ug/L	100
4) Vinyl Chloride	1.192	62	1776531	311.9911	ug/L	100
5) 1,3-Butadiene	1.201	54	1096278	299.5343	ug/L	99
6) Bromomethane	1.377	94	923135	307.3642	ug/L	99
7) Chloroethane	1.447	64	740775	254.7995	ug/L	96
8) Trichlorofluoromethane	1.519	101	1475110	336.7949	ug/L	99
9) Diethyl ether	1.754	59	1034731	307.9652	ug/L	99
10) 1,1-Dichloroethene	1.849	61	2048985	310.1714	ug/L	99
11) Carbon Disulfide	1.861	76	4256834	305.9520	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.878	101	1274995	311.2546	ug/L	100
14) Acrolein	2.118	56	143184	318.1676	ug/L	99
15) Methylene Chloride	2.284	84	1378330	282.0009	ug/L	98
16) Acetone	2.359	43	265332	317.7657	ug/L	99
17) trans-1,2-Dichloroethene	2.411	96	1318765	305.3478	ug/L	99
18) Methyl acetate	2.457	43	821397	341.8507	ug/L #	100
19) Methyl Tert Butyl Ether	2.538	73	3445729	312.9873	ug/L	99
20) 1,1-Dichloroethane	2.970	63	2532008	306.3322	ug/L	100
21) Acrylonitrile	3.045	53	353163	308.6800	ug/L	98
22) Vinyl Acetate	3.282	86	177753	319.9490	ug/L	97
23) cis-1,2-Dichloroethene	3.566	96	1490170	300.5126	ug/L	100
24) 2,2-Dichloropropane	3.694	77	1953259	315.9425	ug/L	99
25) Cyclohexane	3.792	56	2458451	309.0386	ug/L	99
26) Bromochloromethane	3.809	130	940915	321.3451	ug/L	100
27) Chloroform	3.937	83	2402887	293.4265	ug/L	99
28) Carbon Tetrachloride	4.079	117	2024773	318.4181	ug/L	99
30) 1,1,1-Trichloroethane	4.174	97	2174917	302.7891	ug/L	100
31) 1,1-Dichloropropene	4.345	75	1885045	309.5670	ug/L	100
32) 2-Butanone	4.377	43	457131	329.3463	ug/L	94
33) Benzene	4.649	78	5427000	300.0661	ug/L	99
35) 1,2-Dichloroethane	4.895	62	1692616	311.0238	ug/L	99
36) Methylcyclohexane	5.300	83	2521219	298.1316	ug/L	99
37) Trichloroethene	5.327	130	1538806	306.6064	ug/L	99
38) Dibromomethane	5.746	93	835373	311.2612	ug/L	100
39) 1,2-Dichloropropane	5.853	63	1527247	307.2021	ug/L	100
40) Bromodichloromethane	5.940	83	1930467	312.3311	ug/L	100
41) 1,4-Dioxane	6.160	88	21478	711.2978	ug/L	95
42) 2-Chloroethyl Vinyl Ether	6.534	63	817699	325.4185	ug/L	100
43) cis-1,3-Dichloropropene	6.551	75	2302818	316.0110	ug/L	100
44) 4-Methyl-2-Pentanone	7.819	58	403770	327.0855	ug/L	98
45) trans-1,3-Dichloropropene	7.151	75	1998087	320.4722	ug/L	100
48) Toluene	6.763	91	5891973	291.3037	ug/L	97
49) Tetrachloroethene	7.090	166	1679502	308.0767	ug/L	100
50) 1,1,2-Trichloroethane	7.281	97	1120163	297.7046	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016377.D
Acq On : 11 Nov 2015 17:53
Operator : ADC
Sample : WG546498-11 300.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 11 Sample Multiplier: 1

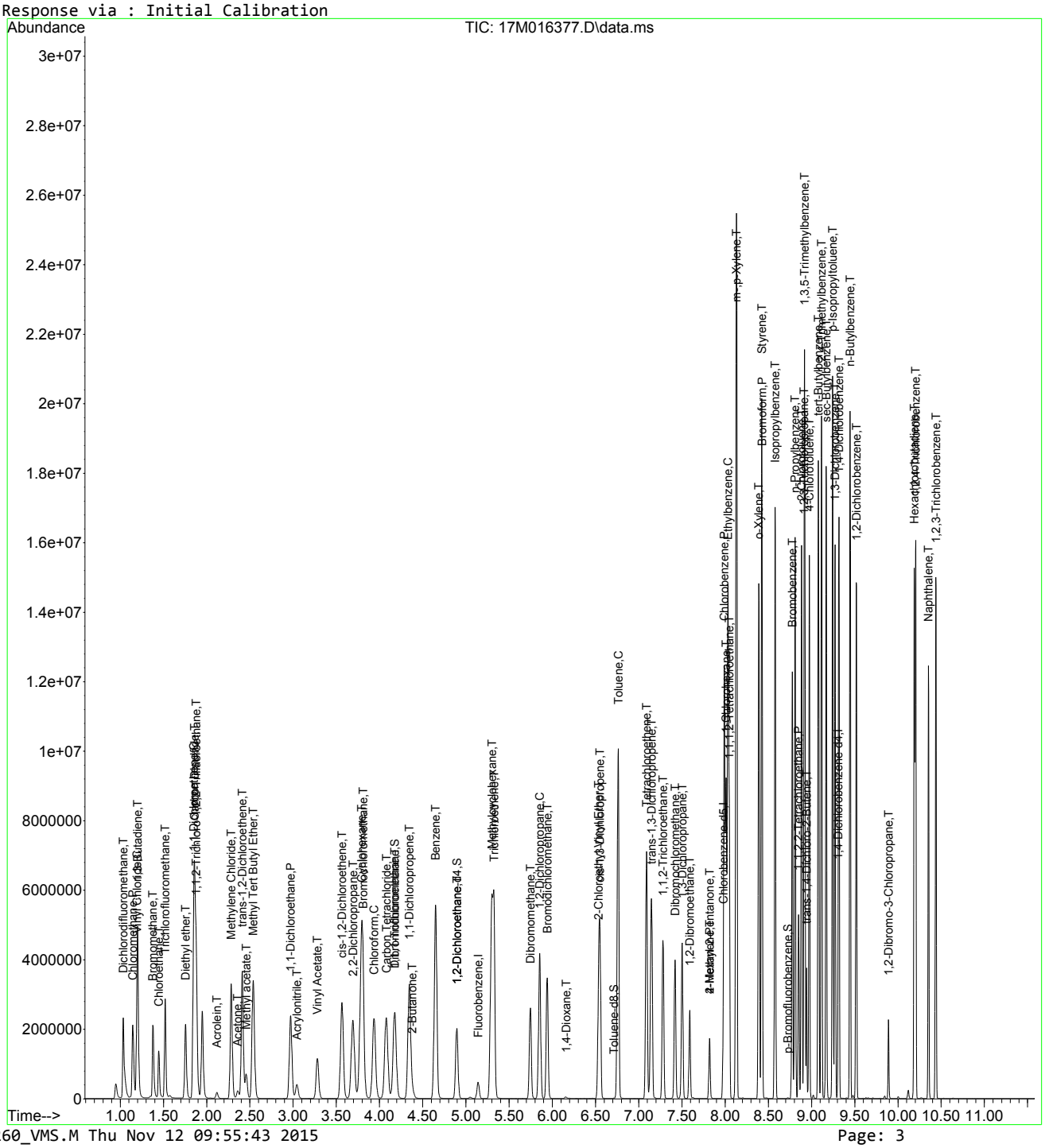
Quant Time: Nov 12 09:55:42 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
51) Dibromochloromethane	7.420	129	1562657	321.6995 ug/L	100
52) 1,3-Dichloropropane	7.504	76	1819636	304.9014 ug/L	99
53) 1,2-Dibromoethane	7.591	107	1152224	308.5906 ug/L	99
54) 2-Hexanone	7.819	43	775083	320.4031 ug/L	100
55) Chlorobenzene	7.990	112	3853710	295.6431 ug/L	99
56) 1-Chlorohexane	8.011	69	392578	293.2211 ug/L #	1
57) Ethylbenzene	8.034	106	2123533	299.2926 ug/L	90
58) 1,1,1,2-Tetrachloroethane	8.048	131	1472443	305.1193 ug/L	99
59) m-,p-Xylene	8.132	106	4844404	569.1225 ug/L	84
60) o-Xylene	8.390	106	2506623	298.4296 ug/L	95
61) Styrene	8.425	104	4111228	294.5271 ug/L	97
62) Bromoform	8.427	173	1077319	336.3869 ug/L	99
63) Isopropylbenzene	8.578	105	5955931	272.0268 ug/L	94
65) 1,3,5-Trimethylbenzene	8.920	105	5279568	270.6297 ug/L	94
67) Bromobenzene	8.778	156	1836436	301.1715 ug/L	99
68) n-Propylbenzene	8.810	91	6755527	265.3048 ug/L	93
69) 1,1,2,2-Tetrachloroethane	8.850	83	1375069	310.9043 ug/L	100
70) 2-Chlorotoluene	8.885	91	4400883	282.5968 ug/L	97
71) 1,2,3-Trichloropropane	8.914	110	364474	296.0703 ug/L	98
72) trans-1,4-Dichloro-2-B...	8.943	53	307861	300.8452 ug/L #	98
73) 1,2,4-Trimethylbenzene	9.117	105	5234243	268.7723 ug/L	93
74) 4-Chlorotoluene	8.975	91	4499465	280.8118 ug/L	96
75) tert-Butylbenzene	9.079	134	1090615	304.8636 ug/L	87
76) sec-Butylbenzene	9.169	105	6245857	260.5470 ug/L	93
77) p-Isopropyltoluene	9.244	119	5493886	264.9919 ug/L	93
78) 1,3-Dichlorobenzene	9.273	146	3254851	290.6703 ug/L	97
79) 1,4-Dichlorobenzene	9.316	146	3240905	283.7282 ug/L	98
80) n-Butylbenzene	9.447	91	5136023	269.1618 ug/L	93
81) 1,2-Dichlorobenzene	9.519	146	3102408	291.0259 ug/L	98
82) 1,2-Dibromo-3-Chloropr...	9.890	75	266133	320.6218 ug/L	98
83) Hexachlorobutadiene	10.188	225	1484949	302.6249 ug/L	99
84) 1,2,4-Trichlorobenzene	10.205	180	2561526	301.0917 ug/L	99
85) Naphthalene	10.353	128	4493705	285.1660 ug/L	97
86) 1,2,3-Trichlorobenzene	10.440	180	2371583	302.0500 ug/L	99

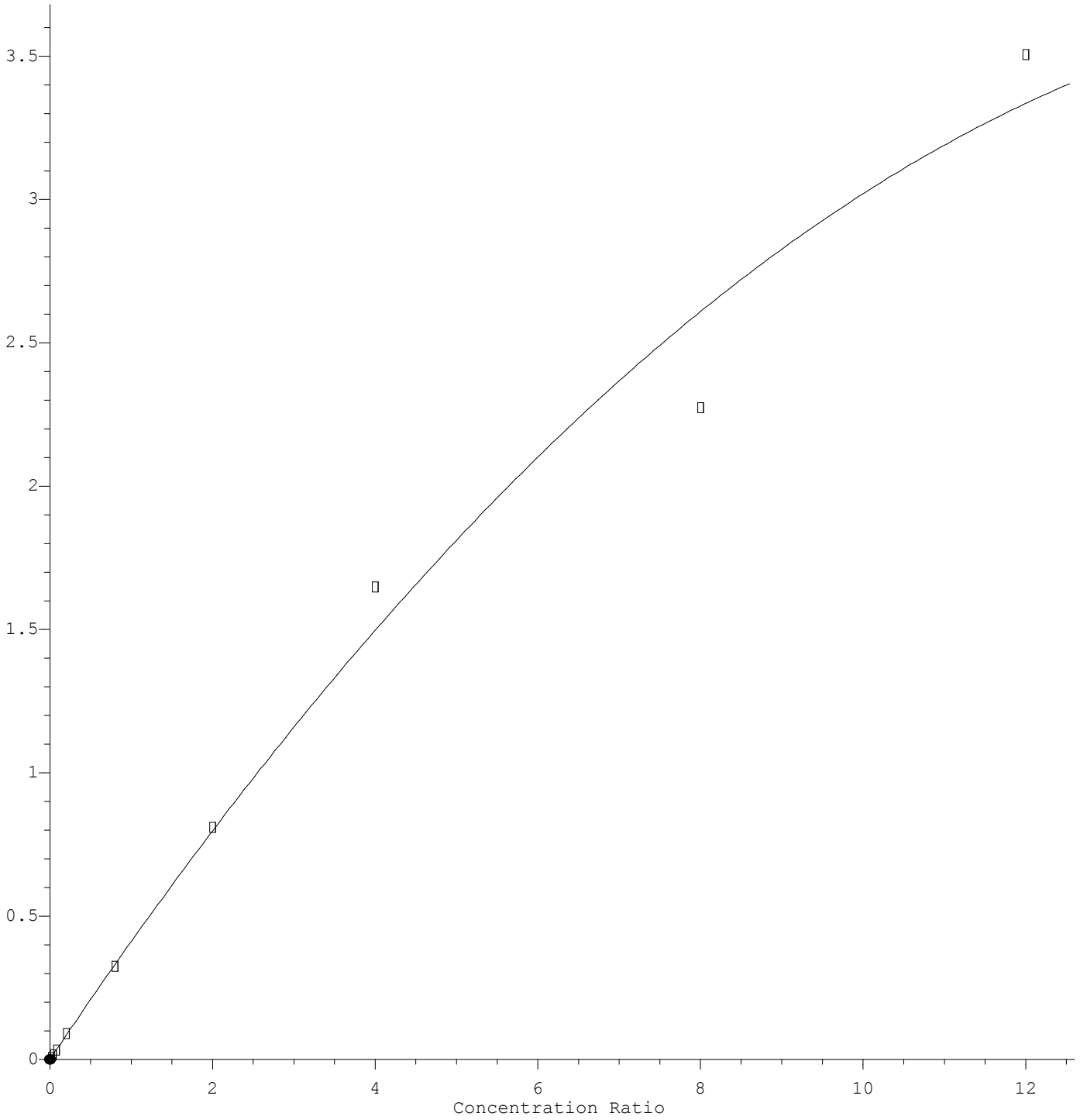
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016377.D
Acq On : 11 Nov 2015 17:53
Operator : ADC
Sample : WG546498-11 300.0ug/L STD 8260
Misc : 1,1 STD73185
ALS Vial : 11 Sample Multiplier: 1

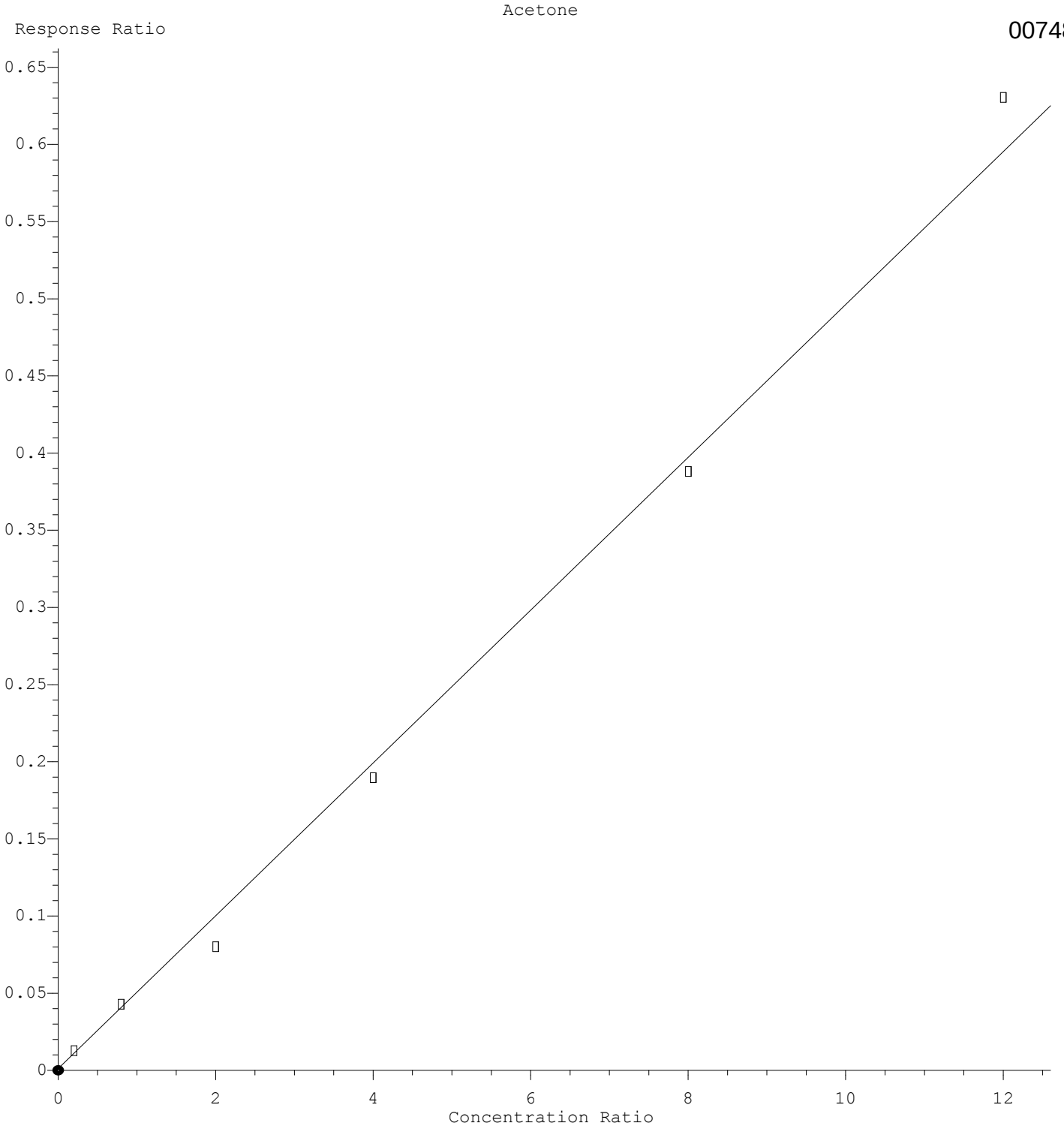
Quant Time: Nov 12 09:55:42 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Trichlorofluoromethane

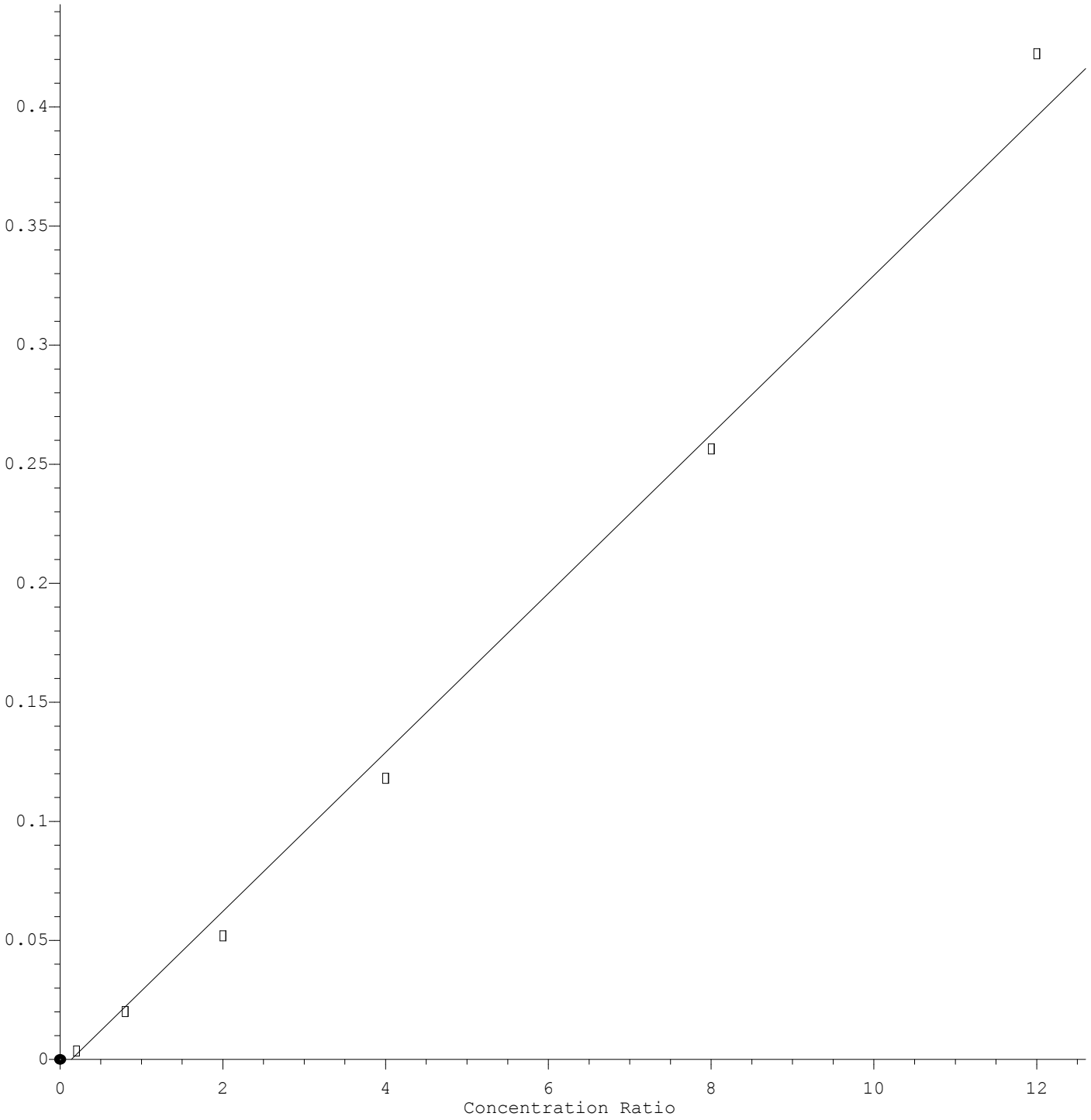


R = -1.203e-002 A*A + 4.222e-001 A + 3.726e-004
Coef of Det (r^2) = 0.991819 Curve Fit: Quadratic w(1/a)
Method Name: D:\MassHunter\GCMS\1\methods\8260_VMS.M
Calibration Table Last Updated: Thu Nov 12 09:48:27 2015



Response = 4.951e-002 * Amt + 1.216e-003
Coef of Det (r^2) = 0.993438 Curve Fit: wlr(1/a)
Method Name: D:\MassHunter\GCMS\1\methods\8260_VMS.M
Calibration Table Last Updated: Thu Nov 12 09:48:27 2015

Vinyl Acetate



Response = 3.338e-002 * Amt - 4.749e-003
Coef of Det (r^2) = 0.993500 Curve Fit: wlr(1/a)
Method Name: D:\MassHunter\GCMS\1\methods\8260_VMS.M
Calibration Table Last Updated: Thu Nov 12 09:48:27 2015

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016379.D
Acq On : 11 Nov 2015 18:33
Operator : ADC
Sample : WG546498-12 50.0ug/L ALT 8260
Misc : 1,1 STD73387
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 12 09:55:48 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.135	96	439844	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.976	117	330854	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.305	152	182862	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	117314	26.0001	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 104.000%			
34) 1,2-Dichloroethane-d4	4.811	65	114324	26.3840	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.536%			
47) Toluene-d8	6.711	98	441253	25.8730	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.492%			
66) p-Bromofluorobenzene	8.723	95	162405	25.6921	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.768%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.030	85	357156	57.0989	ug/L	100
3) Chloromethane	1.143	50	335169	50.3046	ug/L	100
4) Vinyl Chloride	1.189	62	329215	55.3152	ug/L	100
5) 1,3-Butadiene	1.201	54	220256	57.5770	ug/L	100
6) Bromomethane	1.374	94	153126	48.7790	ug/L	100
7) Chloroethane	1.444	64	138377	45.5378	ug/L	93
8) Trichlorofluoromethane	1.516	101	251328	35.2255	ug/L	100
9) Diethyl ether	1.757	59	839605	239.0809	ug/L	100
10) 1,1-Dichloroethene	1.838	61	333854	48.3521	ug/L	100
11) Carbon Disulfide	1.849	76	231598	15.9256	ug/L	95
12) 1,1,2-Trichloro-1,2,2-...	1.867	101	223754	52.2605	ug/L	99
14) Acrolein	2.119	56	51908	110.3548	ug/L	97
15) Methylene Chloride	2.278	84	239345	46.8508	ug/L	99
16) Acetone	2.368	43	50068	56.8653	ug/L	98
17) trans-1,2-Dichloroethene	2.405	96	225050	49.8542	ug/L	99
18) Methyl acetate	2.460	43	137709	54.8329	ug/L #	100
19) Methyl Tert Butyl Ether	2.541	73	619677	53.8526	ug/L	100
20) 1,1-Dichloroethane	2.967	63	438476	50.7539	ug/L	100
21) Acrylonitrile	3.045	53	56047	46.8685	ug/L	99
22) Vinyl Acetate	3.280	86	27714	50.7528	ug/L	99
23) cis-1,2-Dichloroethene	3.560	96	256956	49.5771	ug/L	100
24) 2,2-Dichloropropane	3.682	77	341133	52.7919	ug/L	100
25) Cyclohexane	3.775	56	400484	48.1650	ug/L	100
26) Bromochloromethane	3.801	130	167330	54.6753	ug/L	100
27) Chloroform	3.934	83	435896	50.9266	ug/L	100
28) Carbon Tetrachloride	4.070	117	348721	52.4681	ug/L	99
30) 1,1,1-Trichloroethane	4.168	97	392404	52.2669	ug/L	100
31) 1,1-Dichloropropene	4.333	75	322773	50.7138	ug/L	100
32) 2-Butanone	4.383	43	80321	55.3652	ug/L #	73
33) Benzene	4.640	78	962221	50.9011	ug/L	100
35) 1,2-Dichloroethane	4.889	62	296059	52.0486	ug/L	100
36) Methylcyclohexane	5.289	83	405489	45.8746	ug/L	99
37) Trichloroethene	5.318	130	265903	50.6893	ug/L	100
38) Dibromomethane	5.741	93	146903	52.3686	ug/L	99
39) 1,2-Dichloropropane	5.848	63	268793	51.7283	ug/L	100
40) Bromodichloromethane	5.937	83	331206	51.2680	ug/L	100
41) 1,4-Dioxane	6.158	88	18832	596.6913	ug/L	92
42) 2-Chloroethyl Vinyl Ether	6.528	63	142411	54.2235	ug/L	99
43) cis-1,3-Dichloropropene	6.546	75	416471	54.6793	ug/L	100
44) 4-Methyl-2-Pentanone	7.817	58	69050	53.5164	ug/L	98
45) trans-1,3-Dichloropropene	7.145	75	337676	51.8169	ug/L	100
48) Toluene	6.754	91	1070197	51.0583	ug/L	100
49) Tetrachloroethene	7.087	166	291797	51.6508	ug/L	100
50) 1,1,2-Trichloroethane	7.278	97	193335	49.5830	ug/L	100

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016379.D
Acq On : 11 Nov 2015 18:33
Operator : ADC
Sample : WG546498-12 50.0ug/L ALT 8260
Misc : 1,1 STD73387
ALS Vial : 13 Sample Multiplier: 1

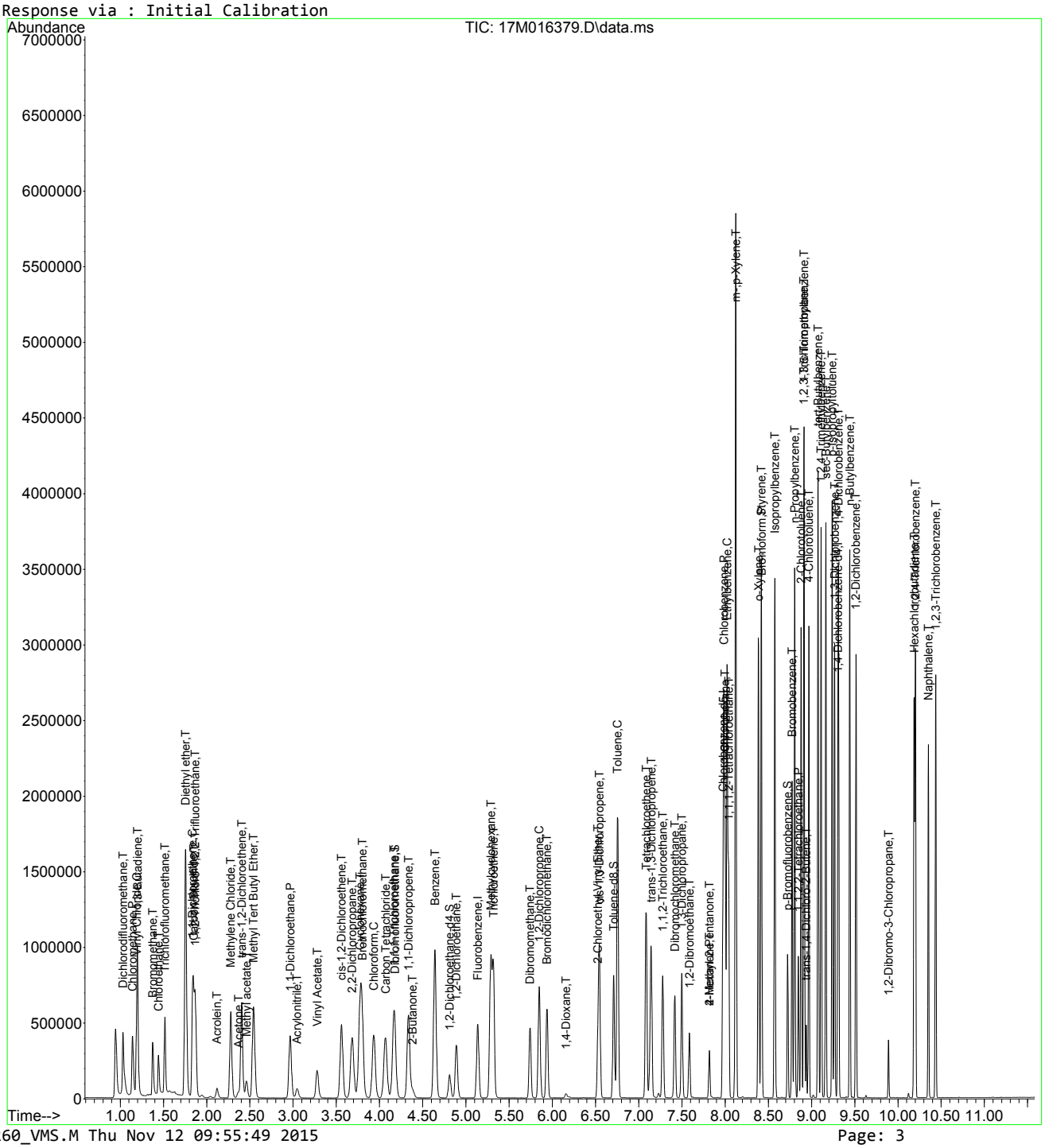
Quant Time: Nov 12 09:55:48 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.417	129	262533	52.1541	ug/L		99
52) 1,3-Dichloropropane	7.498	76	324341	52.4438	ug/L		100
53) 1,2-Dibromoethane	7.585	107	198274	51.2424	ug/L		100
54) 2-Hexanone	7.817	43	132872	53.0029	ug/L		100
55) Chlorobenzene	7.984	112	727708	53.8720	ug/L		99
56) 1-Chlorohexane	7.999	69	65457	47.1784	ug/L		81
57) Ethylbenzene	8.022	106	378118	51.4259	ug/L		97
58) 1,1,1,2-Tetrachloroethane	8.040	131	253352	50.6609	ug/L		100
59) m-,p-Xylene	8.123	106	940133	106.5792	ug/L		99
60) o-Xylene	8.387	106	462189	53.0995	ug/L		99
61) Styrene	8.419	104	742734	51.3458	ug/L		100
62) Bromoform	8.422	173	186982	56.3394	ug/L		99
63) Isopropylbenzene	8.575	105	1205164	53.1161	ug/L		100
65) 1,3,5-Trimethylbenzene	8.914	105	1027919	51.3372	ug/L		100
67) Bromobenzene	8.775	156	311835	49.8264	ug/L		100
68) n-Propylbenzene	8.804	91	1399192	53.5377	ug/L		100
69) 1,1,2,2-Tetrachloroethane	8.847	83	235015	51.7719	ug/L		100
70) 2-Chlorotoluene	8.879	91	840062	52.5576	ug/L		100
71) 1,2,3-Trichloropropane	8.911	110	62512	49.4753	ug/L		100
72) trans-1,4-Dichloro-2-B...	8.937	53	45129	42.9676	ug/L	#	96
73) 1,2,4-Trimethylbenzene	9.111	105	1000330	50.0461	ug/L		99
74) 4-Chlorotoluene	8.969	91	849980	51.6844	ug/L		98
75) tert-Butylbenzene	9.076	134	194975	53.1018	ug/L		100
76) sec-Butylbenzene	9.166	105	1298213	52.7639	ug/L		100
77) p-Isopropyltoluene	9.238	119	1073778	50.4619	ug/L		100
78) 1,3-Dichlorobenzene	9.267	146	600361	52.2370	ug/L		99
79) 1,4-Dichlorobenzene	9.311	146	580802	49.5405	ug/L		100
80) n-Butylbenzene	9.444	91	995390	50.8249	ug/L		100
81) 1,2-Dichlorobenzene	9.513	146	579966	53.0068	ug/L		99
82) 1,2-Dibromo-3-Chloropr...	9.890	75	45888	53.8629	ug/L		99
83) Hexachlorobutadiene	10.188	225	261520	51.9272	ug/L		100
84) 1,2,4-Trichlorobenzene	10.202	180	465537	53.3152	ug/L		100
85) Naphthalene	10.353	128	863260	53.3742	ug/L		100
86) 1,2,3-Trichlorobenzene	10.437	180	429354	53.2786	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016379.D
Acq On : 11 Nov 2015 18:33
Operator : ADC
Sample : WG546498-12 50.0ug/L ALT 8260
Misc : 1,1 STD73387
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 12 09:55:48 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016379.D
Acq On : 11 Nov 2015 18:33
Operator : ADC
Sample : WG546498-12 50.0ug/L ALT 8260
Misc : 1,1 STD73387
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 12 09:55:48 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	96	0.000
2	T	Dichlorodifluoromethane	50.000	57.099	-14.2	106	0.000
3	P	Chloromethane	50.000	50.305	-0.6	104	0.000
4	C	Vinyl Chloride	50.000	55.315	-10.6#	109	0.000
5	T	1,3-Butadiene	50.000	57.577	-15.2	117	0.000
6	T	Bromomethane	50.000	48.779	2.4	107	0.000
7	T	Chloroethane	50.000	45.538	8.9	85	0.000
8	T	Trichlorofluoromethane	50.000	35.225	29.5#	68	-0.015
9	T	Diethyl ether	50.000	239.081	-378.2#	524	0.000
10	C	1,1-Dichloroethene	50.000	48.352	3.3#	95	-0.026
11	T	Carbon Disulfide	50.000	15.926	68.1#	32	-0.026
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.000	52.261	-4.5	101	-0.026
13	T	Iodomethane	-1.000	0.000	0.0	0	-0.014
14	T	Acrolein	50.000	110.355	-120.7#	269	0.000
15	T	Methylene Chloride	50.000	46.851	6.3	104	-0.011
16	T	Acetone	50.000	56.865	-13.7	136	0.024
17	T	trans-1,2-Dichloroethene	50.000	49.854	0.3	101	-0.012
18	T	Methyl acetate	50.000	54.833	-9.7	120	0.011
19	T	Methyl Tert Butyl Ether	50.000	53.853	-7.7	119	0.011
20	P	1,1-Dichloroethane	50.000	50.754	-1.5	101	0.000
21	T	Acrylonitrile	50.000	46.869	6.3	107	0.012
22	T	Vinyl Acetate	50.000	50.753	-1.5	117	0.000
23	T	cis-1,2-Dichloroethene	50.000	49.577	0.8	102	0.000
24	T	2,2-Dichloropropane	50.000	52.792	-5.6	96	-0.012
25	T	Cyclohexane	50.000	48.165	3.7	94	-0.020
26	T	Bromochloromethane	50.000	54.675	-9.3	111	0.000
27	C	Chloroform	50.000	50.927	-1.9#	107	0.000
28	T	Carbon Tetrachloride	50.000	52.468	-4.9	103	0.000
29	S	Dibromofluoromethane	25.000	26.000	-4.0	100	0.000
30	T	1,1,1-Trichloroethane	50.000	52.267	-4.5	106	0.000
31	T	1,1-Dichloropropene	50.000	50.714	-1.4	100	-0.012
32	T	2-Butanone	50.000	55.365	-10.7	128	0.018
33	T	Benzene	50.000	50.901	-1.8	102	0.000
34	S	1,2-Dichloroethane-d4	25.000	26.384	-5.5	105	0.000
35	T	1,2-Dichloroethane	50.000	52.049	-4.1	109	0.000
36	T	Methylcyclohexane	50.000	45.875	8.3	93	0.000
37	T	Trichloroethene	50.000	50.689	-1.4	103	0.000
38	T	Dibromomethane	50.000	52.369	-4.7	115	0.000
39	C	1,2-Dichloropropane	50.000	51.728	-3.5#	105	0.000
40	T	Bromodichloromethane	50.000	51.268	-2.5	104	0.000
41	T	1,4-Dioxane	100.000	596.691	-496.7#	583	0.000
42	T	2-Chloroethyl Vinyl Ether	50.000	54.224	-8.4	117	0.000
43	T	cis-1,3-Dichloropropene	50.000	54.679	-9.4	109	0.000
44	T	4-Methyl-2-Pentanone	50.000	53.516	-7.0	130	0.000
45	T	trans-1,3-Dichloropropene	50.000	51.817	-3.6	106	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	97	0.000
47	S	Toluene-d8	25.000	25.873	-3.5	98	0.000
48	C	Toluene	50.000	51.058	-2.1#	102	0.000
49	T	Tetrachloroethene	50.000	51.651	-3.3	104	0.000
50	T	1,1,2-Trichloroethane	50.000	49.583	0.8	112	0.000
51	T	Dibromochloromethane	50.000	52.154	-4.3	110	0.000
52	T	1,3-Dichloropropane	50.000	52.444	-4.9	113	0.000
53	T	1,2-Dibromoethane	50.000	51.242	-2.5	112	0.000
54	T	2-Hexanone	50.000	53.003	-6.0	130	0.000
55	P	Chlorobenzene	50.000	53.872	-7.7	108	0.000

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016379.D
Acq On : 11 Nov 2015 18:33
Operator : ADC
Sample : WG546498-12 50.0ug/L ALT 8260
Misc : 1,1 STD73387
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 12 09:55:48 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	50.000	47.178	5.6	94	0.000
57	C	Ethylbenzene	50.000	51.426	-2.9#	103	0.000
58	T	1,1,1,2-Tetrachloroethane	50.000	50.661	-1.3	102	0.000
59	T	m-,p-Xylene	100.000	106.579	-6.6	105	0.000
60	T	o-Xylene	50.000	53.099	-6.2	106	0.000
61	T	Styrene	50.000	51.346	-2.7	103	0.000
62	P	Bromoform	50.000	56.339	-12.7	122	0.000
63	T	Isopropylbenzene	50.000	53.116	-6.2	105	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	99	0.000
65	T	1,3,5-Trimethylbenzene	50.000	51.337	-2.7	102	0.000
66	S	p-Bromofluorobenzene	25.000	25.692	-2.8	98	0.000
67	T	Bromobenzene	50.000	49.826	0.3	104	0.000
68	T	n-Propylbenzene	50.000	53.538	-7.1	103	0.000
69	P	1,1,2,2-Tetrachloroethane	50.000	51.772	-3.5	118	0.000
70	T	2-Chlorotoluene	50.000	52.558	-5.1	105	0.000
71	T	1,2,3-Trichloropropane	50.000	49.475	1.0	118	0.000
72	T	trans-1,4-Dichloro-2-Butene	50.000	42.968	14.1	101	0.000
73	T	1,2,4-Trimethylbenzene	50.000	50.046	-0.1	99	0.000
74	T	4-Chlorotoluene	50.000	51.684	-3.4	101	0.000
75	T	tert-Butylbenzene	50.000	53.102	-6.2	106	0.000
76	T	sec-Butylbenzene	50.000	52.764	-5.5	103	0.000
77	T	p-Isopropyltoluene	50.000	50.462	-0.9	97	0.000
78	T	1,3-Dichlorobenzene	50.000	52.237	-4.5	105	0.000
79	T	1,4-Dichlorobenzene	50.000	49.541	0.9	103	0.000
80	T	n-Butylbenzene	50.000	50.825	-1.7	97	0.000
81	T	1,2-Dichlorobenzene	50.000	53.007	-6.0	110	0.000
82	T	1,2-Dibromo-3-Chloropropane	50.000	53.863	-7.7	125	0.000
83	T	Hexachlorobutadiene	50.000	51.927	-3.9	100	0.000
84	T	1,2,4-Trichlorobenzene	50.000	53.315	-6.6	107	0.000
85	T	Naphthalene	50.000	53.374	-6.7	120	0.000
86	T	1,2,3-Trichlorobenzene	50.000	53.279	-6.6	112	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407828.D Vial: 2
Acq On : 5 Oct 2015 11:49 Operator: TMB
Sample : WG540826-02 5ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:55 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

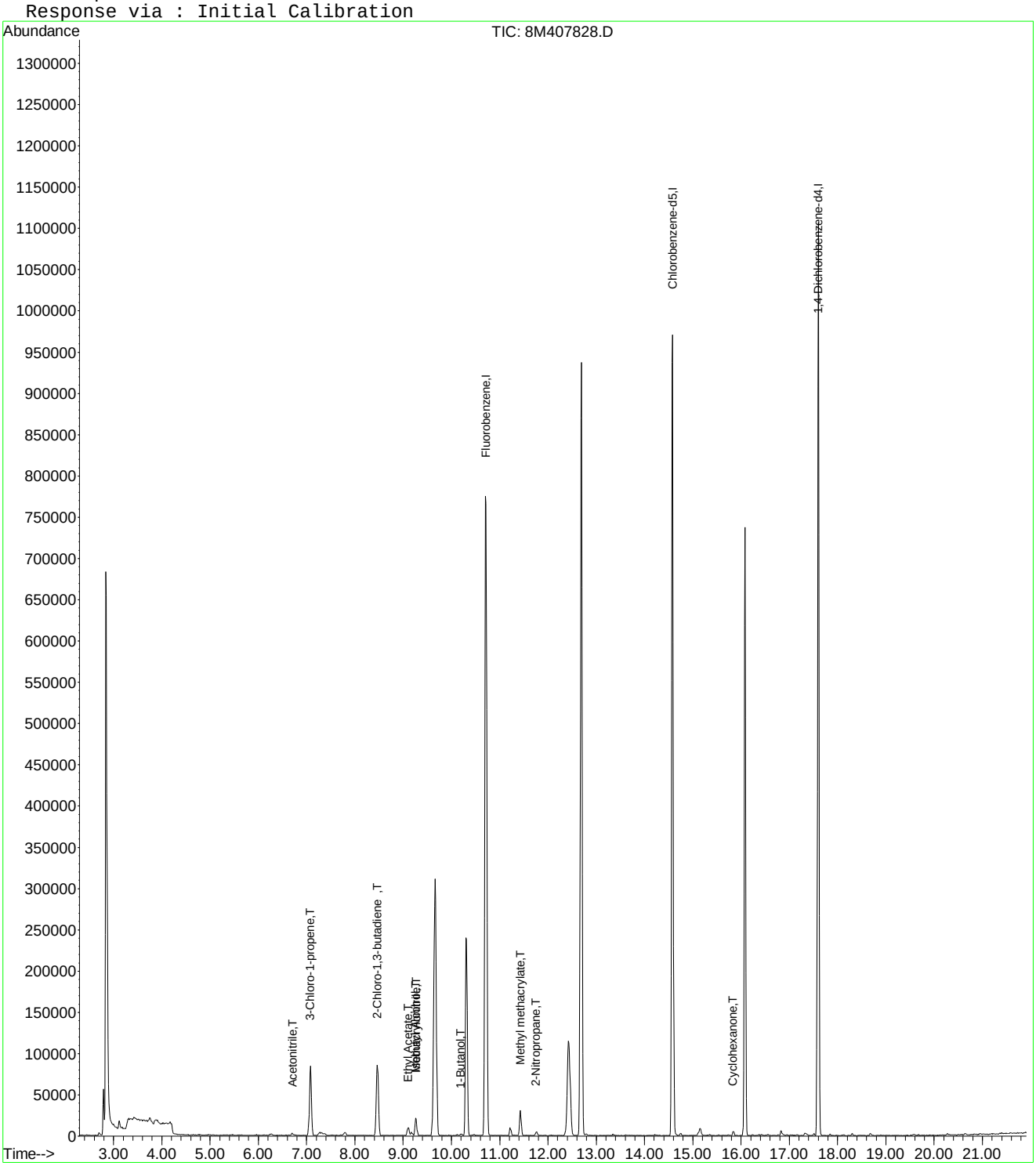
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.72	96	928093	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.58	117	670481	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	347120	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.71	41	3724	5.2139	ug/L		81
3) 3-Chloro-1-propene	7.08	41	87895	5.0600	ug/L		95
4) 2-Chloro-1,3-butadiene	8.46	53	83096	4.6491	ug/L		97
5) Ethyl Acetate	9.11	43	19297	4.0869	ug/L		95
6) Methacrylonitrile	9.27	67	8508	4.1055	ug/L		97
7) Isobutyl Alcohol	9.26	43	1318	6.8122	ug/L	#	56
8) 1-Butanol	10.19	56	1930	20.2377	ug/L	#	64
9) Methyl methacrylate	11.43	41	22250	3.8908	ug/L		96
10) 2-Nitropropane	11.75	43	2454	2.5566	ug/L		66
13) Cyclohexanone	15.83	55	2773	3.7471	ug/L	#	43

(#) = qualifier out of range (m) = manual integration
8M407828.D A9FOOWTR.M Tue Oct 06 11:56:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407828.D Vial: 2
Acq On : 5 Oct 2015 11:49 Operator: TMB
Sample : WG540826-02 5ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



8M407828.D A9FOOWTR.M Tue Oct 06 11:56:56 2015 Page 2

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407828.D Vial: 2
Acq On : 5 Oct 2015 11:49 Operator: TMB
Sample : WG540826-02 5ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	5.0000	5.2139	-4.3	100	0.01
3	T	3-Chloro-1-propene	5.0000	5.0600	-1.2	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	4.6491	7.0	100	0.00
5	T	Ethyl Acetate	5.0000	4.0869	18.3	100	0.01
6	T	Methacrylonitrile	5.0000	4.1055	17.9	100	0.01
7	T	Isobutyl Alcohol	-1.0000	6.8122	0.0	100	-0.01
8	T	1-Butanol	-1.0000	20.2377	0.0	100	0.00
9	T	Methyl methacrylate	5.0000	3.8908	22.2	100	0.00
10	T	2-Nitropropane	-1.0000	2.5566	0.0	0	-0.01
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	3.7471	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407828.D A9FOOWTR.M Tue Oct 06 11:54:24 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407829.D Vial: 3
Acq On : 5 Oct 2015 12:17 Operator: TMB
Sample : WG540826-03 20ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:56 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

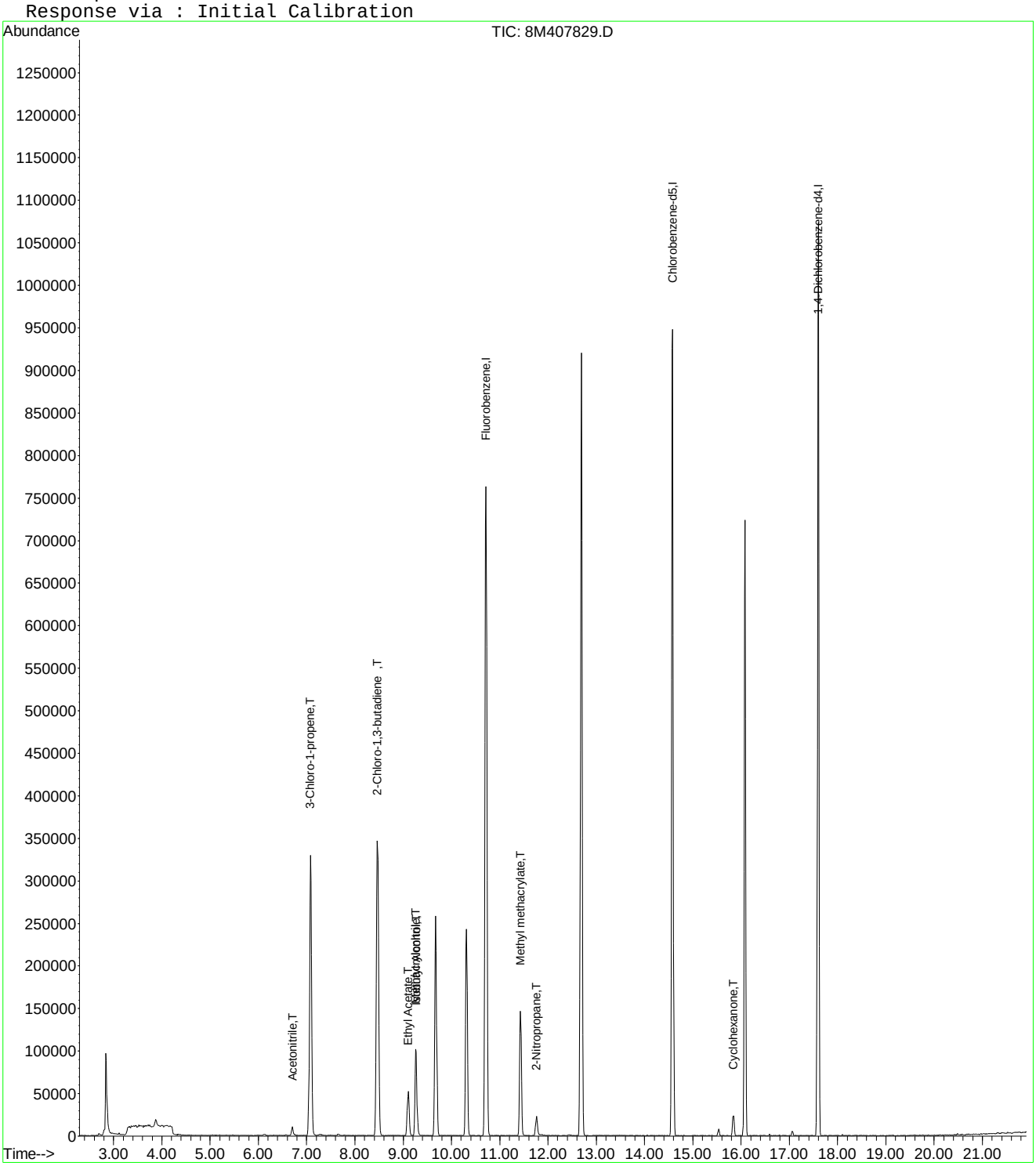
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	903673	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	657140	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	345767	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	14085	20.2529	ug/L	98
3) 3-Chloro-1-propene	7.08	41	349549	20.6667	ug/L	100
4) 2-Chloro-1,3-butadiene	8.46	53	347796	19.9846	ug/L	100
5) Ethyl Acetate	9.10	43	93237	20.2805	ug/L	97
6) Methacrylonitrile	9.26	67	40077	19.8617	ug/L	100
7) Isobutyl Alcohol	9.27	43	6436	34.1640	ug/L #	94
9) Methyl methacrylate	11.43	41	106029	19.0419	ug/L	97
10) 2-Nitropropane	11.76	43	12836	13.7339	ug/L	86
13) Cyclohexanone	15.84	55	14620	19.8329	ug/L	92

(#) = qualifier out of range (m) = manual integration
8M407829.D A9FOOWTR.M Tue Oct 06 11:56:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407829.D Vial: 3
Acq On : 5 Oct 2015 12:17 Operator: TMB
Sample : WG540826-03 20ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407829.D Vial: 3
Acq On : 5 Oct 2015 12:17 Operator: TMB
Sample : WG540826-03 20ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	20.2529	-1.3	100	0.00
3	T	3-Chloro-1-propene	20.0000	20.6667	-3.3	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	19.9846	0.1	100	0.00
5	T	Ethyl Acetate	20.0000	20.2805	-1.4	100	0.00
6	T	Methacrylonitrile	20.0000	19.8618	0.7	100	0.00
7	T	Isobutyl Alcohol	-1.0000	34.1640	0.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.19#
9	T	Methyl methacrylate	20.0000	19.0419	4.8	100	0.00
10	T	2-Nitropropane	-1.0000	13.7339	0.0	0	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	19.8329	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407829.D A9FOOWTR.M Tue Oct 06 11:54:38 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 13:13:37 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

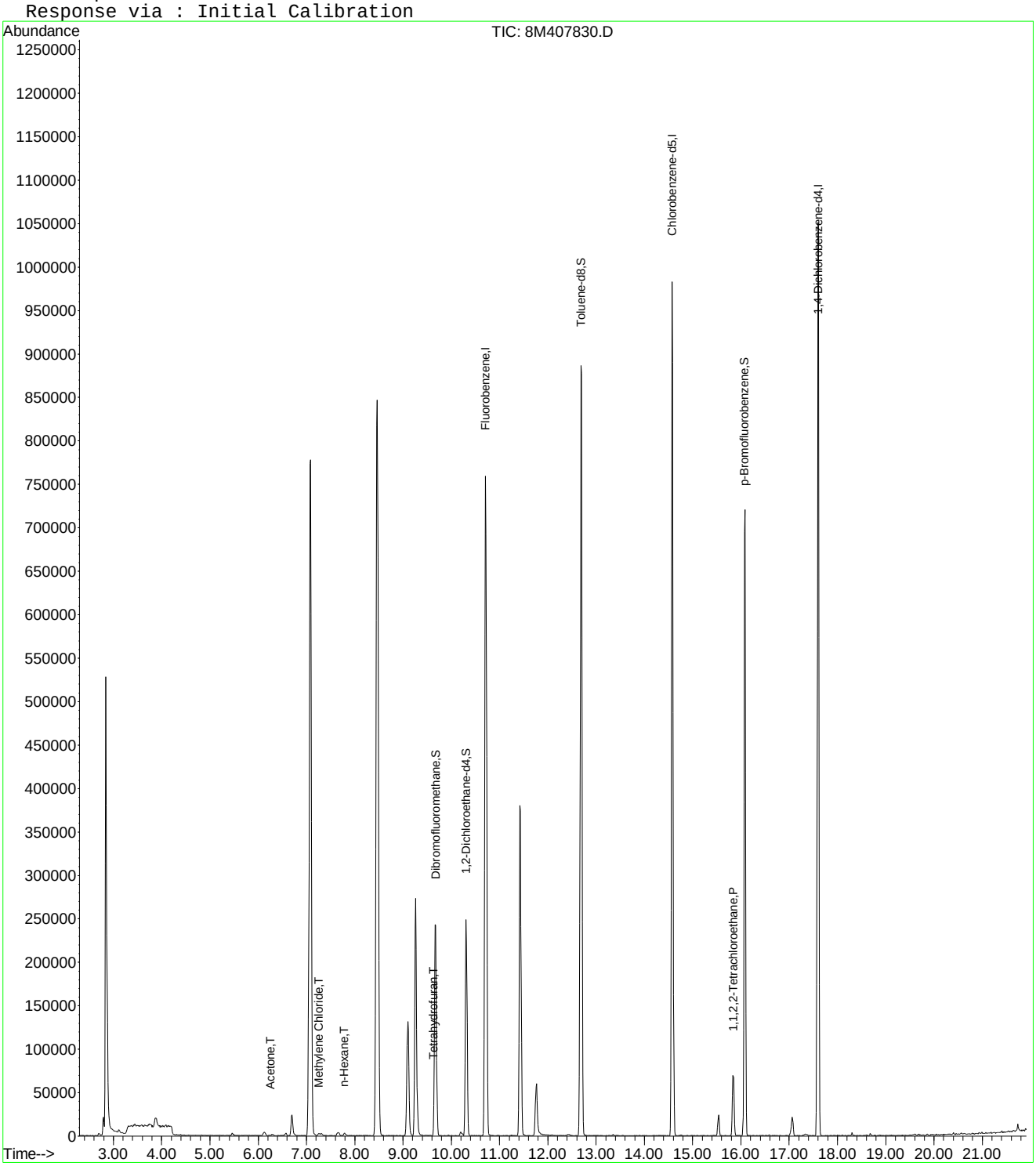
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	883897	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	665815	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	354078	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.68	111	212038	25.2054 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.84%		
43) 1,2-Dichloroethane-d4	10.31	65	214919	25.0573 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.24%		
58) Toluene-d8	12.69	98	784209	25.3851 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.56%		
80) p-Bromofluorobenzene	16.07	95	309869	25.0818 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.32%		
Target Compounds					Qvalue
13) Acetone	6.26	43	674	0.5137 ug/L #	48
19) Methylene Chloride	7.26	84	1894	0.2128 ug/L	67
24) n-Hexane	7.79	57	2250	0.1674 ug/L	96
36) Tetrahydrofuran	9.64	42	735	0.4954 ug/L #	40
79) 1,1,2,2-Tetrachloroethane	15.85	83	3323	0.5087 ug/L #	26

(#) = qualifier out of range (m) = manual integration
8M407830.D 8260WT.M Mon Oct 05 13:13:38 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 13:13 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



8M407830.D 8260WT.M Mon Oct 05 13:13:39 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:57 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

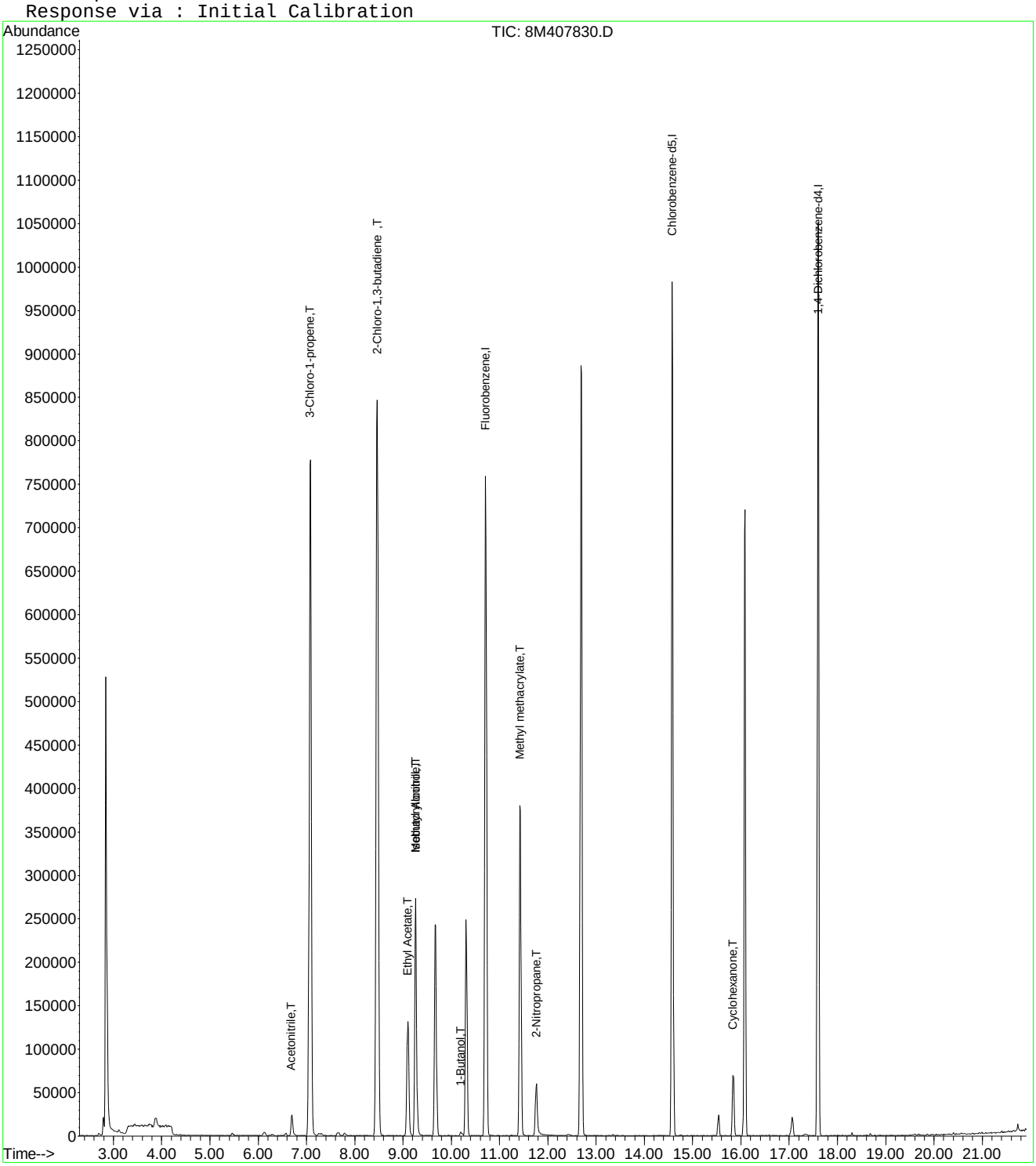
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	883897	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	665815	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	354078	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.69	41	35080	51.5703	ug/L	99
3) 3-Chloro-1-propene	7.07	41	841804	50.8844	ug/L	100
4) 2-Chloro-1,3-butadiene	8.47	53	851495	50.0222	ug/L	100
5) Ethyl Acetate	9.10	43	233139	51.8459	ug/L	97
6) Methacrylonitrile	9.26	67	101702	51.5301	ug/L	97
7) Isobutyl Alcohol	9.26	43	17567	95.3366	ug/L	98
8) 1-Butanol	10.19	56	3729	41.0570	ug/L	92
9) Methyl methacrylate	11.42	41	280126	51.4337	ug/L	98
10) 2-Nitropropane	11.76	43	37061	40.5407	ug/L	95
13) Cyclohexanone	15.84	55	40139	53.1730	ug/L	88

(#) = qualifier out of range (m) = manual integration
8M407830.D A9FOOWTR.M Tue Oct 06 11:56:57 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	51.5703	-3.1	100	0.00
3	T	3-Chloro-1-propene	50.0000	50.8844	-1.8	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	50.0222	-0.0	100	0.00
5	T	Ethyl Acetate	50.0000	51.8459	-3.7	100	0.00
6	T	Methacrylonitrile	50.0000	51.5301	-3.1	100	0.00
7	T	Isobutyl Alcohol	100.0000	95.3366	4.7	100	0.00
8	T	1-Butanol	50.0000	41.0570	17.9	100	0.00
9	T	Methyl methacrylate	50.0000	51.4337	-2.9	100	0.00
10	T	2-Nitropropane	50.0000	40.5407	18.9	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	50.0000	53.1730	-6.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407830.D A9FOOWTR.M Tue Oct 06 11:54:56 2015 Page 1

Data File : C:\MSDchem\2\data\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 13:42:04 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

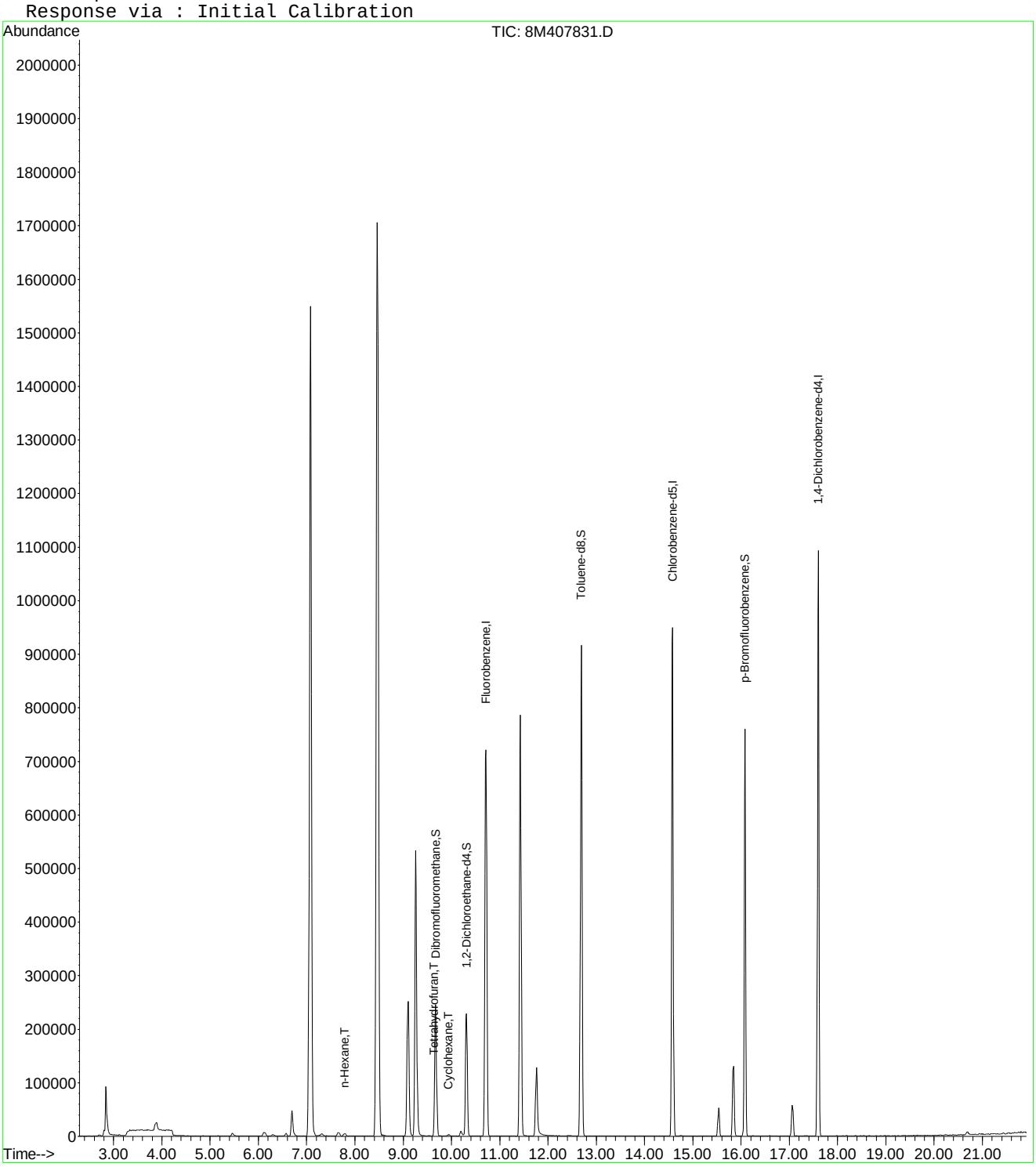
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	866178	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	661111	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	356230	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	202803	24.6008	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.40%			
43) 1,2-Dichloroethane-d4	10.31	65	203632	24.2270	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.92%			
58) Toluene-d8	12.69	98	789106	25.7254	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.92%			
80) p-Bromofluorobenzene	16.08	95	308907	24.8529	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.40%			
Target Compounds						Qvalue
24) n-Hexane	7.79	57	3351	0.2544	ug/L	79
36) Tetrahydrofuran	9.64	42	639	0.4395	ug/L #	40
39) Cyclohexane	9.94	56	2379	0.1385	ug/L #	66

(#) = qualifier out of range (m) = manual integration
8M407831.D 8260WT.M Mon Oct 05 13:42:05 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 13:42 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:58 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

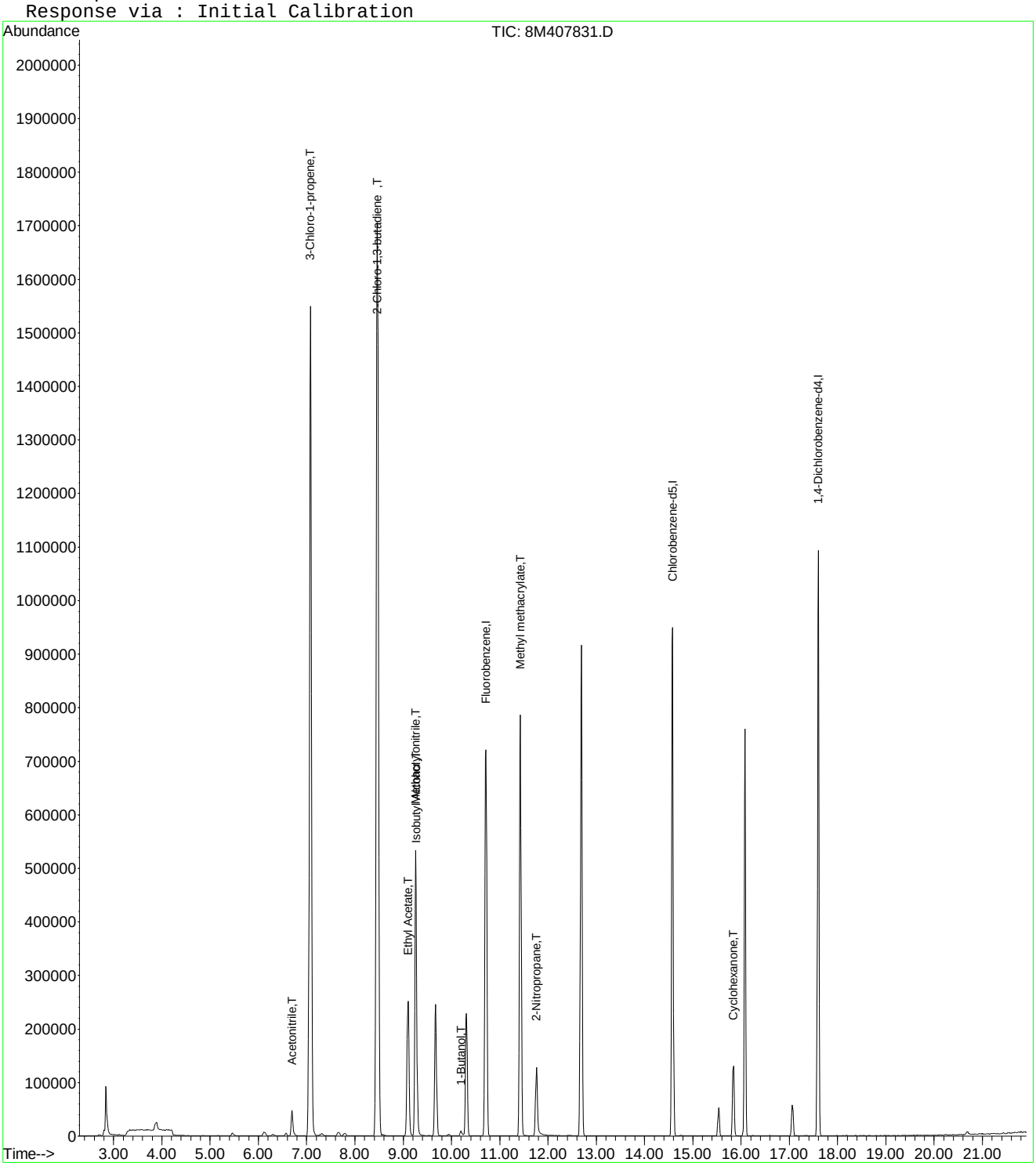
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	866178	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	661111	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	356230	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	67393	101.0995	ug/L	100
3) 3-Chloro-1-propene	7.08	41	1633129	100.7368	ug/L	100
4) 2-Chloro-1,3-butadiene	8.46	53	1684207	100.9649	ug/L	99
5) Ethyl Acetate	9.10	43	453445	102.9007	ug/L	99
6) Methacrylonitrile	9.26	67	196843	101.7762	ug/L	95
7) Isobutyl Alcohol	9.27	43	37534	207.8650	ug/L	92
8) 1-Butanol	10.20	56	8253	92.7258	ug/L	78
9) Methyl methacrylate	11.43	41	562497	105.3924	ug/L	98
10) 2-Nitropropane	11.76	43	77739	86.7776	ug/L	89
13) Cyclohexanone	15.84	55	74077	97.5385	ug/L	84

(#) = qualifier out of range (m) = manual integration
8M407831.D A9FOOWTR.M Tue Oct 06 11:56:58 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	100.0000	101.0995	-1.1	100	0.00
3	T	3-Chloro-1-propene	100.0000	100.7368	-0.7	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	100.9649	-1.0	100	0.00
5	T	Ethyl Acetate	100.0000	102.9007	-2.9	100	0.00
6	T	Methacrylonitrile	100.0000	101.7762	-1.8	100	0.00
7	T	Isobutyl Alcohol	200.0000	207.8650	-3.9	100	0.00
8	T	1-Butanol	100.0000	92.7258	7.3	100	0.00
9	T	Methyl methacrylate	100.0000	105.3924	-5.4	100	0.00
10	T	2-Nitropropane	100.0000	86.7776	13.2	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	100.0000	97.5386	2.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407831.D A9FOOWTR.M Tue Oct 06 11:55:12 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 14:10:58 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

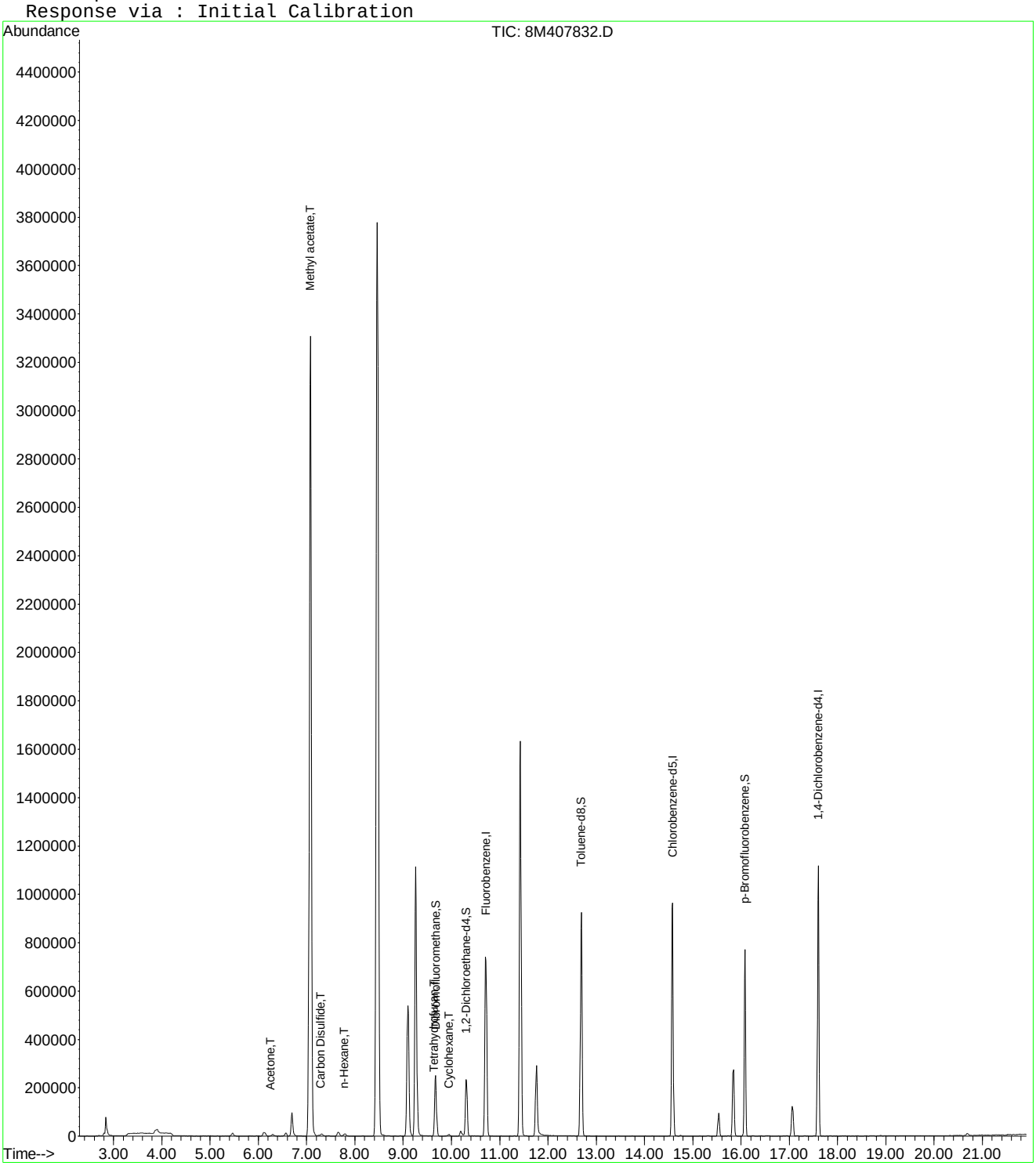
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	897754	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	673480	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	363907	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	208738	24.4301 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.72%		
43) 1,2-Dichloroethane-d4	10.30	65	213605	24.5197 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.08%		
58) Toluene-d8	12.69	98	807841	25.8525 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.40%		
80) p-Bromofluorobenzene	16.08	95	324104	25.5255 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.12%		
Target Compounds					Qvalue
13) Acetone	6.25	43	677	0.5081 ug/L #	48
18) Methyl acetate	7.08	43	1823	0.3618 ug/L #	1
20) Carbon Disulfide	7.30	76	5054	0.1712 ug/L #	78
24) n-Hexane	7.78	57	7743	0.5671 ug/L	88
36) Tetrahydrofuran	9.64	42	1466	0.9728 ug/L #	40
39) Cyclohexane	9.95	56	4715	0.2647 ug/L	84

(#) = qualifier out of range (m) = manual integration
8M407832.D 8260WT.M Mon Oct 05 14:10:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 14:10 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:58 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

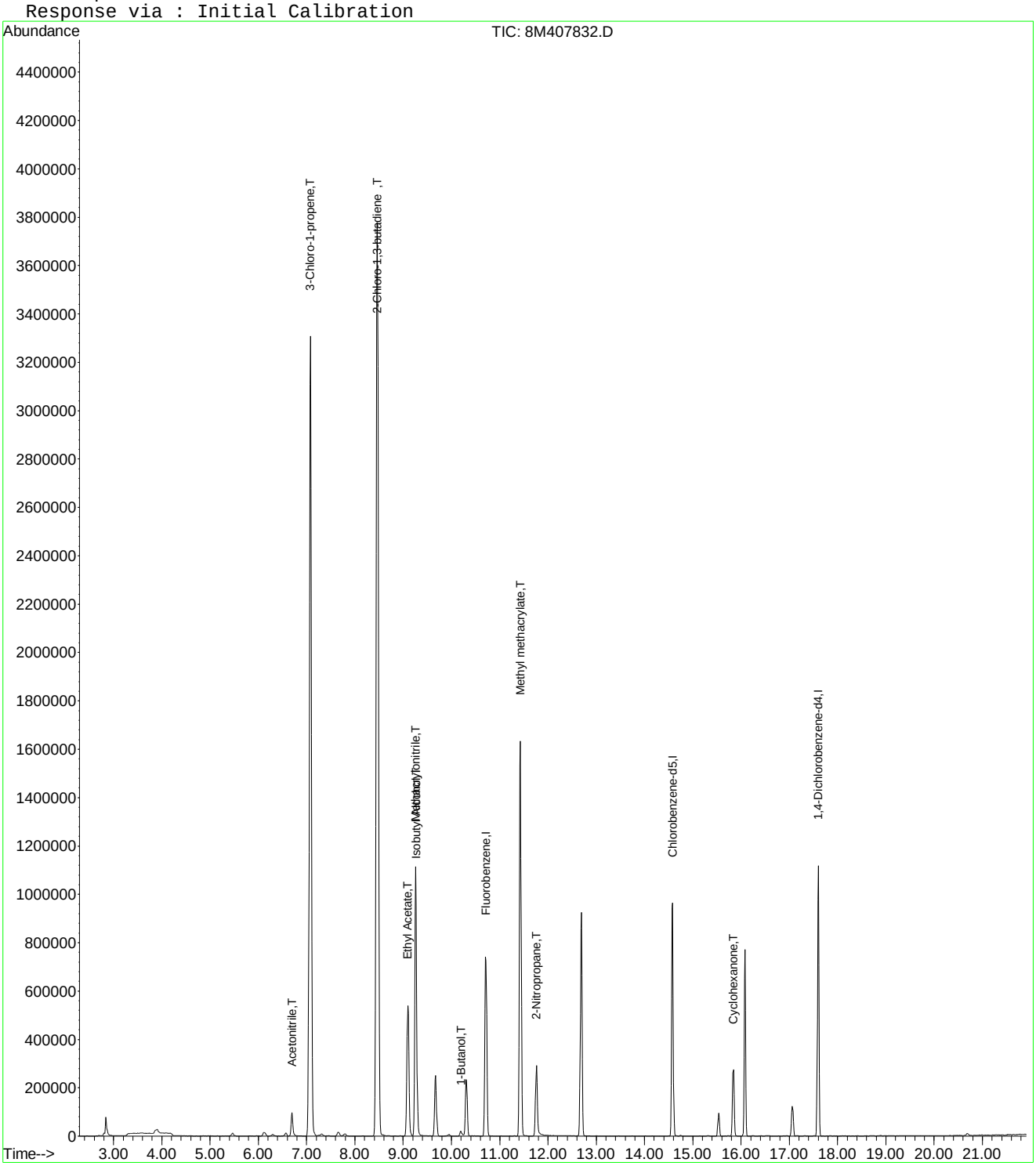
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	897754	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	673480	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	363907	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	138277	200.1400	ug/L	97
3) 3-Chloro-1-propene	7.08	41	3475078	206.8151	ug/L	99
4) 2-Chloro-1,3-butadiene	8.46	53	3691199	213.4973	ug/L	98
5) Ethyl Acetate	9.09	43	949825	207.9635	ug/L	98
6) Methacrylonitrile	9.26	67	412747	205.9018	ug/L	95
7) Isobutyl Alcohol	9.27	43	71985	384.6346	ug/L	94
8) 1-Butanol	10.20	56	18764	203.4062	ug/L	78
9) Methyl methacrylate	11.43	41	1165248	210.6479	ug/L	99
10) 2-Nitropropane	11.76	43	181242	195.1989	ug/L	92
13) Cyclohexanone	15.84	55	156208	201.3429	ug/L	89

(#) = qualifier out of range (m) = manual integration
8M407832.D A9FOOWTR.M Tue Oct 06 11:56:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 14:39:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

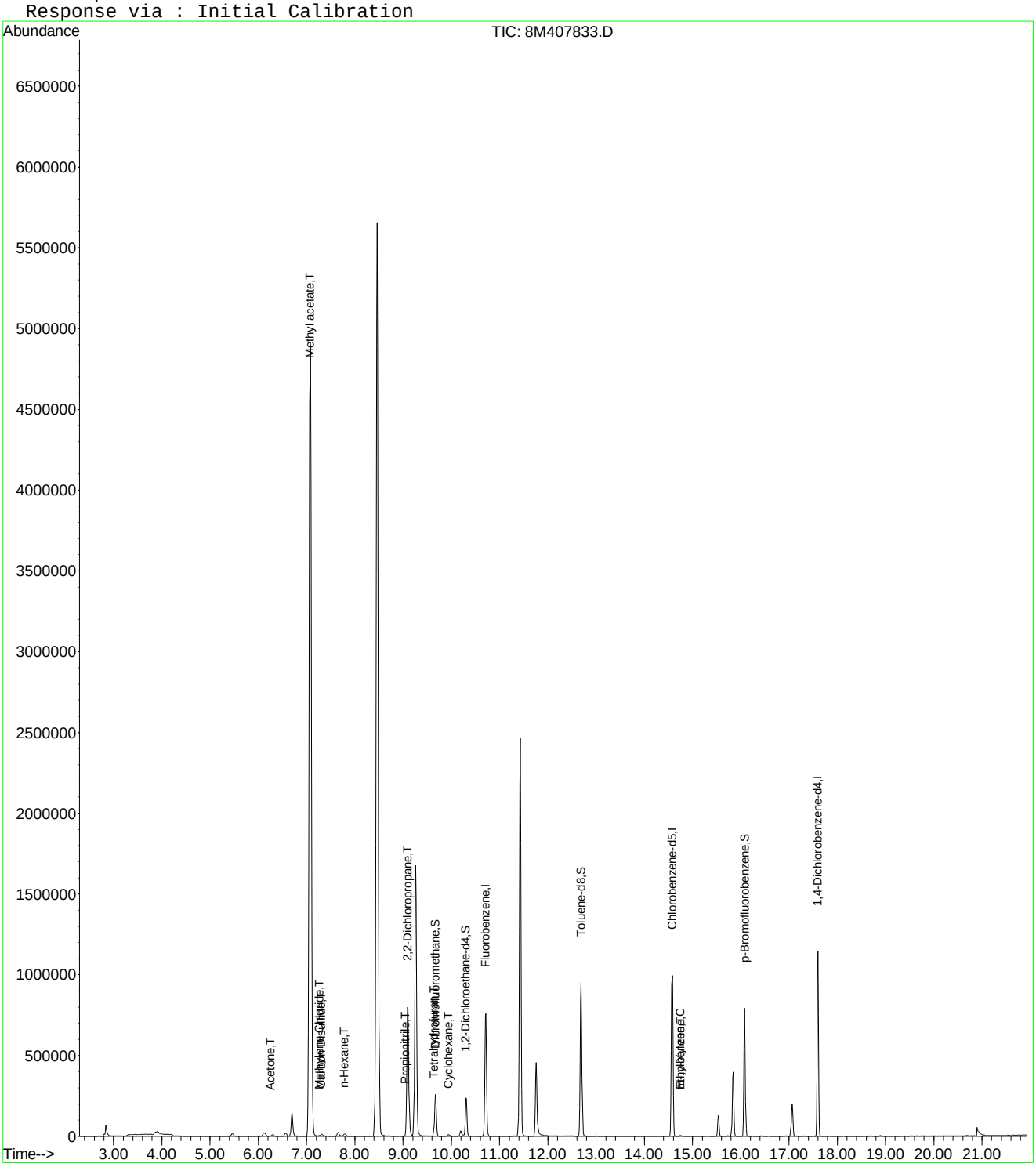
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	914795	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	689423	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	367388	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	213426	24.5135	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.04%			
43) 1,2-Dichloroethane-d4	10.30	65	216408	24.3787	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.52%			
58) Toluene-d8	12.69	98	818846	25.5987	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.40%			
80) p-Bromofluorobenzene	16.08	95	327784	25.5707	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.28%			
Target Compounds						Qvalue
13) Acetone	6.25	43	1107	0.8153	ug/L #	48
18) Methyl acetate	7.07	43	3926	0.7646	ug/L #	1
19) Methylene Chloride	7.26	84	1197	0.1300	ug/L	55
20) Carbon Disulfide	7.31	76	6659	0.2214	ug/L #	86
24) n-Hexane	7.78	57	11874	0.8534	ug/L	97
30) Propionitrile	9.05	54	208	0.3030	ug/L #	1
31) 2,2-Dichloropropane	9.09	77	2023	0.1353	ug/L #	42
36) Tetrahydrofuran	9.64	42	1301	0.8472	ug/L #	40
39) Cyclohexane	9.94	56	6598	0.3636	ug/L	94
72) Ethylbenzene	14.75	106	2422	0.1584	ug/L	54
73) m-,p-Xylene	14.75	106	2422	0.1381	ug/L	82

(#) = qualifier out of range (m) = manual integration
8M407833.D 8260WT.M Mon Oct 05 14:39:57 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 14:39 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:59 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

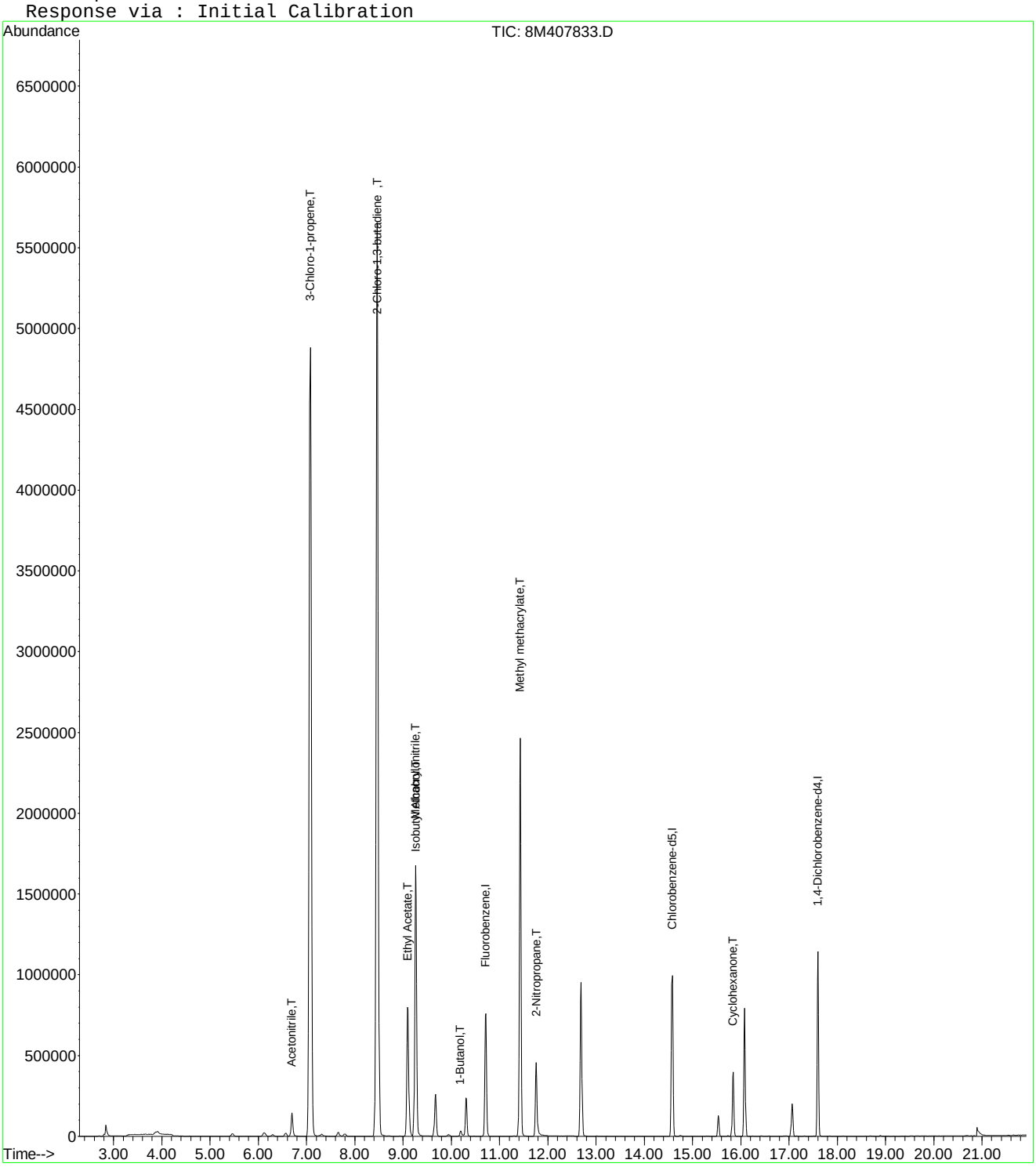
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	914795	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	689423	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	367388	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	204679	290.7307	ug/L	99
3) 3-Chloro-1-propene	7.08	41	5107808	298.3223	ug/L	99
4) 2-Chloro-1,3-butadiene	8.46	53	5432917	308.3838	ug/L	97
5) Ethyl Acetate	9.09	43	1404245	301.7310	ug/L	99
6) Methacrylonitrile	9.26	67	619787	303.4256	ug/L	96
7) Isobutyl Alcohol	9.27	43	113276	593.9881	ug/L	97
8) 1-Butanol	10.19	56	30662	326.1916	ug/L	85
9) Methyl methacrylate	11.43	41	1738162	308.3633	ug/L	98
10) 2-Nitropropane	11.76	43	289289	305.7623	ug/L	92
13) Cyclohexanone	15.84	55	224807	287.0174	ug/L	90

(#) = qualifier out of range (m) = manual integration
8M407833.D A9FOOWTR.M Tue Oct 06 11:56:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 15:09:02 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

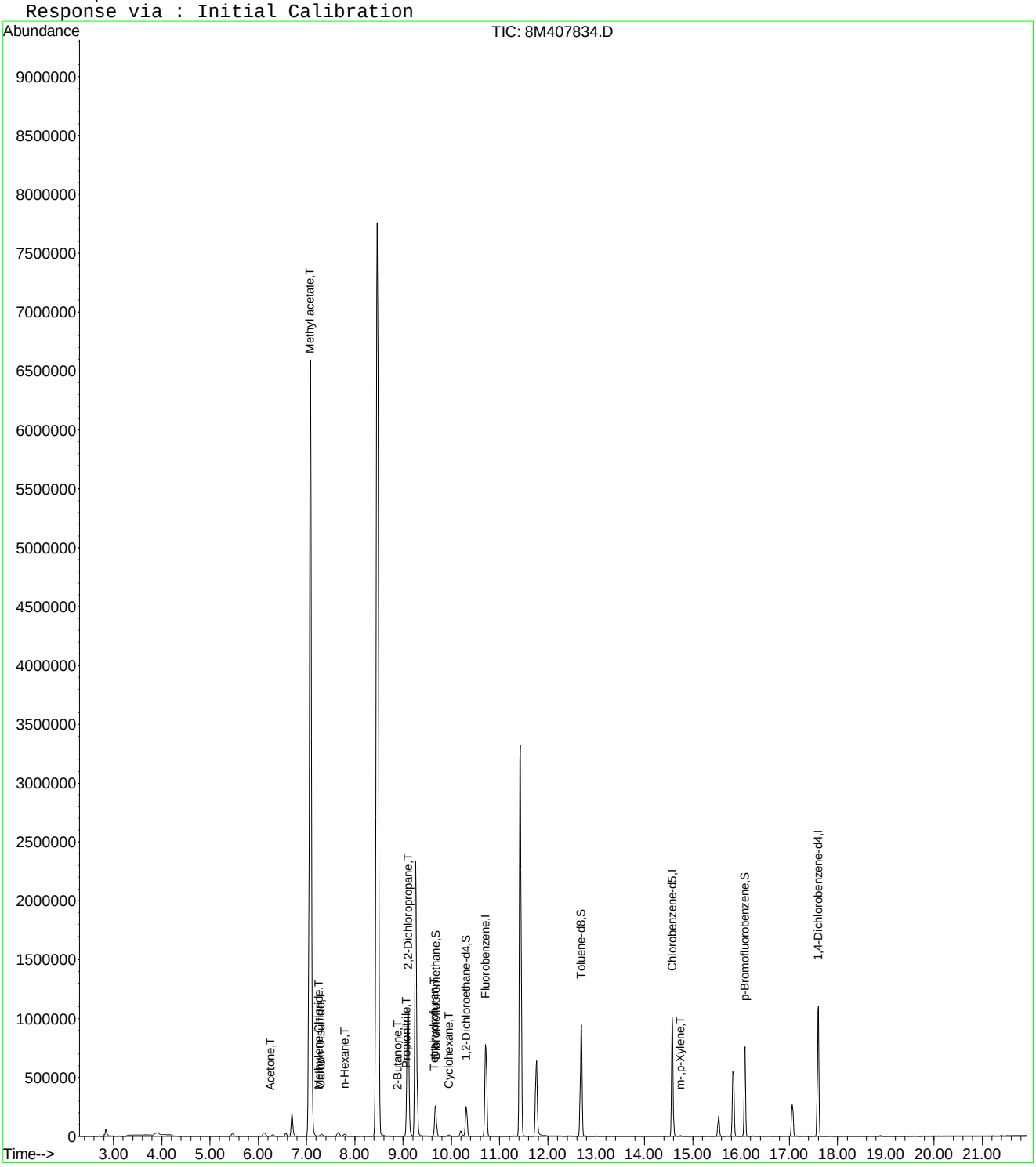
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	933879	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.57	117	691340	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	373332	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	222232	25.0033 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.00%		
43) 1,2-Dichloroethane-d4	10.31	65	222556	24.5590 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.24%		
58) Toluene-d8	12.69	98	831940	25.9359 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.76%		
80) p-Bromofluorobenzene	16.08	95	329799	25.3183 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.28%		
Target Compounds					Qvalue
13) Acetone	6.25	43	2307	1.6644 ug/L #	48
18) Methyl acetate	7.07	43	5300	1.0111 ug/L #	1
19) Methylene Chloride	7.26	84	1631	0.1735 ug/L #	6
20) Carbon Disulfide	7.30	76	9227	0.3005 ug/L #	79
24) n-Hexane	7.79	57	16005	1.1268 ug/L	89
29) 2-Butanone	8.89	43	1241	0.5197 ug/L #	57
30) Propionitrile	9.07	54	773	1.1032 ug/L #	1
31) 2,2-Dichloropropane	9.11	77	2811	0.1842 ug/L #	42
36) Tetrahydrofuran	9.65	42	1879	1.1986 ug/L #	40
39) Cyclohexane	9.95	56	9653	0.5211 ug/L	94
73) m-,p-Xylene	14.75	106	3655	0.2078 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M407834.D 8260WT.M Mon Oct 05 15:09:03 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 15:09 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:57:00 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

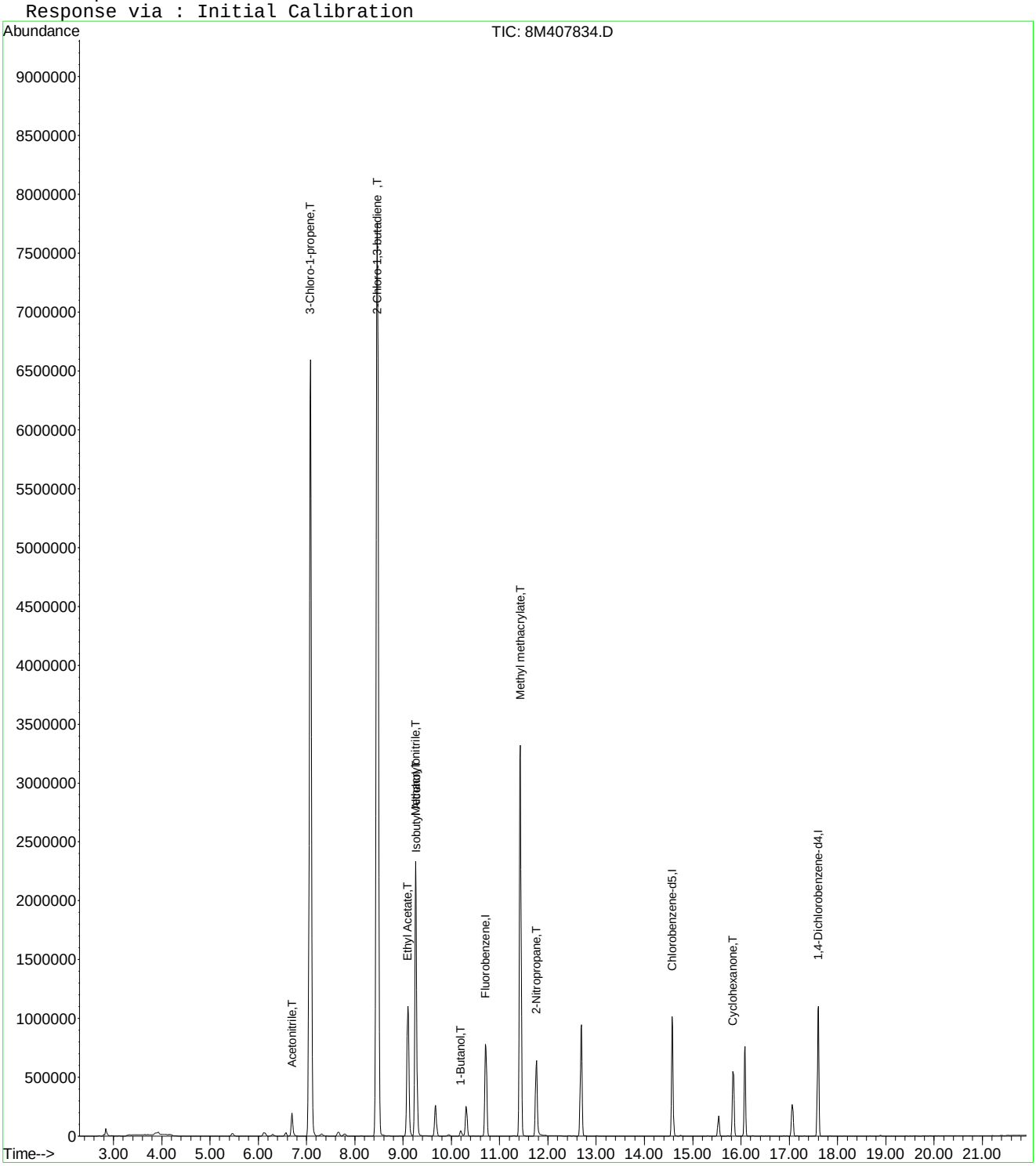
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	933879	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	691340	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	373332	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	276454	384.6570	ug/L	96
3) 3-Chloro-1-propene	7.08	41	6839307	391.2880	ug/L	97
4) 2-Chloro-1,3-butadiene	8.47	53	7261886	403.7765	ug/L	94
5) Ethyl Acetate	9.10	43	1919647	404.0467	ug/L	99
6) Methacrylonitrile	9.26	67	856150	410.5753	ug/L	97
7) Isobutyl Alcohol	9.27	43	151941	780.4553	ug/L	92
8) 1-Butanol	10.19	56	39703	413.7412	ug/L	80
9) Methyl methacrylate	11.43	41	2385524	414.5619	ug/L	99
10) 2-Nitropropane	11.76	43	432493	447.7796	ug/L	93
13) Cyclohexanone	15.83	55	313432	393.7962	ug/L	87

(#) = qualifier out of range (m) = manual integration
8M407834.D A9FOOWTR.M Tue Oct 06 11:57:00 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:57 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 15:37:56 2015 Quant Results File: 8260WT.RES

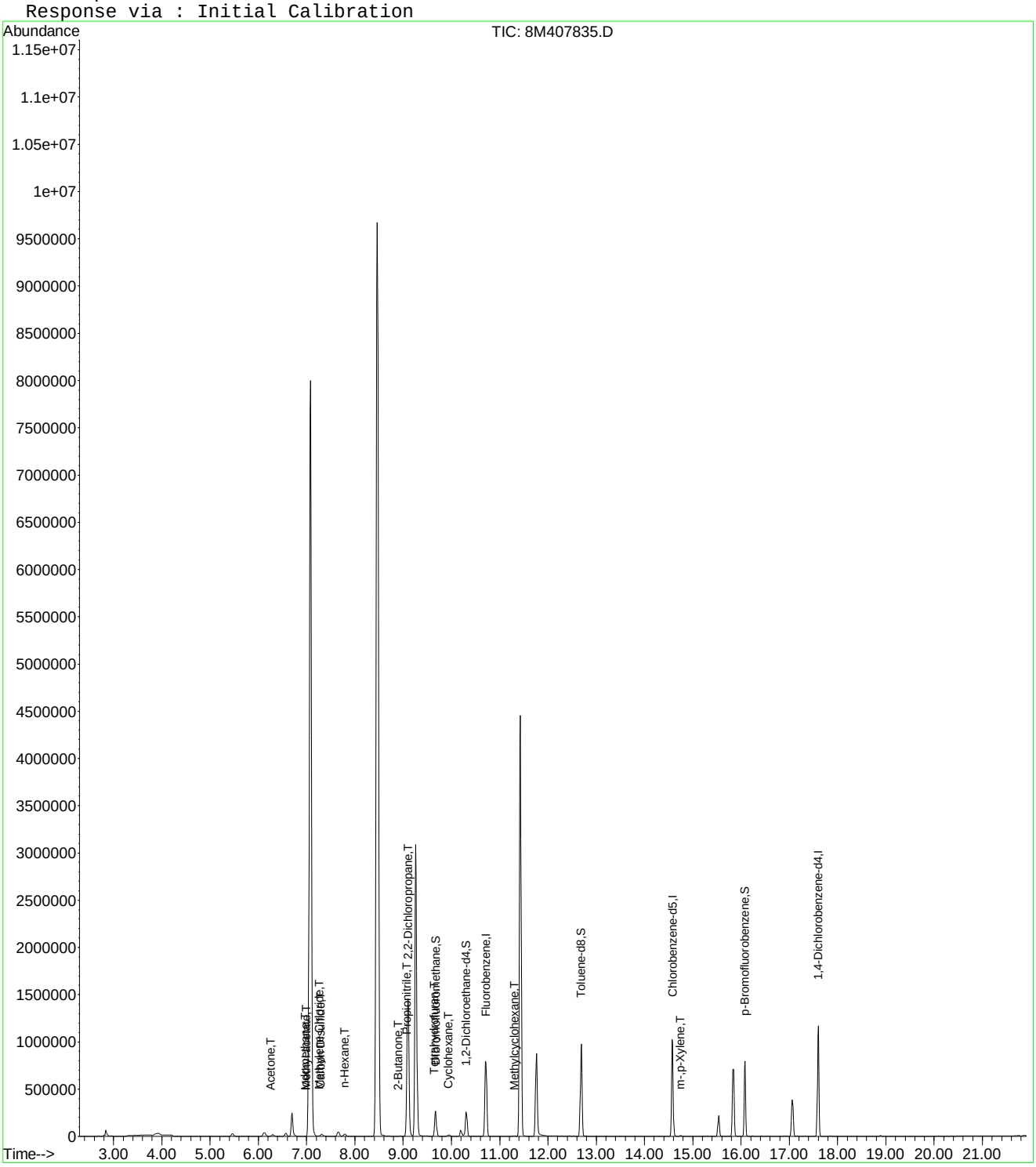
Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	952136	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	712384	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	381907	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	222948	24.6029 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.40%		
43) 1,2-Dichloroethane-d4	10.30	65	229612	24.8518 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.40%		
58) Toluene-d8	12.69	98	849027	25.6867 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.76%		
80) p-Bromofluorobenzene	16.08	95	340742	25.5710 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.28%		
Target Compounds					Qvalue
13) Acetone	6.26	43	2624	1.8568 ug/L #	48
17) Iodomethane	6.98	142	414	1.8830 ug/L #	28
18) Methyl acetate	7.00	43	818	0.1531 ug/L #	64
19) Methylene Chloride	7.27	84	2206	0.2301 ug/L	69
20) Carbon Disulfide	7.30	76	12486	0.3989 ug/L #	78
24) n-Hexane	7.79	57	21760	1.5026 ug/L	96
29) 2-Butanone	8.90	43	1797	0.7381 ug/L #	57
30) Propionitrile	9.07	54	1629	2.2802 ug/L #	1
31) 2,2-Dichloropropane	9.11	77	3861	0.2482 ug/L #	52
36) Tetrahydrofuran	9.65	42	2063	1.2908 ug/L #	40
39) Cyclohexane	9.94	56	13508	0.7152 ug/L	88
48) Methylcyclohexane	11.31	83	2456	0.1572 ug/L #	73
73) m-,p-Xylene	14.75	106	3865	0.2133 ug/L	76

(#) = qualifier out of range (m) = manual integration
8M407835.D 8260WT.M Mon Oct 05 15:37:57 2015 Page 1

Data File : C:\MSDchem\2\data\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 15:37 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:57:01 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

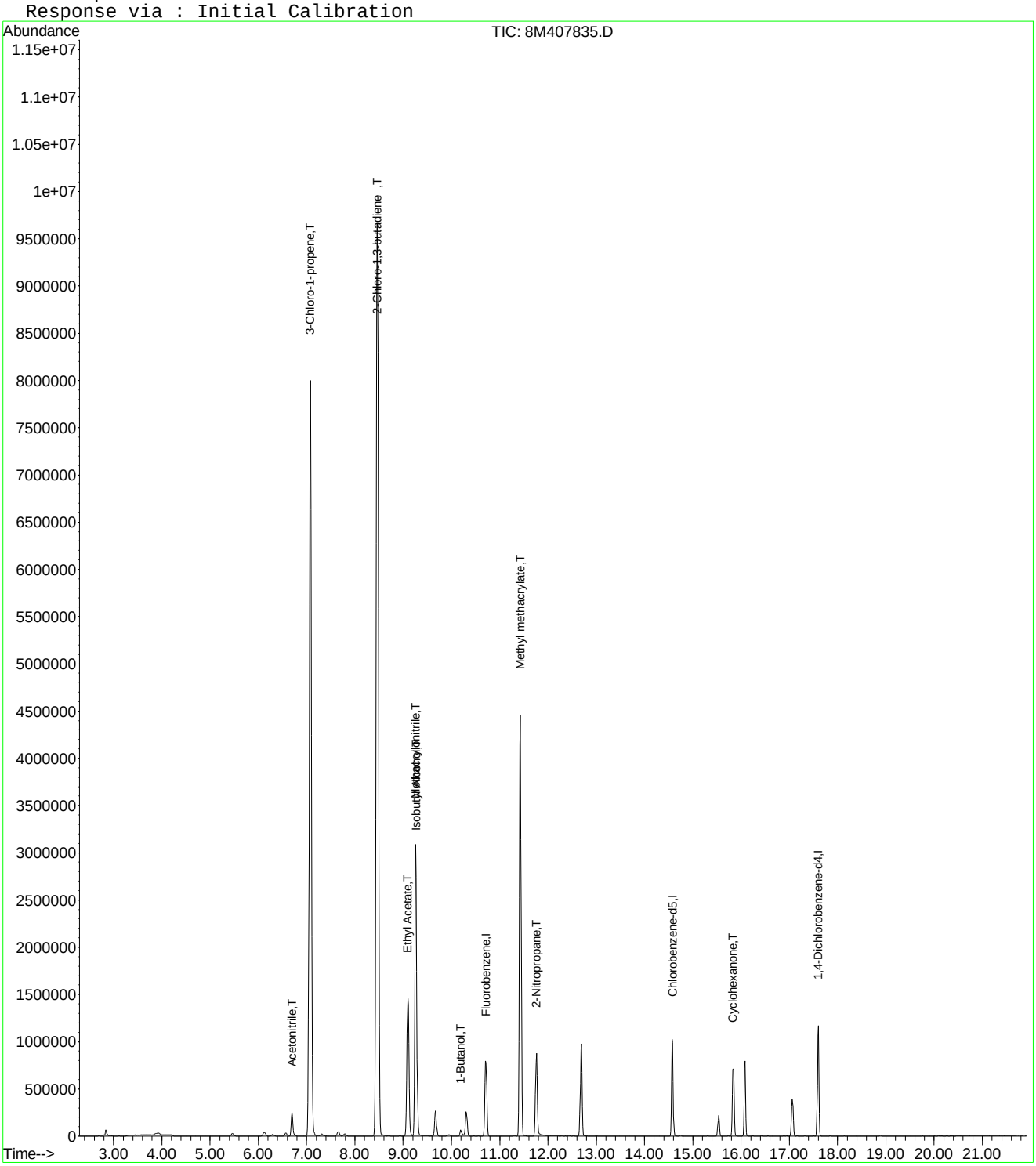
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	952136	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	712384	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	381907	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	355656	485.3695	ug/L	97
3) 3-Chloro-1-propene	7.08	41	8223448	461.4556	ug/L	95
4) 2-Chloro-1,3-butadiene	8.46	53	8764656	477.9893	ug/L	90
5) Ethyl Acetate	9.09	43	2535700	523.4795	ug/L	100
6) Methacrylonitrile	9.26	67	1137496	535.0377	ug/L	97
7) Isobutyl Alcohol	9.27	43	214402	1080.1734	ug/L	98
8) 1-Butanol	10.19	56	54442	556.4564	ug/L	87
9) Methyl methacrylate	11.43	41	3137676	534.8171	ug/L	99
10) 2-Nitropropane	11.76	43	594174	603.3794	ug/L	94
13) Cyclohexanone	15.83	55	412487	506.6127	ug/L	87

(#) = qualifier out of range (m) = manual integration
8M407835.D A9FOOWTR.M Tue Oct 06 11:57:01 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:57 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 17:10:31 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

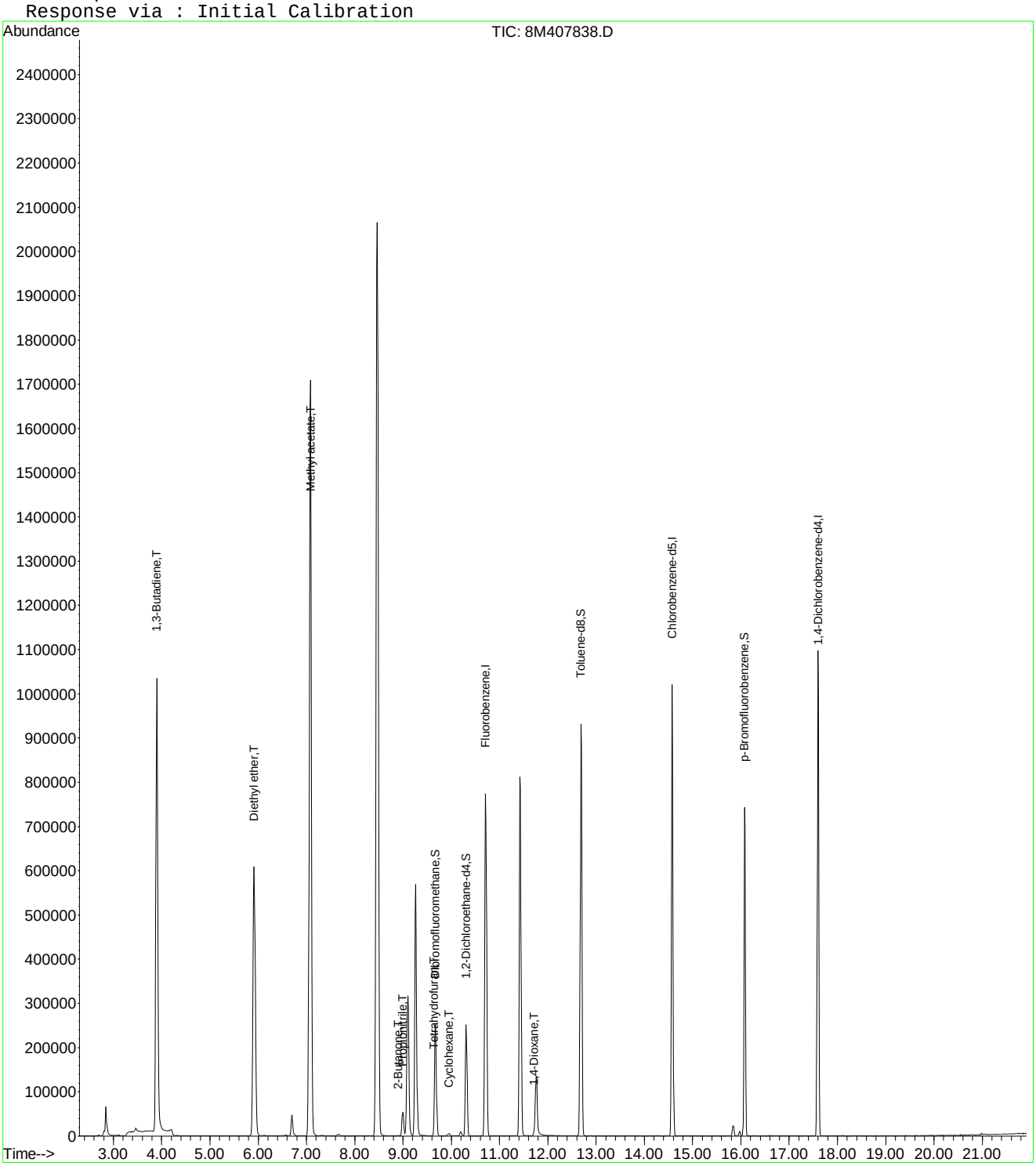
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	910348	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	672710	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	361469	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	216028	24.9336	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.72%			
43) 1,2-Dichloroethane-d4	10.31	65	220386	24.9481	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.80%			
58) Toluene-d8	12.68	98	805489	25.8067	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.24%			
80) p-Bromofluorobenzene	16.07	95	318985	25.2918	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.16%			
Target Compounds						Qvalue
5) 1,3-Butadiene	3.90	54	680860	64.5479	ug/L	96
9) Diethyl ether	5.91	59	636031	102.4537	ug/L	99
18) Methyl acetate	7.09	43	861	0.1685	ug/L #	1
29) 2-Butanone	8.90	43	1914	0.8222	ug/L	83
30) Propionitrile	8.99	54	68619	100.4600	ug/L	99
36) Tetrahydrofuran	9.65	42	849	0.5556	ug/L #	40
39) Cyclohexane	9.96	56	4155	0.2301	ug/L #	88
51) 1,4-Dioxane	11.71	88	8398	188.8572	ug/L	85

(#) = qualifier out of range (m) = manual integration
8M407838.D 8260WT.M Mon Oct 05 17:10:32 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 17:10 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:57:03 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

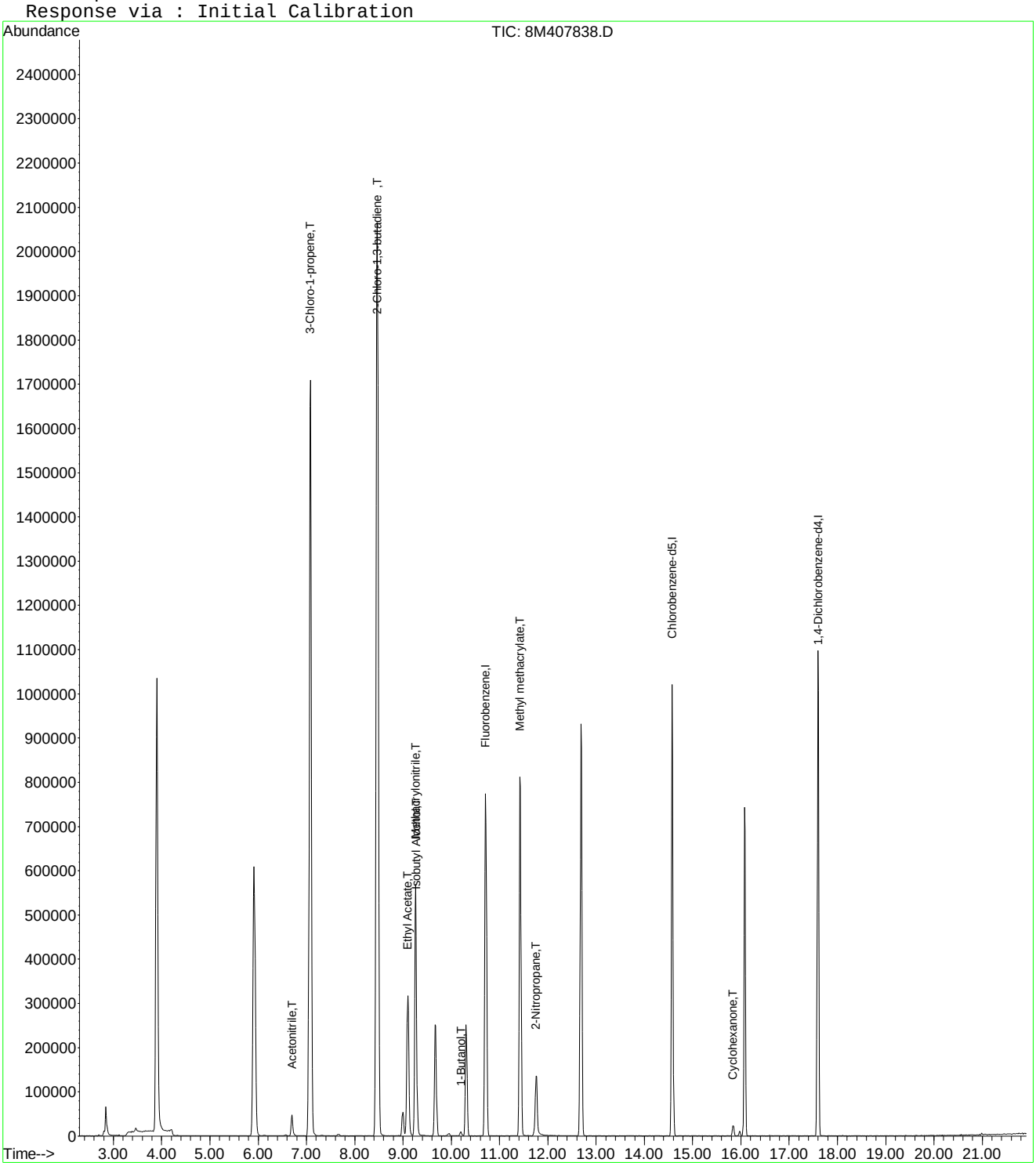
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	910348	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	672710	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	361469	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	68331	97.5330	ug/L	99
3) 3-Chloro-1-propene	7.08	41	1823769	107.0379	ug/L	100
4) 2-Chloro-1,3-butadiene	8.47	53	2081638	118.7353	ug/L	100
5) Ethyl Acetate	9.10	43	556798	120.2240	ug/L	97
6) Methacrylonitrile	9.26	67	209938	103.2802	ug/L	94
7) Isobutyl Alcohol	9.27	43	38987	205.4358	ug/L	96
8) 1-Butanol	10.20	56	7758	82.9351	ug/L	93
9) Methyl methacrylate	11.42	41	590033	105.1877	ug/L	99
10) 2-Nitropropane	11.75	43	94685	100.5656	ug/L	93
13) Cyclohexanone	15.84	55	13964	18.1202	ug/L	94

(#) = qualifier out of range (m) = manual integration
8M407838.D A9FOOWTR.M Tue Oct 06 11:57:03 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:57 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG540826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 12:32:35 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

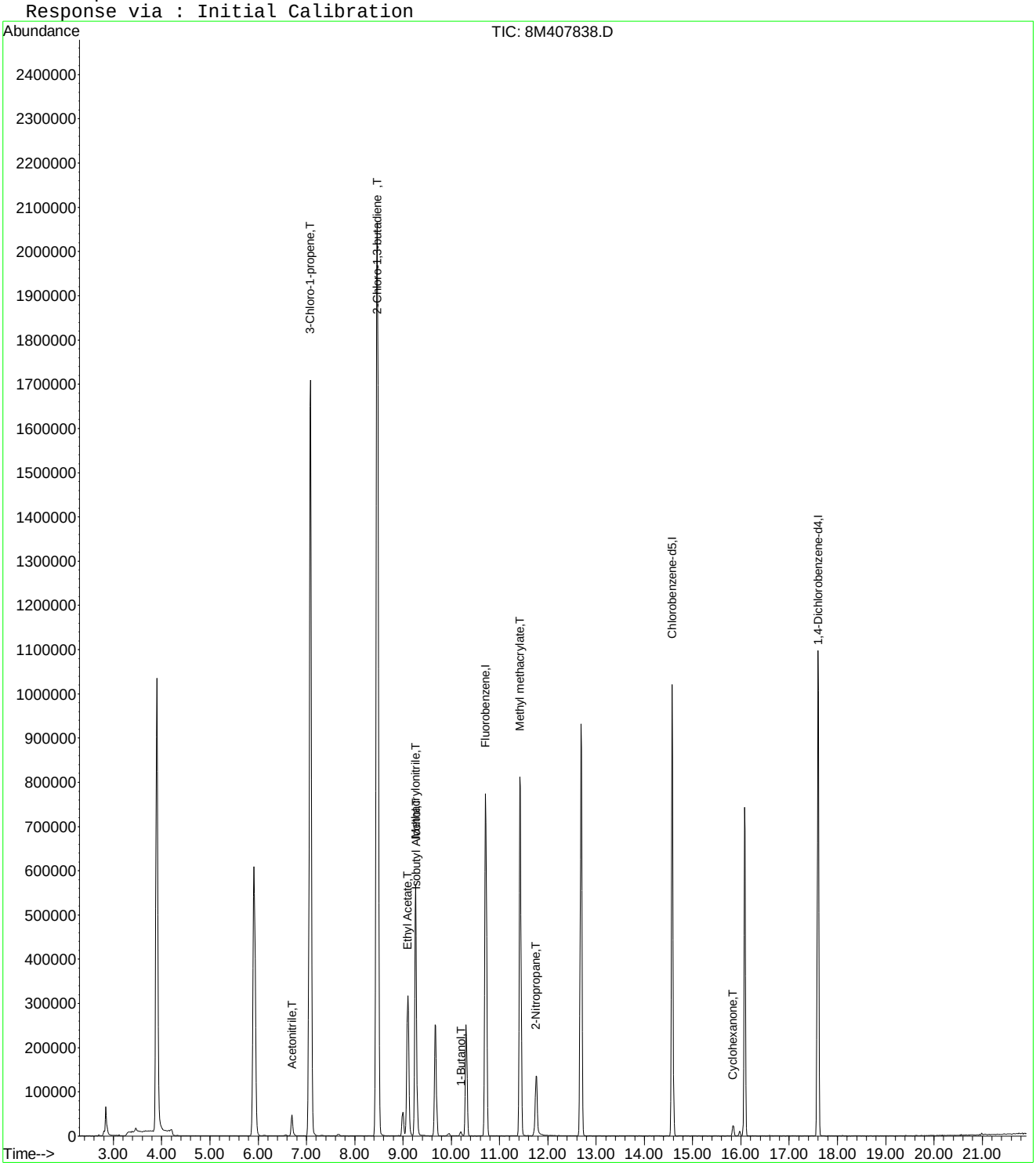
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	910348	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	672710	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	361469	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	68331	97.5330	ug/L	99
3) 3-Chloro-1-propene	7.08	41	1823769	107.0379	ug/L	100
4) 2-Chloro-1,3-butadiene	8.47	53	2081638	118.7353	ug/L	100
5) Ethyl Acetate	9.10	43	556798	120.2240	ug/L	97
6) Methacrylonitrile	9.26	67	209938	103.2802	ug/L	94
7) Isobutyl Alcohol	9.27	43	38987	205.4358	ug/L	96
8) 1-Butanol	10.20	56	7758	82.9351	ug/L	93
9) Methyl methacrylate	11.42	41	590033	105.1877	ug/L	99
10) 2-Nitropropane	11.75	43	94685	100.5656	ug/L	93
13) Cyclohexanone	15.84	55	13964	18.1202	ug/L	94

(#) = qualifier out of range (m) = manual integration
8M407838.D A9FOOWTR.M Tue Oct 06 12:32:36 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG540826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 12:32 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG540826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	105	0.00
2	T	Acetonitrile	100.0000	97.5330	2.5	101	0.00
3	T	3-Chloro-1-propene	100.0000	107.0379	-7.0	112	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	118.7354	-18.7	124	0.00
5	T	Ethyl Acetate	100.0000	120.2240	-20.2	123	0.00
6	T	Methacrylonitrile	100.0000	103.2802	-3.3	107	0.00
7	T	Isobutyl Alcohol	200.0000	205.4358	-2.7	104	0.00
8	T	1-Butanol	100.0000	82.9351	17.1	94	0.01
9	T	Methyl methacrylate	100.0000	105.1877	-5.2	105	0.00
10	T	2-Nitropropane	100.0000	100.5656	-0.6	122	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	102	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
13	T	Cyclohexanone	100.0000	18.1202	81.9#	19	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407838.D A9FOOWTR.M Tue Oct 06 12:32:39 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407747.D Vial: 3
Acq On : 30 Sep 2015 10:30 Operator: TMB
Sample : WG540912-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:55 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	842533	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	629942	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	326399	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.00%#		
80) p-Bromofluorobenzene	16.07	95	245	0.0215	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.08%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	3460	0.2701	ug/L	81
3) Chloromethane	3.63	50	5818	0.2977	ug/L	95
4) Vinyl Chloride	3.86	62	5033	0.3259	ug/L	85
5) 1,3-Butadiene	3.90	54	3968	Below Cal #		58
6) Bromomethane	4.74	94	879	0.8599	ug/L #	61
7) Chloroethane	4.90	64	1584	0.2514	ug/L #	43
8) Trichlorofluoromethane	5.37	101	3597	0.2410	ug/L #	92
10) Isoprene	5.95	67	2731	0.2492	ug/L	79
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	1287	0.1604	ug/L #	49
14) 1,1-Dichloroethene	6.47	61	4105	0.3005	ug/L	98
16) Dimethyl Sulfide	6.75	62	1886	0.2406	ug/L	92
18) Methyl acetate	7.02	43	897	0.1897	ug/L #	64
19) Methylene Chloride	7.27	84	2727	0.3214	ug/L	93
20) Carbon Disulfide	7.30	76	7953	0.2871	ug/L	93
22) Methyl Tert Butyl Ether	7.49	73	4097	0.2548	ug/L #	50
23) trans-1,2-Dichloroethene	7.70	61	3282	0.2530	ug/L	98
24) n-Hexane	7.79	57	3786	0.2955	ug/L	89
26) Vinyl Acetate	8.31	43	2197	0.2585	ug/L #	77
27) 1,1-Dichloroethane	8.33	63	4345	0.2638	ug/L #	89
31) 2,2-Dichloropropane	9.11	77	4023	0.2922	ug/L #	62
32) cis-1,2-Dichloroethene	9.18	96	2188	0.2364	ug/L	88
33) Chloroform	9.38	83	4576	0.2924	ug/L	85
35) Bromochloromethane	9.62	130	1136	0.2493	ug/L	83
36) Tetrahydrofuran	9.63	42	248	0.1754	ug/L #	40
38) 1,1,1-Trichloroethane	9.90	97	3114	0.2217	ug/L	98
39) Cyclohexane	9.94	56	3908	0.2338	ug/L #	92
40) 1,1-Dichloropropene	10.12	75	3184	0.2633	ug/L	86
42) Carbon Tetrachloride	10.26	117	2506	0.1996	ug/L	93
45) 1,2-Dichloroethane	10.44	62	2693	0.2506	ug/L #	69
46) Benzene	10.47	78	9583	0.2888	ug/L	94
47) Trichloroethene	11.22	130	2701	0.3024	ug/L	94
48) Methylcyclohexane	11.30	83	3801	0.2750	ug/L	90
49) 1,2-Dichloropropane	11.43	63	1944	0.2175	ug/L	86
50) Bromodichloromethane	11.73	83	2933	0.2542	ug/L #	91
53) 2-Chloroethyl Vinyl Ether	12.03	63	715	0.1941	ug/L #	53
55) cis-1,3-Dichloropropene	12.36	75	3481	0.2718	ug/L	98
56) Dimethyl Disulfide	12.63	79	1238	0.1792	ug/L	71
59) Toluene	12.79	91	10440	0.2917	ug/L	93
60) Ethyl Methacrylate	12.89	69	1527	0.2140	ug/L	91
62) trans-1,3-Dichloropropene	12.96	75	2685	0.2445	ug/L	95

(#) = qualifier out of range (m) = manual integration
8M407747.D 8260WT.M Thu Oct 01 09:02:55 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407747.D Vial: 3
Acq On : 30 Sep 2015 10:30 Operator: TMB
Sample : WG540912-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:55 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

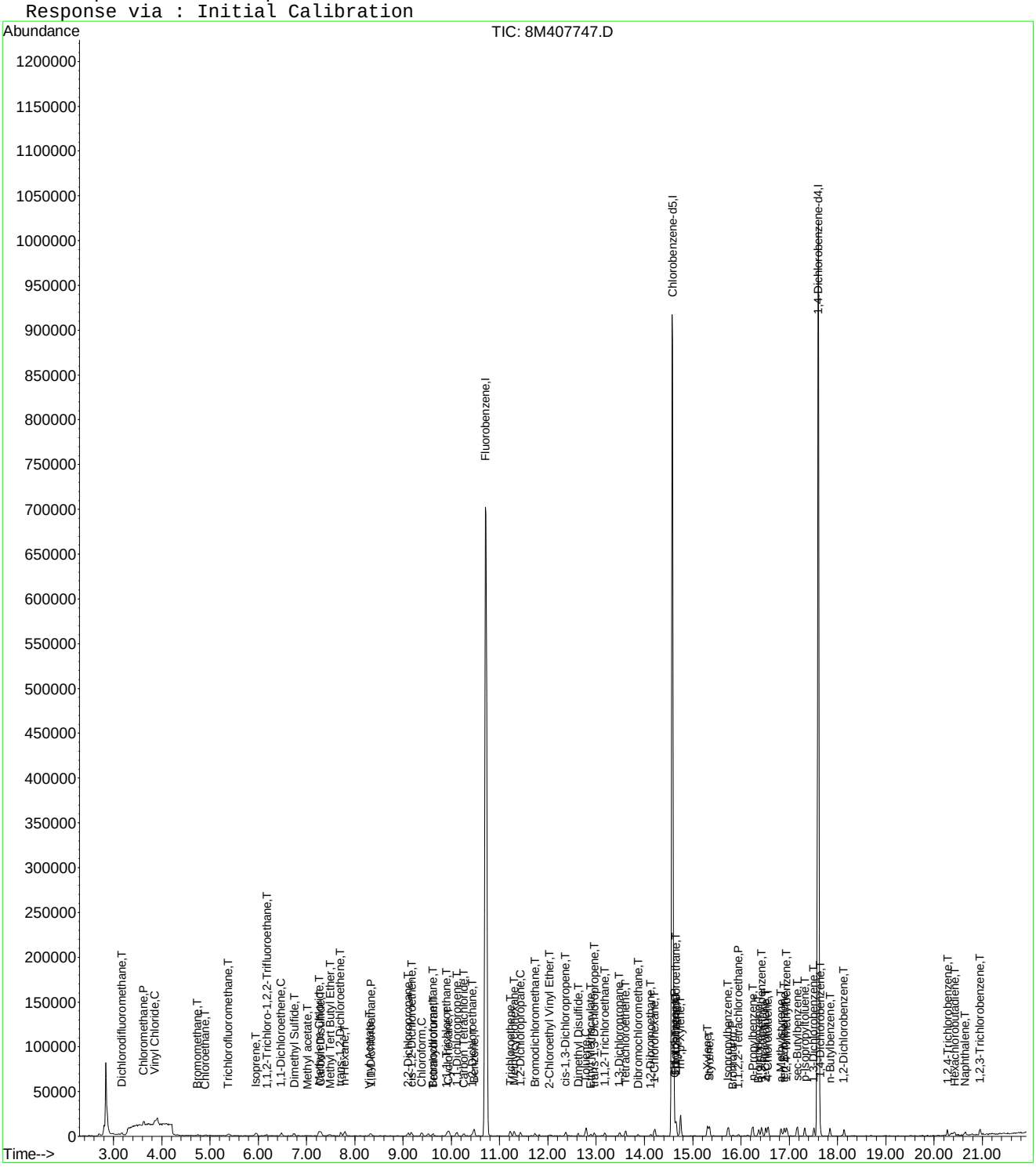
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
63)	1,1,2-Trichloroethane	13.18	97	1180	0.2077 ug/L		69
65)	1,3-Dichloropropane	13.48	76	2279	0.2245 ug/L	#	62
66)	Tetrachloroethene	13.61	164	1978	0.2599 ug/L		83
67)	Dibromochloromethane	13.87	129	1603	0.2182 ug/L		80
68)	1,2-Dibromoethane	14.13	107	1502	0.2648 ug/L		82
69)	1-Chlorohexane	14.21	91	3124	0.2439 ug/L		89
70)	Chlorobenzene	14.64	112	6537	0.2725 ug/L		79
71)	1,1,1,2-Tetrachloroethane	14.66	131	2228	0.2512 ug/L		90
72)	Ethylbenzene	14.66	106	3689	0.2640 ug/L		97
73)	m-,p-Xylene	14.75	106	8556	0.5340 ug/L		90
74)	o-Xylene	15.31	106	3959	0.2443 ug/L		89
75)	Styrene	15.35	104	6791	0.2645 ug/L		89
76)	Bromoform	15.83	173	752	0.1703 ug/L	#	27
77)	Isopropylbenzene	15.73	105	10790	0.2776 ug/L		97
79)	1,1,2,2-Tetrachloroethane	15.95	83	1111	0.1845 ug/L	#	53
83)	n-Propylbenzene	16.25	91	13425	0.2841 ug/L		94
84)	Bromobenzene	16.36	156	2804	0.2923 ug/L		86
85)	1,3,5-Trimethylbenzene	16.42	105	9334	0.2873 ug/L		97
86)	2-Chlorotoluene	16.51	91	9080	0.2901 ug/L		94
87)	4-Chlorotoluene	16.56	91	8463	0.3126 ug/L		91
88)	a-Methylstyrene	16.83	118	4105	0.2318 ug/L		90
89)	tert-Butylbenzene	16.90	134	1912	0.2675 ug/L		87
90)	1,2,4-Trimethylbenzene	16.94	105	8960	0.2729 ug/L		92
91)	sec-Butylbenzene	17.17	105	10929	0.2708 ug/L		99
92)	p-Isopropyltoluene	17.32	119	8859	0.2745 ug/L		100
93)	1,3-Dichlorobenzene	17.51	146	5736	0.2996 ug/L		97
94)	1,4-Dichlorobenzene	17.64	146	5824	0.3054 ug/L	#	38
95)	n-Butylbenzene	17.85	91	8274	0.2750 ug/L	#	92
96)	1,2-Dichlorobenzene	18.13	146	4859	0.2900 ug/L		84
98)	1,2,4-Trichlorobenzene	20.28	180	3220	0.2797 ug/L		94
99)	Hexachlorobutadiene	20.43	225	1169	0.2123 ug/L	#	84
100)	Naphthalene	20.64	128	4792	0.2880 ug/L	#	67
101)	1,2,3-Trichlorobenzene	20.95	180	2667	0.2717 ug/L		93

(#) = qualifier out of range (m) = manual integration
8M407747.D 8260WT.M Thu Oct 01 09:02:55 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407747.D Vial: 3
Acq On : 30 Sep 2015 10:30 Operator: TMB
Sample : WG540912-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:02 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\093015\8M407747.D Vial: 3
Acq On : 30 Sep 2015 10:30 Operator: TMB
Sample : WG540912-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2701	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.2977	0.0	100	0.00
4	C	Vinyl Chloride	-1.0000	0.3259	0.0	0	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.00
6	T	Bromomethane	-1.0000	0.8599	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.2514	0.0	100	0.00
8	T	Trichlorofluoromethane	-1.0000	0.2410	0.0	100	-0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.91#
10	T	Isoprene	-1.0000	0.2492	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.15#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.1604	0.0	100	0.02
13	T	Acetone	-1.0000	0.0000	0.0	0	-6.24#
14	C	1,1-Dichloroethene	-1.0000	0.3005	0.0	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.59#
16	T	Dimethyl Sulfide	-1.0000	0.2406	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-6.99#
18	T	Methyl acetate	-1.0000	0.1897	0.0	100	0.00
19	T	Methylene Chloride	-1.0000	0.3214	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.2871	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.44#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2548	0.0	100	0.02
23	T	trans-1,2-Dichloroethene	-1.0000	0.2530	0.0	100	-0.01
24	T	n-Hexane	-1.0000	0.2955	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.14#
26	T	Vinyl Acetate	-1.0000	0.2585	0.0	100	0.00
27	P	1,1-Dichloroethane	-1.0000	0.2638	0.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.71#
29	T	2-Butanone	-1.0000	0.0970	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.00#
31	T	2,2-Dichloropropane	-1.0000	0.2922	0.0	100	0.00
32	T	cis-1,2-Dichloroethene	-1.0000	0.2364	0.0	100	0.00
33	C	Chloroform	0.3000	0.2924	2.5	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35	T	Bromochloromethane	-1.0000	0.2493	0.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.1754	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.67#
38	T	1,1,1-Trichloroethane	-1.0000	0.2217	0.0	100	-0.01
39	T	Cyclohexane	-1.0000	0.2338	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.2633	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.22#
42	T	Carbon Tetrachloride	-1.0000	0.1996	0.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.31#
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	-1.0000	0.2506	0.0	100	0.00
46	T	Benzene	0.3000	0.2888	3.7	100	0.00
47	T	Trichloroethene	-1.0000	0.3024	0.0	100	0.00
48	T	Methylcyclohexane	-1.0000	0.2750	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.2175	0.0	100	0.00
50	T	Bromodichloromethane	-1.0000	0.2542	0.0	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.71#
52	T	Dibromomethane	-1.0000	0.1149	0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.1941	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.07#

(#) = Out of Range
8M407747.D 8260WT.M Thu Oct 01 09:03:20 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407747.D Vial: 3
Acq On : 30 Sep 2015 10:30 Operator: TMB
Sample : WG540912-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.2718	0.0	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.1792	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0000	0.0	0	-12.69#
59	C	Toluene	-1.0000	0.2917	0.0	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2140	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2445	0.0	100	0.00
63	T	1,1,2-Trichloroethane	-1.0000	0.2077	0.0	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.12#
65	T	1,3-Dichloropropane	-1.0000	0.2245	0.0	100	0.00
66	T	Tetrachloroethene	-1.0000	0.2599	0.0	100	0.00
67	T	Dibromochloromethane	-1.0000	0.2182	0.0	100	0.00
68	T	1,2-Dibromoethane	-1.0000	0.2648	0.0	100	0.00
69	T	1-Chlorohexane	-1.0000	0.2439	0.0	100	0.00
70	P	Chlorobenzene	-1.0000	0.2725	0.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2512	0.0	100	0.00
72	C	Ethylbenzene	-1.0000	0.2640	0.0	100	0.00
73	T	m-,p-Xylene	-1.0000	0.5340	0.0	100	0.00
74	T	o-Xylene	-1.0000	0.2443	0.0	100	0.00
75	T	Styrene	-1.0000	0.2645	0.0	100	0.00
76	P	Bromoform	-1.0000	0.1703	0.0	100	0.00
77	T	Isopropylbenzene	-1.0000	0.2776	0.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	-1.0000	0.1845	0.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0215	0.0	100	0.00
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.14#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.19#
83	T	n-Propylbenzene	-1.0000	0.2841	0.0	0	0.00
84	T	Bromobenzene	0.3000	0.2923	2.6	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.2873	0.0	100	0.00
86	T	2-Chlorotoluene	-1.0000	0.2901	0.0	100	0.00
87	T	4-Chlorotoluene	-1.0000	0.3126	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.2318	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.2675	0.0	100	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.2729	0.0	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.2708	0.0	0	0.00
92	T	p-Isopropyltoluene	-1.0000	0.2745	0.0	100	0.00
93	T	1,3-Dichlorobenzene	-1.0000	0.2996	0.0	100	0.00
94	T	1,4-Dichlorobenzene	0.3000	0.3055	-1.8	100	0.00
95	T	n-Butylbenzene	-1.0000	0.2750	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.2900	3.3	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.13#
98	T	1,2,4-Trichlorobenzene	-1.0000	0.2797	0.0	100	0.00
99	T	Hexachlorobutadiene	-1.0000	0.2123	0.0	100	0.00
100	T	Naphthalene	-1.0000	0.2880	0.0	100	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.2717	9.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407747.D 8260WT.M Thu Oct 01 09:03:21 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407748.D Vial: 4
Acq On : 30 Sep 2015 10:59 Operator: TMB
Sample : WG540912-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.72	96	843843	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.58	117	621698	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	327803	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L		
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#			
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L		
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#			
58) Toluene-d8	12.69	98	242	0.0084	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.04%#			
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L		
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.00%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.17	85	5134	0.4002	ug/L		83
3) Chloromethane	3.63	50	10943	0.5590	ug/L		98
4) Vinyl Chloride	3.87	62	7387	0.4775	ug/L		99
5) 1,3-Butadiene	3.91	54	7288	Below Cal			88
6) Bromomethane	4.74	94	1106	0.9036	ug/L		82
7) Chloroethane	4.90	64	1927	0.3053	ug/L	#	53
8) Trichlorofluoromethane	5.38	101	6101	0.4081	ug/L	#	91
10) Isoprene	5.96	67	4001	0.3645	ug/L		97
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	2348	0.2922	ug/L		66
13) Acetone	6.23	43	210	0.1677	ug/L	#	48
14) 1,1-Dichloroethene	6.48	61	5765	0.4214	ug/L		100
16) Dimethyl Sulfide	6.74	62	2612	0.3327	ug/L		95
18) Methyl acetate	7.01	43	1748	0.3691	ug/L	#	64
19) Methylene Chloride	7.27	84	3457	0.4069	ug/L		90
20) Carbon Disulfide	7.31	76	12436	0.4482	ug/L		97
22) Methyl Tert Butyl Ether	7.47	73	6170	0.3831	ug/L	#	75
23) trans-1,2-Dichloroethene	7.71	61	5061	0.3896	ug/L		87
24) n-Hexane	7.80	57	5793	0.4514	ug/L		92
26) Vinyl Acetate	8.30	43	3350	0.3936	ug/L	#	77
27) 1,1-Dichloroethane	8.34	63	6510	0.3946	ug/L	#	90
29) 2-Butanone	8.90	43	383	0.1775	ug/L	#	57
31) 2,2-Dichloropropane	9.12	77	5308	0.3850	ug/L		93
32) cis-1,2-Dichloroethene	9.17	96	3581	0.3863	ug/L		92
33) Chloroform	9.37	83	6738	0.4300	ug/L		94
35) Bromochloromethane	9.61	130	1581	0.3465	ug/L		79
38) 1,1,1-Trichloroethane	9.91	97	5349	0.3802	ug/L		88
39) Cyclohexane	9.94	56	6694	0.3999	ug/L		97
40) 1,1-Dichloropropene	10.11	75	4735	0.3909	ug/L		98
42) Carbon Tetrachloride	10.26	117	4620	0.3675	ug/L		96
45) 1,2-Dichloroethane	10.43	62	3809	0.3539	ug/L		87
46) Benzene	10.47	78	14221	0.4279	ug/L		100
47) Trichloroethene	11.22	130	4002	0.4473	ug/L		91
48) Methylcyclohexane	11.31	83	5900	0.4262	ug/L		94
49) 1,2-Dichloropropane	11.43	63	3209	0.3584	ug/L		98
50) Bromodichloromethane	11.74	83	4465	0.3864	ug/L	#	90
52) Dibromomethane	11.81	93	1530	0.3589	ug/L		88
53) 2-Chloroethyl Vinyl Ether	12.03	63	992	0.2688	ug/L	#	53
54) 4-Methyl-2-Pentanone	12.06	58	712	0.3761	ug/L	#	40
55) cis-1,3-Dichloropropene	12.37	75	4857	0.3786	ug/L		99
56) Dimethyl Disulfide	12.63	79	1384	0.2001	ug/L		64

(#) = qualifier out of range (m) = manual integration
8M407748.D 8260WT.M Thu Oct 01 09:02:56 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407748.D Vial: 4
Acq On : 30 Sep 2015 10:59 Operator: TMB
Sample : WG540912-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

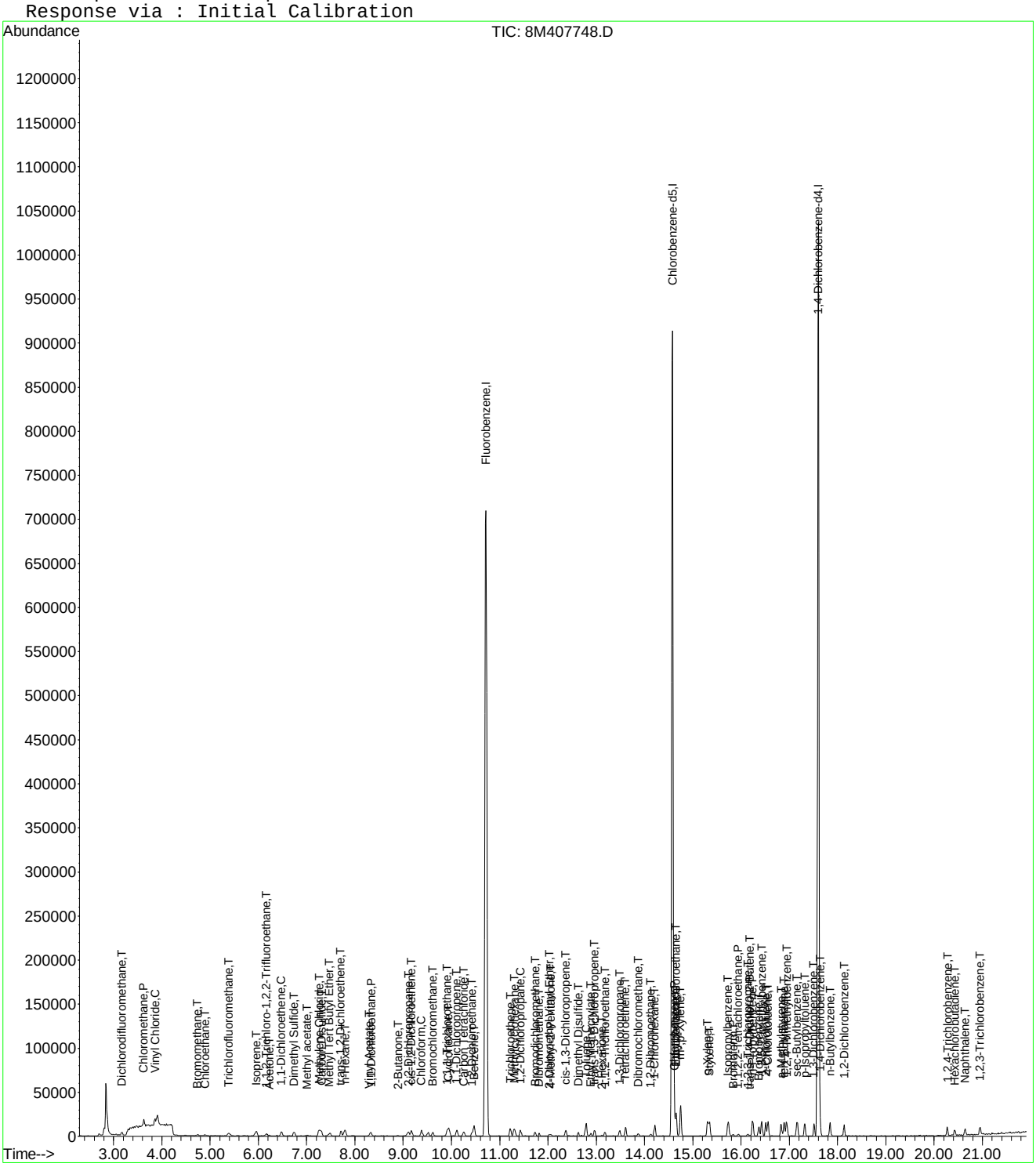
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	12.79	91	15773	0.4465	ug/L		96
60)	Ethyl Methacrylate	12.89	69	2057	0.2921	ug/L	#	62
62)	trans-1,3-Dichloropropene	12.96	75	4017	0.3706	ug/L		93
63)	1,1,2-Trichloroethane	13.19	97	2143	0.3822	ug/L		95
64)	2-Hexanone	13.13	58	381	0.2161	ug/L	#	4
65)	1,3-Dichloropropane	13.49	76	4066	0.4058	ug/L		94
66)	Tetrachloroethene	13.60	164	2729	0.3634	ug/L		96
67)	Dibromochloromethane	13.87	129	2633	0.3632	ug/L		91
68)	1,2-Dibromoethane	14.13	107	2336	0.4173	ug/L		97
69)	1-Chlorohexane	14.21	91	5084	0.4022	ug/L		98
70)	Chlorobenzene	14.62	112	10137	0.4282	ug/L		92
71)	1,1,1,2-Tetrachloroethane	14.66	131	2637	0.3013	ug/L		89
72)	Ethylbenzene	14.66	106	5499	0.3988	ug/L		92
73)	m-,p-Xylene	14.75	106	12993	0.8216	ug/L		94
74)	o-Xylene	15.31	106	5938	0.3713	ug/L		82
75)	Styrene	15.35	104	9522	0.3758	ug/L		94
76)	Bromoform	15.84	173	1354	0.3107	ug/L	#	71
77)	Isopropylbenzene	15.73	105	16651	0.4341	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.94	83	2444	0.4041	ug/L	#	84
81)	1,2,3-Trichloropropane	16.14	110	444	0.2642	ug/L	#	34
82)	trans-1,4-Dichloro-2-Buten	16.18	53	458	0.2061	ug/L	#	1
83)	n-Propylbenzene	16.24	91	20209	0.4258	ug/L		97
84)	Bromobenzene	16.37	156	3499	0.3632	ug/L		77
85)	1,3,5-Trimethylbenzene	16.43	105	14131	0.4331	ug/L		95
86)	2-Chlorotoluene	16.52	91	13492	0.4292	ug/L		89
87)	4-Chlorotoluene	16.56	91	12070	0.4440	ug/L		99
88)	a-Methylstyrene	16.84	118	5722	0.3217	ug/L		89
89)	tert-Butylbenzene	16.90	134	2905	0.4047	ug/L		93
90)	1,2,4-Trimethylbenzene	16.95	105	13785	0.4181	ug/L		99
91)	sec-Butylbenzene	17.16	105	16834	0.4153	ug/L		95
92)	p-Isopropyltoluene	17.32	119	13597	0.4195	ug/L		98
93)	1,3-Dichlorobenzene	17.51	146	8047	0.4185	ug/L		97
94)	1,4-Dichlorobenzene	17.64	146	8517	0.4448	ug/L	#	72
95)	n-Butylbenzene	17.85	91	13596	0.4500	ug/L		98
96)	1,2-Dichlorobenzene	18.14	146	6772	0.4025	ug/L		98
98)	1,2,4-Trichlorobenzene	20.28	180	4122	0.3566	ug/L		82
99)	Hexachlorobutadiene	20.43	225	2196	0.3972	ug/L	#	81
100)	Naphthalene	20.64	128	7425	0.4443	ug/L		89
101)	1,2,3-Trichlorobenzene	20.95	180	3734	0.3788	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M407748.D 8260WT.M Thu Oct 01 09:02:56 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407748.D Vial: 4
Acq On : 30 Sep 2015 10:59 Operator: TMB
Sample : WG540912-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:02 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\093015\8M407748.D Vial: 4
Acq On : 30 Sep 2015 10:59 Operator: TMB
Sample : WG540912-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	0.4000	0.4002	-0.0	100	0.00
3	P	Chloromethane	-1.0000	0.5590	0.0	100	0.00
4	C	Vinyl Chloride	0.4000	0.4775	-19.4	100	0.02
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.9036	0.0	100	0.00
7	T	Chloroethane	0.4000	0.3053	23.7	100	0.00
8	T	Trichlorofluoromethane	0.4000	0.4081	-2.0	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.91#
10	T	Isoprene	0.4000	0.3645	8.9	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.15#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2922	0.0	100	0.00
13	T	Acetone	-1.0000	0.1677	0.0	100	-0.01
14	C	1,1-Dichloroethene	0.4000	0.4214	-5.3	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.59#
16	T	Dimethyl Sulfide	0.4000	0.3327	16.8	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-6.99#
18	T	Methyl acetate	-1.0000	0.3691	0.0	100	0.00
19	T	Methylene Chloride	-1.0000	0.4069	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.4482	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.44#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3831	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.3896	2.6	100	0.00
24	T	n-Hexane	-1.0000	0.4514	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.14#
26	T	Vinyl Acetate	0.4000	0.3936	1.6	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.3946	1.4	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.71#
29	T	2-Butanone	-1.0000	0.1775	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.00#
31	T	2,2-Dichloropropane	0.4000	0.3850	3.8	100	0.00
32	T	cis-1,2-Dichloroethene	0.4000	0.3863	3.4	100	0.00
33	C	Chloroform	0.4000	0.4300	-7.5	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35	T	Bromochloromethane	0.4000	0.3465	13.4	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.0000	0.0	0	-9.64#
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.67#
38	T	1,1,1-Trichloroethane	0.4000	0.3802	4.9	100	0.00
39	T	Cyclohexane	-1.0000	0.3999	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3909	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.22#
42	T	Carbon Tetrachloride	0.4000	0.3675	8.1	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.31#
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	0.4000	0.3539	11.5	100	0.00
46	T	Benzene	0.4000	0.4279	-7.0	100	0.00
47	T	Trichloroethene	0.4000	0.4473	-11.8	100	0.00
48	T	Methylcyclohexane	-1.0000	0.4262	0.0	100	0.00
49	C	1,2-Dichloropropane	0.4000	0.3584	10.4	100	0.00
50	T	Bromodichloromethane	0.4000	0.3864	3.4	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.71#
52	T	Dibromomethane	0.4000	0.3589	10.3	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2688	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.3761	0.0	100	0.00

(#) = Out of Range
8M407748.D 8260WT.M Thu Oct 01 09:03:29 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407748.D Vial: 4
Acq On : 30 Sep 2015 10:59 Operator: TMB
Sample : WG540912-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3786	5.3	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.2001	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0084	0.0	100	0.00
59	C	Toluene	0.4000	0.4465	-11.6	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2921	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3706	0.0	100	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.3822	4.5	100	0.00
64	T	2-Hexanone	-1.0000	0.2161	0.0	100	0.00
65	T	1,3-Dichloropropane	0.4000	0.4058	-1.4	100	0.00
66	T	Tetrachloroethene	0.4000	0.3634	9.2	100	0.00
67	T	Dibromochloromethane	0.4000	0.3632	9.2	100	0.00
68	T	1,2-Dibromoethane	0.4000	0.4173	-4.3	100	0.00
69	T	1-Chlorohexane	0.4000	0.4022	-0.5	100	0.00
70	P	Chlorobenzene	0.4000	0.4282	-7.1	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.3013	24.7	100	0.00
72	C	Ethylbenzene	0.4000	0.3988	0.3	100	0.00
73	T	m-,p-Xylene	0.8000	0.8216	-2.7	100	0.00
74	T	o-Xylene	-1.0000	0.3713	0.0	100	0.00
75	T	Styrene	0.4000	0.3758	6.0	100	0.00
76	P	Bromoform	-1.0000	0.3107	0.0	100	0.00
77	T	Isopropylbenzene	0.4000	0.4341	-8.5	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4000	0.4041	-1.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.08#
81	T	1,2,3-Trichloropropane	-1.0000	0.2642	0.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2061	0.0	100	0.00
83	T	n-Propylbenzene	0.4000	0.4258	-6.5	100	0.00
84	T	Bromobenzene	0.4000	0.3632	9.2	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.4331	-8.3	100	0.00
86	T	2-Chlorotoluene	0.4000	0.4292	-7.3	100	0.00
87	T	4-Chlorotoluene	0.4000	0.4440	-11.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.3217	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.4047	0.0	100	0.00
90	T	1,2,4-Trimethylbenzene	0.4000	0.4181	-4.5	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.4153	0.0	0	0.00
92	T	p-Isopropyltoluene	-1.0000	0.4195	0.0	100	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.4185	-4.6	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.4448	-11.2	100	0.00
95	T	n-Butylbenzene	-1.0000	0.4500	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.4025	-0.6	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.13#
98	T	1,2,4-Trichlorobenzene	0.4000	0.3566	10.9	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.3972	0.7	100	0.00
100	T	Naphthalene	0.4000	0.4443	-11.1	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.3788	5.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407749.D Vial: 5
Acq On : 30 Sep 2015 11:32 Operator: TMB
Sample : WG540912-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:57 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	824629	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	595142	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	310452	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	3760	0.4791	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.92%#		
43) 1,2-Dichloroethane-d4	10.31	65	3739	0.4673	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.88%#		
58) Toluene-d8	12.69	98	14193	0.5140	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.04%#		
80) p-Bromofluorobenzene	16.08	95	5646	0.5212	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.08%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	12560	1.0019	ug/L	91
3) Chloromethane	3.63	50	22855	1.1947	ug/L	98
4) Vinyl Chloride	3.86	62	17167	1.1356	ug/L	98
5) 1,3-Butadiene	3.91	54	17031	Below Cal		87
6) Bromomethane	4.74	94	3443	1.3712	ug/L	94
7) Chloroethane	4.90	64	6509	1.0554	ug/L	95
8) Trichlorofluoromethane	5.37	101	15428	1.0559	ug/L	99
9) Diethyl ether	5.92	59	27834	4.9496	ug/L	94
10) Isoprene	5.95	67	10646	0.9925	ug/L	94
11) Acrolein	6.15	56	1375	1.9702	ug/L #	63
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	8094	1.0306	ug/L	87
13) Acetone	6.26	43	1007	0.8227	ug/L #	48
14) 1,1-Dichloroethene	6.47	61	14040	1.0502	ug/L	100
15) Tert-Butyl Alcohol	6.58	59	3663	10.1285	ug/L #	58
16) Dimethyl Sulfide	6.74	62	7699	1.0034	ug/L	94
17) Iodomethane	7.00	142	1516	2.1016	ug/L #	28
18) Methyl acetate	7.01	43	4667	1.0083	ug/L #	64
19) Methylene Chloride	7.27	84	8915	1.0737	ug/L	98
20) Carbon Disulfide	7.31	76	28782	1.0616	ug/L	96
21) Acrylonitrile	7.43	53	4083	2.2221	ug/L	96
22) Methyl Tert Butyl Ether	7.47	73	15039	0.9555	ug/L	96
23) trans-1,2-Dichloroethene	7.71	61	12677	0.9985	ug/L	89
24) n-Hexane	7.79	57	12774	1.0185	ug/L	90
25) Diisopropyl ether	8.13	45	163256	5.2163	ug/L	99
26) Vinyl Acetate	8.31	43	7588	0.9122	ug/L #	77
27) 1,1-Dichloroethane	8.33	63	16753	1.0391	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	123570	5.0127	ug/L	96
29) 2-Butanone	8.89	43	1526	0.7237	ug/L #	57
30) Propionitrile	9.00	54	2724	4.4026	ug/L #	56
31) 2,2-Dichloropropane	9.12	77	14447	1.0722	ug/L	97
32) cis-1,2-Dichloroethene	9.18	96	9612	1.0611	ug/L	96
33) Chloroform	9.38	83	15678	1.0237	ug/L	98
34) 1-Bromopropane	9.51	122	1192	0.8013	ug/L	86
35) Bromochloromethane	9.61	130	4709	1.0560	ug/L	97
36) Tetrahydrofuran	9.64	42	7663	5.5360	ug/L	91
38) 1,1,1-Trichloroethane	9.91	97	13556	0.9861	ug/L	98
39) Cyclohexane	9.94	56	16484	1.0077	ug/L	98
40) 1,1-Dichloropropene	10.11	75	12255	1.0354	ug/L	100
41) Tert-Amyl-Methyl ether	10.21	73	91204	4.9900	ug/L	98
42) Carbon Tetrachloride	10.25	117	12771	1.0395	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M407749.D 8260WT.M Thu Oct 01 09:02:57 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407749.D Vial: 5
Acq On : 30 Sep 2015 11:32 Operator: TMB
Sample : WG540912-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:57 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

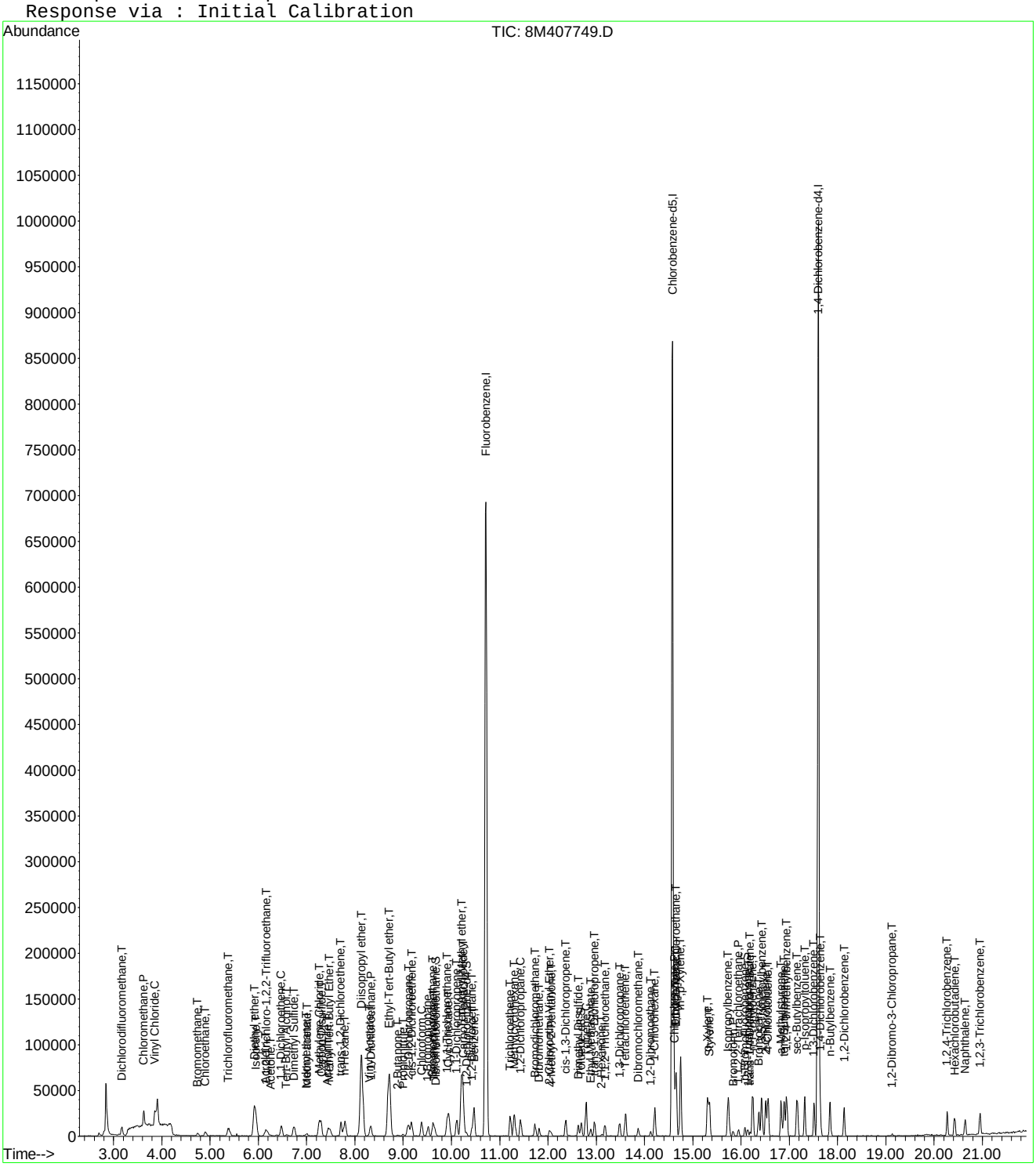
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	10153	0.9654	ug/L		97
46)	Benzene	10.47	78	35220	1.0845	ug/L		97
47)	Trichloroethene	11.21	130	8672	0.9919	ug/L		96
48)	Methylcyclohexane	11.30	83	14046	1.0383	ug/L		95
49)	1,2-Dichloropropane	11.43	63	8870	1.0138	ug/L		99
50)	Bromodichloromethane	11.73	83	10676	0.9454	ug/L		94
52)	Dibromomethane	11.81	93	3913	0.9392	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.03	63	2929	0.8122	ug/L	#	53
54)	4-Methyl-2-Pentanone	12.07	58	1715	0.9270	ug/L	#	40
55)	cis-1,3-Dichloropropene	12.37	75	12248	0.9770	ug/L		96
56)	Dimethyl Disulfide	12.63	79	4694	0.6944	ug/L		86
59)	Toluene	12.79	91	37092	1.0968	ug/L		98
60)	Ethyl Methacrylate	12.89	69	5450	0.8083	ug/L		89
62)	trans-1,3-Dichloropropene	12.96	75	9101	0.8772	ug/L		89
63)	1,1,2-Trichloroethane	13.19	97	5067	0.9440	ug/L		92
64)	2-Hexanone	13.12	58	1227	0.7271	ug/L	#	74
65)	1,3-Dichloropropane	13.49	76	9904	1.0325	ug/L		97
66)	Tetrachloroethene	13.60	164	7979	1.1098	ug/L		91
67)	Dibromochloromethane	13.87	129	6283	0.9053	ug/L		98
68)	1,2-Dibromoethane	14.13	107	5024	0.9375	ug/L		94
69)	1-Chlorohexane	14.21	91	12607	1.0418	ug/L		100
70)	Chlorobenzene	14.62	112	23286	1.0276	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.66	131	7725	0.9220	ug/L		91
72)	Ethylbenzene	14.66	106	13047	0.9884	ug/L		100
73)	m-,p-Xylene	14.75	106	31986	2.1129	ug/L		94
74)	o-Xylene	15.31	106	16415	1.0723	ug/L		86
75)	Styrene	15.35	104	24064	0.9921	ug/L		99
76)	Bromoform	15.84	173	3394	0.8135	ug/L		88
77)	Isopropylbenzene	15.73	105	40727	1.1090	ug/L		97
79)	1,1,2,2-Tetrachloroethane	15.95	83	5352	0.9344	ug/L	#	90
81)	1,2,3-Trichloropropane	16.15	110	1453	0.9129	ug/L		87
82)	trans-1,4-Dichloro-2-Buten	16.18	53	2043	0.9706	ug/L	#	38
83)	n-Propylbenzene	16.24	91	50469	1.1228	ug/L		97
84)	Bromobenzene	16.37	156	9871	1.0818	ug/L		98
85)	1,3,5-Trimethylbenzene	16.43	105	34529	1.1173	ug/L		96
86)	2-Chlorotoluene	16.52	91	33677	1.1312	ug/L		96
87)	4-Chlorotoluene	16.56	91	29657	1.1519	ug/L		97
88)	a-Methylstyrene	16.83	118	15521	0.9213	ug/L		94
89)	tert-Butylbenzene	16.90	134	6877	1.0116	ug/L		92
90)	1,2,4-Trimethylbenzene	16.94	105	34007	1.0890	ug/L		99
91)	sec-Butylbenzene	17.16	105	42264	1.1009	ug/L		100
92)	p-Isopropyltoluene	17.32	119	33409	1.0885	ug/L		95
93)	1,3-Dichlorobenzene	17.51	146	19715	1.0825	ug/L		99
94)	1,4-Dichlorobenzene	17.64	146	19673	1.0848	ug/L	#	69
95)	n-Butylbenzene	17.85	91	31225	1.0913	ug/L		99
96)	1,2-Dichlorobenzene	18.14	146	17412	1.0926	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	19.13	75	677	0.6745	ug/L		68
98)	1,2,4-Trichlorobenzene	20.27	180	10656	0.9733	ug/L		97
99)	Hexachlorobutadiene	20.43	225	5105	0.9749	ug/L		88
100)	Naphthalene	20.64	128	16387	1.0353	ug/L		95
101)	1,2,3-Trichlorobenzene	20.95	180	9842	1.0542	ug/L		93

(#) = qualifier out of range (m) = manual integration
8M407749.D 8260WT.M Thu Oct 01 09:02:57 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407749.D Vial: 5
Acq On : 30 Sep 2015 11:32 Operator: TMB
Sample : WG540912-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:02 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\093015\8M407749.D Vial: 5
Acq On : 30 Sep 2015 11:32 Operator: TMB
Sample : WG540912-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	1.0018	-0.2	100	0.00
3	P	Chloromethane	1.0000	1.1947	-19.5	100	0.00
4	C	Vinyl Chloride	1.0000	1.1356	-13.6	100	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	1.0000	1.3712	-37.1#	100	0.00
7	T	Chloroethane	1.0000	1.0554	-5.5	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0559	-5.6	100	-0.01
9	T	Diethyl ether	5.0000	4.9496	1.0	100	0.00
10	T	Isoprene	1.0000	0.9925	0.8	100	0.00
11	T	Acrolein	-1.0000	1.9702	0.0	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	1.0306	-3.1	100	0.00
13	T	Acetone	-1.0000	0.8227	0.0	100	0.02
14	C	1,1-Dichloroethene	1.0000	1.0502	-5.0	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	10.1285	0.0	100	0.00
16	T	Dimethyl Sulfide	1.0000	1.0034	-0.3	100	0.00
17	T	Iodomethane	-1.0000	2.1016	0.0	0	0.00
18	T	Methyl acetate	-1.0000	1.0083	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0737	-7.4	100	0.00
20	T	Carbon Disulfide	1.0000	1.0616	-6.2	100	0.00
21	T	Acrylonitrile	2.5000	2.2221	11.1	100	-0.01
22	T	Methyl Tert Butyl Ether	1.0000	0.9555	4.5	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	0.9985	0.1	100	0.00
24	T	n-Hexane	-1.0000	1.0185	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	5.2163	-4.3	100	0.00
26	T	Vinyl Acetate	1.0000	0.9123	8.8	100	0.00
27	P	1,1-Dichloroethane	1.0000	1.0391	-3.9	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	5.0127	-0.3	100	0.00
29	T	2-Butanone	-1.0000	0.7237	0.0	100	0.00
30	T	Propionitrile	5.0000	4.4025	11.9	100	0.00
31	T	2,2-Dichloropropane	1.0000	1.0722	-7.2	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	1.0611	-6.1	100	0.00
33	C	Chloroform	1.0000	1.0237	-2.4	100	0.00
34		1-Bromopropane	1.0000	0.8013	19.9	100	-0.01
35	T	Bromochloromethane	1.0000	1.0560	-5.6	100	0.00
36	T	Tetrahydrofuran	5.0000	5.5360	-10.7	100	0.00
37	S	Dibromofluoromethane	0.5000	0.4791	4.2	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9861	1.4	100	0.00
39	T	Cyclohexane	1.0000	1.0077	-0.8	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0354	-3.5	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.9900	0.2	100	0.00
42	T	Carbon Tetrachloride	1.0000	1.0395	-3.9	100	0.00
43	S	1,2-Dichloroethane-d4	0.5000	0.4673	6.5	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	1.0000	0.9654	3.5	100	0.00
46	T	Benzene	1.0000	1.0845	-8.4	100	0.00
47	T	Trichloroethene	1.0000	0.9919	0.8	100	0.00
48	T	Methylcyclohexane	-1.0000	1.0383	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	1.0138	-1.4	100	0.00
50	T	Bromodichloromethane	1.0000	0.9454	5.5	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.71#
52	T	Dibromomethane	1.0000	0.9392	6.1	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.8122	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.9270	0.0	100	0.00

(#) = Out of Range
8M407749.D 8260WT.M Thu Oct 01 09:03:41 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407749.D Vial: 5
Acq On : 30 Sep 2015 11:32 Operator: TMB
Sample : WG540912-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.9770	2.3	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.6944	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	0.5000	0.5140	-2.8	100	0.00
59	C	Toluene	1.0000	1.0968	-9.7	100	0.00
60	T	Ethyl Methacrylate	1.0000	0.8083	19.2	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	1.0000	0.8772	12.3	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	0.9440	5.6	100	0.00
64	T	2-Hexanone	-1.0000	0.7271	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	1.0325	-3.2	100	0.00
66	T	Tetrachloroethene	1.0000	1.1099	-11.0	100	0.00
67	T	Dibromochloromethane	1.0000	0.9053	9.5	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.9375	6.3	100	0.00
69	T	1-Chlorohexane	1.0000	1.0418	-4.2	100	0.00
70	P	Chlorobenzene	1.0000	1.0276	-2.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.9220	7.8	100	0.00
72	C	Ethylbenzene	1.0000	0.9884	1.2	100	0.00
73	T	m-,p-Xylene	2.0000	2.1129	-5.6	100	0.00
74	T	o-Xylene	1.0000	1.0723	-7.2	100	0.00
75	T	Styrene	1.0000	0.9921	0.8	100	0.00
76	P	Bromoform	1.0000	0.8135	18.6	100	0.00
77	T	Isopropylbenzene	1.0000	1.1090	-10.9	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	1.0000	0.9344	6.6	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.5212	0.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	0.9129	8.7	100	0.01
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.9707	2.9	100	0.00
83	T	n-Propylbenzene	1.0000	1.1228	-12.3	100	0.00
84	T	Bromobenzene	1.0000	1.0819	-8.2	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	1.1173	-11.7	100	0.00
86	T	2-Chlorotoluene	1.0000	1.1312	-13.1	100	0.00
87	T	4-Chlorotoluene	1.0000	1.1519	-15.2	100	0.00
88	T	a-Methylstyrene	-1.0000	0.9213	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	1.0116	-1.2	100	0.00
90	T	1,2,4-Trimethylbenzene	1.0000	1.0890	-8.9	100	0.00
91	T	sec-Butylbenzene	1.0000	1.1009	-10.1	100	0.00
92	T	p-Isopropyltoluene	1.0000	1.0885	-8.8	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	1.0825	-8.3	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	1.0848	-8.5	100	0.00
95	T	n-Butylbenzene	1.0000	1.0913	-9.1	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	1.0926	-9.3	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.6745	0.0	100	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	0.9733	2.7	100	0.00
99	T	Hexachlorobutadiene	1.0000	0.9749	2.5	100	0.00
100	T	Naphthalene	1.0000	1.0353	-3.5	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	1.0542	-5.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407749.D 8260WT.M Thu Oct 01 09:03:41 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407750.D Vial: 6
Acq On : 30 Sep 2015 12:01 Operator: TMB
Sample : WG540912-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:58 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	857795	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	621989	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	331050	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	7870	0.9640	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.84%#		
43) 1,2-Dichloroethane-d4	10.31	65	8146	0.9786	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.92%#		
58) Toluene-d8	12.69	98	28719	0.9951	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.00%#		
80) p-Bromofluorobenzene	16.08	95	11108	0.9617	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	3.84%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	24621	1.8880	ug/L	100
3) Chloromethane	3.63	50	42586	2.1401	ug/L	97
4) Vinyl Chloride	3.85	62	31937	2.0310	ug/L	99
5) 1,3-Butadiene	3.91	54	30141	Below Cal		88
6) Bromomethane	4.74	94	6766	1.9768	ug/L	94
7) Chloroethane	4.91	64	12659	1.9733	ug/L	96
8) Trichlorofluoromethane	5.38	101	28876	1.9000	ug/L	97
9) Diethyl ether	5.92	59	144653	24.7287	ug/L	99
10) Isoprene	5.96	67	19444	1.7426	ug/L	93
11) Acrolein	6.16	56	8940	12.3146	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	15681	1.9194	ug/L	94
13) Acetone	6.26	43	2409	1.8921	ug/L #	64
14) 1,1-Dichloroethene	6.48	61	26153	1.8806	ug/L	99
15) Tert-Butyl Alcohol	6.59	59	18302	48.6497	ug/L	92
16) Dimethyl Sulfide	6.74	62	15350	1.9232	ug/L	95
17) Iodomethane	7.00	142	3232	2.4020	ug/L	84
18) Methyl acetate	7.02	43	9921	2.0606	ug/L #	85
19) Methylene Chloride	7.26	84	16259	1.8825	ug/L	97
20) Carbon Disulfide	7.31	76	54440	1.9303	ug/L	99
21) Acrylonitrile	7.44	53	21507	11.2525	ug/L	94
22) Methyl Tert Butyl Ether	7.48	73	29739	1.8164	ug/L	97
23) trans-1,2-Dichloroethene	7.72	61	24958	1.8898	ug/L	96
24) n-Hexane	7.79	57	24980	1.9147	ug/L	97
25) Diisopropyl ether	8.13	45	841489	25.8476	ug/L	99
26) Vinyl Acetate	8.31	43	16251	1.8782	ug/L	100
27) 1,1-Dichloroethane	8.34	63	33045	1.9704	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	646426	25.2090	ug/L	97
29) 2-Butanone	8.90	43	4029	1.8368	ug/L #	78
30) Propionitrile	9.00	54	16194	25.1609	ug/L	94
31) 2,2-Dichloropropane	9.11	77	26768	1.9098	ug/L	99
32) cis-1,2-Dichloroethene	9.18	96	18545	1.9681	ug/L	95
33) Chloroform	9.38	83	30928	1.9414	ug/L	97
34) 1-Bromopropane	9.52	122	3050	1.9711	ug/L	88
35) Bromochloromethane	9.62	130	8600	1.8540	ug/L	95
36) Tetrahydrofuran	9.64	42	35553	24.6915	ug/L	97
38) 1,1,1-Trichloroethane	9.91	97	26263	1.8366	ug/L	99
39) Cyclohexane	9.94	56	32415	1.9049	ug/L	94
40) 1,1-Dichloropropene	10.12	75	21975	1.7848	ug/L	99
41) Tert-Amyl-Methyl ether	10.22	73	473187	24.8880	ug/L	98
42) Carbon Tetrachloride	10.26	117	23450	1.8349	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M407750.D 8260WT.M Thu Oct 01 09:02:59 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407750.D Vial: 6
Acq On : 30 Sep 2015 12:01 Operator: TMB
Sample : WG540912-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:58 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

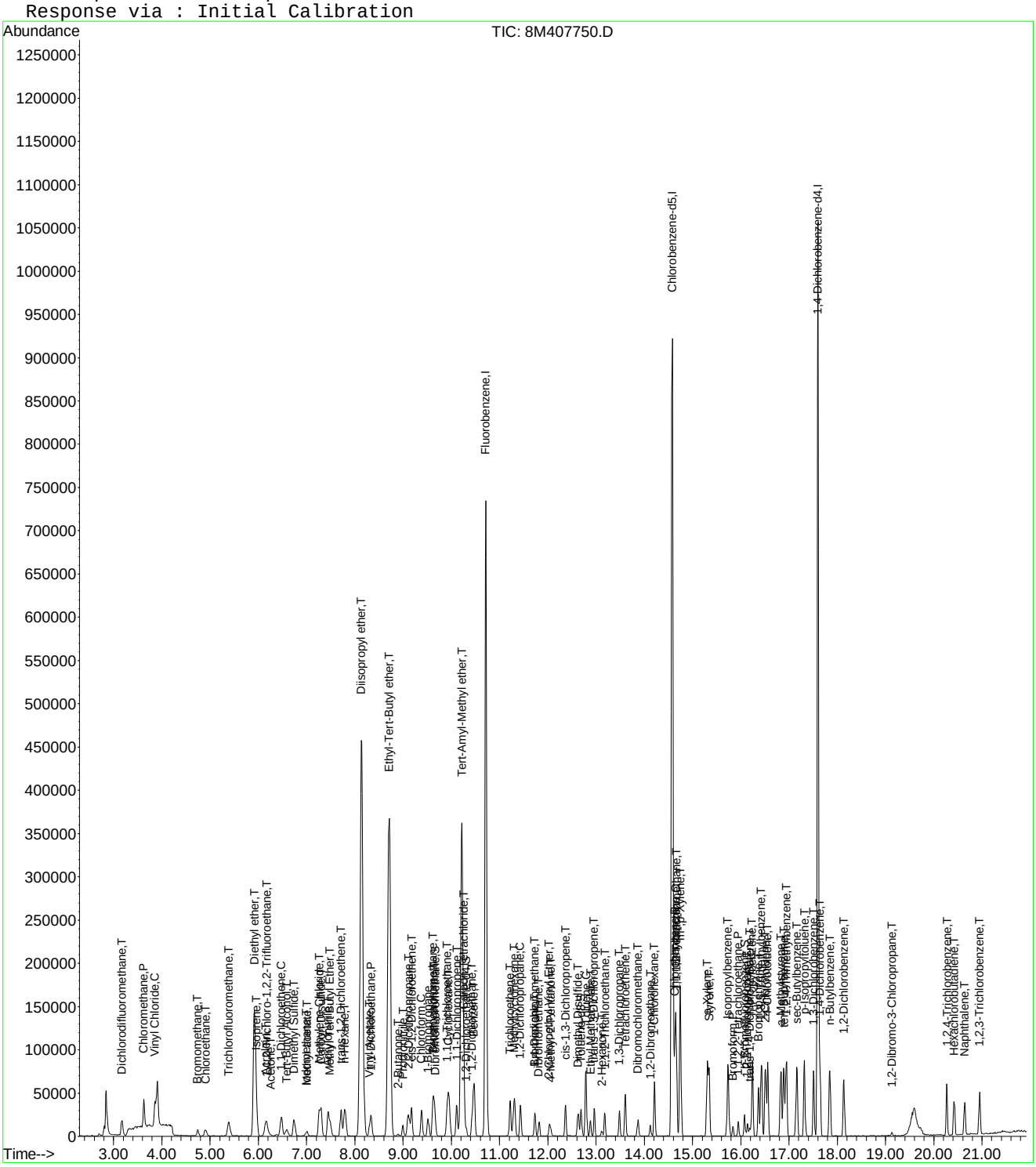
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	20835	1.9046	ug/L		100
46)	Benzene	10.47	78	69691	2.0629	ug/L		98
47)	Trichloroethene	11.22	130	17472	1.9211	ug/L		95
48)	Methylcyclohexane	11.31	83	26751	1.9010	ug/L		97
49)	1,2-Dichloropropane	11.43	63	17329	1.9040	ug/L		100
50)	Bromodichloromethane	11.73	83	21972	1.8704	ug/L		98
51)	1,4-Dioxane	11.73	88	1992	47.5413	ug/L		73
52)	Dibromomethane	11.81	93	8300	1.9152	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.03	63	6643	1.7709	ug/L		100
54)	4-Methyl-2-Pentanone	12.06	58	3171	1.6478	ug/L	#	76
55)	cis-1,3-Dichloropropene	12.37	75	24382	1.8697	ug/L		98
56)	Dimethyl Disulfide	12.63	79	9241	1.3142	ug/L		100
59)	Toluene	12.79	91	75292	2.1303	ug/L		97
60)	Ethyl Methacrylate	12.89	69	12345	1.7519	ug/L		94
62)	trans-1,3-Dichloropropene	12.96	75	19728	1.8194	ug/L		100
63)	1,1,2-Trichloroethane	13.19	97	11042	1.9683	ug/L		95
64)	2-Hexanone	13.12	58	3024	1.7146	ug/L	#	92
65)	1,3-Dichloropropane	13.49	76	19190	1.9142	ug/L		97
66)	Tetrachloroethene	13.61	164	14596	1.9426	ug/L		96
67)	Dibromochloromethane	13.87	129	13023	1.7955	ug/L		100
68)	1,2-Dibromoethane	14.13	107	10033	1.7914	ug/L		93
69)	1-Chlorohexane	14.21	91	24696	1.9527	ug/L		99
70)	Chlorobenzene	14.63	112	47264	1.9957	ug/L		81
71)	1,1,1,2-Tetrachloroethane	14.66	131	16097	1.8383	ug/L		99
72)	Ethylbenzene	14.65	106	25517	1.8496	ug/L		99
73)	m-,p-Xylene	14.75	106	64368	4.0684	ug/L		99
74)	o-Xylene	15.30	106	30646	1.9155	ug/L		99
75)	Styrene	15.35	104	48909	1.9294	ug/L		99
76)	Bromoform	15.84	173	7198	1.6508	ug/L		99
77)	Isopropylbenzene	15.73	105	79109	2.0612	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	11848	1.9398	ug/L	#	95
81)	1,2,3-Trichloropropane	16.13	110	3207	1.8896	ug/L		68
82)	trans-1,4-Dichloro-2-Buten	16.18	53	3210	1.4302	ug/L	#	22
83)	n-Propylbenzene	16.24	91	96558	2.0145	ug/L		99
84)	Bromobenzene	16.37	156	19644	2.0190	ug/L		97
85)	1,3,5-Trimethylbenzene	16.42	105	67207	2.0394	ug/L		95
86)	2-Chlorotoluene	16.51	91	64870	2.0434	ug/L		98
87)	4-Chlorotoluene	16.56	91	58369	2.1259	ug/L		98
88)	a-Methylstyrene	16.83	118	31799	1.7701	ug/L		97
89)	tert-Butylbenzene	16.90	134	13942	1.9232	ug/L		92
90)	1,2,4-Trimethylbenzene	16.95	105	68650	2.0616	ug/L		98
91)	sec-Butylbenzene	17.17	105	82325	2.0111	ug/L		98
92)	p-Isopropyltoluene	17.32	119	68961	2.1070	ug/L		100
93)	1,3-Dichlorobenzene	17.51	146	37945	1.9539	ug/L		98
94)	1,4-Dichlorobenzene	17.64	146	37796	1.9544	ug/L		82
95)	n-Butylbenzene	17.85	91	60131	1.9708	ug/L		100
96)	1,2-Dichlorobenzene	18.14	146	34109	2.0073	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.14	75	1806	1.6873	ug/L		98
98)	1,2,4-Trichlorobenzene	20.28	180	22341	1.9136	ug/L		97
99)	Hexachlorobutadiene	20.42	225	11201	2.0059	ug/L		99
100)	Naphthalene	20.64	128	34803	2.0620	ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	19034	1.9119	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M407750.D 8260WT.M Thu Oct 01 09:02:59 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407750.D Vial: 6
Acq On : 30 Sep 2015 12:01 Operator: TMB
Sample : WG540912-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:02 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\093015\8M407750.D Vial: 6
Acq On : 30 Sep 2015 12:01 Operator: TMB
Sample : WG540912-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.8880	5.6	100	0.00
3	P	Chloromethane	2.0000	2.1401	-7.0	100	0.00
4	C	Vinyl Chloride	2.0000	2.0310	-1.5	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	2.0000	1.9768	1.2	100	0.00
7	T	Chloroethane	2.0000	1.9733	1.3	100	0.00
8	T	Trichlorofluoromethane	2.0000	1.9000	5.0	100	0.00
9	T	Diethyl ether	25.0000	24.7287	1.1	100	0.00
10	T	Isoprene	2.0000	1.7426	12.9	100	0.00
11	T	Acrolein	12.5000	12.3146	1.5	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.9194	4.0	100	0.02
13	T	Acetone	-1.0000	1.8921	0.0	100	0.02
14	C	1,1-Dichloroethene	2.0000	1.8806	6.0	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	48.6497	2.7	100	0.00
16	T	Dimethyl Sulfide	2.0000	1.9232	3.8	100	0.00
17	T	Iodomethane	2.0000	2.4020	-20.1	100	0.00
18	T	Methyl acetate	-1.0000	2.0606	0.0	100	0.00
19	T	Methylene Chloride	2.0000	1.8825	5.9	100	0.00
20	T	Carbon Disulfide	2.0000	1.9303	3.5	100	0.00
21	T	Acrylonitrile	12.5000	11.2525	10.0	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8163	9.2	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	1.8898	5.5	100	0.00
24	T	n-Hexane	-1.0000	1.9147	0.0	100	0.00
25	T	Diisopropyl ether	25.0000	25.8476	-3.4	100	0.00
26	T	Vinyl Acetate	2.0000	1.8782	6.1	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.9704	1.5	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	25.2090	-0.8	100	0.00
29	T	2-Butanone	-1.0000	1.8368	0.0	100	0.00
30	T	Propionitrile	25.0000	25.1609	-0.6	100	0.00
31	T	2,2-Dichloropropane	2.0000	1.9099	4.5	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	1.9681	1.6	100	0.00
33	C	Chloroform	2.0000	1.9414	2.9	100	0.00
34		1-Bromopropane	2.0000	1.9711	1.4	100	0.00
35	T	Bromochloromethane	2.0000	1.8540	7.3	100	0.00
36	T	Tetrahydrofuran	25.0000	24.6915	1.2	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9640	3.6	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.8366	8.2	100	0.00
39	T	Cyclohexane	2.0000	1.9049	4.8	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.7848	10.8	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	24.8880	0.4	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.8349	8.3	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	0.9786	2.1	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	2.0000	1.9046	4.8	100	0.00
46	T	Benzene	2.0000	2.0629	-3.1	100	0.00
47	T	Trichloroethene	2.0000	1.9211	3.9	100	0.00
48	T	Methylcyclohexane	-1.0000	1.9010	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	1.9041	4.8	100	0.00
50	T	Bromodichloromethane	2.0000	1.8704	6.5	100	0.00
51	T	1,4-Dioxane	-1.0000	47.5413	0.0	100	0.01
52	T	Dibromomethane	2.0000	1.9152	4.2	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	1.7709	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.6478	0.0	100	0.00

(#) = Out of Range
8M407750.D 8260WT.M Thu Oct 01 09:03:51 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407750.D Vial: 6
Acq On : 30 Sep 2015 12:01 Operator: TMB
Sample : WG540912-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.8697	6.5	100	0.00
56	T	Dimethyl Disulfide	-1.0000	1.3142	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	0.9951	0.5	100	0.00
59	C	Toluene	2.0000	2.1303	-6.5	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.7519	12.4	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	2.0000	1.8194	9.0	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	1.9683	1.6	100	0.00
64	T	2-Hexanone	-1.0000	1.7146	0.0	100	0.00
65	T	1,3-Dichloropropane	2.0000	1.9142	4.3	100	0.00
66	T	Tetrachloroethene	2.0000	1.9426	2.9	100	0.00
67	T	Dibromochloromethane	2.0000	1.7955	10.2	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.7914	10.4	100	0.00
69	T	1-Chlorohexane	2.0000	1.9527	2.4	100	0.00
70	P	Chlorobenzene	2.0000	1.9957	0.2	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.8383	8.1	100	0.00
72	C	Ethylbenzene	2.0000	1.8496	7.5	100	0.00
73	T	m-,p-Xylene	4.0000	4.0685	-1.7	100	0.00
74	T	o-Xylene	2.0000	1.9155	4.2	100	0.00
75	T	Styrene	2.0000	1.9294	3.5	100	0.00
76	P	Bromoform	2.0000	1.6508	17.5	100	0.00
77	T	Isopropylbenzene	2.0000	2.0612	-3.1	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	2.0000	1.9399	3.0	100	0.00
80	S	p-Bromofluorobenzene	1.0000	0.9617	3.8	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	1.8896	5.5	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	1.4302	28.5#	100	0.00
83	T	n-Propylbenzene	2.0000	2.0145	-0.7	100	0.00
84	T	Bromobenzene	2.0000	2.0190	-1.0	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	2.0394	-2.0	100	0.00
86	T	2-Chlorotoluene	2.0000	2.0434	-2.2	100	0.00
87	T	4-Chlorotoluene	2.0000	2.1260	-6.3	100	0.00
88	T	a-Methylstyrene	-1.0000	1.7701	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.9232	3.8	100	0.00
90	T	1,2,4-Trimethylbenzene	2.0000	2.0616	-3.1	100	0.00
91	T	sec-Butylbenzene	2.0000	2.0111	-0.6	100	0.00
92	T	p-Isopropyltoluene	2.0000	2.1070	-5.3	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	1.9539	2.3	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	1.9544	2.3	100	0.00
95	T	n-Butylbenzene	2.0000	1.9708	1.5	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	2.0073	-0.4	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.6873	15.6	100	0.01
98	T	1,2,4-Trichlorobenzene	2.0000	1.9137	4.3	100	0.00
99	T	Hexachlorobutadiene	2.0000	2.0059	-0.3	100	0.00
100	T	Naphthalene	2.0000	2.0620	-3.1	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.9119	4.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407750.D 8260WT.M Thu Oct 01 09:03:51 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407751.D Vial: 7
Acq On : 30 Sep 2015 12:29 Operator: TMB
Sample : WG540912-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:59 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	888090	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	648250	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	345626	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.68	111	20923	2.4754	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.92%#		
43) 1,2-Dichloroethane-d4	10.31	65	20861	2.4207	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.68%#		
58) Toluene-d8	12.69	98	74103	2.4637	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	9.84%#		
80) p-Bromofluorobenzene	16.08	95	29759	2.4677	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	9.88%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.18	85	61437	4.5504	ug/L	99
3) Chloromethane	3.62	50	104260	5.0607	ug/L	99
4) Vinyl Chloride	3.85	62	81501	5.0061	ug/L	99
5) 1,3-Butadiene	3.90	54	73714	3.6389	ug/L	95
6) Bromomethane	4.75	94	17849	3.9647	ug/L	99
7) Chloroethane	4.90	64	33514	5.0459	ug/L	97
8) Trichlorofluoromethane	5.39	101	77150	4.9031	ug/L	97
9) Diethyl ether	5.91	59	300564	49.6291	ug/L	100
10) Isoprene	5.96	67	53581	4.6382	ug/L	98
11) Acrolein	6.15	56	18363	24.4317	ug/L	87
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	41910	4.9550	ug/L	97
13) Acetone	6.24	43	6790	5.1511	ug/L	97
14) 1,1-Dichloroethene	6.48	61	70653	4.9071	ug/L	98
15) Tert-Butyl Alcohol	6.59	59	39888	102.4118	ug/L	97
16) Dimethyl Sulfide	6.74	62	39764	4.8120	ug/L	98
17) Iodomethane	6.99	142	14332	4.3281	ug/L	92
18) Methyl acetate	7.01	43	26384	5.2931	ug/L	89
19) Methylene Chloride	7.26	84	43891	4.9083	ug/L	98
20) Carbon Disulfide	7.30	76	142074	4.8658	ug/L	100
21) Acrylonitrile	7.44	53	46132	23.3129	ug/L	95
22) Methyl Tert Butyl Ether	7.48	73	85068	5.0184	ug/L	96
23) trans-1,2-Dichloroethene	7.71	61	67170	4.9126	ug/L	98
24) n-Hexane	7.79	57	65873	4.8769	ug/L	97
25) Diisopropyl ether	8.14	45	1713583	50.8397	ug/L	99
26) Vinyl Acetate	8.30	43	46988	5.2454	ug/L	94
27) 1,1-Dichloroethane	8.33	63	86979	5.0094	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	1342420	50.5651	ug/L	97
29) 2-Butanone	8.90	43	10887	4.7939	ug/L	94
30) Propionitrile	8.99	54	33524	50.3101	ug/L	100
31) 2,2-Dichloropropane	9.11	77	70912	4.8868	ug/L	98
32) cis-1,2-Dichloroethene	9.18	96	48210	4.9417	ug/L	98
33) Chloroform	9.39	83	82654	5.0114	ug/L	100
34) 1-Bromopropane	9.52	122	8041	5.0194	ug/L	98
35) Bromochloromethane	9.61	130	24188	5.0366	ug/L	100
36) Tetrahydrofuran	9.63	42	73084	49.0254	ug/L	96
38) 1,1,1-Trichloroethane	9.91	97	73396	4.9576	ug/L	97
39) Cyclohexane	9.94	56	83438	4.7361	ug/L	98
40) 1,1-Dichloropropene	10.11	75	62637	4.9139	ug/L	98
41) Tert-Amyl-Methyl ether	10.21	73	983884	49.9837	ug/L	99
42) Carbon Tetrachloride	10.25	117	62444	4.7194	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M407751.D 8260WT.M Thu Oct 01 09:03:00 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407751.D Vial: 7
Acq On : 30 Sep 2015 12:29 Operator: TMB
Sample : WG540912-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:02:59 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

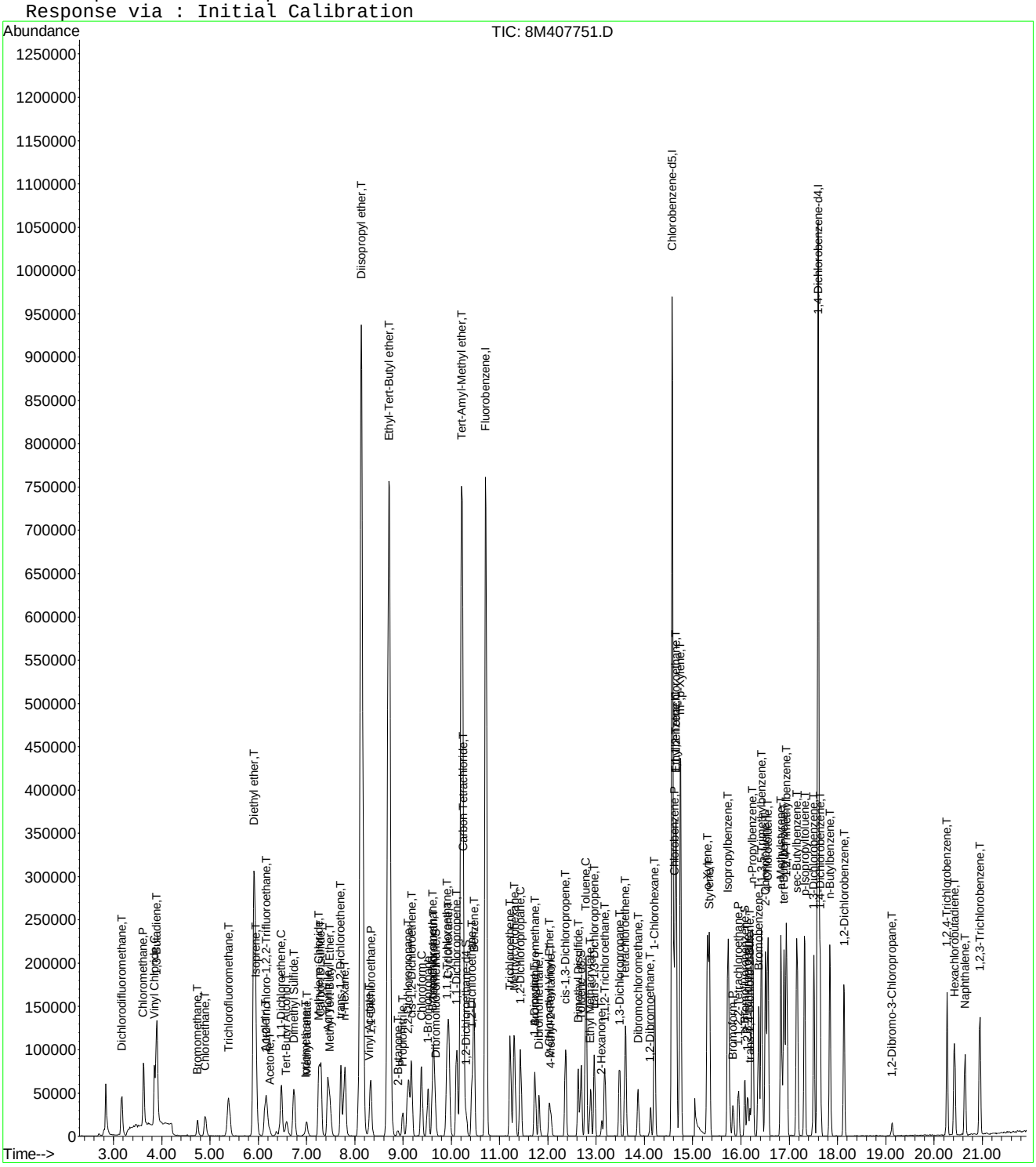
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	56848	5.0193	ug/L		98
46)	Benzene	10.47	78	179728	5.1385	ug/L		99
47)	Trichloroethene	11.22	130	44015	4.6746	ug/L		94
48)	Methylcyclohexane	11.31	83	71852	4.9318	ug/L		97
49)	1,2-Dichloropropane	11.43	63	47121	5.0009	ug/L		94
50)	Bromodichloromethane	11.73	83	58514	4.8112	ug/L		100
51)	1,4-Dioxane	11.72	88	3839	88.4965	ug/L		92
52)	Dibromomethane	11.82	93	23054	5.1382	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.03	63	17693	4.5557	ug/L		96
54)	4-Methyl-2-Pentanone	12.06	58	9027	4.5309	ug/L		94
55)	cis-1,3-Dichloropropene	12.36	75	64722	4.7938	ug/L		99
56)	Dimethyl Disulfide	12.63	79	28062	3.8546	ug/L		100
59)	Toluene	12.79	91	189538	5.1455	ug/L		99
60)	Ethyl Methacrylate	12.88	69	35620	4.8502	ug/L		96
62)	trans-1,3-Dichloropropene	12.96	75	55720	4.9306	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	30150	5.1568	ug/L		98
64)	2-Hexanone	13.12	58	8027	4.3668	ug/L	#	80
65)	1,3-Dichloropropane	13.49	76	51742	4.9522	ug/L		96
66)	Tetrachloroethene	13.60	164	38521	4.9192	ug/L		98
67)	Dibromochloromethane	13.87	129	36922	4.8844	ug/L		98
68)	1,2-Dibromoethane	14.12	107	29112	4.9874	ug/L		100
69)	1-Chlorohexane	14.21	91	64380	4.8843	ug/L		97
70)	Chlorobenzene	14.63	112	122342	4.9567	ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.66	131	43922	4.8127	ug/L		95
72)	Ethylbenzene	14.66	106	67237	4.6762	ug/L		100
73)	m-,p-Xylene	14.75	106	170940	10.3667	ug/L		99
74)	o-Xylene	15.31	106	78832	4.7276	ug/L		98
75)	Styrene	15.35	104	139834	5.2929	ug/L		98
76)	Bromoform	15.84	173	21291	4.6852	ug/L		96
77)	Isopropylbenzene	15.73	105	206201	5.1551	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	33322	5.2257	ug/L		100
81)	1,2,3-Trichloropropane	16.14	110	8869	5.0053	ug/L		63
82)	trans-1,4-Dichloro-2-Buten	16.19	53	10961	4.6777	ug/L	#	1
83)	n-Propylbenzene	16.24	91	264651	5.2887	ug/L		97
84)	Bromobenzene	16.37	156	50669	4.9881	ug/L		97
85)	1,3,5-Trimethylbenzene	16.42	105	180896	5.2579	ug/L		99
86)	2-Chlorotoluene	16.51	91	181035	5.4620	ug/L		100
87)	4-Chlorotoluene	16.56	91	143482	5.0056	ug/L		100
88)	a-Methylstyrene	16.83	118	90467	4.8234	ug/L		99
89)	tert-Butylbenzene	16.89	134	36404	4.8098	ug/L		95
90)	1,2,4-Trimethylbenzene	16.94	105	186780	5.3725	ug/L		95
91)	sec-Butylbenzene	17.16	105	221368	5.1796	ug/L		99
92)	p-Isopropyltoluene	17.32	119	181903	5.3233	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	104992	5.1783	ug/L		99
94)	1,4-Dichlorobenzene	17.64	146	104006	5.1513	ug/L		96
95)	n-Butylbenzene	17.84	91	169482	5.3206	ug/L		98
96)	1,2-Dichlorobenzene	18.14	146	91565	5.1612	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.13	75	5183	4.6382	ug/L		92
98)	1,2,4-Trichlorobenzene	20.27	180	62214	5.1043	ug/L		98
99)	Hexachlorobutadiene	20.42	225	29150	5.0001	ug/L		99
100)	Naphthalene	20.64	128	89499	5.0789	ug/L		97
101)	1,2,3-Trichlorobenzene	20.95	180	52799	5.0798	ug/L		95

(#) = qualifier out of range (m) = manual integration
8M407751.D 8260WT.M Thu Oct 01 09:03:00 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407751.D Vial: 7
Acq On : 30 Sep 2015 12:29 Operator: TMB
Sample : WG540912-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:02 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



8M407751.D 8260WT.M Thu Oct 01 09:03:00 2015 Page 3

Data File : C:\MSDCHEM\2\DATA\093015\8M407751.D Vial: 7
Acq On : 30 Sep 2015 12:29 Operator: TMB
Sample : WG540912-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.5503	9.0	100	0.00
3	P	Chloromethane	5.0000	5.0607	-1.2	100	0.00
4	C	Vinyl Chloride	5.0000	5.0061	-0.1	100	0.00
5	T	1,3-Butadiene	5.0000	3.6389	27.2#	100	0.01
6	T	Bromomethane	5.0000	3.9647	20.7	100	0.01
7	T	Chloroethane	5.0000	5.0459	-0.9	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.9031	1.9	100	0.00
9	T	Diethyl ether	50.0000	49.6291	0.7	100	0.00
10	T	Isoprene	5.0000	4.6382	7.2	100	0.00
11	T	Acrolein	25.0000	24.4317	2.3	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.9550	0.9	100	0.01
13	T	Acetone	5.0000	5.1511	-3.0	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.9071	1.9	100	0.01
15	T	Tert-Butyl Alcohol	100.0000	102.4118	-2.4	100	0.00
16	T	Dimethyl Sulfide	5.0000	4.8120	3.8	100	0.00
17	T	Iodomethane	5.0000	4.3281	13.4	100	0.00
18	T	Methyl acetate	5.0000	5.2931	-5.9	100	0.00
19	T	Methylene Chloride	5.0000	4.9083	1.8	100	0.00
20	T	Carbon Disulfide	5.0000	4.8658	2.7	100	0.00
21	T	Acrylonitrile	25.0000	23.3129	6.7	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	5.0184	-0.4	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.9126	1.7	100	0.00
24	T	n-Hexane	5.0000	4.8769	2.5	100	0.00
25	T	Diisopropyl ether	50.0000	50.8397	-1.7	100	0.00
26	T	Vinyl Acetate	5.0000	5.2454	-4.9	100	0.00
27	P	1,1-Dichloroethane	5.0000	5.0094	-0.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	50.5651	-1.1	100	0.00
29	T	2-Butanone	5.0000	4.7939	4.1	100	0.00
30	T	Propionitrile	50.0000	50.3101	-0.6	100	0.00
31	T	2,2-Dichloropropane	5.0000	4.8868	2.3	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.9417	1.2	100	0.00
33	C	Chloroform	5.0000	5.0114	-0.2	100	0.00
34		1-Bromopropane	5.0000	5.0194	-0.4	100	0.00
35	T	Bromochloromethane	5.0000	5.0366	-0.7	100	0.00
36	T	Tetrahydrofuran	50.0000	49.0254	1.9	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4754	1.0	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.9576	0.8	100	0.00
39	T	Cyclohexane	5.0000	4.7361	5.3	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.9139	1.7	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	49.9837	0.0	100	0.00
42	T	Carbon Tetrachloride	5.0000	4.7194	5.6	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.4207	3.2	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	5.0000	5.0193	-0.4	100	0.00
46	T	Benzene	5.0000	5.1385	-2.8	100	0.00
47	T	Trichloroethene	5.0000	4.6746	6.5	100	0.00
48	T	Methylcyclohexane	5.0000	4.9318	1.4	100	0.00
49	C	1,2-Dichloropropane	5.0000	5.0009	-0.0	100	0.00
50	T	Bromodichloromethane	5.0000	4.8112	3.8	100	0.00
51	T	1,4-Dioxane	100.0000	88.4965	11.5	100	0.00
52	T	Dibromomethane	5.0000	5.1382	-2.8	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.5557	8.9	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.5309	9.4	100	0.00

(#) = Out of Range
8M407751.D 8260WT.M Thu Oct 01 09:04:04 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407751.D Vial: 7
Acq On : 30 Sep 2015 12:29 Operator: TMB
Sample : WG540912-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.7938	4.1	100	0.00
56	T	Dimethyl Disulfide	5.0000	3.8546	22.9	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.4637	1.5	100	0.00
59	C	Toluene	5.0000	5.1455	-2.9	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.8502	3.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	5.0000	4.9306	1.4	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	5.1568	-3.1	100	0.00
64	T	2-Hexanone	5.0000	4.3668	12.7	100	0.00
65	T	1,3-Dichloropropane	5.0000	4.9522	1.0	100	0.00
66	T	Tetrachloroethene	5.0000	4.9192	1.6	100	0.00
67	T	Dibromochloromethane	5.0000	4.8844	2.3	100	0.00
68	T	1,2-Dibromoethane	5.0000	4.9874	0.3	100	0.00
69	T	1-Chlorohexane	5.0000	4.8843	2.3	100	0.00
70	P	Chlorobenzene	5.0000	4.9566	0.9	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.8127	3.7	100	0.00
72	C	Ethylbenzene	5.0000	4.6762	6.5	100	0.00
73	T	m-,p-Xylene	10.0000	10.3668	-3.7	100	0.00
74	T	o-Xylene	5.0000	4.7276	5.4	100	0.00
75	T	Styrene	5.0000	5.2929	-5.9	100	0.00
76	P	Bromoform	5.0000	4.6852	6.3	100	0.00
77	T	Isopropylbenzene	5.0000	5.1551	-3.1	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	5.0000	5.2257	-4.5	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.4677	1.3	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	5.0053	-0.1	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	4.6777	6.4	100	0.00
83	T	n-Propylbenzene	5.0000	5.2887	-5.8	100	0.00
84	T	Bromobenzene	5.0000	4.9881	0.2	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	5.2579	-5.2	100	0.00
86	T	2-Chlorotoluene	5.0000	5.4620	-9.2	100	0.00
87	T	4-Chlorotoluene	5.0000	5.0056	-0.1	100	0.00
88	T	a-Methylstyrene	5.0000	4.8234	3.5	100	0.00
89	T	tert-Butylbenzene	5.0000	4.8098	3.8	100	0.00
90	T	1,2,4-Trimethylbenzene	5.0000	5.3725	-7.4	100	0.00
91	T	sec-Butylbenzene	5.0000	5.1796	-3.6	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.3233	-6.5	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	5.1783	-3.6	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	5.1513	-3.0	100	0.00
95	T	n-Butylbenzene	5.0000	5.3206	-6.4	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	5.1612	-3.2	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.6382	7.2	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	5.1043	-2.1	100	0.00
99	T	Hexachlorobutadiene	5.0000	5.0001	-0.0	100	0.00
100	T	Naphthalene	5.0000	5.0789	-1.6	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	5.0798	-1.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407751.D 8260WT.M Thu Oct 01 09:04:04 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407752.D Vial: 8
Acq On : 30 Sep 2015 12:58 Operator: TMB
Sample : WG540912-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:00 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	900838	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	664231	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	361897	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	87806	10.2414	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.96%#			
43) 1,2-Dichloroethane-d4	10.30	65	90496	10.3525	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.40%#			
58) Toluene-d8	12.69	98	320320	10.3936	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 41.56%#			
80) p-Bromofluorobenzene	16.08	95	129852	10.2836	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.12%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	307188	22.4300	ug/L	99
3) Chloromethane	3.63	50	446213	21.3523	ug/L	99
4) Vinyl Chloride	3.86	62	351710	21.2978	ug/L	98
5) 1,3-Butadiene	3.90	54	312471	26.3405	ug/L	96
6) Bromomethane	4.74	94	92181	17.1959	ug/L	100
7) Chloroethane	4.90	64	145908	21.6572	ug/L	98
8) Trichlorofluoromethane	5.39	101	327782	20.5367	ug/L	97
9) Diethyl ether	5.91	59	471725	76.7890	ug/L	99
10) Isoprene	5.95	67	245212	20.9264	ug/L	96
11) Acrolein	6.15	56	28707	37.6537	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	175903	20.5024	ug/L	100
13) Acetone	6.24	43	26318	19.6832	ug/L	99
14) 1,1-Dichloroethene	6.48	61	293960	20.1277	ug/L	100
15) Tert-Butyl Alcohol	6.58	59	64085	162.2088	ug/L	99
16) Dimethyl Sulfide	6.74	62	171747	20.4896	ug/L	98
17) Iodomethane	6.99	142	91383	17.6102	ug/L	97
18) Methyl acetate	7.01	43	99926	19.7631	ug/L	96
19) Methylene Chloride	7.27	84	185506	20.4515	ug/L	98
20) Carbon Disulfide	7.30	76	617002	20.8324	ug/L	99
21) Acrylonitrile	7.44	53	77746	38.7331	ug/L	98
22) Methyl Tert Butyl Ether	7.48	73	349527	20.3278	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	284568	20.5178	ug/L	100
24) n-Hexane	7.79	57	277423	20.2485	ug/L	95
25) Diisopropyl ether	8.13	45	2727543	79.7774	ug/L	99
26) Vinyl Acetate	8.30	43	188420	20.7360	ug/L	99
27) 1,1-Dichloroethane	8.33	63	358235	20.3401	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	2135457	79.2983	ug/L	97
29) 2-Butanone	8.89	43	45574	19.7838	ug/L	99
30) Propionitrile	8.99	54	55835	82.6068	ug/L	99
31) 2,2-Dichloropropane	9.11	77	303356	20.6097	ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	200218	20.2328	ug/L	99
33) Chloroform	9.38	83	343682	20.5429	ug/L	100
34) 1-Bromopropane	9.52	122	34243	21.0727	ug/L	96
35) Bromochloromethane	9.61	130	99523	20.4300	ug/L	98
36) Tetrahydrofuran	9.63	42	116173	76.8270	ug/L	97
38) 1,1,1-Trichloroethane	9.92	97	311675	20.7543	ug/L	99
39) Cyclohexane	9.94	56	363746	20.3546	ug/L	99
40) 1,1-Dichloropropene	10.11	75	271014	20.9603	ug/L	99
41) Tert-Amyl-Methyl ether	10.21	73	1584402	79.3524	ug/L	99
42) Carbon Tetrachloride	10.25	117	279951	20.8588	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M407752.D 8260WT.M Thu Oct 01 09:03:01 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407752.D Vial: 8
Acq On : 30 Sep 2015 12:58 Operator: TMB
Sample : WG540912-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:00 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

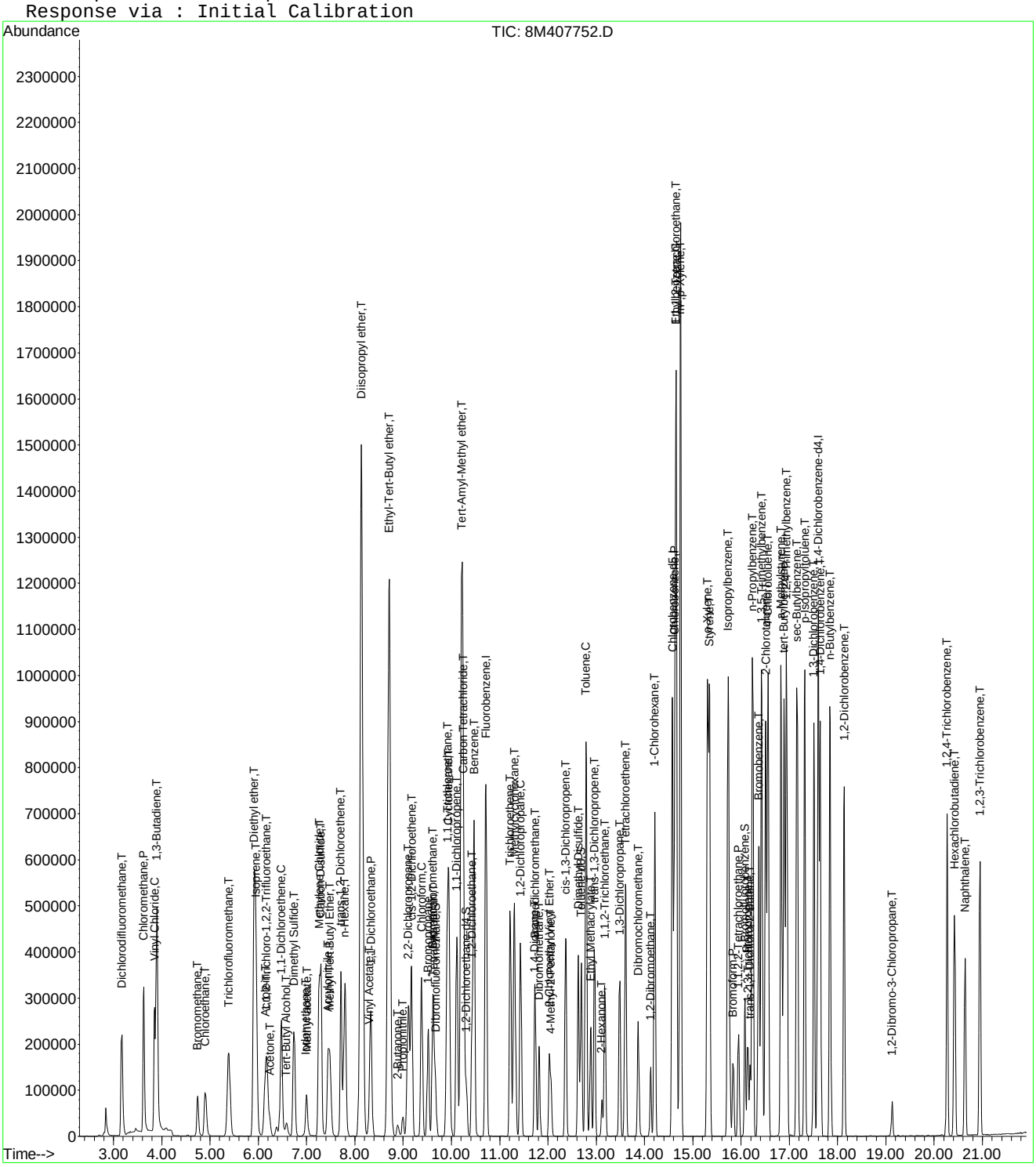
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	239119	20.8138	ug/L		99
46)	Benzene	10.47	78	760303	21.4300	ug/L		100
47)	Trichloroethene	11.21	130	195002	20.4169	ug/L		97
48)	Methylcyclohexane	11.31	83	303425	20.5318	ug/L		99
49)	1,2-Dichloropropane	11.43	63	197896	20.7051	ug/L		96
50)	Bromodichloromethane	11.73	83	257488	20.8717	ug/L		99
51)	1,4-Dioxane	11.72	88	7134	162.1255	ug/L		98
52)	Dibromomethane	11.81	93	95150	20.9065	ug/L		100
53)	2-Chloroethyl Vinyl Ether	12.03	63	78627	19.9589	ug/L		94
54)	4-Methyl-2-Pentanone	12.06	58	39837	19.7122	ug/L		96
55)	cis-1,3-Dichloropropene	12.37	75	286918	20.9506	ug/L		100
56)	Dimethyl Disulfide	12.63	79	136599	18.4979	ug/L		98
59)	Toluene	12.79	91	818164	21.6766	ug/L		99
60)	Ethyl Methacrylate	12.89	69	155537	20.6693	ug/L		93
62)	trans-1,3-Dichloropropene	12.96	75	241309	20.8394	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	122012	20.3666	ug/L		95
64)	2-Hexanone	13.12	58	38289	20.3287	ug/L	#	98
65)	1,3-Dichloropropane	13.49	76	218983	20.4545	ug/L		94
66)	Tetrachloroethene	13.61	164	161585	20.1380	ug/L		98
67)	Dibromochloromethane	13.87	129	161138	20.8040	ug/L		98
68)	1,2-Dibromoethane	14.13	107	123618	20.6684	ug/L		100
69)	1-Chlorohexane	14.21	91	275180	20.3748	ug/L		99
70)	Chlorobenzene	14.62	112	523989	20.7185	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.66	131	193093	20.6487	ug/L		100
72)	Ethylbenzene	14.66	106	298198	20.2403	ug/L		95
73)	m-,p-Xylene	14.75	106	719109	42.5615	ug/L		99
74)	o-Xylene	15.31	106	347392	20.3322	ug/L		98
75)	Styrene	15.35	104	579322	21.4006	ug/L		98
76)	Bromoform	15.83	173	95340	20.4754	ug/L		99
77)	Isopropylbenzene	15.73	105	903868	22.0533	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	141095	21.1321	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	39490	21.2846	ug/L		63
82)	trans-1,4-Dichloro-2-Buten	16.19	53	50178	20.4511	ug/L	#	61
83)	n-Propylbenzene	16.24	91	1127416	21.5170	ug/L		100
84)	Bromobenzene	16.37	156	221432	20.8188	ug/L		99
85)	1,3,5-Trimethylbenzene	16.42	105	781503	21.6939	ug/L		99
86)	2-Chlorotoluene	16.52	91	761104	21.9308	ug/L		99
87)	4-Chlorotoluene	16.56	91	646199	21.5301	ug/L		100
88)	a-Methylstyrene	16.83	118	407468	20.7481	ug/L		99
89)	tert-Butylbenzene	16.89	134	159496	20.1257	ug/L		95
90)	1,2,4-Trimethylbenzene	16.94	105	796688	21.8854	ug/L		97
91)	sec-Butylbenzene	17.16	105	957105	21.3876	ug/L		98
92)	p-Isopropyltoluene	17.32	119	785233	21.9463	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	447916	21.0985	ug/L		99
94)	1,4-Dichlorobenzene	17.64	146	435999	20.6235	ug/L		100
95)	n-Butylbenzene	17.84	91	726378	21.7780	ug/L		98
96)	1,2-Dichlorobenzene	18.14	146	388938	20.9374	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.13	75	24405	20.8579	ug/L		95
98)	1,2,4-Trichlorobenzene	20.27	180	262199	20.5447	ug/L		99
99)	Hexachlorobutadiene	20.42	225	123628	20.2526	ug/L		97
100)	Naphthalene	20.64	128	366056	19.8392	ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	225034	20.6772	ug/L		97

(#) = qualifier out of range (m) = manual integration
8M407752.D 8260WT.M Thu Oct 01 09:03:01 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407752.D Vial: 8
Acq On : 30 Sep 2015 12:58 Operator: TMB
Sample : WG540912-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:03 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



8M407752.D 8260WT.M Thu Oct 01 09:03:01 2015 Page 3

Data File : C:\MSDCHEM\2\DATA\093015\8M407753.D Vial: 9
Acq On : 30 Sep 2015 13:27 Operator: TMB
Sample : WG540912-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:01 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	938292	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	687265	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	378981	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	224039	25.0881	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.36%			
43) 1,2-Dichloroethane-d4	10.31	65	227424	24.9781	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.92%			
58) Toluene-d8	12.69	98	816431	25.6033	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.40%			
80) p-Bromofluorobenzene	16.08	95	330422	24.9880	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.96%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	734220	51.4707	ug/L	99
3) Chloromethane	3.63	50	1087458	49.9602	ug/L	99
4) Vinyl Chloride	3.84	62	796347	46.2979	ug/L	100
5) 1,3-Butadiene	3.88	54	593404	53.0036	ug/L	96
6) Bromomethane	4.74	94	267289	45.6614	ug/L	98
7) Chloroethane	4.90	64	355876	50.7142	ug/L	98
8) Trichlorofluoromethane	5.38	101	803416	48.3275	ug/L	98
9) Diethyl ether	5.91	59	614294	96.0052	ug/L	99
10) Isoprene	5.95	67	649397	53.2074	ug/L	96
11) Acrolein	6.15	56	37091	46.7086	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	436438	48.8386	ug/L	100
13) Acetone	6.25	43	62565	44.9246	ug/L	98
14) 1,1-Dichloroethene	6.47	61	726859	47.7821	ug/L	100
15) Tert-Butyl Alcohol	6.59	59	74384	180.7617	ug/L	100
16) Dimethyl Sulfide	6.74	62	442407	50.6728	ug/L	100
17) Iodomethane	7.00	142	280116	48.2985	ug/L	94
18) Methyl acetate	7.01	43	238696	45.3243	ug/L	98
19) Methylene Chloride	7.26	84	457295	48.4030	ug/L	97
20) Carbon Disulfide	7.30	76	1581063	51.2521	ug/L	100
21) Acrylonitrile	7.44	53	103250	49.3859	ug/L	97
22) Methyl Tert Butyl Ether	7.48	73	870767	48.6206	ug/L	98
23) trans-1,2-Dichloroethene	7.71	61	720460	49.8727	ug/L	100
24) n-Hexane	7.79	57	728359	51.0392	ug/L	95
25) Diisopropyl ether	8.13	45	3555432	99.8411	ug/L	99
26) Vinyl Acetate	8.31	43	475013	50.1894	ug/L	99
27) 1,1-Dichloroethane	8.33	63	895300	48.8047	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	2771592	98.8123	ug/L	97
29) 2-Butanone	8.89	43	110691	46.1332	ug/L	100
30) Propionitrile	8.99	54	66254	94.1088	ug/L	99
31) 2,2-Dichloropropane	9.10	77	756513	49.3451	ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	504047	48.9027	ug/L	99
33) Chloroform	9.38	83	862577	49.5006	ug/L	99
34) 1-Bromopropane	9.52	122	89544	52.9047	ug/L	98
35) Bromochloromethane	9.61	130	254810	50.2191	ug/L	97
36) Tetrahydrofuran	9.64	42	144978	92.0491	ug/L	97
38) 1,1,1-Trichloroethane	9.91	97	787445	50.3425	ug/L	98
39) Cyclohexane	9.94	56	942520	50.6365	ug/L	99
40) 1,1-Dichloropropene	10.11	75	670931	49.8186	ug/L	99
41) Tert-Amyl-Methyl ether	10.22	73	2024717	97.3571	ug/L	98
42) Carbon Tetrachloride	10.25	117	709220	50.7337	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M407753.D 8260WT.M Thu Oct 01 09:03:02 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407753.D Vial: 9
Acq On : 30 Sep 2015 13:27 Operator: TMB
Sample : WG540912-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:01 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

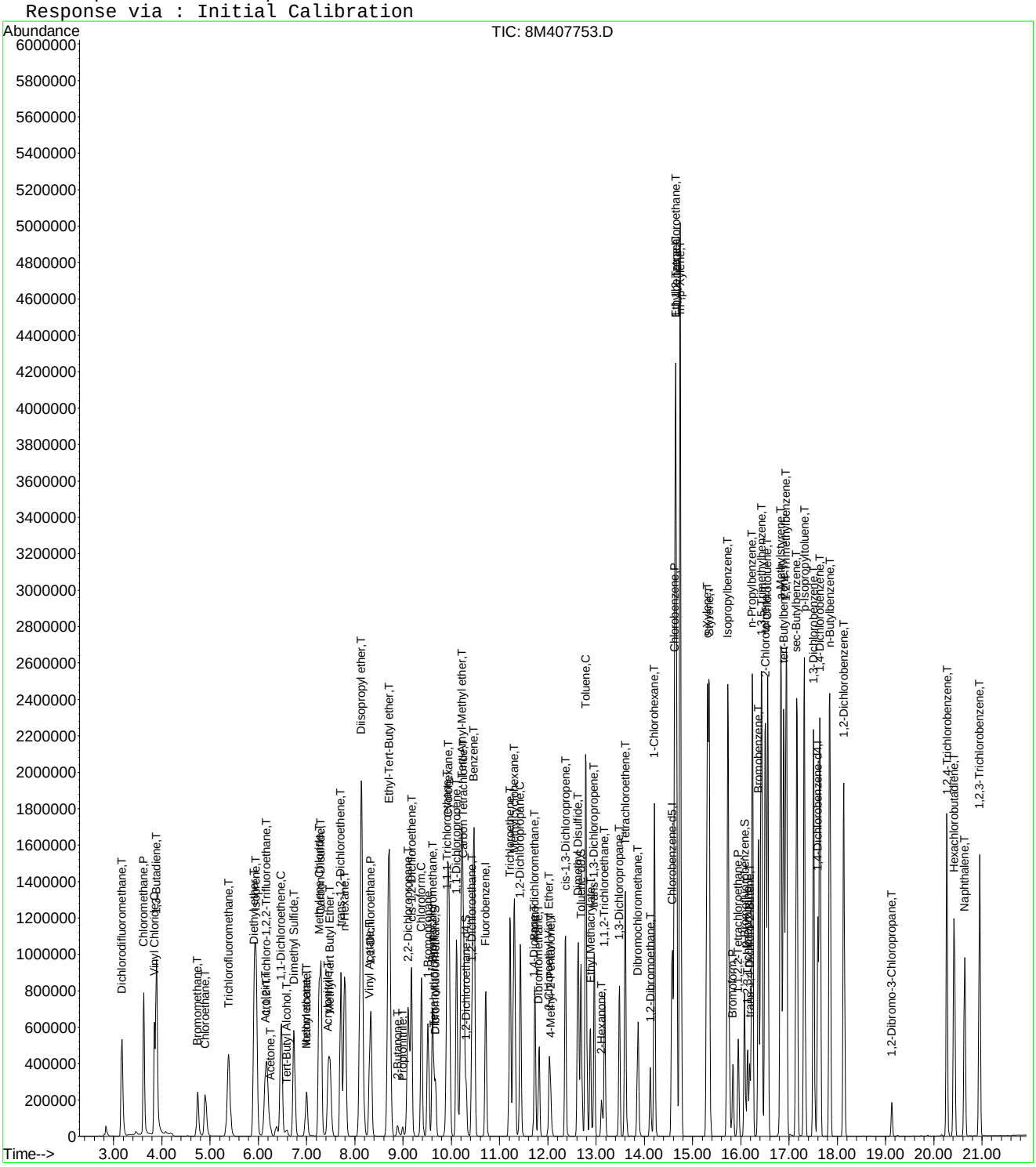
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	598223	49.9929	ug/L		99
46)	Benzene	10.47	78	1893240	51.2329	ug/L		100
47)	Trichloroethene	11.22	130	485477	48.8010	ug/L		96
48)	Methylcyclohexane	11.31	83	782615	50.8431	ug/L		98
49)	1,2-Dichloropropane	11.43	63	493718	49.5940	ug/L		96
50)	Bromodichloromethane	11.73	83	652718	50.7966	ug/L		100
51)	1,4-Dioxane	11.72	88	8670	189.1673	ug/L		94
52)	Dibromomethane	11.81	93	235258	49.6278	ug/L		99
53)	2-Chloroethyl Vinyl Ether	12.03	63	194118	47.3085	ug/L		95
54)	4-Methyl-2-Pentanone	12.06	58	96161	45.6831	ug/L		98
55)	cis-1,3-Dichloropropene	12.37	75	727126	50.9750	ug/L		100
56)	Dimethyl Disulfide	12.63	79	379036	49.2792	ug/L		99
59)	Toluene	12.78	91	1987253	50.8860	ug/L		100
60)	Ethyl Methacrylate	12.89	69	390916	50.2077	ug/L		94
62)	trans-1,3-Dichloropropene	12.96	75	608665	50.8025	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	299502	48.3182	ug/L		97
64)	2-Hexanone	13.11	58	89700	46.0281	ug/L	#	93
65)	1,3-Dichloropropane	13.49	76	534461	48.2492	ug/L		93
66)	Tetrachloroethene	13.61	164	405188	48.8054	ug/L		99
67)	Dibromochloromethane	13.87	129	402200	50.1864	ug/L		100
68)	1,2-Dibromoethane	14.13	107	302616	48.9002	ug/L		99
69)	1-Chlorohexane	14.21	91	715689	51.2148	ug/L		99
70)	Chlorobenzene	14.62	112	1313794	50.2063	ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.65	131	492148	50.8647	ug/L		98
72)	Ethylbenzene	14.65	106	747123	49.0115	ug/L		93
73)	m-,p-Xylene	14.75	106	1803271	103.1521	ug/L		96
74)	o-Xylene	15.31	106	874498	49.4673	ug/L		96
75)	Styrene	15.35	104	1468155	52.4170	ug/L		98
76)	Bromoform	15.83	173	239681	49.7493	ug/L		99
77)	Isopropylbenzene	15.73	105	2208758	52.0848	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	337508	48.2706	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	93694	48.2234	ug/L		58
82)	trans-1,4-Dichloro-2-Buten	16.18	53	127917	49.7850	ug/L	#	74
83)	n-Propylbenzene	16.24	91	2732764	49.8043	ug/L		99
84)	Bromobenzene	16.37	156	550772	49.4486	ug/L		98
85)	1,3,5-Trimethylbenzene	16.43	105	1956096	51.8518	ug/L		100
86)	2-Chlorotoluene	16.51	91	1847698	50.8405	ug/L		100
87)	4-Chlorotoluene	16.56	91	1636735	52.0745	ug/L		99
88)	a-Methylstyrene	16.82	118	1062639	51.6698	ug/L		99
89)	tert-Butylbenzene	16.89	134	402620	48.5137	ug/L		95
90)	1,2,4-Trimethylbenzene	16.94	105	1998748	52.4314	ug/L		99
91)	sec-Butylbenzene	17.16	105	2351971	50.1881	ug/L		97
92)	p-Isopropyltoluene	17.32	119	1971230	52.6100	ug/L		96
93)	1,3-Dichlorobenzene	17.51	146	1112381	50.0352	ug/L		99
94)	1,4-Dichlorobenzene	17.64	146	1089923	49.2313	ug/L		99
95)	n-Butylbenzene	17.85	91	1881534	53.8685	ug/L		98
96)	1,2-Dichlorobenzene	18.14	146	962067	49.4555	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.13	75	59325	48.4169	ug/L		96
98)	1,2,4-Trichlorobenzene	20.28	180	685856	51.3179	ug/L		99
99)	Hexachlorobutadiene	20.42	225	316117	49.4515	ug/L		99
100)	Naphthalene	20.64	128	945131	48.9144	ug/L		99
101)	1,2,3-Trichlorobenzene	20.95	180	577810	50.6987	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M407753.D 8260WT.M Thu Oct 01 09:03:02 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407753.D Vial: 9
Acq On : 30 Sep 2015 13:27 Operator: TMB
Sample : WG540912-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:03 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407754.D Vial: 10
Acq On : 30 Sep 2015 13:56 Operator: TMB
Sample : WG540912-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:03 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	999044	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	721896	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	401543	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	492634	51.8109	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 207.24%#			
43) 1,2-Dichloroethane-d4	10.31	65	502331	51.8164	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 207.28%#			
58) Toluene-d8	12.69	98	1777410	53.0657	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 212.28%#			
80) p-Bromofluorobenzene	16.08	95	722720	51.5844	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 206.32%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	1648287	108.5226	ug/L	99
3) Chloromethane	3.63	50	2312431	99.7777	ug/L	98
4) Vinyl Chloride	3.84	62	1625053	88.7319	ug/L	99
5) 1,3-Butadiene	3.89	54	991629	90.8465	ug/L	91
6) Bromomethane	4.74	94	694277	105.6792	ug/L	99
7) Chloroethane	4.90	64	792001	106.0011	ug/L	98
8) Trichlorofluoromethane	5.38	101	1823452	103.0152	ug/L	99
9) Diethyl ether	5.91	59	1404955	206.2217	ug/L	99
10) Isoprene	5.95	67	1448354	111.4525	ug/L	95
11) Acrolein	6.15	56	85817	101.4974	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	1002514	105.3622	ug/L	99
13) Acetone	6.25	43	134519	90.7172	ug/L	96
14) 1,1-Dichloroethene	6.48	61	1674359	103.3754	ug/L	100
15) Tert-Butyl Alcohol	6.59	59	170829	389.8897	ug/L	98
16) Dimethyl Sulfide	6.74	62	987415	106.2200	ug/L	99
17) Iodomethane	7.00	142	688771	109.1615	ug/L	94
18) Methyl acetate	7.01	43	547190	97.5838	ug/L	98
19) Methylene Chloride	7.27	84	1012557	100.6582	ug/L	98
20) Carbon Disulfide	7.30	76	3453967	105.1559	ug/L	99
21) Acrylonitrile	7.44	53	233747	105.0056	ug/L	100
22) Methyl Tert Butyl Ether	7.47	73	1985878	104.1417	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	1633107	106.1748	ug/L	100
24) n-Hexane	7.79	57	1613498	106.1891	ug/L	96
25) Diisopropyl ether	8.13	45	7594269	200.2886	ug/L	96
26) Vinyl Acetate	8.31	43	1012138	100.4384	ug/L	99
27) 1,1-Dichloroethane	8.33	63	2013235	103.0722	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	6110510	204.6032	ug/L	99
29) 2-Butanone	8.89	43	258564	101.2099	ug/L	99
30) Propionitrile	8.99	54	152397	203.3049	ug/L	100
31) 2,2-Dichloropropane	9.11	77	1712102	104.8844	ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	1120623	102.1115	ug/L	99
33) Chloroform	9.38	83	1894369	102.1012	ug/L	98
34) 1-Bromopropane	9.52	122	192894	107.0360	ug/L	100
35) Bromochloromethane	9.61	130	566755	104.9063	ug/L	99
36) Tetrahydrofuran	9.64	42	322938	192.5707	ug/L	97
38) 1,1,1-Trichloroethane	9.91	97	1794082	107.7235	ug/L	98
39) Cyclohexane	9.94	56	2109904	106.4606	ug/L	99
40) 1,1-Dichloropropene	10.11	75	1527222	106.5049	ug/L	99
41) Tert-Amyl-Methyl ether	10.22	73	4505369	203.4638	ug/L	97
42) Carbon Tetrachloride	10.25	117	1635708	109.8941	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M407754.D 8260WT.M Thu Oct 01 09:03:03 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407754.D Vial: 10
Acq On : 30 Sep 2015 13:56 Operator: TMB
Sample : WG540912-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:03 2015 Quant Results File: 8260WT.RES

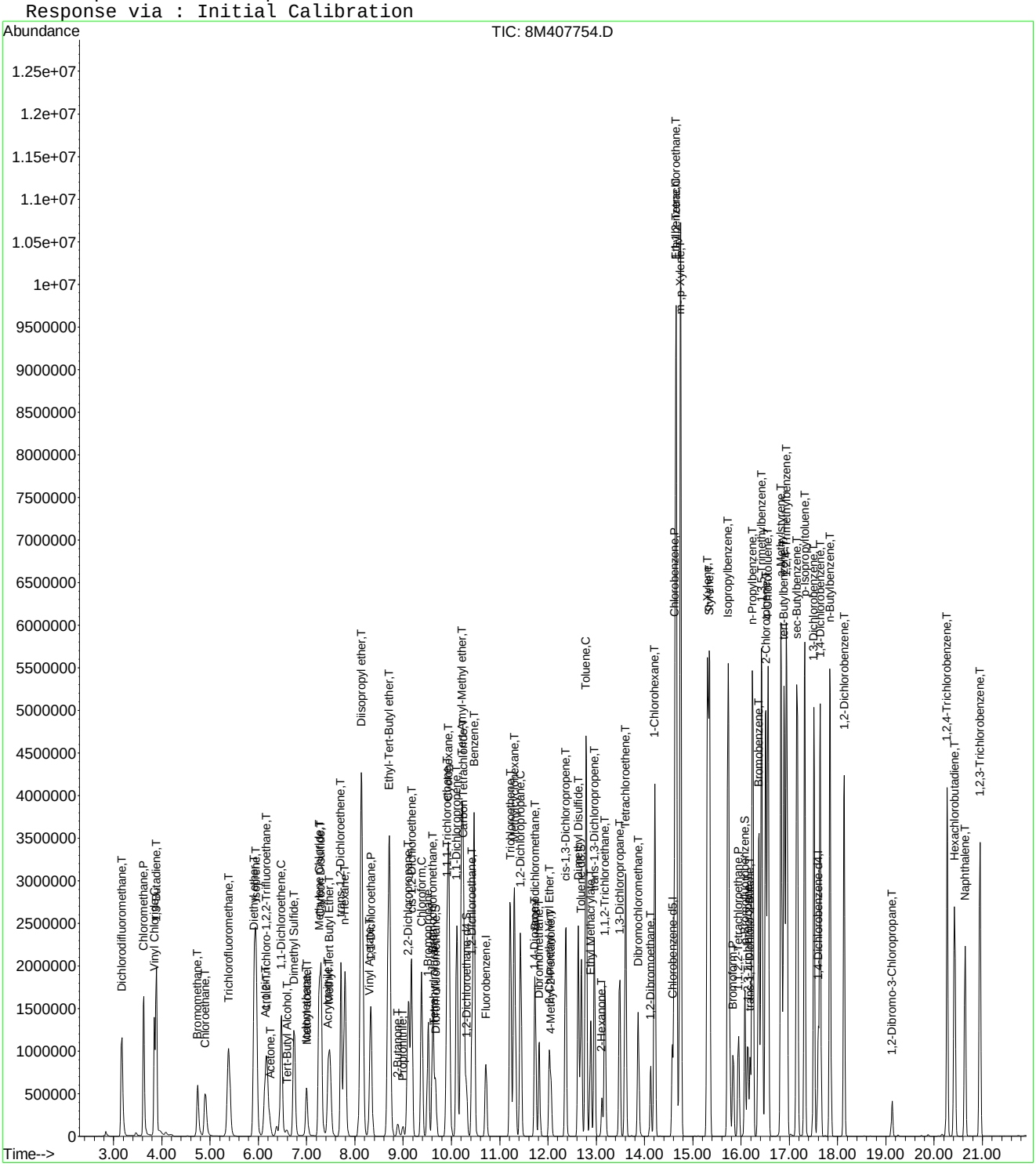
Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	1351252	106.0560	ug/L		99
46)	Benzene	10.47	78	4063079	103.2647	ug/L		97
47)	Trichloroethene	11.22	130	1102366	104.0732	ug/L		97
48)	Methylcyclohexane	11.31	83	1719853	104.9371	ug/L		98
49)	1,2-Dichloropropane	11.43	63	1111363	104.8478	ug/L		95
50)	Bromodichloromethane	11.73	83	1456240	106.4376	ug/L		99
51)	1,4-Dioxane	11.72	88	18255	374.0781	ug/L		91
52)	Dibromomethane	11.81	93	520924	103.2069	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.03	63	448768	102.7186	ug/L		95
54)	4-Methyl-2-Pentanone	12.06	58	225734	100.7179	ug/L		97
55)	cis-1,3-Dichloropropene	12.37	75	1616749	106.4496	ug/L		98
56)	Dimethyl Disulfide	12.63	79	880541	107.5192	ug/L		97
59)	Toluene	12.78	91	4231266	103.1491	ug/L		97
60)	Ethyl Methacrylate	12.89	69	900291	110.0828	ug/L		96
62)	trans-1,3-Dichloropropene	12.96	75	1369595	108.8301	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	676060	103.8356	ug/L		97
64)	2-Hexanone	13.12	58	211271	103.2096	ug/L	#	95
65)	1,3-Dichloropropane	13.49	76	1205913	103.6429	ug/L		95
66)	Tetrachloroethene	13.61	164	922464	105.7816	ug/L		99
67)	Dibromochloromethane	13.87	129	918991	109.1703	ug/L		99
68)	1,2-Dibromoethane	14.13	107	679902	104.5960	ug/L		100
69)	1-Chlorohexane	14.21	91	1557671	106.1199	ug/L		97
70)	Chlorobenzene	14.62	112	2925423	106.4313	ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.66	131	1162122	114.3464	ug/L		98
72)	Ethylbenzene	14.66	106	1738524	108.5766	ug/L		82
73)	m-,p-Xylene	14.75	106	3972122	216.3163	ug/L		80
74)	o-Xylene	15.31	106	1940782	104.5168	ug/L		92
75)	Styrene	15.35	104	3215522	109.2953	ug/L		94
76)	Bromoform	15.83	173	556496	109.9676	ug/L		98
77)	Isopropylbenzene	15.73	105	4665259	104.7341	ug/L		95
79)	1,1,2,2-Tetrachloroethane	15.95	83	740784	99.9945	ug/L		98
81)	1,2,3-Trichloropropane	16.14	110	210912	102.4550	ug/L		61
82)	trans-1,4-Dichloro-2-Buten	16.18	53	295589	108.5784	ug/L	#	72
83)	n-Propylbenzene	16.24	91	5511450	94.8017	ug/L		93
84)	Bromobenzene	16.37	156	1216625	103.0918	ug/L		97
85)	1,3,5-Trimethylbenzene	16.42	105	4130512	103.3387	ug/L		97
86)	2-Chlorotoluene	16.52	91	3894393	101.1355	ug/L		97
87)	4-Chlorotoluene	16.56	91	3405729	102.2686	ug/L		96
88)	a-Methylstyrene	16.83	118	2308871	105.9586	ug/L		99
89)	tert-Butylbenzene	16.89	134	915158	104.0760	ug/L		89
90)	1,2,4-Trimethylbenzene	16.94	105	4211193	104.2614	ug/L		97
91)	sec-Butylbenzene	17.16	105	4897753	98.6396	ug/L		93
92)	p-Isopropyltoluene	17.32	119	4206090	105.9486	ug/L		92
93)	1,3-Dichlorobenzene	17.51	146	2401799	101.9634	ug/L		97
94)	1,4-Dichlorobenzene	17.64	146	2352221	100.2787	ug/L		99
95)	n-Butylbenzene	17.84	91	3998669	108.0497	ug/L		94
96)	1,2-Dichlorobenzene	18.14	146	2098195	101.7983	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	19.13	75	133354	102.7190	ug/L		98
98)	1,2,4-Trichlorobenzene	20.27	180	1521471	107.4447	ug/L		99
99)	Hexachlorobutadiene	20.42	225	710580	104.9132	ug/L		99
100)	Naphthalene	20.64	128	2043864	99.8347	ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	1268996	105.0890	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M407754.D 8260WT.M Thu Oct 01 09:03:03 2015 Page 2

Data File : C:\MSDCHEM\2\DATA\093015\8M407754.D Vial: 10
Acq On : 30 Sep 2015 13:56 Operator: TMB
Sample : WG540912-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:03 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407755.D Vial: 11
Acq On : 30 Sep 2015 14:24 Operator: TMB
Sample : WG540912-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:04 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1019915	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	757249	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	423760	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.68	111	997322	102.7432	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 410.96%#			
43) 1,2-Dichloroethane-d4	10.31	65	1027552	103.8249	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 415.28%#			
58) Toluene-d8	12.69	98	3420899	97.3650	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 389.44%#			
80) p-Bromofluorobenzene	16.07	95	1495937	101.1751	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 404.72%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	3073735	198.2323	ug/L	96
3) Chloromethane	3.62	50	4198667	177.4585	ug/L	96
4) Vinyl Chloride	3.85	62	2900469	155.1319	ug/L	97
5) 1,3-Butadiene	3.89	54	1696169	185.8080	ug/L	90
6) Bromomethane	4.74	94	1490093	206.5308	ug/L	97
7) Chloroethane	4.90	64	1580424	207.1948	ug/L	98
8) Trichlorofluoromethane	5.39	101	3602432	199.3532	ug/L	99
9) Diethyl ether	5.90	59	1289	0.1853	ug/L #	45
10) Isoprene	5.94	67	2777274	209.3410	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	1952371	200.9914	ug/L	100
13) Acetone	6.24	43	341749	225.7531	ug/L	96
14) 1,1-Dichloroethene	6.47	61	3369596	203.7826	ug/L	100
16) Dimethyl Sulfide	6.74	62	2052730	216.3013	ug/L	100
17) Iodomethane	7.00	142	1342604	206.7806	ug/L	96
18) Methyl acetate	7.01	43	1189139	207.7270	ug/L	100
19) Methylene Chloride	7.26	84	2095681	204.0683	ug/L	97
20) Carbon Disulfide	7.30	76	6585198	196.3835	ug/L	97
21) Acrylonitrile	7.47	53	48336	21.2695	ug/L #	34
22) Methyl Tert Butyl Ether	7.47	73	4193880	215.4313	ug/L	100
23) trans-1,2-Dichloroethene	7.71	61	3271432	208.3365	ug/L	100
24) n-Hexane	7.79	57	3062998	197.4599	ug/L	95
26) Vinyl Acetate	8.30	43	2151883	209.1701	ug/L	100
27) 1,1-Dichloroethane	8.33	63	4045048	202.8576	ug/L	96
29) 2-Butanone	8.89	43	549079	210.5282	ug/L	99
30) Propionitrile	8.90	54	1482	1.9366	ug/L	86
31) 2,2-Dichloropropane	9.11	77	3379783	202.8106	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	2289136	204.3184	ug/L	99
33) Chloroform	9.39	83	3770537	199.0628	ug/L	97
34) 1-Bromopropane	9.52	122	377992	205.4540	ug/L	100
35) Bromochloromethane	9.61	130	1167712	211.7204	ug/L	99
36) Tetrahydrofuran	9.64	42	2035	1.1887	ug/L #	40
38) 1,1,1-Trichloroethane	9.91	97	3554199	209.0406	ug/L	100
39) Cyclohexane	9.94	56	4130086	204.1295	ug/L	98
40) 1,1-Dichloropropene	10.11	75	2986535	204.0119	ug/L	99
42) Carbon Tetrachloride	10.25	117	3135755	206.3629	ug/L	100
45) 1,2-Dichloroethane	10.43	62	2808454	215.9170	ug/L	98
46) Benzene	10.47	78	7375672	183.6195	ug/L	90
47) Trichloroethene	11.22	130	2161282	199.8689	ug/L	98
48) Methylcyclohexane	11.31	83	3284260	196.2889	ug/L	97
49) 1,2-Dichloropropane	11.43	63	2280795	210.7707	ug/L	95

(#) = qualifier out of range (m) = manual integration
8M407755.D 8260WT.M Thu Oct 01 09:03:04 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407755.D Vial: 11
Acq On : 30 Sep 2015 14:24 Operator: TMB
Sample : WG540912-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:04 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

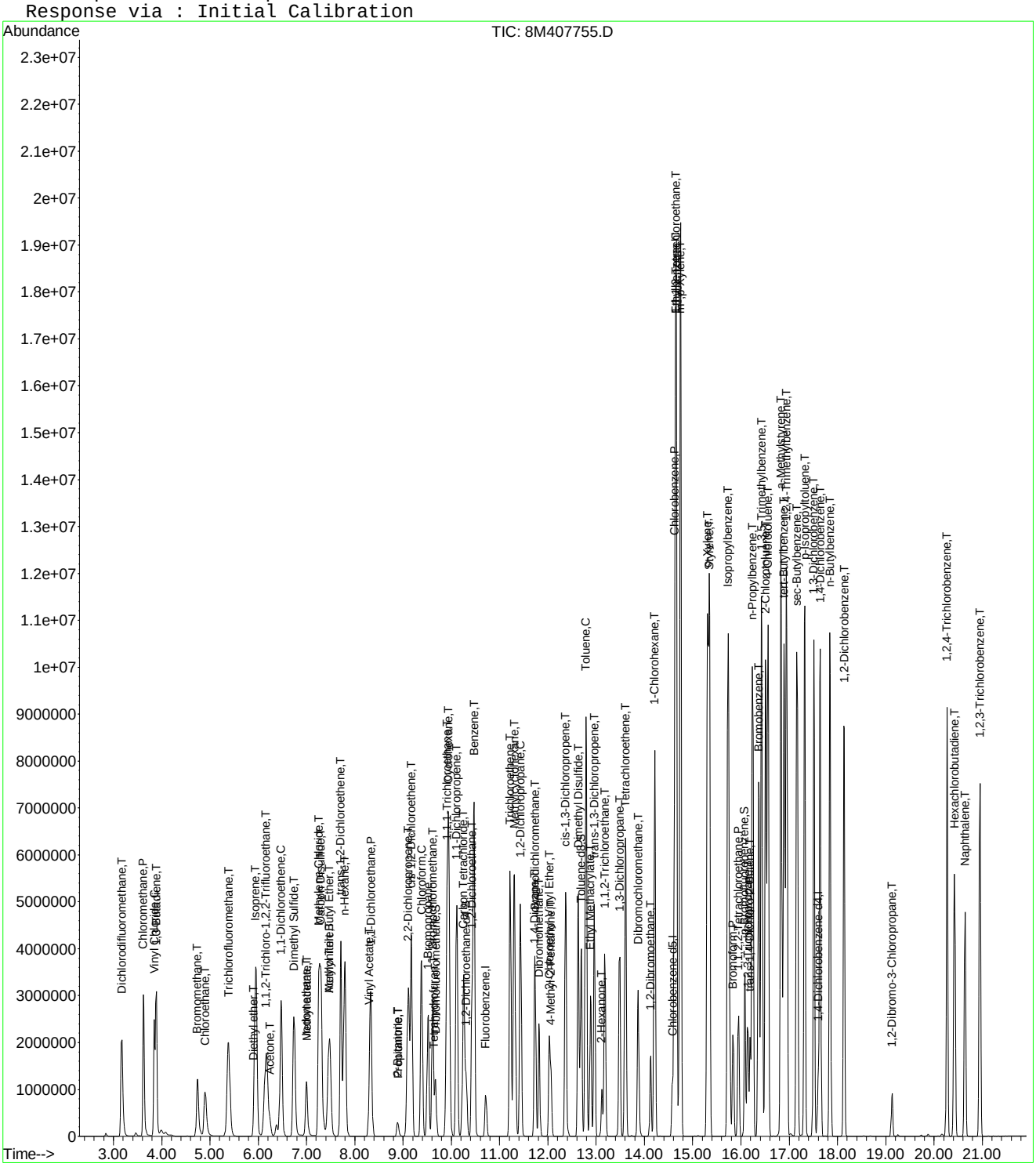
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	Bromodichloromethane	11.73	83	2976618	213.1111 ug/L		98
51)	1,4-Dioxane	11.72	88	4118	82.6585 ug/L	#	10
52)	Dibromomethane	11.81	93	1102889	214.0359 ug/L		99
53)	2-Chloroethyl Vinyl Ether	12.03	63	934357	209.4887 ug/L		96
54)	4-Methyl-2-Pentanone	12.06	58	490003	214.1554 ug/L		98
55)	cis-1,3-Dichloropropene	12.36	75	3292430	212.3433 ug/L		96
56)	Dimethyl Disulfide	12.63	79	1896563	226.8424 ug/L		92
59)	Toluene	12.79	91	7427590	172.6151 ug/L		89
60)	Ethyl Methacrylate	12.88	69	1925828	224.4865 ug/L		95
62)	trans-1,3-Dichloropropene	12.96	75	2848227	215.7582 ug/L		97
63)	1,1,2-Trichloroethane	13.18	97	1435328	210.1590 ug/L		97
64)	2-Hexanone	13.12	58	462088	215.1992 ug/L	#	97
65)	1,3-Dichloropropane	13.49	76	2491344	204.1236 ug/L		92
66)	Tetrachloroethene	13.61	164	1859849	203.3173 ug/L		98
67)	Dibromochloromethane	13.87	129	1962613	222.2613 ug/L		98
68)	1,2-Dibromoethane	14.13	107	1449499	212.5800 ug/L		100
69)	1-Chlorohexane	14.21	91	3025747	196.5123 ug/L		95
70)	Chlorobenzene	14.63	112	5662002	196.3752 ug/L		88
71)	1,1,1,2-Tetrachloroethane	14.66	131	2482321	232.8437 ug/L		97
72)	Ethylbenzene	14.66	106	3652304	217.4495 ug/L		54
73)	m-,p-Xylene	14.75	106	7200744	373.8350 ug/L		60
74)	o-Xylene	15.31	106	4011298	205.9350 ug/L		76
75)	Styrene	15.35	104	6146741	199.1732 ug/L		85
76)	Bromoform	15.84	173	1230396	231.7841 ug/L		99
77)	Isopropylbenzene	15.73	105	8074176	172.8010 ug/L		85
79)	1,1,2,2-Tetrachloroethane	15.95	83	1609027	205.8068 ug/L		98
81)	1,2,3-Trichloropropane	16.15	110	460163	211.8144 ug/L		66
82)	trans-1,4-Dichloro-2-Buten	16.19	53	659628	229.5972 ug/L	#	69
83)	n-Propylbenzene	16.24	91	8929204	145.5375 ug/L	#	79
84)	Bromobenzene	16.37	156	2526645	202.8727 ug/L		99
85)	1,3,5-Trimethylbenzene	16.42	105	7372697	174.7823 ug/L		87
86)	2-Chlorotoluene	16.51	91	7171461	176.4752 ug/L		88
87)	4-Chlorotoluene	16.56	91	5885379	167.4629 ug/L		84
88)	a-Methylstyrene	16.83	118	4628606	201.2793 ug/L		95
89)	tert-Butylbenzene	16.89	134	1937230	208.7602 ug/L		78
90)	1,2,4-Trimethylbenzene	16.94	105	7491629	175.7546 ug/L		84
91)	sec-Butylbenzene	17.16	105	8363908	159.6158 ug/L	#	82
92)	p-Isopropyltoluene	17.32	119	7394359	176.4937 ug/L		81
93)	1,3-Dichlorobenzene	17.51	146	4755218	191.2891 ug/L		92
94)	1,4-Dichlorobenzene	17.64	146	4681127	189.1007 ug/L		94
95)	n-Butylbenzene	17.84	91	7035050	180.1306 ug/L		84
96)	1,2-Dichlorobenzene	18.14	146	4260447	195.8672 ug/L		93
97)	1,2-Dibromo-3-Chloropropan	19.13	75	303791	221.7336 ug/L		98
98)	1,2,4-Trichlorobenzene	20.27	180	3208659	214.7122 ug/L		98
99)	Hexachlorobutadiene	20.42	225	1464137	204.8382 ug/L		98
100)	Naphthalene	20.64	128	4269643	197.6211 ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	2712907	212.8844 ug/L		97

(#) = qualifier out of range (m) = manual integration
8M407755.D 8260WT.M Thu Oct 01 09:03:04 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407755.D Vial: 11
Acq On : 30 Sep 2015 14:24 Operator: TMB
Sample : WG540912-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:03 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407756.D Vial: 12
Acq On : 30 Sep 2015 14:52 Operator: TMB
Sample : WG540912-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:05 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	1065746	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	805472	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	452330	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	1515938	149.4546	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 597.80%#			
43) 1,2-Dichloroethane-d4	10.31	65	1566170	151.4422	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 605.76%#			
58) Toluene-d8	12.69	98	5005555	133.9377	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 535.76%#			
80) p-Bromofluorobenzene	16.08	95	2319893	146.9916	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 587.96%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	4453985	274.8952	ug/L	95
3) Chloromethane	3.62	50	5719893	231.3574	ug/L	92
4) Vinyl Chloride	3.84	62	3908072	200.0349	ug/L	95
5) 1,3-Butadiene	3.89	54	2229495	Below Cal		91
6) Bromomethane	4.73	94	2360356	295.2548	ug/L	99
7) Chloroethane	4.90	64	2372692	297.6849	ug/L	98
8) Trichlorofluoromethane	5.38	101	5511756	291.8957	ug/L	100
9) Diethyl ether	5.91	59	2348893	323.1961	ug/L	99
10) Isoprene	5.94	67	4265273	307.6753	ug/L	94
11) Acrolein	6.15	56	155193	172.0618	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	2917906	287.4727	ug/L	100
13) Acetone	6.25	43	498841	315.3544	ug/L	99
14) 1,1-Dichloroethene	6.47	61	4975754	287.9774	ug/L	99
15) Tert-Butyl Alcohol	6.60	59	311443	666.3305	ug/L	98
16) Dimethyl Sulfide	6.74	62	3151512	317.8019	ug/L	99
17) Iodomethane	7.00	142	1961731	288.4192	ug/L	96
18) Methyl acetate	7.01	43	1852436	309.6804	ug/L	99
19) Methylene Chloride	7.26	84	3173784	295.7590	ug/L	95
20) Carbon Disulfide	7.30	76	9459683	269.9747	ug/L	95
21) Acrylonitrile	7.44	53	453204	190.8495	ug/L	94
22) Methyl Tert Butyl Ether	7.47	73	6257021	307.5889	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	4791642	292.0263	ug/L	98
24) n-Hexane	7.79	57	4581735	282.6652	ug/L	94
25) Diisopropyl ether	8.13	45	11029782	272.6893	ug/L	92
26) Vinyl Acetate	8.30	43	3305041	307.4454	ug/L	100
27) 1,1-Dichloroethane	8.33	63	5933365	284.7599	ug/L	94
28) Ethyl-Tert-Butyl ether	8.71	59	9322882	292.6281	ug/L	98
29) 2-Butanone	8.89	43	870424	319.3865	ug/L	99
30) Propionitrile	9.00	54	267878	334.9959	ug/L	99
31) 2,2-Dichloropropane	9.11	77	4977286	285.8279	ug/L	97
32) cis-1,2-Dichloroethene	9.18	96	3400905	290.4964	ug/L	100
33) Chloroform	9.38	83	5463339	276.0294	ug/L	95
34) 1-Bromopropane	9.52	122	576665	299.9617	ug/L	98
35) Bromochloromethane	9.61	130	1746232	302.9975	ug/L	99
36) Tetrahydrofuran	9.64	42	580129	324.2847	ug/L	97
38) 1,1,1-Trichloroethane	9.91	97	5257764	295.9377	ug/L	99
39) Cyclohexane	9.94	56	6196433	293.0885	ug/L	98
40) 1,1-Dichloropropene	10.11	75	4405096	287.9742	ug/L	97
41) Tert-Amyl-Methyl ether	10.22	73	7256729	307.2053	ug/L	95
42) Carbon Tetrachloride	10.25	117	4725876	297.6336	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M407756.D 8260WT.M Thu Oct 01 09:03:05 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407756.D Vial: 12
Acq On : 30 Sep 2015 14:52 Operator: TMB
Sample : WG540912-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:05 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

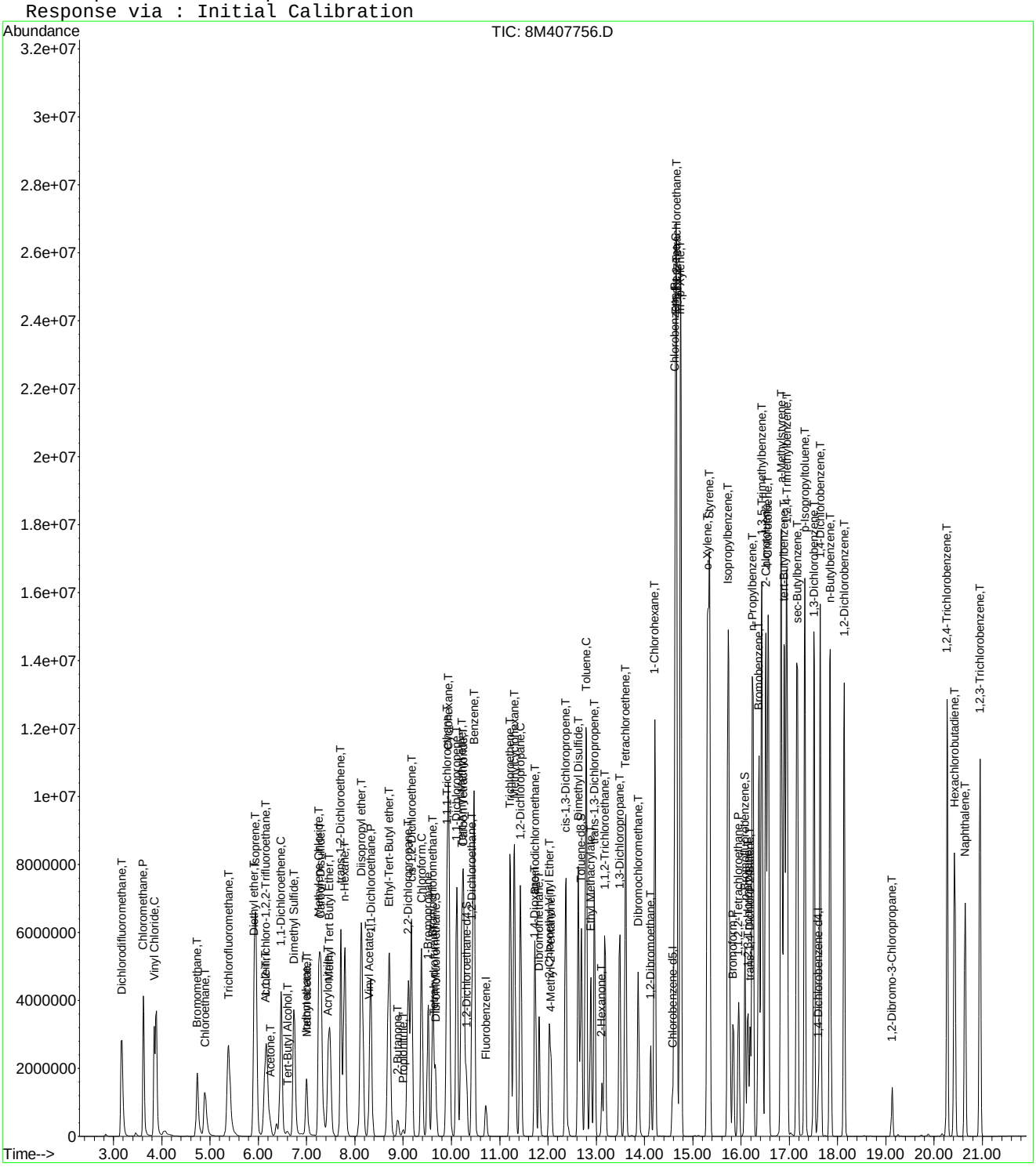
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	4130044	303.8676	ug/L		98
46)	Benzene	10.47	78	9784739	233.1185	ug/L	#	82
47)	Trichloroethene	11.21	130	3245468	287.2244	ug/L		98
48)	Methylcyclohexane	11.31	83	4927101	281.8124	ug/L		97
49)	1,2-Dichloropropane	11.43	63	3420992	302.5424	ug/L		93
50)	Bromodichloromethane	11.73	83	4386556	300.5501	ug/L		96
51)	1,4-Dioxane	11.72	88	38129	732.4310	ug/L		87
52)	Dibromomethane	11.81	93	1677042	311.4648	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.03	63	1496210	321.0337	ug/L		96
54)	4-Methyl-2-Pentanone	12.06	58	800902	334.9808	ug/L		98
55)	cis-1,3-Dichloropropene	12.37	75	4810146	296.8866	ug/L		93
56)	Dimethyl Disulfide	12.63	79	2907112	332.7583	ug/L		89
59)	Toluene	12.79	91	9565632	208.9935	ug/L		81
60)	Ethyl Methacrylate	12.89	69	2969611	325.4322	ug/L		95
62)	trans-1,3-Dichloropropene	12.96	75	4220324	300.5569	ug/L		95
63)	1,1,2-Trichloroethane	13.18	97	2203723	303.3487	ug/L		96
64)	2-Hexanone	13.12	58	741076	324.4643	ug/L	#	97
65)	1,3-Dichloropropane	13.49	76	3741871	288.2282	ug/L		92
66)	Tetrachloroethene	13.61	164	2828983	290.7470	ug/L		99
67)	Dibromochloromethane	13.87	129	3001146	319.5247	ug/L		98
68)	1,2-Dibromoethane	14.13	107	2188511	301.7460	ug/L		99
69)	1-Chlorohexane	14.21	91	4484491	273.8158	ug/L		93
70)	Chlorobenzene	14.63	112	7602943	247.9058	ug/L		81
71)	1,1,1,2-Tetrachloroethane	14.67	131	3693596	325.7198	ug/L		97
72)	Ethylbenzene	14.66	106	5302756	296.8120	ug/L		39
73)	m-,p-Xylene	14.75	106	9232185	450.6043	ug/L		52
74)	o-Xylene	15.31	106	5865525	283.1004	ug/L		63
75)	Styrene	15.35	104	8250991	251.3508	ug/L		76
76)	Bromoform	15.83	173	1942351	343.9970	ug/L		98
77)	Isopropylbenzene	15.73	105	10265255	206.5409	ug/L	#	72
79)	1,1,2,2-Tetrachloroethane	15.95	83	2476655	296.7745	ug/L		97
81)	1,2,3-Trichloropropane	16.14	110	715785	308.6675	ug/L		95
82)	trans-1,4-Dichloro-2-Buten	16.18	53	1036558	338.0069	ug/L		95
83)	n-Propylbenzene	16.24	91	10987624	167.7763	ug/L	#	65
84)	Bromobenzene	16.37	156	3802914	286.0623	ug/L		97
85)	1,3,5-Trimethylbenzene	16.43	105	9451191	209.9047	ug/L		77
86)	2-Chlorotoluene	16.52	91	8779258	202.3943	ug/L	#	76
87)	4-Chlorotoluene	16.56	91	7834256	208.8366	ug/L	#	71
88)	a-Methylstyrene	16.84	118	6616753	269.5618	ug/L		88
89)	tert-Butylbenzene	16.90	134	2982807	301.1315	ug/L		64
90)	1,2,4-Trimethylbenzene	16.95	105	9504140	208.8853	ug/L		71
91)	sec-Butylbenzene	17.17	105	10503392	187.7849	ug/L	#	70
92)	p-Isopropyltoluene	17.32	119	9416903	210.5723	ug/L	#	69
93)	1,3-Dichlorobenzene	17.52	146	6583121	248.0939	ug/L		85
94)	1,4-Dichlorobenzene	17.64	146	6449422	244.0777	ug/L		86
95)	n-Butylbenzene	17.85	91	8901534	213.5255	ug/L	#	74
96)	1,2-Dichlorobenzene	18.14	146	6027193	259.5890	ug/L		87
97)	1,2-Dibromo-3-Chloropropan	19.13	75	474533	324.4798	ug/L		99
98)	1,2,4-Trichlorobenzene	20.27	180	4574770	286.7920	ug/L		97
99)	Hexachlorobutadiene	20.42	225	2184179	286.2741	ug/L		98
100)	Naphthalene	20.64	128	5884557	255.1644	ug/L		94
101)	1,2,3-Trichlorobenzene	20.95	180	3909833	287.4298	ug/L		97

(#) = qualifier out of range (m) = manual integration
8M407756.D 8260WT.M Thu Oct 01 09:03:06 2015 Page 2

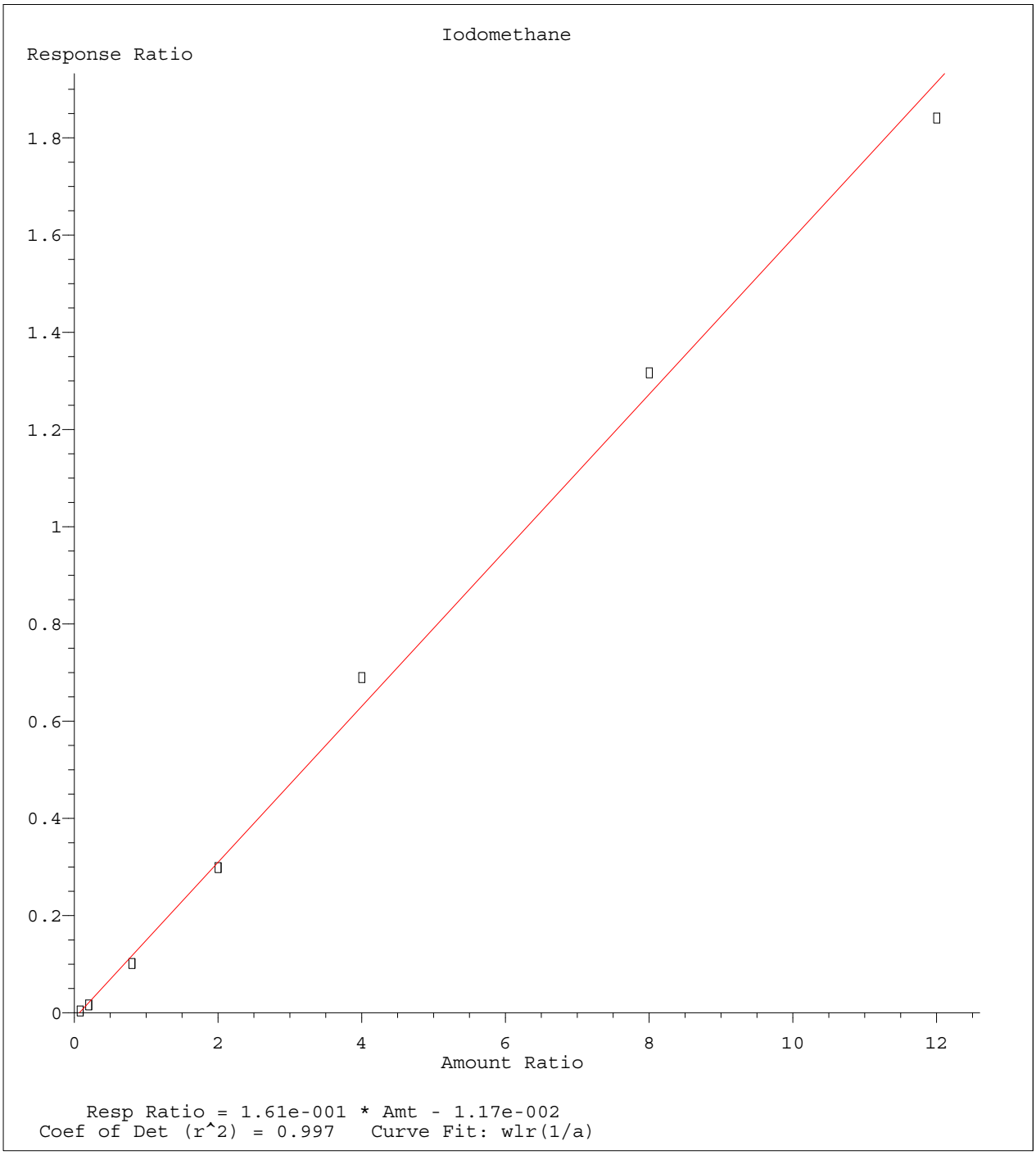
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407756.D Vial: 12
Acq On : 30 Sep 2015 14:52 Operator: TMB
Sample : WG540912-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD72739 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:03 2015 Quant Results File: 8260WT.RES

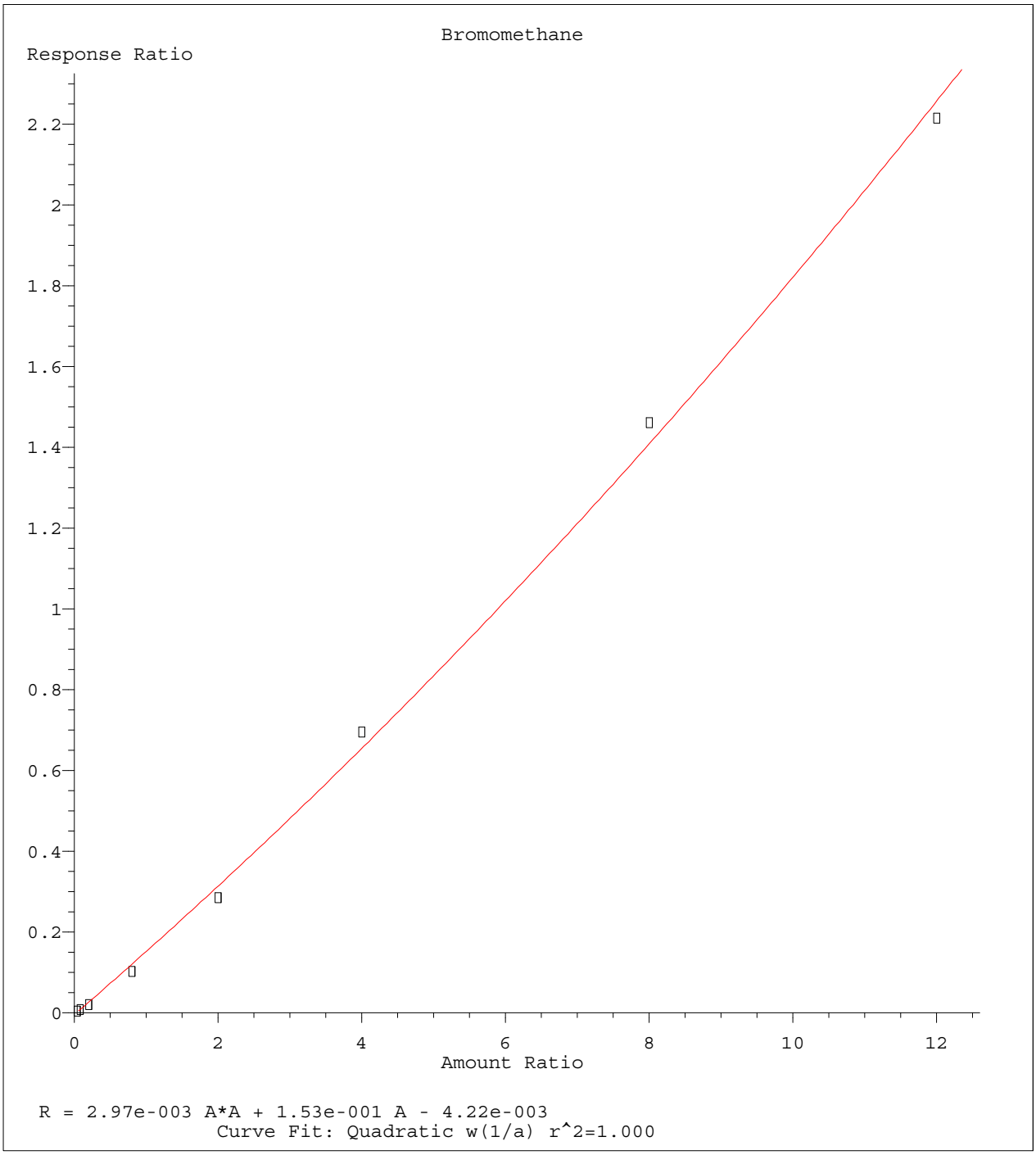
Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



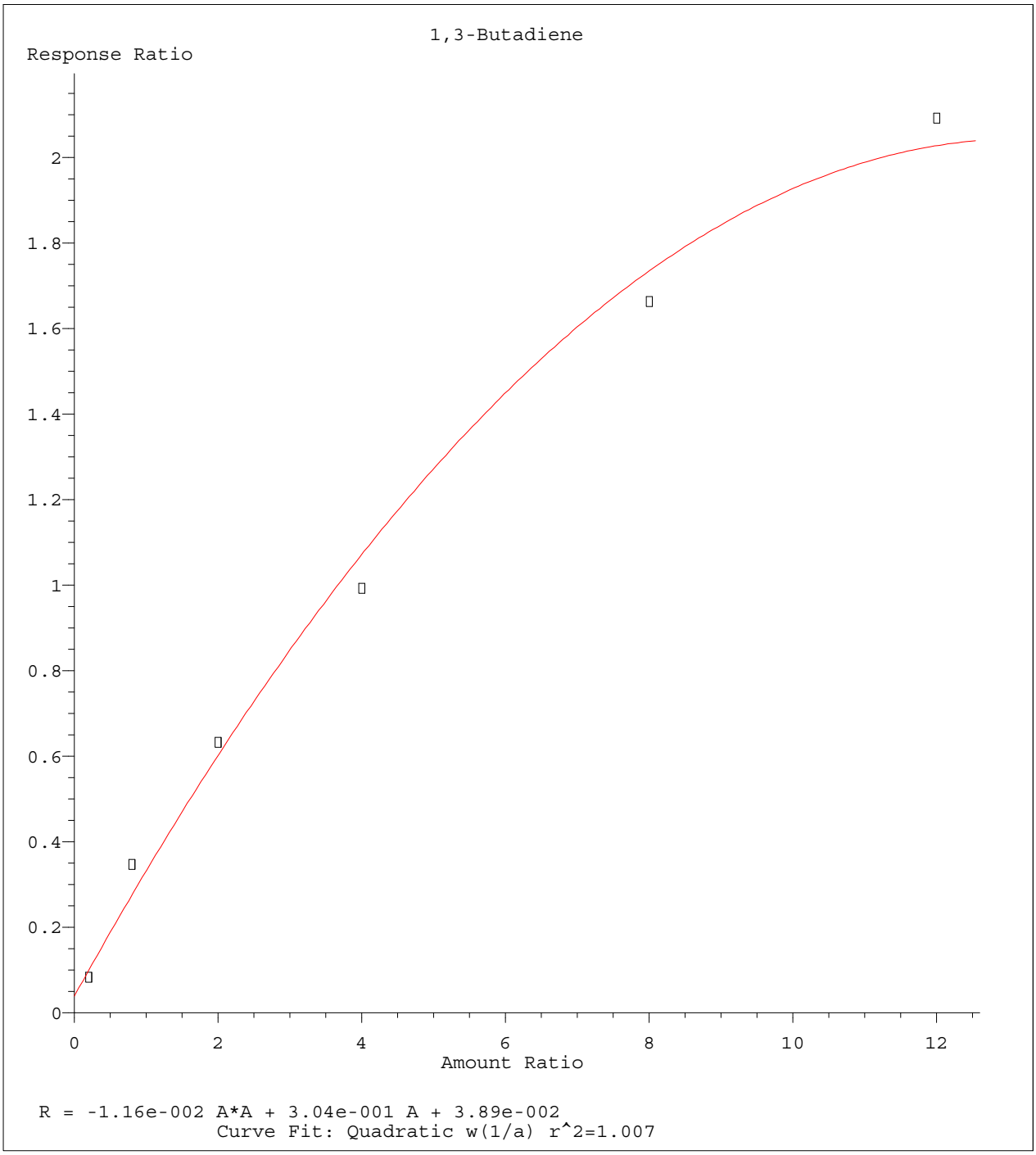
8M407756.D 8260WT.M Thu Oct 01 09:03:06 2015 Page 3



Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Thu Oct 01 09:04:46 2015



Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Thu Oct 01 09:04:46 2015



Method Name: C:\MSDCHEM\2\METHODS\8260WT.M
Calibration Table Last Updated: Thu Oct 01 09:04:46 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407761.D Vial: 17
Acq On : 30 Sep 2015 17:27 Operator: TMB
Sample : WG540912-12 50ug/L ALT SRC STD 8 Inst : HPMS8
Misc : 1,1 STD72747 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:07 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	973469	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	760814	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	418744	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.66	111	232214	25.0639 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.24%		
43) 1,2-Dichloroethane-d4	10.30	65	231666	24.5246 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.08%		
58) Toluene-d8	12.69	98	861595	24.4076 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.64%		
80) p-Bromofluorobenzene	16.08	95	366835	25.1074 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.44%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.17	85	868942	58.7139 ug/L	99
3) Chloromethane	3.62	50	1121121	49.6455 ug/L	100
4) Vinyl Chloride	3.84	62	785577	44.0214 ug/L	100
5) 1,3-Butadiene	3.89	54	349607	27.4376 ug/L	90
6) Bromomethane	4.73	94	274076	45.1539 ug/L	98
7) Chloroethane	4.89	64	406712	55.8643 ug/L	98
8) Trichlorofluoromethane	5.37	101	851761	49.3841 ug/L	98
9) Diethyl ether	5.91	59	681811	102.7066 ug/L	99
10) Isoprene	5.94	67	811140	64.0580 ug/L	96
11) Acrolein	6.15	56	80880	98.1714 ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	494289	53.3136 ug/L	98
13) Acetone	6.25	43	85566	59.2202 ug/L	100
14) 1,1-Dichloroethene	6.47	61	782591	49.5868 ug/L	99
15) Tert-Butyl Alcohol	6.59	59	92214	215.9929 ug/L	99
16) Dimethyl Sulfide	6.74	62	585403	64.6285 ug/L	99
17) Iodomethane	6.99	142	218559	36.7730 ug/L	94
18) Methyl acetate	7.01	43	230990	42.2761 ug/L	97
19) Methylene Chloride	7.26	84	493851	50.3835 ug/L	97
20) Carbon Disulfide	7.30	76	1560781	48.7663 ug/L	100
21) Acrylonitrile	7.44	53	119847	55.2530 ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	1039620	55.9512 ug/L	98
23) trans-1,2-Dichloroethene	7.71	61	774357	51.6667 ug/L	100
24) n-Hexane	7.79	57	795155	53.7064 ug/L	96
25) Diisopropyl ether	8.13	45	3847749	104.1453 ug/L	99
26) Vinyl Acetate	8.30	43	823818	83.8985 ug/L	99
27) 1,1-Dichloroethane	8.33	63	987280	51.8740 ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2933980	100.8218 ug/L	97
29) 2-Butanone	8.89	43	134931	54.2037 ug/L	99
30) Propionitrile	8.99	54	75739	103.6940 ug/L	97
31) 2,2-Dichloropropane	9.11	77	905546	56.9317 ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	546221	51.0794 ug/L	98
33) Chloroform	9.38	83	967794	53.5318 ug/L	99
34) 1-Bromopropane	9.52	122	106430	60.6091 ug/L	99
35) Bromochloromethane	9.61	130	281529	53.4801 ug/L	98
36) Tetrahydrofuran	9.64	42	163322	99.9489 ug/L	98
38) 1,1,1-Trichloroethane	9.91	97	894608	55.1269 ug/L	98
39) Cyclohexane	9.94	56	1022711	52.9592 ug/L	99
40) 1,1-Dichloropropene	10.11	75	736268	52.6946 ug/L	100
41) Tert-Amyl-Methyl ether	10.21	73	2268375	105.1318 ug/L	99
42) Carbon Tetrachloride	10.25	117	790345	54.4939 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M407761.D 8260WT.M Thu Oct 01 09:03:08 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407761.D Vial: 17
Acq On : 30 Sep 2015 17:27 Operator: TMB
Sample : WG540912-12 50ug/L ALT SRC STD 8 Inst : HPMS8
Misc : 1,1 STD72747 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 01 09:03:07 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

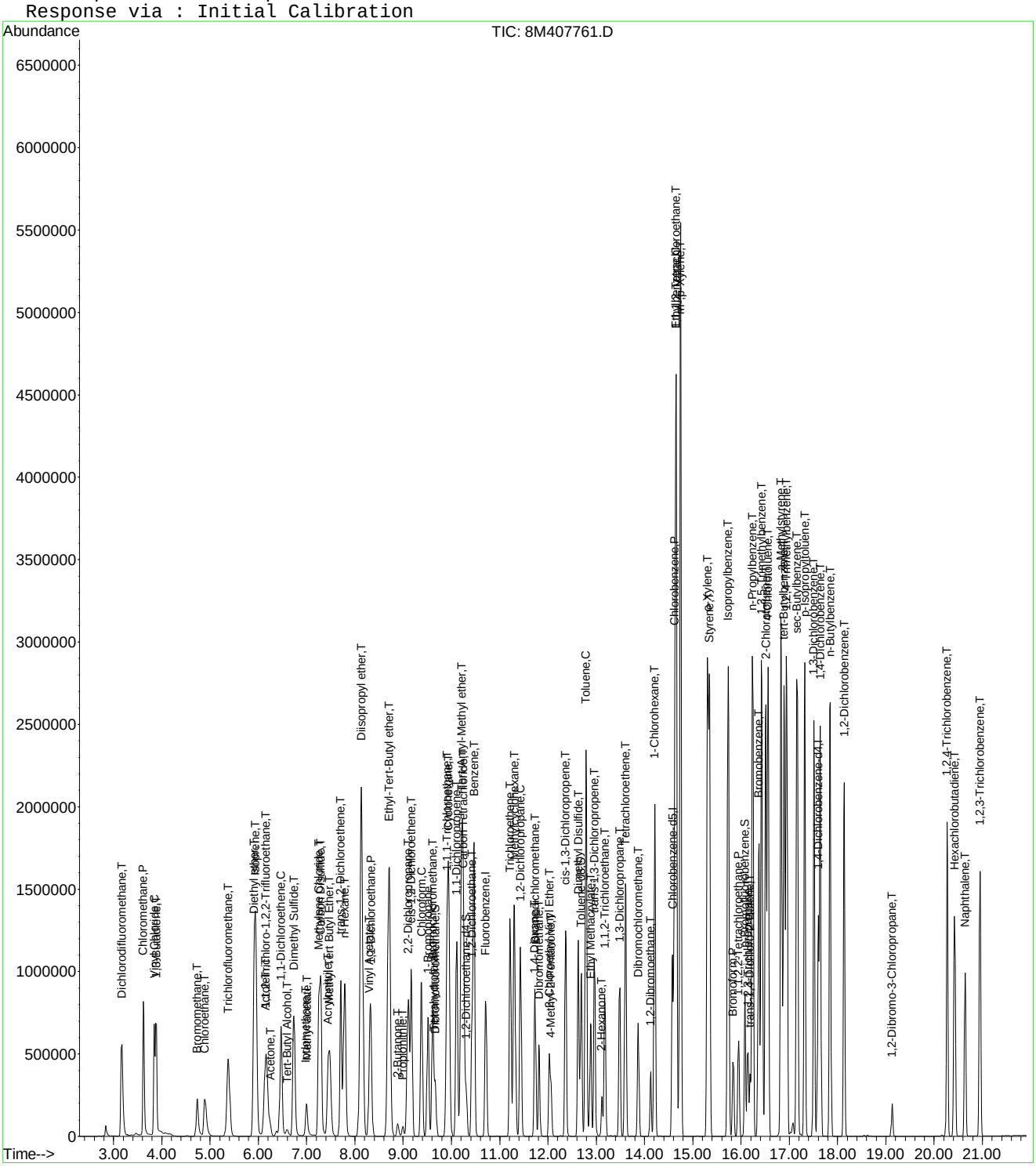
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	652312	52.5432	ug/L		98
46)	Benzene	10.47	78	2027923	52.8945	ug/L		99
47)	Trichloroethene	11.21	130	525698	50.9345	ug/L		96
48)	Methylcyclohexane	11.31	83	858331	53.7471	ug/L		99
49)	1,2-Dichloropropane	11.43	63	531322	51.4427	ug/L		94
50)	Bromodichloromethane	11.73	83	695935	52.2028	ug/L		100
51)	1,4-Dioxane	11.72	88	10964	230.5749	ug/L		87
52)	Dibromomethane	11.81	93	254190	51.6839	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.03	63	220739	51.8524	ug/L		95
54)	4-Methyl-2-Pentanone	12.06	58	110611	50.6490	ug/L		96
55)	cis-1,3-Dichloropropene	12.36	75	817619	55.2478	ug/L		100
56)	Dimethyl Disulfide	12.63	79	433239	54.2908	ug/L		97
59)	Toluene	12.78	91	2168150	50.1511	ug/L		100
60)	Ethyl Methacrylate	12.89	69	467899	54.2856	ug/L		98
62)	trans-1,3-Dichloropropene	12.96	75	651098	49.0907	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	325095	47.3770	ug/L		97
64)	2-Hexanone	13.12	58	104133	48.2686	ug/L	#	94
65)	1,3-Dichloropropane	13.49	76	590786	48.1781	ug/L		94
66)	Tetrachloroethene	13.61	164	462809	50.3569	ug/L		99
67)	Dibromochloromethane	13.87	129	437204	49.2803	ug/L		98
68)	1,2-Dibromoethane	14.13	107	327494	47.8044	ug/L		99
69)	1-Chlorohexane	14.21	91	794949	51.3874	ug/L		99
70)	Chlorobenzene	14.62	112	1499530	51.7645	ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.66	131	530992	49.5741	ug/L		98
72)	Ethylbenzene	14.66	106	830493	49.2139	ug/L		93
73)	m-,p-Xylene	14.75	106	2033249	105.0639	ug/L		95
74)	o-Xylene	15.31	106	1009684	51.5930	ug/L		97
75)	Styrene	15.35	104	1628775	52.5300	ug/L		96
76)	Bromoform	15.83	173	273147	51.2148	ug/L		98
77)	Isopropylbenzene	15.73	105	2539990	54.1054	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	370394	47.9437	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	105109	48.9615	ug/L		65
82)	trans-1,4-Dichloro-2-Buten	16.18	53	124572	43.8793	ug/L	#	51
83)	n-Propylbenzene	16.24	91	3088551	50.9435	ug/L		98
84)	Bromobenzene	16.37	156	606575	49.2873	ug/L		97
85)	1,3,5-Trimethylbenzene	16.42	105	2194366	52.6443	ug/L		100
86)	2-Chlorotoluene	16.52	91	2136948	53.2159	ug/L		100
87)	4-Chlorotoluene	16.56	91	1837561	52.9124	ug/L		99
88)	a-Methylstyrene	16.83	118	1243601	54.7270	ug/L		100
89)	tert-Butylbenzene	16.89	134	474225	51.7157	ug/L		91
90)	1,2,4-Trimethylbenzene	16.94	105	2170152	51.5219	ug/L		100
91)	sec-Butylbenzene	17.16	105	2683180	51.8189	ug/L		96
92)	p-Isopropyltoluene	17.32	119	2149600	51.9227	ug/L		96
93)	1,3-Dichlorobenzene	17.51	146	1240636	50.5051	ug/L		99
94)	1,4-Dichlorobenzene	17.64	146	1189152	48.6129	ug/L		99
95)	n-Butylbenzene	17.85	91	2040120	52.8625	ug/L		96
96)	1,2-Dichlorobenzene	18.14	146	1091732	50.7918	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.13	75	64091	47.3397	ug/L		98
98)	1,2,4-Trichlorobenzene	20.27	180	727823	49.2868	ug/L		98
99)	Hexachlorobutadiene	20.42	225	361689	51.2078	ug/L		99
100)	Naphthalene	20.64	128	946559	44.3364	ug/L		99
101)	1,2,3-Trichlorobenzene	20.95	180	612517	48.6406	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M407761.D 8260WT.M Thu Oct 01 09:03:08 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\093015\8M407761.D Vial: 17
Acq On : 30 Sep 2015 17:27 Operator: TMB
Sample : WG540912-12 50ug/L ALT SRC STD 8 Inst : HPMS8
Misc : 1,1 STD72747 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 1 9:03 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Initial Calibration



8M407761.D 8260WT.M Thu Oct 01 09:03:08 2015 Page 3

Data File : C:\MSDCHEM\2\DATA\093015\8M407761.D Vial: 17
Acq On : 30 Sep 2015 17:27 Operator: TMB
Sample : WG540912-12 50ug/L ALT SRC STD 8 Inst : HPMS8
Misc : 1,1 STD72747 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	104	0.00
2	T	Dichlorodifluoromethane	50.0000	58.7139	-17.4	118	0.00
3	P	Chloromethane	50.0000	49.6455	0.7	103	0.00
4	C	Vinyl Chloride	50.0000	44.0214	12.0	99	0.00
5	T	1,3-Butadiene	50.0000	27.4376	45.1#	59	0.00
6	T	Bromomethane	50.0000	45.1538	9.7	103	0.00
7	T	Chloroethane	50.0000	55.8643	-11.7	114	-0.01
8	T	Trichlorofluoromethane	50.0000	49.3841	1.2	106	-0.01
9	T	Diethyl ether	100.0000	102.7066	-2.7	111	0.00
10	T	Isoprene	50.0000	64.0580	-28.1#	125	-0.01
11	T	Acrolein	50.0000	98.1714	-96.3#	218	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.3136	-6.6	113	0.00
13	T	Acetone	50.0000	59.2202	-18.4	137	0.00
14	C	1,1-Dichloroethene	50.0000	49.5868	0.8	108	0.00
15	T	Tert-Butyl Alcohol	200.0000	215.9929	-8.0	124	0.00
16	T	Dimethyl Sulfide	50.0000	64.6285	-29.3#	132	0.00
17	T	Iodomethane	50.0000	36.7730	26.5#	78	0.00
18	T	Methyl acetate	50.0000	42.2761	15.4	97	0.00
19	T	Methylene Chloride	50.0000	50.3835	-0.8	108	0.00
20	T	Carbon Disulfide	50.0000	48.7663	2.5	99	0.00
21	T	Acrylonitrile	50.0000	55.2530	-10.5	116	0.00
22	T	Methyl Tert Butyl Ether	50.0000	55.9512	-11.9	119	0.00
23	T	trans-1,2-Dichloroethene	50.0000	51.6667	-3.3	107	0.00
24	T	n-Hexane	50.0000	53.7064	-7.4	109	0.00
25	T	Diisopropyl ether	100.0000	104.1453	-4.1	108	0.00
26	T	Vinyl Acetate	50.0000	83.8985	-67.8#	173	0.00
27	P	1,1-Dichloroethane	50.0000	51.8740	-3.7	110	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	100.8218	-0.8	106	0.00
29	T	2-Butanone	50.0000	54.2037	-8.4	122	0.00
30	T	Propionitrile	100.0000	103.6940	-3.7	114	0.00
31	T	2,2-Dichloropropane	50.0000	56.9317	-13.9	120	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.0795	-2.2	108	0.00
33	C	Chloroform	50.0000	53.5318	-7.1	112	0.00
34		1-Bromopropane	50.0000	60.6091	-21.2	119	0.00
35	T	Bromochloromethane	50.0000	53.4801	-7.0	110	0.00
36	T	Tetrahydrofuran	100.0000	99.9489	0.1	113	0.00
37	S	Dibromofluoromethane	25.0000	25.0638	-0.3	104	0.00
38	T	1,1,1-Trichloroethane	50.0000	55.1269	-10.3	114	0.00
39	T	Cyclohexane	50.0000	52.9592	-5.9	109	0.00
40	T	1,1-Dichloropropene	50.0000	52.6946	-5.4	110	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	105.1318	-5.1	112	0.00
42	T	Carbon Tetrachloride	50.0000	54.4939	-9.0	111	0.00
43	S	1,2-Dichloroethane-d4	25.0000	24.5246	1.9	102	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	50.0000	52.5432	-5.1	109	0.00
46	T	Benzene	50.0000	52.8945	-5.8	107	0.00
47	T	Trichloroethene	50.0000	50.9345	-1.9	108	0.00
48	T	Methylcyclohexane	50.0000	53.7471	-7.5	110	0.00
49	C	1,2-Dichloropropane	50.0000	51.4427	-2.9	108	0.00
50	T	Bromodichloromethane	50.0000	52.2028	-4.4	107	0.00
51	T	1,4-Dioxane	200.0000	230.5749	-15.3	126	0.00
52	T	Dibromomethane	50.0000	51.6839	-3.4	108	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	51.8524	-3.7	114	0.00
54	T	4-Methyl-2-Pentanone	50.0000	50.6489	-1.3	115	0.00

(#) = Out of Range
8M407761.D 8260WT.M Thu Oct 01 09:04:55 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\093015\8M407761.D Vial: 17
Acq On : 30 Sep 2015 17:27 Operator: TMB
Sample : WG540912-12 50ug/L ALT SRC STD 8 Inst : HPMS8
Misc : 1,1 STD72747 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Wed Sep 30 15:45:31 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	55.2478	-10.5	112	0.00
56	T	Dimethyl Disulfide	50.0000	54.2908	-8.6	114	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	111	0.00
58	S	Toluene-d8	25.0000	24.4077	2.4	106	0.00
59	C	Toluene	50.0000	50.1511	-0.3	109	0.00
60	T	Ethyl Methacrylate	50.0000	54.2856	-8.6	120	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	50.0000	49.0907	1.8	107	0.00
63	T	1,1,2-Trichloroethane	50.0000	47.3770	5.2	109	0.00
64	T	2-Hexanone	50.0000	48.2686	3.5	116	0.00
65	T	1,3-Dichloropropane	50.0000	48.1781	3.6	111	0.00
66	T	Tetrachloroethene	50.0000	50.3569	-0.7	114	0.00
67	T	Dibromochloromethane	50.0000	49.2803	1.4	109	0.00
68	T	1,2-Dibromoethane	50.0000	47.8044	4.4	108	0.00
69	T	1-Chlorohexane	50.0000	51.3874	-2.8	111	0.00
70	P	Chlorobenzene	50.0000	51.7645	-3.5	114	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	49.5741	0.9	108	0.00
72	C	Ethylbenzene	50.0000	49.2139	1.6	111	0.00
73	T	m-,p-Xylene	100.0000	105.0639	-5.1	113	0.00
74	T	o-Xylene	50.0000	51.5930	-3.2	115	0.00
75	T	Styrene	50.0000	52.5300	-5.1	111	0.00
76	P	Bromoform	50.0000	51.2148	-2.4	114	0.00
77	T	Isopropylbenzene	50.0000	54.1054	-8.2	115	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	110	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	47.9437	4.1	110	0.00
80	S	p-Bromofluorobenzene	25.0000	25.1074	-0.4	111	0.00
81	T	1,2,3-Trichloropropane	50.0000	48.9615	2.1	112	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	43.8792	12.2	97	0.00
83	T	n-Propylbenzene	50.0000	50.9435	-1.9	113	0.00
84	T	Bromobenzene	50.0000	49.2873	1.4	110	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	52.6443	-5.3	112	0.00
86	T	2-Chlorotoluene	50.0000	53.2159	-6.4	116	0.00
87	T	4-Chlorotoluene	50.0000	52.9124	-5.8	112	0.00
88	T	a-Methylstyrene	50.0000	54.7270	-9.5	117	0.00
89	T	tert-Butylbenzene	50.0000	51.7157	-3.4	118	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	51.5219	-3.0	109	0.00
91	T	sec-Butylbenzene	50.0000	51.8188	-3.6	114	0.00
92	T	p-Isopropyltoluene	50.0000	51.9227	-3.8	109	0.00
93	T	1,3-Dichlorobenzene	50.0000	50.5051	-1.0	112	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.6129	2.8	109	0.00
95	T	n-Butylbenzene	50.0000	52.8625	-5.7	108	0.00
96	T	1,2-Dichlorobenzene	50.0000	50.7918	-1.6	113	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	47.3396	5.3	108	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	49.2868	1.4	106	0.00
99	T	Hexachlorobutadiene	50.0000	51.2078	-2.4	114	0.00
100	T	Naphthalene	50.0000	44.3364	11.3	100	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	48.6406	2.7	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407761.D 8260WT.M Thu Oct 01 09:04:55 2015 Page 2

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.138	96	343108	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	251956	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.305	152	138372	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	96273	27.3525	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.410%			
34) 1,2-Dichloroethane-d4	4.811	65	93110	27.5465	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.186%			
47) Toluene-d8	6.710	98	363994	28.0262	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 112.105%#			
66) p-Bromofluorobenzene	8.723	95	131844	27.5636	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.254%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.038	85	261103	53.5117	ug/L	99
3) Chloromethane	1.149	50	214629	41.2953	ug/L	100
4) Vinyl Chloride	1.195	62	236728	50.9897	ug/L	100
5) 1,3-Butadiene	1.206	54	136360	45.6958	ug/L	99
6) Bromomethane	1.380	94	135995	55.5360	ug/L	99
7) Chloroethane	1.450	64	153539	64.7731	ug/L	91
8) Trichlorofluoromethane	1.534	101	336119	62.4238	ug/L	100
9) Diethyl ether	1.748	59	136386	49.7860	ug/L	100
10) 1,1-Dichloroethene	1.864	61	288385	53.5426	ug/L	100
11) Carbon Disulfide	1.878	76	532609	46.9503	ug/L	100
12) 1,1,2-Trichloro-1,2,2-...	1.893	101	172135	51.5395	ug/L	99
14) Acrolein	2.113	56	14839	40.4417	ug/L	97
15) Methylene Chloride	2.289	84	175017	43.9178	ug/L	99
16) Acetone	2.341	43	30379	44.0948	ug/L	97
17) trans-1,2-Dichloroethene	2.420	96	171539	48.7140	ug/L	98
18) Methyl acetate	2.449	43	102655	52.3995	ug/L #	100
19) Methyl Tert Butyl Ether	2.530	73	401324	44.7100	ug/L	99
20) 1,1-Dichloroethane	2.975	63	325946	48.3656	ug/L	100
21) Acrylonitrile	3.036	53	40333	43.2372	ug/L	96
22) Vinyl Acetate	3.274	86	17679	42.1519	ug/L	94
23) cis-1,2-Dichloroethene	3.563	96	191700	47.4146	ug/L	98
24) 2,2-Dichloropropane	3.693	77	268274	53.2219	ug/L	100
25) Cyclohexane	3.792	56	292302	45.0657	ug/L	97
26) Bromochloromethane	3.804	130	118021	49.4361	ug/L	100
27) Chloroform	3.934	83	318741	47.7384	ug/L	99
28) Carbon Tetrachloride	4.076	117	267935	51.6790	ug/L	100
30) 1,1,1-Trichloroethane	4.177	97	289100	49.3639	ug/L	99
31) 1,1-Dichloropropene	4.345	75	245082	49.3637	ug/L	99
32) 2-Butanone	4.365	43	47774	42.2150	ug/L	99
33) Benzene	4.646	78	701247	47.5545	ug/L	99
35) 1,2-Dichloroethane	4.889	62	215339	48.5312	ug/L	99
36) Methylcyclohexane	5.295	83	303540	44.0227	ug/L	98
37) Trichloroethene	5.324	130	201025	49.1259	ug/L	98
38) Dibromomethane	5.741	93	102137	46.6757	ug/L	100
39) 1,2-Dichloropropane	5.848	63	187672	46.2997	ug/L	97
40) Bromodichloromethane	5.937	83	244215	48.4606	ug/L	100
41) 1,4-Dioxane	6.149	88	2459	99.8803	ug/L	89
42) 2-Chloroethyl Vinyl Ether	6.528	63	84439	41.2150	ug/L	99
43) cis-1,3-Dichloropropene	6.545	75	283264	47.6757	ug/L	100
44) 4-Methyl-2-Pentanone	7.814	58	38079	37.8335	ug/L	98
45) trans-1,3-Dichloropropene	7.145	75	243521	47.9044	ug/L	99
48) Toluene	6.757	91	797347	49.9530	ug/L	99
49) Tetrachloroethene	7.087	166	220709	51.3012	ug/L	98
50) 1,1,2-Trichloroethane	7.275	97	134425	45.2703	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

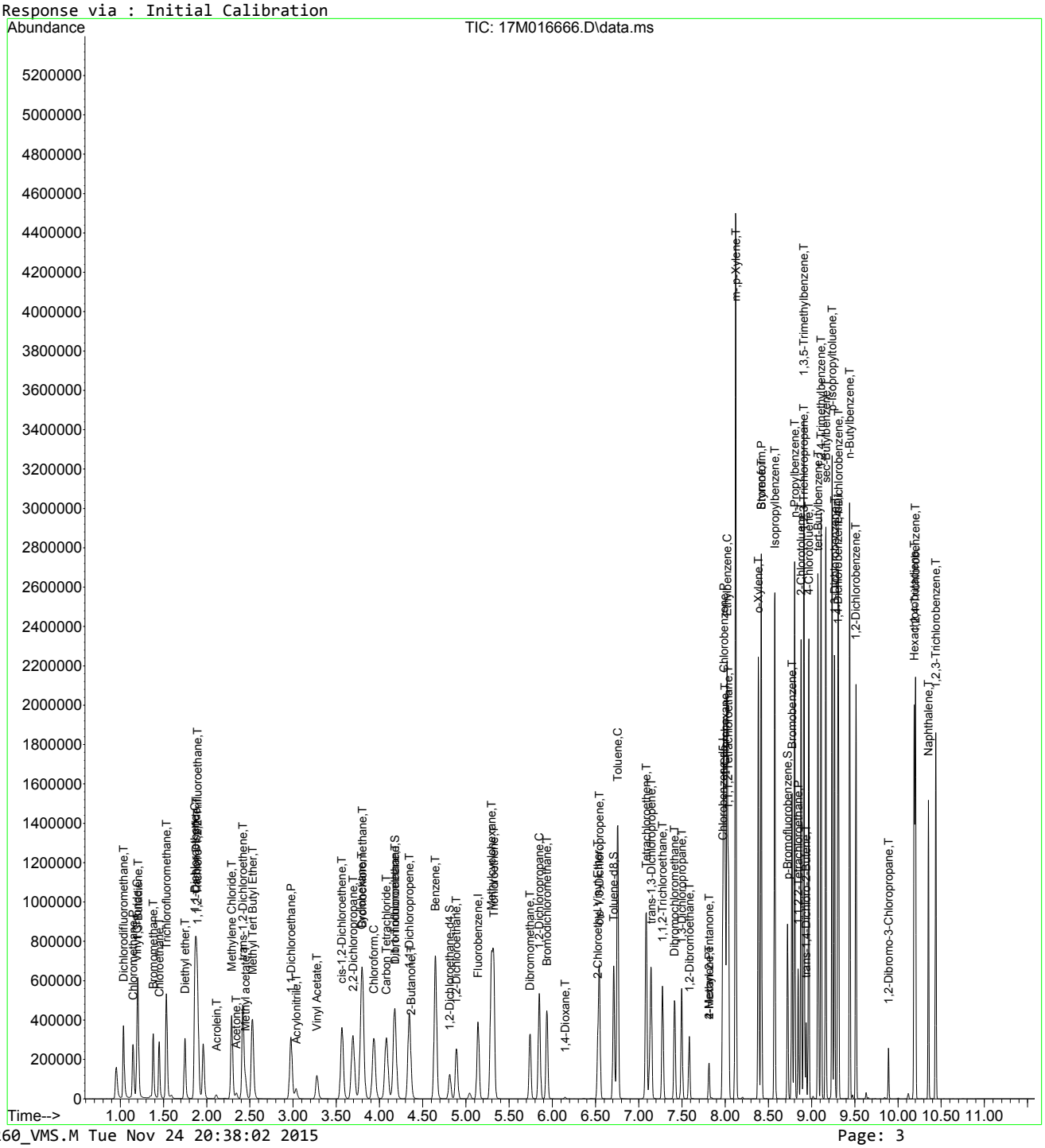
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.414	129	189743	49.4973	ug/L		100
52) 1,3-Dichloropropane	7.498	76	221480	47.0261	ug/L		98
53) 1,2-Dibromoethane	7.585	107	139358	47.2941	ug/L		99
54) 2-Hexanone	7.814	43	75324	39.4558	ug/L		98
55) Chlorobenzene	7.984	112	518101	50.3654	ug/L		99
56) 1-Chlorohexane	7.999	69	48867	46.2503	ug/L		79
57) Ethylbenzene	8.022	106	283310	50.5974	ug/L		98
58) 1,1,1,2-Tetrachloroethane	8.037	131	192778	50.6195	ug/L		99
59) m-,p-Xylene	8.123	106	705952	105.0921	ug/L		100
60) o-Xylene	8.384	106	329556	49.7177	ug/L		99
61) Styrene	8.419	104	557648	50.6224	ug/L		100
62) Bromoform	8.419	173	134112	53.0630	ug/L		100
63) Isopropylbenzene	8.575	105	897688	51.9537	ug/L		100
65) 1,3,5-Trimethylbenzene	8.911	105	791049	52.2098	ug/L		100
67) Bromobenzene	8.775	156	236206	49.8771	ug/L		96
68) n-Propylbenzene	8.804	91	1066429	53.9249	ug/L		100
69) 1,1,2,2-Tetrachloroethane	8.844	83	162850	47.4091	ug/L		100
70) 2-Chlorotoluene	8.879	91	620131	51.2723	ug/L		99
71) 1,2,3-Trichloropropane	8.908	110	44572	46.6189	ug/L		96
72) trans-1,4-Dichloro-2-B...	8.937	53	34565	43.4907	ug/L	#	98
73) 1,2,4-Trimethylbenzene	9.111	105	785355	51.9240	ug/L		100
74) 4-Chlorotoluene	8.969	91	635059	51.0317	ug/L		97
75) tert-Butylbenzene	9.076	134	144360	51.9580	ug/L		100
76) sec-Butylbenzene	9.166	105	1002719	53.8574	ug/L		100
77) p-Isopropyltoluene	9.238	119	869913	54.0257	ug/L		100
78) 1,3-Dichlorobenzene	9.267	146	456363	52.4749	ug/L		98
79) 1,4-Dichlorobenzene	9.310	146	451866	50.9352	ug/L		99
80) n-Butylbenzene	9.441	91	801614	54.0908	ug/L		100
81) 1,2-Dichlorobenzene	9.513	146	413354	49.9260	ug/L		98
82) 1,2-Dibromo-3-Chloropr...	9.890	75	29365	45.5508	ug/L		98
83) Hexachlorobutadiene	10.188	225	188554	49.4767	ug/L		99
84) 1,2,4-Trichlorobenzene	10.202	180	323251	48.9228	ug/L		99
85) Naphthalene	10.353	128	539832	44.1086	ug/L		100
86) 1,2,3-Trichlorobenzene	10.437	180	282583	46.3402	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



8260_VMS.M Tue Nov 24 20:38:02 2015 Page: 3

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	75	0.000
2	T	Dichlorodifluoromethane	0.356	0.380	-6.7	78	0.000
3	P	Chloromethane	0.379	0.313	17.4	66	0.000
4	C	Vinyl Chloride	0.338	0.345	-2.1#	78	0.000
5	T	1,3-Butadiene	0.217	0.199	8.3	73	0.000
6	T	Bromomethane	0.178	0.198	-11.2	95	0.000
7	T	Chloroethane	0.173	0.224	-29.5#	95	0.000
8	T	Trichlorofluoromethane	0.390	0.490	-25.6#	91	0.000
9	T	Diethyl ether	0.200	0.199	0.5	85	0.000
10	C	1,1-Dichloroethene	0.392	0.420	-7.1#	82	0.000
11	T	Carbon Disulfide	0.827	0.776	6.2	72	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.243	0.251	-3.3	78	0.000
13	T	Iodomethane	0.000	0.000	0.0	0#	0.000
14	T	Acrolein	0.027	0.022	18.5	77	0.000
15	T	Methylene Chloride	0.290	0.255	12.1	76	0.000
16	T	Acetone	0.051	0.044	13.7	83	0.000
17	T	trans-1,2-Dichloroethene	0.257	0.250	2.7	77	0.000
18	T	Methyl acetate	0.143	0.150	-4.9	89	0.000
19	T	Methyl Tert Butyl Ether	0.654	0.585	10.6	77	0.000
20	P	1,1-Dichloroethane	0.491	0.475	3.3	75	0.000
21	T	Acrylonitrile	0.068	0.059	13.2	77	0.000
22	T	Vinyl Acetate	0.028	0.026	7.1	74	0.000
23	T	cis-1,2-Dichloroethene	0.295	0.279	5.4	76	0.000
24	T	2,2-Dichloropropane	0.367	0.391	-6.5	75	0.000
25	T	Cyclohexane	0.473	0.426	9.9	68	0.000
26	T	Bromochloromethane	0.174	0.172	1.1	78	0.000
27	C	Chloroform	0.486	0.464	4.5#	78	0.000
28	T	Carbon Tetrachloride	0.378	0.390	-3.2	79	0.000
29	S	Dibromofluoromethane	0.256	0.281	-9.8	82	0.000
30	T	1,1,1-Trichloroethane	0.427	0.421	1.4	78	0.000
31	T	1,1-Dichloropropene	0.362	0.357	1.4	76	0.000
32	T	2-Butanone	0.082	0.070	14.6	76	0.000
33	T	Benzene	1.074	1.022	4.8	75	0.000
34	S	1,2-Dichloroethane-d4	0.246	0.271	-10.2	85	0.000
35	T	1,2-Dichloroethane	0.323	0.314	2.8	79	0.000
36	T	Methylcyclohexane	0.502	0.442	12.0	69	0.000
37	T	Trichloroethene	0.298	0.293	1.7	78	0.000
38	T	Dibromomethane	0.159	0.149	6.3	80	0.000
39	C	1,2-Dichloropropane	0.295	0.273	7.5#	73	0.000
40	T	Bromodichloromethane	0.367	0.356	3.0	77	0.000
41	T	1,4-Dioxane	0.002	0.002	0.0	76	0.000
42	T	2-Chloroethyl Vinyl Ether	0.149	0.123	17.4	70	0.000
43	T	cis-1,3-Dichloropropene	0.433	0.413	4.6	74	0.000
44	T	4-Methyl-2-Pentanone	0.073	0.055	24.7	72	0.000
45	T	trans-1,3-Dichloropropene	0.370	0.355	4.1	76	0.000
46	I	Chlorobenzene-d5	1.000	1.000	0.0	74	0.000
47	S	Toluene-d8	1.289	1.445	-12.1	81	0.000
48	C	Toluene	1.584	1.582	0.1#	76	0.000
49	T	Tetrachloroethene	0.427	0.438	-2.6	79	0.000
50	T	1,1,2-Trichloroethane	0.295	0.267	9.5	78	0.000
51	T	Dibromochloromethane	0.380	0.377	0.8	80	0.000
52	T	1,3-Dichloropropane	0.467	0.440	5.8	77	0.000
53	T	1,2-Dibromoethane	0.292	0.277	5.1	79	0.000
54	T	2-Hexanone	0.189	0.149	21.2	74	0.000
55	P	Chlorobenzene	1.021	1.028	-0.7	77	0.000

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	0.105	0.097	7.6	70	0.000
57	C	Ethylbenzene	0.556	0.562	-1.1#	77	0.000
58	T	1,1,1,2-Tetrachloroethane	0.378	0.383	-1.3	78	0.000
59	T	m-,p-Xylene	0.667	0.700	-4.9	79	0.000
60	T	o-Xylene	0.658	0.654	0.6	76	0.000
61	T	Styrene	1.093	1.107	-1.3	77	0.000
62	P	Bromoform	0.251	0.266	-6.0	88	0.000
63	T	Isopropylbenzene	1.714	1.781	-3.9	78	0.000
64	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	75	0.000
65	T	1,3,5-Trimethylbenzene	2.737	2.858	-4.4	78	0.000
66	S	p-Bromofluorobenzene	0.864	0.953	-10.3	79	0.000
67	T	Bromobenzene	0.856	0.854	0.2	79	0.000
68	T	n-Propylbenzene	3.573	3.853	-7.8	79	0.000
69	P	1,1,2,2-Tetrachloroethane	0.621	0.588	5.3	82	0.000
70	T	2-Chlorotoluene	2.185	2.241	-2.6	77	0.000
71	T	1,2,3-Trichloropropane	0.173	0.161	6.9	84	0.000
72	T	trans-1,4-Dichloro-2-Butene	0.144	0.125	13.2	77	0.000
73	T	1,2,4-Trimethylbenzene	2.733	2.838	-3.8	78	0.000
74	T	4-Chlorotoluene	2.248	2.295	-2.1	76	0.000
75	T	tert-Butylbenzene	0.502	0.522	-4.0	78	0.000
76	T	sec-Butylbenzene	3.364	3.623	-7.7	80	0.000
77	T	p-Isopropyltoluene	2.909	3.143	-8.0	79	0.000
78	T	1,3-Dichlorobenzene	1.571	1.649	-5.0	80	0.000
79	T	1,4-Dichlorobenzene	1.603	1.633	-1.9	80	0.000
80	T	n-Butylbenzene	2.678	2.897	-8.2	78	0.000
81	T	1,2-Dichlorobenzene	1.496	1.494	0.1	79	0.000
82	T	1,2-Dibromo-3-Chloropropane	0.116	0.106	8.6	80	0.000
83	T	Hexachlorobutadiene	0.689	0.681	1.2	72	0.000
84	T	1,2,4-Trichlorobenzene	1.194	1.168	2.2	75	0.000
85	T	Naphthalene	2.211	1.951	11.8	75	0.000
86	T	1,2,3-Trichlorobenzene	1.102	1.021	7.4	74	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	75	0.000
2	T	Dichlorodifluoromethane	50.000	53.512	-7.0	78	0.000
3	P	Chloromethane	50.000	41.295	17.4	66	0.000
4	C	Vinyl Chloride	50.000	50.990	-2.0#	78	0.000
5	T	1,3-Butadiene	50.000	45.696	8.6	73	0.000
6	T	Bromomethane	50.000	55.536	-11.1	95	0.000
7	T	Chloroethane	50.000	64.773	-29.5#	95	0.000
8	T	Trichlorofluoromethane	50.000	62.424	-24.8	91	0.000
9	T	Diethyl ether	50.000	49.786	0.4	85	0.000
10	C	1,1-Dichloroethene	50.000	53.543	-7.1#	82	0.000
11	T	Carbon Disulfide	50.000	46.950	6.1	72	0.000
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.000	51.539	-3.1	78	0.000
13	T	Iodomethane	-1.000	0.000	0.0	0	0.000
14	T	Acrolein	50.000	40.442	19.1	77	0.000
15	T	Methylene Chloride	50.000	43.918	12.2	76	0.000
16	T	Acetone	50.000	44.095	11.8	83	0.000
17	T	trans-1,2-Dichloroethene	50.000	48.714	2.6	77	0.000
18	T	Methyl acetate	50.000	52.399	-4.8	89	0.000
19	T	Methyl Tert Butyl Ether	50.000	44.710	10.6	77	0.000
20	P	1,1-Dichloroethane	50.000	48.366	3.3	75	0.000
21	T	Acrylonitrile	50.000	43.237	13.5	77	0.000
22	T	Vinyl Acetate	50.000	42.152	15.7	74	0.000
23	T	cis-1,2-Dichloroethene	50.000	47.415	5.2	76	0.000
24	T	2,2-Dichloropropane	50.000	53.222	-6.4	75	0.000
25	T	Cyclohexane	50.000	45.066	9.9	68	0.000
26	T	Bromochloromethane	50.000	49.436	1.1	78	0.000
27	C	Chloroform	50.000	47.738	4.5#	78	0.000
28	T	Carbon Tetrachloride	50.000	51.679	-3.4	79	0.000
29	S	Dibromofluoromethane	25.000	27.353	-9.4	82	0.000
30	T	1,1,1-Trichloroethane	50.000	49.364	1.3	78	0.000
31	T	1,1-Dichloropropene	50.000	49.364	1.3	76	0.000
32	T	2-Butanone	50.000	42.215	15.6	76	0.000
33	T	Benzene	50.000	47.554	4.9	75	0.000
34	S	1,2-Dichloroethane-d4	25.000	27.547	-10.2	85	0.000
35	T	1,2-Dichloroethane	50.000	48.531	2.9	79	0.000
36	T	Methylcyclohexane	50.000	44.023	12.0	69	0.000
37	T	Trichloroethene	50.000	49.126	1.7	78	0.000
38	T	Dibromomethane	50.000	46.676	6.6	80	0.000
39	C	1,2-Dichloropropane	50.000	46.300	7.4#	73	0.000
40	T	Bromodichloromethane	50.000	48.461	3.1	77	0.000
41	T	1,4-Dioxane	100.000	99.880	0.1	76	0.000
42	T	2-Chloroethyl Vinyl Ether	50.000	41.215	17.6	70	0.000
43	T	cis-1,3-Dichloropropene	50.000	47.676	4.6	74	0.000
44	T	4-Methyl-2-Pentanone	50.000	37.833	24.3	72	0.000
45	T	trans-1,3-Dichloropropene	50.000	47.904	4.2	76	0.000
46	I	Chlorobenzene-d5	25.000	25.000	0.0	74	0.000
47	S	Toluene-d8	25.000	28.026	-12.1	81	0.000
48	C	Toluene	50.000	49.953	0.1#	76	0.000
49	T	Tetrachloroethene	50.000	51.301	-2.6	79	0.000
50	T	1,1,2-Trichloroethane	50.000	45.270	9.5	78	0.000
51	T	Dibromochloromethane	50.000	49.497	1.0	80	0.000
52	T	1,3-Dichloropropane	50.000	47.026	5.9	77	0.000
53	T	1,2-Dibromoethane	50.000	47.294	5.4	79	0.000
54	T	2-Hexanone	50.000	39.456	21.1	74	0.000
55	P	Chlorobenzene	50.000	50.365	-0.7	77	0.000

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016666.D
Acq On : 24 Nov 2015 20:26
Operator : JDS/FJB
Sample : WG548398-02 50ug/L CCV STD
Misc : 1,1 STD73343
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 24 20:38:01 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.500min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
56	T	1-Chlorohexane	50.000	46.250	7.5	70	0.000
57	C	Ethylbenzene	50.000	50.597	-1.2#	77	0.000
58	T	1,1,1,2-Tetrachloroethane	50.000	50.620	-1.2	78	0.000
59	T	m-,p-Xylene	100.000	105.092	-5.1	79	0.000
60	T	o-Xylene	50.000	49.718	0.6	76	0.000
61	T	Styrene	50.000	50.622	-1.2	77	0.000
62	P	Bromoform	50.000	53.063	-6.1	88	0.000
63	T	Isopropylbenzene	50.000	51.954	-3.9	78	0.000
64	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	75	0.000
65	T	1,3,5-Trimethylbenzene	50.000	52.210	-4.4	78	0.000
66	S	p-Bromofluorobenzene	25.000	27.564	-10.3	79	0.000
67	T	Bromobenzene	50.000	49.877	0.2	79	0.000
68	T	n-Propylbenzene	50.000	53.925	-7.8	79	0.000
69	P	1,1,2,2-Tetrachloroethane	50.000	47.409	5.2	82	0.000
70	T	2-Chlorotoluene	50.000	51.272	-2.5	77	0.000
71	T	1,2,3-Trichloropropane	50.000	46.619	6.8	84	0.000
72	T	trans-1,4-Dichloro-2-Butene	50.000	43.491	13.0	77	0.000
73	T	1,2,4-Trimethylbenzene	50.000	51.924	-3.8	78	0.000
74	T	4-Chlorotoluene	50.000	51.032	-2.1	76	0.000
75	T	tert-Butylbenzene	50.000	51.958	-3.9	78	0.000
76	T	sec-Butylbenzene	50.000	53.857	-7.7	80	0.000
77	T	p-Isopropyltoluene	50.000	54.026	-8.1	79	0.000
78	T	1,3-Dichlorobenzene	50.000	52.475	-5.0	80	0.000
79	T	1,4-Dichlorobenzene	50.000	50.935	-1.9	80	0.000
80	T	n-Butylbenzene	50.000	54.091	-8.2	78	0.000
81	T	1,2-Dichlorobenzene	50.000	49.926	0.1	79	0.000
82	T	1,2-Dibromo-3-Chloropropane	50.000	45.551	8.9	80	0.000
83	T	Hexachlorobutadiene	50.000	49.477	1.0	72	0.000
84	T	1,2,4-Trichlorobenzene	50.000	48.923	2.2	75	0.000
85	T	Naphthalene	50.000	44.109	11.8	75	0.000
86	T	1,2,3-Trichlorobenzene	50.000	46.340	7.3	74	0.000

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data File : C:\MSDchem\2\data\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 13:46:02 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	1530986	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1177539	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	660627	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	390134	26.7747	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.08%			
43) 1,2-Dichloroethane-d4	10.31	65	381127	25.6543	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.60%			
58) Toluene-d8	12.69	98	1358245	24.8602	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.44%			
80) p-Bromofluorobenzene	16.08	95	561873	24.3760	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.52%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	1356469	58.2788	ug/L	99
3) Chloromethane	3.63	50	2179891	61.3780	ug/L	99
4) Vinyl Chloride	3.85	62	1634988	58.2559	ug/L	100
5) 1,3-Butadiene	3.90	54	1354012	78.8783	ug/L	97
6) Bromomethane	4.74	94	633497	65.0768	ug/L	99
7) Chloroethane	4.90	64	631296	55.1355	ug/L	97
8) Trichlorofluoromethane	5.38	101	1485813	54.7753	ug/L	99
9) Diethyl ether	5.92	59	1014243	97.1466	ug/L	98
10) Isoprene	5.95	67	1049090	52.6794	ug/L	95
11) Acrolein	6.15	56	43895	33.8774	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	811022	55.6212	ug/L	98
13) Acetone	6.25	43	117650	51.7739	ug/L	92
14) 1,1-Dichloroethene	6.48	61	1378490	55.5374	ug/L	100
15) Tert-Butyl Alcohol	6.59	59	121460	180.8951	ug/L	96
16) Dimethyl Sulfide	6.74	62	745307	52.3185	ug/L	100
17) Iodomethane	7.00	142	535334	56.2593	ug/L	96
18) Methyl acetate	7.01	43	443422	51.6024	ug/L	98
19) Methylene Chloride	7.27	84	818986	53.1275	ug/L	98
20) Carbon Disulfide	7.30	76	2662526	52.8960	ug/L	100
21) Acrylonitrile	7.44	53	184383	54.0506	ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	1596670	54.6387	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	1289550	54.7089	ug/L	99
24) n-Hexane	7.79	57	1242039	53.3409	ug/L	93
25) Diisopropyl ether	8.13	45	5733078	98.6669	ug/L	98
26) Vinyl Acetate	8.31	43	1133595	73.4060	ug/L	99
27) 1,1-Dichloroethane	8.33	63	1603625	53.5751	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	4518866	98.7365	ug/L	98
29) 2-Butanone	8.89	43	208601	53.2825	ug/L	99
30) Propionitrile	8.99	54	117770	102.5226	ug/L	97
31) 2,2-Dichloropropane	9.11	77	1348507	53.9073	ug/L	99
32) cis-1,2-Dichloroethene	9.18	96	906153	53.8803	ug/L	100
33) Chloroform	9.38	83	1513424	53.2280	ug/L	100
34) 1-Bromopropane	9.52	122	147458	53.3941	ug/L	99
35) Bromochloromethane	9.61	130	459919	55.5522	ug/L	99
36) Tetrahydrofuran	9.64	42	261806	101.8741	ug/L	98
38) 1,1,1-Trichloroethane	9.91	97	1377486	53.9721	ug/L	98
39) Cyclohexane	9.94	56	1614437	53.1570	ug/L	99
40) 1,1-Dichloropropene	10.11	75	1179536	53.6775	ug/L	99
41) Tert-Amyl-Methyl ether	10.22	73	3287403	96.8776	ug/L	98
42) Carbon Tetrachloride	10.25	117	1272365	55.7820	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M408859.D 8260WT.M Sat Nov 21 13:46:03 2015 Page 1

Data File : C:\MSDchem\2\data\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 13:46:02 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

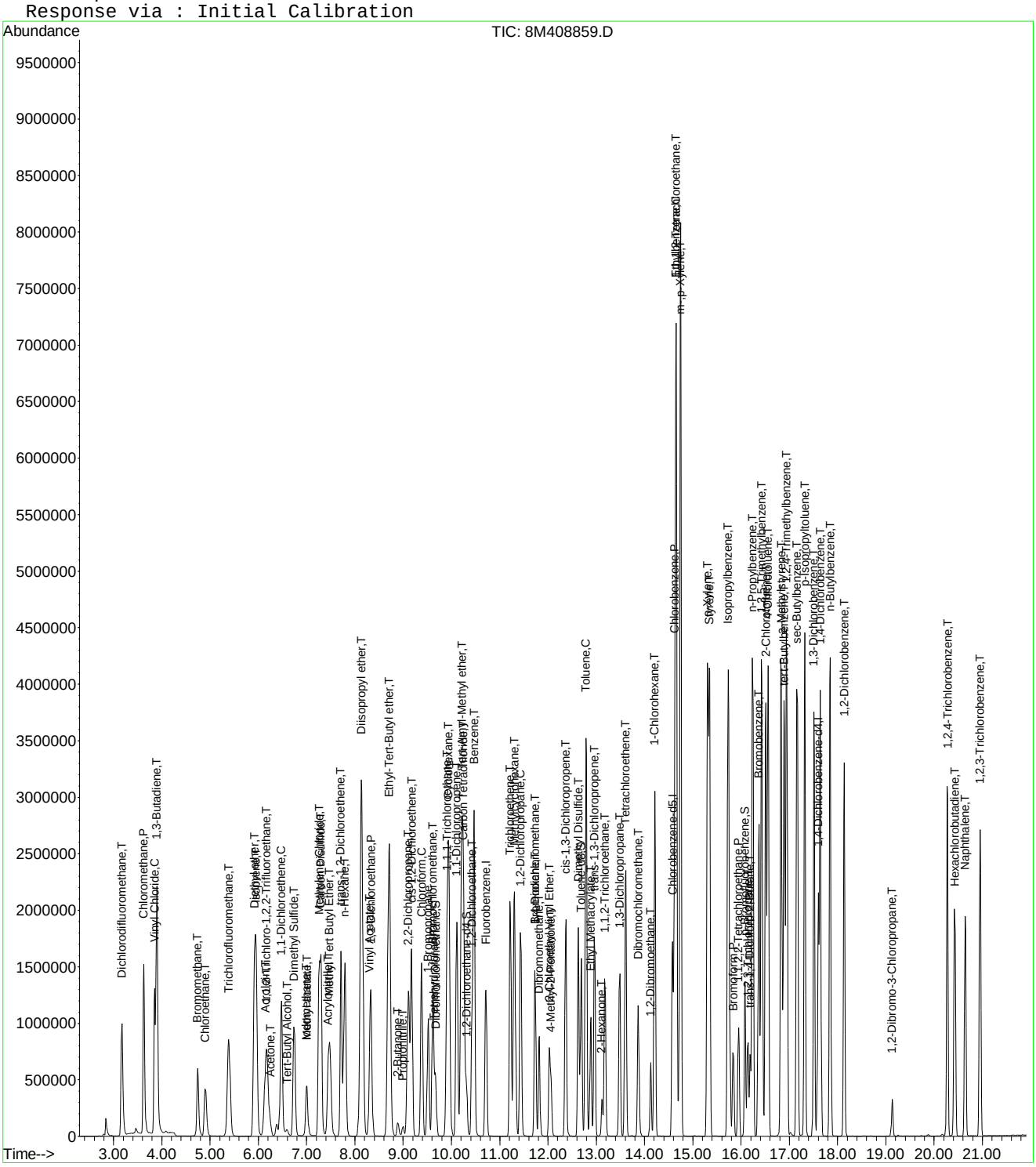
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	1047889	53.6695	ug/L		99
46)	Benzene	10.47	78	3158306	52.3798	ug/L		98
47)	Trichloroethene	11.21	130	831933	51.2525	ug/L		96
48)	Methylcyclohexane	11.31	83	1287796	51.2741	ug/L		98
49)	1,2-Dichloropropane	11.43	63	847013	52.1443	ug/L		96
50)	Bromodichloromethane	11.73	83	1135262	54.1467	ug/L		99
51)	1,4-Dioxane	11.73	88	14774	197.5568	ug/L		89
52)	Dibromomethane	11.81	93	415741	53.7490	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.03	63	349591	52.2157	ug/L		96
54)	4-Methyl-2-Pentanone	12.06	58	173093	50.3968	ug/L		98
55)	cis-1,3-Dichloropropene	12.37	75	1242416	53.3804	ug/L		99
56)	Dimethyl Disulfide	12.63	79	662990	52.8271	ug/L		96
59)	Toluene	12.78	91	3293366	49.2192	ug/L		99
60)	Ethyl Methacrylate	12.89	69	679743	50.9543	ug/L		95
62)	trans-1,3-Dichloropropene	12.96	75	1055668	51.4261	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	534593	50.3366	ug/L		97
64)	2-Hexanone	13.12	58	158878	47.5820	ug/L	#	93
65)	1,3-Dichloropropane	13.49	76	933848	49.2038	ug/L		96
66)	Tetrachloroethene	13.61	164	696480	48.9631	ug/L		100
67)	Dibromochloromethane	13.87	129	721427	52.5394	ug/L		98
68)	1,2-Dibromoethane	14.13	107	527515	49.7511	ug/L		99
69)	1-Chlorohexane	14.21	91	1170441	48.8844	ug/L		98
70)	Chlorobenzene	14.62	112	2199794	49.0639	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.66	131	864379	52.1404	ug/L		98
72)	Ethylbenzene	14.66	106	1259335	48.2166	ug/L		90
73)	m-,p-Xylene	14.75	106	2990065	99.8267	ug/L		90
74)	o-Xylene	15.31	106	1457151	48.1075	ug/L		93
75)	Styrene	15.35	104	2412595	50.2729	ug/L		97
76)	Bromoform	15.84	173	443646	53.7451	ug/L		99
77)	Isopropylbenzene	15.73	105	3629925	49.9585	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	604857	49.6264	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	167178	49.3613	ug/L		55
82)	trans-1,4-Dichloro-2-Buten	16.18	53	231677	51.7266	ug/L		78
83)	n-Propylbenzene	16.24	91	4415831	46.1677	ug/L		97
84)	Bromobenzene	16.37	156	944314	48.6362	ug/L		99
85)	1,3,5-Trimethylbenzene	16.42	105	3151907	47.9301	ug/L		99
86)	2-Chlorotoluene	16.52	91	2942490	46.4467	ug/L		97
87)	4-Chlorotoluene	16.56	91	2651505	48.3950	ug/L		97
88)	a-Methylstyrene	16.84	118	1674278	46.7025	ug/L		99
89)	tert-Butylbenzene	16.90	134	685944	47.4153	ug/L		86
90)	1,2,4-Trimethylbenzene	16.94	105	3252831	48.9503	ug/L		100
91)	sec-Butylbenzene	17.16	105	3822326	46.7905	ug/L		96
92)	p-Isopropyltoluene	17.32	119	3205538	49.0787	ug/L		94
93)	1,3-Dichlorobenzene	17.51	146	1878073	48.4614	ug/L		98
94)	1,4-Dichlorobenzene	17.64	146	1858926	48.1691	ug/L		98
95)	n-Butylbenzene	17.85	91	3176772	52.1759	ug/L		96
96)	1,2-Dichlorobenzene	18.14	146	1654535	48.7917	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	19.13	75	100933	47.2556	ug/L		95
98)	1,2,4-Trichlorobenzene	20.28	180	1221035	52.4113	ug/L		99
99)	Hexachlorobutadiene	20.43	225	533806	47.9045	ug/L		98
100)	Naphthalene	20.64	128	1871882	55.5756	ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	1030201	51.8555	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M408859.D 8260WT.M Sat Nov 21 13:46:03 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 13:46 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS8
Initial cal date: 30 Sep 2015 13:27
CCV date: 21 Nov 2015 13:24
CCV Filename: 8M408859.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	938292	10.72	687265	14.58	378981	17.60
CCV	1530986	10.72	1177539	14.58	660627	17.60

Data File : C:\MSDCHEM\2\DATA\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	163#	0.00
2	T	Dichlorodifluoromethane	0.3801	0.4430	-16.6	185#	0.00
3	P	Chloromethane	0.5799	0.7119	-22.8	200#	0.00
4	C	Vinyl Chloride	0.4583	0.5340	-16.5	205#	0.00
5	T	1,3-Butadiene	0.2992	0.4422	-47.8#	228#	0.00
6	T	Bromomethane	0.1393	0.2069	-48.5#	237#	0.00
7	T	Chloroethane	0.1870	0.2062	-10.3	177#	0.00
8	T	Trichlorofluoromethane	0.4429	0.4853	-9.6	185#	0.00
9	T	Diethyl ether	0.1705	0.1656	2.9	165#	0.00
10	T	Isoprene	0.3252	0.3426	-5.4	162#	0.00
11	T	Acrolein	0.0212	0.0143	32.2#	118	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2381	0.2649	-11.2	186#	0.00
13	T	Acetone	0.0371	0.0384	-3.5	188#	0.00
14	C	1,1-Dichloroethene	0.4053	0.4502	-11.1	190#	0.00
15	T	Tert-Butyl Alcohol	0.0110	0.0099	9.5	163#	0.00
16	T	Dimethyl Sulfide	0.2326	0.2434	-4.6	168#	0.00
17	T	Iodomethane	0.1277	0.1748	-36.9#	191#	0.00
18	T	Methyl acetate	0.1403	0.1448	-3.2	186#	0.00
19	T	Methylene Chloride	0.2517	0.2675	-6.3	179#	0.00
20	T	Carbon Disulfide	0.8219	0.8696	-5.8	168#	0.00
21	T	Acrylonitrile	0.0557	0.0602	-8.1	179#	0.00
22	T	Methyl Tert Butyl Ether	0.4772	0.5214	-9.3	183#	0.00
23	T	trans-1,2-Dichloroethene	0.3849	0.4212	-9.4	179#	0.00
24	T	n-Hexane	0.3802	0.4056	-6.7	171#	0.00
25	T	Diisopropyl ether	0.9488	0.9362	1.3	161#	0.00
26	T	Vinyl Acetate	0.2522	0.3702	-46.8#	239#	0.00
27	P	1,1-Dichloroethane	0.4888	0.5237	-7.2	179#	0.00
28	T	Ethyl-Tert-Butyl ether	0.7473	0.7379	1.3	163#	0.00
29	T	2-Butanone	0.0639	0.0681	-6.6	188#	0.00
30	T	Propionitrile	0.0188	0.0192	-2.5	178#	0.00
31	T	2,2-Dichloropropane	0.4085	0.4404	-7.8	178#	0.00
32	T	cis-1,2-Dichloroethene	0.2746	0.2959	-7.8	180#	0.00
33	C	Chloroform	0.4643	0.4943	-6.5	175#	0.00
34		1-Bromopropane	0.0451	0.0482	-6.8	165#	0.00
35	T	Bromochloromethane	0.1352	0.1502	-11.1	180#	0.00
36	T	Tetrahydrofuran	0.0420	0.0428	-1.9	181#	0.00
37	S	Dibromofluoromethane	0.2379	0.2548	-7.1	174#	0.00
38	T	1,1,1-Trichloroethane	0.4168	0.4499	-7.9	175#	0.00
39	T	Cyclohexane	0.4959	0.5273	-6.3	171#	0.00
40	T	1,1-Dichloropropene	0.3588	0.3852	-7.4	176#	0.00
41	T	Tert-Amyl-Methyl ether	0.5541	0.5368	3.1	162#	0.00
42	T	Carbon Tetrachloride	0.3725	0.4155	-11.6	179#	0.00
43	S	1,2-Dichloroethane-d4	0.2426	0.2489	-2.6	168#	0.00
44		Heptane	0.0000	0.0000	0.0	0#	-2.54#
45	T	1,2-Dichloroethane	0.3188	0.3422	-7.3	175#	0.00
46	T	Benzene	0.9846	1.0315	-4.8	167#	0.00
47	T	Trichloroethene	0.2651	0.2717	-2.5	171#	0.00
48	T	Methylcyclohexane	0.4101	0.4206	-2.5	165#	0.00
49	C	1,2-Dichloropropane	0.2652	0.2766	-4.3	172#	0.00
50	T	Bromodichloromethane	0.3424	0.3708	-8.3	174#	0.00
51	T	1,4-Dioxane	0.0012	0.0012	0.8	170#	0.02
52	T	Dibromomethane	0.1263	0.1358	-7.5	177#	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1093	0.1142	-4.4	180#	0.00
54	T	4-Methyl-2-Pentanone	0.0561	0.0565	-0.8	180#	0.00

(#) = Out of Range
8M408859.D 8260WT.M Sat Nov 21 14:56:22 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3801	0.4058	-6.8	171#	0.00
56	T	Dimethyl Disulfide	0.2049	0.2165	-5.7	175#	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	171#	0.00
58	S	Toluene-d8	1.1600	1.1535	0.6	166#	0.00
59	C	Toluene	1.4206	1.3984	1.6	166#	0.00
60	T	Ethyl Methacrylate	0.2832	0.2886	-1.9	174#	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.14#
62	T	trans-1,3-Dichloropropene	0.4358	0.4482	-2.9	173#	0.00
63	T	1,1,2-Trichloroethane	0.2255	0.2270	-0.7	178#	0.00
64	T	2-Hexanone	0.0709	0.0675	4.8	177#	0.00
65	T	1,3-Dichloropropane	0.4029	0.3965	1.6	175#	0.00
66	T	Tetrachloroethene	0.3020	0.2957	2.1	172#	0.00
67	T	Dibromochloromethane	0.2915	0.3063	-5.1	179#	0.00
68	T	1,2-Dibromoethane	0.2251	0.2240	0.5	174#	0.00
69	T	1-Chlorohexane	0.5083	0.4970	2.2	164#	0.00
70	P	Chlorobenzene	0.9519	0.9341	1.9	167#	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3520	0.3670	-4.3	176#	0.00
72	C	Ethylbenzene	0.5545	0.5347	3.6	169#	0.00
73	T	m-,p-Xylene	0.6359	0.6348	0.2	166#	0.00
74	T	o-Xylene	0.6431	0.6187	3.8	167#	0.00
75	T	Styrene	1.0189	1.0244	-0.5	164#	0.00
76	P	Bromoform	0.1752	0.1884	-7.5	185#	0.00
77	T	Isopropylbenzene	1.5426	1.5413	0.1	164#	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	174#	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4612	0.4578	0.7	179#	0.00
80	S	p-Bromofluorobenzene	0.8723	0.8505	2.5	170#	0.00
81	T	1,2,3-Trichloropropane	0.1282	0.1265	1.3	178#	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1695	0.1754	-3.5	181#	0.00
83	T	n-Propylbenzene	3.6196	3.3422	7.7	162#	0.00
84	T	Bromobenzene	0.7348	0.7147	2.7	171#	0.00
85	T	1,3,5-Trimethylbenzene	2.4886	2.3855	4.1	161#	0.00
86	T	2-Chlorotoluene	2.3974	2.2270	7.1	159#	0.00
87	T	4-Chlorotoluene	2.0734	2.0068	3.2	162#	0.00
88	T	a-Methylstyrene	1.3567	1.2672	6.6	158#	0.00
89	T	tert-Butylbenzene	0.5475	0.5192	5.2	170#	0.00
90	T	1,2,4-Trimethylbenzene	2.5147	2.4619	2.1	163#	0.00
91	T	sec-Butylbenzene	3.0914	2.8929	6.4	163#	0.00
92	T	p-Isopropyltoluene	2.4717	2.4261	1.8	163#	0.00
93	T	1,3-Dichlorobenzene	1.4666	1.4214	3.1	169#	0.00
94	T	1,4-Dichlorobenzene	1.4604	1.4069	3.7	171#	0.00
95	T	n-Butylbenzene	2.3041	2.4044	-4.4	169#	0.00
96	T	1,2-Dichlorobenzene	1.2833	1.2523	2.4	172#	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0808	0.0764	5.5	170#	0.00
98	T	1,2,4-Trichlorobenzene	0.8816	0.9242	-4.8	178#	0.00
99	T	Hexachlorobutadiene	0.4217	0.4040	4.2	169#	0.00
100	T	Naphthalene	1.2746	1.4168	-11.2	198#	0.00
101	T	1,2,3-Trichlorobenzene	0.7518	0.7797	-3.7	178#	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M408859.D 8260WT.M Sat Nov 21 14:56:22 2015 Page 2

Data File : C:\MSDCHEM\2\DATA\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	163	0.00
2	T	Dichlorodifluoromethane	50.0000	58.2788	-16.6	185	0.00
3	P	Chloromethane	50.0000	61.3780	-22.8	200	0.00
4	C	Vinyl Chloride	50.0000	58.2559	-16.5	205	0.00
5	T	1,3-Butadiene	50.0000	78.8783	-57.8#	228	0.00
6	T	Bromomethane	50.0000	65.0768	-30.2#	237	0.00
7	T	Chloroethane	50.0000	55.1355	-10.3	177	0.00
8	T	Trichlorofluoromethane	50.0000	54.7753	-9.6	185	0.00
9	T	Diethyl ether	100.0000	97.1466	2.9	165	0.00
10	T	Isoprene	50.0000	52.6794	-5.4	162	0.00
11	T	Acrolein	50.0000	33.8774	32.2#	118	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	55.6212	-11.2	186	0.00
13	T	Acetone	50.0000	51.7739	-3.5	188	0.00
14	C	1,1-Dichloroethene	50.0000	55.5374	-11.1	190	0.00
15	T	Tert-Butyl Alcohol	200.0000	180.8951	9.6	163	0.00
16	T	Dimethyl Sulfide	50.0000	52.3185	-4.6	168	0.00
17	T	Iodomethane	50.0000	56.2593	-12.5	191	0.00
18	T	Methyl acetate	50.0000	51.6024	-3.2	186	0.00
19	T	Methylene Chloride	50.0000	53.1275	-6.3	179	0.00
20	T	Carbon Disulfide	50.0000	52.8960	-5.8	168	0.00
21	T	Acrylonitrile	50.0000	54.0506	-8.1	179	0.00
22	T	Methyl Tert Butyl Ether	50.0000	54.6387	-9.3	183	0.00
23	T	trans-1,2-Dichloroethene	50.0000	54.7089	-9.4	179	0.00
24	T	n-Hexane	50.0000	53.3409	-6.7	171	0.00
25	T	Diisopropyl ether	100.0000	98.6669	1.3	161	0.00
26	T	Vinyl Acetate	50.0000	73.4060	-46.8#	239	0.00
27	P	1,1-Dichloroethane	50.0000	53.5751	-7.2	179	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	98.7365	1.3	163	0.00
29	T	2-Butanone	50.0000	53.2825	-6.6	188	0.00
30	T	Propionitrile	100.0000	102.5226	-2.5	178	0.00
31	T	2,2-Dichloropropane	50.0000	53.9073	-7.8	178	0.00
32	T	cis-1,2-Dichloroethene	50.0000	53.8803	-7.8	180	0.00
33	C	Chloroform	50.0000	53.2280	-6.5	175	0.00
34		1-Bromopropane	50.0000	53.3941	-6.8	165	0.00
35	T	Bromochloromethane	50.0000	55.5522	-11.1	180	0.00
36	T	Tetrahydrofuran	100.0000	101.8741	-1.9	181	0.00
37	S	Dibromofluoromethane	25.0000	26.7747	-7.1	174	0.00
38	T	1,1,1-Trichloroethane	50.0000	53.9721	-7.9	175	0.00
39	T	Cyclohexane	50.0000	53.1570	-6.3	171	0.00
40	T	1,1-Dichloropropene	50.0000	53.6775	-7.4	176	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	96.8776	3.1	162	0.00
42	T	Carbon Tetrachloride	50.0000	55.7820	-11.6	179	0.00
43	S	1,2-Dichloroethane-d4	25.0000	25.6543	-2.6	168	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	50.0000	53.6695	-7.3	175	0.00
46	T	Benzene	50.0000	52.3798	-4.8	167	0.00
47	T	Trichloroethene	50.0000	51.2525	-2.5	171	0.00
48	T	Methylcyclohexane	50.0000	51.2741	-2.5	165	0.00
49	C	1,2-Dichloropropane	50.0000	52.1443	-4.3	172	0.00
50	T	Bromodichloromethane	50.0000	54.1467	-8.3	174	0.00
51	T	1,4-Dioxane	200.0000	197.5568	1.2	170	0.02
52	T	Dibromomethane	50.0000	53.7490	-7.5	177	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	52.2157	-4.4	180	0.00
54	T	4-Methyl-2-Pentanone	50.0000	50.3967	-0.8	180	0.00

(#) = Out of Range

Data File : C:\MSDCHEM\2\DATA\112115\8M408859.D Vial: 3
Acq On : 21 Nov 2015 13:24 Operator: TMB
Sample : WG547960-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

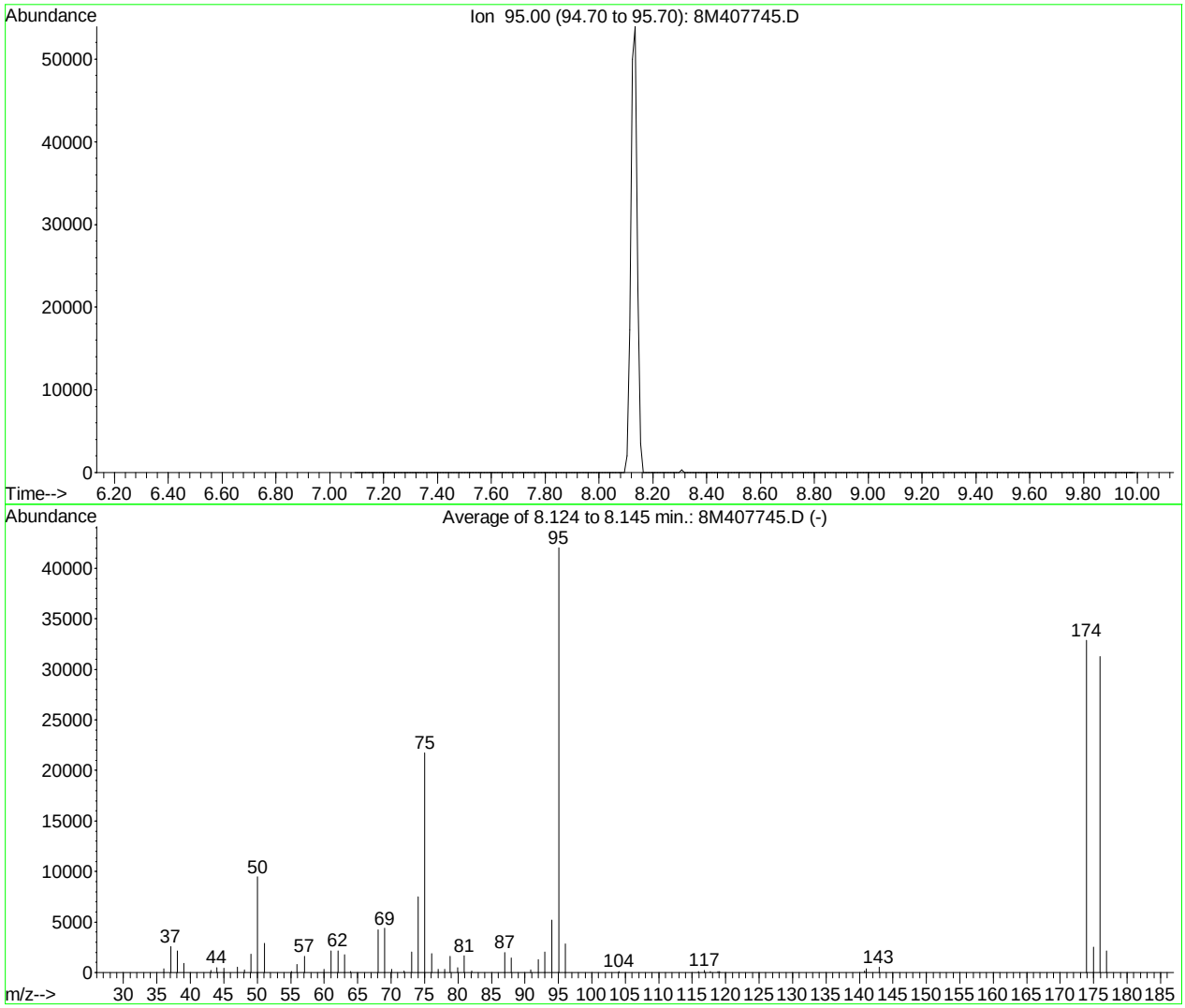
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	53.3804	-6.8	171	0.00
56	T	Dimethyl Disulfide	50.0000	52.8271	-5.7	175	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	171	0.00
58	S	Toluene-d8	25.0000	24.8602	0.6	166	0.00
59	C	Toluene	50.0000	49.2192	1.6	166	0.00
60	T	Ethyl Methacrylate	50.0000	50.9543	-1.9	174	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	50.0000	51.4261	-2.9	173	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.3366	-0.7	178	0.00
64	T	2-Hexanone	50.0000	47.5821	4.8	177	0.00
65	T	1,3-Dichloropropane	50.0000	49.2038	1.6	175	0.00
66	T	Tetrachloroethene	50.0000	48.9631	2.1	172	0.00
67	T	Dibromochloromethane	50.0000	52.5394	-5.1	179	0.00
68	T	1,2-Dibromoethane	50.0000	49.7511	0.5	174	0.00
69	T	1-Chlorohexane	50.0000	48.8844	2.2	164	0.00
70	P	Chlorobenzene	50.0000	49.0639	1.9	167	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	52.1404	-4.3	176	0.00
72	C	Ethylbenzene	50.0000	48.2166	3.6	169	0.00
73	T	m-,p-Xylene	100.0000	99.8267	0.2	166	0.00
74	T	o-Xylene	50.0000	48.1076	3.8	167	0.00
75	T	Styrene	50.0000	50.2729	-0.5	164	0.00
76	P	Bromoform	50.0000	53.7451	-7.5	185	0.00
77	T	Isopropylbenzene	50.0000	49.9585	0.1	164	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	174	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	49.6264	0.7	179	0.00
80	S	p-Bromofluorobenzene	25.0000	24.3760	2.5	170	0.00
81	T	1,2,3-Trichloropropane	50.0000	49.3613	1.3	178	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	51.7266	-3.5	181	0.00
83	T	n-Propylbenzene	50.0000	46.1677	7.7	162	0.00
84	T	Bromobenzene	50.0000	48.6362	2.7	171	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	47.9301	4.1	161	0.00
86	T	2-Chlorotoluene	50.0000	46.4467	7.1	159	0.00
87	T	4-Chlorotoluene	50.0000	48.3950	3.2	162	0.00
88	T	a-Methylstyrene	50.0000	46.7025	6.6	158	0.00
89	T	tert-Butylbenzene	50.0000	47.4153	5.2	170	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	48.9503	2.1	163	0.00
91	T	sec-Butylbenzene	50.0000	46.7905	6.4	163	0.00
92	T	p-Isopropyltoluene	50.0000	49.0787	1.8	163	0.00
93	T	1,3-Dichlorobenzene	50.0000	48.4614	3.1	169	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.1691	3.7	171	0.00
95	T	n-Butylbenzene	50.0000	52.1759	-4.4	169	0.00
96	T	1,2-Dichlorobenzene	50.0000	48.7917	2.4	172	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	47.2556	5.5	170	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	52.4113	-4.8	178	0.00
99	T	Hexachlorobutadiene	50.0000	47.9045	4.2	169	0.00
100	T	Naphthalene	50.0000	55.5756	-11.2	198	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	51.8555	-3.7	178	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M408859.D 8260WT.M Sat Nov 21 14:56:24 2015 Page 2

2.1.1.5 Raw QC Data

BFB

```
Data File : C:\MSDCHEM\2\DATA\093015\8M407745.D          Vial: 2
Acq On    : 30 Sep 2015   9:38                    Operator: TMB
Sample    : WG540912-01 50ng BFB STD 8260         Inst    : HPMS8
Misc      : 1,1 STD72715                          Multiplr: 1.00
MS Integration Params: rteint.p
Method    : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title     : SOP:OVL MSV01
```



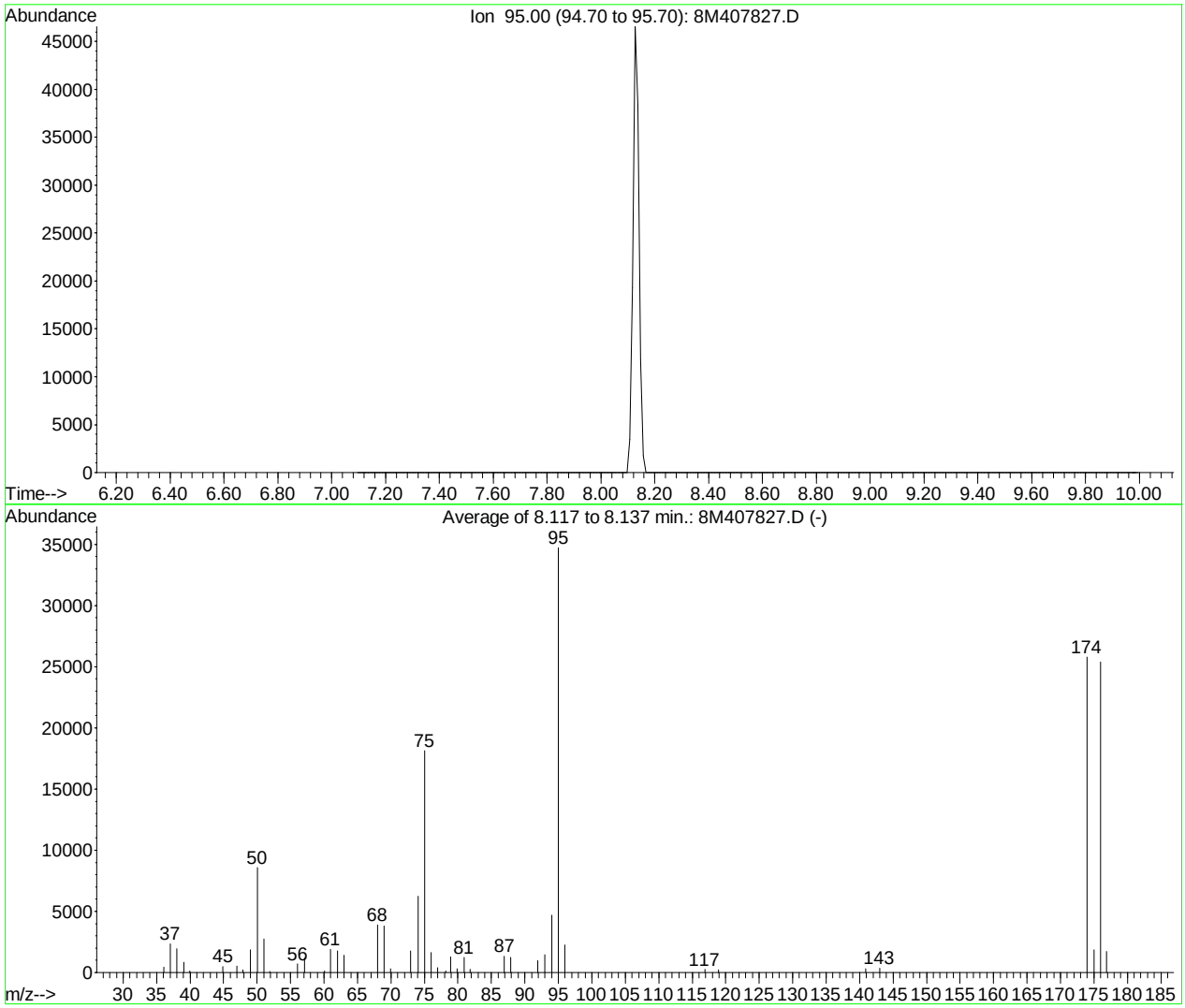
AutoFind: Scans 102, 103, 104; Background Corrected with Scan 97

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	9471	PASS
75	95	30	60	51.7	21732	PASS
95	95	100	100	100.0	42018	PASS
96	95	5	9	6.7	2835	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.3	32893	PASS
175	174	5	9	7.6	2510	PASS
176	174	95	101	95.1	31272	PASS
177	176	5	9	6.8	2141	PASS

8M407745.D BFB.M Wed Sep 30 09:54:57 2015

BFB

```
Data File : C:\MSDCHEM\2\DATA\100515\8M407827.D          Vial: 1
Acq On    :  5 Oct 2015  11:26                      Operator: TMB
Sample    : WG540826-01 50ng BFB STD 8260           Inst    : HPMS8
Misc      : 1,1 STD72715                            Multiplr: 1.00
MS Integration Params: rteint.p
Method    : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title     : SOP:OVL MSV01
```



AutoFind: Scans 101, 102, 103; Background Corrected with Scan 97

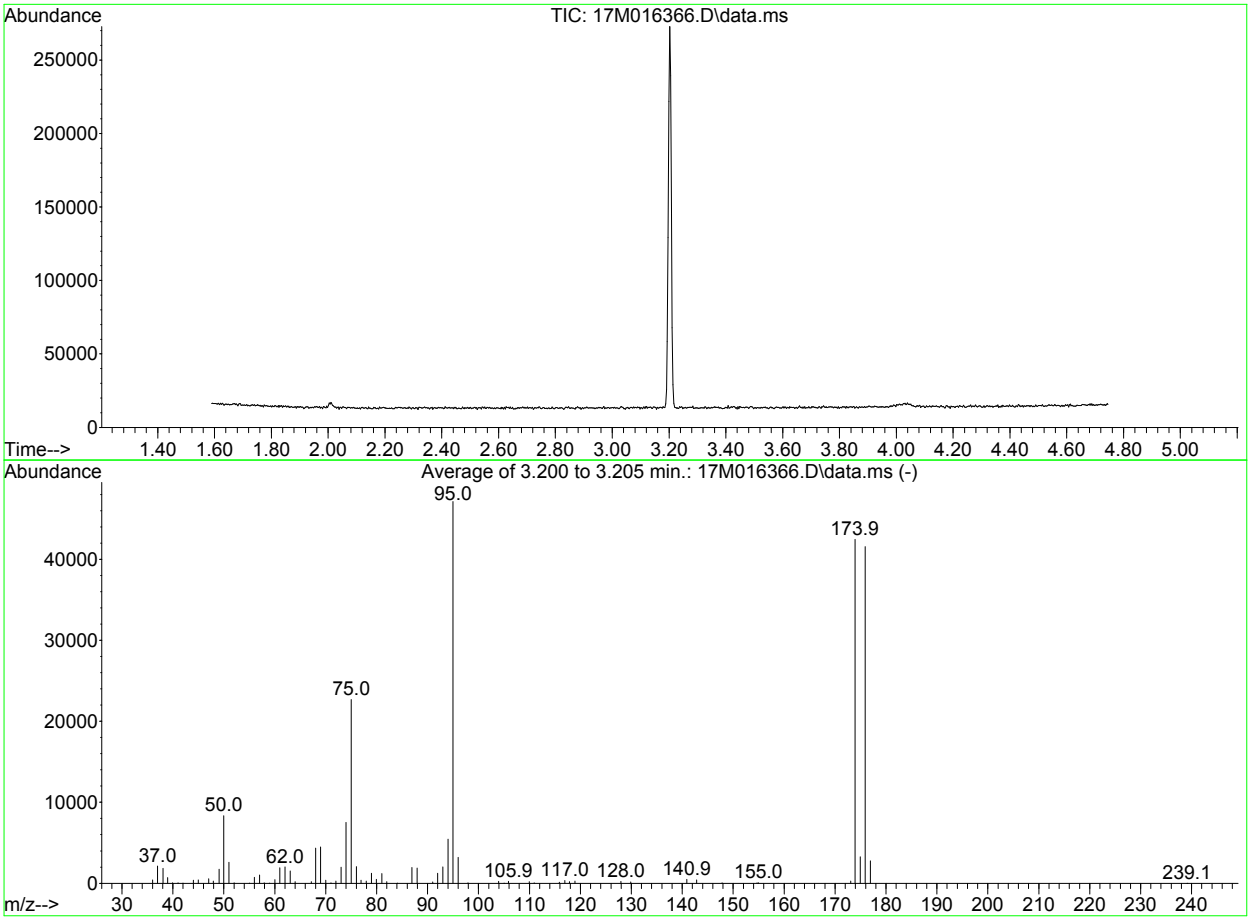
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.7	8565	PASS
75	95	30	60	52.2	18121	PASS
95	95	100	100	100.0	34714	PASS
96	95	5	9	6.5	2262	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.2	25773	PASS
175	174	5	9	7.2	1845	PASS
176	174	95	101	98.5	25378	PASS
177	176	5	9	6.9	1746	PASS

8M407827.D BFB.M Mon Oct 05 12:46:56 2015

Data Path : D:\MassHunter\GCMS\1\data\111115\
Data File : 17M016366.D
Acq On : 11 Nov 2015 14:17
Operator : ADC
Sample : WG546498-01 50ng BFB STD
Misc : 1,1 STD72715
ALS Vial : 1 Sample Multiplier: 1

Integration File: lscint.p

Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
Last Update : Mon Nov 02 12:09:40 2015

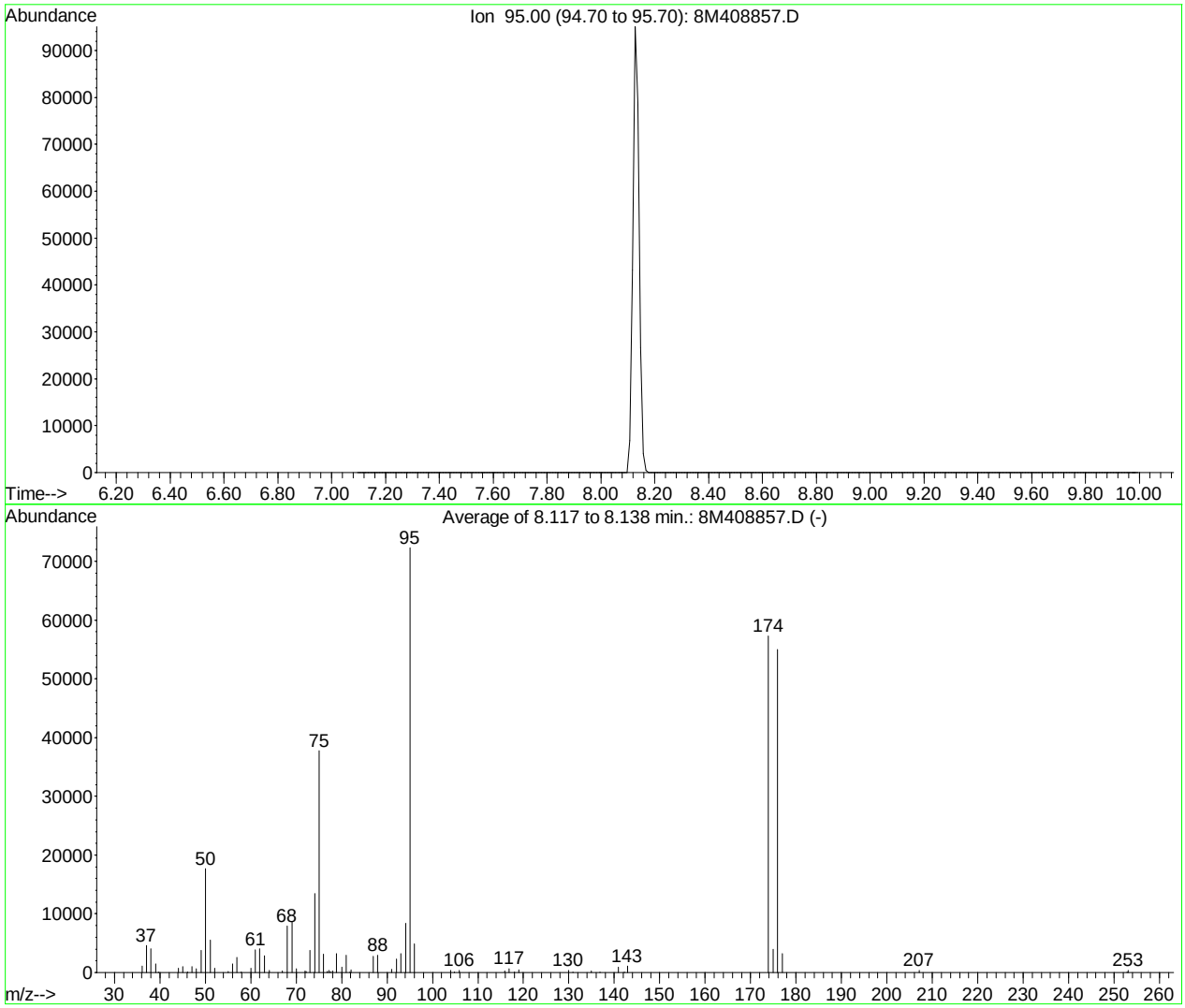


AutoFind: Scans 557, 558, 559; Background Corrected with Scan 548

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	8344	PASS
75	95	30	60	48.1	22677	PASS
95	95	100	100	100.0	47164	PASS
96	95	5	9	6.8	3185	PASS
173	174	0.00	2	0.6	273	PASS
174	95	50	100	90.1	42488	PASS
175	174	5	9	7.7	3275	PASS
176	174	95	101	97.8	41568	PASS
177	176	5	9	6.7	2779	PASS

BFB

Data File : C:\MSDCHEM\2\DATA\112115\8M408857.D Vial: 1
Acq On : 21 Nov 2015 12:26 Operator: TMB
Sample : WG547960-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD73419 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title : SOP:OVL MSV01



AutoFind: Scans 101, 102, 103; Background Corrected with Scan 97

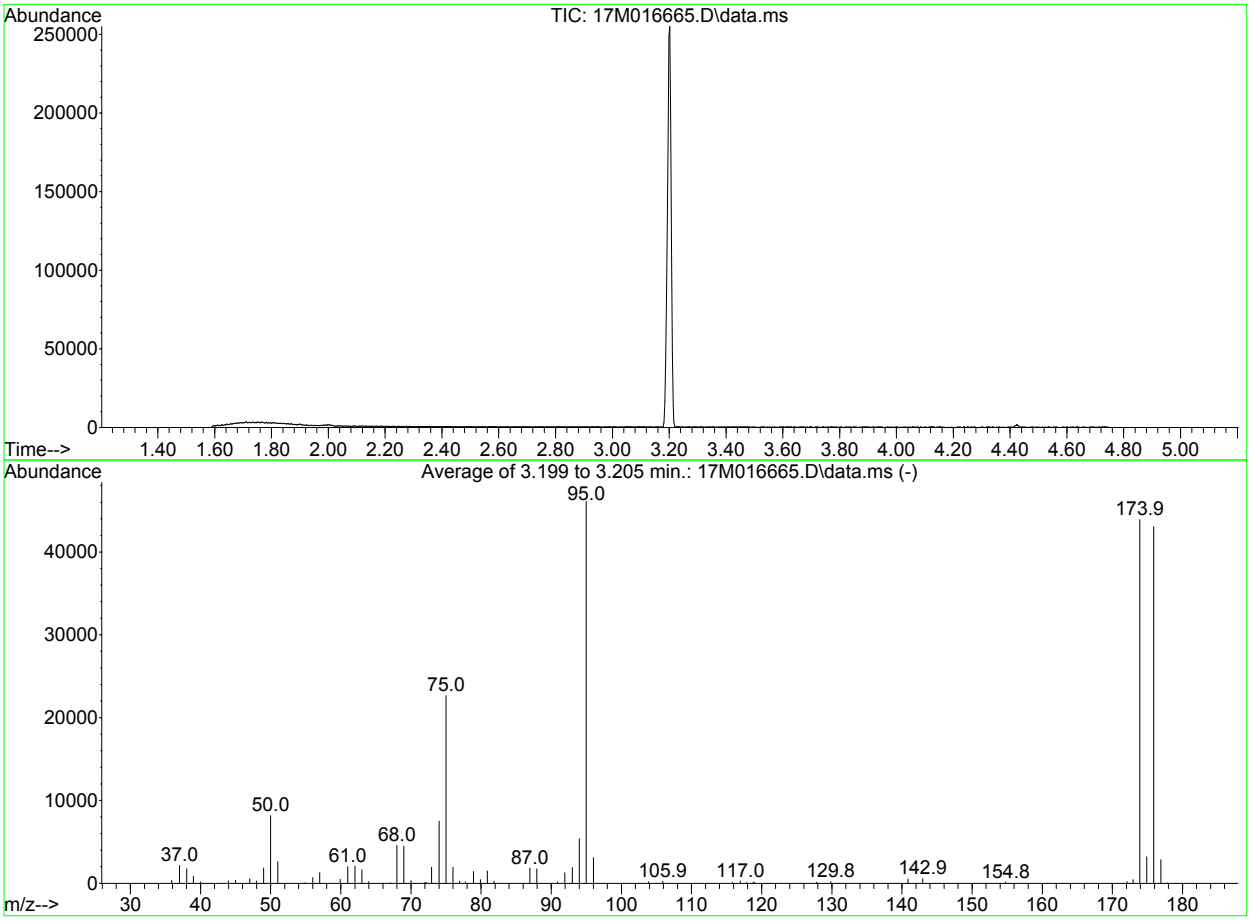
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	17684	PASS
75	95	30	60	52.2	37730	PASS
95	95	100	100	100.0	72293	PASS
96	95	5	9	6.8	4898	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	79.3	57328	PASS
175	174	5	9	6.9	3984	PASS
176	174	95	101	96.0	55026	PASS
177	176	5	9	5.9	3224	PASS

8M408857.D BFB.M Sat Nov 21 12:40:58 2015

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016665.D
Acq On : 24 Nov 2015 20:08
Operator : JDS/FJB
Sample : WG548398-01 50ng BFB STD
Misc : 1,1 STD72715
ALS Vial : 1 Sample Multiplier: 1

Integration File: lscint.p

Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
Last Update : Thu Nov 12 09:48:27 2015



AutoFind: Scans 557, 558, 559; Background Corrected with Scan 546

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	8138	PASS
75	95	30	60	49.1	22627	PASS
95	95	100	100	100.0	46107	PASS
96	95	5	9	6.7	3090	PASS
173	174	0.00	2	1.0	451	PASS
174	95	50	100	95.2	43909	PASS
175	174	5	9	7.2	3179	PASS
176	174	95	101	98.1	43053	PASS
177	176	5	9	6.6	2861	PASS

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016668.D
Acq On : 24 Nov 2015 21:07
Operator : JDS/FJB
Sample : WG548399-01 BLK 8260
Misc : 1,1
ALS Vial : 3 Sample Multiplier: 1

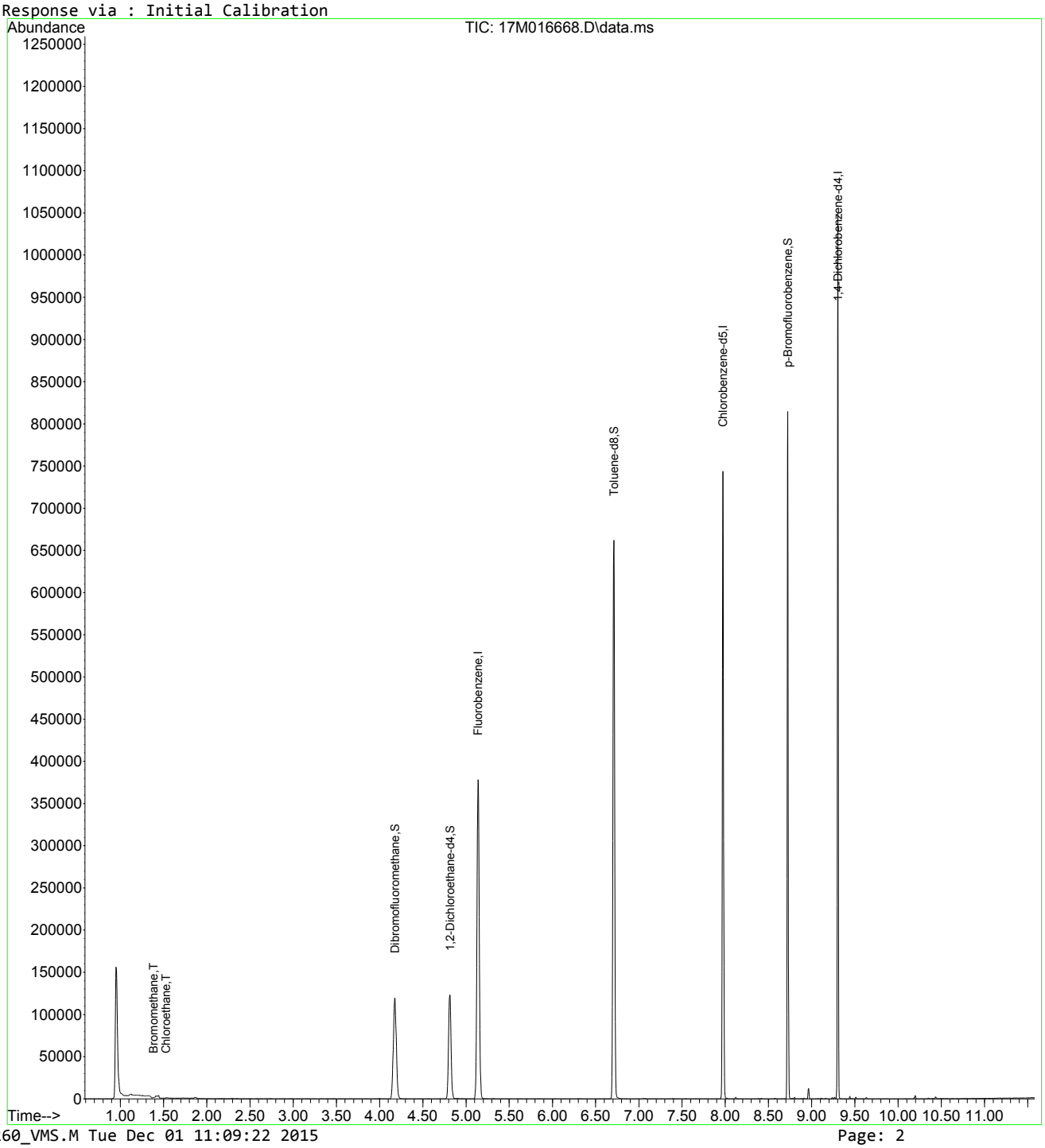
Quant Time: Dec 01 11:09:21 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

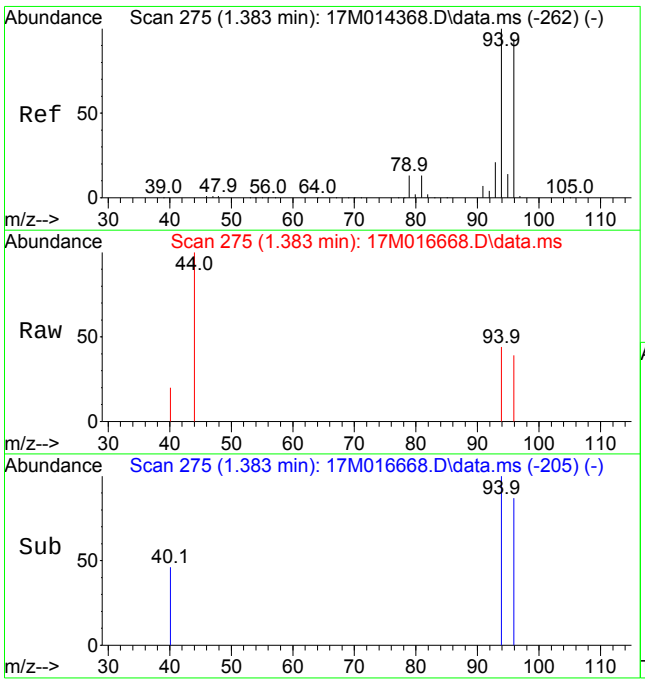
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.138	96	329539	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	244149	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	132306	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	89611	26.5081	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.032%			
34) 1,2-Dichloroethane-d4	4.814	65	93123	28.6848	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 114.739%			
47) Toluene-d8	6.710	98	352913	28.0419	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 112.168%#			
66) p-Bromofluorobenzene	8.723	95	126730	27.7091	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.836%			
Target Compounds						Qvalue
6) Bromomethane	1.383	94	454	0.1930	ug/L	89
7) Chloroethane	1.528	64	400	0.1757	ug/L #	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016668.D
Acq On : 24 Nov 2015 21:07
Operator : JDS/FJB
Sample : WG548399-01 BLK 8260
Misc : 1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 01 11:09:21 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

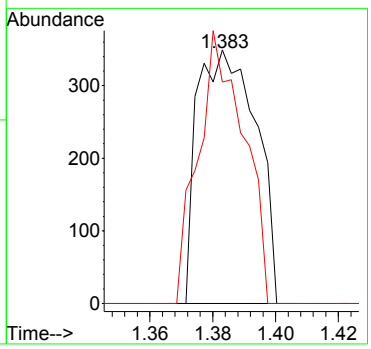


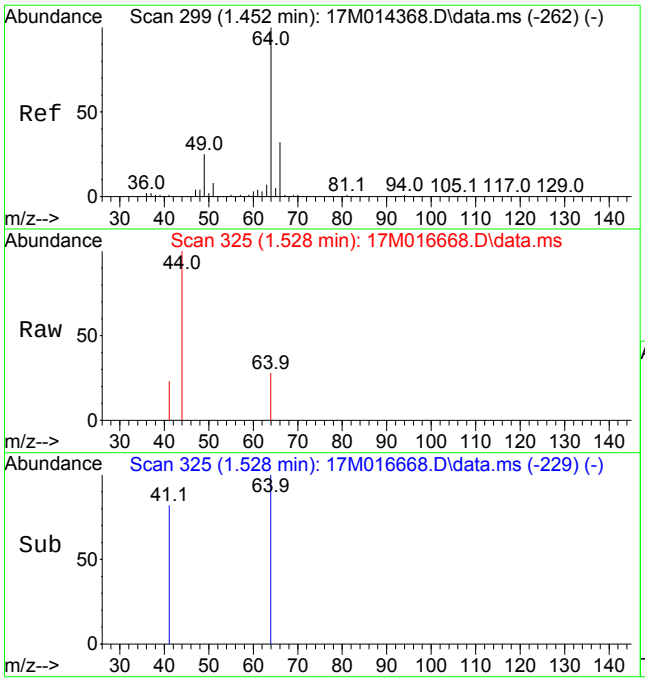


#6
Bromomethane
Concen: 0.1930 ug/L
RT: 1.383 min Scan# 275
Delta R.T. 0.003 min
Lab File: 17M016668.D
Acq: 24 Nov 2015 21:07

Tgt Ion: 94 Resp: 454

Ion	Ratio	Lower	Upper
94	100		
96	83.3	56.0	130.8

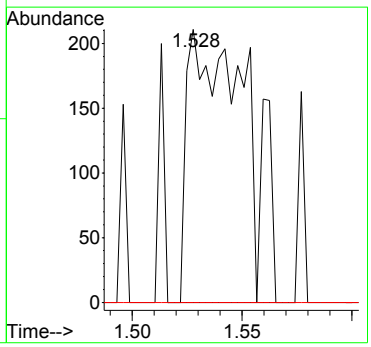




#7
Chloroethane
Concen: 0.1757 ug/L
RT: 1.528 min Scan# 325
Delta R.T. 0.078 min
Lab File: 17M016668.D
Acq: 24 Nov 2015 21:07

Tgt Ion: 64 Resp: 400

Ion	Ratio	Lower	Upper
64	100		
49	301.5	14.8	34.6#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408861.D Vial: 5
Acq On : 21 Nov 2015 14:22 Operator: TMB
Sample : WG547961-01 VBLK1121 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 08:53:49 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

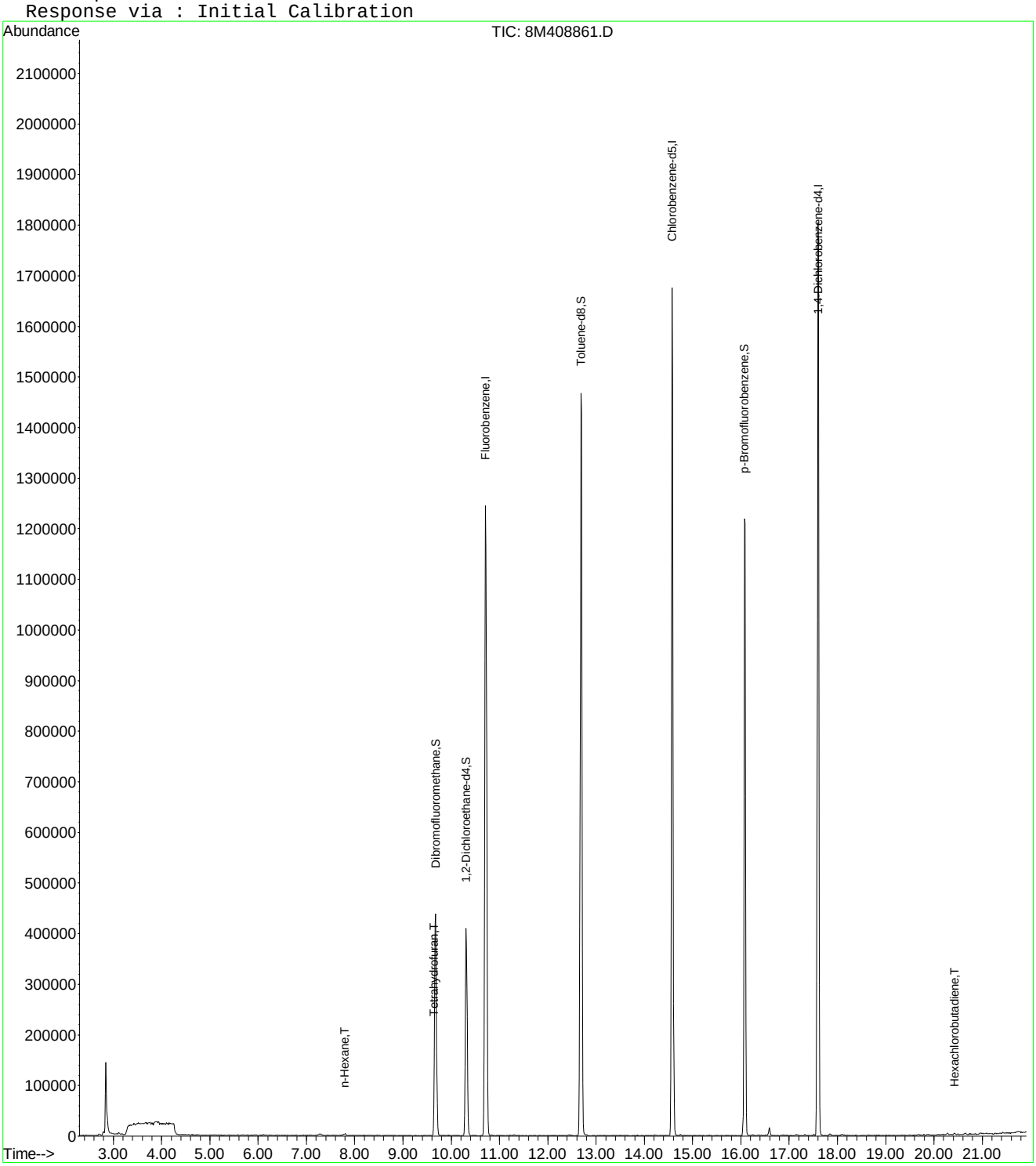
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	1444769	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1107901	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	592739	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.68	111	363319	26.4223 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 105.68%		
43) 1,2-Dichloroethane-d4	10.31	65	362198	25.8350 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.36%		
58) Toluene-d8	12.69	98	1281484	24.9295 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.72%		
80) p-Bromofluorobenzene	16.07	95	512662	24.7884 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.16%		
Target Compounds					Qvalue
5) 1,3-Butadiene	3.90	54	1530	Below Cal #	52
24) n-Hexane	7.80	57	2955	0.1345 ug/L	91
36) Tetrahydrofuran	9.65	42	936	0.3860 ug/L #	40
99) Hexachlorobutadiene	20.43	225	1317	0.1317 ug/L	86

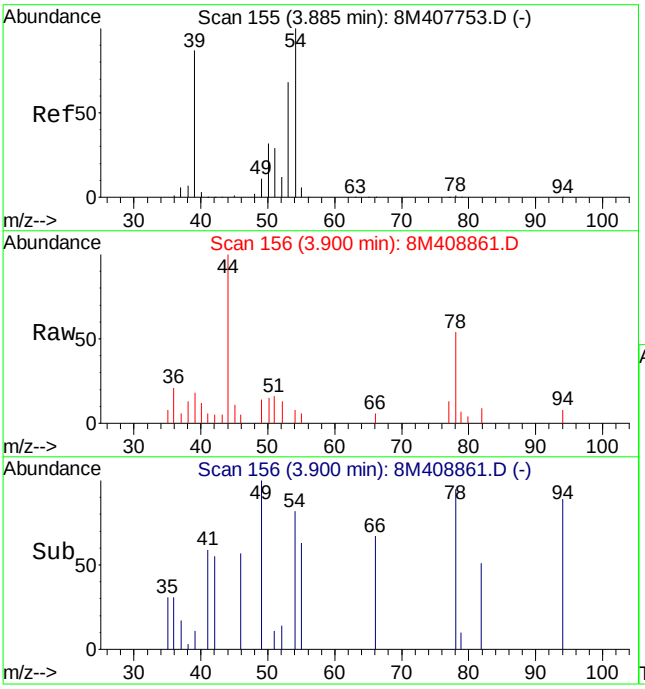
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\112115\8M408861.D Vial: 5
Acq On : 21 Nov 2015 14:22 Operator: TMB
Sample : WG547961-01 VBLK1121 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 23 8:53 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration

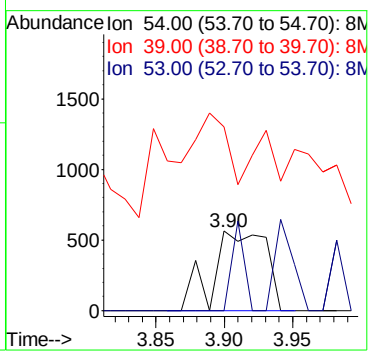


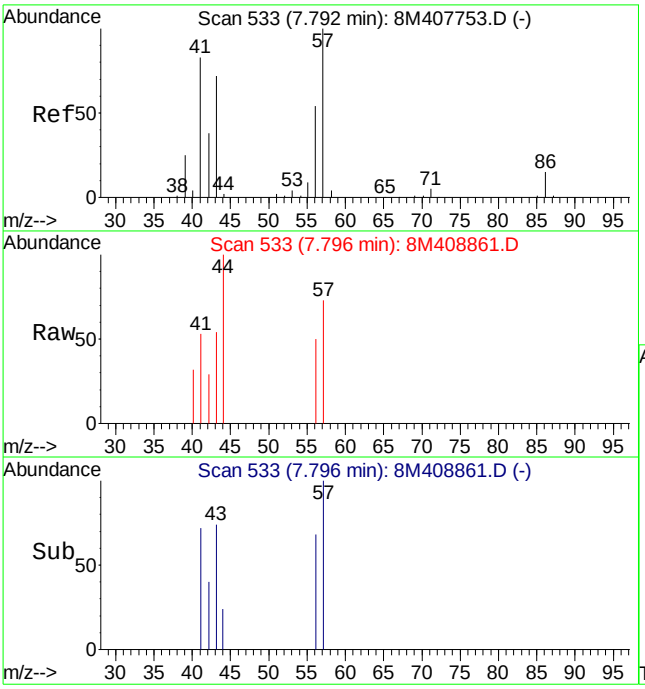


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.90 min Scan# 156
Delta R.T. 0.01 min
Lab File: 8M408861.D
Acq: 21 Nov 2015 14:22

Tgt Ion: 54 Resp: 1530

Ion	Ratio	Lower	Upper
54	100		
39	145.7	60.8	142.0#
53	25.7	42.4	99.0#

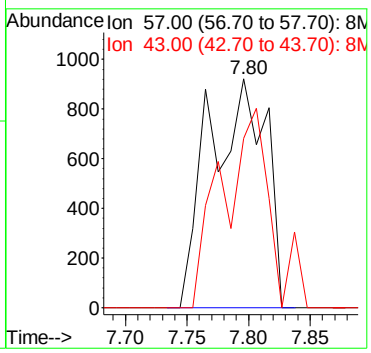


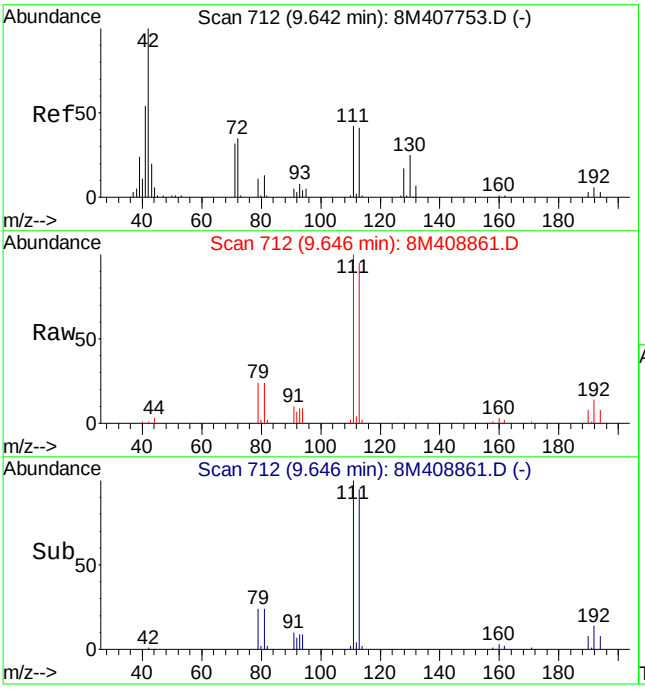


#24
n-Hexane
Concen: 0.13 ug/L
RT: 7.80 min Scan# 533
Delta R.T. 0.00 min
Lab File: 8M408861.D
Acq: 21 Nov 2015 14:22

Tgt Ion: 57 Resp: 2955

Ion	Ratio	Lower	Upper
57	100		
43	74.5	40.6	94.6

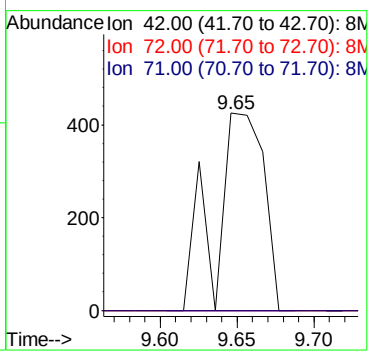


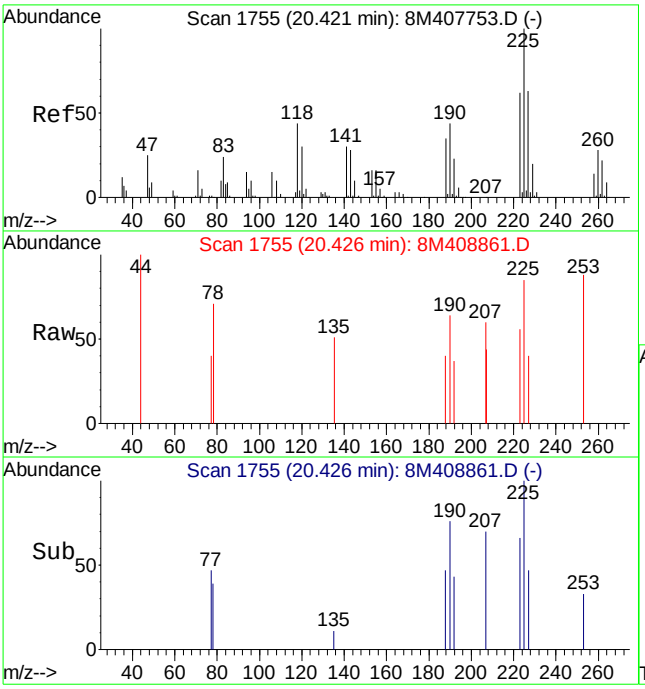


#36
Tetrahydrofuran
Concen: 0.39 ug/L
RT: 9.65 min Scan# 712
Delta R.T. 0.01 min
Lab File: 8M408861.D
Acq: 21 Nov 2015 14:22

Tgt Ion: 42 Resp: 936

Ion	Ratio	Lower	Upper
42	100		
72	0.0	22.4	52.4#
71	0.0	19.5	45.5#

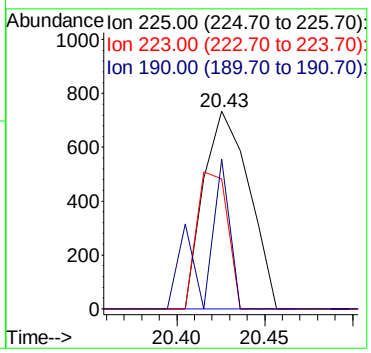




#99
Hexachlorobutadiene
Concen: 0.13 ug/L
RT: 20.43 min Scan# 1755
Delta R.T. -0.00 min
Lab File: 8M408861.D
Acq: 21 Nov 2015 14:22

Tgt Ion:225 Resp: 1317

Ion	Ratio	Lower	Upper
225	100		
223	46.7	37.4	87.4
190	41.0	26.6	62.2



Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016669.D
Acq On : 24 Nov 2015 21:26
Operator : JDS/FJB
Sample : WG548399-02 20ug/L LCS 8260
Misc : 1,1 STD73387
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 24 21:38:41 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.138	96	320627	25.00000	ug/L	0.0000
46) Chlorobenzene-d5	7.973	117	240799	25.00000	ug/L	0.0000
64) 1,4-Dichlorobenzene-d4	9.302	152	137777	25.00000	ug/L	0.0000
System Monitoring Compounds						
29) Dibromofluoromethane	4.177	111	89889	27.3294	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.318%			
34) 1,2-Dichloroethane-d4	4.811	65	89481	28.3291	ug/L	0.0000
Spiked Amount 25.000	Range 80 - 120		Recovery = 113.316%			
47) Toluene-d8	6.710	98	342448	27.5889	ug/L	0.0000
Spiked Amount 25.000	Range 88 - 110		Recovery = 110.356%#			
66) p-Bromofluorobenzene	8.723	95	124583	26.1580	ug/L	0.0000
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.632%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.036	85	101630	22.2890	ug/L	98
3) Chloromethane	1.146	50	80057	16.4832	ug/L	100
4) Vinyl Chloride	1.192	62	90986	20.9719	ug/L	99
5) 1,3-Butadiene	1.203	54	61750	22.1441	ug/L	99
6) Bromomethane	1.380	94	46699	20.4075	ug/L	100
7) Chloroethane	1.447	64	57837	26.1103	ug/L #	77
8) Trichlorofluoromethane	1.519	101	120125	22.7518	ug/L	100
9) Diethyl ether	1.754	59	264913	103.4836	ug/L	99
10) 1,1-Dichloroethene	1.855	61	95324	18.9391	ug/L	99
11) Carbon Disulfide	1.866	76	57821	5.4544	ug/L #	94
12) 1,1,2-Trichloro-1,2,2-...	1.884	101	65068	20.8482	ug/L	98
14) Acrolein	2.115	56	29227	85.2393	ug/L	100
15) Methylene Chloride	2.286	84	68966	18.5194	ug/L	98
16) Acetone	2.353	43	14404	22.0707	ug/L	96
17) trans-1,2-Dichloroethene	2.414	96	66251	20.1333	ug/L	96
18) Methyl acetate	2.454	43	37644	20.5624	ug/L #	100
19) Methyl Tert Butyl Ether	2.532	73	169040	20.1525	ug/L	99
20) 1,1-Dichloroethane	2.970	63	118351	18.7929	ug/L	100
21) Acrylonitrile	3.036	53	14932	17.1295	ug/L	96
22) Vinyl Acetate	3.274	86	8566	23.5686	ug/L	98
23) cis-1,2-Dichloroethene	3.566	96	76132	20.1506	ug/L	97
24) 2,2-Dichloropropane	3.691	77	99939	21.2167	ug/L	99
25) Cyclohexane	3.786	56	107356	17.7122	ug/L	96
26) Bromochloromethane	3.803	130	46151	20.6870	ug/L	99
27) Chloroform	3.934	83	123458	19.7870	ug/L	100
28) Carbon Tetrachloride	4.076	117	97234	20.0694	ug/L	99
30) 1,1,1-Trichloroethane	4.174	97	110834	20.2519	ug/L	100
31) 1,1-Dichloropropene	4.342	75	89615	19.3156	ug/L	98
32) 2-Butanone	4.374	43	22101	20.8987	ug/L	94
33) Benzene	4.643	78	274727	19.9367	ug/L	99
35) 1,2-Dichloroethane	4.892	62	88886	21.4369	ug/L	99
36) Methylcyclohexane	5.292	83	113824	17.6655	ug/L	98
37) Trichloroethene	5.318	130	80951	21.1697	ug/L	99
38) Dibromomethane	5.740	93	40409	19.7614	ug/L	99
39) 1,2-Dichloropropane	5.848	63	76924	20.3082	ug/L	98
40) Bromodichloromethane	5.937	83	95304	20.2376	ug/L	99
41) 1,4-Dioxane	6.149	88	4838	210.2896	ug/L	93
42) 2-Chloroethyl Vinyl Ether	6.525	63	33609	17.5549	ug/L	99
43) cis-1,3-Dichloropropene	6.542	75	120431	21.6908	ug/L	100
44) 4-Methyl-2-Pentanone	7.814	58	18023	19.1623	ug/L	97
45) trans-1,3-Dichloropropene	7.145	75	99573	20.9610	ug/L	99
48) Toluene	6.754	91	311933	20.4478	ug/L	99
49) Tetrachloroethene	7.087	166	84270	20.4951	ug/L	98
50) 1,1,2-Trichloroethane	7.275	97	57922	20.4102	ug/L	99

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016669.D
Acq On : 24 Nov 2015 21:26
Operator : JDS/FJB
Sample : WG548399-02 20ug/L LCS 8260
Misc : 1,1 STD73387
ALS Vial : 4 Sample Multiplier: 1

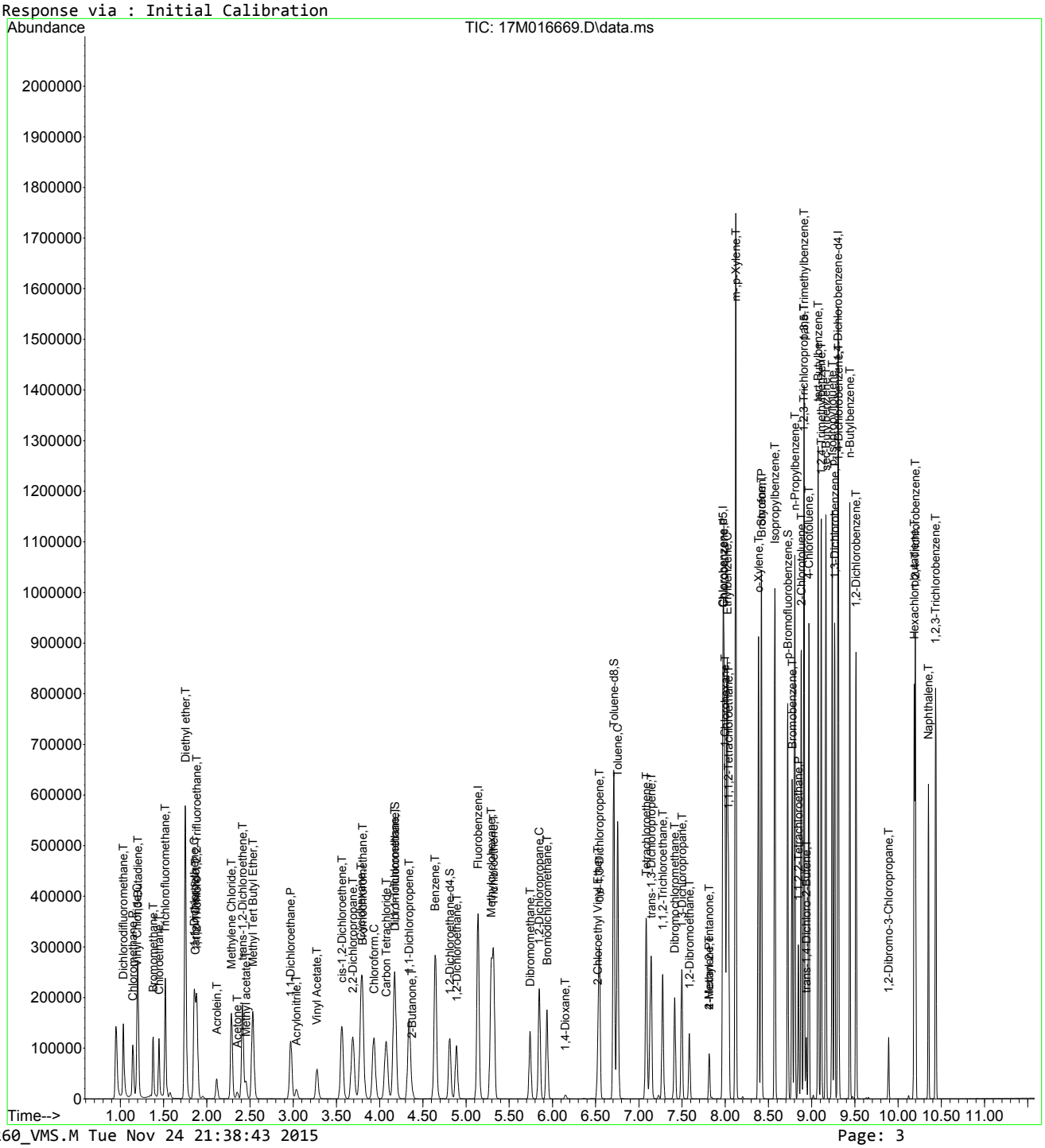
Quant Time: Nov 24 21:38:41 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromochloromethane	7.414	129	76417	20.8582	ug/L		100
52) 1,3-Dichloropropane	7.498	76	98319	21.8430	ug/L		97
53) 1,2-Dibromoethane	7.585	107	57771	20.5142	ug/L		98
54) 2-Hexanone	7.814	43	36042	19.7541	ug/L		97
55) Chlorobenzene	7.984	112	210792	21.4409	ug/L		99
56) 1-Chlorohexane	7.996	69	18847	18.6643	ug/L		72
57) Ethylbenzene	8.022	106	110484	20.6460	ug/L		100
58) 1,1,1,2-Tetrachloroethane	8.036	131	76883	21.1233	ug/L		99
59) m-,p-Xylene	8.120	106	275411	42.8989	ug/L		100
60) o-Xylene	8.384	106	134746	21.2700	ug/L		100
61) Styrene	8.416	104	217519	20.6609	ug/L		99
62) Bromoform	8.419	173	52711	21.8220	ug/L		99
63) Isopropylbenzene	8.572	105	355308	21.5162	ug/L		100
65) 1,3,5-Trimethylbenzene	8.911	105	308572	20.4539	ug/L		100
67) Bromobenzene	8.775	156	94817	20.1079	ug/L		96
68) n-Propylbenzene	8.804	91	419816	21.3200	ug/L		100
69) 1,1,2,2-Tetrachloroethane	8.844	83	73427	21.4685	ug/L		100
70) 2-Chlorotoluene	8.879	91	246580	20.4752	ug/L		99
71) 1,2,3-Trichloropropane	8.908	110	19907	20.9111	ug/L		98
72) trans-1,4-Dichloro-2-B...	8.937	53	11488	14.5170	ug/L	#	96
73) 1,2,4-Trimethylbenzene	9.111	105	303979	20.1845	ug/L		100
74) 4-Chlorotoluene	8.966	91	264505	21.3467	ug/L		98
75) tert-Butylbenzene	9.073	134	58831	21.2659	ug/L		100
76) sec-Butylbenzene	9.163	105	392592	21.1777	ug/L		100
77) p-Isopropyltoluene	9.238	119	329809	20.5712	ug/L		100
78) 1,3-Dichlorobenzene	9.264	146	184815	21.3427	ug/L		98
79) 1,4-Dichlorobenzene	9.310	146	187216	21.1945	ug/L		99
80) n-Butylbenzene	9.441	91	308551	20.9101	ug/L		99
81) 1,2-Dichlorobenzene	9.513	146	174866	21.2120	ug/L		98
82) 1,2-Dibromo-3-Chloropr...	9.889	75	13657	21.2761	ug/L		96
83) Hexachlorobutadiene	10.185	225	77476	20.4175	ug/L		100
84) 1,2,4-Trichlorobenzene	10.199	180	136392	20.7316	ug/L		100
85) Naphthalene	10.350	128	226076	18.5520	ug/L		100
86) 1,2,3-Trichlorobenzene	10.434	180	123269	20.3019	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\112415\
Data File : 17M016669.D
Acq On : 24 Nov 2015 21:26
Operator : JDS/FJB
Sample : WG548399-02 20ug/L LCS 8260
Misc : 1,1 STD73387
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 24 21:38:41 2015
Quant Method : D:\MassHunter\GCMS\1\methods\8260_VMS.M
Quant Title : 8260B/624 SOP:OVL MSV01 WATER 11/11/15 HPMS17
QLast Update : Thu Nov 12 09:48:27 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\112115\8M408862.D Vial: 6
Acq On : 21 Nov 2015 14:52 Operator: TMB
Sample : WG547961-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 15:14:54 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	1484555	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	1130573	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	638089	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	377561	26.7222 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.88%		
43) 1,2-Dichloroethane-d4	10.31	65	363130	25.2074 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.84%		
58) Toluene-d8	12.69	98	1299460	24.7723 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.08%		
80) p-Bromofluorobenzene	16.08	95	540354	24.2704 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.08%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.17	85	393407	17.4308 ug/L	99
3) Chloromethane	3.63	50	778749	22.6126 ug/L	100
4) Vinyl Chloride	3.85	62	609370	22.3914 ug/L	100
5) 1,3-Butadiene	3.89	54	442813	22.0343 ug/L	93
6) Bromomethane	4.75	94	224461	24.9354 ug/L	98
7) Chloroethane	4.90	64	247355	22.2789 ug/L	97
8) Trichlorofluoromethane	5.39	101	550299	20.9216 ug/L	98
9) Diethyl ether	5.91	59	1117666	110.4008 ug/L	97
10) Isoprene	5.95	67	381065	19.7334 ug/L	95
11) Acrolein	6.15	56	107791	85.7931 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	311518	22.0326 ug/L	97
13) Acetone	6.25	43	56265	25.5348 ug/L	100
14) 1,1-Dichloroethene	6.47	61	499003	20.7329 ug/L	100
15) Tert-Butyl Alcohol	6.60	59	128216	196.9295 ug/L	94
16) Dimethyl Sulfide	6.74	62	353731	25.6076 ug/L	98
17) Iodomethane	7.00	142	158730	18.4632 ug/L	99
18) Methyl acetate	7.01	43	143488	17.2204 ug/L	98
19) Methylene Chloride	7.26	84	311446	20.8353 ug/L	99
20) Carbon Disulfide	7.30	76	753233	15.4324 ug/L	99
21) Acrylonitrile	7.44	53	79271	23.9645 ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	638679	22.5394 ug/L	97
23) trans-1,2-Dichloroethene	7.71	61	482750	21.1211 ug/L	97
24) n-Hexane	7.79	57	370093	16.3912 ug/L	95
25) Diisopropyl ether	8.14	45	5959423	105.7701 ug/L	98
26) Vinyl Acetate	8.30	43	549914	36.7234 ug/L	98
27) 1,1-Dichloroethane	8.33	63	618236	21.3005 ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	4445236	100.1655 ug/L	98
29) 2-Butanone	8.89	43	88741	23.3759 ug/L	96
30) Propionitrile	8.99	54	120823	108.4699 ug/L	98
31) 2,2-Dichloropropane	9.11	77	478711	19.7353 ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	346760	21.2634 ug/L	100
33) Chloroform	9.39	83	607543	22.0359 ug/L	100
34) 1-Bromopropane	9.52	122	73647	27.5014 ug/L	100
35) Bromochloromethane	9.61	130	183649	22.8762 ug/L	97
36) Tetrahydrofuran	9.64	42	263311	105.6643 ug/L	98
38) 1,1,1-Trichloroethane	9.91	97	550709	22.2525 ug/L	99
39) Cyclohexane	9.94	56	561032	19.0503 ug/L	99
40) 1,1-Dichloropropene	10.11	75	438696	20.5882 ug/L	98
41) Tert-Amyl-Methyl ether	10.21	73	3411258	103.6716 ug/L	96
42) Carbon Tetrachloride	10.25	117	494359	22.3511 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M408862.D 8260WT.M Sat Nov 21 15:14:54 2015 Page 1

Data File : C:\MSDchem\2\data\112115\8M408862.D Vial: 6
Acq On : 21 Nov 2015 14:52 Operator: TMB
Sample : WG547961-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 15:14:54 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

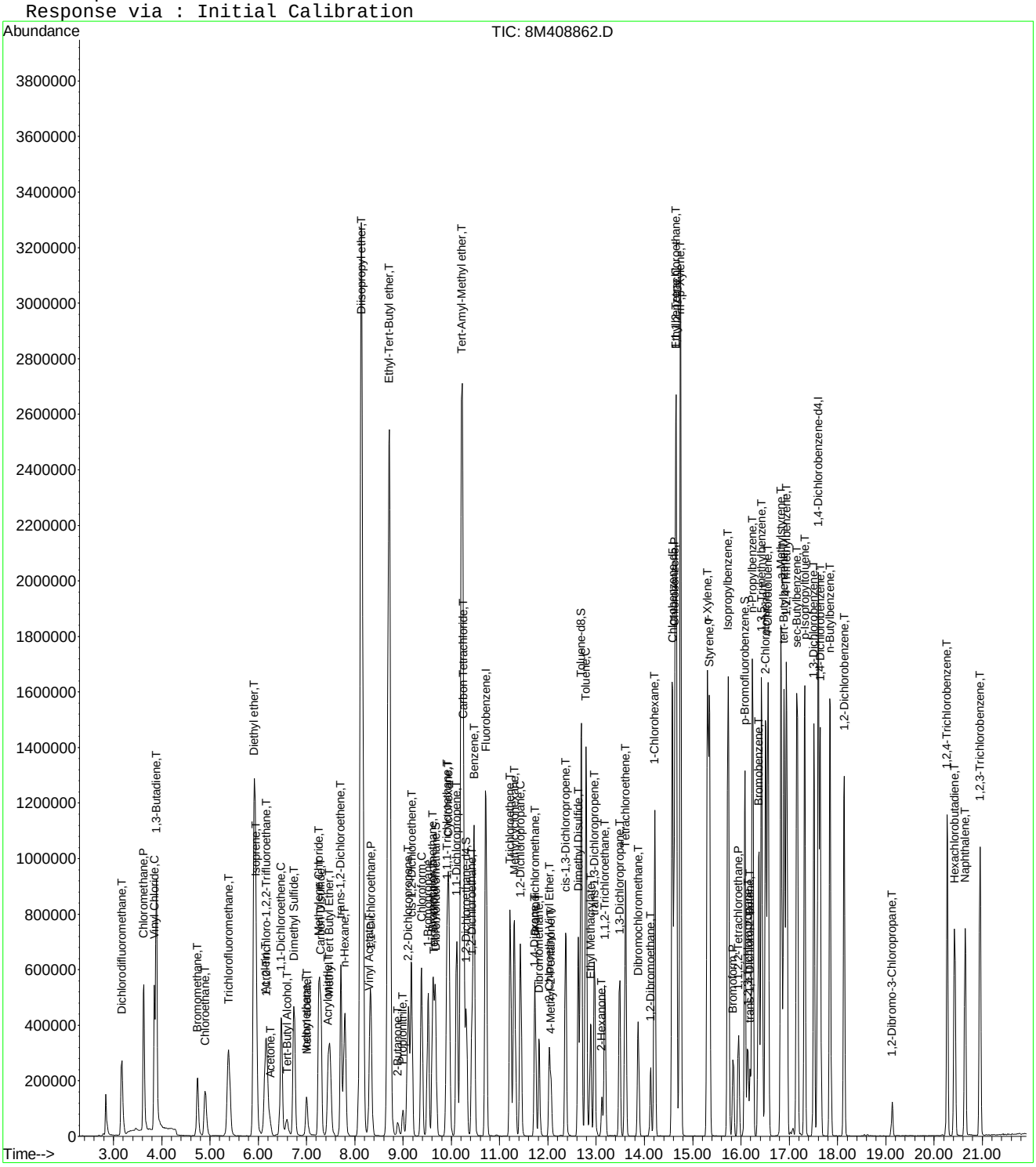
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	398897	21.0692	ug/L		99
46)	Benzene	10.47	78	1258470	21.5242	ug/L		100
47)	Trichloroethene	11.21	130	321064	20.3983	ug/L		97
48)	Methylcyclohexane	11.31	83	469666	19.2848	ug/L		98
49)	1,2-Dichloropropane	11.43	63	327671	20.8032	ug/L		96
50)	Bromodichloromethane	11.73	83	424376	20.8738	ug/L		100
51)	1,4-Dioxane	11.72	88	13143	181.2438	ug/L		90
52)	Dibromomethane	11.81	93	165356	22.0466	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.03	63	141205	21.7503	ug/L		97
54)	4-Methyl-2-Pentanone	12.06	58	67451	20.2529	ug/L		97
55)	cis-1,3-Dichloropropene	12.37	75	483010	21.4016	ug/L		100
56)	Dimethyl Disulfide	12.63	79	251434	20.6609	ug/L		96
59)	Toluene	12.79	91	1312412	20.4287	ug/L		98
60)	Ethyl Methacrylate	12.89	69	275104	21.4788	ug/L		95
62)	trans-1,3-Dichloropropene	12.96	75	378850	19.2221	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	200437	19.6569	ug/L		96
64)	2-Hexanone	13.12	58	62362	19.4525	ug/L	#	91
65)	1,3-Dichloropropane	13.49	76	361043	19.8134	ug/L		95
66)	Tetrachloroethene	13.61	164	275785	20.1933	ug/L		96
67)	Dibromochloromethane	13.87	129	268198	20.3435	ug/L		98
68)	1,2-Dibromoethane	14.13	107	200837	19.7282	ug/L		98
69)	1-Chlorohexane	14.21	91	453354	19.7213	ug/L		98
70)	Chlorobenzene	14.63	112	884889	20.5563	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.66	131	309937	19.4724	ug/L		99
72)	Ethylbenzene	14.66	106	477696	19.0495	ug/L		95
73)	m-,p-Xylene	14.75	106	1176050	40.8948	ug/L		99
74)	o-Xylene	15.31	106	579219	19.9172	ug/L		98
75)	Styrene	15.35	104	925521	20.0869	ug/L		99
76)	Bromoform	15.83	173	164969	20.8152	ug/L		100
77)	Isopropylbenzene	15.73	105	1479910	21.2140	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	228211	19.3853	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	63765	19.4924	ug/L		49
82)	trans-1,4-Dichloro-2-Buten	16.19	53	78895	18.2371	ug/L	#	74
83)	n-Propylbenzene	16.24	91	1822814	19.7307	ug/L		100
84)	Bromobenzene	16.37	156	363847	19.4016	ug/L		98
85)	1,3,5-Trimethylbenzene	16.42	105	1248032	19.6488	ug/L		99
86)	2-Chlorotoluene	16.51	91	1246478	20.3704	ug/L		100
87)	4-Chlorotoluene	16.56	91	1040463	19.6612	ug/L		97
88)	a-Methylstyrene	16.83	118	724551	20.9246	ug/L		98
89)	tert-Butylbenzene	16.89	134	264452	18.9257	ug/L		96
90)	1,2,4-Trimethylbenzene	16.94	105	1273258	19.8374	ug/L		98
91)	sec-Butylbenzene	17.16	105	1578241	20.0022	ug/L		97
92)	p-Isopropyltoluene	17.32	119	1236995	19.6081	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	739550	19.7572	ug/L		97
94)	1,4-Dichlorobenzene	17.64	146	722850	19.3923	ug/L		97
95)	n-Butylbenzene	17.84	91	1233670	20.9777	ug/L		98
96)	1,2-Dichlorobenzene	18.14	146	672640	20.5366	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	19.13	75	37972	18.4060	ug/L		95
98)	1,2,4-Trichlorobenzene	20.27	180	452082	20.0904	ug/L		99
99)	Hexachlorobutadiene	20.42	225	200225	18.6031	ug/L		99
100)	Naphthalene	20.64	128	719472	22.1154	ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	388781	20.2606	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\112115\8M408862.D Vial: 6
Acq On : 21 Nov 2015 14:52 Operator: TMB
Sample : WG547961-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD73575 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 21 15:14 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Fri Oct 16 10:20:27 2015
Response via : Initial Calibration



8M408862.D 8260WT.M Sat Nov 21 15:14:55 2015 Page 3

2.1.2 RSK 175

2.1.2.1 Summary Data

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW11-111915	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/03/2015 15:29
Workgroup #:	WG548682	**Analyst:**	JDS	**Run Date:**	11/30/2015 17:20
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	16G49078
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.11	J	5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW08-111915	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/03/2015 15:29
Workgroup #:	WG548346	**Analyst:**	JDS	**Run Date:**	11/24/2015 19:31
Collect Date:	11/19/2015 10:20	**Dilution:**	1	**File ID:**	16G49067
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	12.1		5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.1.2.2 QC Summary Data

RSK-175 - Example Calculation for Methane

1.0 Linear Calibration Models

Option A - Average RF Method

ICAL_x	ICAL_r		RF
1.67	19901		11917
6.67	69174		10371
16.7	176923		10594
66.7	685135		10272
133	1324853		9961
300	2845104		9484
		Average RF:	**10433**

Where:
ICAL_x = the ICAL concentration
ICAL_r = the ICAL response (area)
RF = calibration factor = ICAL_r / ICAL_x

Option B - Agilent Linear Regression Constant

ICAL_x	ICAL_r	[ICAL_r}^2	[ICAL-x][ICAL-r]
1.67	19901	396049801	33235
6.67	69174	4785042276	461391
16.7	176923	31301747929	2954614
66.7	685135	4.6941E+11	45698505
133	1324853	1.75524E+12	176205449
300	2845104	8.09462E+12	853531200
Summation:		**1.03557E+13**	**1078884393**

Agilent Linear Regression Constant : **9598.567853**
(1.03557E+13)/1078884393)

2.0 Calculate the concentration in extract, Cx

Where:	
y = area response of methane from quant report	**1157414**
a = average RF (or Agilent regression constant)	**10433.00**
Cx = y/a	**110.9377935**

3.0 Calculate the concentration in sample

Cs = Cx (MW/Tf) (HS/S) (DF)

Where:		
Cx = Concentration in extract	**110.9377935**	umol/mol
MW = molecular weight of analyte	**16.04**	ug/umol
TF = temperature factor = (22.4)(313/273)	**25.68**	L/mol
HS = headspace volume	**0.015**	L
S = sample volume remaining after headspace removal	**0.00547**	L
DF = dilution factor	**2**	
Cs = calculated sample concentration	**380.034301**	ug/L

RSK-175 - Example Calculation for Carbon Dioxide

ICAL Plot - Quadratic Regression (y = Ax^2 + Bx +C)

Ax^2 + Bx + (C - y) = 0

Step 1 - Calculate the concentration in extract, Cx

Data from quadratic regression plot:		
Value of A from plot:	**0.916**	
Value of B from plot:	**1540**	
Value of C from plot:	**0**	
Response for methane from quantitation report (y):	**8763828**	
Value of C - y	**-8763828**	
Solving for Cx using the quadratic formula:		
Root 1 - Computed Cx1:	**2364.716284**	umol/mol
Root 2 - Computed Cx2:	**-4045.938991**	

Step 2 - Calculate the concentration in sample

Cs = Cx (MW/Tf) (HS/S) (DF)

Where:

Cx = Concentration in extract :	**2364.716284**	umol/mol
MW = molecular weight of analyte:	**44.0**	ug/umol
TF = temperature factor = (22.4)(313/273):	**25.68**	L/mol
HS = initial headspace volume (extraction log):	**0.015**	L
S = final volume (extraction log):	**0.00547**	L
DF = dilution factor:	**10**	
Cs = calculated sample concentration:	**111106.798**	ug/L

Other Notes:

Temperature of headspace = 40 C = 313 K

Analyte	MW (g/mol)
Methane	16.04
Ethane	30.07
Ethene	28.05
Propane	44.1
Carbon Dioxide	44.0

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 030315

Analyst1: JDS Analyst2: NA

Method: RSK175 SOP: RSK01 Rev: 18

Method: 5021 SOP: RSK01 Rev: 18

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA

CCV: STD67274 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND

Workgroups: WG514119

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G46874	RINSE	NA	1	1		03/03/15 14:05
16G46875	WG514119-01 0.67umol/mol STD RSK175	NA	1	1	STD67276	03/03/15 14:17
16G46876	WG514119-02 1.67umol/mol STD RSK175	NA	1	1	STD67276	03/03/15 14:30
16G46877	WG514119-03 33.3umol/mol STD RSK175	NA	1	1	STD67276	03/03/15 14:42
16G46878	WG514119-04 66.7umol/mol STD RSK175	NA	1	1	STD67274	03/03/15 14:53
16G46879	WG514119-05 133umol/mol STD RSK175	NA	1	1	STD67274	03/03/15 15:05
16G46880	WG514119-06 333umol/mol STD RSK175	NA	1	1	STD67274	03/03/15 15:17
16G46881	WG514119-07 533umol/mol STD RSK175	NA	1	1	STD67274	03/03/15 15:29
16G46882	RINSE	NA	1	1		03/03/15 15:41
16G46883	WG514119-08 133umol/mol ALT SRC STD	NA	1	1	STD68250	03/03/15 16:14
16G46884	WG514119-08 133umol/mol ALT SRC STD	NA	1	1	STD68250	03/03/15 17:10

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X			
File ID: 16G46883				
Wrong vial taken up by HT3 autosampler				

Approved: March 11, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 112415

Analyst1: JDS Analyst2: NA

Method: RSK175 SOP: RSK01 Rev: 18

Method: 5021 SOP: RSK01 Rev: 18

Maintenance Log ID: 53565

Internal Standard: NA Surrogate Standard: NA

CCV: STD72628 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND

Workgroups: WG548346

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49062	WG548345-01 133umol/mol CCV STD RSK1	NA	1	1	STD72628	11/24/15 15:21
16G49063	WG548346-01 BLANK STD RSK175	NA	1	1		11/24/15 18:44
16G49064	WG548346-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	11/24/15 18:56
16G49065	WG548346-03 67umol/mol LCS2 STD RSK1	NA	1	1	STD68250	11/24/15 19:07
16G49066	L15111211-15 A RSK175	<2	1	1		11/24/15 19:19
16G49067	L15111211-16 A RSK175	<2	1	1		11/24/15 19:31
16G49068	L15111191-01 A RSK175	<2	1	1		11/24/15 19:42
16G49069	L15111338-01 A RSK175	<2	2	1		11/24/15 19:54
16G49070	L15111340-01 A RSK175	<2	2	1		11/24/15 20:05
16G49071	L15111341-01 A RSK175	<2	2	1		11/24/15 20:16
16G49072	WG548345-02 133umol/mol CCV STD RSK1	NA	1	1	STD72628	11/24/15 20:28

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5	X			
File ID: 16G49066				
	L15111211-15 vial pressure low DNR			
9	X	5	Over Calibration Range	m
File ID: 16G49070				
	L15111340-01			
10	X			
File ID: 16G49071				
	L15111341-01 vial pressure low DNR			

Approved: November 30, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 113015

Analyst1: JDS Analyst2: NA

Method: RSK175 SOP: RSK01 Rev: 18

Method: 5021 SOP: RSK01 Rev: 18

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA

CCV: STD72628 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND

Workgroups: WG548682

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49073	WG548681-01 133umol/mol CCV STD RSK1	NA	1	1	STD72628	11/30/15 13:50
16G49074	WG548682-01 BLANK STD RSK175	NA	1	1		11/30/15 16:31
16G49075	WG548682-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	11/30/15 16:43
16G49076	WG548682-03 67umol/mol LCS STD RSK17	NA	1	1	STD68250	11/30/15 16:55
16G49077	L15111340-01 B D1 5X RSK175	<2	2	5		11/30/15 17:08
16G49078	L15111211-15 B A1 RSK175	<2	1	1		11/30/15 17:20
16G49079	L15111341-01 B A1 RSK175	<2	2	1		11/30/15 17:32
16G49080	L15111496-01 A RSK175	<2	1	1		11/30/15 17:45
16G49081	L15111496-02 A RSK175	<2	1	1		11/30/15 17:57
16G49082	L15111496-04 A RSK175	<2	1	1		11/30/15 18:10
16G49083	L15111496-05 A RSK175	<2	1	1		11/30/15 18:21
16G49084	WG548681-02 133umol/mol CCV STD RSK1	NA	1	1	STD72628	11/30/15 18:34
16G49085	L15111502-01 A RSK175	<2	1	1		11/30/15 18:46
16G49086	L15111502-02 A RSK175	<2	1	1		11/30/15 18:59
16G49087	L15111502-03 A RSK175	<2	1	1		11/30/15 19:11
16G49088	L15111502-04 A RSK175	<2	1	1		11/30/15 19:24
16G49089	L15111502-05 A RSK175	<2	1	1		11/30/15 19:36
16G49090	L15111502-06 A RSK175	<2	1	1		11/30/15 19:49
16G49091	WG548681-03 133umol/mol CCV STD RSK1	NA	1	1	STD72628	11/30/15 20:01

Comments

Seq.	Rerun	Dil.	Reason	Analytes
8	X			
File ID: 16G49080				
			L15111496-01 low vial pressure. DNR	
13	X			
File ID: 16G49085				
			L15111502-01 low vial pressure. DNR	
16	X			
File ID: 16G49088				
			L15111502-04 low vial pressure. DNR	

Approved: December 01, 2015

Page: 1

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B202656

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG514119-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-04	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-05	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-06	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-07	15	mL	15	mL					5.47	mL	5.47	mL	40
WG514119-08	15	mL	15	mL					5.47	mL	5.47	mL	40

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B215420

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG548345-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548345-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111211-16	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111338-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111340-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111341-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548346-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L15111191-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548346-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L15111211-15	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548346-01	15	mL	15	mL					5.47	mL	5.47	mL	40

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B215486

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG548681-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548681-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548681-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111496-04	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111502-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548682-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L15111496-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111340-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111502-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111502-06	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548682-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L15111496-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111211-15	15	mL	15	mL					5.47	mL	5.47	mL	40
WG548682-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111341-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L15111502-02	15	mL	15	mL					5.47	mL	5.47	mL	40

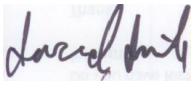
Microbac Laboratories Inc.

Data Checklist

Date: 03-MAR-2015
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 66688
Analytical Workgroups: WG514119

Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	NA
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	NA
TCL's	NA
Surrogates	NA
LCS (Laboratory Control Sample)	NA
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	NA
Surrogates	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the resonableness of the results	X

Primary Reviewer:
06-MAR-2015



Secondary Reviewer:
11-MAR-2015

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-11-2015 12:34:12

Microbac Laboratories Inc.

Data Checklist

Date: 24-NOV-2015
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 71959
Analytical Workgroups: WG548346

Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	LSB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the resonableness of the results	X

Primary Reviewer:
30-NOV-2015

Secondary Reviewer:
30-NOV-2015

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-30-2015 12:48:36

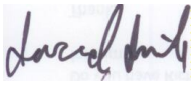
Microbac Laboratories Inc.

Data Checklist

Date: 30-NOV-2015
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 71981
Analytical Workgroups: WG548682

Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the resonableness of the results	X

Primary Reviewer:
01-DEC-2015



Secondary Reviewer:
01-DEC-2015

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-01-2015 11:27:17

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: RSK175 AAB#: WG548346

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW08-111915	16	11/19/15					11/24/2015	5.4	14		11/24/15	5.4	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4523003
Report generated 12/07/2015 09:03

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: RSK175 AAB#: WG548682

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-111915	15	11/19/15					11/30/2015	11.3	14		11/30/15	11.3	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4523003
Report generated 12/07/2015 09:03

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG548346
Blank File ID:	16G49063	Blank Sample ID:	WG548346-01
Prep Date:	11/24/15 18:44	Instrument ID:	HP16
Analyzed Date:	11/24/15 18:44	Method:	RSK175
Analyst:	JDS		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548346-02	16G49064	11/24/15 18:56	01
LCS2	WG548346-03	16G49065	11/24/15 19:07	01
67WW08-111915	L15111211-16	16G49067	11/24/15 19:31	01

Report Name: BLANK_SUMMARY
PDF File ID: 4523004
Report generated 12/07/2015 09:03

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG548682
Blank File ID:	16G49074	Blank Sample ID:	WG548682-01
Prep Date:	11/30/15 16:31	Instrument ID:	HP16
Analyzed Date:	11/30/15 16:31	Method:	RSK175
Analyst:	JDS		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548682-02	16G49075	11/30/15 16:43	01
LCS2	WG548682-03	16G49076	11/30/15 16:55	01
67WW11-111915	L15111211-15	16G49078	11/30/15 17:20	01

Report Name: BLANK_SUMMARY
PDF File ID: 4523004
Report generated 12/07/2015 09:03

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/24/15 18:44 Sample ID: WG548346-01
Instrument ID: HP16 Run Date: 11/24/15 18:44 Prep Method: 5021
File ID: 16G49063 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG548346 Matrix: Water Units: ug/L
Contract #: Cal ID: HP16-03-MAR-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Methane	1.00	5.00	1.00	1	U
Ethene	1.00	5.00	1.00	1	U
Ethane	1.00	5.00	1.00	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4523005
07-DEC-2015 09:03

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/30/15 16:31 Sample ID: WG548682-01
Instrument ID: HP16 Run Date: 11/30/15 16:31 Prep Method: 5021
File ID: 16G49074 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG548682 Matrix: Water Units: ug/L
Contract #: Cal ID: HP16-03-MAR-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Methane	1.00	5.00	1.00	1	U
Ethene	1.00	5.00	1.00	1	U
Ethane	1.00	5.00	1.00	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4523005
07-DEC-2015 09:03

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Analyst: JDS Prep Method: 5021
Instrument ID: HP16 Matrix: Water Method: RSK175
Workgroup (AAB#): WG548682 Units: ug/L
QC Key: DOD4 Lot #: STD68250

Sample ID: WG548682-02 LCS File ID: 16G49075 Run Date: 11/30/2015 16:43
Sample ID: WG548682-03 LCS2 File ID: 16G49076 Run Date: 11/30/2015 16:55

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methane	114	110	96.3	114	110	96.0	0.374	85 - 115	20	
Ethene	200	191	95.5	200	190	95.0	0.551	85 - 115	20	
Ethane	214	198	92.4	214	197	92.2	0.211	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4523006
Report generated: 12/07/2015 09:03

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Analyst: JDS Prep Method: 5021
Instrument ID: HP16 Matrix: Water Method: RSK175
Workgroup (AAB#): WG548346 Units: ug/L
QC Key: DOD4 Lot #: STD68250

Sample ID: WG548346-02 LCS File ID: 16G49064 Run Date: 11/24/2015 18:56
Sample ID: WG548346-03 LCS2 File ID: 16G49065 Run Date: 11/24/2015 19:07

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methane	114	114	100	114	111	97.2	2.81	85 - 115	20	
Ethene	200	201	101	200	193	96.6	4.16	85 - 115	20	
Ethane	214	209	97.6	214	201	93.9	3.85	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4523006
Report generated: 12/07/2015 09:03

Calibration Table Report
Method: RSKEXT1.M
Title: RSK175 HP16 (SOP: OVL RSK01) 030315
Last Calibration: Fri Mar 06 11:52:33 2015
Curve:WG514119
Calibration Files

		0.67	1.67	33.3	66.7	133	333	533			
		16G46875.	16G46876.	16G46877.	16G46878.	16G46879.	16G46880.	16G46881.D			
	Compound								Avg	%RSD	Linear
T	methane		442542.3	201716.7	175611.6	187516.9	186065.3	188702.9	230359.0	45.3	0.999
T	ethene		322209.5	334124.6	295911.1	313430.8	319356.4	318282.1	317219.0	3.9	
T	acetylene		316851.9	343603.6	313507.6	354933.8	357109.5	344601.6	338435.0	5.6	
T	ethane	381661.4	339569.9	346403.4	312338.4	328333.4	335709.7	335266.3	339897.0	6.3	
T	propane	528069.3	481580.8	518227.1	469331.7	483950.9	500133.6	493547.4	496406.0	4.2	
T	n-butane	686564.3	616037.4	680754.9	613926.5	634552.4	659898.4	646188.9	648275.0	4.5	
	Signal #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
T	carbon dioxide		3977.4	5604.2	5581.8	6054.5	6060.7	5810.7	5514.9	14.2	

Fri Mar 06 11:59:12 2015

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15111211 Run Date: 03/03/2015 Sample ID: WG514119-08
Instrument ID: HP16 Run Time: 17:10 Method: RSK175
File ID: 16G46884 Analyst: JDS QC Key: DOD4
ICal Workgroup: WG514119 Cal ID: HP16 - 03-MAR-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
methane		228	236	ug/L	195000	3.50	15	
ethene		398	407	ug/L	324000	2.20	15	
ethane		427	423	ug/L	337000	0.900	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4523007
Report generated 12/07/2015 09:03

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 Run Date: 11/24/2015 Sample ID: WG548345-01
Instrument ID: HP16 Run Time: 15:21 Method: RSK175
File ID: 16G49062 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG548346 Cal ID: HP16 - 03-MAR-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	217	ug/L	180000	4.61	15	
ethene		398	381	ug/L	303000	4.41	15	
ethane		427	398	ug/L	317000	6.71	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4523008
Report generated 12/07/2015 09:03

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 **Run Date:** 11/24/2015 **Sample ID:** WG548345-02
Instrument ID: HP16 **Run Time:** 20:28 **Method:** RSK175
File ID: 16G49072 **Analyst:** JDS **QC Key:** DOD4
Workgroup (AAB#): WG548346 **Cal ID:** HP16 - 03-MAR-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	211	ug/L	175000	7.16	15	
ethene		398	372	ug/L	297000	6.52	15	
ethane		427	396	ug/L	315000	7.21	15	

*** Exceeds %D Criteria**

CCV - Modified 03/05/2008
PDF File ID: 4523008
Report generated 12/07/2015 09:03

Login Number: L15111211 Run Date: 11/30/2015 Sample ID: WG548681-01
Instrument ID: HP16 Run Time: 13:50 Method: RSK175
File ID: 16G49073 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG548682 Cal ID: HP16 - 03-MAR-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	208	ug/L	173000	8.62	15	
ethene		398	368	ug/L	293000	7.51	15	
ethane		427	386	ug/L	307000	9.55	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4523008
Report generated 12/07/2015 09:03

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 **Run Date:** 11/30/2015 **Sample ID:** WG548681-02
Instrument ID: HP16 **Run Time:** 18:34 **Method:** RSK175
File ID: 16G49084 **Analyst:** JDS **QC Key:** DOD4
Workgroup (AAB#): WG548682 **Cal ID:** HP16 - 03-MAR-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	210	ug/L	174000	7.83	15	
ethene		398	363	ug/L	289000	8.94	15	
ethane		427	385	ug/L	306000	9.85	15	

*** Exceeds %D Criteria**

CCV - Modified 03/05/2008
PDF File ID: 4523008
Report generated 12/07/2015 09:03

2.1.2.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49078.D Vial: 6
Acq On : 30 Nov 2015 17:20 Operator: JDS
Sample : L15111211-15 B A1 RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 17:26:21 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	637773	1.228 umol/
2) T	ethene	1.06	18159	0.057 umol/
3) T	acetylene	0.00	0	N.D. umol/
4) T	ethane	1.39	41716	0.123 umol/
5) T	propane	3.84	21450	0.043 umol/
6) T	n-butane	5.34	11920	0.018 umol/

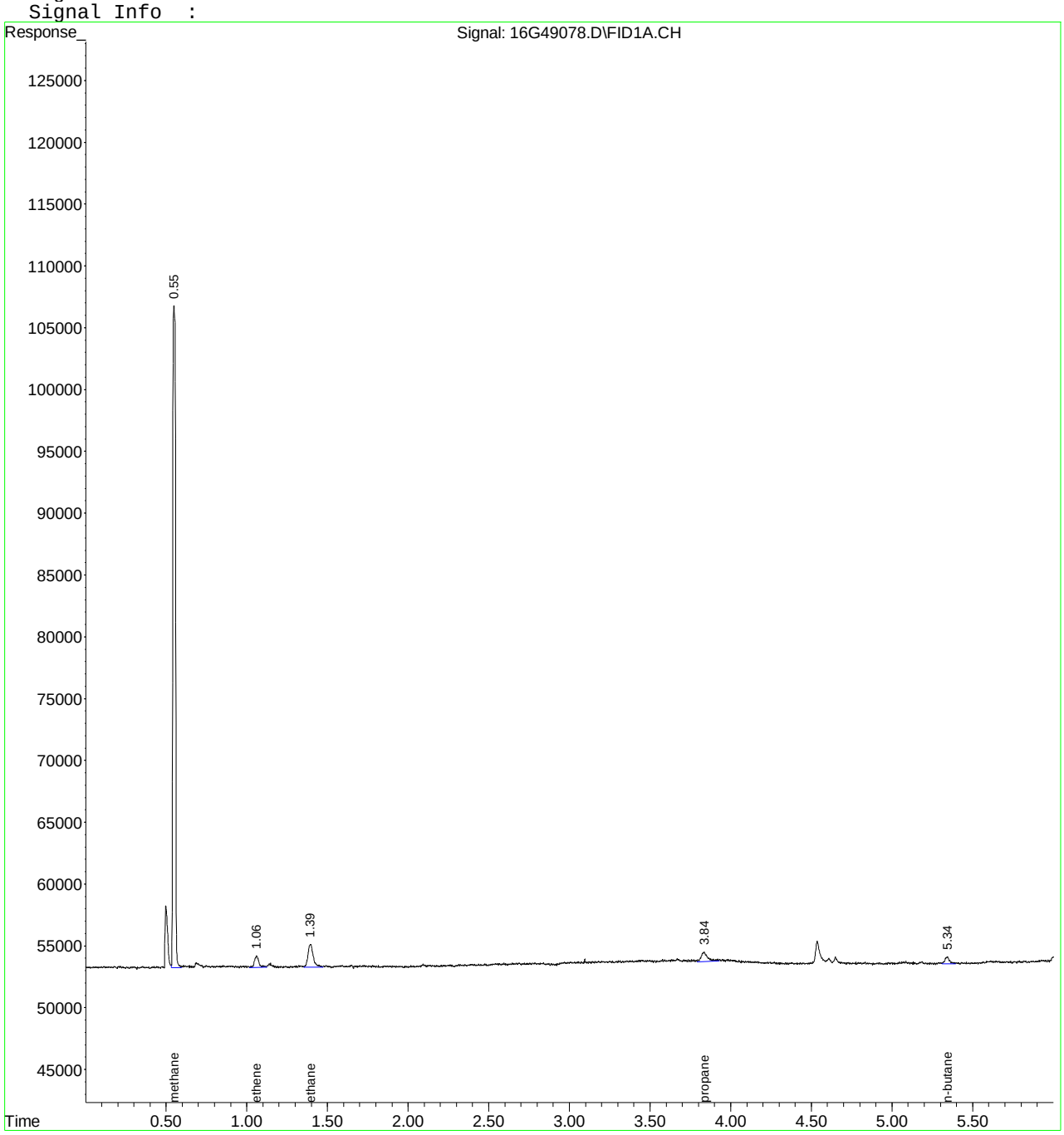
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49078.D RSK1.M Mon Nov 30 17:26:21 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49078.D Vial: 6
Acq On : 30 Nov 2015 17:20 Operator: JDS
Sample : L15111211-15 B A1 RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 17:26 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49067.D Vial: 6
Acq On : 24 Nov 2015 19:31 Operator: JDS
Sample : L15111211-16 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 19:37:14 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

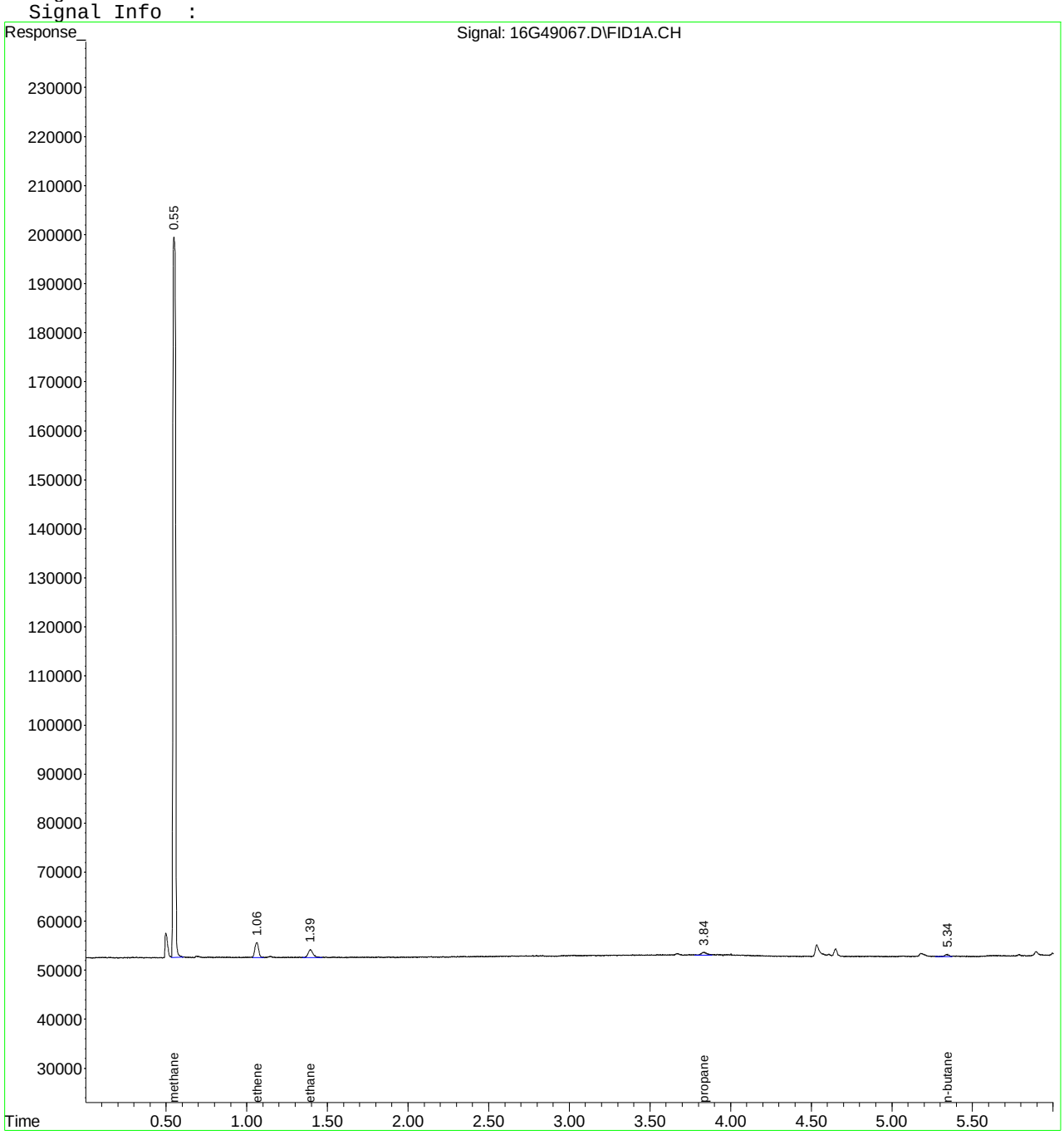
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	1721866	7.071 umol/
2) T	ethene	1.06	48735	0.154 umol/
3) T	acetylene	0.00	0	N.D. umol/
4) T	ethane	1.39	33544	0.099 umol/
5) T	propane	3.84	12745	0.026 umol/
6) T	n-butane	5.35	6807	0.010 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49067.D RSK1.M Tue Nov 24 19:37:14 2015 Page 1

Data File : C:\MSDchem\1\DATA\112415\16G49067.D Vial: 6
Acq On : 24 Nov 2015 19:31 Operator: JDS
Sample : L15111211-16 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 19:37 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



2.1.2.4 Standards Data

Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46875.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46875.D\TCD2B.CH
Acq On : 03 Mar 2015 14:17 Operator: JDS
Sample : WG514119-01 0.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:54:08 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

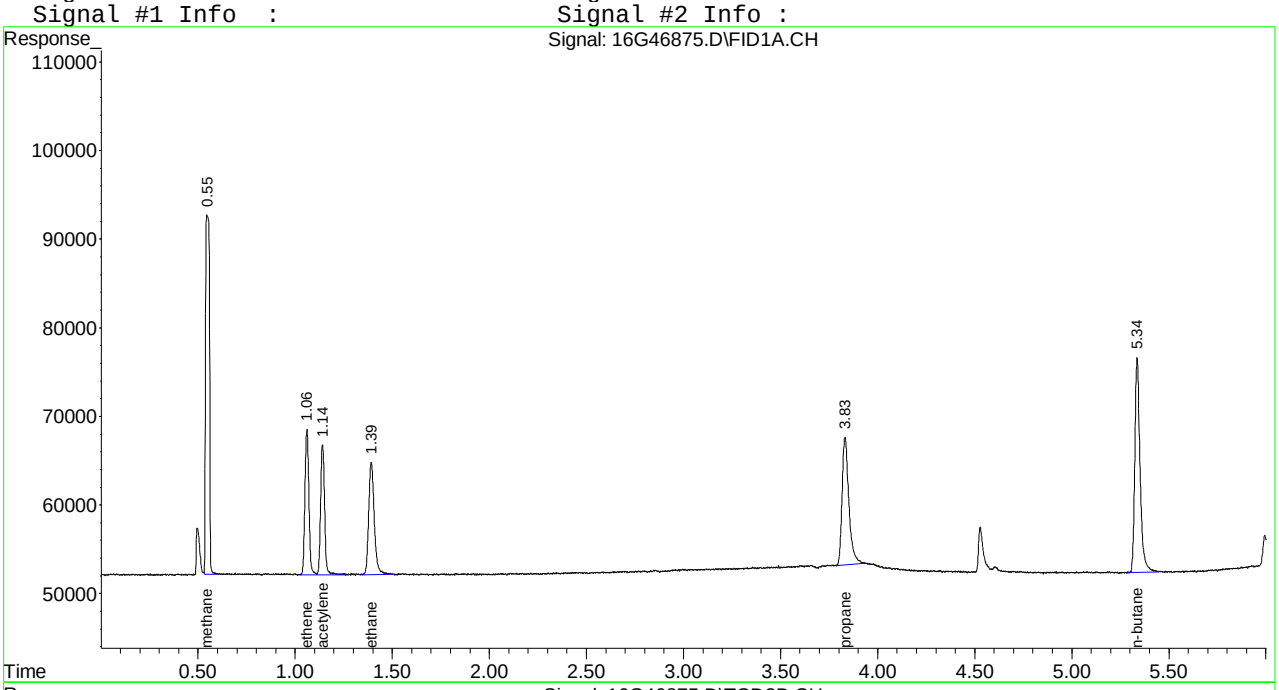
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	566979	0.846 umol/
2) T	ethene	1.06	233416	0.736 umol/
3) T	acetylene	1.14	213812	0.632 umol/
4) T	ethane	1.39	254568	0.749 umol/
5) T	propane	3.83	352222	0.710 umol/
6) T	n-butane	5.34	457938	0.706 umol/
8) T	carbon dioxide	0.00	0	N.D. umol/

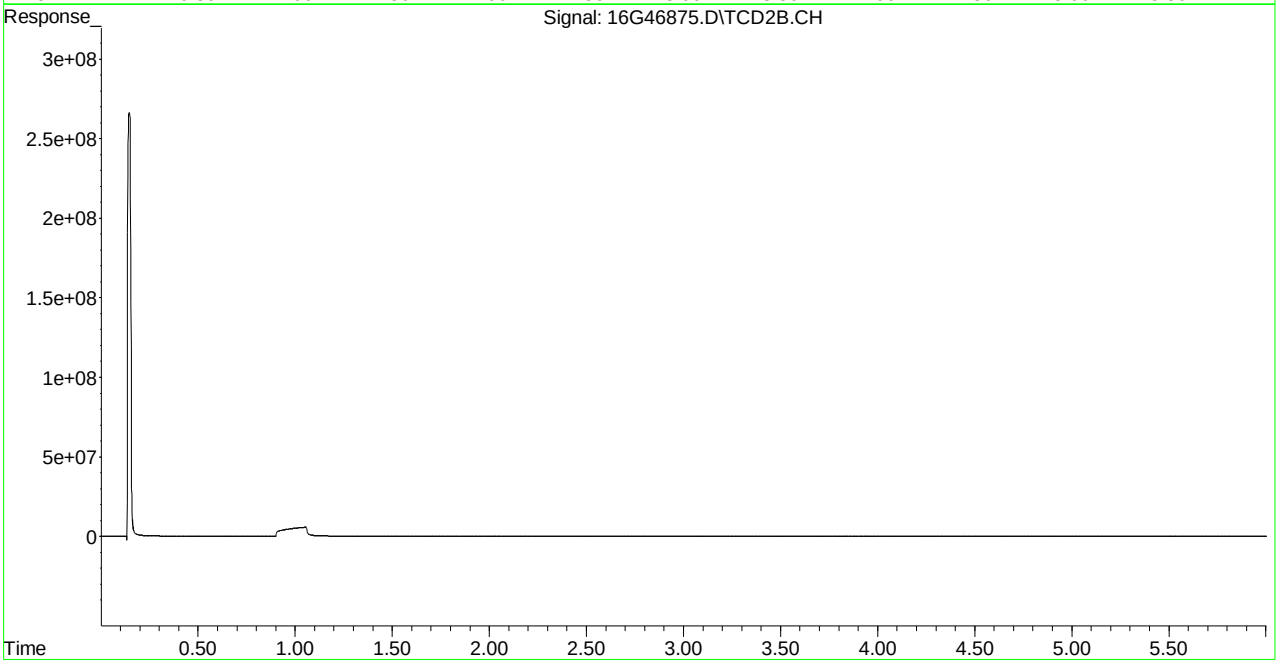
(f)=RT Delta > 1/2 Window (m)=manual int.
16G46875.D RSKEXT1.M Fri Mar 06 11:56:43 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46875.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46875.D\TCD2B.CH
Acq On : 03 Mar 2015 14:17 Operator: JDS
Sample : WG514119-01 0.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:54 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46875.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46875.D\TCD2B.CH
Acq On : 03 Mar 2015 14:17 Operator: JDS
Sample : WG514119-01 0.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	-1.000	0.846	0.0	0	0.00
2	T	ethene	-1.000	0.736	0.0	100	0.00
3	T	acetylene	-1.000	0.632	0.0	100	0.00
4	T	ethane	0.667	0.749	-12.3	100	0.00
5	T	propane	0.667	0.710	-6.4	100	0.00
6	T	n-butane	0.667	0.706	-5.8	100	0.00

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G46875.D RSKEXT1.M Fri Mar 06 11:55:53 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46875.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46875.D\TCD2B.CH
Acq On : 03 Mar 2015 14:17 Operator: JDS
Sample : WG514119-01 0.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
	Signal #2					
8	T carbon dioxide	-1.000	0.000	0.0	0	-0.21

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46876.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46876.D\TCD2B.CH
Acq On : 03 Mar 2015 14:30 Operator: JDS
Sample : WG514119-02 1.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:57:08 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

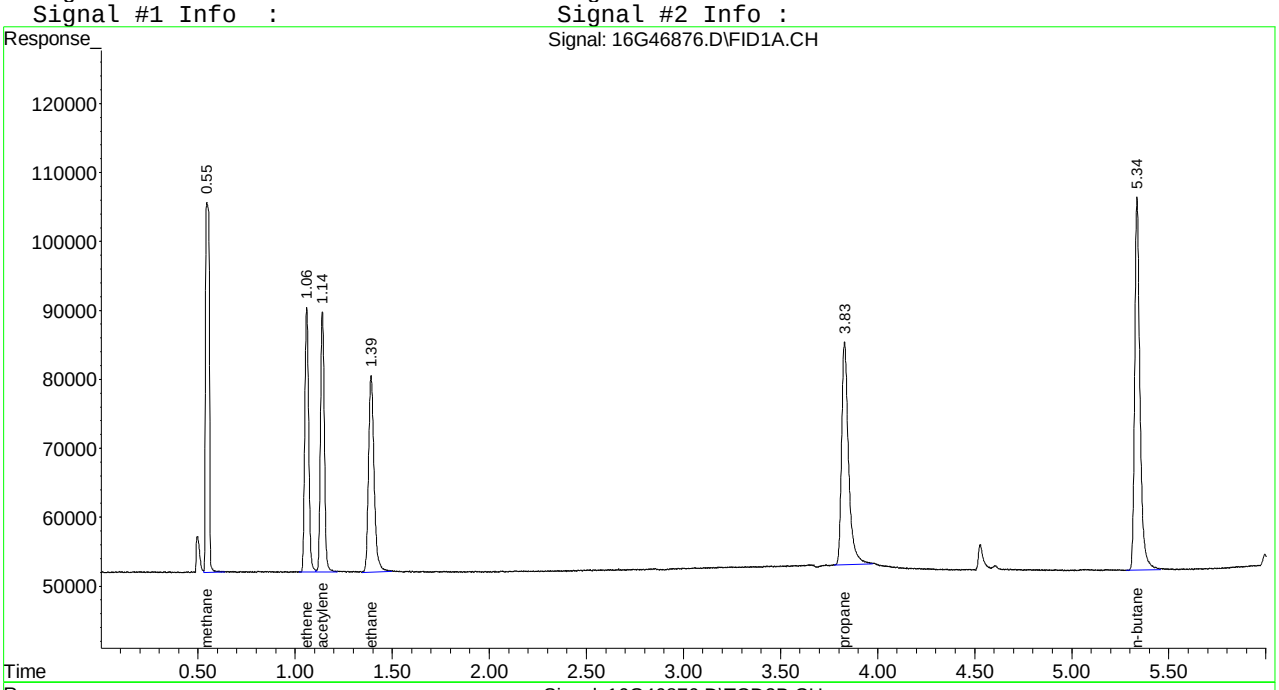
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	739046	1.773	umol/
2) T	ethene	1.06	538090	1.696	umol/
3) T	acetylene	1.14	529143	1.564	umol/
4) T	ethane	1.39	567082	1.668	umol/
5) T	propane	3.83	804240	1.620	umol/
6) T	n-butane	5.34	1028782	1.587	umol/
8) T	carbon dioxide	0.20	7954783	1442.423	umol/

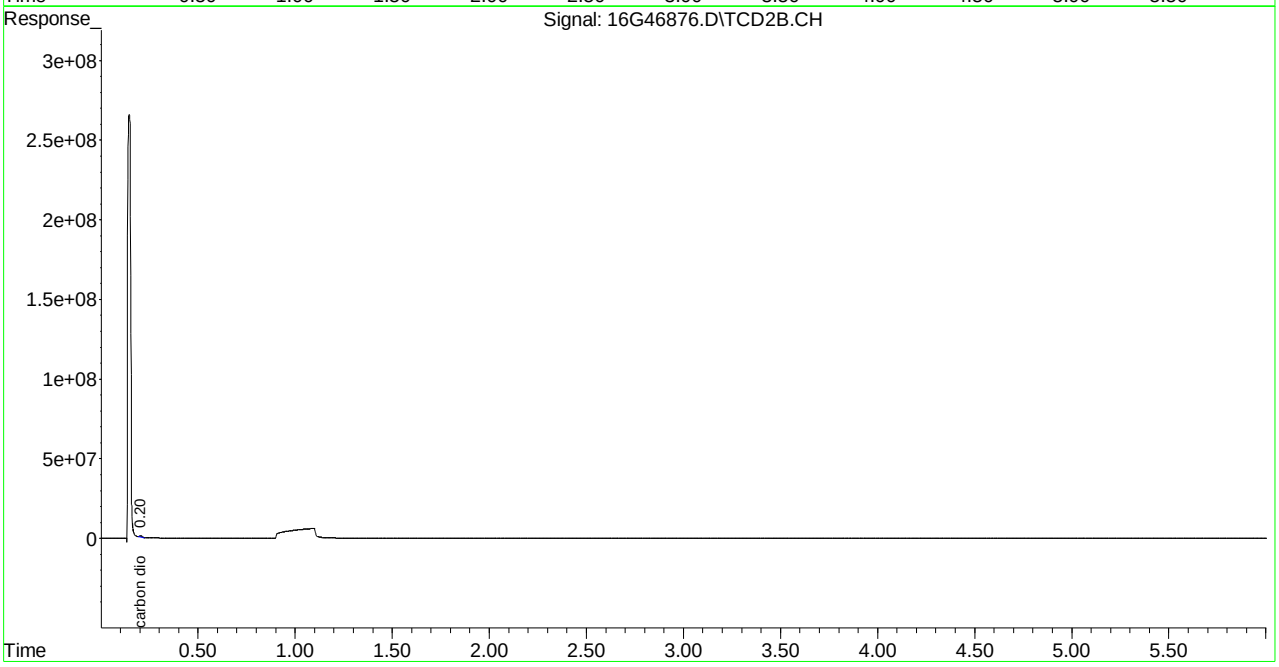
(f)=RT Delta > 1/2 Window (m)=manual int.
16G46876.D RSKEXT1.M Fri Mar 06 11:57:08 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46876.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46876.D\TCD2B.CH
Acq On : 03 Mar 2015 14:30 Operator: JDS
Sample : WG514119-02 1.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:57 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46876.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46876.D\TCD2B.CH
Acq On : 03 Mar 2015 14:30 Operator: JDS
Sample : WG514119-02 1.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	1.670	1.773	-6.2	100	0.00
2	T	ethene	1.670	1.696	-1.6	100	0.00
3	T	acetylene	1.670	1.564	6.3	100	0.00
4	T	ethane	1.670	1.668	0.1	100	0.00
5	T	propane	1.670	1.620	3.0	100	0.00
6	T	n-butane	1.670	1.587	5.0	100	0.00
		Signal #2					
8	T	carbon dioxide	2000.000	1442.423	27.9#	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G46876.D RSKEXT1.M Fri Mar 06 11:52:49 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46876.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46876.D\TCD2B.CH
Acq On : 03 Mar 2015 14:30 Operator: JDS
Sample : WG514119-02 1.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46877.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46877.D\TCD2B.CH
Acq On : 03 Mar 2015 14:42 Operator: JDS
Sample : WG514119-03 33.3umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:57:10 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	6717167	33.998 umol/
2) T	ethene	1.06	11126351	35.075 umol/
3) T	acetylene	1.14	11442001	33.809 umol/
4) T	ethane	1.39	11535235	33.937 umol/
5) T	propane	3.83	17256964	34.764 umol/
6) T	n-butane	5.34	22669140	34.968 umol/
8) T	carbon dioxide	0.20	18661832	3383.908 umol/

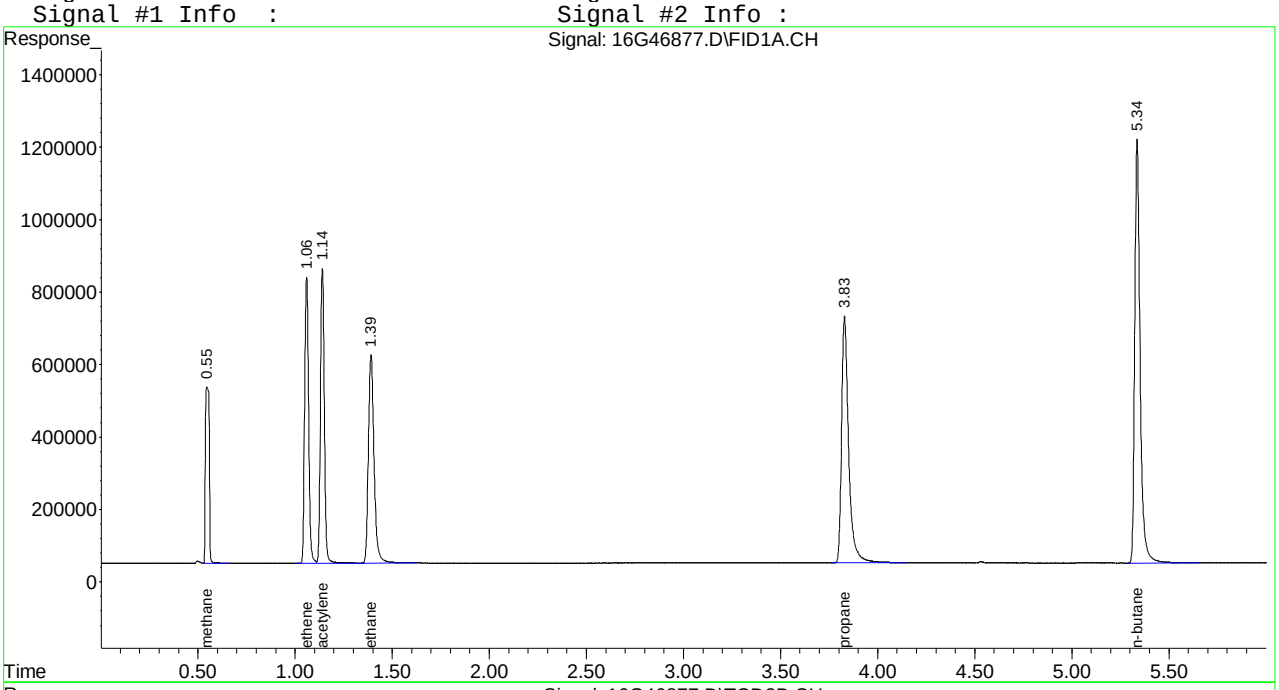
(f)=RT Delta > 1/2 Window (m)=manual int.
16G46877.D RSKEXT1.M Fri Mar 06 11:57:10 2015 Page 1

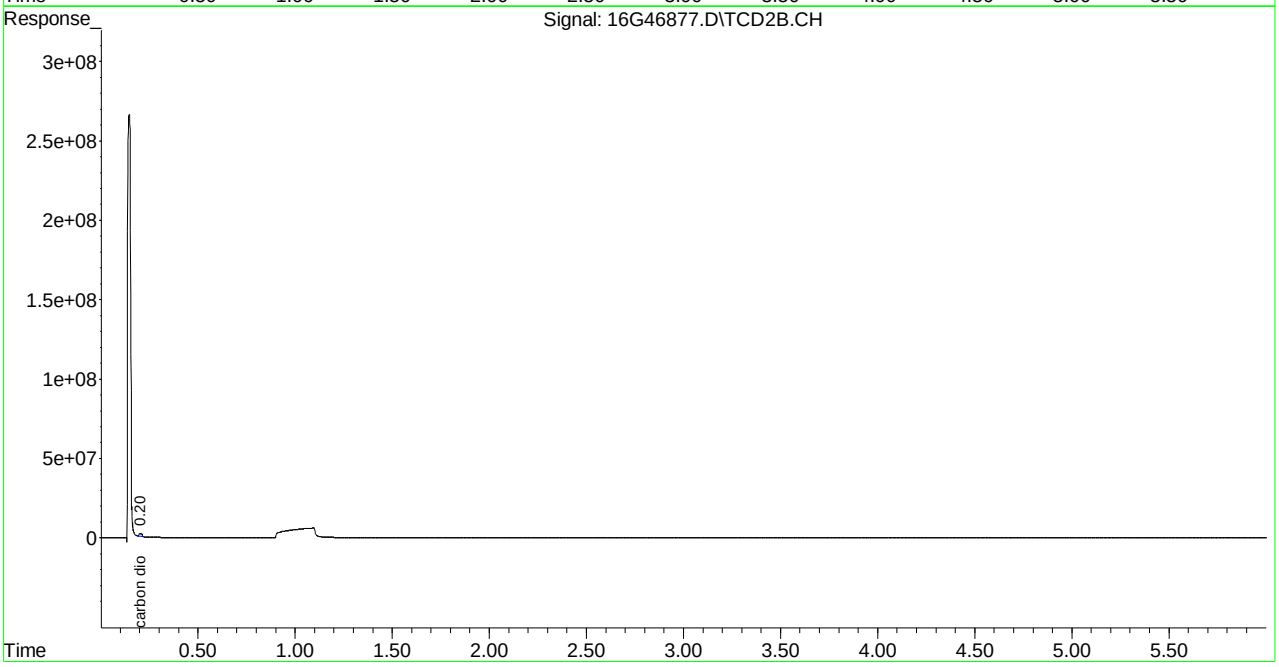
Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46877.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46877.D\TCD2B.CH
Acq On : 03 Mar 2015 14:42 Operator: JDS
Sample : WG514119-03 33.3umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:57 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46878.D\FID1A.CH Vial: 5
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46878.D\TCD2B.CH
Acq On : 03 Mar 2015 14:53 Operator: JDS
Sample : WG514119-04 66.7umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:57:11 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

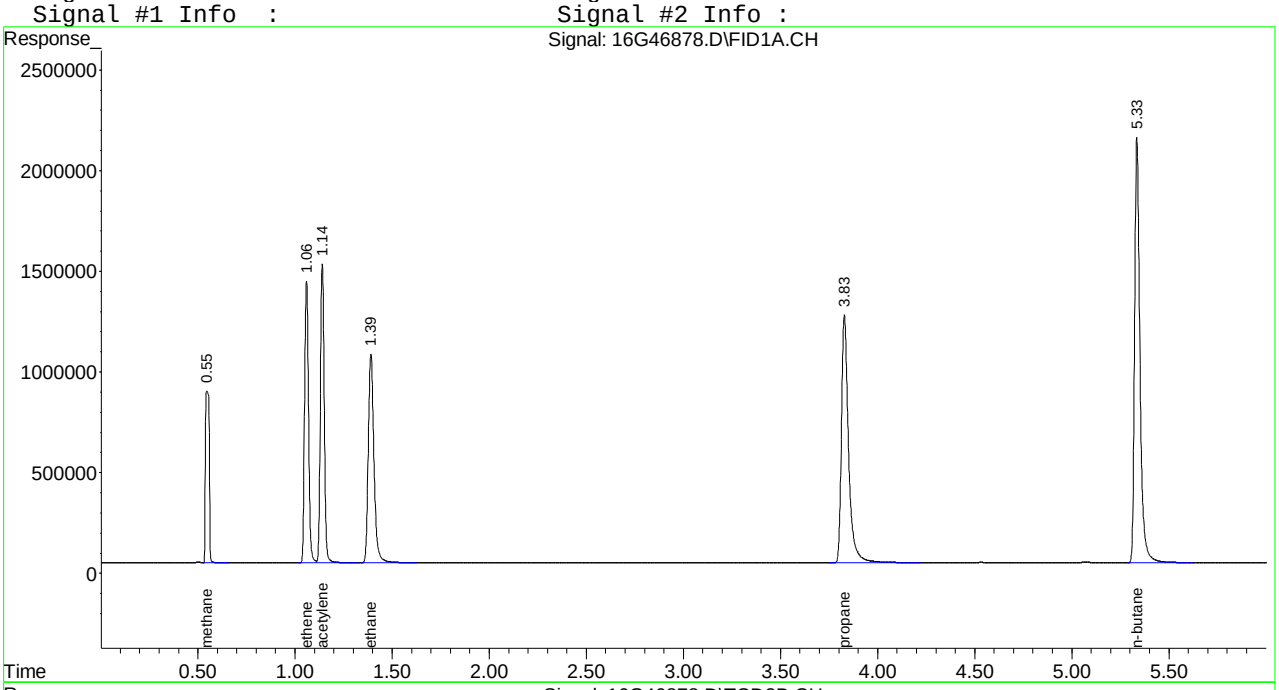
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	11713293	60.930 umol/
2) T	ethene	1.06	19737271	62.220 umol/
3) T	acetylene	1.14	20910957	61.787 umol/
4) T	ethane	1.39	20832969	61.292 umol/
5) T	propane	3.83	31304425	63.062 umol/
6) T	n-butane	5.33	40948894	63.166 umol/
8) T	carbon dioxide	0.20	37230879	6750.991 umol/

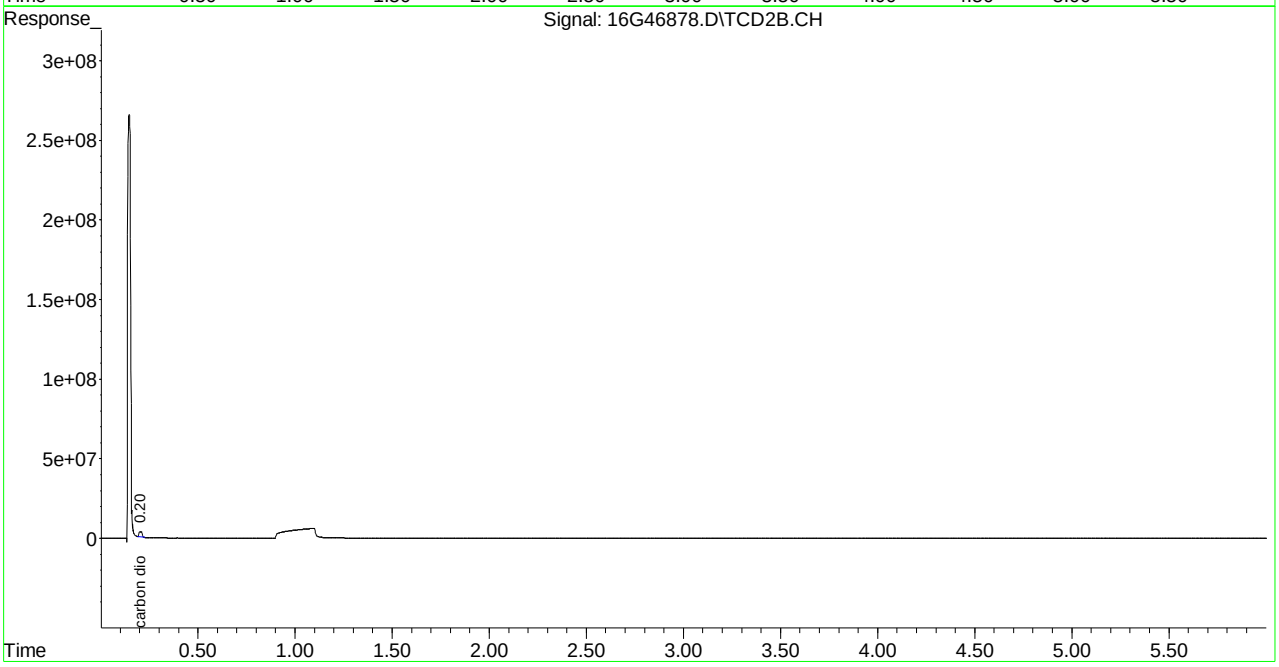
(f)=RT Delta > 1/2 Window (m)=manual int.
16G46878.D RSKEXT1.M Fri Mar 06 11:57:11 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46878.D\FID1A.CH Vial: 5
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46878.D\TCD2B.CH
Acq On : 03 Mar 2015 14:53 Operator: JDS
Sample : WG514119-04 66.7umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:57 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46879.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46879.D\TCD2B.CH
Acq On : 03 Mar 2015 15:05 Operator: JDS
Sample : WG514119-05 133umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:57:11 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

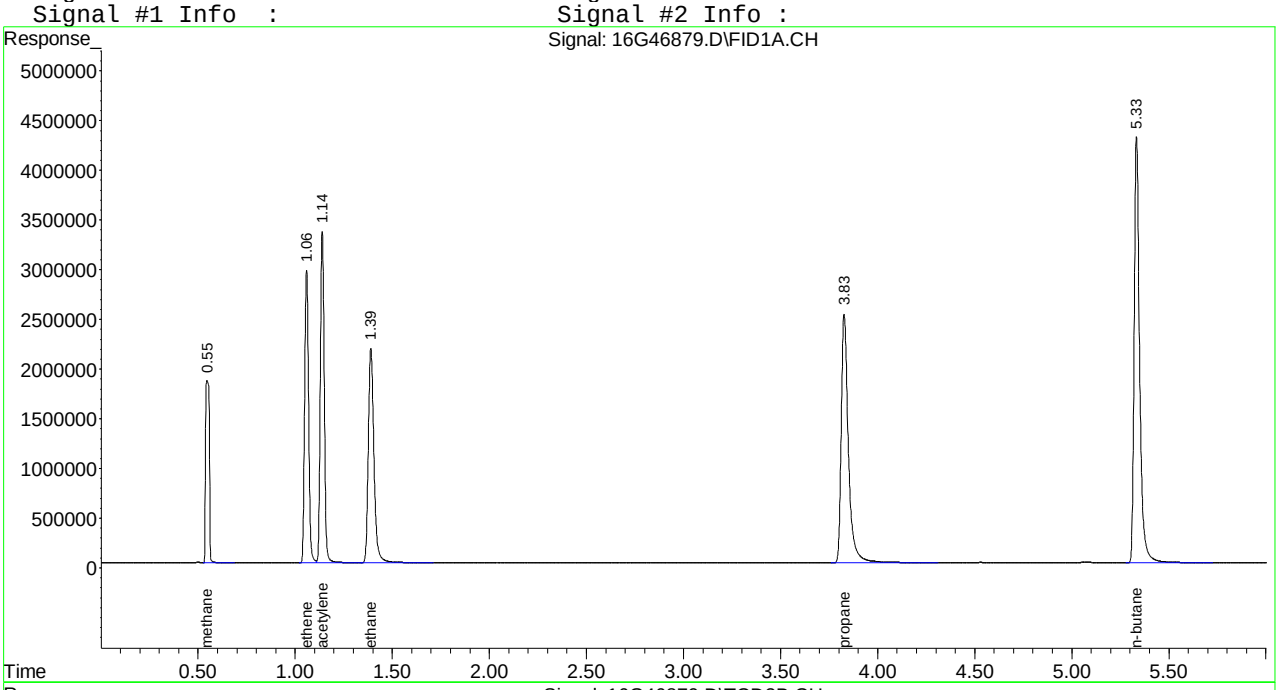
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	24939741	132.227 umol/
2) T	ethene	1.06	41686300	131.412 umol/
3) T	acetylene	1.14	47206199	139.484 umol/
4) T	ethane	1.39	43668346	128.475 umol/
5) T	propane	3.83	64365472	129.663 umol/
6) T	n-butane	5.33	84395468	130.185 umol/
8) T	carbon dioxide	0.20	80524699	14601.362 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G46879.D RSKEXT1.M Fri Mar 06 11:57:12 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46879.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46879.D\TCD2B.CH
Acq On : 03 Mar 2015 15:05 Operator: JDS
Sample : WG514119-05 133umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:57 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46880.D\FID1A.CH Vial: 7
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46880.D\TCD2B.CH
Acq On : 03 Mar 2015 15:17 Operator: JDS
Sample : WG514119-06 333umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:57:12 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

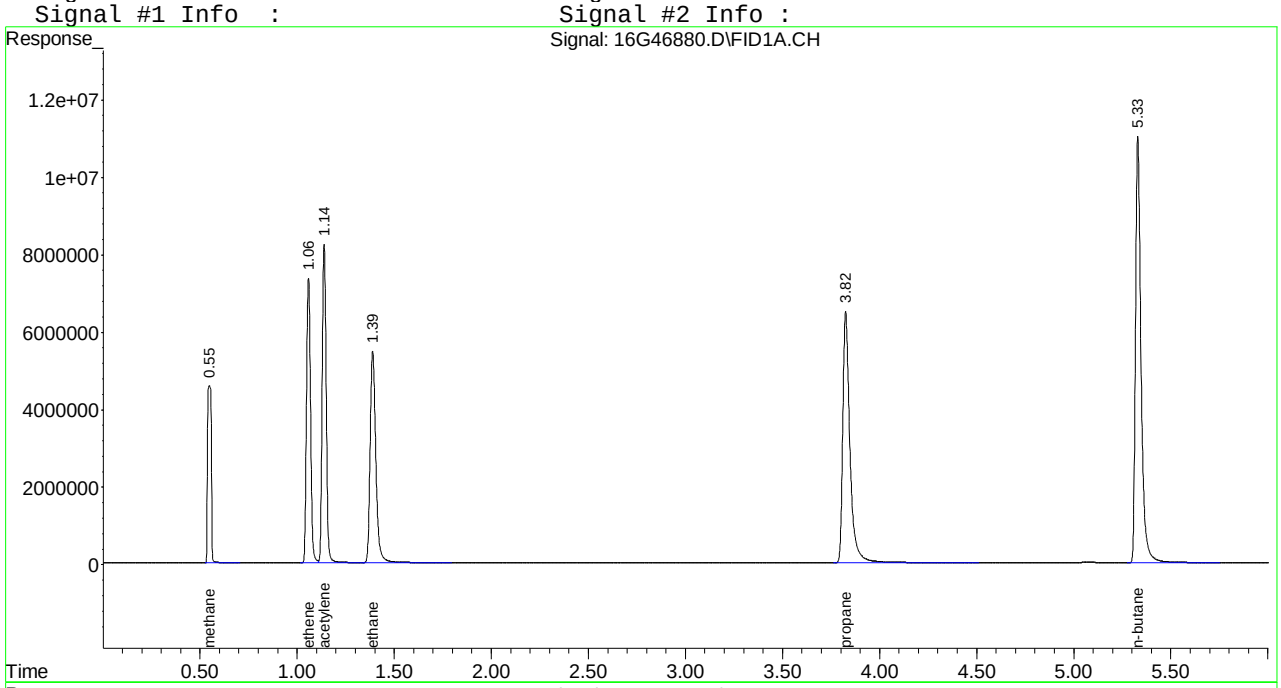
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	61959752	331.783	umol/
2) T	ethene	1.06	106345688	335.244	umol/
3) T	acetylene	1.14	118917475	351.375	umol/
4) T	ethane	1.39	111791323	328.897	umol/
5) T	propane	3.83	166544491	335.501	umol/
6) T	n-butane	5.33	219746160	338.971	umol/
8) T	carbon dioxide	0.20	201820251	36595.610	umol/

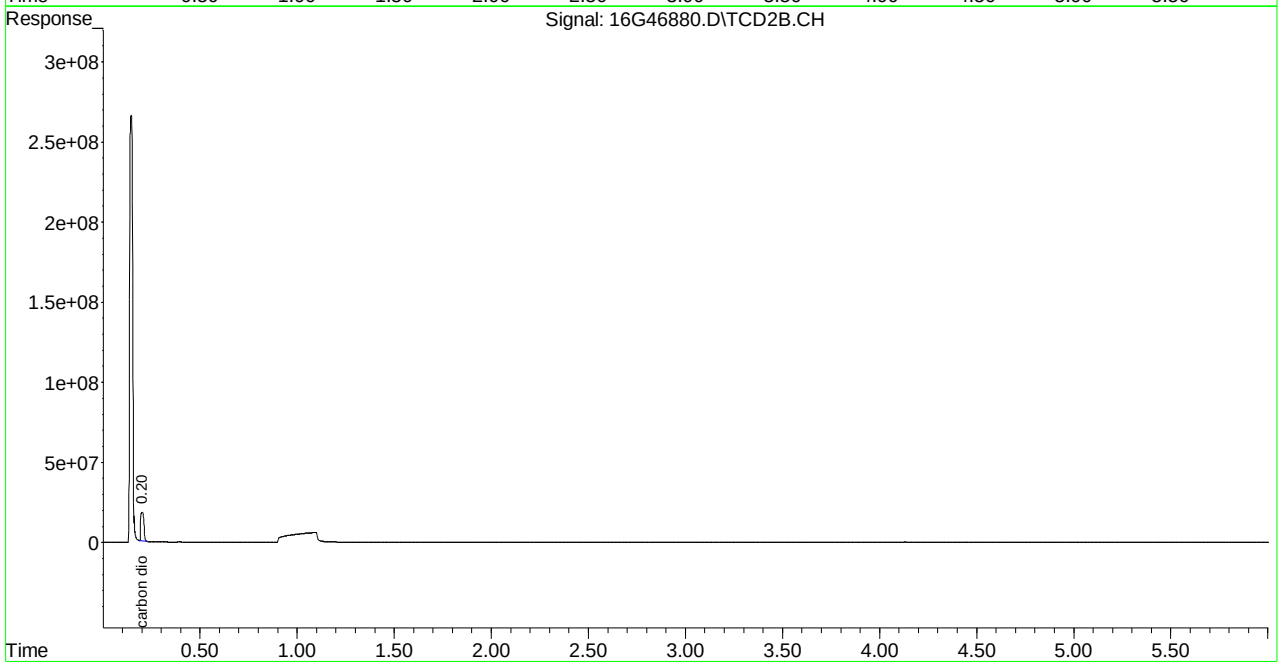
(f)=RT Delta > 1/2 Window (m)=manual int.
16G46880.D RSKEXT1.M Fri Mar 06 11:57:12 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46880.D\FID1A.CH Vial: 7
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46880.D\TCD2B.CH
Acq On : 03 Mar 2015 15:17 Operator: JDS
Sample : WG514119-06 333umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:57 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46881.D\FID1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46881.D\TCD2B.CH
Acq On : 03 Mar 2015 15:29 Operator: JDS
Sample : WG514119-07 533umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:57:13 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

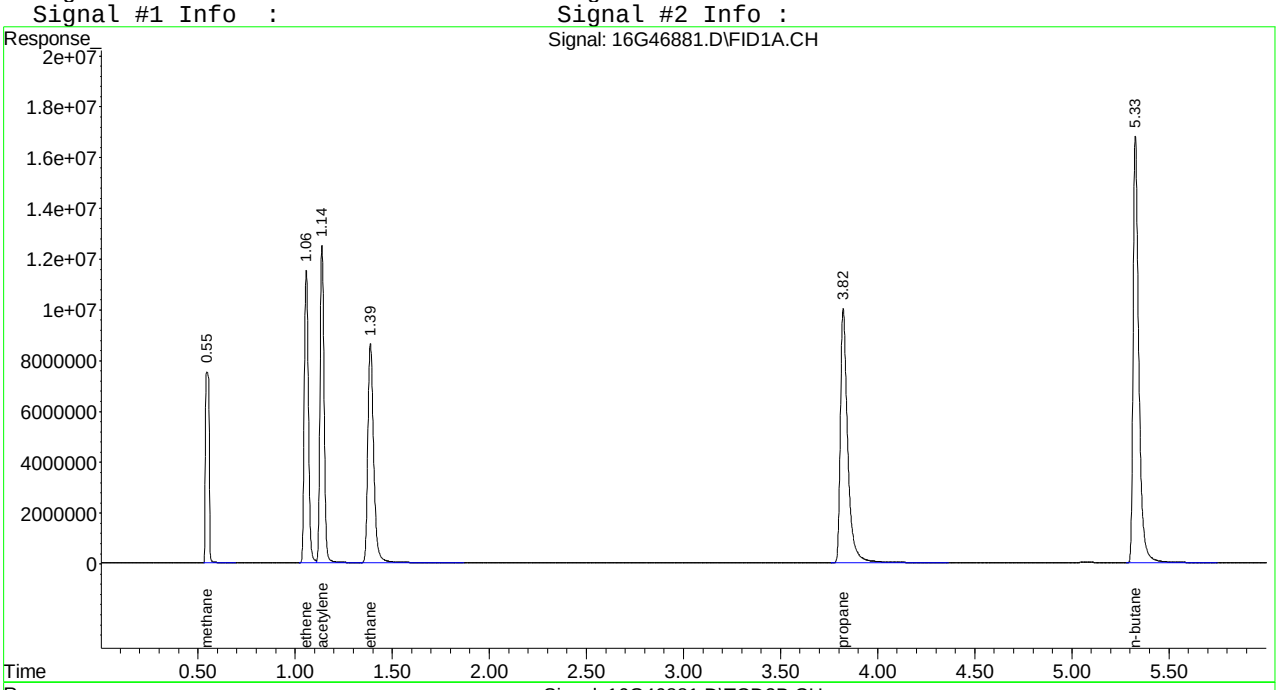
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	100578633	539.958 umol/
2) T	ethene	1.06	169644372	534.786 umol/
3) T	acetylene	1.14	183672662	542.712 umol/
4) T	ethane	1.39	178696917	525.738 umol/
5) T	propane	3.82	263060772	529.931 umol/
6) T	n-butane	5.33	344418707	531.285 umol/
8) T	carbon dioxide	0.20	309711021	56159.199 umol/

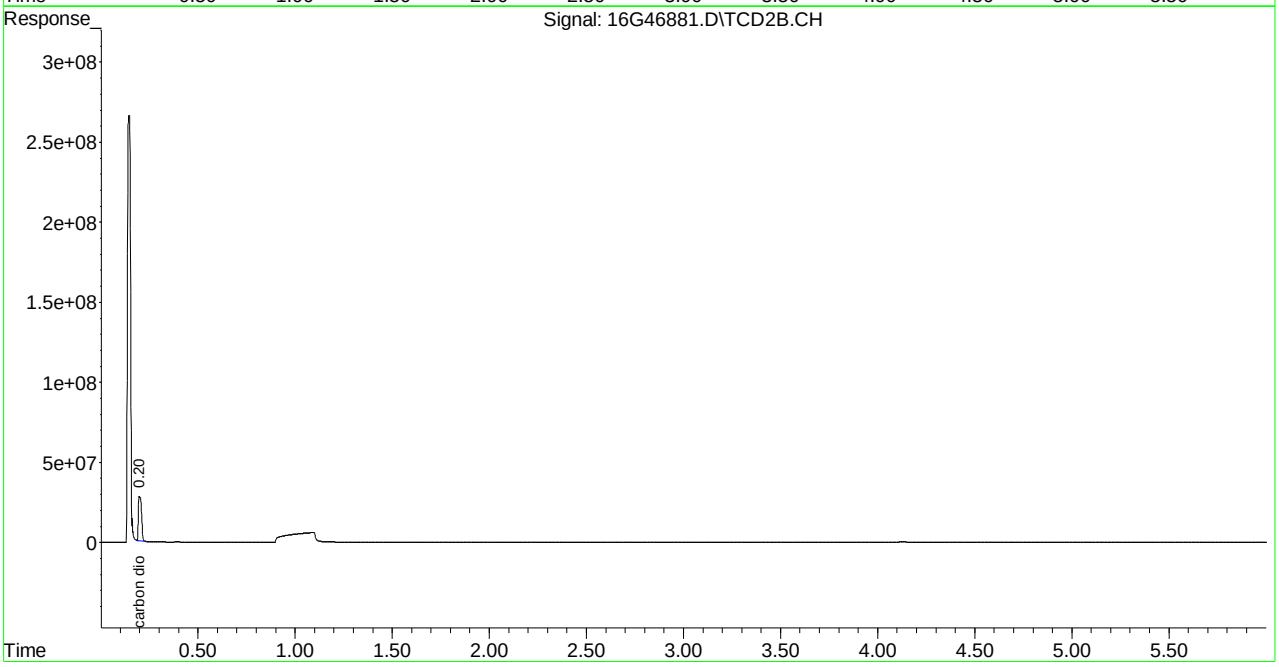
(f)=RT Delta > 1/2 Window (m)=manual int.
16G46881.D RSKEXT1.M Fri Mar 06 11:57:13 2015 Page 1

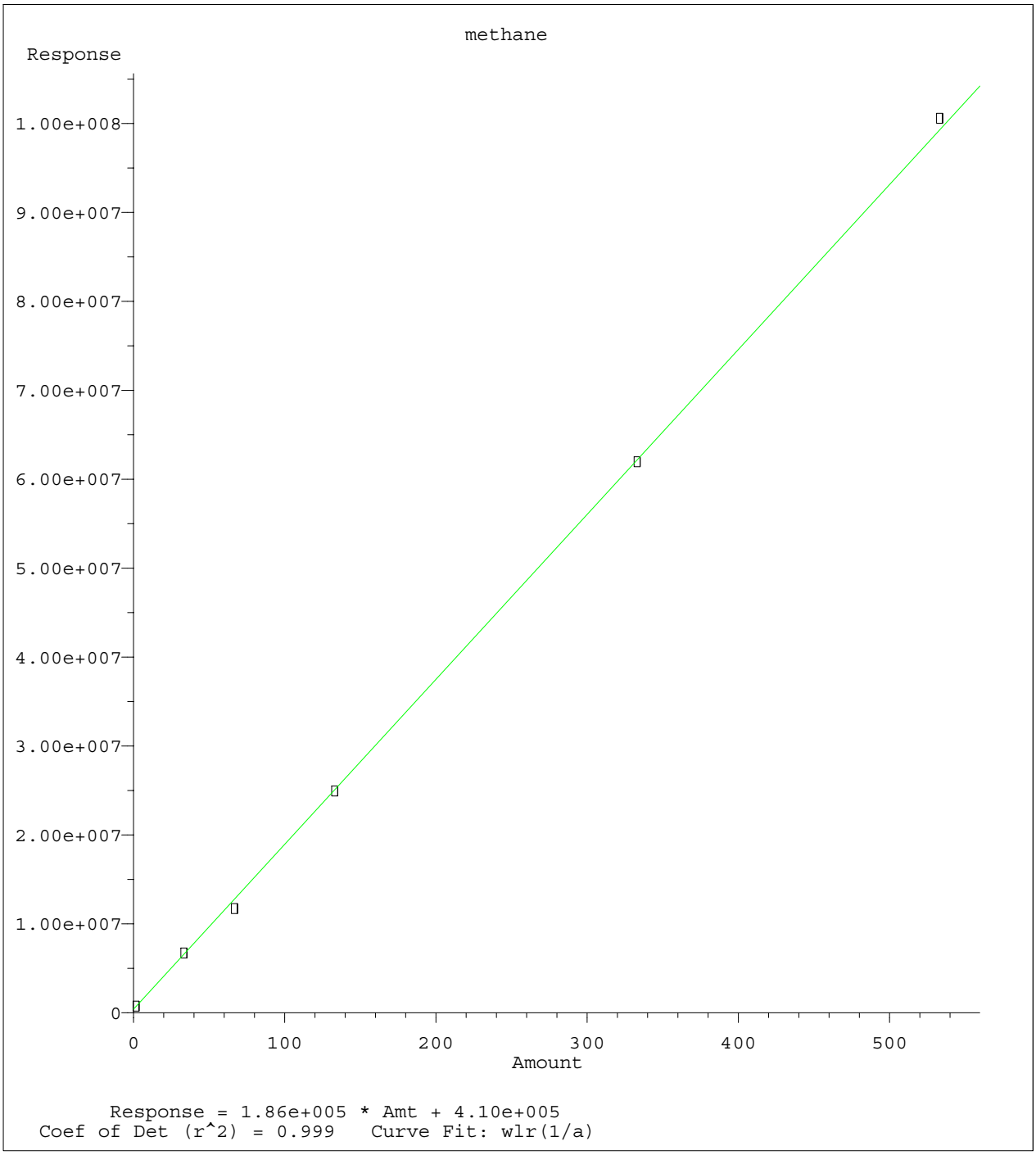
Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46881.D\FID1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46881.D\TCD2B.CH
Acq On : 03 Mar 2015 15:29 Operator: JDS
Sample : WG514119-07 533umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67274 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:57 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :







Method Name: C:\MSDCHEM\1\METHODS\RSKEXT1.M
Calibration Table Last Updated: Fri Mar 06 11:52:33 2015

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46884.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46884.D\TCD2B.CH
Acq On : 03 Mar 2015 17:10 Operator: JDS
Sample : WG514119-08 133umol/mol ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 06 11:58:49 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

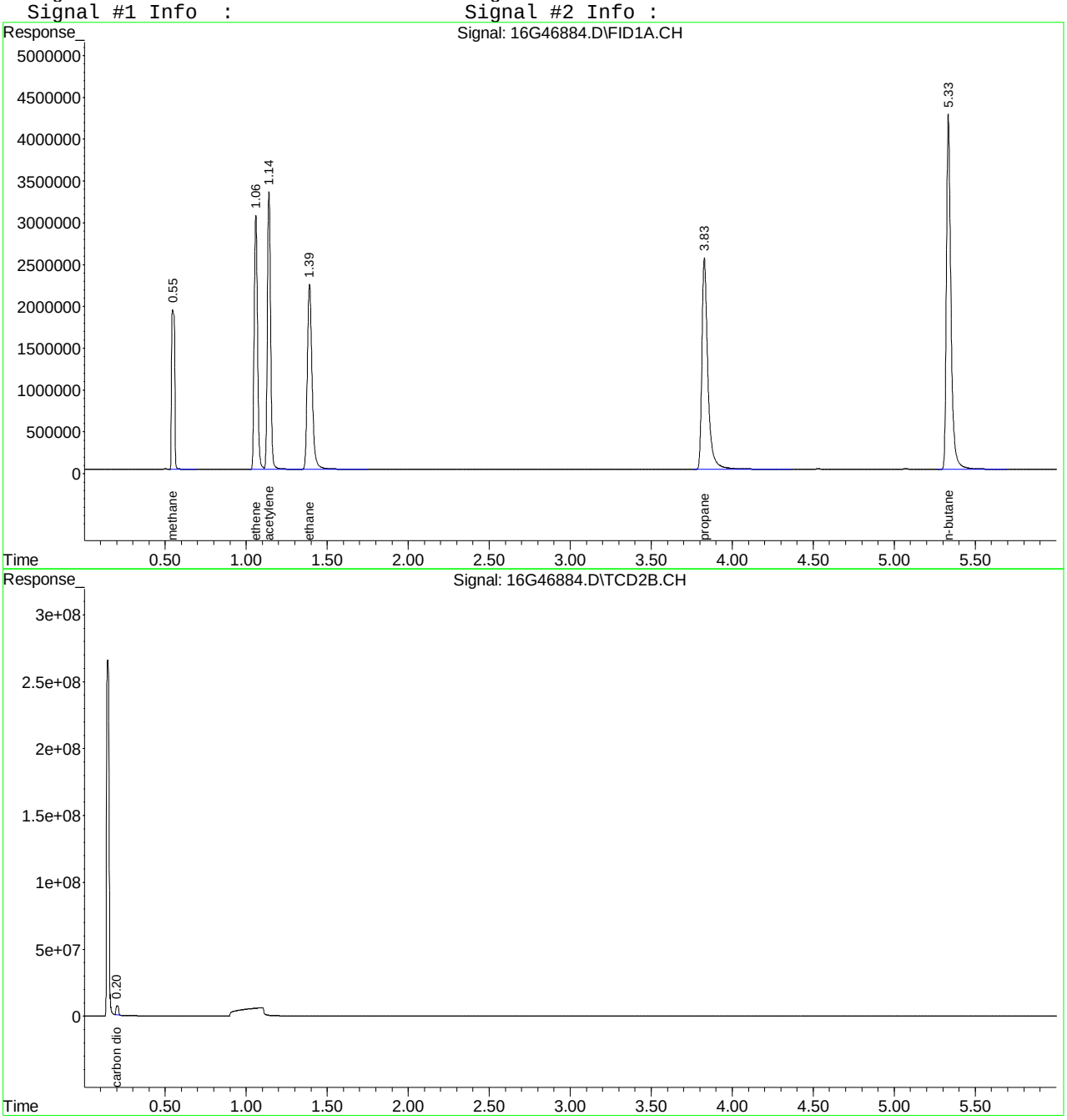
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	25936090	137.598 umol/
2) T	ethene	1.06	43111404	135.904 umol/
3) T	acetylene	1.14	47098795	139.167 umol/
4) T	ethane	1.39	44778091	131.740 umol/
5) T	propane	3.83	64822008	130.583 umol/
6) T	n-butane	5.33	82856392	127.811 umol/
8) T	carbon dioxide	0.20	76359751	13846.141 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G46884.D RSKEXT1.M Fri Mar 06 11:58:49 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46884.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46884.D\TCD2B.CH
Acq On : 03 Mar 2015 17:10 Operator: JDS
Sample : WG514119-08 133umol/mol ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 6 11:58 2015 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46884.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46884.D\TCD2B.CH
Acq On : 03 Mar 2015 17:10 Operator: JDS
Sample : WG514119-08 133umol/mol ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	137.598	-3.5	104	0.00
2	T	ethene	133.000	135.904	-2.2	103	0.00
3	T	acetylene	133.000	139.167	-4.6	100	0.00
4	T	ethane	133.000	131.740	0.9	103	0.00
5	T	propane	133.000	130.583	1.8	101	0.00
6	T	n-butane	133.000	127.811	3.9	98	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	13846.141	-4.1	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G46884.D RSKEXT1.M Fri Mar 06 11:59:02 2015 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\030315\16G46884.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\030315\16G46884.D\TCD2B.CH
Acq On : 03 Mar 2015 17:10 Operator: JDS
Sample : WG514119-08 133umol/mol ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49062.D Vial: 15
Acq On : 24 Nov 2015 15:21 Operator: JDS
Sample : WG548345-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 15:27:48 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23945546	126.868 umol/
2) T	ethene	1.06	40329890	127.136 umol/
3) T	acetylene	1.14	46739937	138.106 umol/
4) T	ethane	1.39	42171053	124.070 umol/
5) T	propane	3.83	61027154	122.938 umol/
6) T	n-butane	5.34	79665644	122.889 umol/

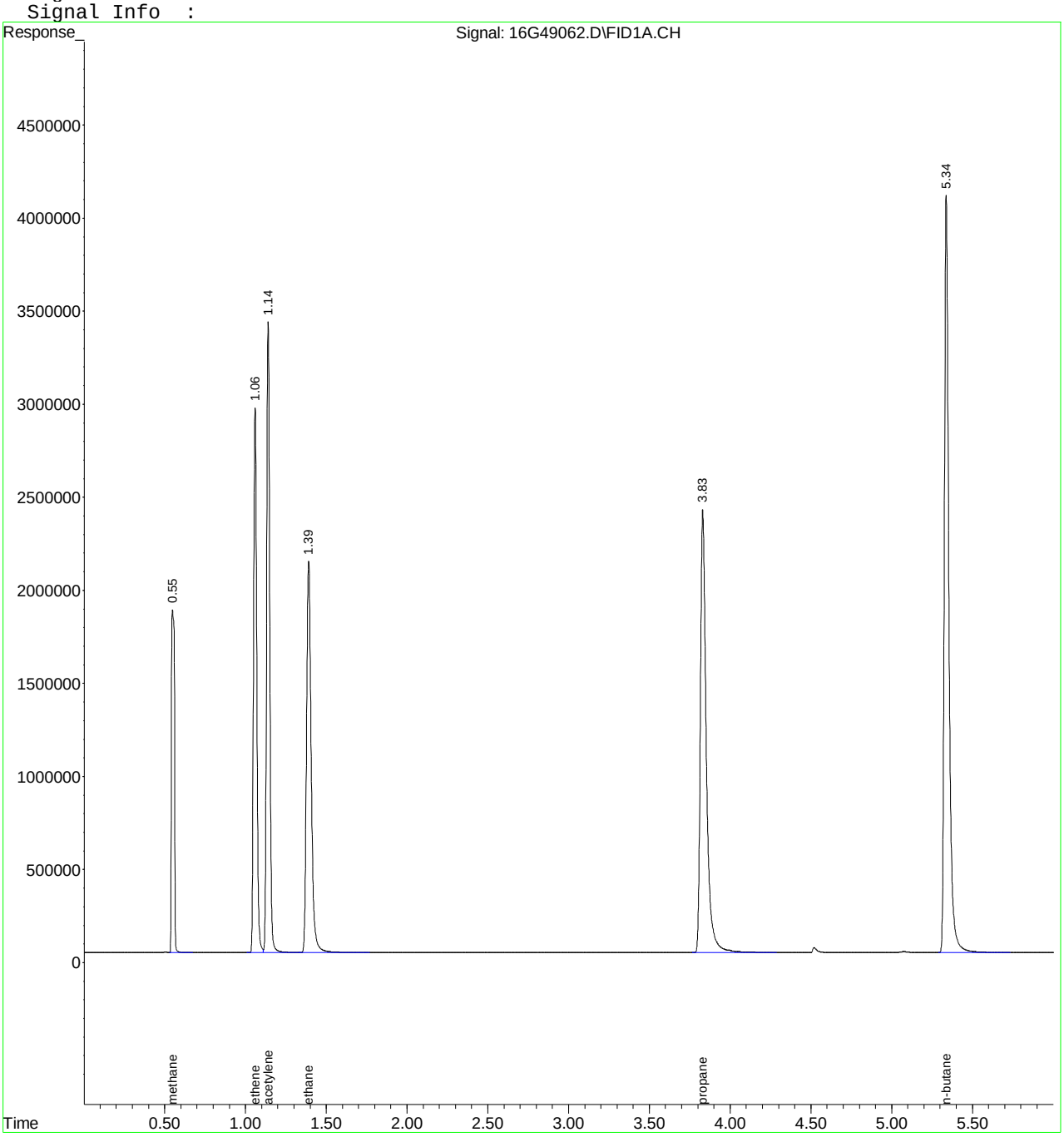
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49062.D RSK1.M Tue Nov 24 15:27:49 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49062.D Vial: 15
Acq On : 24 Nov 2015 15:21 Operator: JDS
Sample : WG548345-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 15:27 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\112415\16G49062.D Vial: 15
Acq On : 24 Nov 2015 15:21 Operator: JDS
Sample : WG548345-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	126.868	4.6	96	0.00
2	T	ethene	133.000	127.136	4.4	97	0.00
3	T	acetylene	133.000	138.106	-3.8	99	0.00
4	T	ethane	133.000	124.070	6.7	97	0.00
5	T	propane	133.000	122.938	7.6	95	0.00
6	T	n-butane	133.000	122.889	7.6	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49062.D RSKEXT1.M Wed Nov 25 09:05:10 2015 Page 1

Data File : C:\MSDCHEM\1\DATA\112415\16G49062.D Vial: 15
Acq On : 24 Nov 2015 15:21 Operator: JDS
Sample : WG548345-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area% Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49062.D RSKEXT1.M Wed Nov 25 09:05:10 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49072.D Vial: 11
Acq On : 24 Nov 2015 20:28 Operator: JDS
Sample : WG548345-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 20:34:21 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23316518	123.477 umol/
2) T	ethene	1.06	39438449	124.326 umol/
3) T	acetylene	1.14	38987842	115.200 umol/
4) T	ethane	1.40	41946002	123.408 umol/
5) T	propane	3.83	61590028	124.072 umol/
6) T	n-butane	5.34	80384518	123.998 umol/

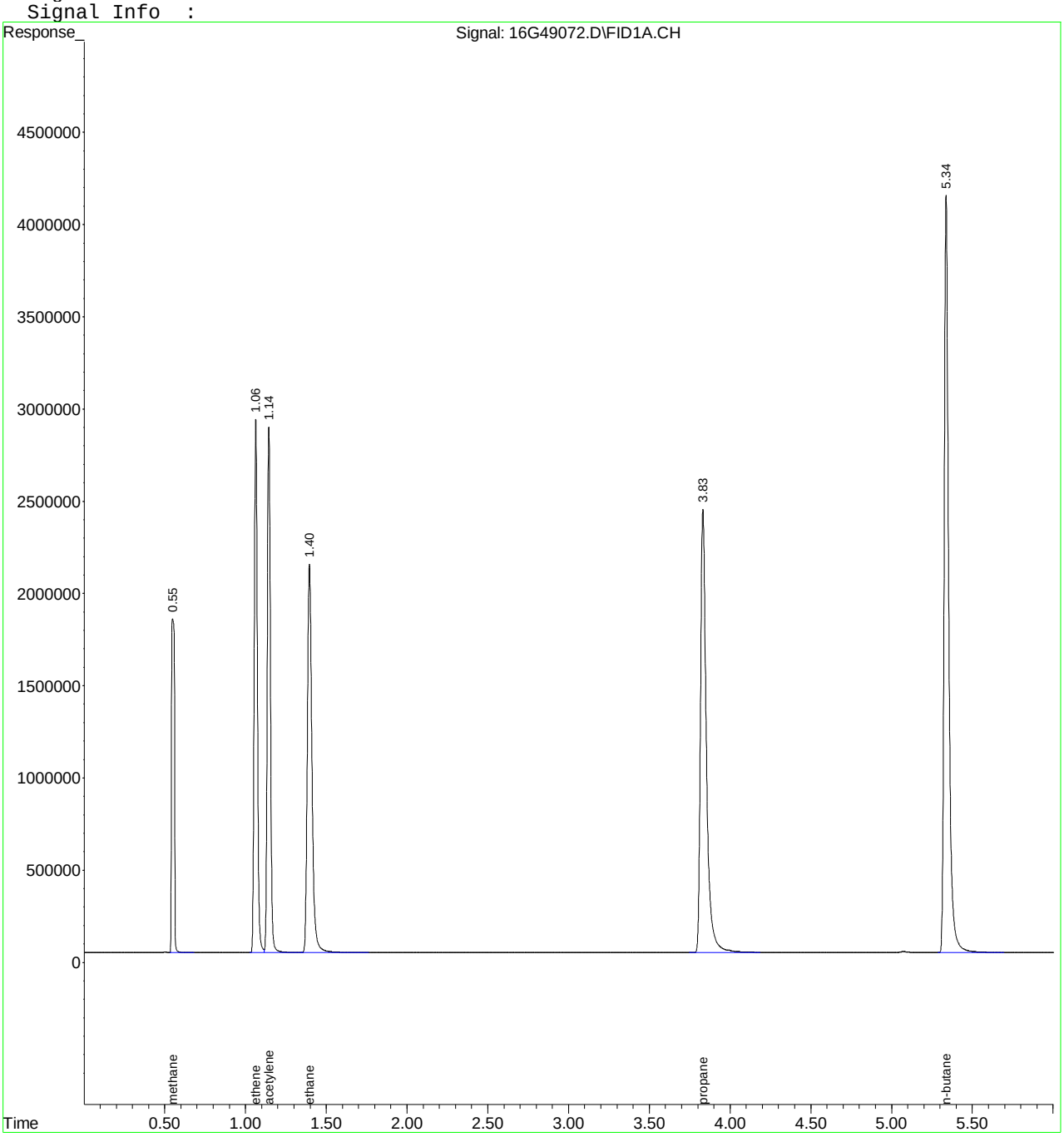
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49072.D RSK1.M Tue Nov 24 20:34:21 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49072.D Vial: 11
Acq On : 24 Nov 2015 20:28 Operator: JDS
Sample : WG548345-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 20:34 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\112415\16G49072.D Vial: 11
Acq On : 24 Nov 2015 20:28 Operator: JDS
Sample : WG548345-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	123.477	7.2	93	0.00
2	T	ethene	133.000	124.326	6.5	95	0.00
3	T	acetylene	133.000	115.200	13.4	83	0.00
4	T	ethane	133.000	123.408	7.2	96	0.00
5	T	propane	133.000	124.072	6.7	96	0.00
6	T	n-butane	133.000	123.998	6.8	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49072.D RSKEXT1.M Wed Nov 25 09:05:16 2015 Page 1

Data File : C:\MSDCHEM\1\DATA\112415\16G49072.D Vial: 11
Acq On : 24 Nov 2015 20:28 Operator: JDS
Sample : WG548345-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area% Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49072.D RSKEXT1.M Wed Nov 25 09:05:16 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49073.D Vial: 1
Acq On : 30 Nov 2015 13:50 Operator: JDS
Sample : WG548681-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 13:56:59 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) T	methane	0.55	22956749	121.538 umol/
2) T	ethene	1.06	39023675	123.018 umol/
3) T	acetylene	1.14	45046570	133.103 umol/
4) T	ethane	1.39	40890025	120.301 umol/
5) T	propane	3.83	59763973	120.393 umol/
6) T	n-butane	5.34	78305198	120.790 umol/

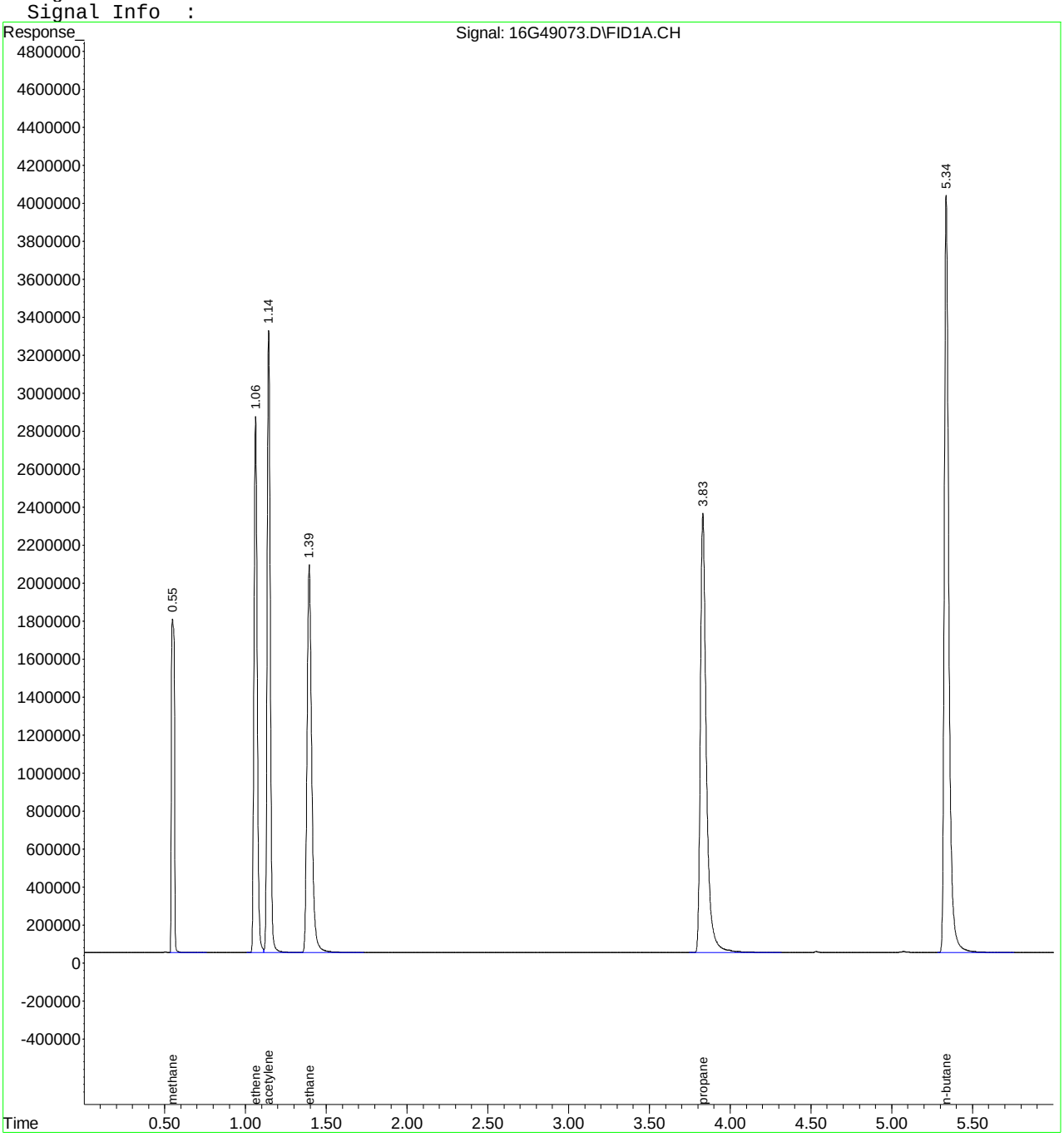
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49073.D RSK1.M Mon Nov 30 13:56:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49073.D Vial: 1
Acq On : 30 Nov 2015 13:50 Operator: JDS
Sample : WG548681-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 13:56 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\MSDCHEM\1\DATA\113015\16G49073.D Vial: 1
Acq On : 30 Nov 2015 13:50 Operator: JDS
Sample : WG548681-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	121.538	8.6	92	0.00
2	T	ethene	133.000	123.018	7.5	94	0.00
3	T	acetylene	133.000	133.103	-0.1	95	0.00
4	T	ethane	133.000	120.301	9.5	94	0.00
5	T	propane	133.000	120.393	9.5	93	0.00
6	T	n-butane	133.000	120.790	9.2	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49073.D RSKEXT1.M Tue Dec 01 08:35:23 2015 Page 1

Data File : C:\MSDCHEM\1\DATA\113015\16G49073.D Vial: 1
Acq On : 30 Nov 2015 13:50 Operator: JDS
Sample : WG548681-01 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area% Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49073.D RSKEXT1.M Tue Dec 01 08:35:23 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49084.D Vial: 12
Acq On : 30 Nov 2015 18:34 Operator: JDS
Sample : WG548681-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 18:40:14 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

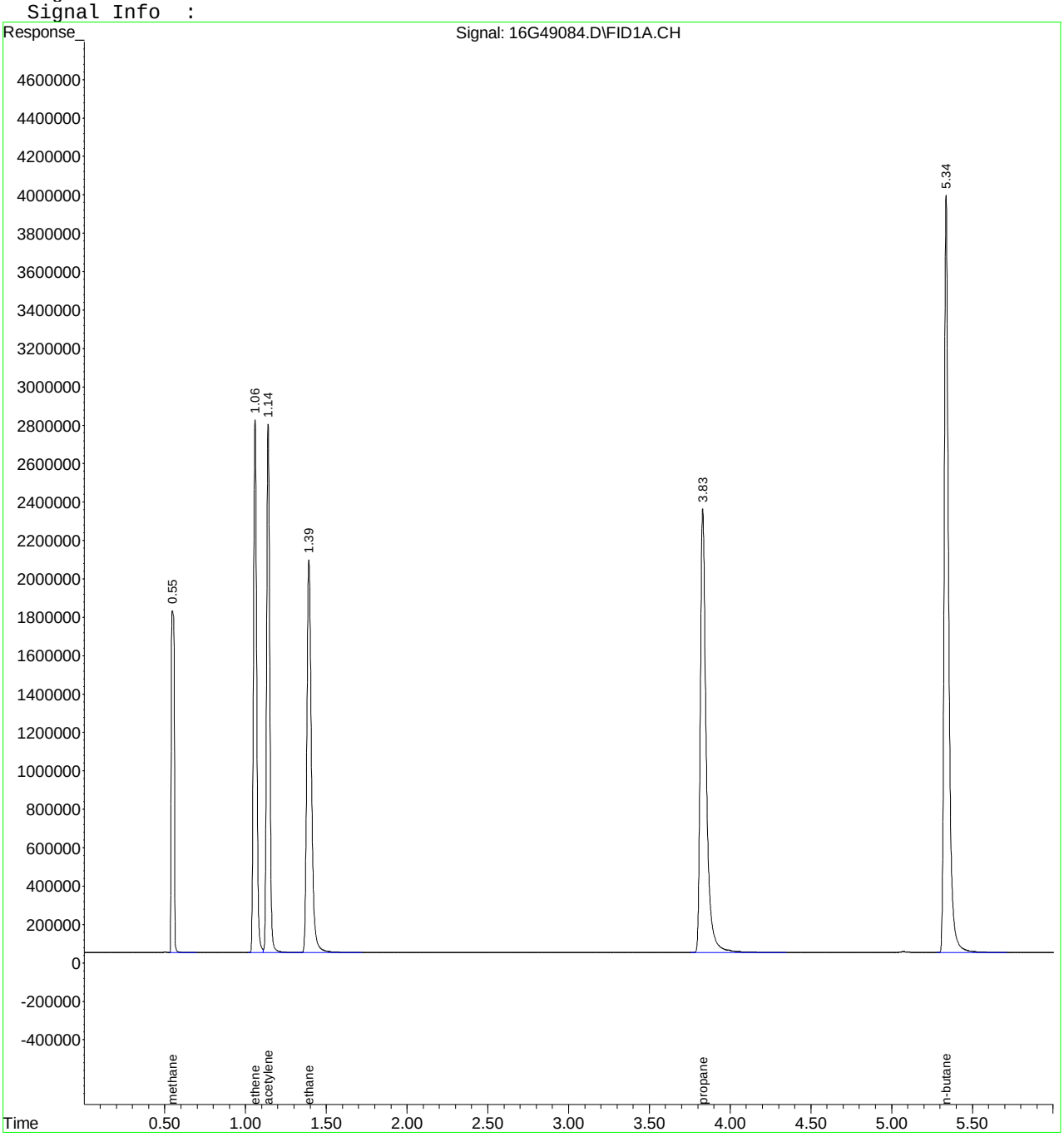
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23151999	122.590 umol/
2) T	ethene	1.06	38419055	121.112 umol/
3) T	acetylene	1.14	38299963	113.168 umol/
4) T	ethane	1.39	40751688	119.894 umol/
5) T	propane	3.83	59259784	119.378 umol/
6) T	n-butane	5.34	76605496	118.168 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49084.D RSK1.M Mon Nov 30 18:40:14 2015 Page 1

Data File : C:\MSDchem\1\DATA\113015\16G49084.D Vial: 12
Acq On : 30 Nov 2015 18:34 Operator: JDS
Sample : WG548681-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 18:40 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\MSDCHEM\1\DATA\113015\16G49084.D Vial: 12
Acq On : 30 Nov 2015 18:34 Operator: JDS
Sample : WG548681-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	122.590	7.8	93	0.00
2	T	ethene	133.000	121.112	8.9	92	0.00
3	T	acetylene	133.000	113.168	14.9	81	0.00
4	T	ethane	133.000	119.894	9.9	93	0.00
5	T	propane	133.000	119.378	10.2	92	0.00
6	T	n-butane	133.000	118.168	11.2	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49084.D RSKEXT1.M Tue Dec 01 08:35:34 2015 Page 1

Data File : C:\MSDCHEM\1\DATA\113015\16G49084.D Vial: 12
Acq On : 30 Nov 2015 18:34 Operator: JDS
Sample : WG548681-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD72628 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area% Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49084.D RSKEXT1.M Tue Dec 01 08:35:34 2015 Page 2

2.1.2.5 Raw QC Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49063.D Vial: 2
Acq On : 24 Nov 2015 18:44 Operator: JDS
Sample : WG548346-01 BLANK STD RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 18:50:15 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	394335	N.D.	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.40	16480	0.048	umol/
5) T	propane	3.83	10779	0.022	umol/
6) T	n-butane	0.00	0	N.D.	umol/

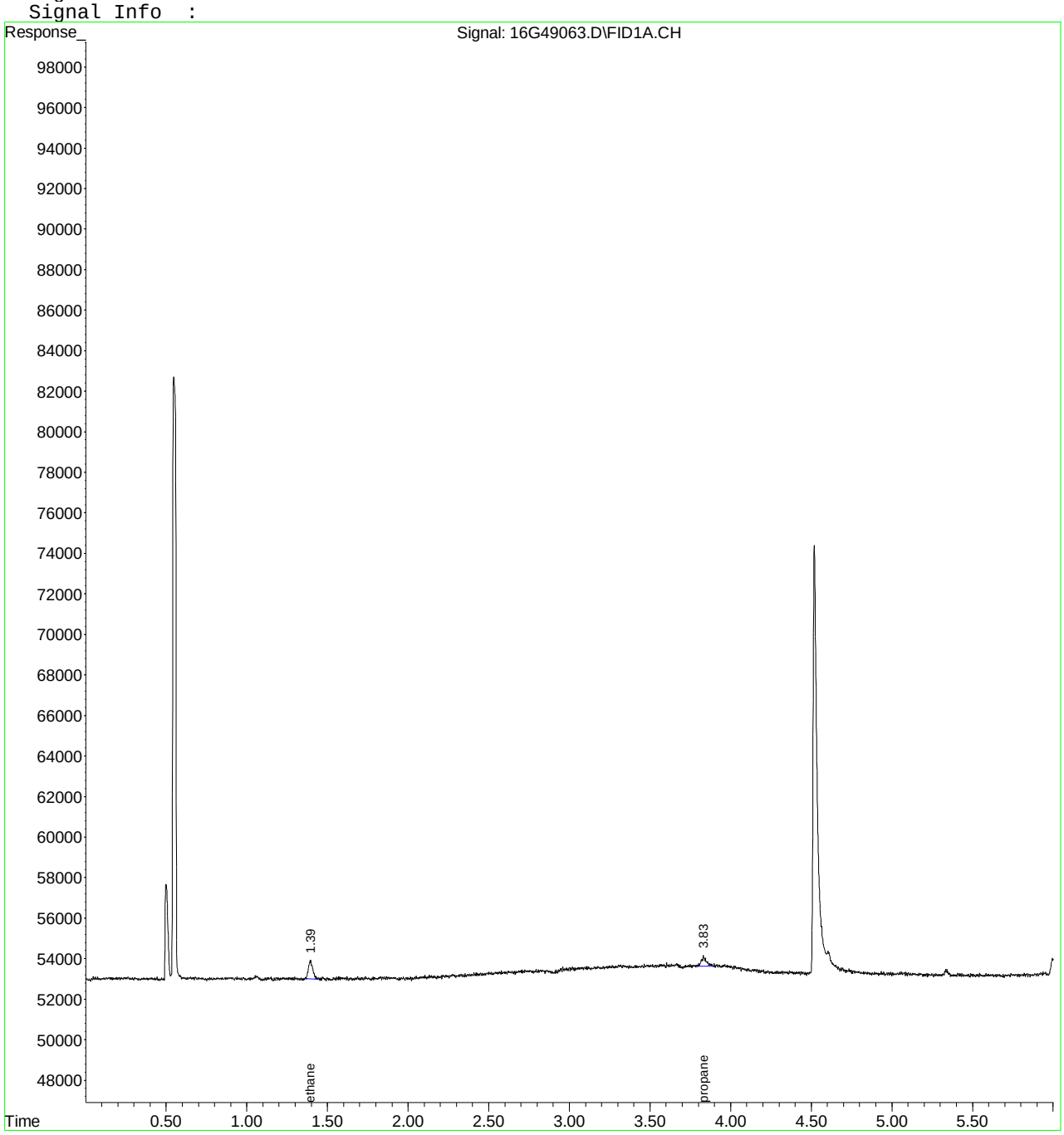
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49063.D RSK1.M Tue Nov 24 18:50:16 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49063.D Vial: 2
Acq On : 24 Nov 2015 18:44 Operator: JDS
Sample : WG548346-01 BLANK STD RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 18:50 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49074.D Vial: 2
Acq On : 30 Nov 2015 16:31 Operator: JDS
Sample : WG548682-01 BLANK STD RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 16:37:36 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	383272	N.D.	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.38	9424	0.028	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/

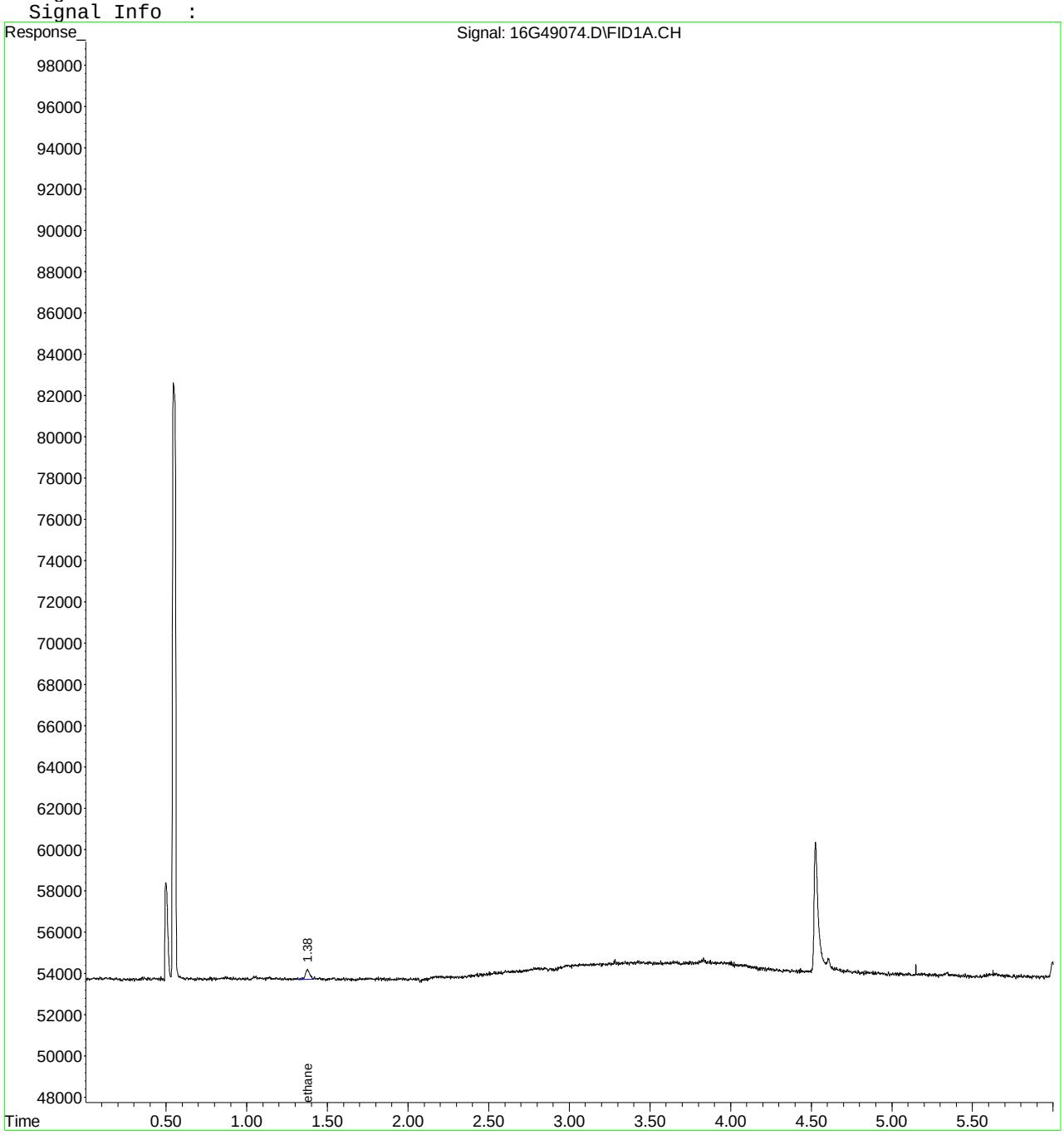
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49074.D RSK1.M Mon Nov 30 16:37:36 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49074.D Vial: 2
Acq On : 30 Nov 2015 16:31 Operator: JDS
Sample : WG548682-01 BLANK STD RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 16:37 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49064.D Vial: 3
Acq On : 24 Nov 2015 18:56 Operator: JDS
Sample : WG548346-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 19:02:12 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

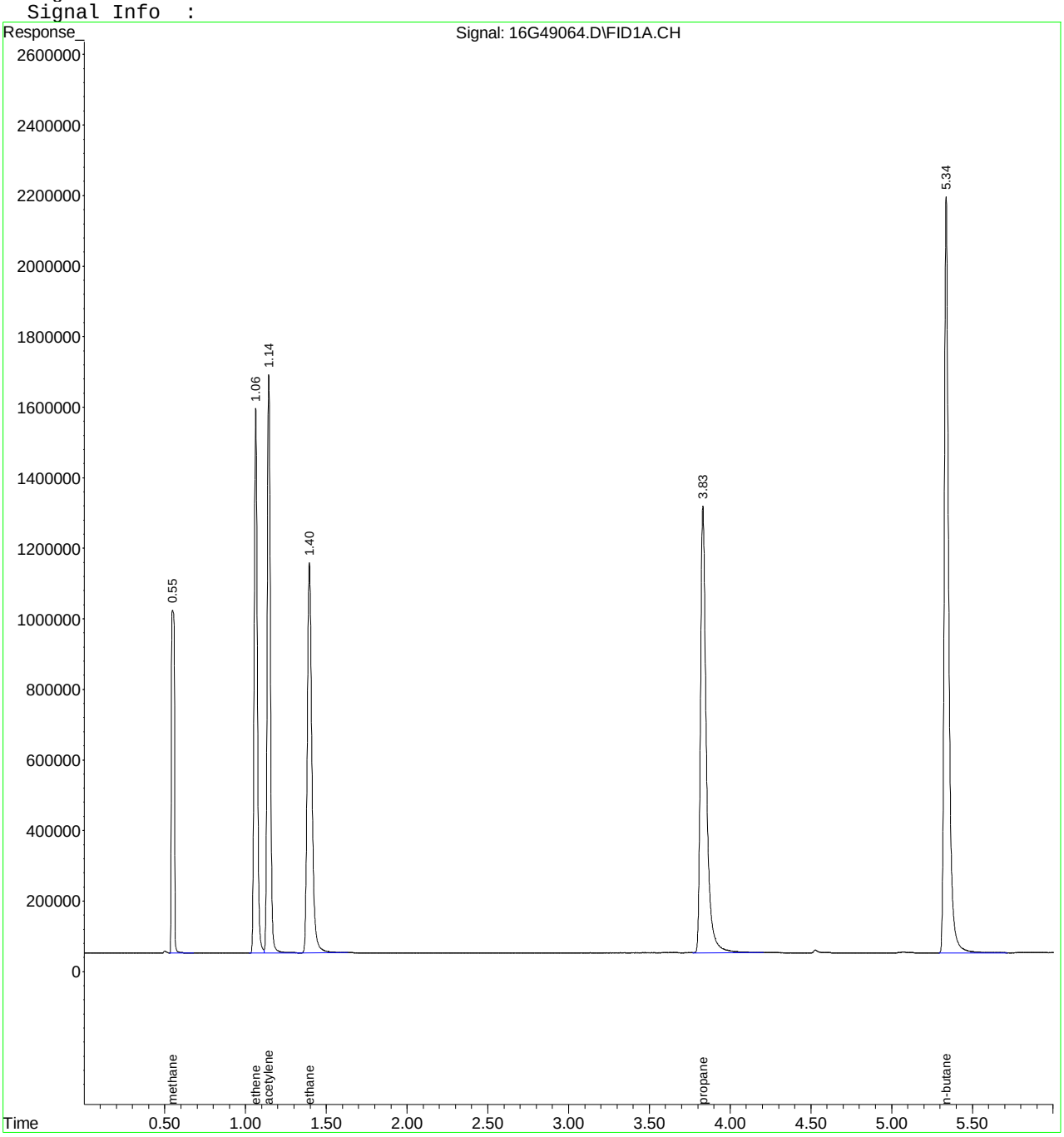
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	12775751	66.657 umol/
2) T	ethene	1.06	21308998	67.174 umol/
3) T	acetylene	1.14	22637226	66.888 umol/
4) T	ethane	1.40	22111581	65.054 umol/
5) T	propane	3.83	32289573	65.047 umol/
6) T	n-butane	5.34	41732346	64.374 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49064.D RSK1.M Tue Nov 24 19:02:13 2015 Page 1

Data File : C:\MSDchem\1\DATA\112415\16G49064.D Vial: 3
Acq On : 24 Nov 2015 18:56 Operator: JDS
Sample : WG548346-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 19:02 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49075.D Vial: 3
Acq On : 30 Nov 2015 16:43 Operator: JDS
Sample : WG548682-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 16:49:16 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	12324365	64.224 umol/
2) T	ethene	1.06	20200646	63.680 umol/
3) T	acetylene	1.14	21801475	64.419 umol/
4) T	ethane	1.40	20941621	61.612 umol/
5) T	propane	3.83	30257725	60.954 umol/
6) T	n-butane	5.34	38978642	60.127 umol/

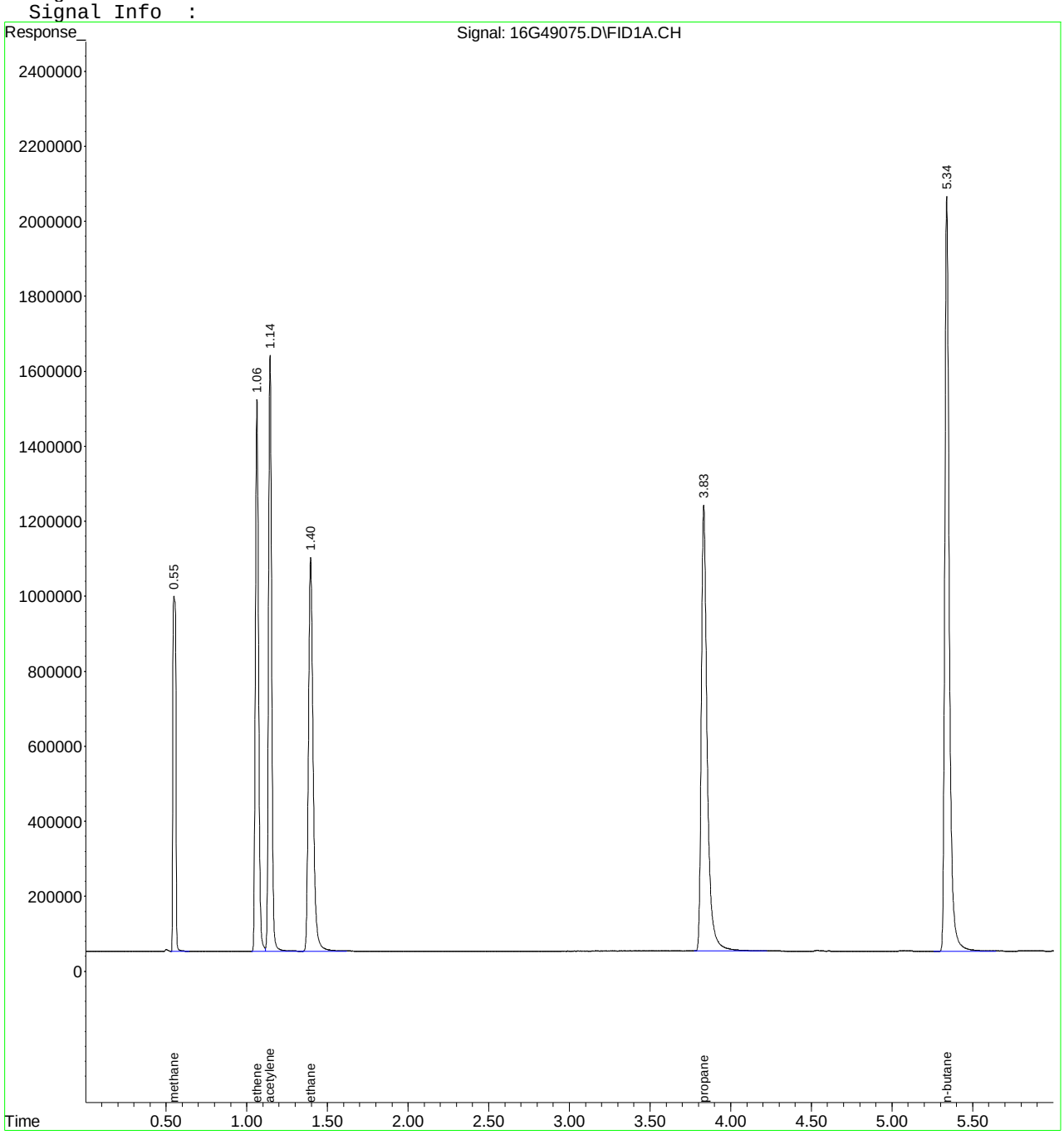
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49075.D RSK1.M Mon Nov 30 16:49:16 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49075.D Vial: 3
Acq On : 30 Nov 2015 16:43 Operator: JDS
Sample : WG548682-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 16:49 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\112415\16G49065.D Vial: 4
Acq On : 24 Nov 2015 19:07 Operator: JDS
Sample : WG548346-03 67umol/mol LCS2 STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 19:13:54 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

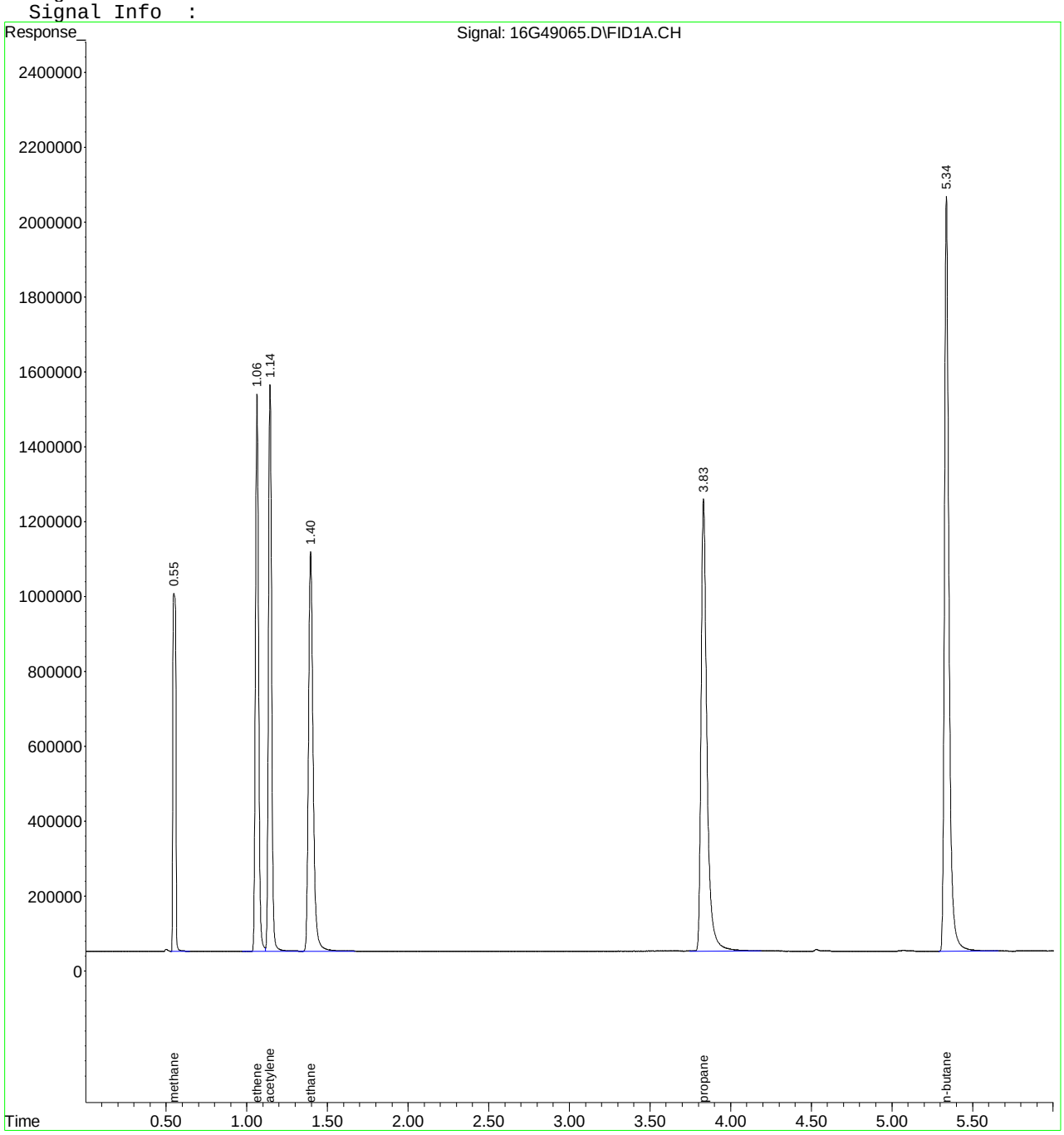
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	12433347	64.811 umol/
2) T	ethene	1.06	20437480	64.427 umol/
3) T	acetylene	1.14	20821101	61.522 umol/
4) T	ethane	1.40	21273521	62.588 umol/
5) T	propane	3.83	30707725	61.860 umol/
6) T	n-butane	5.34	39285040	60.599 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : C:\MSDchem\1\DATA\112415\16G49065.D Vial: 4
Acq On : 24 Nov 2015 19:07 Operator: JDS
Sample : WG548346-03 67umol/mol LCS2 STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 24 19:13 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49076.D Vial: 4
Acq On : 30 Nov 2015 16:55 Operator: JDS
Sample : WG548682-03 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 17:01:52 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) T	methane	0.55	12279246	63.981 umol/
2) T	ethene	1.06	20090558	63.333 umol/
3) T	acetylene	1.14	20661525	61.050 umol/
4) T	ethane	1.39	20895937	61.477 umol/
5) T	propane	3.83	30228421	60.895 umol/
6) T	n-butane	5.34	38801018	59.853 umol/

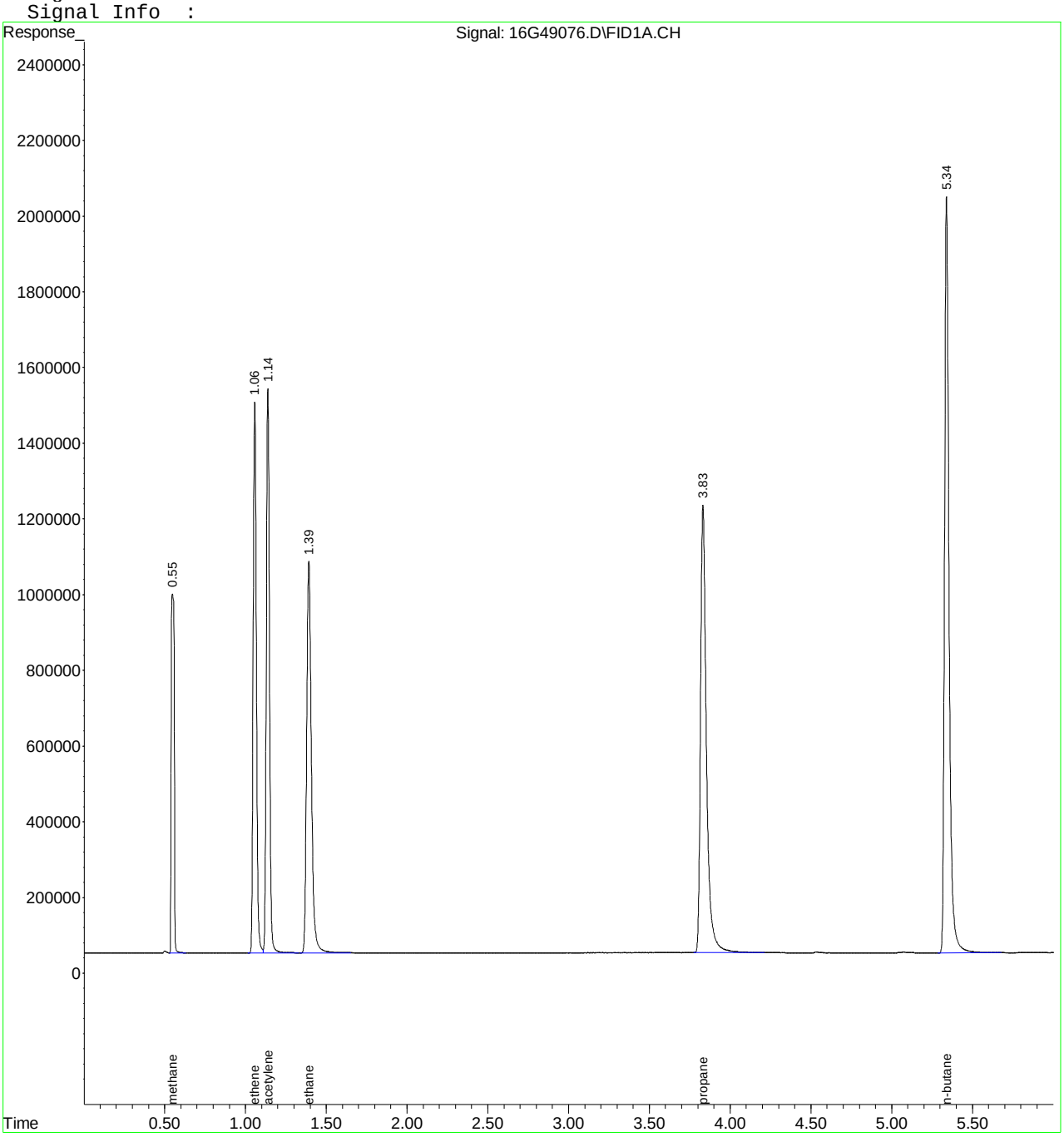
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49076.D RSK1.M Mon Nov 30 17:01:52 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\113015\16G49076.D Vial: 4
Acq On : 30 Nov 2015 16:55 Operator: JDS
Sample : WG548682-03 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Nov 30 17:01 2015 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 030315
Last Update : Fri Mar 06 11:52:33 2015
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



2.2 General Chemistry Data

2.2.1 Method 9056

2.2.1.1 Summary Data

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW11-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 20:18
Collect Date:	11/19/2015 09:10	**Dilution:**	10	**File ID:**	I2_112015-24
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1890	J	4.00	2.00	1.00
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	376		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW11-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 20:36
Collect Date:	11/19/2015 09:10	**Dilution:**	100	**File ID:**	I2_112015-25
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1380		40.0	20.0	10.0
Nitrate	14797-55-8	20.0	U	40.0	20.0	10.0
Nitrite	14797-65-0	20.0	U	40.0	20.0	10.0
Sulfate	14808-79-8	379		200	100	50.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW08-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 20:55
Collect Date:	11/19/2015 10:20	**Dilution:**	10	**File ID:**	I2_112015-26
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1890	J	4.00	2.00	1.00
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	300		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	67WW08-111915	**Prep Method:**	9056	**Prep Date:**	11/20/2015 12:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	08/03/2015 16:14
Workgroup #:	WG547890	**Analyst:**	ALS	**Run Date:**	11/20/2015 21:49
Collect Date:	11/19/2015 10:20	**Dilution:**	100	**File ID:**	I2_112015-29
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1400		40.0	20.0	10.0
Nitrate	14797-55-8	20.0	U	40.0	20.0	10.0
Nitrite	14797-65-0	20.0	U	40.0	20.0	10.0
Sulfate	14808-79-8	321		200	100	50.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.2.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant
c1= the curve slope
c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(- c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)} \right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
or:	-40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

f (y) = y / c1

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 080315 ICAL IC2.SEQ

Analyst1: AED Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 17

Maintenance Log ID: 53330 Syringe Filter Lot#: 00195722

Eluent ID#: RGT34279

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Internal STD: NA Surrogate STD: NA Calibration STD STD69215 (02/17/15)

CCV STD: STD69215 LCS STD: STD69216 MS/MSD STD: STD69216

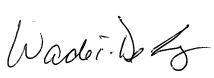
Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I2_080315-01	ELUENT	1	1		08/03/15 14:06
2	I2_080315-02	DI WATER	1	1		08/03/15 14:25
3	I2_080315-03	WG533569-01 STD \#6	1	1		08/03/15 14:43
4	I2_080315-04	WG533569-02 STD \#5	1	1		08/03/15 15:01
5	I2_080315-05	WG533569-03 STD \#4	1	1		08/03/15 15:19
6	I2_080315-06	WG533569-04 STD \#3	1	1		08/03/15 15:37
7	I2_080315-07	WG533569-05 STD \#2	1	1		08/03/15 15:56
8	I2_080315-08	WG533569-06 STD \#1	1	1		08/03/15 16:14
9	I2_080315-09	WG533569-07 SSCV	1	1		08/03/15 16:32
10	I2_080315-10	LCRV Level \#6	1	1		08/03/15 16:50
11	I2_080315-11	LCRV Level \#2	1	1		08/03/15 17:08
12	I2_080315-12	LCRV Eluent Blank	1	1		08/03/15 17:27
13	I2_080315-13	END	1	1		08/03/15 17:45

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 19-AUG-15



Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 112015 IC2.SEQ

Analyst1: ALS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 18

Maintenance Log ID: Syringe Filter Lot#: 150506254

Eluent ID#: RGT35401

Column 1 ID: AG14SA-4MM Column 2 ID: AS14A-4MM

Workgroups: WG547890

Internal STD: NA Surrogate STD: NA Calibration STD STD71545 (08/03/15)

CCV STD: STD71545 LCS STD: STD71546 MS/MSD STD: STD71546

Comments: Fractions L15111211-15,16 were analyzed at dilutions due to CL and SO4 exceeding 200ppm.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I2_112015-01	ELUENT	1	1		11/20/15 13:00
2	I2_112015-02	DI WATER	1	1		11/20/15 13:19
3	I2_112015-03	WG548031-01 ANION CCV	1	1		11/20/15 13:37
4	I2_112015-04	WG548031-02 ANION CCB	1	1		11/20/15 14:14
5	I2_112015-05	WG547890-01 ANION BLANK	1	1		11/20/15 14:32
6	I2_112015-06	WG547890-02 ANION LCS	1	1		11/20/15 14:51
7	I2_112015-07	L15111102-14 (SO4)	2	1		11/20/15 15:09
8	I2_112015-08	L15111102-15 1/3 (SO4)	2	3		11/20/15 15:27
9	I2_112015-09	L15111102-16 1/2 (SO4)	2	2		11/20/15 15:45
10	I2_112015-10	L15111102-17 1/2 (SO4)	2	2		11/20/15 16:03
11	I2_112015-11	L15111102-20 1/2 (SO4)	2	2		11/20/15 16:22
12	I2_112015-12	L15111102-21 1/2 (SO4)	2	2		11/20/15 16:40
13	I2_112015-13	L15111102-25 (SO4) REF	1	1		11/20/15 16:58
14	I2_112015-14	WG547890-04 DUP 1102-25	2	1		11/20/15 17:16
15	I2_112015-15	WG548031-03 ANION CCV	1	1		11/20/15 17:34
16	I2_112015-16	WG548031-04 ANION CCB	1	1		11/20/15 17:53
17	I2_112015-17	WG547890-05 MS	2	1		11/20/15 18:11
18	I2_112015-18	WG547890-06 MSD	2	1		11/20/15 18:29
19	I2_112015-19	L15111102-27 (SO4)	2	1		11/20/15 18:47
20	I2_112015-20	L15111102-28 (SO4)	2	1		11/20/15 19:05
21	I2_112015-21	L15111102-29 1/2 (SO4)	2	2		11/20/15 19:24
22	I2_112015-22	L15111102-30 1/2 (SO4)	2	2		11/20/15 19:42
23	I2_112015-23	L15111072-01 1/10,000 (CL)	1	10000		11/20/15 20:00
24	I2_112015-24	L15111211-15 1/10 (CL,NO2,NO3,SO4)	1	10		11/20/15 20:18
25	I2_112015-25	L15111211-15 1/100 (CL,NO2,NO3,SO4)	1	100		11/20/15 20:36
26	I2_112015-26	L15111211-16 1/10 (CL,NO2,NO3,SO4)	1	10		11/20/15 20:55
27	I2_112015-27	WG548031-05 ANION CCV	1	1		11/20/15 21:13
28	I2_112015-28	WG548031-06 ANION CCB	1	1		11/20/15 21:31
29	I2_112015-29	L15111211-16 1/100 (CL,NO2,NO3,SO4)	1	100		11/20/15 21:49
30	I2_112015-30	L15111080-04 (F,CL,SO4)	18	1		11/20/15 22:07
31	I2_112015-31	L15111080-04 1/2 (F,CL,SO4) NR	18	2		11/20/15 22:26
32	I2_112015-32	FLUID BLANK	1	1		11/20/15 22:44
33	I2_112015-33	WG548031-07 ANION CCV	1	1		11/20/15 23:02

Page: 1 Approved: 23-NOV-15

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 112015 IC2.SEQ

Analyst1: ALS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 18

Maintenance Log ID: Syringe Filter Lot#: 150506254

Eluent ID#: RGT35401

Column 1 ID: AG14SA-4MM Column 2 ID: AS14A-4MM

Workgroups: WG547890

Internal STD: NA Surrogate STD: NA STD71545 (08/03/15)

CCV STD: STD71545 LCS STD: STD71546 STD71546

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I2_112015-34	WG548031-08 ANION CCB	1	1		11/20/15 23:20
35	I2_112015-35	END	1	1		11/20/15 23:38

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17				
	WG547890-05 MS: SO4 failed marginally high due to the presence of SO4 in the reference sample.			
18				
	WG547890-06 MSD: SO4 failed marginally high due to the presence of SO4 in the reference sample.			

Page: 2 Approved: 23-NOV-15

Microbac Laboratories Inc.

Data Checklist

Date: 03-AUG-2015
Analyst: AED
Analyst: NA
Method: 9056/300
Instrument: IC2
Curve Workgroup: NA
Runlog ID: 69606
Analytical Workgroups: WG533569 IC2 ICAL

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	NA
TCL hits	NA
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	NA
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	AED
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	WTD

Primary Reviewer:
04-AUG-2015

Secondary Reviewer:
19-AUG-2015

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-19-2015 11:38:56

Microbac Laboratories Inc.

Data Checklist

Date: 20-NOV-2015
Analyst: ALS
Analyst: NA
Method: 9056/300
Instrument: IC2
Curve Workgroup: NA
Runlog ID: 71856
Analytical Workgroups: L15111072, L15111080, L15111102, L15111211

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	ALS
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
23-NOV-2015

Secondary Reviewer:
23-NOV-2015

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-23-2015 15:11:34

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9056 **AAB#:** WG547890

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-111915	15	11/19/15					11/20/2015	1.1	2		11/20/15	1.5	2	
67WW11-111915	15	11/19/15					11/20/2015	1.1	2		11/20/15	1.5	2	
67WW08-111915	16	11/19/15					11/20/2015	1.1	2		11/20/15	1.5	2	
67WW08-111915	16	11/19/15					11/20/2015	1.1	2		11/20/15	1.4	2	

*** = SEE PROJECT QAPP REQUIREMENTS**

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4514312
Report generated 11/23/2015 15:06

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG547890
Blank File ID:	I2_112015-05	Blank Sample ID:	WG547890-01
Prep Date:	11/20/15 12:00	Instrument ID:	IC2
Analyzed Date:	11/20/15 14:32	Method:	9056
Analyst:	ALS		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG547890-02	I2_112015-06	11/20/15 14:51	01
DUP	WG547890-04	I2_112015-14	11/20/15 17:16	01
67WW11-111915	L15111211-15	I2_112015-24	11/20/15 20:18	DL01
67WW11-111915	L15111211-15	I2_112015-25	11/20/15 20:36	DL02
67WW08-111915	L15111211-16	I2_112015-26	11/20/15 20:55	DL01
67WW08-111915	L15111211-16	I2_112015-29	11/20/15 21:49	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 4514313
Report generated 11/23/2015 15:06

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/20/15 12:00 Sample ID: WG547890-01
Instrument ID: IC2 Run Date: 11/20/15 14:32 Prep Method: 9056
File ID: I2_112015-05 Analyst: ALS Method: 9056
Workgroup (AAB#): WG547890 Matrix: Water Units: mg/L
Contract #: Cal ID: IC2-03-AUG-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.400	0.100	1	U
Nitrate	0.100	0.400	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4514314
23-NOV-2015 15:06

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG547890-02
Instrument ID: IC2 Run Time: 14:51 Prep Method: 9056
File ID: I2_112015-06 Analyst: ALS Method: 9056
Workgroup (AAB#): WG547890 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD71546 Cal ID: IC2-03-AUG-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.26	103	90 - 110	
Nitrate	5.42	5.34	98.6	90 - 110	
Nitrite	4.87	5.14	106	90 - 110	
Sulfate	40.0	39.8	99.5	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 4514315
Report generated: 11/23/2015 15:06

Login Number: L15111211
Analytical Method: 9056
ICAL Workgroup: WG533569
Instrument ID: IC2
Initial Calibration Date: 03-AUG-15 16:14
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		5.425	8.21	0.99800	
Nitrate		2.145	11.5	0.99700	
Nitrite		2.773	7.31	1.00000	
Sulfate		7.062	16.0	0.99600	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4514316
Report generated 11/23/2015 15:06

Login Number: L15111211
Analytical Method: 9056
Instrument ID: IC2
Initial Calibration Date: 03-AUG-15 16:14
Column ID: F

Analyte	WG533569-01			WG533569-02			WG533569-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	24.0	5.09400000	4.711	12.0	2.31500000	5.184	8.00	1.45300000	5.506
Nitrate	16.3	9.09800000	1.788	8.13	4.10300000	1.982	5.42	2.52000000	2.151
Nitrite	14.6	5.74700000	2.543	7.31	2.80200000	2.608	4.87	1.78800000	2.724
Sulfate	120	21.5820000	5.560	60.0	9.61600000	6.240	40.0	5.87200000	6.812

INT_CAL - Modified 03/06/2008
PDF File ID: 4514316
Report generated 11/23/2015 15:06

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L15111211
Analytical Method: 9056

Instrument ID: IC2
Initial Calibration Date: 03-AUG-15 16:14
Column ID: F

Analyte	WG533569-04			WG533569-05			WG533569-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	4.00	0.716000000	5.587	1.00	0.176000000	5.682	0.200	0.0340000000	5.882
Nitrate	2.71	1.22300000	2.217	0.678	0.300000000	2.258	0.134	0.0540000000	2.473
Nitrite	2.44	0.889000000	2.740	0.609	0.210000000	2.900	0.122	0.0390000000	3.123
Sulfate	20.0	2.74900000	7.275	5.00	0.636000000	7.862	1.00	0.116000000	8.621

INT_CAL - Modified 03/06/2008
PDF File ID: 4514316
Report generated 11/23/2015 15:06

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15111211 Run Date: 08/03/2015 Sample ID: WG533569-07
Instrument ID: IC2 Run Time: 16:32 Method: 9056
File ID: I2_080315-09 Analyst: AED QC Key: DOD4
ICal Workgroup: WG533569 Cal ID: IC2 - 03-AUG-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	7.48	mg/L	5.38	6.60	10	
Nitrate		5.42	5.03	mg/L	2.08	7.20	10	
Nitrite		4.87	4.72	mg/L	2.70	3.10	10	
Sulfate		40.0	36.7	mg/L	6.63	8.40	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4514318
Report generated 11/23/2015 15:07

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG548031-02
Instrument ID: IC2 Run Time: 14:14 Method: 9056
File ID: I2_112015-04 Analyst: ALS Units: mg/L
Workgroup (AAB#): WG547890 Cal ID: IC2 - 03-AUG-15
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4514320
Report generated 11/23/2015 15:07

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG548031-04
Instrument ID: IC2 Run Time: 17:53 Method: 9056
File ID: I2_112015-16 Analyst: ALS Units: mg/L
Workgroup (AAB#): WG547890 Cal ID: IC2 - 03-AUG-15
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4514320
Report generated 11/23/2015 15:07

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L15111211 | Run Date: 11/20/2015 | Sample ID: WG548031-06
Instrument ID: IC2 | Run Time: 21:31 | Method: 9056
File ID: I2_112015-28 | Analyst: ALS | Units: mg/L
Workgroup (AAB#): WG547890 | Cal ID: IC2 - 03-AUG-15
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4514320
Report generated 11/23/2015 15:07

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L15111211 | Run Date: 11/20/2015 | Sample ID: WG548031-08
Instrument ID: IC2 | Run Time: 23:20 | Method: 9056
File ID: I2_112015-34 | Analyst: ALS | Units: mg/L
Workgroup (AAB#): WG547890 | Cal ID: IC2 - 03-AUG-15
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4514320
Report generated 11/23/2015 15:07

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG548031-01
Instrument ID: IC2 Run Time: 13:37 Method: 9056
File ID: I2_112015-03 Analyst: ALS QC Key: DOD4
Workgroup (AAB#): WG547890 Cal ID: IC2 - 03-AUG-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.16	mg/L	4.93	1.99	10	
Nitrate		5.42	5.31	mg/L	1.97	2.13	10	
Nitrite		4.87	5.03	mg/L	2.53	3.26	10	
Sulfate		40.0	39.5	mg/L	6.15	1.31	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4514319
Report generated 11/23/2015 15:07

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG548031-03
Instrument ID: IC2 Run Time: 17:34 Method: 9056
File ID: I2_112015-15 Analyst: ALS QC Key: DOD4
Workgroup (AAB#): WG547890 Cal ID: IC2 - 03-AUG-15
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.27	mg/L	4.86	3.40	10	
Nitrate		5.42	5.37	mg/L	1.95	0.878	10	
Nitrite		4.87	5.13	mg/L	2.48	5.39	10	
Sulfate		40.0	39.8	mg/L	6.09	0.388	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4514319
Report generated 11/23/2015 15:07

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG548031-05

Instrument ID: IC2 Run Time: 21:13 Method: 9056

File ID: I2_112015-27 Analyst: ALS QC Key: DOD4

Workgroup (AAB#): WG547890 Cal ID: IC2 - 03-AUG-15

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.36	mg/L	4.81	4.50	10	
Nitrate		5.42	5.42	mg/L	1.93	0.103	10	
Nitrite		4.87	5.22	mg/L	2.44	7.05	10	
Sulfate		40.0	40.2	mg/L	6.03	0.510	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4514319

Report generated 11/23/2015 15:07

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15111211 Run Date: 11/20/2015 Sample ID: WG548031-07

Instrument ID: IC2 Run Time: 23:02 Method: 9056

File ID: I2_112015-33 Analyst: ALS QC Key: DOD4

Workgroup (AAB#): WG547890 Cal ID: IC2 - 03-AUG-15

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.20	mg/L	4.90	2.50	10	
Nitrate		5.42	5.32	mg/L	1.96	1.84	10	
Nitrite		4.87	5.14	mg/L	2.48	5.45	10	
Sulfate		40.0	39.4	mg/L	6.16	1.50	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4514319

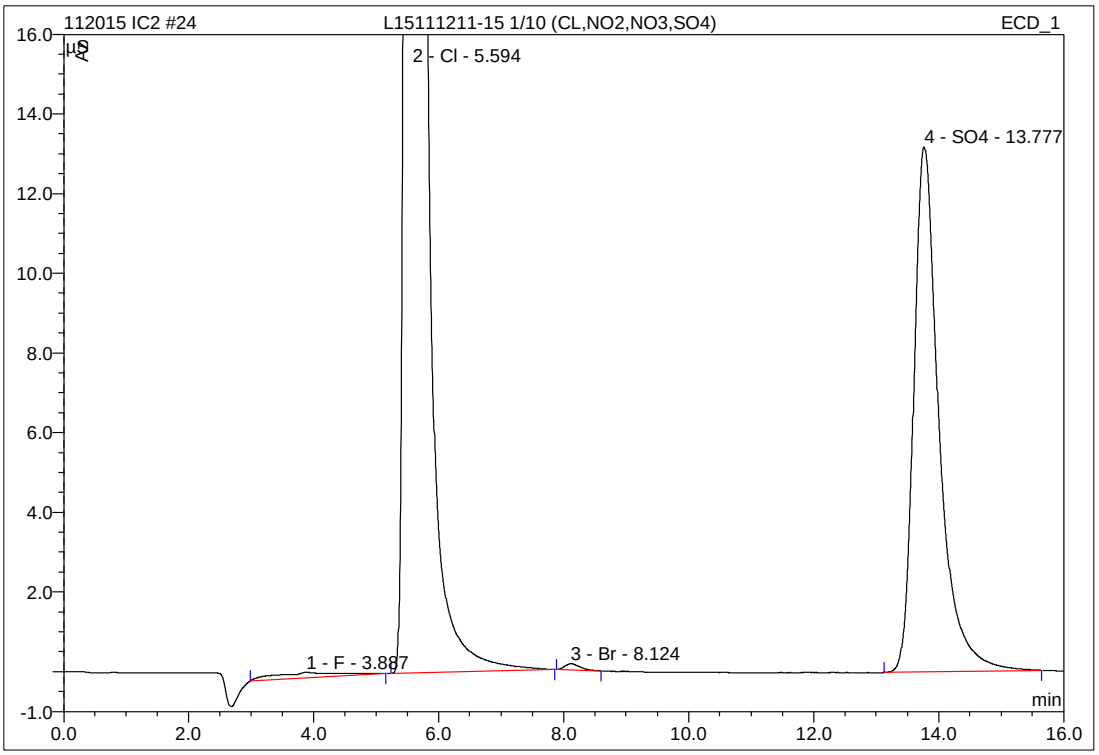
Report generated 11/23/2015 15:07

2.2.1.3 Sample Data

24 L15111211-15 1/10 (CL,NO2,NO3,SO4)

1,10 ALS

Sample Name:	**L15111211-15 1/10 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**25.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 20:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

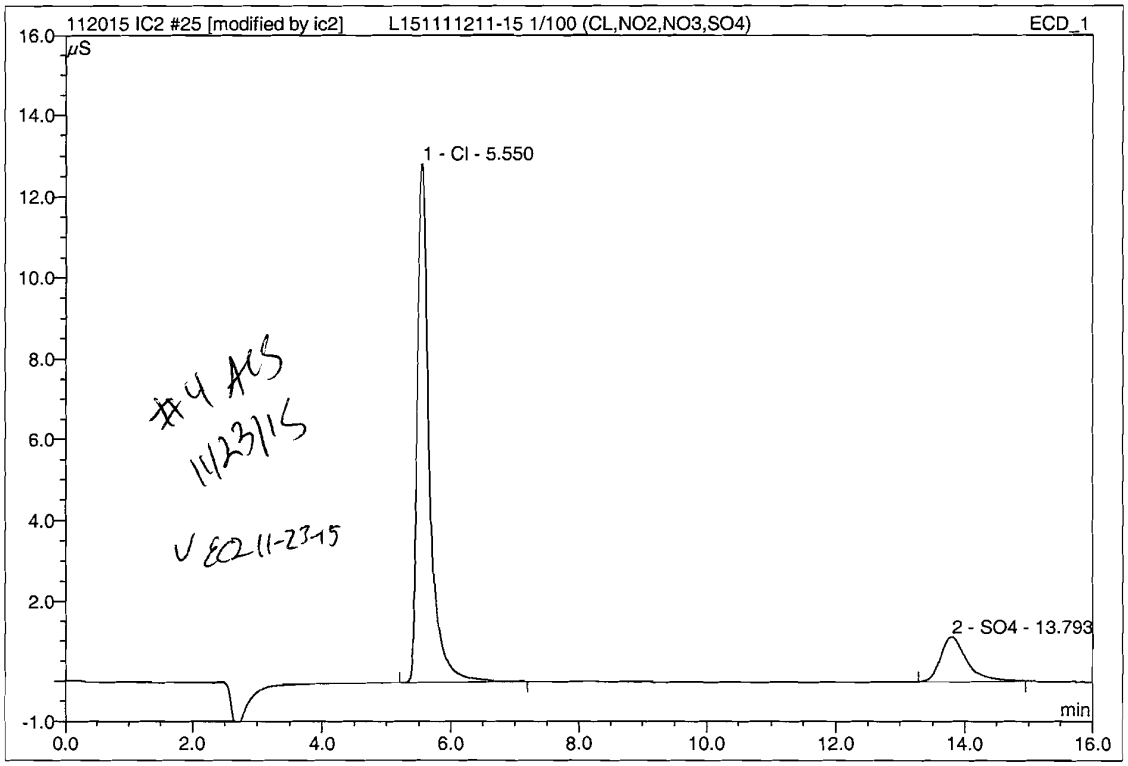


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.89	F	0.136	0.157	0.35	0.493	BMB
2	5.59	Cl	176.659	37.959	85.59	189.250	BMB
3	8.12	Br	0.159	0.044	0.10	0.630	BMB
4	13.78	SO4	13.176	6.189	13.96	37.582	BMB
Total:			190.130	44.350	100.00	227.955	

25 L151111211-15 1/100 (CL,NO2,NO3,SO4)

1,100 ALS

Sample Name:	**L151111211-15 1/100 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**25.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 20:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

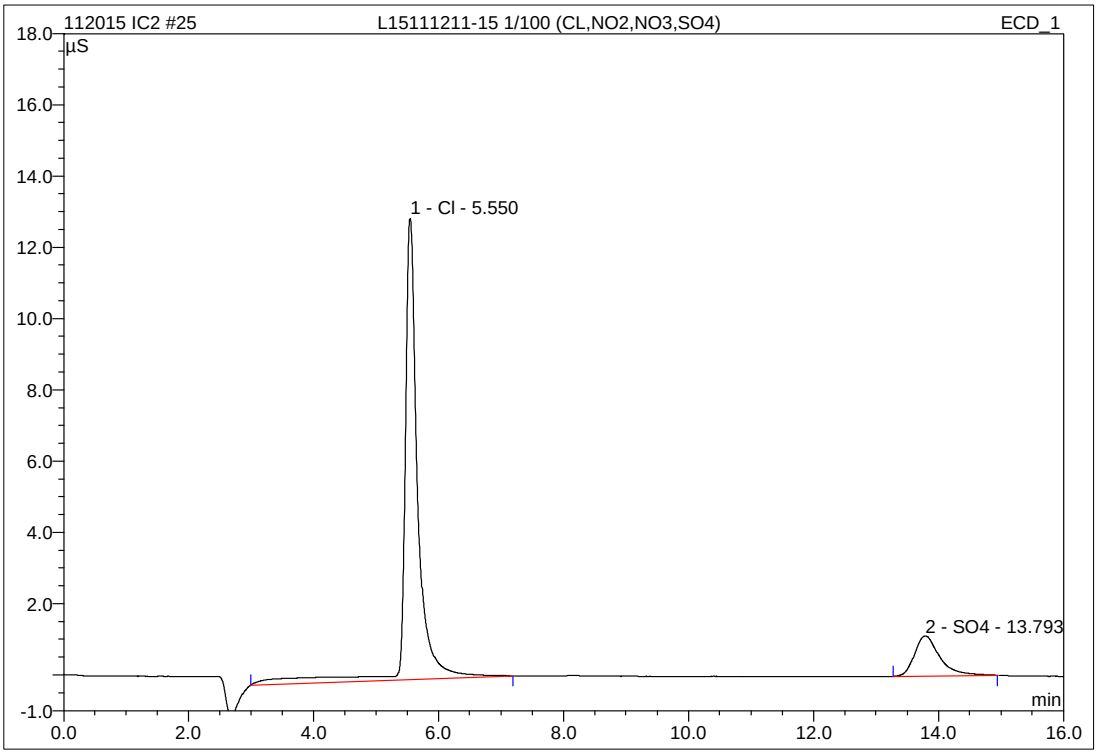


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	5.55	Cl	12.849	2.764	83.93	13.843	BMB*
2	13.79	SO4	1.123	0.529	16.07	3.791	BMB
Total:			13.972	3.293	100.00	17.634	

25 L15111211-15 1/100 (CL,NO2,NO3,SO4)

1,100 ALS

Sample Name:	**L15111211-15 1/100 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**25.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 20:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

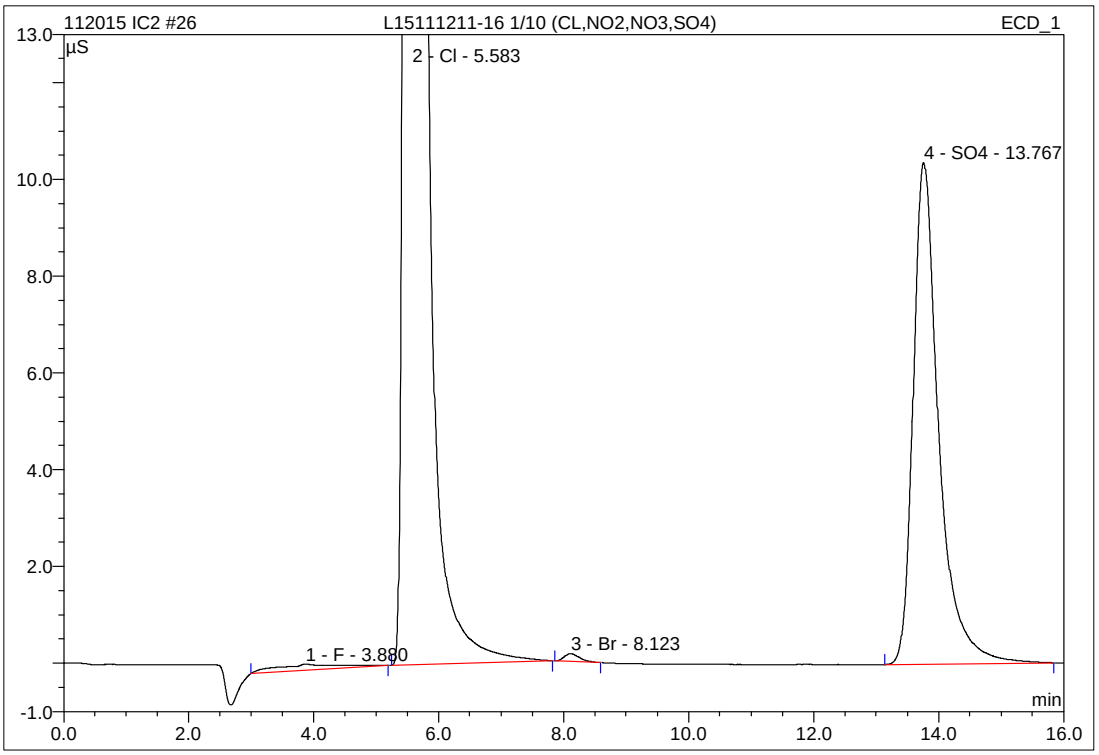


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	5.55	Cl	12.930	3.152	85.62	15.777	BMB
2	13.79	SO4	1.123	0.529	14.38	3.791	BMB
Total:			14.053	3.681	100.00	19.568	

26 L15111211-16 1/10 (CL,NO2,NO3,SO4)

1,10 ALS

Sample Name:	**L15111211-16 1/10 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**25.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 20:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

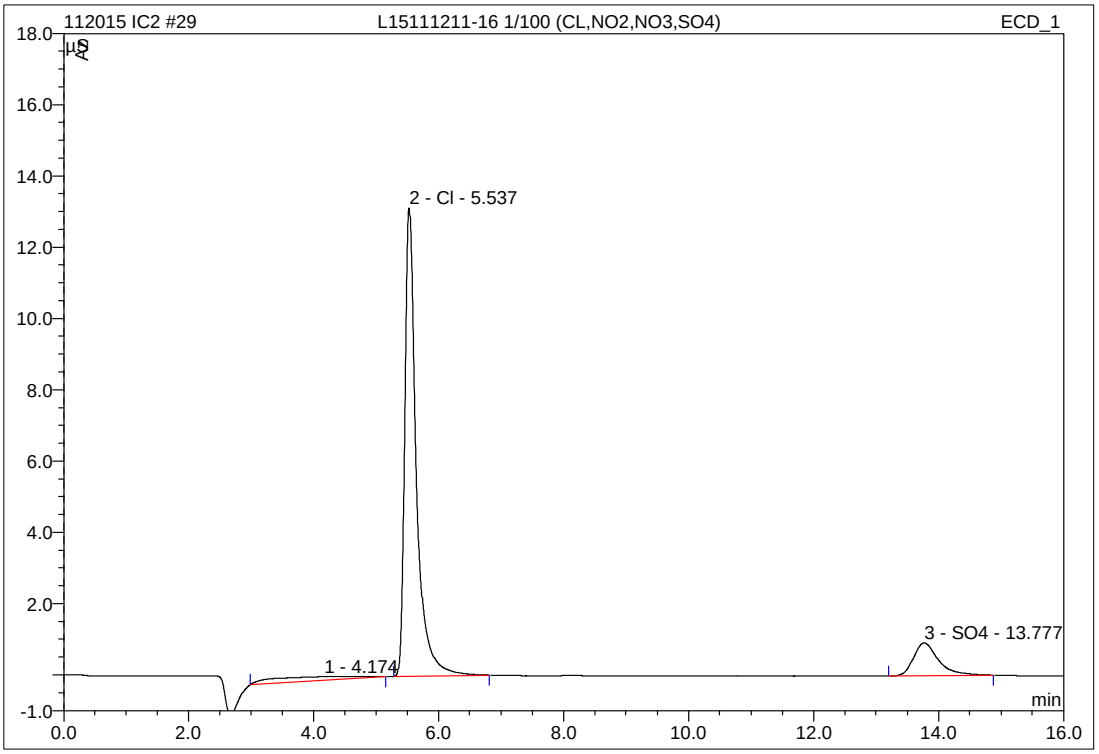


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.88	F	0.130	0.150	0.35	0.468	BMB
2	5.58	Cl	173.368	37.943	88.11	189.170	BMB
3	8.12	Br	0.164	0.046	0.11	0.651	BMB
4	13.77	SO4	10.368	4.927	11.44	30.047	BMB
Total:			184.030	43.065	100.00	220.335	

29 L15111211-16 1/100 (CL,NO2,NO3,SO4)

1,100 ALS

Sample Name:	**L15111211-16 1/100 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**25.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 21:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



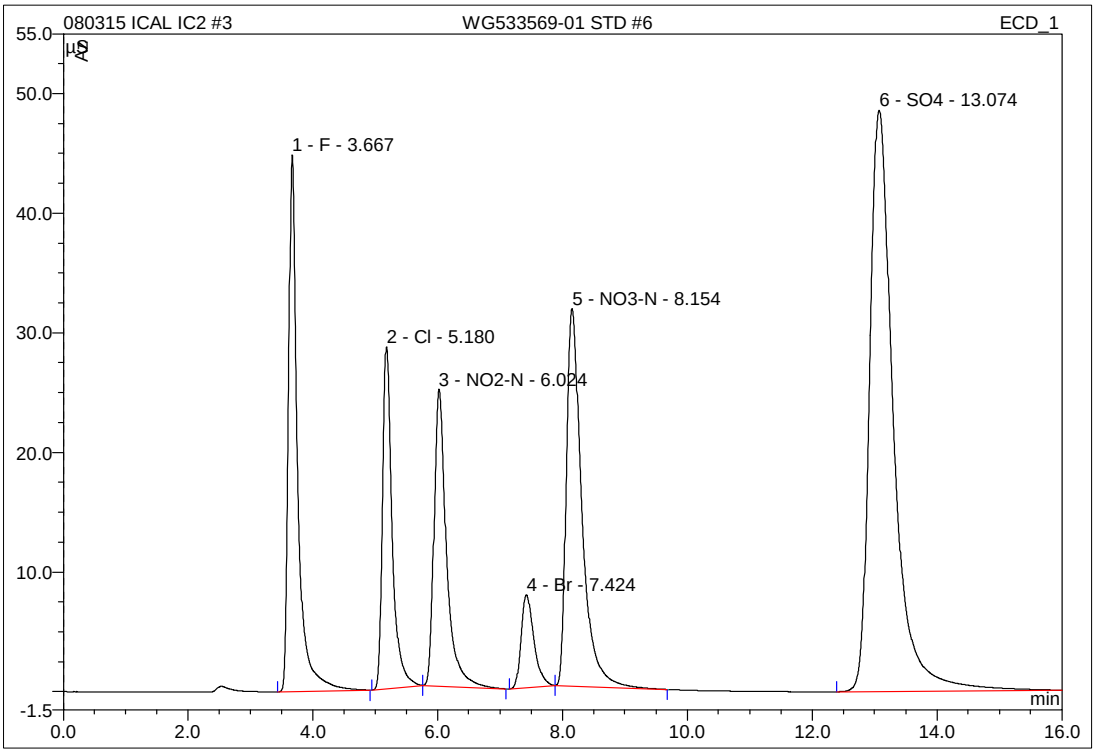
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.17	n.a.	0.109	0.177	5.19	n.a.	BMB
2	5.54	Cl	13.131	2.803	82.16	14.039	BMB
3	13.78	SO4	0.921	0.431	12.64	3.207	BMB
Total:			14.160	3.411	100.00	17.246	

2.2.1.4 Standards Data

3 WG533569-01 STD #6

1,1 AED STD71715

Sample Name:	**WG533569-01 STD #6**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 14:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

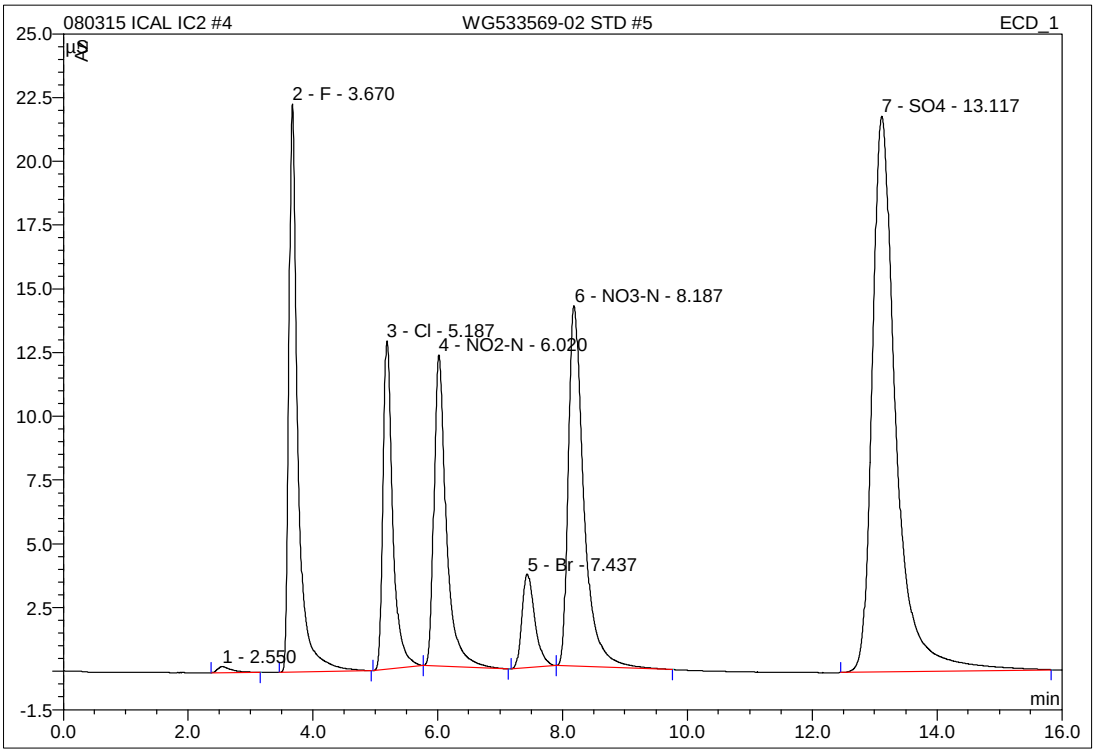


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.67	F	44.847	7.653	15.00	24.644	BMB
2	5.18	Cl	28.577	5.094	9.99	25.455	BMb
3	6.02	NO2-N	24.807	5.747	11.27	14.934	bMB
4	7.42	Br	7.771	1.837	3.60	24.664	BMb
5	8.15	NO3-N	31.557	9.098	17.84	17.397	bMB
6	13.07	SO4	48.562	21.582	42.31	129.474	BMB
Total:			186.121	51.010	100.00	236.568	

4 WG533569-02 STD #5

1,1 AED STD71715

Sample Name:	**WG533569-02 STD #5**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 15:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

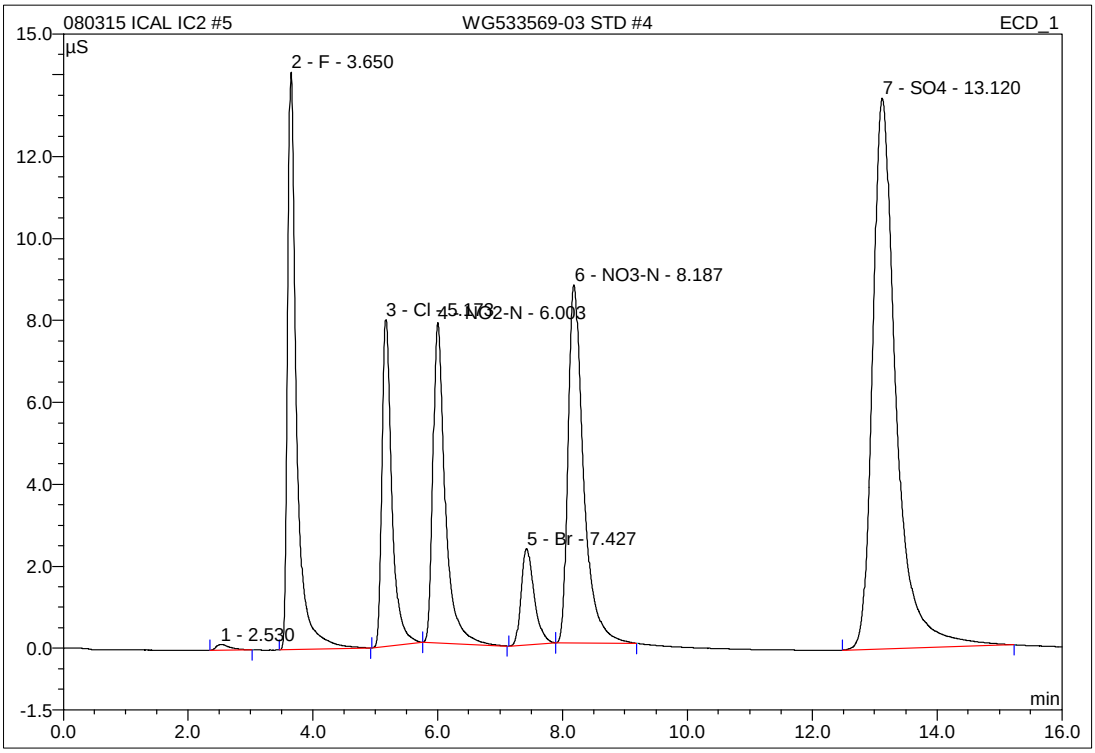


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.55	n.a.	0.232	0.060	0.25	n.a.	BMB
2	3.67	F	22.283	3.709	15.79	11.936	BMB
3	5.19	Cl	12.875	2.315	9.86	11.605	BMb
4	6.02	NO2-N	12.209	2.802	11.93	7.301	bMB
5	7.44	Br	3.673	0.879	3.74	11.828	BMb
6	8.19	NO3-N	14.133	4.103	17.47	7.881	bMB
7	13.12	SO4	21.786	9.616	40.95	58.039	BMB
Total:			87.191	23.484	100.00	108.591	

5 WG533569-03 STD #4

1,1 AED STD71715

Sample Name:	**WG533569-03 STD #4**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 15:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



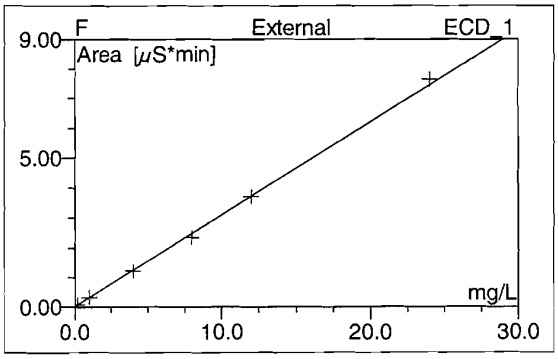
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.53	n.a.	0.143	0.036	0.25	n.a.	BMB
2	3.65	F	14.095	2.348	16.10	7.551	BMB
3	5.17	Cl	7.978	1.453	9.96	7.312	BMb
4	6.00	NO2-N	7.818	1.788	12.26	4.670	bMB
5	7.43	Br	2.352	0.566	3.88	7.625	BMB
6	8.19	NO3-N	8.740	2.520	17.28	4.866	bMB
7	13.12	SO4	13.444	5.872	40.27	35.687	BMB
Total:			54.570	14.583	100.00	67.710	

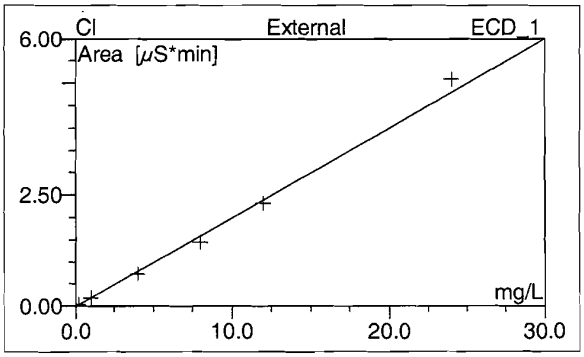
00748623

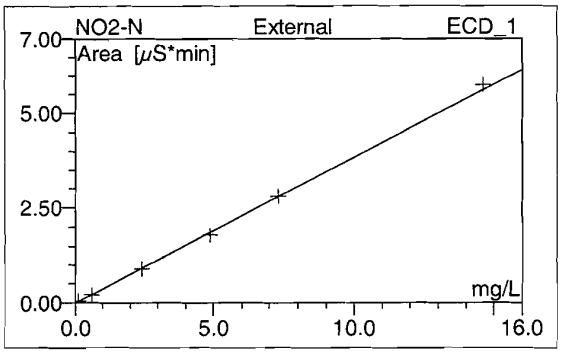
5 WG533569-03 STD #4

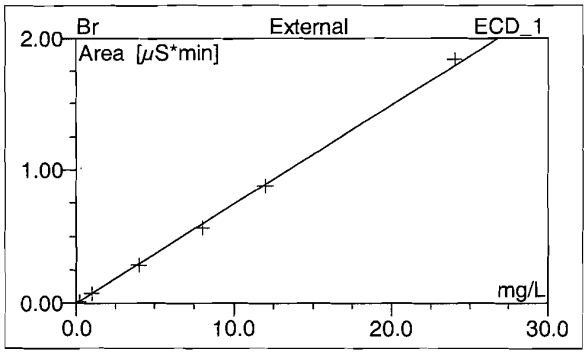
1,1 AED STD71715

Sample Name:	**WG533569-03 STD #4**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/3/2015 15:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**









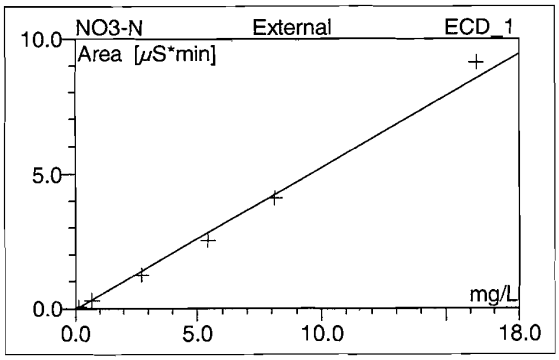
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.53	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.65	F	XLOff	6	99.9442	0.0045	0.3104	0.0000
3	5.17	Cl	XLOff	6	99.7675	-0.0139	0.2006	0.0000
4	6.00	NO2-N	XLOff	6	99.9587	-0.0135	0.3857	0.0000
5	7.43	Br	XLOff	6	99.9503	-0.0028	0.0746	0.0000
6	8.19	NO3-N	XLOff	6	99.6785	-0.0340	0.5249	0.0000
7	13.12	SO4	XLOff	6	99.5716	-0.1060	0.1675	0.0000
Average:					99.8118	-0.0276	0.2773	0.0000

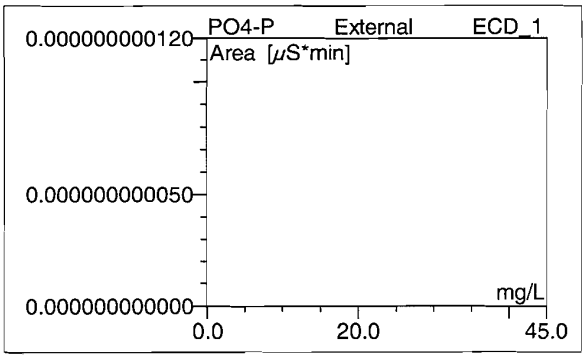
00748624

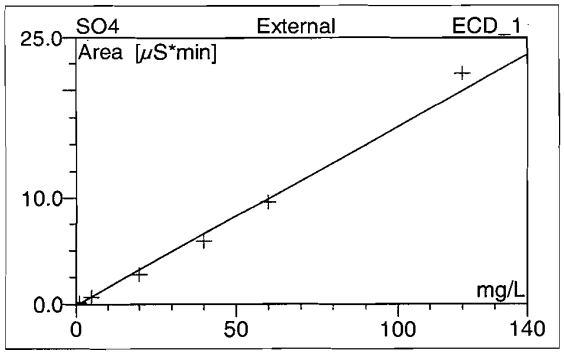
5 WG533569-03 STD #4

1,1 AED STD71715

Sample Name:	**WG533569-03 STD #4**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/3/2015 15:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**





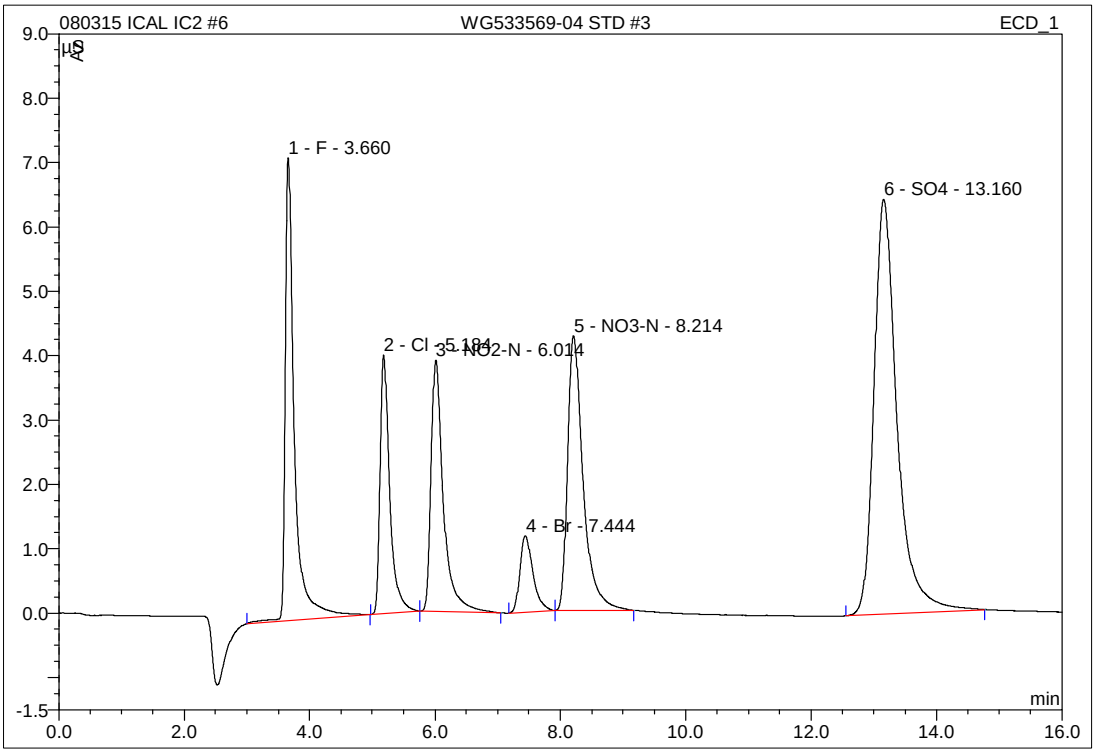


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.53	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.65	F	XLOff	6	99.9442	0.0045	0.3104	0.0000
3	5.17	Cl	XLOff	6	99.7675	-0.0139	0.2006	0.0000
4	6.00	NO2-N	XLOff	6	99.9587	-0.0135	0.3857	0.0000
5	7.43	Br	XLOff	6	99.9503	-0.0028	0.0746	0.0000
6	8.19	NO3-N	XLOff	6	99.6785	-0.0340	0.5249	0.0000
7	13.12	SO4	XLOff	6	99.5716	-0.1060	0.1675	0.0000
Average:					99.8118	-0.0276	0.2773	0.0000

6 WG533569-04 STD #3

1,1 AED STD71715

Sample Name:	**WG533569-04 STD #3**	*Injection Volume:*	**25.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 15:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

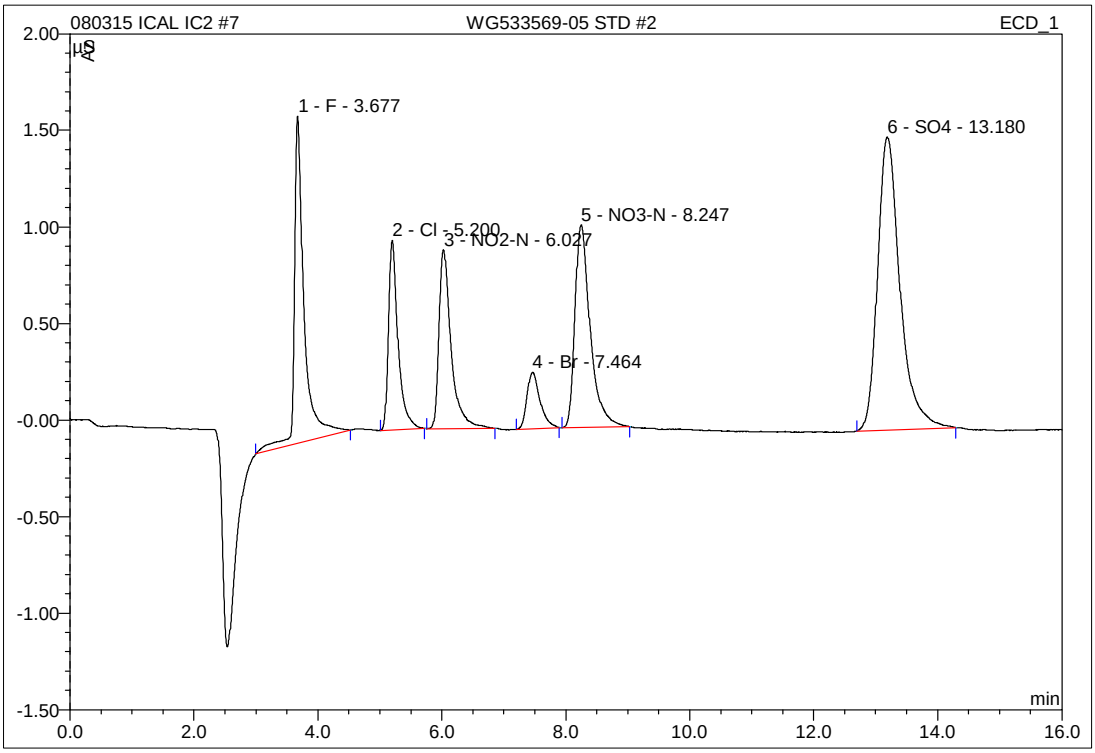


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.66	F	7.188	1.206	17.06	3.871	BMB
2	5.18	Cl	4.017	0.716	10.13	3.639	BMb
3	6.01	NO2-N	3.908	0.889	12.57	2.339	bMB
4	7.44	Br	1.187	0.286	4.05	3.872	BMB
5	8.21	NO3-N	4.268	1.223	17.30	2.394	BMB
6	13.16	SO4	6.444	2.749	38.89	17.045	BMB
Total:			27.012	7.069	100.00	33.160	

7 WG533569-05 STD #2

1,1 AED STD71715

Sample Name:	**WG533569-05 STD #2**	*Injection Volume:*	**25.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 15:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

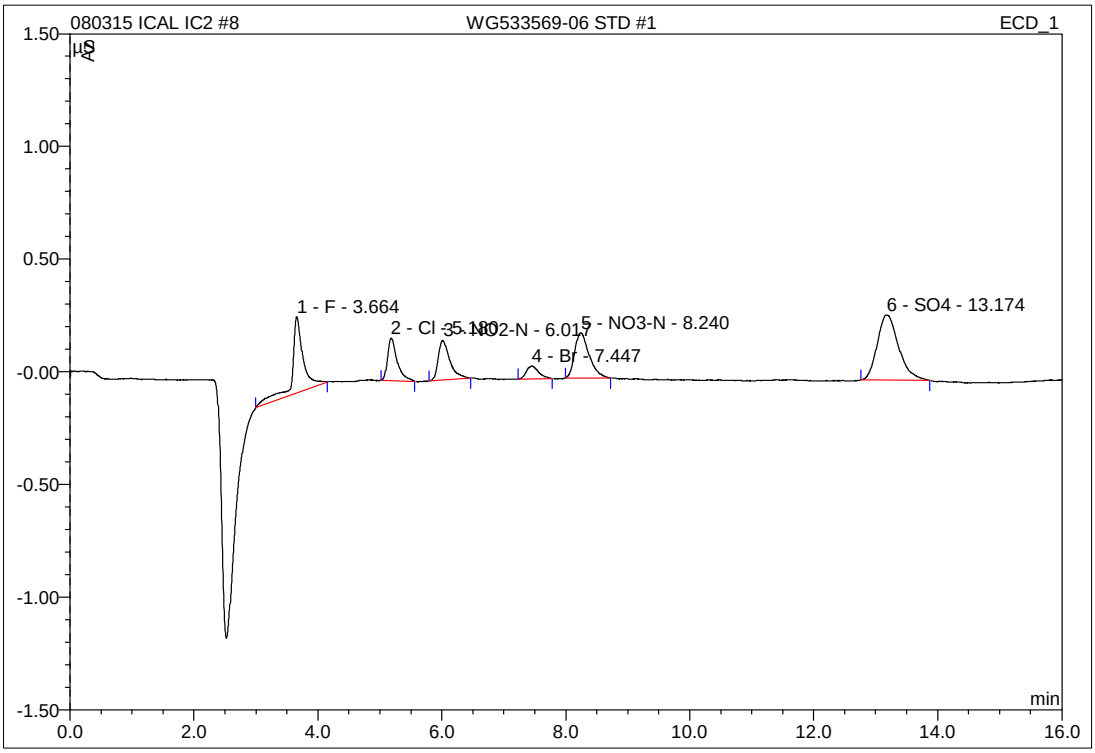


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.68	F	1.694	0.309	18.15	0.981	BMB
2	5.20	Cl	0.982	0.176	10.36	0.949	BMB
3	6.03	NO2-N	0.926	0.210	12.33	0.579	BMB
4	7.46	Br	0.293	0.072	4.20	0.997	BMB
5	8.25	NO3-N	1.048	0.300	17.59	0.635	BMB
6	13.18	SO4	1.519	0.636	37.37	4.432	BMB
Total:			6.462	1.703	100.00	8.574	

8 WG533569-06 STD #1

1,1 AED STD71715

Sample Name:	**WG533569-06 STD #1**	*Injection Volume:*	**25.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 16:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

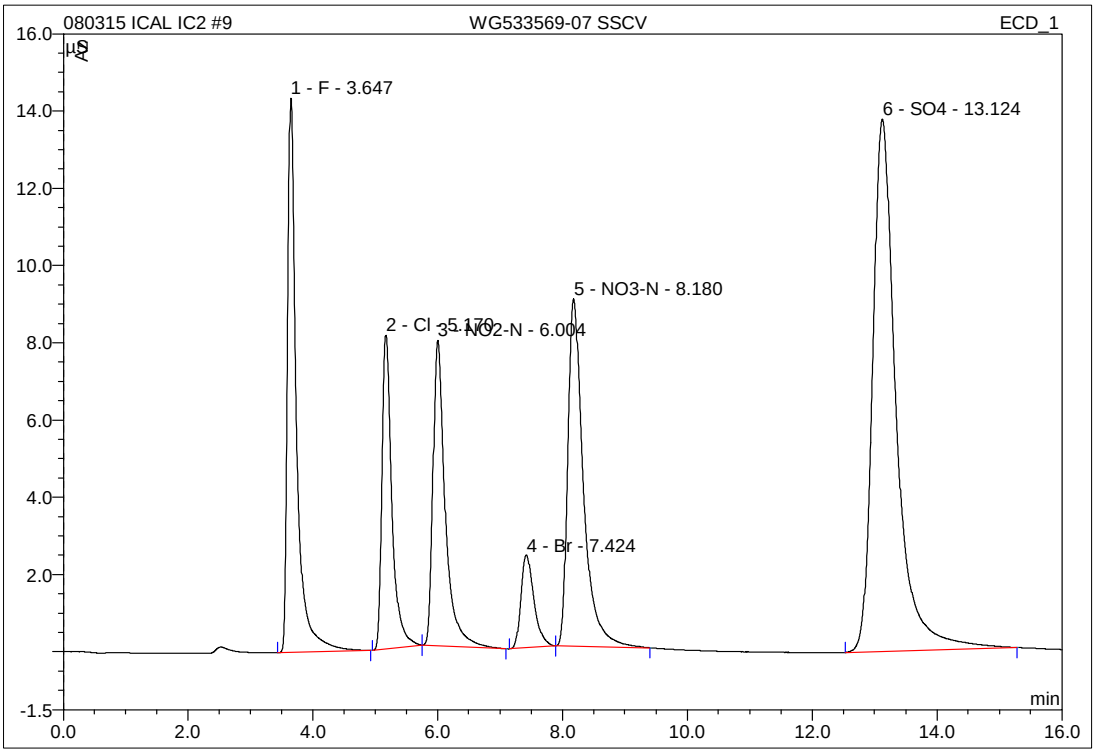


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.66	F	0.339	0.072	21.92	0.217	BMB
2	5.18	Cl	0.188	0.034	10.44	0.240	BMB
3	6.02	NO2-N	0.175	0.039	11.76	0.135	BMB
4	7.45	Br	0.057	0.013	4.02	0.214	BMB
5	8.24	NO3-N	0.201	0.054	16.59	0.168	BMB
6	13.17	SO4	0.290	0.116	35.26	1.323	BMB
Total:			1.251	0.328	100.00	2.297	

9 WG533569-07 SSCV

1,1 AED STD71716

Sample Name:	**WG533569-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/03/2015 16:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.65	F	14.345	2.395	16.06	7.703	BMB
2	5.17	Cl	8.120	1.486	9.97	7.476	BMb
3	6.00	NO2-N	7.914	1.807	12.12	4.719	bMB
4	7.42	Br	2.406	0.580	3.89	7.809	BMB
5	8.18	NO3-N	8.988	2.608	17.49	5.033	BMB
6	13.12	SO4	13.783	6.034	40.47	36.657	BMB
Total:			55.556	14.910	100.00	69.397	

9 WG533569-07 SSCV

1,1 AED STD71716

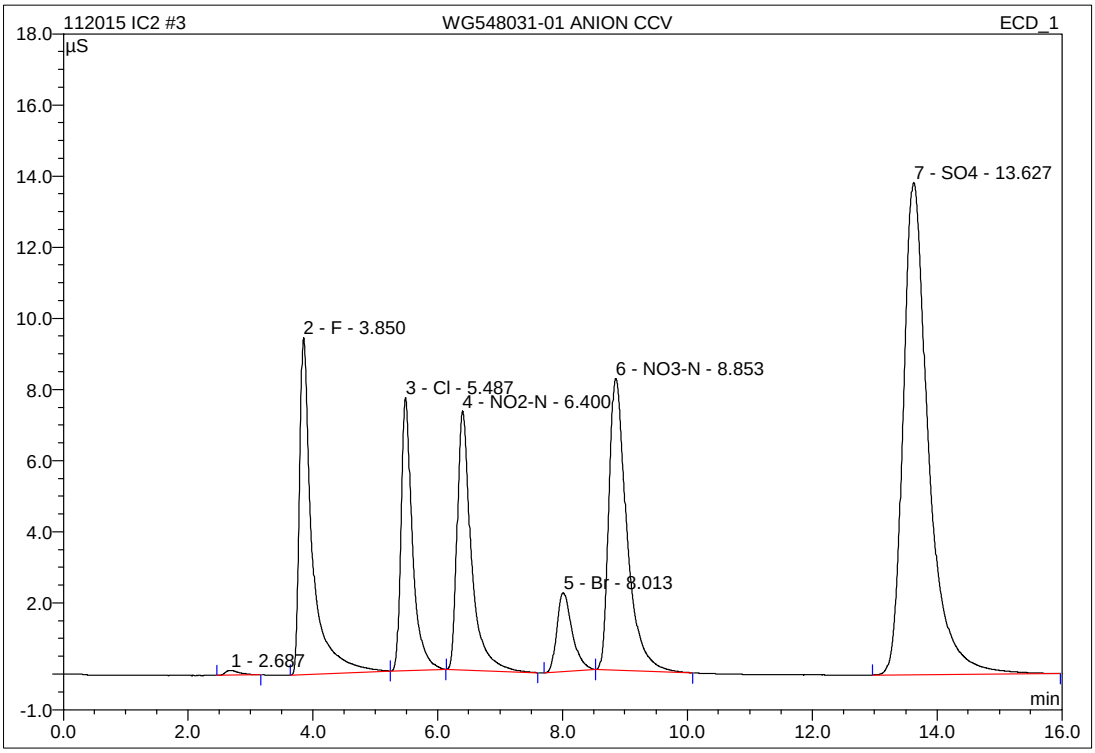
Sample Name:	**WG533569-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/3/2015 16:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG533569-07 SSC	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.7027	-3.72	PASS
Cl	8	7.4765	-6.54	PASS
NO2-N	4.8714	4.7193	-3.12	PASS
NO3-N	5.4216	5.0331	-7.17	PASS
Br	8	7.8092	-2.38	PASS
SO4	40	36.6566	-8.36	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

3 WG548031-01 ANION CCV

1,1 ALS STD71545 (_____ psi)

Sample Name:	**WG548031-01 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 13:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.69	n.a.	0.137	0.036	0.23	n.a.	BMB
2	3.85	F	9.472	2.245	14.28	7.218	BMB
3	5.49	Cl	7.675	1.623	10.33	8.159	BMB
4	6.40	NO2-N	7.275	1.926	12.26	5.030	BMB
5	8.01	Br	2.219	0.628	4.00	8.462	BMB
6	8.85	NO3-N	8.207	2.751	17.50	5.306	bMB
7	13.63	SO4	13.837	6.507	41.40	39.476	BMB
Total:			48.820	15.717	100.00	73.651	

3 WG548031-01 ANION CCV

1,1 ALS STD71545 (_____ psi)

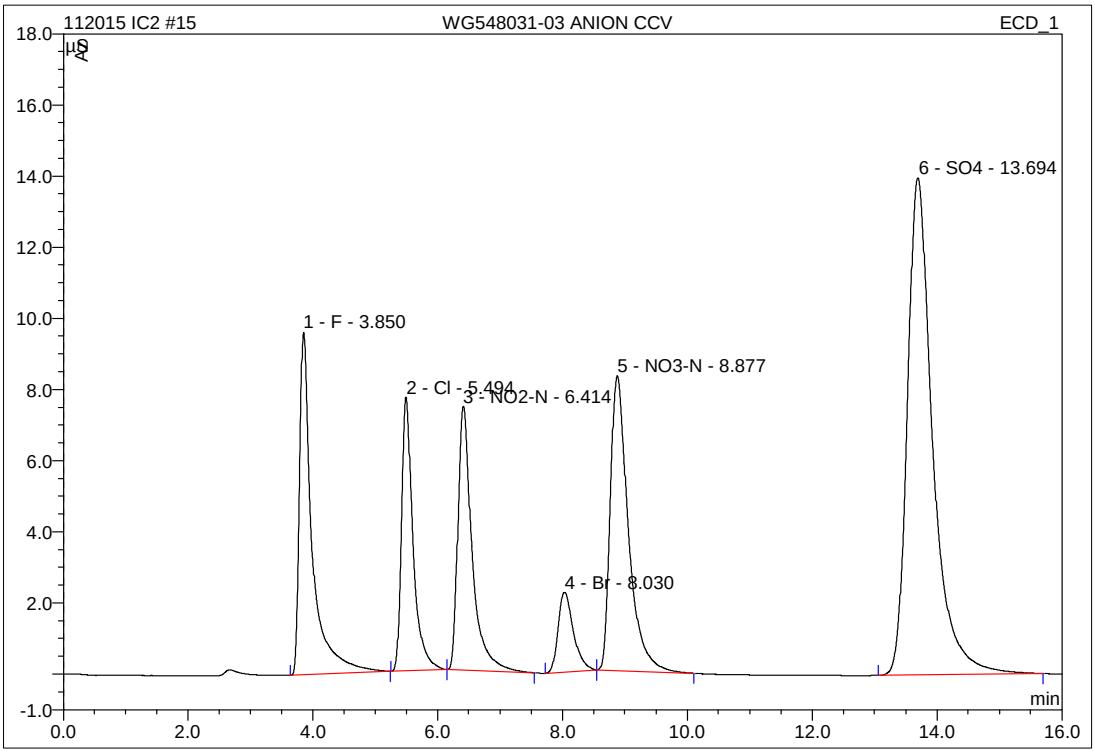
Sample Name:	**WG548031-01 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 13:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG548031-01 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.2179	-9.78	PASS
Cl	8	8.1593	1.99	PASS
NO2-N	4.8714	5.0298	3.25	PASS
NO3-N	5.4216	5.3058	-2.14	PASS
Br	8	8.4619	5.77	PASS
SO4	40	39.4761	-1.31	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

15 WG548031-03 ANION CCV

1,1 ALS STD71545

Sample Name:	**WG548031-03 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 17:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.85	F	9.632	2.278	14.34	7.324	BMB
2	5.49	Cl	7.702	1.646	10.36	8.272	BMB
3	6.41	NO2-N	7.424	1.967	12.38	5.134	BMB
4	8.03	Br	2.240	0.637	4.01	8.583	BMb
5	8.88	NO3-N	8.290	2.787	17.55	5.374	bMB
6	13.69	SO4	13.977	6.568	41.36	39.845	BMB
Total:			49.265	15.883	100.00	74.532	

15 WG548031-03 ANION CCV

1,1 ALS STD71545

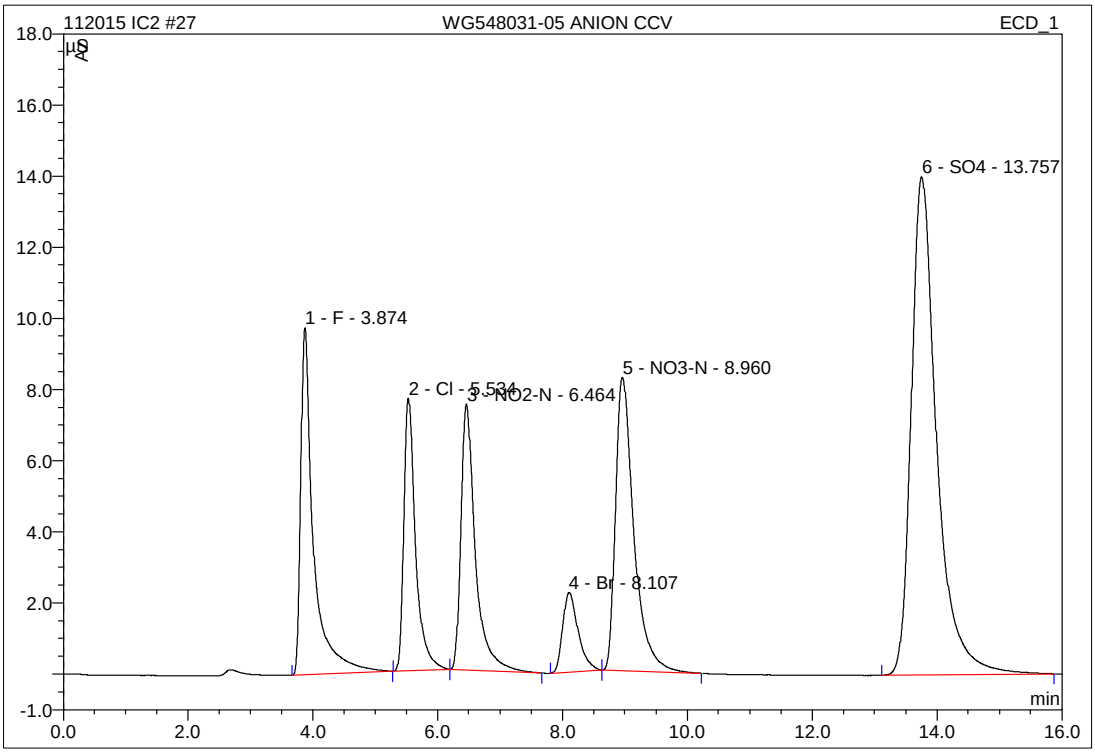
Sample Name:	**WG548031-03 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 17:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG548031-03 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.3242	-8.45	PASS
Cl	8	8.2725	3.41	PASS
NO2-N	4.8714	5.1336	5.38	PASS
NO3-N	5.4216	5.3741	-0.88	PASS
Br	8	8.5831	7.29	PASS
SO4	40	39.8449	-0.39	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

27 WG548031-05 ANION CCV

1,1 ALS STD71545

Sample Name:	**WG548031-05 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 21:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.87	F	9.750	2.303	14.35	7.406	BMB
2	5.53	Cl	7.656	1.663	10.37	8.360	BMB
3	6.46	NO2-N	7.472	1.998	12.45	5.215	BMB
4	8.11	Br	2.238	0.644	4.01	8.669	BMb
5	8.96	NO3-N	8.247	2.809	17.50	5.416	bMB
6	13.76	SO4	14.005	6.629	41.31	40.204	BMB
Total:			49.369	16.045	100.00	75.269	

27 WG548031-05 ANION CCV

1,1 ALS STD71545

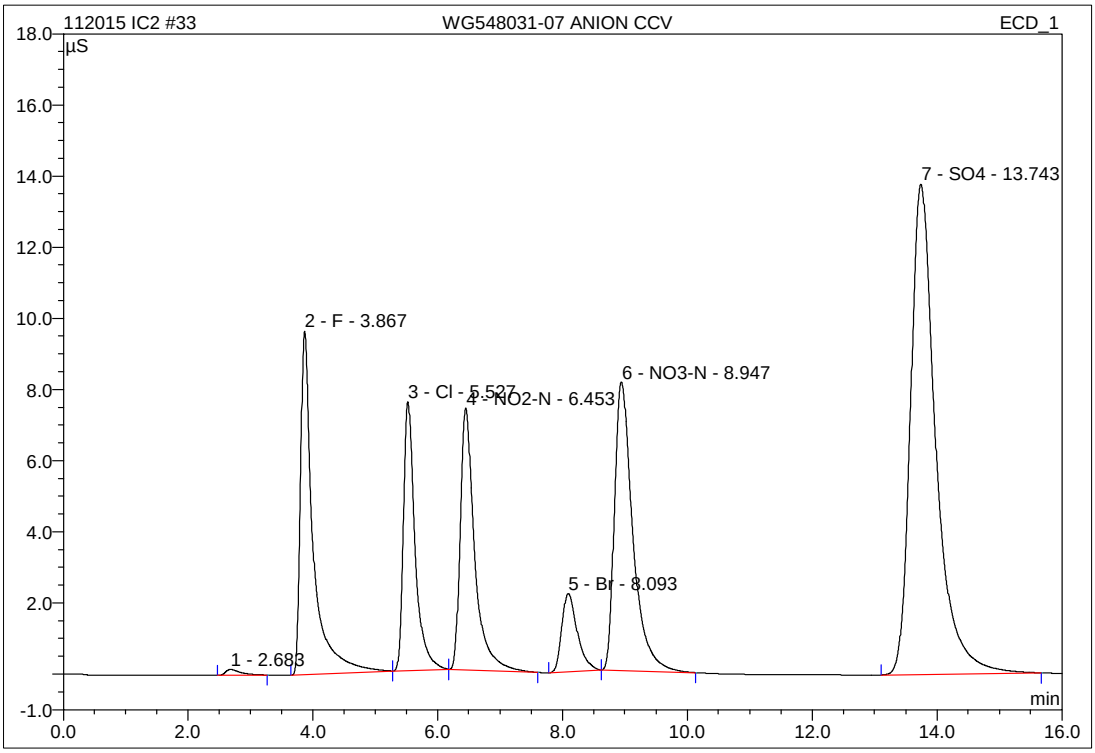
Sample Name:	**WG548031-05 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 21:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG548031-05 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.4055	-7.43	PASS
Cl	8	8.3599	4.50	PASS
NO2-N	4.8714	5.2147	7.05	PASS
NO3-N	5.4216	5.4156	-0.11	PASS
Br	8	8.6692	8.37	PASS
SO4	40	40.2043	0.51	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

33 WG548031-07 ANION CCV

1,1 ALS STD71545

Sample Name:	**WG548031-07 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 23:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.68	n.a.	0.162	0.045	0.28	n.a.	BMB
2	3.87	F	9.651	2.272	14.37	7.304	BMB
3	5.53	Cl	7.560	1.631	10.32	8.200	BMb
4	6.45	NO2-N	7.357	1.968	12.45	5.137	bMB
5	8.09	Br	2.204	0.634	4.01	8.540	BMb
6	8.95	NO3-N	8.114	2.760	17.46	5.322	bMB
7	13.74	SO4	13.786	6.494	41.09	39.402	BMB
Total:			48.835	15.804	100.00	73.905	

33 WG548031-07 ANION CCV

1,1 ALS STD71545

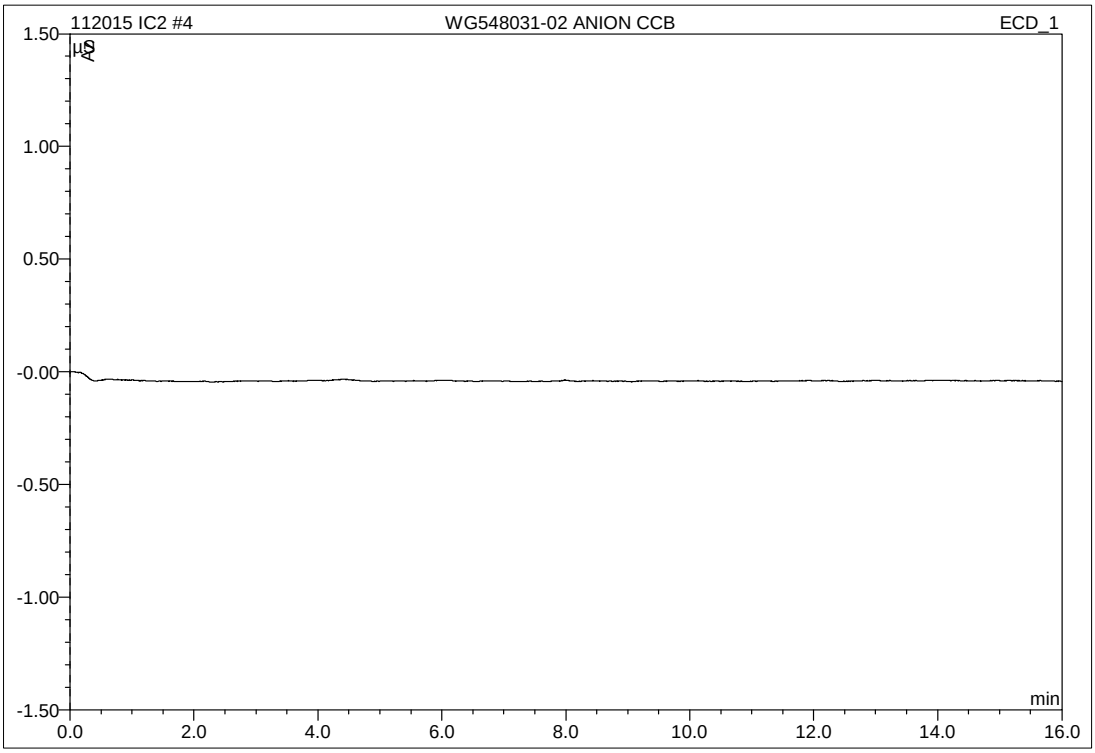
Sample Name:	**WG548031-07 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 23:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG548031-07 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.3043	-8.70	PASS
Cl	8	8.2002	2.50	PASS
NO2-N	4.8714	5.1365	5.44	PASS
NO3-N	5.4216	5.3225	-1.83	PASS
Br	8	8.5401	6.75	PASS
SO4	40	39.4015	-1.50	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

4 WG548031-02 ANION CCB

1,1 ALS

Sample Name:	**WG548031-02 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 14:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

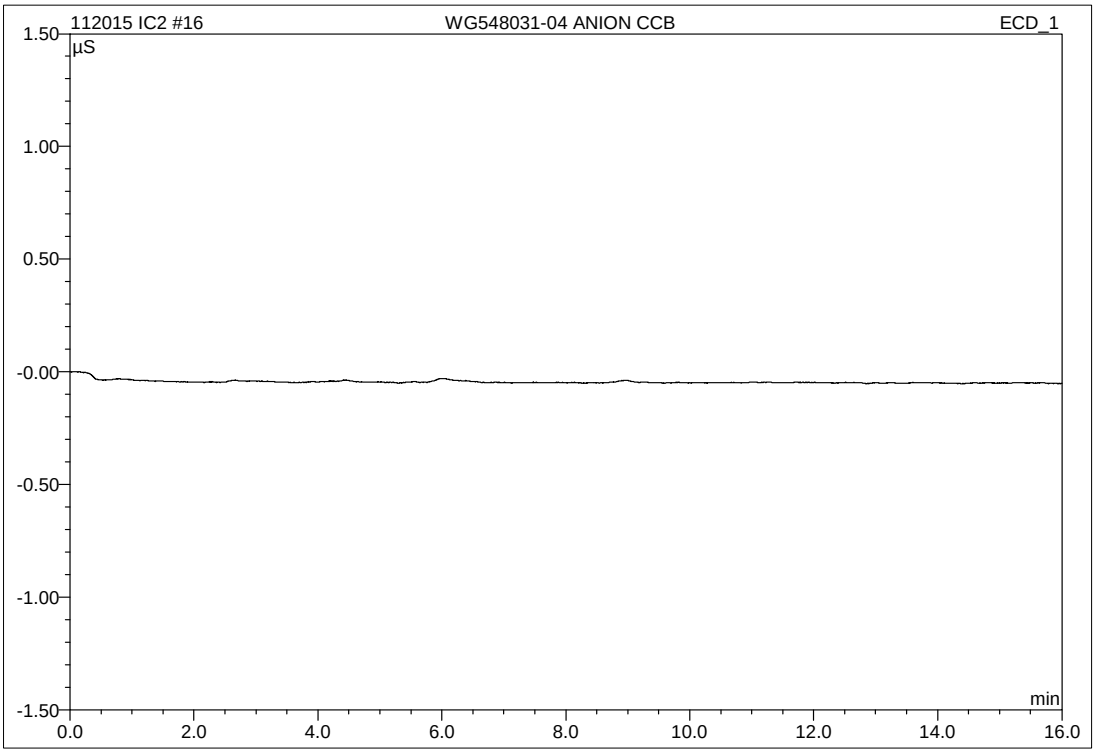


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

16 WG548031-04 ANION CCB

1,1 ALS

Sample Name:	**WG548031-04 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 17:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

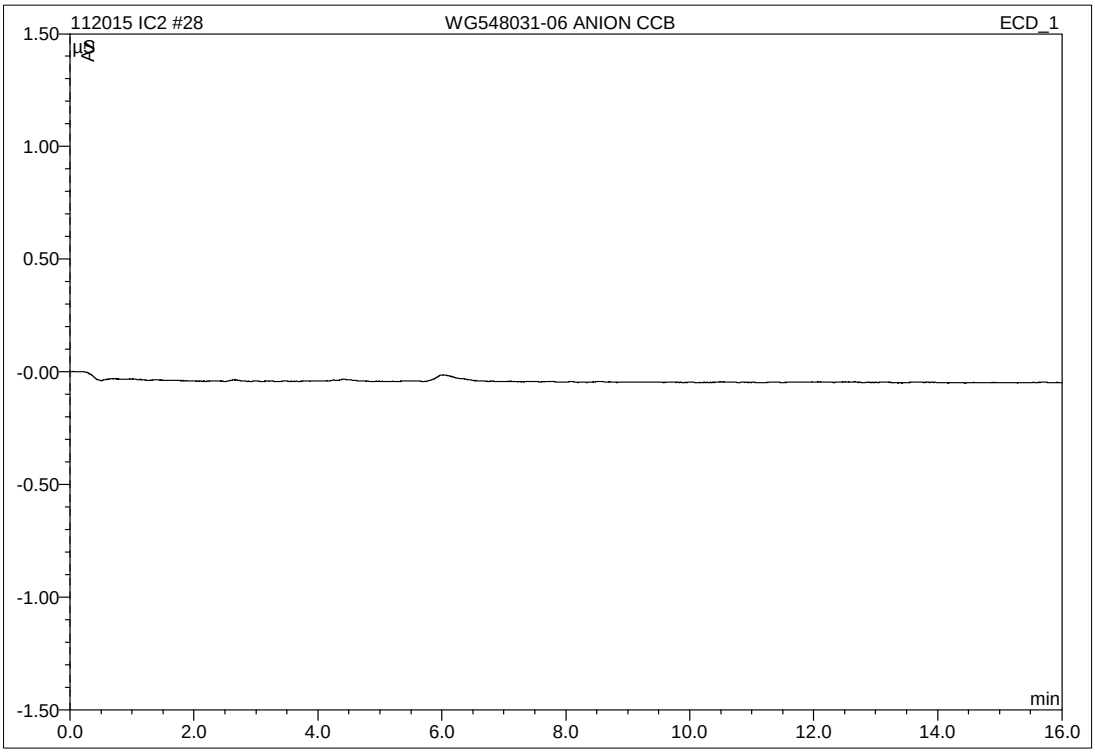


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

28 WG548031-06 ANION CCB

1,1 ALS

Sample Name:	**WG548031-06 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 21:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

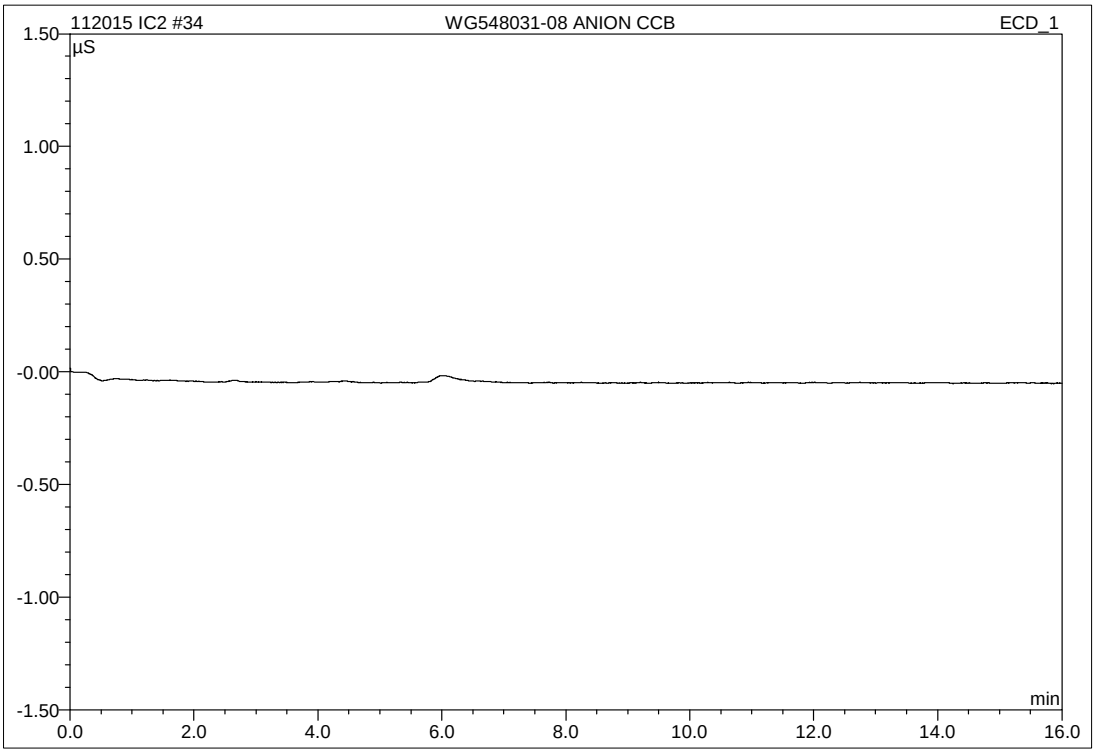


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

34 WG548031-08 ANION CCB

1,1 ALS

Sample Name:	**WG548031-08 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 23:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

RETENTION TIME WINDOWS

Lab Name: MICROBAC Laboratories, Inc.

Instrument ID: IC1

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	6/5/2013	6/5/2013	6/6/2013
File #	WG432976-05	WG432976-07	WG433275-01
Time	16:16	18:25	16:50

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.40	3.41	0.017
Cl	4.87	4.87	4.88	0.017
NO2-N	5.67	5.66	5.67	0.017
Br	7.01	6.99	7.02	0.046
NO3-N	7.76	7.74	7.77	0.046
SO4	13.35	13.35	13.35	0.000

Instrument ID: IC2

IC Column: AS14A-4mm

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	3/2/2015	3/4/2015	3/5/2015
File #	WG514023-02	WG514341-02	WG514431-02
Time	23:15	18:47	17:41

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.33	3.33	3.32	0.017
Cl	4.75	4.78	4.76	0.043
NO2-N	5.54	5.59	5.56	0.082
Br	6.86	6.98	6.93	0.180
NO3-N	7.59	7.73	7.67	0.222
SO4	12.42	12.38	12.34	0.116

Instrument ID: IC3

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	5/20/2014	5/21/2014	5/21/2014
File #	WG476910-05	WG476934-01	WG476934-03
Time	12:41	9:54	13:59

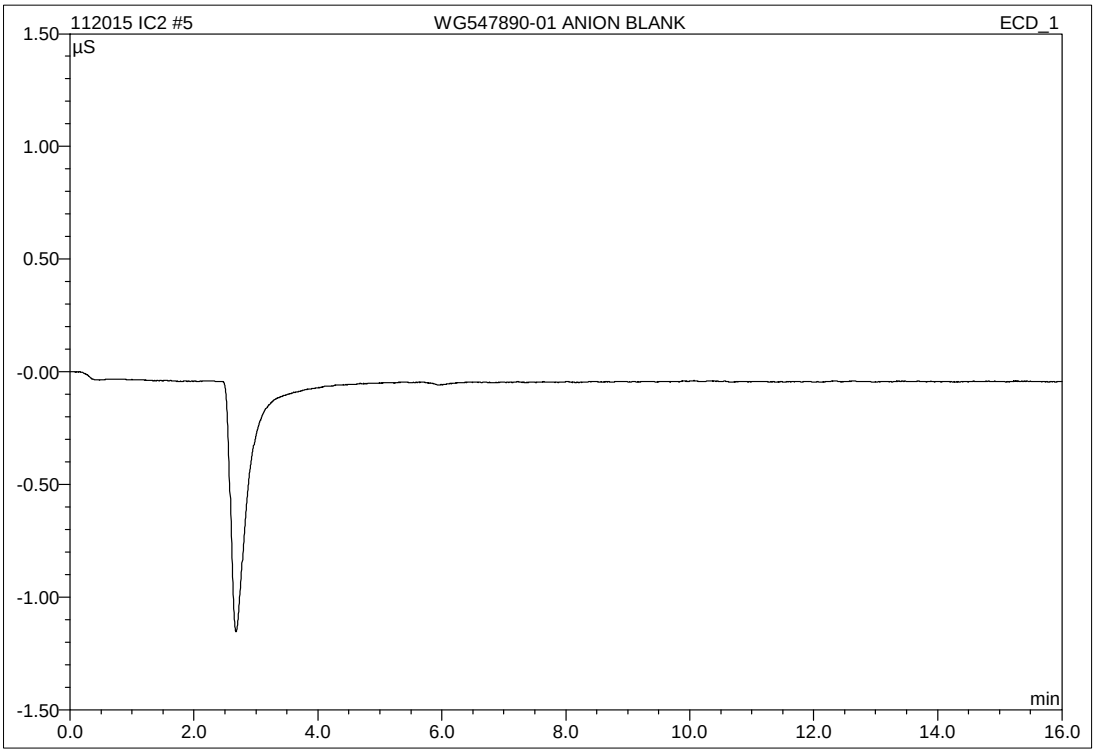
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

2.2.1.5 Raw QC Data

5 WG547890-01 ANION BLANK

1,1 ALS

Sample Name:	**WG547890-01 ANION BLANK**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 14:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

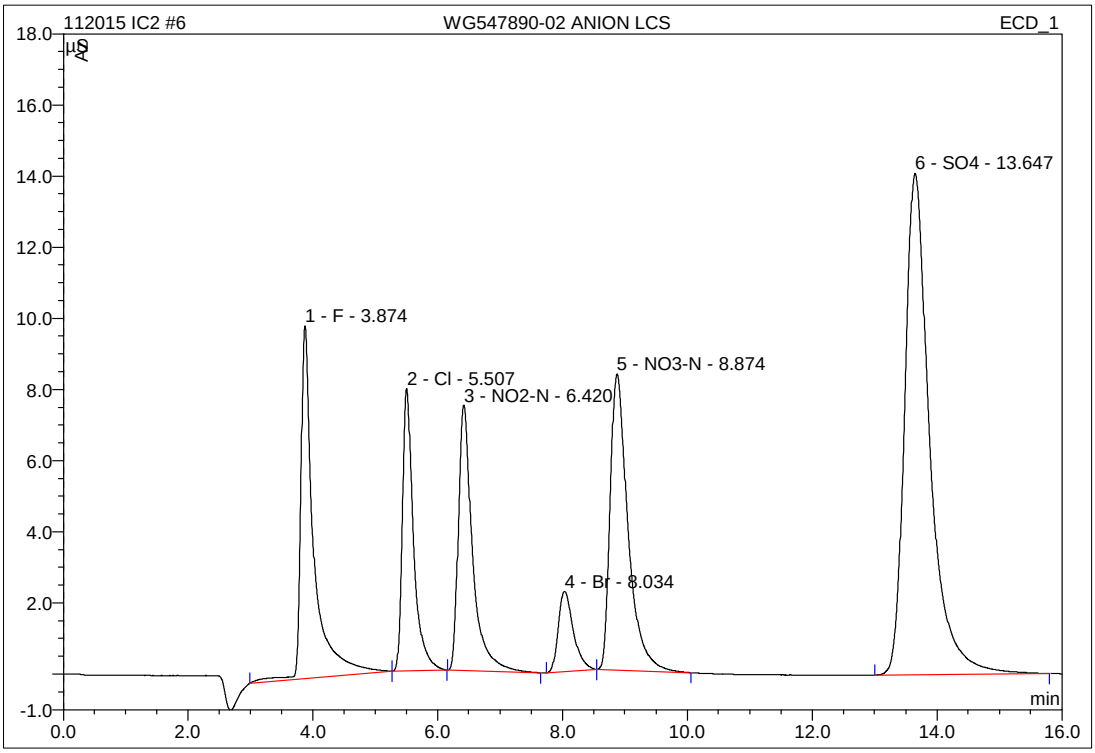


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

6 WG547890-02 ANION LCS

1,1 ALS STD71545

Sample Name:	**WG547890-02 ANION LCS**	*Injection Volume:*	**25.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 14:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

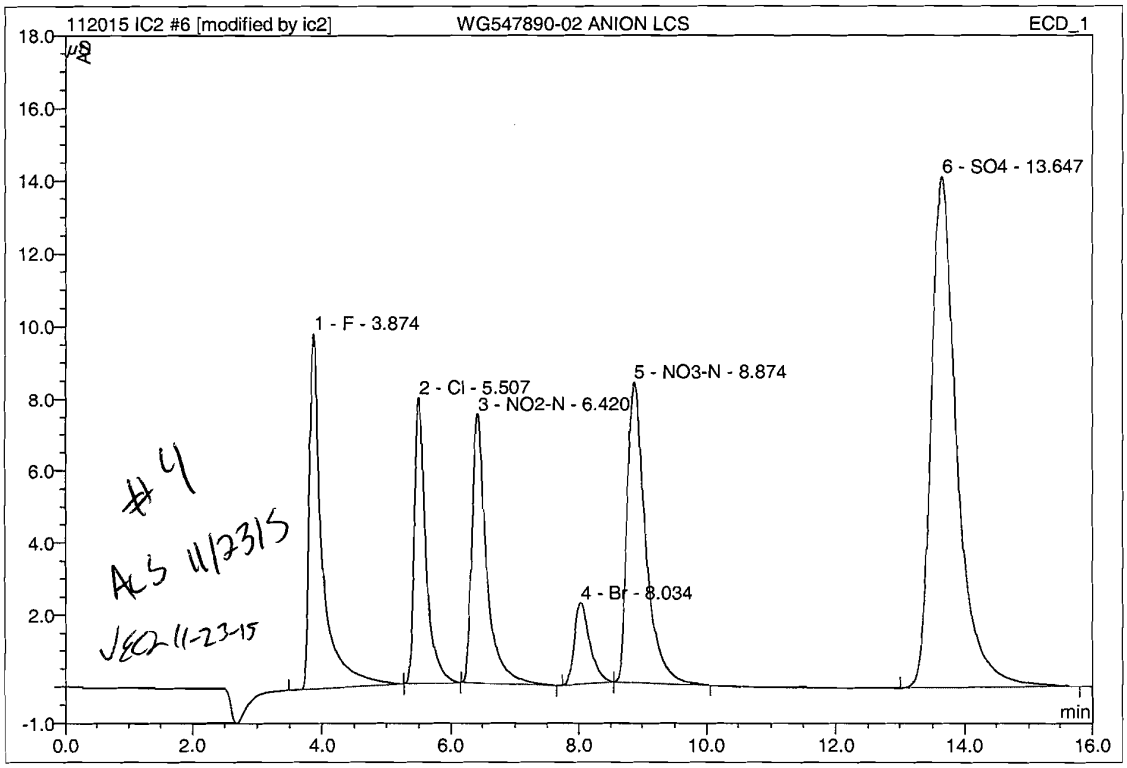


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.87	F	9.915	2.399	15.01	7.714	BMB
2	5.51	Cl	7.946	1.643	10.28	8.256	bMB
3	6.42	NO2-N	7.467	1.970	12.33	5.142	BMB
4	8.03	Br	2.254	0.633	3.96	8.530	BMb
5	8.87	NO3-N	8.335	2.770	17.34	5.341	bMB
6	13.65	SO4	14.091	6.561	41.07	39.803	BMB
Total:			50.009	15.975	100.00	74.784	

6 WG547890-02 ANION LCS

1,1 ALS STD71545

Sample Name:	**WG547890-02 ANION LCS**	*Injection Volume:*	**25.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056_300**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/20/2015 14:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.87	F	9.845	2.280	14.38	7.332	BMb*
2	5.51	Cl	7.946	1.643	10.36	8.256	bMB
3	6.42	NO2-N	7.467	1.970	12.42	5.142	BMB
4	8.03	Br	2.254	0.633	3.99	8.530	BMb
5	8.87	NO3-N	8.335	2.770	17.47	5.341	bMB
6	13.65	SO4	14.091	6.561	41.38	39.803	BMB
Total:			49.939	15.857	100.00	74.403	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2.2.2 Ferrous Iron Data

2.2.2.1 Summary Data

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW11-111915	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	11/05/2015 08:15
Workgroup #:	WG548281	**Analyst:**	DCM	**Run Date:**	11/24/2015 11:45
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	00.1511241145-05
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW08-111915	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	11/05/2015 08:15
Workgroup #:	WG548281	**Analyst:**	DCM	**Run Date:**	11/24/2015 11:45
Collect Date:	11/19/2015 10:20	**Dilution:**	1	**File ID:**	00.1511241145-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0931		0.0400	0.0400	0.0200

2.2.2.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 24-NOV-2015
Analyst: DCM
Analyst: NA
Method: FERROUS
Instrument: UV-2600
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG548281

Calibration/Linearity	11-05-2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
24-NOV-2015

Secondary Reviewer:
25-NOV-2015

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-25-2015 13:18:47

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM3500Fe-B-1997 AAB#: WG548281

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-111915	15	11/19/15					11/24/2015	5.1	7		11/24/15	5.1	7	
67WW08-111915	16	11/19/15					11/24/2015	5.1	7		11/24/15	5.1	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4520724
Report generated 11/25/2015 12:51

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG548281
Blank File ID:	00.1511241145-02	Blank Sample ID:	WG548281-01
Prep Date:	11/24/15 11:45	Instrument ID:	UV-2600
Analyzed Date:	11/24/15 11:45	Method:	SM3500Fe-B-1997
Analyst:	DCM		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548281-02	00.1511241145-03	11/24/15 11:45	
LCS2	WG548281-03	00.1511241145-04	11/24/15 11:45	
67WW11-111915	L15111211-15	00.1511241145-05	11/24/15 11:45	
67WW08-111915	L15111211-16	00.1511241145-06	11/24/15 11:45	
DUP	WG548281-05	00.1511241145-07	11/24/15 11:45	

Report Name: BLANK_SUMMARY
PDF File ID: 4520725
Report generated 11/25/2015 12:51

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/24/15 11:45 Sample ID: WG548281-01
Instrument ID: UV-2600 Run Date: 11/24/15 11:45 Prep Method: SM3500Fe-B-1997
File ID: 00.1511241145-02 Analyst: DCM Method: SM3500Fe-B-1997
Workgroup (AAB#): WG548281 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-260-05-NOV-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Ferrous - Laboratory	0.0200	0.0400	0.0200	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4520726
25-NOV-2015 12:51

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Analyst: DCM Prep Method: SM3500Fe-B-1997
Instrument ID: UV-2600 Matrix: Water Method: SM3500Fe-B-1997
Workgroup (AAB#): WG548281 Units: mg/L
QC Key: DOD4 Lot #: STD71425

Sample ID: WG548281-02 LCS File ID: 00.1511241145-03 Run Date: 11/24/2015 11:45
Sample ID: WG548281-03 LCS2 File ID: 00.1511241145-04 Run Date: 11/24/2015 11:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Iron, Ferrous - Laboratory	0.200	0.197	98.4	0.200	0.194	96.9	1.53	75 - 125	25	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4520727
Report generated: 11/25/2015 12:51

2.2.2.3 Raw Data

Wg 546244

Curves

Parameter: Ferrous Iron

Spectrophotometer: UV-2100

Calibration (Curve) standard stock: STD3135

Concentration: 100 mg/L

Recipe for preparation of curve standards found in:
SOP: 3500 Revision: 7 Page: 8

Second Source Stock: STD1425 (concentration: 100 mg/L)

Daily Preparation: 2(100)/1000

concentration = =0.2

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0	50	10cm	510	0.003
0.04				0.035
0.08				0.079
0.2				0.184
0.4				0.396
0.6				0.601
2nd Source				
0.2	=	=	=	0.191
0.2	=	=	=	0.189

Analyst: Danny Moore Date/Time: 11/5/15 @ 815

DCN#114513

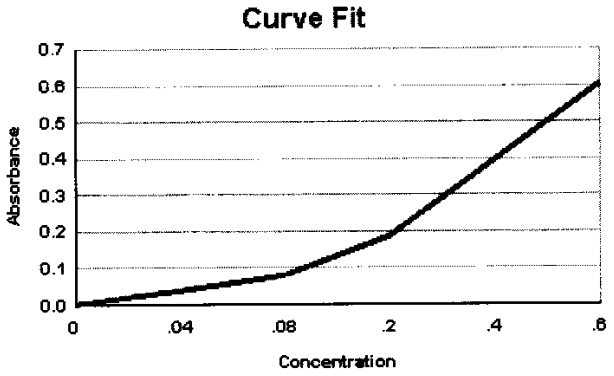
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup:WG546244
Analytical Method:FERROUS
Instrument ID:UV-2600

Analyst:TMM
Initial Calibration Date:11/05/2015

Analyte: FERROUS IRON
Number of Points: 6
Slope: 1.00209
Y-Intercept: -0.00429299
Coef. Of Correlation (R^2): 0.999234
Coef. Of Correlation (R): 0.999617

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00200	0.00	0.00	-0.00429299
0.0400	0.0350	0.00160	0.00140	0.0357906
0.0800	0.0790	0.00640	0.00632	0.0758742
0.200	0.184	0.0400	0.0368	0.196125
0.400	0.396	0.160	0.158	0.396543
0.600	0.601	0.360	0.361	0.596961



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 11/10/2015 09:34

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG546244
File ID: 00.1511050815-07
CCV ID: WG546244-07
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 11/05/2015
Run Time: 08:15
Analyst: TMM
Cal ID: UV-260 - 05-NOV-15 08:15:06

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.2	0.195	0.955	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 11/10/2015 09:35

[redacted]

WORKGROUP: WG548281

Ferrous Iron

SM 3500Fe-B

SOP K3500 Revision # 7

Instrument: ~~UV-120-IV~~ UV-2600

Curve Reference: 11/5/15

CCV: Std 73135
Daily Dilution: 3(100)/100
Daily Dilution: =0.3

RGTS: 35103
RGTS: 35015
RGTS: 31787

LCS: Std 71425
Daily Dilution: 2(100)/100
Daily Dilution: =0.2

Spike: Std 71425
Daily Dilution: 0.1(1000)/50
Daily Dilution: =0.2

Sample	Blank	Volume (mL)	Dilution	Cell Size (nm)	Absorbance
CCV: 0.3 mg/L	✓	50		10cm	0.295
BLANK	✓	50		10cm	0.000
LCS: 0.2 mg/L	✓	50		10cm	0.193
LCS DUP: (0.2 mg/L)	✓	50		10cm	0.190
11-12/11-15	✓	50		10cm	0.012
16	✓	50		10cm	0.089
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
DUP: 11-12/11-16	✓	50		10cm	0.086
MS: (11-)12/11-16	✓	50		10cm	0.324
MSD: ( )		50			
CCV:( ) 0.3	✓	50		10cm	0.297

Analyst: David Merkle Date/Time: 11/24/15 1145

*Samples were analyzed in the laboratory and not immediately in the field.

DCN#114981

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG548281
Analyte: FERROUS IRON

Analyst: DCM
Date: 11/24/2015

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG548281-01	50	50	0	1.002	-0.004293	0.0042840	0.0042840	1	mg/L
WG548281-02	50	50	0.193	1.002	-0.004293	0.19688	0.19688	1	mg/L
WG548281-03	50	50	0.190	1.002	-0.004293	0.19389	0.19389	1	mg/L
L15111211-15	50	50	0.0120	1.002	-0.004293	0.016259	ND	1	mg/L
L15111211-16	50	50	0.0890	1.002	-0.004293	0.093098	0.093098	1	mg/L
WG548281-04	50	50	0.0890	1.002	-0.004293	0.093098	0.093098	1	mg/L
WG548281-05	50	50	0.0860	1.002	-0.004293	0.090105	0.090105	1	mg/L
WG548281-06	50	50	0.324	1.002	-0.004293	0.32761	0.32761	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 11/24/2015 16:33

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG548386
File ID: 00.1511241145-01
CCV ID: WG548386-01
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 11/24/2015
Run Time: 11:45
Analyst: DCM
Cal ID: UV-260 - 13-NOV-15

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.299	0.983	0.3	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/24/2015 16:34

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG548386
File ID: 00.1511241145-09
CCV ID: WG548386-02
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 11/24/2015
Run Time: 11:45
Analyst: DCM
Cal ID: UV-260 - 13-NOV-15

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.301	0.990	0.3	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/24/2015 16:34

[redacted]

2.2.3 Sulfide Data

2.2.3.1 Summary Data

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW11-111915	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG548030	**Analyst:**	TB	**Run Date:**	11/23/2015 11:15
Collect Date:	11/19/2015 09:10	**Dilution:**	1	**File ID:**	ET.1511231115-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW08-111915	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG548030	**Analyst:**	TB	**Run Date:**	11/23/2015 11:15
Collect Date:	11/19/2015 10:20	**Dilution:**	1	**File ID:**	ET.1511231115-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.2.3.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

[mL Iodine * N Iodide) - (mL titrant * N titrant)] * 16000/(volume * dilution) = mg/L Sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = mL of titrant used
N titrant = normality of titrant
16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide
volume = mL filtered of mL titrated(if not filtered)
dilution = dilution in decimal form (1/5 = 0.2)

Example Total Sulfide(Soil) Calculations

[(mL Iodine * N Iodine) - (mL titrant * N titrant)] * 16.03/weight = mg/kg sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = normality of titrant
16.03 = 32.06 grams per 2 equivalents
weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 23-NOV-2015
Analyst: TB
Analyst: NA
Method: S
Instrument: BURET
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG548030

Calibration/Linearity	11/23/2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	TB
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
24-NOV-2015

Secondary Reviewer:
25-NOV-2015

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-25-2015 13:19:48

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-S-(-2)-F- AAB#: WG548030

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-111915	15	11/19/15					11/23/2015	4.1	7		11/23/15	4.1	7	
67WW08-111915	16	11/19/15					11/23/2015	4	7		11/23/15	4	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4519517
Report generated 11/25/2015 10:01

METHOD BLANK SUMMARY

Login Number:	L15111211	**Work Group:**	WG548030
Blank File ID:	ET.1511231115-01	**Blank Sample ID:**	WG548030-01
Prep Date:	11/23/15 11:15	**Instrument ID:**	BURET
Analyzed Date:	11/23/15 11:15	**Method:**	SM4500-S-(-2)-F-
Analyst:	TB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548030-02	ET.1511231115-02	11/23/15 11:15	
LCS2	WG548030-03	ET.1511231115-03	11/23/15 11:15	
67WW11-111915	L15111211-15	ET.1511231115-09	11/23/15 11:15	
67WW08-111915	L15111211-16	ET.1511231115-10	11/23/15 11:15	

Report Name: BLANK_SUMMARY
PDF File ID: 4519518
Report generated 11/25/2015 10:01

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/23/15 11:15 Sample ID: WG548030-01
Instrument ID: BURET Run Date: 11/23/15 11:15 Prep Method: SM4500-S-(-2)-F
File ID: ET.1511231115-01 Analyst: TB Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG548030 Matrix: Water Units: mg/L
Contract #: Cal ID: BURET-

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Sulfide	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4519519
25-NOV-2015 10:01

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Analyst: TB Prep Method: SM4500-S-(-2)-F
Instrument ID: BURET Matrix: Water Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG548030 Units: mg/L
QC Key: DOD4 Lot #: STD73610

Sample ID: WG548030-02 LCS File ID: ET.1511231115-02 Run Date: 11/23/2015 11:15
Sample ID: WG548030-03 LCS2 File ID: ET.1511231115-03 Run Date: 11/23/2015 11:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	18.4	18.2	99.2	18.4	18.2	99.2	0.00	85 - 115	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4519520
Report generated: 11/25/2015 10:01

2.2.3.3 Raw Data

SULFIDE
(sulfide1)

WORKGROUP: WG548030

Water:
EPA 376.1 / SM4500-S(-2)-F
SOP K3761 Revision #: 16

Soil:
SM846 9030B/9034
SOP K9030 Revision #: _____

Instrument: Buret

LCS: 5/1 73610

Iodine standardization (0.025N) COA: 18311
mL 0.025N titrant: 10.1
Volume I: 10.0 mL
Normality I: ~~0.249~~ 0.0249 TB 11/23/15

(0.1 N I) COA: COA 18573
mL 0.025 N titrant: 8.1
Volume I: 2.0 mL
Normality I: 0.100 N

Stock standardization (in duplicate) 5.0 mL stock
mL I 1) 10.0 2) 10.0
N I 1) 0.100 2) 0.100
mL 0.025 titrant 1) 25.0 2) 25.0
LCS daily dilution: 3(1224)/200 = 18.36 mg/L

1224 = stock conc (mg/L)

Titrant: T- 1689-10-01

SAMPLE	Volume Filtered mL	mL Iodine	TB 11/23/15 N Iodine	0.0247 N Sodium Thiosulfate (mL)
BLANK	200	15.0	0.025 0.0249	~~15.0~~ 15.1 TB 11/23/15
LCS (mL)	200	15.0	0.025 0.0249	5.9
LCSDUP (mL)	200	15.0	0.025 0.0249	5.9
11-1084-06	510	10.0	0.0249	9.6
08	510	10.0	0.0249	10.2
10	510	10.0	0.0249	9.4
12	550	10.0	0.0249	>10.2 Interference
14	500	10.0	0.0249	10.1
1211-15	490	10.0	0.0249	10.0
16	510	10.0	0.0249	10.0
1208-02	540	10.0	0.0249	~~9.9~~ 10.0 TB 11/23/15
03	500	10.0	0.0249	9.9
05	490	10.0	0.0249	9.3
06	470	10.0	0.0249	10.0

Analyst: Tom Boyle Date/Time: 1115 11/23/15

DCN#114944

Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#): WG548030 Analyst: TB
Product: EPA 376.1\9034 Run Date: 11/23/2015 11:15
Analyte: Sulfide

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG548030-01	200.0	15	.0249	15.1	.0247	1	0.0424	0.04240	mg/L
WG548030-02	200.0	15	.0249	5.9	.0247	1	18.2	18.22	mg/L
WG548030-03	200.0	15	.0249	5.9	.0247	1	18.2	18.22	mg/L
L15111084-06	510.0	10	.0249	9.6	.0247	1	0.373	ND	mg/L
L15111084-08	510.0	10	.0249	10.2	.0247	1	-0.0922	ND	mg/L
L15111084-10	510.0	10	.0249	9.4	.0247	1	0.528	0.5277 F	mg/L
L15111084-12	550.0	10	.0249	10.2	.0247	1	-0.0855	ND	mg/L
L15111084-14	500.0	10	.0249	10.1	.0247	1	-0.0150	ND	mg/L
L15111211-15	490.0	10	.0249	10	.0247	1	0.0653	ND	mg/L
L15111211-16	510.0	10	.0249	10	.0247	1	0.0627	ND	mg/L
L15111268-02	540.0	10	.0249	10	.0247	1	0.0593	ND	mg/L
L15111268-03	500.0	10	.0249	9.9	.0247	1	0.143	ND	mg/L
L15111268-05	490.0	10	.0249	9.3	.0247	1	0.630	0.6299 F	mg/L
L15111268-06	470.0	10	.0249	10	.0247	1	0.0681	ND	mg/L

SULFIDE_REPORT - Modified 03/06/2008

Report generated 11/23/2015 11:57

[redacted]

2.2.4 Total Organic Carbon Data

2.2.4.1 Summary Data

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548464	**Analyst:**	EPT	**Run Date:**	11/25/2015 17:02
Collect Date:	11/19/2015 09:10	**Dilution:**	10	**File ID:**	TC11252015.007
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		113		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L15111211-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548464	**Analyst:**	EPT	**Run Date:**	11/25/2015 17:02
Collect Date:	11/19/2015 09:10	**Dilution:**	10	**File ID:**	TC11252015.007
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	23.1		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548214	**Analyst:**	DIH	**Run Date:**	11/24/2015 13:17
Collect Date:	11/19/2015 10:20	**Dilution:**	3	**File ID:**	TC11242015.010
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	47.5		6.00	3.00	1.50

Certificate of Analysis

Microbac

Lab Report #: L15111211
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Sample #:	L15111211-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-111915	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG548214	**Analyst:**	DIH	**Run Date:**	11/24/2015 13:17
Collect Date:	11/19/2015 10:20	**Dilution:**	3	**File ID:**	TC11242015.010
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		103		6.00	3.00	1.50

2.2.4.2 QC Summary Data

Total Organic Carbon Example Calculations
(Direct Readout Parameter)

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 24-NOV-2015
Analyst: DIH
Analyst: NA
Method: TOC
Instrument: TOC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG548214

Calibration/Linearity	11/24/15
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DIH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
25-NOV-2015
Dianna Ibsson

Secondary Reviewer:
25-NOV-2015
Dianna Ibsson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-25-2015 15:07:25

Microbac Laboratories Inc.

Data Checklist

Date: 25-NOV-2015
Analyst: EPT
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG548464 WG548465

Calibration/Linearity	10/31/15
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	
Primary Reviewer	EPT
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
30-NOV-2015
Ethan Tido

Secondary Reviewer:
30-NOV-2015
Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-30-2015 11:37:37

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG548214

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW08-111915	16	11/19/15					11/24/2015	5.1	28		11/24/15	5.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4521070
Report generated 11/30/2015 10:37

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 **AAB#:** WG548464

Login Number: L15111211

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-111915	15	11/19/15					11/25/2015	6.3	28		11/25/15	6.3	28	

*** = SEE PROJECT QAPP REQUIREMENTS**

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4521070
Report generated 11/30/2015 10:37

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG548214
Blank File ID:	TC11242015.004	Blank Sample ID:	WG548214-01
Prep Date:	11/24/15 10:32	Instrument ID:	TOC-VWP
Analyzed Date:	11/24/15 10:32	Method:	415.1
Analyst:	DIH		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548214-02	TC11242015.005	11/24/15 10:43	01
LCS2	WG548214-03	TC11242015.006	11/24/15 10:56	01
67WW08-111915	L15111211-16	TC11242015.010	11/24/15 13:17	DL01
67WW08-111915	L15111211-16	TC11242015.010	11/24/15 13:17	DL01
DUP	WG548214-05	TC11242015.031	11/24/15 17:25	01

Report Name: BLANK_SUMMARY
PDF File ID: 4521071
Report generated 11/30/2015 10:37

METHOD BLANK SUMMARY

Login Number:	L15111211	Work Group:	WG548464
Blank File ID:	TC11252015.004	Blank Sample ID:	WG548464-01
Prep Date:	11/25/15 16:26	Instrument ID:	TOC-VWP
Analyzed Date:	11/25/15 16:26	Method:	415.1
Analyst:	EPT		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG548464-02	TC11252015.005	11/25/15 16:38	01
LCS2	WG548464-03	TC11252015.006	11/25/15 16:50	01
67WW11-111915	L15111211-15	TC11252015.007	11/25/15 17:02	DL01
67WW11-111915	L15111211-15	TC11252015.007	11/25/15 17:02	DL01
DUP	WG548464-05	TC11252015.031	11/25/15 21:49	01

Report Name: BLANK_SUMMARY
PDF File ID: 4521071
Report generated 11/30/2015 10:37

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/24/15 10:32 Sample ID: WG548214-01
Instrument ID: TOC-VWP Run Date: 11/24/15 10:32 Prep Method: 415.1
File ID: TC11242015.004 Analyst: DIH Method: 415.1
Workgroup (AAB#): WG548214 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-30-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4521072
30-NOV-2015 10:37

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L15111211 Prep Date: 11/25/15 16:26 Sample ID: WG548464-01
Instrument ID: TOC-VWP Run Date: 11/25/15 16:26 Prep Method: 415.1
File ID: TC11252015.004 Analyst: EPT Method: 415.1
Workgroup (AAB#): WG548464 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-30-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4521072
30-NOV-2015 10:37

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Analyst: EPT Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG548464 Units: mg/L
QC Key: DOD4 Lot #: STD72270

Sample ID: WG548464-02 LCS File ID: TC11252015.005 Run Date: 11/25/2015 16:38
Sample ID: WG548464-03 LCS2 File ID: TC11252015.006 Run Date: 11/25/2015 16:50

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.5	106	25.0	24.9	99.4	6.31	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4521073
Report generated: 11/30/2015 10:37

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15111211 Analyst: DIH Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG548214 Units: mg/L
QC Key: DOD4 Lot #: STD72270

Sample ID: WG548214-02 LCS File ID: TC11242015.005 Run Date: 11/24/2015 10:43
Sample ID: WG548214-03 LCS2 File ID: TC11242015.006 Run Date: 11/24/2015 10:56

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	27.3	109	25.0	27.6	110	1.09	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4521073
Report generated: 11/30/2015 10:37

2.2.4.3 Raw Data

Curve

wg545145

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____ (5/200)(1000) = 25mg/L

LCS (TOC): _____ (5/200)(1000) = 25mg/L

CCV (TIC): _____ (5/200)(1000) = 25mg/L See Below

MS (TOC): _____

Calibration Curve Date: _____

Reagent: RGT 34567, RGT 34459

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K 4151 Rev. 18

WG_____ Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☐ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TC Curve	
2	TIC Curve	
3	TC ICV	
4	TIC ICV	
5		
6		
7		
8		
9		
10		
11		
12		
13	All points	
14	analyzed	
15	in duplicate	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26	TC Curve	
27	Std 72153	
28		
29	TIC Curve	
30	Std 72165	
31		
32		
33	TOC (TC)	
34	ICV	
35	Std 72270	
36		
37	TIC ICV	
38	Std 72654	
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52	~~See SOP~~	
53	~~for point~~	
54	~~preparation~~	
55		
56		
57		
58		
59		
60	5/200 (1000) = 25	
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: David Merkle Date/Time: 10/31/15

DCN#114406

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Cal. Curve

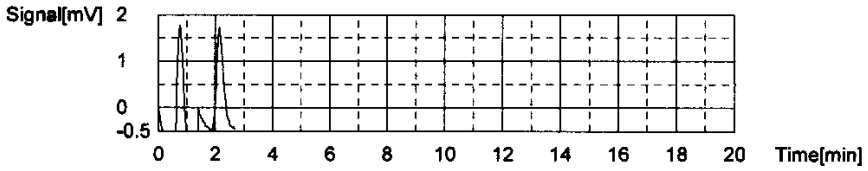
Sample Name: TCCURVE
Sample ID:
Cal. Curve: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.764	500uL	1	*******		10/30/2015 4:10:07 PM
2	3.607	500uL	1	*******		10/30/2015 4:13:33 PM

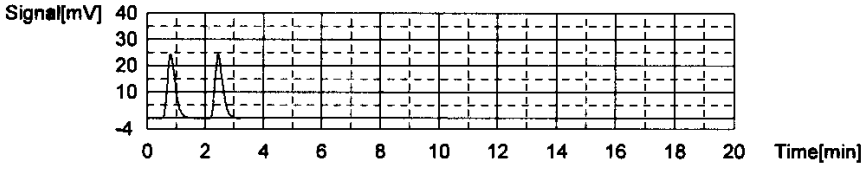
Acid Add. 0.000%
Mean Area 4.186



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.19	500uL	1	*******		10/30/2015 4:19:03 PM
2	46.28	500uL	1	*******		10/30/2015 4:22:56 PM

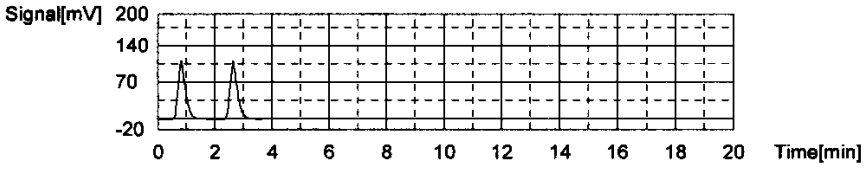
Acid Add. 0.000%
Mean Area 46.23



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	194.3	500uL	1	*******		10/30/2015 4:28:42 PM
2	193.1	500uL	1	*******		10/30/2015 4:32:47 PM

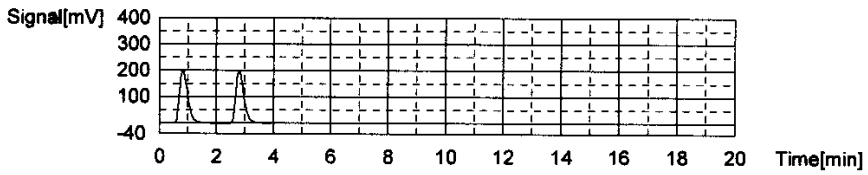
Acid Add. 0.000%
Mean Area 193.7



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	390.8	500uL	1	********		10/30/2015 4:38:42 PM
2	391.3	500uL	1	********		10/30/2015 4:42:54 PM

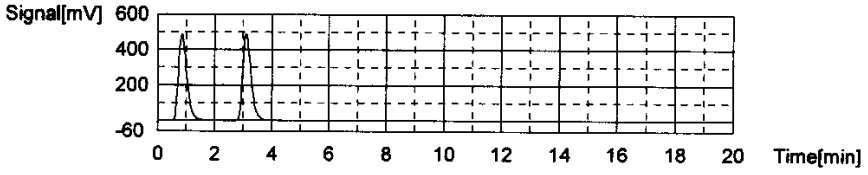
Acid Add. 0.000%
Mean Area 391.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	989.0	500uL	1	********		10/30/2015 4:49:06 PM
2	994.6	500uL	1	********		10/30/2015 4:53:33 PM

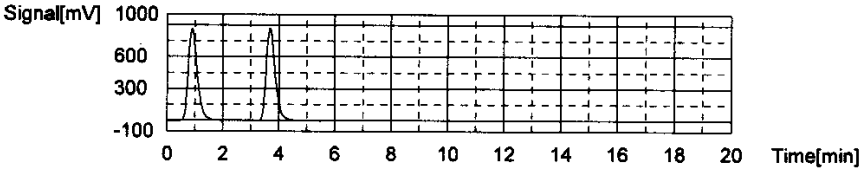
Acid Add. 0.000%
Mean Area 991.8



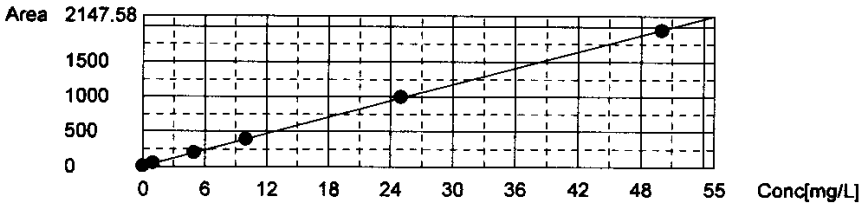
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1946	500uL	1	********		10/30/2015 5:00:24 PM
2	1948	500uL	1	********		10/30/2015 5:05:23 PM

Acid Add. 0.000%
Mean Area 1947



Slope: 38.95
Intercept 4.952
r^2 0.999910
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID:
Origin: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:25.93mg/L

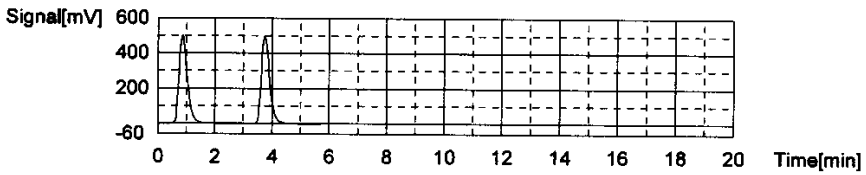
= 103.7%

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 9:56:57 AM
2	1010	25.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 10:02:17 AM

Mean Area 1015
Mean Conc. 25.93mg/L



Cal. Curve

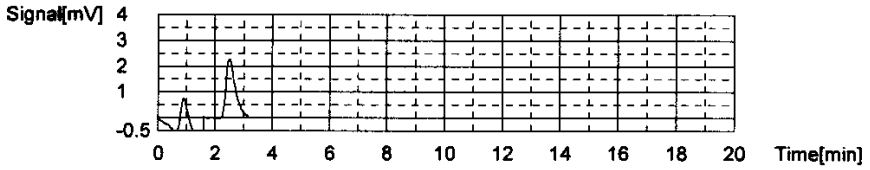
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-10-30-2015.2015_10_31_11_55_05.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	2.732	500uL	1	********		10/31/2015 12:00:21 PM
2	5.011	500uL	1	********		10/31/2015 12:04:52 PM

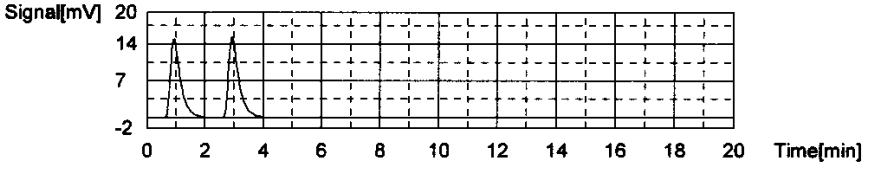
Acid Add. 10.00%
Mean Area 3.872



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.96	500uL	1	********		10/31/2015 12:12:47 PM
2	37.13	500uL	1	********		10/31/2015 12:17:43 PM

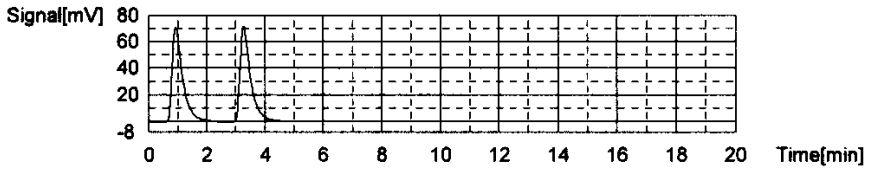
Acid Add. 10.00%
Mean Area 36.55



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	173.6	500uL	1	********		10/31/2015 12:26:14 PM
2	175.6	500uL	1	********		10/31/2015 12:31:38 PM

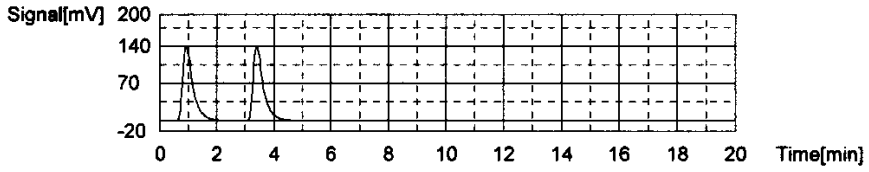
Acid Add. 10.00%
Mean Area 174.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	344.8	500uL	1	********		10/31/2015 12:40:18 PM
2	345.1	500uL	1	********		10/31/2015 12:45:49 PM

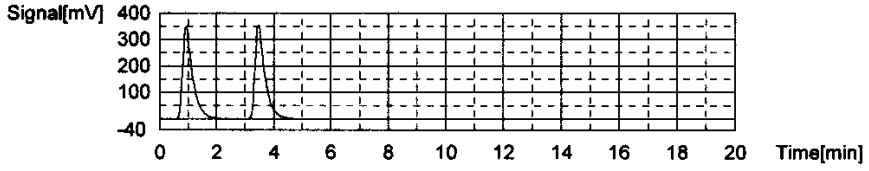
Acid Add. 10.00%
Mean Area 345.0



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	835.5	500uL	1	********		10/31/2015 12:54:43 PM
2	845.9	500uL	1	********		10/31/2015 1:00:42 PM

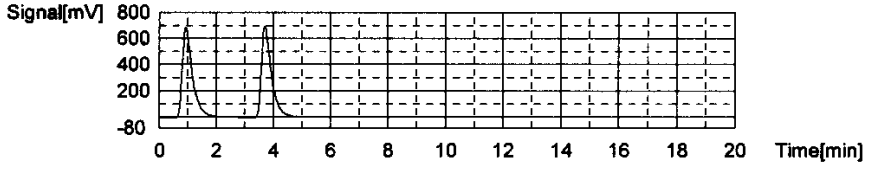
Acid Add. 10.00%
Mean Area 840.7



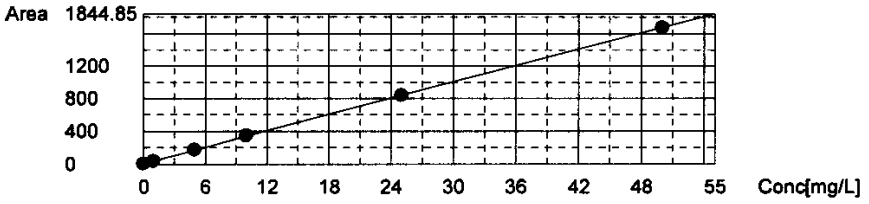
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1676	500uL	1	********		10/31/2015 1:09:51 PM
2	1677	500uL	1	********		10/31/2015 1:15:54 PM

Acid Add. 10.00%
Mean Area 1677



Slope: 33.42
Intercept 5.927
r^2 0.999982
Zero Shift No



Sample

Sample Name: TIC ICV
Sample ID: Untitled
Origin: TICCURVE-10-30-2015.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:25.37mg/L

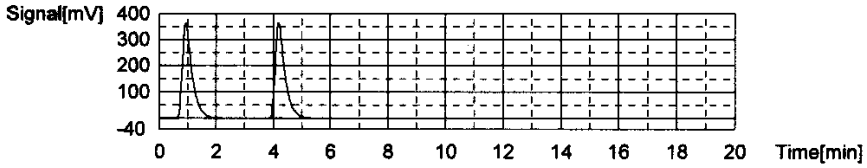
$= 101.5\%$

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	854.5	25.39mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:25:27 PM
2	853.1	25.35mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:31:33 PM

Mean Area 853.8
Mean Conc. 25.37mg/L



WORKGROUP: WG548464
WG548465

Total Organic Carbon

MAKE DAILY

CCV (TOC): std 72133 (5/200)(1000) = 25mg/L

LCS (TOC): std 72270 (5/200)(1000) = 25mg/L

CCV (TIC): std 72654 (5/200)(1000) = 25mg/L

MS (TOC): std 72270 (.4)(1000)/40=10

Calibration Curve Date: 10/31/15

Reagent: 35313, 34459

☒ SM5310-C : Matrix 2 WG 548465

☒ EPA 415.1/9060A(mod): Matrix 1 WG 548464 SOP: K 4151 Rev. 18

WG _____ Instrument: Shimadza TOC-VWP/ASI

☒ drain reservoir filled
☒ ASI water bottle full
☒ dilution water bottle full

DAILY CHECK

☒ 3rd bottle full
☒ sufficient gas
☒ sufficient persulfate

☒ sufficient acid
☒ waste container

Position	Sample ID	Dilution
1	TIC	
2	TOC/TIC	
3	CCV	
4	BLK	
5	LCS	
6	LCSDUP	
7	11-1211-15	1/10
8	11-1247-17	
9	-18	
10	-19	
11	-20	
12	-21	
13	-22	
14	CCV	
15	CCB	
16	11-1247-23	
17	-24	
18	-25	
19	-26	
20	-27	
21	-28	
22	-29	
23	-30	
24	-31	
25	-32	

TIC also

Position	Sample ID	Dilution
26	CCV	
27	CCB	
28	11-1247-33	
29	-34	
30	-35	
31	DUP -35	
32	MS -35	
33	BLK	
34	LCS	
35	LCSDUP	
36	11-1207-01	
37	-04	
38	CCV ~~-07~~	sat 11/25/15
39	CCB ~~-11~~	
40	11-1207-07	
41	-14	
42	-17	
43	-20	
44	-23	
45	-32	
46	11-1247-36	
47	11-1337-01	
48	-02	
49	-03	
50	CCV	

Position	Sample ID	Dilution
51	CCB	
52	11-1337-04	
53	DUP 1247-36	
54	MS 1247-36	
55	CCV	
56	CCB	
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: Ethan Tidd Date/Time: 11/25/15 1430

DCN#115017

C:\TOC3201\Data\11-25-2015-EPT-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:4.138mg/L TC:28.35mg/L IC:24.21mg/L	Complete	11/25/2015 3:57:02 PM	1
2	TOC	TOC/TIC	TOC:27.80mg/L TC:35.02mg/L IC:7.222mg/L	Complete	11/25/2015 4:09:41 PM	2
3	TOC	CCV	TOC:27.22mg/L TC:27.24mg/L IC:0.02418mg/L	Complete	11/25/2015 4:21:47 PM	3
4	TOC	WG548464-01 BLK	TOC:0.2655mg/L TC:0.3332mg/L IC:0.06771mg/L	Complete	11/25/2015 4:30:52 PM	0
5	TOC	WG548464-02 LCS	!!Error!! TOC:26.47mg/L TC:26.47mg/L IC:-0.00029mg	Complete	11/25/2015 4:42:54 PM	5
6	TOC	WG548464-03 LCSDUP	TOC:24.85mg/L TC:24.85mg/L IC:0.00126mg/L	Complete	11/25/2015 4:54:52 PM	6
7	TOC	L15111211-15 (10)	TOC:2.308mg/L TC:13.57mg/L IC:11.26mg/L	Complete	11/25/2015 5:07:01 PM	7
8	TOC	L15111247-17	TOC:1.894mg/L TC:6.949mg/L IC:5.055mg/L	Complete	11/25/2015 5:18:56 PM	8
9	TOC	L15111247-18	TOC:1.742mg/L TC:6.815mg/L IC:5.073mg/L	Complete	11/25/2015 5:30:45 PM	9
10	TOC	L15111247-19	TOC:10.98mg/L TC:25.35mg/L IC:14.37mg/L	Complete	11/25/2015 5:43:34 PM	10
11	TOC	L15111247-20	TOC:10.73mg/L TC:25.43mg/L IC:14.70mg/L	Complete	11/25/2015 5:56:23 PM	11
12	TOC	L15111247-21	TOC:11.00mg/L TC:23.85mg/L IC:12.86mg/L	Complete	11/25/2015 6:09:17 PM	12
13	TOC	L15111247-22	TOC:10.94mg/L TC:23.99mg/L IC:13.05mg/L	Complete	11/25/2015 6:22:08 PM	13
14	TOC	CCV	TOC:27.12mg/L TC:27.19mg/L IC:0.06658mg/L	Complete	11/25/2015 6:34:13 PM	14
15	TOC	CCB	TOC:0.06534mg/L TC:0.1345mg/L IC:0.06915mg/L	Complete	11/25/2015 6:43:05 PM	0
16	TOC	L15111247-23	TOC:10.93mg/L TC:23.35mg/L IC:12.42mg/L	Complete	11/25/2015 6:55:56 PM	16
17	TOC	L15111247-24	TOC:10.98mg/L TC:21.84mg/L IC:10.86mg/L	Complete	11/25/2015 7:08:40 PM	17
18	TOC	L15111247-25	TOC:3.377mg/L TC:14.61mg/L IC:11.23mg/L	Complete	11/25/2015 7:20:50 PM	18
19	TOC	L15111247-26	TOC:3.276mg/L TC:13.68mg/L IC:10.41mg/L	Complete	11/25/2015 7:32:54 PM	19
20	TOC	L15111247-27	TOC:2.827mg/L TC:13.52mg/L IC:10.69mg/L	Complete	11/25/2015 7:45:02 PM	20
21	TOC	L15111247-28	TOC:2.260mg/L TC:10.31mg/L IC:8.050mg/L	Complete	11/25/2015 7:57:06 PM	21
22	TOC	L15111247-29	TOC:2.645mg/L TC:11.22mg/L IC:8.574mg/L	Complete	11/25/2015 8:09:07 PM	22
23	TOC	L15111247-30	TOC:2.447mg/L TC:11.12mg/L IC:8.670mg/L	Complete	11/25/2015 8:21:09 PM	23
24	TOC	L15111247-31	TOC:2.922mg/L TC:13.09mg/L IC:10.17mg/L	Complete	11/25/2015 8:33:17 PM	24
25	TOC	L15111247-32	TOC:2.468mg/L TC:12.22mg/L IC:9.753mg/L	Complete	11/25/2015 8:45:22 PM	25
26	TOC	CCV	TOC:26.92mg/L TC:26.99mg/L IC:0.06538mg/L	Complete	11/25/2015 8:57:30 PM	26
27	TOC	CCB	TOC:0.08168mg/L TC:0.1491mg/L IC:0.06744mg/L	Complete	11/25/2015 9:06:26 PM	0
28	TOC	L15111247-33	TOC:2.760mg/L TC:11.94mg/L IC:9.178mg/L	Complete	11/25/2015 9:18:24 PM	28
29	TOC	L15111247-34	TOC:2.319mg/L TC:9.894mg/L IC:7.575mg/L	Complete	11/25/2015 9:30:33 PM	29
30	TOC	L15111247-35	TOC:2.333mg/L TC:9.434mg/L IC:7.102mg/L	Complete	11/25/2015 9:42:30 PM	30
31	TOC	WG548464-05 DUP	TOC:2.186mg/L TC:7.352mg/L IC:5.166mg/L	Complete	11/25/2015 9:54:31 PM	31
32	TOC	WG548464-06 MS	TOC:13.36mg/L TC:18.03mg/L IC:4.675mg/L	Complete	11/25/2015 10:06:39 P	32
33	TOC	WG548465-01 BLK	TOC:0.04447mg/L TC:0.1175mg/L IC:0.07307mg/L	Complete	11/25/2015 10:22:52 P	0
34	TOC	WG548465-02 LCS	TOC:27.20mg/L TC:27.23mg/L IC:0.03172mg/L	Complete	11/25/2015 10:43:33 P	34
35	TOC	WG548465-03 LCSDUP	TOC:27.21mg/L TC:27.24mg/L IC:0.03154mg/L	Complete	11/25/2015 11:04:15 P	35
36	TOC	L15111207-01	TOC:7.029mg/L TC:11.37mg/L IC:4.337mg/L	Complete	11/25/2015 11:25:15 P	36
37	TOC	L15111207-04	TOC:6.138mg/L TC:10.60mg/L IC:4.465mg/L	Complete	11/25/2015 11:49:53 P	37
38	TOC	CCV	TOC:27.29mg/L TC:27.35mg/L IC:0.05548mg/L	Complete	11/26/2015 12:01:55 A	38
39	TOC	CCB	TOC:0.1093mg/L TC:0.1789mg/L IC:0.06963mg/L	Complete	11/26/2015 12:10:54 A	0
40	TOC	L15111207-07	TOC:20.33mg/L TC:38.41mg/L IC:18.08mg/L	Complete	11/26/2015 12:35:58 A	40
41	TOC	L15111207-14	TOC:4.027mg/L TC:15.82mg/L IC:11.80mg/L	Complete	11/26/2015 12:57:04 A	41
42	TOC	L15111207-17	TOC:3.287mg/L TC:12.33mg/L IC:9.045mg/L	Complete	11/26/2015 1:20:15 AM	42
43	TOC	L15111207-20	TOC:4.679mg/L TC:17.06mg/L IC:12.38mg/L	Complete	11/26/2015 1:42:47 AM	43
44	TOC	L15111207-23	TOC:6.279mg/L TC:26.58mg/L IC:20.30mg/L	Complete	11/26/2015 2:04:45 AM	44
45	TOC	L15111207-32	TOC:3.125mg/L TC:13.19mg/L IC:10.06mg/L	Complete	11/26/2015 2:29:13 AM	45
46	TOC	L15111247-36	TOC:1.913mg/L TC:5.226mg/L IC:3.313mg/L	Complete	11/26/2015 2:49:27 AM	46
47	TOC	L15111337-01	TOC:14.67mg/L TC:15.18mg/L IC:0.5142mg/L	Complete	11/26/2015 3:11:06 AM	47
48	TOC	L15111337-02	TOC:44.43mg/L TC:45.81mg/L IC:1.378mg/L	Complete	11/26/2015 3:34:46 AM	48
49	TOC	L15111337-03	TOC:10.14mg/L TC:12.58mg/L IC:2.433mg/L	Complete	11/26/2015 3:56:08 AM	49
50	TOC	CCV	TOC:28.16mg/L TC:28.22mg/L IC:0.05679mg/L	Complete	11/26/2015 4:08:20 AM	50
51	TOC	CCB	TOC:0.04826mg/L TC:0.1234mg/L IC:0.07516mg/L	Complete	11/26/2015 4:17:13 AM	0
52	TOC	L15111337-04	TOC:22.55mg/L TC:28.76mg/L IC:6.210mg/L	Complete	11/26/2015 4:39:59 AM	52
53	TOC	WG548465-05 DUP	TOC:1.745mg/L TC:4.155mg/L IC:2.411mg/L	Complete	11/26/2015 5:00:06 AM	53
54	TOC	WG548465-06 MS	TOC:13.04mg/L TC:15.22mg/L IC:2.172mg/L	Complete	11/26/2015 5:20:46 AM	54
55	TOC	CCV	TOC:26.72mg/L TC:26.78mg/L IC:0.06110mg/L	Complete	11/26/2015 5:32:53 AM	55
56	TOC	CCB	TOC:0.04633mg/L TC:0.1273mg/L IC:0.08094mg/L	Complete	11/26/2015 5:41:54 AM	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

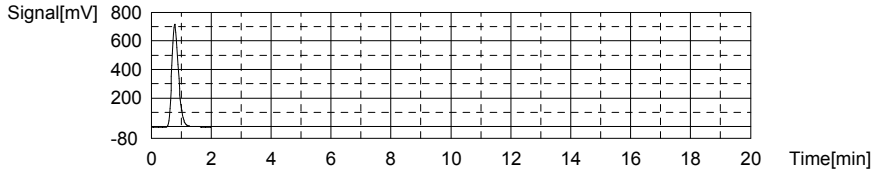
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.138mg/L TC:28.35mg/L IC:24.21mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1109	28.35mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 3:51:59 PM

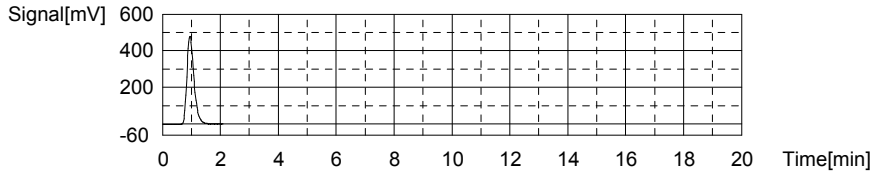
Mean Area 1109
Mean Conc. 28.35mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	815.1	24.21mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 3:57:02 PM

Mean Area 815.1
Mean Conc. 24.21mg/L



Sample

Sample Name: TOC/TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

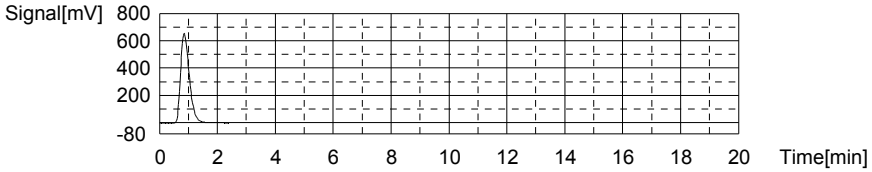
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.80mg/L TC:35.02mg/L IC:7.222mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1369	35.02mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 4:04:50 PM

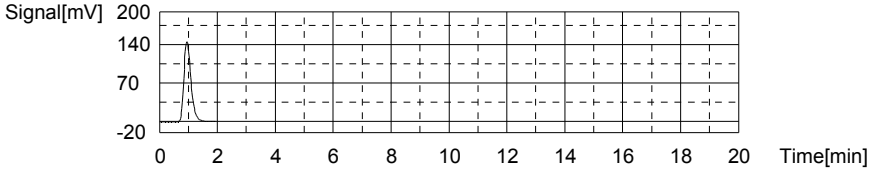
Mean Area 1369
Mean Conc. 35.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	247.3	7.222mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 4:09:41 PM

Mean Area 247.3
Mean Conc. 7.222mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

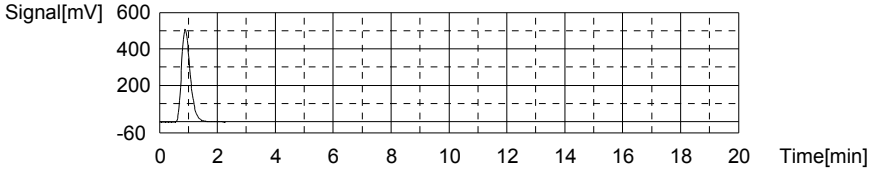
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.22mg/L TC:27.24mg/L IC:0.02418mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1066	27.24mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 4:17:24 PM

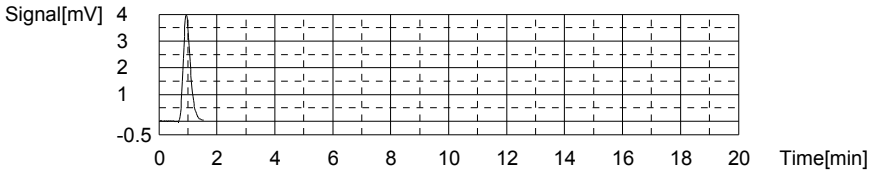
Mean Area 1066
Mean Conc. 27.24mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.735	0.02418mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 4:21:47 PM

Mean Area 6.735
Mean Conc. 0.02418mg/L



Sample

Sample Name: WG548464-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

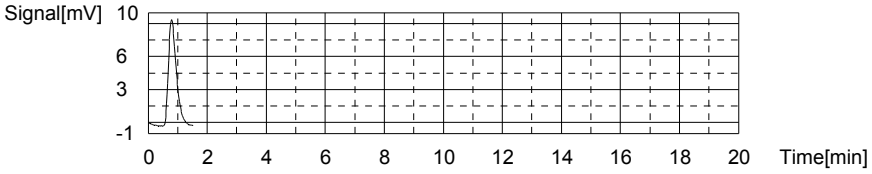
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2655mg/L TC:0.3332mg/L IC:0.06771mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.93	0.3332mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 4:26:57 PM

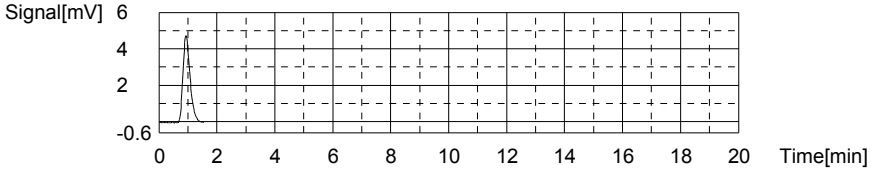
Mean Area 17.93
Mean Conc. 0.3332mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.190	0.06771mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 4:30:52 PM

Mean Area 8.190
Mean Conc. 0.06771mg/L



Sample

Sample Name: WG548464-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

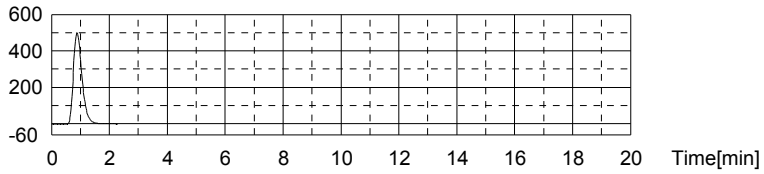
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:26.47mg/L TC:26.47mg/L IC:-0.00029mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1036	26.47mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 4:38:36 PM

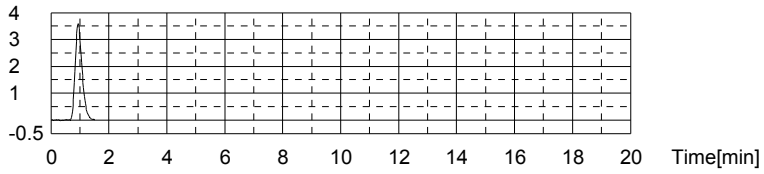
Mean Area 1036
Mean Conc. 26.47mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.917	-0.00029mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 4:42:54 PM

Mean Area 5.917
Mean Conc. -0.00029mg/L



Sample

Sample Name: WG548464-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

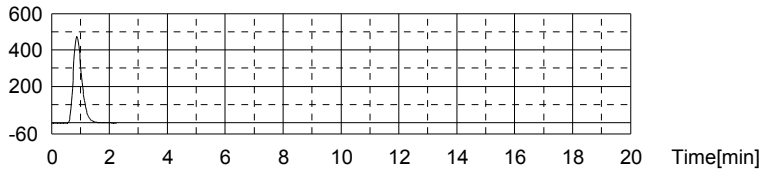
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.85mg/L TC:24.85mg/L IC:0.00126mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	972.9	24.85mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 4:50:34 PM

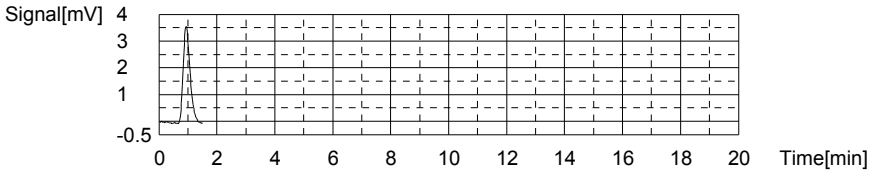
Mean Area 972.9
Mean Conc. 24.85mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.969	0.00126mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 4:54:52 PM

Mean Area 5.969
Mean Conc. 0.00126mg/L



Sample

Sample Name: L15111211-15 (10)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

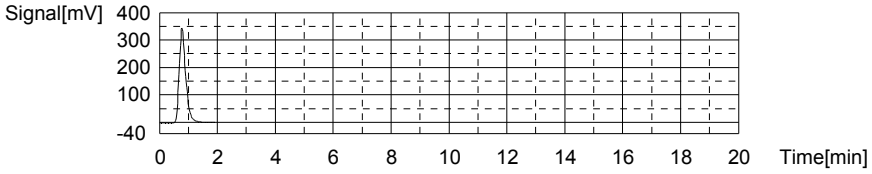
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.308mg/L TC:13.57mg/L IC:11.26mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	533.4	13.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 5:02:13 PM

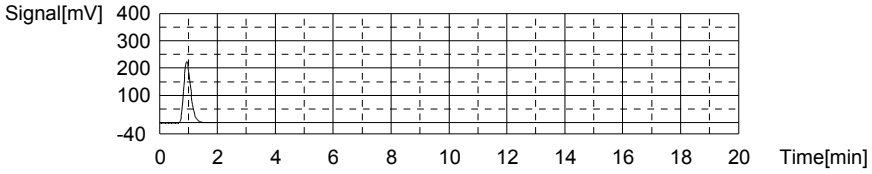
Mean Area 533.4
Mean Conc. 13.57mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	382.3	11.26mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 5:07:01 PM

Mean Area 382.3
Mean Conc. 11.26mg/L



Sample

Sample Name: L15111247-17
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

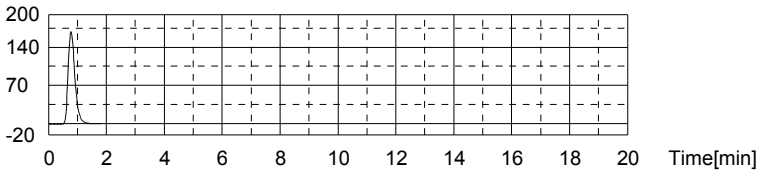
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.894mg/L TC:6.949mg/L IC:5.055mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	275.6	6.949mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 5:14:15 PM

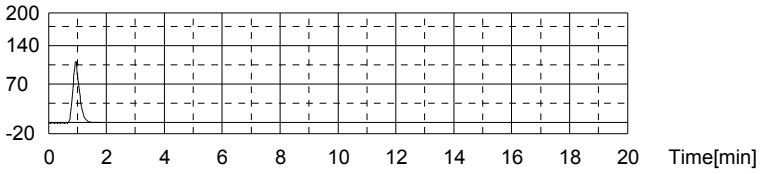
Mean Area 275.6
Mean Conc. 6.949mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	174.9	5.055mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 5:18:56 PM

Mean Area 174.9
Mean Conc. 5.055mg/L



Sample

Sample Name: L15111247-18
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

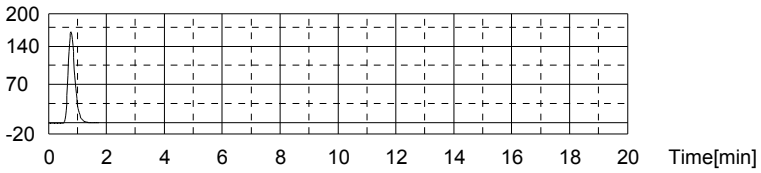
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.742mg/L TC:6.815mg/L IC:5.073mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	270.4	6.815mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 5:26:06 PM

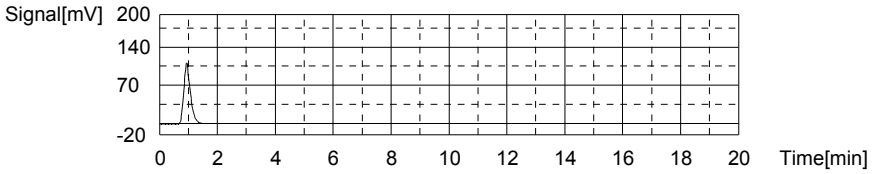
Mean Area 270.4
Mean Conc. 6.815mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	175.5	5.073mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 5:30:45 PM

Mean Area 175.5
Mean Conc. 5.073mg/L



Sample

Sample Name: L15111247-19
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

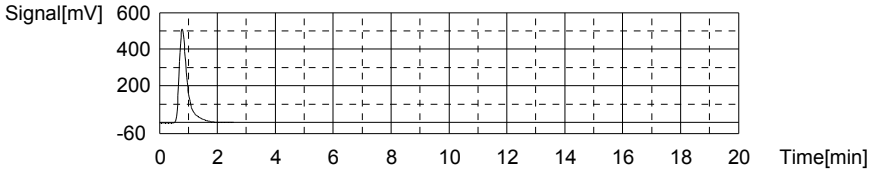
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.98mg/L TC:25.35mg/L IC:14.37mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	992.4	25.35mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 5:38:45 PM

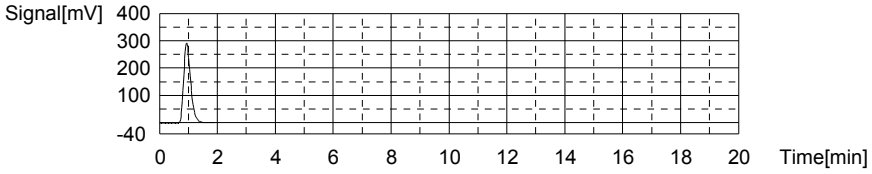
Mean Area 992.4
Mean Conc. 25.35mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	486.4	14.37mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 5:43:34 PM

Mean Area 486.4
Mean Conc. 14.37mg/L



Sample

Sample Name: L15111247-20
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

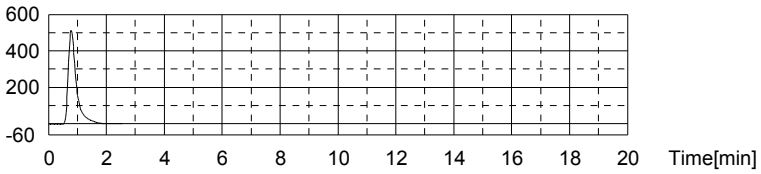
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.73mg/L TC:25.43mg/L IC:14.70mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	995.4	25.43mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 5:51:33 PM

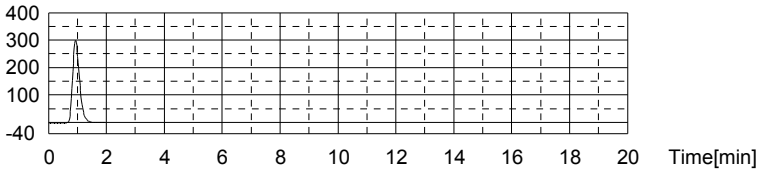
Mean Area 995.4
Mean Conc. 25.43mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	497.1	14.70mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 5:56:23 PM

Mean Area 497.1
Mean Conc. 14.70mg/L



Sample

Sample Name: L15111247-21
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

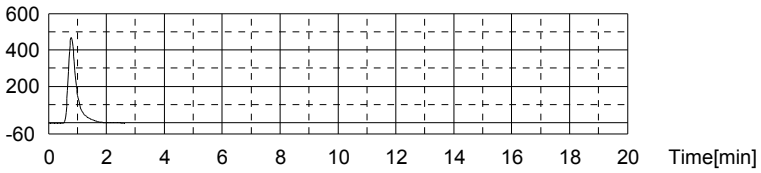
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.00mg/L TC:23.85mg/L IC:12.86mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	934.0	23.85mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 6:04:26 PM

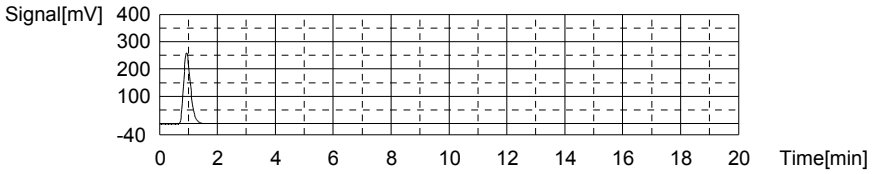
Mean Area 934.0
Mean Conc. 23.85mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	435.7	12.86mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 6:09:17 PM

Mean Area 435.7
Mean Conc. 12.86mg/L



Sample

Sample Name: L15111247-22
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

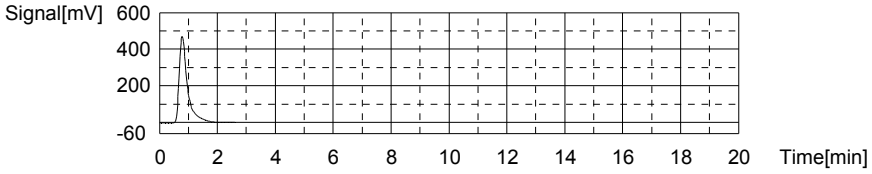
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.94mg/L TC:23.99mg/L IC:13.05mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	939.2	23.99mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 6:17:19 PM

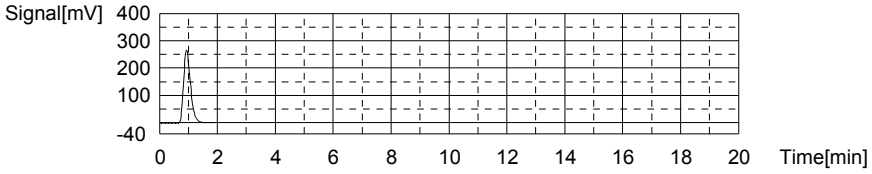
Mean Area 939.2
Mean Conc. 23.99mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	442.0	13.05mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 6:22:08 PM

Mean Area 442.0
Mean Conc. 13.05mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

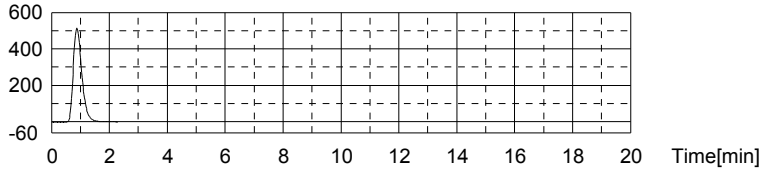
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.12mg/L TC:27.19mg/L IC:0.06658mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1064	27.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 6:29:51 PM

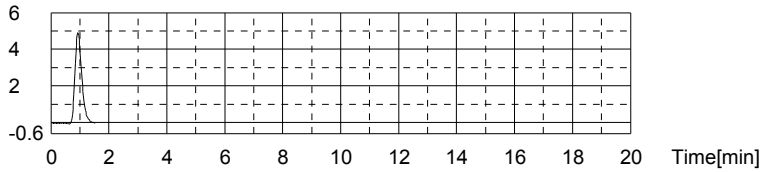
Mean Area 1064
Mean Conc. 27.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.152	0.06658mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 6:34:13 PM

Mean Area 8.152
Mean Conc. 0.06658mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

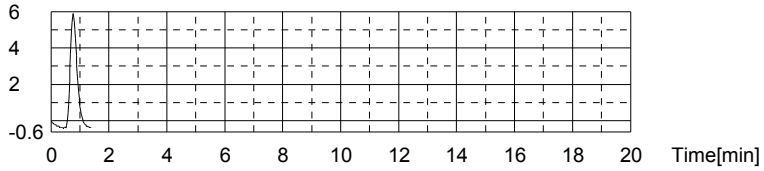
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06534mg/L TC:0.1345mg/L IC:0.06915mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.19	0.1345mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 6:39:15 PM

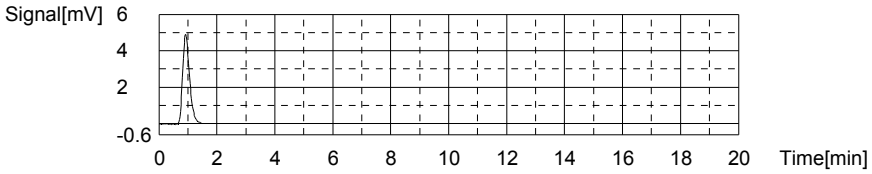
Mean Area 10.19
Mean Conc. 0.1345mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.238	0.06915mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 6:43:05 PM

Mean Area 8.238
Mean Conc. 0.06915mg/L



Sample

Sample Name: L15111247-23
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

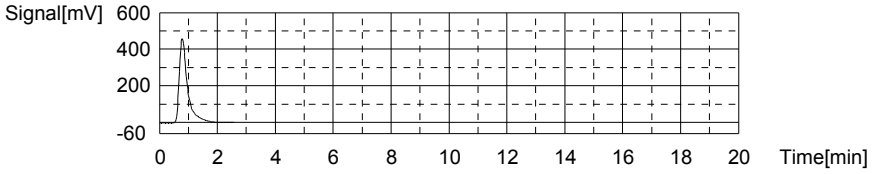
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.93mg/L TC:23.35mg/L IC:12.42mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	914.5	23.35mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 6:51:06 PM

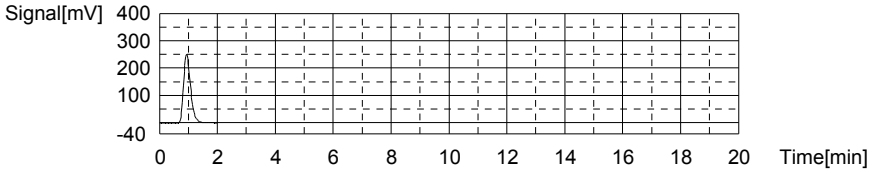
Mean Area 914.5
Mean Conc. 23.35mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	421.2	12.42mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 6:55:56 PM

Mean Area 421.2
Mean Conc. 12.42mg/L



Sample

Sample Name: L15111247-24
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

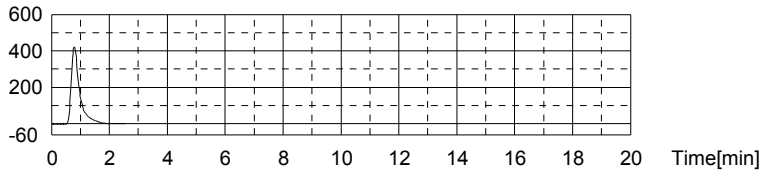
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.98mg/L TC:21.84mg/L IC:10.86mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	855.6	21.84mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 7:03:54 PM

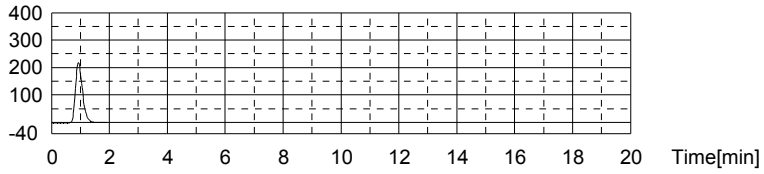
Mean Area 855.6
Mean Conc. 21.84mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	369.0	10.86mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 7:08:40 PM

Mean Area 369.0
Mean Conc. 10.86mg/L



Sample

Sample Name: L15111247-25
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

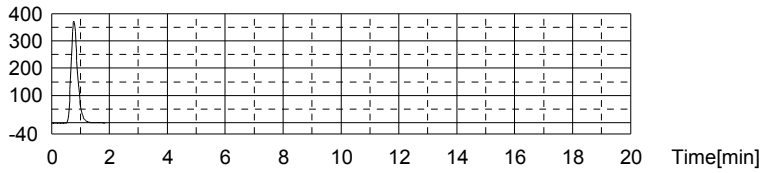
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.377mg/L TC:14.61mg/L IC:11.23mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	573.9	14.61mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 7:15:58 PM

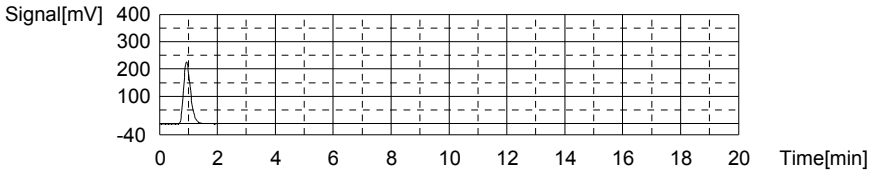
Mean Area 573.9
Mean Conc. 14.61mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	381.3	11.23mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 7:20:50 PM

Mean Area 381.3
Mean Conc. 11.23mg/L



Sample

Sample Name: L15111247-26
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

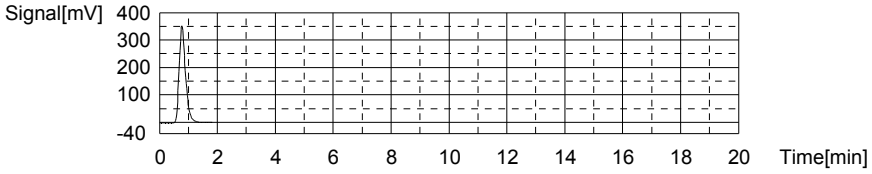
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.276mg/L TC:13.68mg/L IC:10.41mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	537.9	13.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 7:28:05 PM

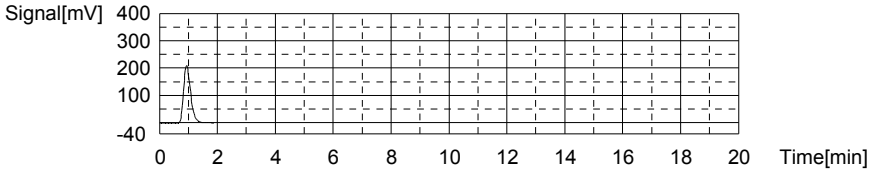
Mean Area 537.9
Mean Conc. 13.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	353.8	10.41mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 7:32:54 PM

Mean Area 353.8
Mean Conc. 10.41mg/L



Sample

Sample Name: L15111247-27
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

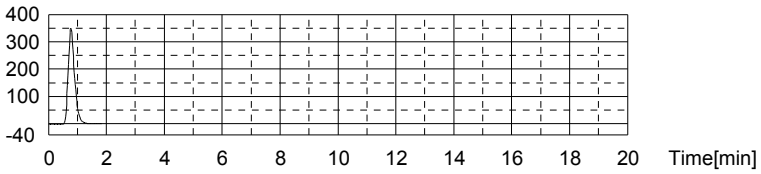
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.827mg/L TC:13.52mg/L IC:10.69mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	531.5	13.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 7:40:19 PM

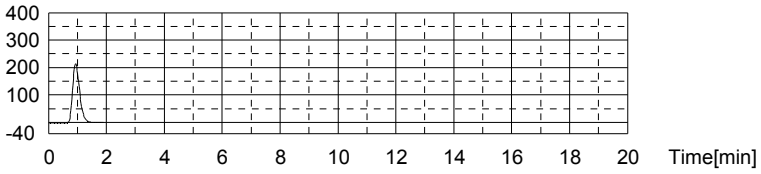
Mean Area 531.5
Mean Conc. 13.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	363.3	10.69mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 7:45:02 PM

Mean Area 363.3
Mean Conc. 10.69mg/L



Sample

Sample Name: L15111247-28
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

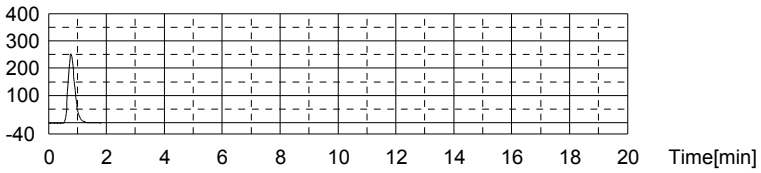
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.260mg/L TC:10.31mg/L IC:8.050mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	406.5	10.31mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 7:52:18 PM

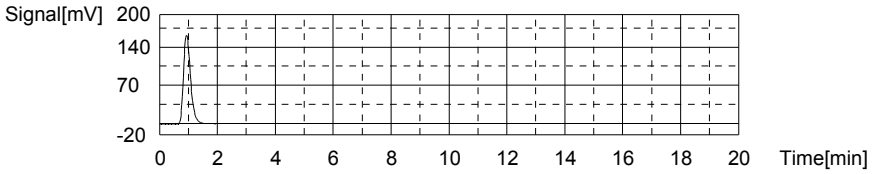
Mean Area 406.5
Mean Conc. 10.31mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	275.0	8.050mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 7:57:06 PM

Mean Area 275.0
Mean Conc. 8.050mg/L



Sample

Sample Name: L15111247-29
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

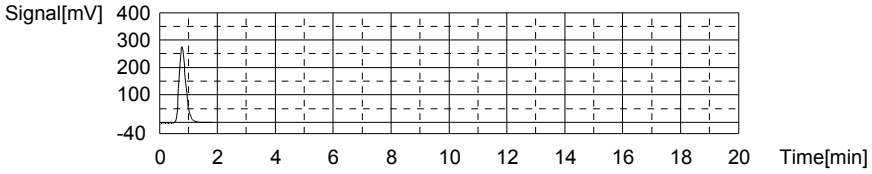
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.645mg/L TC:11.22mg/L IC:8.574mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	441.9	11.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 8:04:20 PM

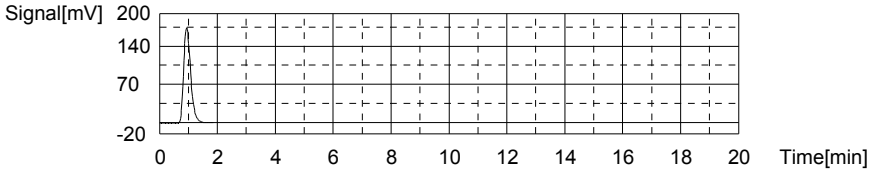
Mean Area 441.9
Mean Conc. 11.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	292.5	8.574mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 8:09:07 PM

Mean Area 292.5
Mean Conc. 8.574mg/L



Sample

Sample Name: L15111247-30
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

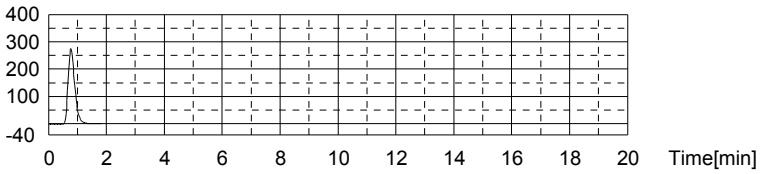
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.447mg/L TC:11.12mg/L IC:8.670mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	437.9	11.12mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 8:16:22 PM

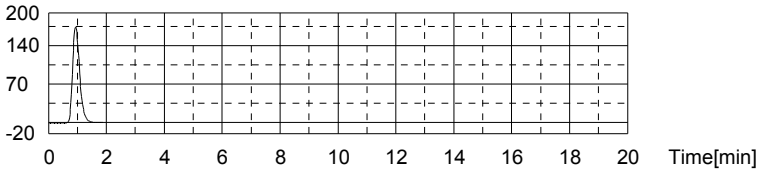
Mean Area 437.9
Mean Conc. 11.12mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	295.7	8.670mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 8:21:09 PM

Mean Area 295.7
Mean Conc. 8.670mg/L



Sample

Sample Name: L15111247-31
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

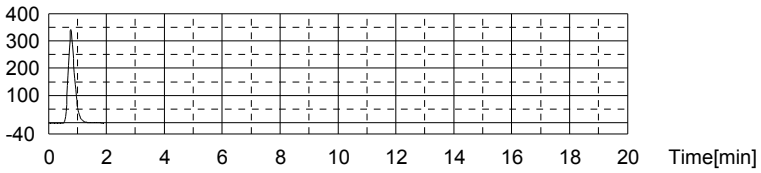
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.922mg/L TC:13.09mg/L IC:10.17mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	514.7	13.09mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 8:28:29 PM

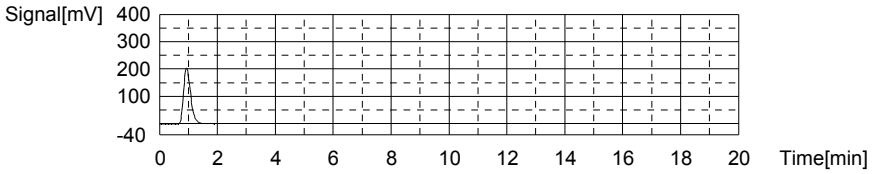
Mean Area 514.7
Mean Conc. 13.09mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	345.7	10.17mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 8:33:17 PM

Mean Area 345.7
Mean Conc. 10.17mg/L



Sample

Sample Name: L15111247-32
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

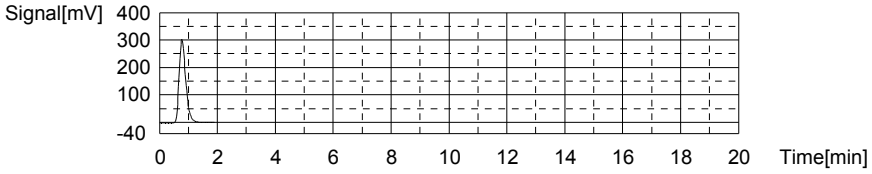
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.468mg/L TC:12.22mg/L IC:9.753mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	480.9	12.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 8:40:36 PM

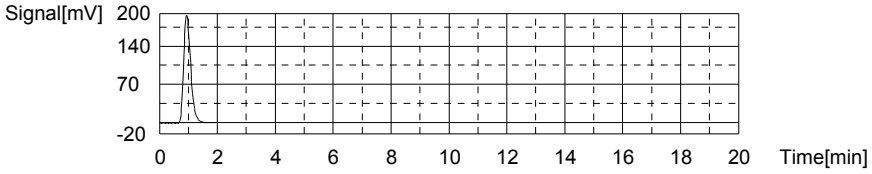
Mean Area 480.9
Mean Conc. 12.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	331.9	9.753mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 8:45:22 PM

Mean Area 331.9
Mean Conc. 9.753mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

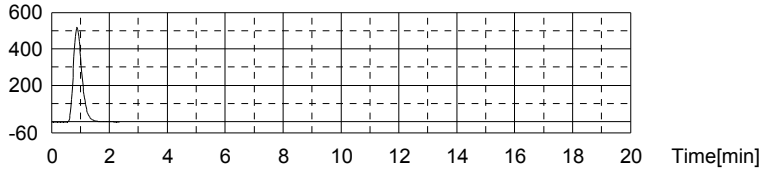
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.92mg/L TC:26.99mg/L IC:0.06538mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1056	26.99mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 8:53:09 PM

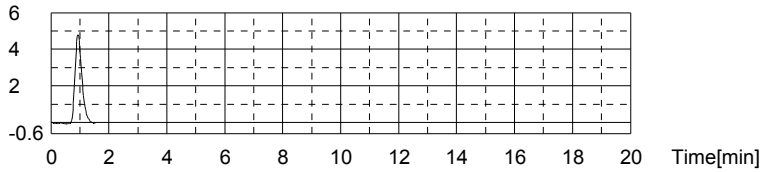
Mean Area 1056
Mean Conc. 26.99mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.112	0.06538mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 8:57:30 PM

Mean Area 8.112
Mean Conc. 0.06538mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

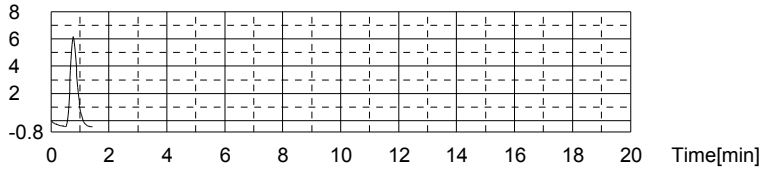
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.08168mg/L TC:0.1491mg/L IC:0.06744mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.76	0.1491mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 9:02:34 PM

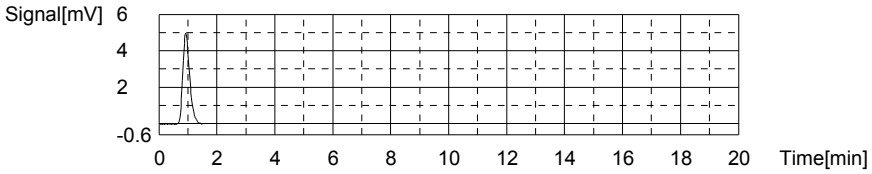
Mean Area 10.76
Mean Conc. 0.1491mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.181	0.06744mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 9:06:26 PM

Mean Area 8.181
Mean Conc. 0.06744mg/L



Sample

Sample Name: L15111247-33
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

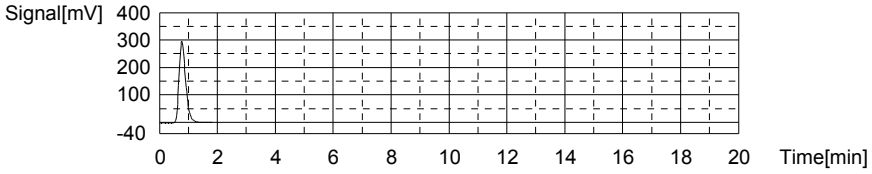
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.760mg/L TC:11.94mg/L IC:9.178mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	469.9	11.94mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 9:13:41 PM

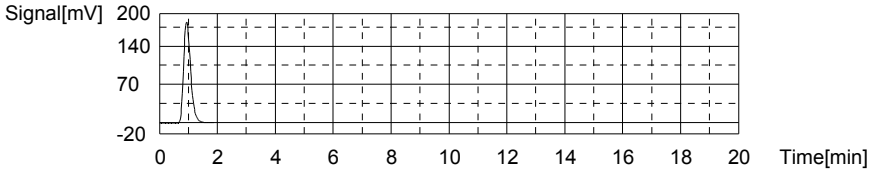
Mean Area 469.9
Mean Conc. 11.94mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	312.7	9.178mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 9:18:24 PM

Mean Area 312.7
Mean Conc. 9.178mg/L



Sample

Sample Name: L15111247-34
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

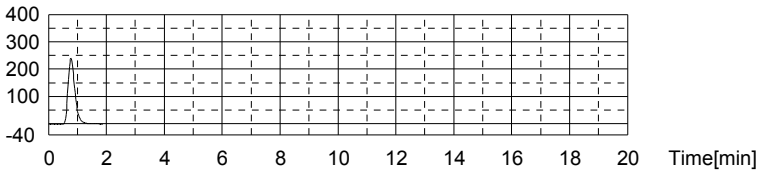
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.319mg/L TC:9.894mg/L IC:7.575mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	390.3	9.894mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 9:25:44 PM

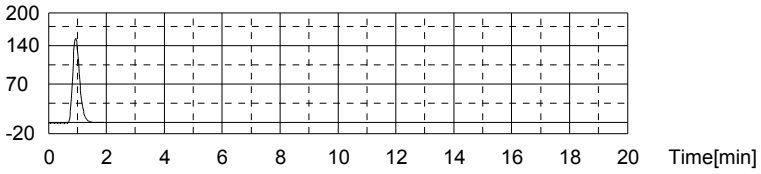
Mean Area 390.3
Mean Conc. 9.894mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	259.1	7.575mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 9:30:33 PM

Mean Area 259.1
Mean Conc. 7.575mg/L



Sample

Sample Name: L15111247-35
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

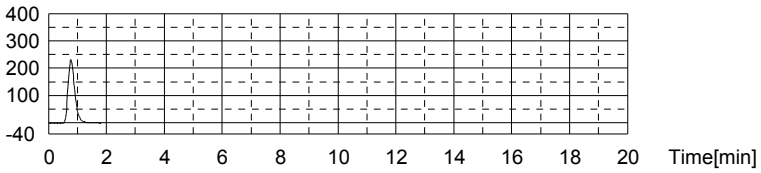
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.333mg/L TC:9.434mg/L IC:7.102mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	372.4	9.434mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 9:37:49 PM

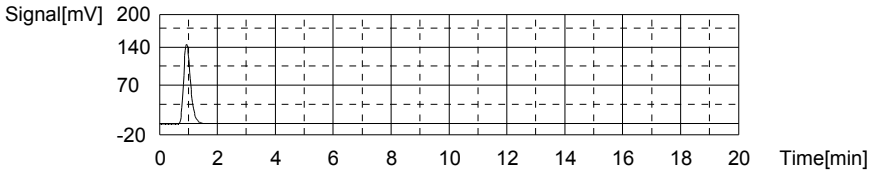
Mean Area 372.4
Mean Conc. 9.434mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	243.3	7.102mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 9:42:30 PM

Mean Area 243.3
Mean Conc. 7.102mg/L



Sample

Sample Name: WG548464-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

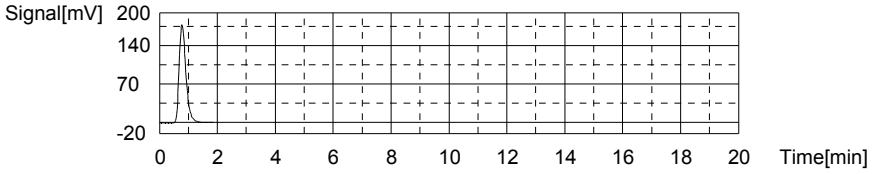
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.186mg/L TC:7.352mg/L IC:5.166mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	291.3	7.352mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 9:49:48 PM

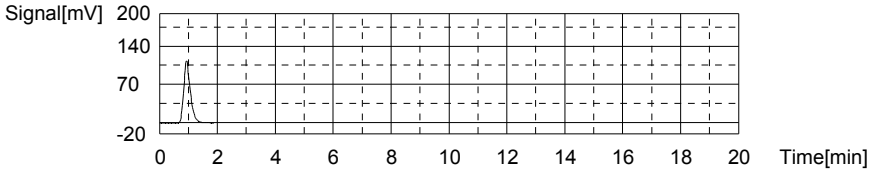
Mean Area 291.3
Mean Conc. 7.352mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	178.6	5.166mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 9:54:31 PM

Mean Area 178.6
Mean Conc. 5.166mg/L



Sample

Sample Name: WG548464-06 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

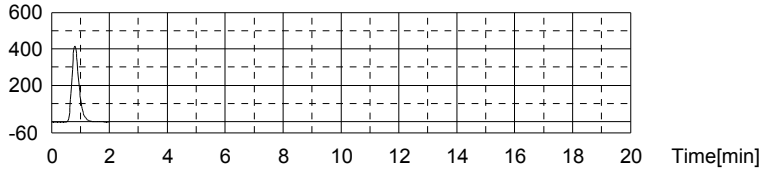
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.36mg/L TC:18.03mg/L IC:4.675mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	707.2	18.03mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:01:57 PM

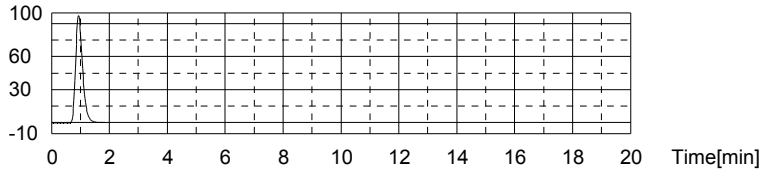
Mean Area 707.2
Mean Conc. 18.03mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	162.2	4.675mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 10:06:39 PM

Mean Area 162.2
Mean Conc. 4.675mg/L



Sample

Sample Name: WG548465-01 BLK
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

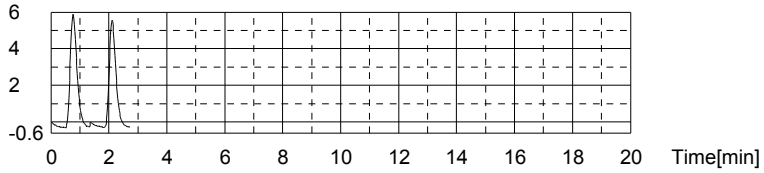
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04447mg/L TC:0.1175mg/L IC:0.07307mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.873	0.1263mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:11:39 PM
2	9.187	0.1087mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:15:09 PM

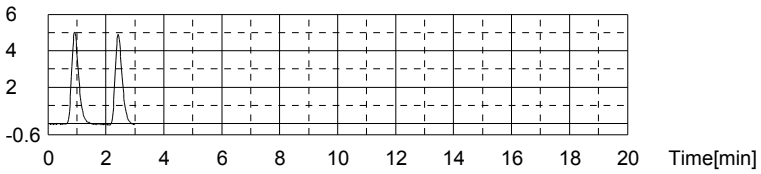
Mean Area 9.530
Mean Conc. 0.1175mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.454	0.07561mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 10:19:01 PM
2	8.284	0.07053mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 10:22:52 PM

Mean Area 8.369
Mean Conc. 0.07307mg/L



Sample

Sample Name: WG548465-02 LCS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

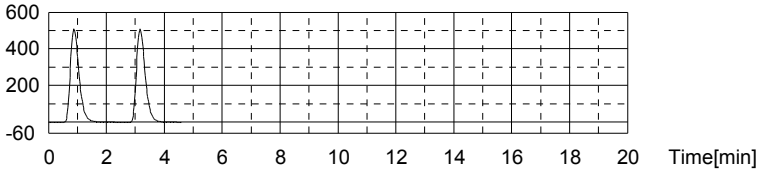
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.20mg/L TC:27.23mg/L IC:0.03172mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1065	27.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:30:36 PM
2	1066	27.24mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:35:10 PM

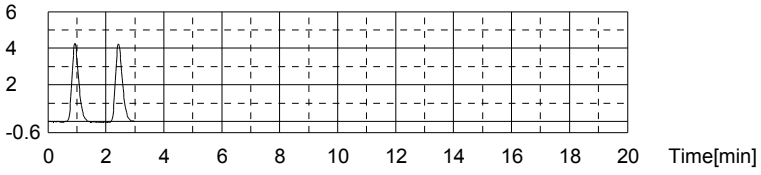
Mean Area 1066
Mean Conc. 27.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.995	0.03196mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 10:39:29 PM
2	6.979	0.03148mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 10:43:33 PM

Mean Area 6.987
Mean Conc. 0.03172mg/L



Sample

Sample Name: WG548465-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

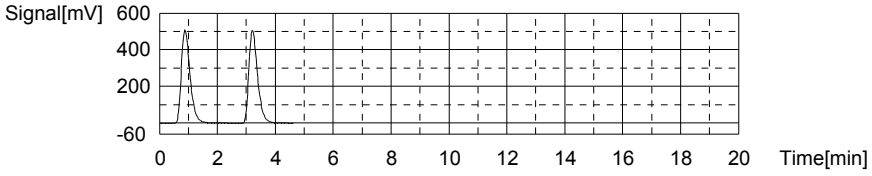
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.21mg/L TC:27.24mg/L IC:0.03154mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1069	27.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:51:20 PM
2	1063	27.17mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 10:55:53 PM

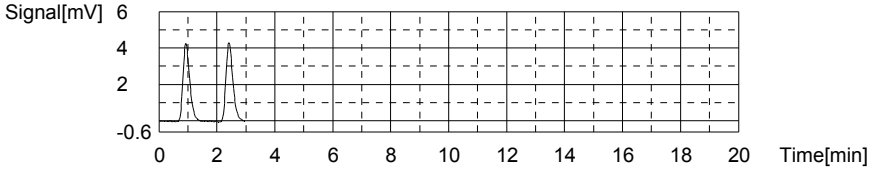
Mean Area 1066
Mean Conc. 27.24mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.900	0.02912mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 11:00:11 PM
2	7.062	0.03397mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 11:04:15 PM

Mean Area 6.981
Mean Conc. 0.03154mg/L



Sample

Sample Name: L15111207-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

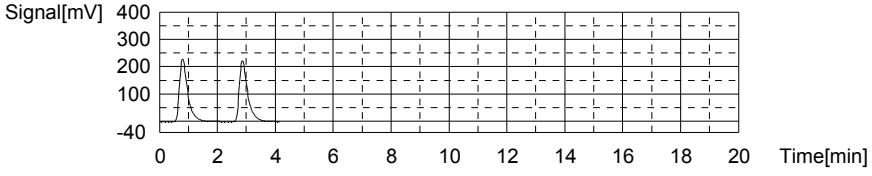
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.029mg/L TC:11.37mg/L IC:4.337mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	449.6	11.42mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 11:11:47 PM
2	445.7	11.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 11:16:15 PM

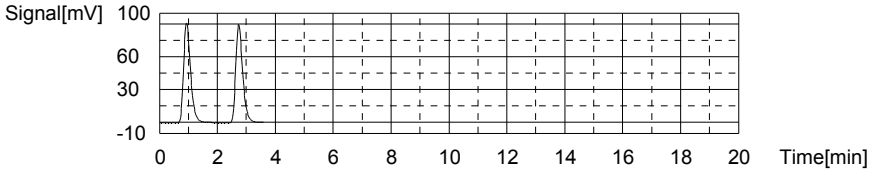
Mean Area 447.7
Mean Conc. 11.37mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.5	4.355mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 11:20:52 PM
2	150.3	4.319mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 11:25:15 PM

Mean Area 150.9
Mean Conc. 4.337mg/L



Sample

Sample Name: L15111207-04
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

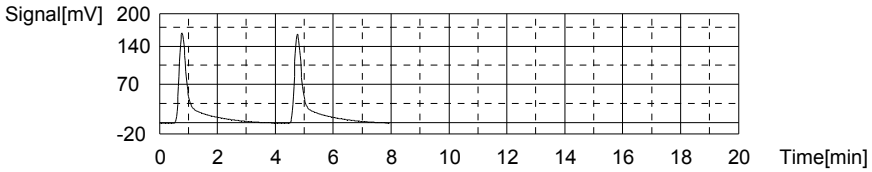
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.138mg/L TC:10.60mg/L IC:4.465mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	418.5	10.62mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 11:34:41 PM
2	417.3	10.59mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 11:40:54 PM

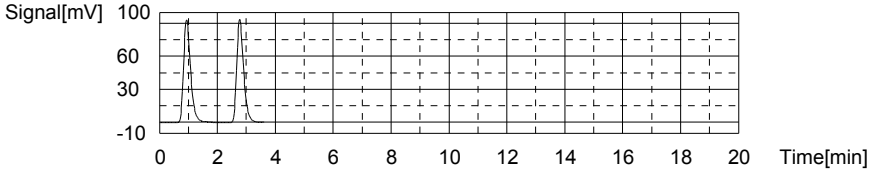
Mean Area 417.9
Mean Conc. 10.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	155.6	4.478mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 11:45:33 PM
2	154.7	4.451mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/25/2015 11:49:53 PM

Mean Area 155.2
Mean Conc. 4.465mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

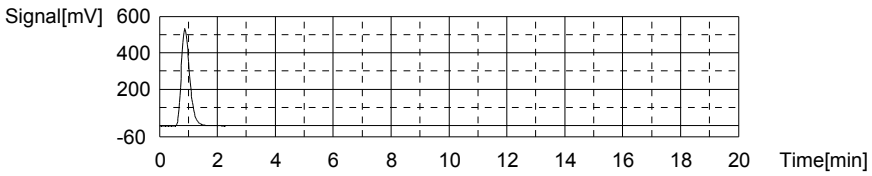
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.29mg/L TC:27.35mg/L IC:0.05548mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1070	27.35mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/25/2015 11:57:37 PM

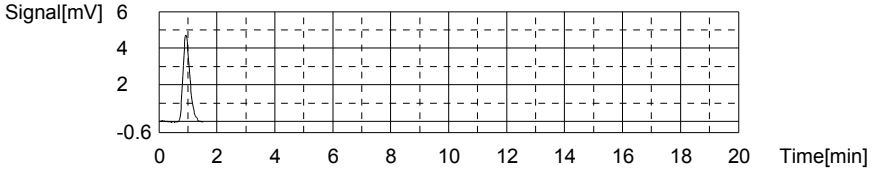
Mean Area 1070
Mean Conc. 27.35mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.781	0.05548mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 12:01:55 AM

Mean Area 7.781
Mean Conc. 0.05548mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

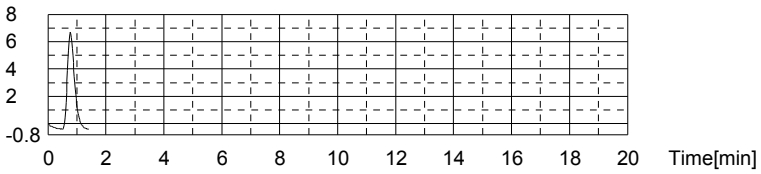
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.1093mg/L TC:0.1789mg/L IC:0.06963mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.92	0.1789mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 12:06:58 AM

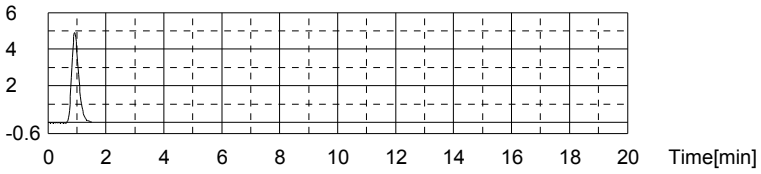
Mean Area 11.92
Mean Conc. 0.1789mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.254	0.06963mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 12:10:54 AM

Mean Area 8.254
Mean Conc. 0.06963mg/L



Sample

Sample Name: L15111207-07
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

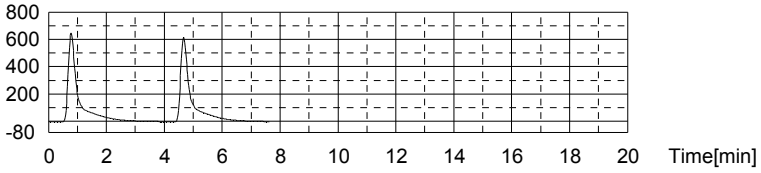
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:20.33mg/L TC:38.41mg/L IC:18.08mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1524	39.00mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 12:20:15 AM
2	1478	37.82mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 12:26:15 AM

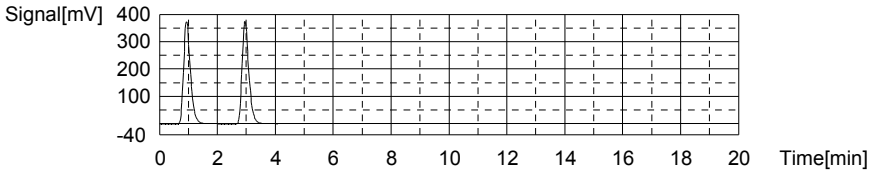
Mean Area 1501
Mean Conc. 38.41mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	611.4	18.11mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 12:31:14 AM
2	609.2	18.05mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 12:35:58 AM

Mean Area 610.3
Mean Conc. 18.08mg/L



Sample

Sample Name: L15111207-14
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

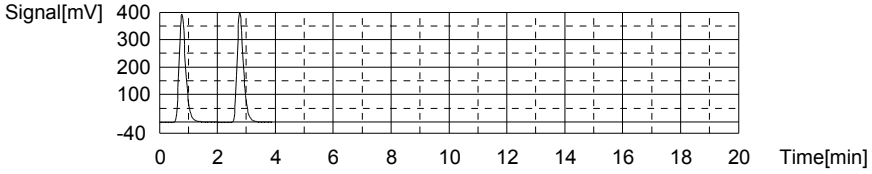
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.027mg/L TC:15.82mg/L IC:11.80mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	620.2	15.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 12:43:25 AM
2	622.4	15.85mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 12:47:34 AM

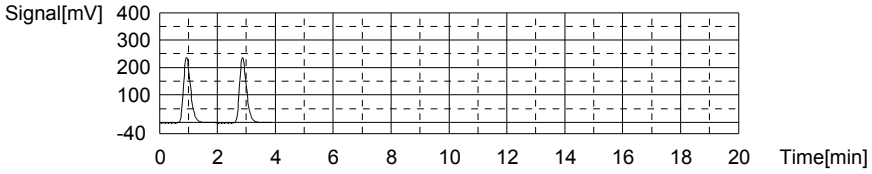
Mean Area 621.3
Mean Conc. 15.82mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	401.6	11.84mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 12:52:28 AM
2	398.9	11.76mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 12:57:04 AM

Mean Area 400.3
Mean Conc. 11.80mg/L



Sample

Sample Name: L15111207-17
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

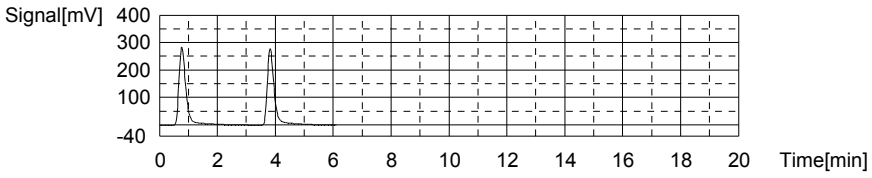
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.287mg/L TC:12.33mg/L IC:9.045mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	490.1	12.46mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 1:05:34 AM
2	480.4	12.21mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 1:10:53 AM

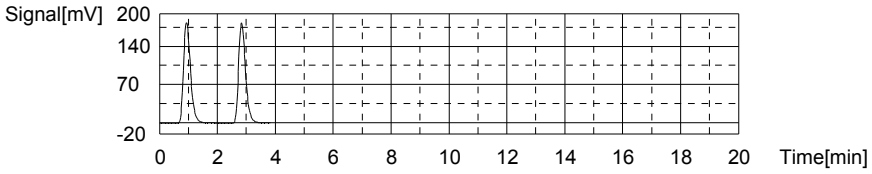
Mean Area 485.3
Mean Conc. 12.33mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	308.9	9.064mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 1:15:40 AM
2	307.6	9.026mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 1:20:15 AM

Mean Area 308.3
Mean Conc. 9.045mg/L



Sample

Sample Name: L15111207-20
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

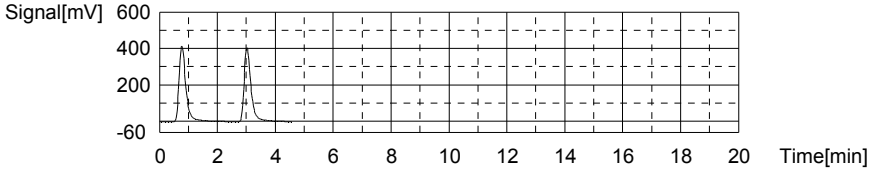
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.679mg/L TC:17.06mg/L IC:12.38mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	674.9	17.20mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 1:27:57 AM
2	664.1	16.92mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 1:33:22 AM

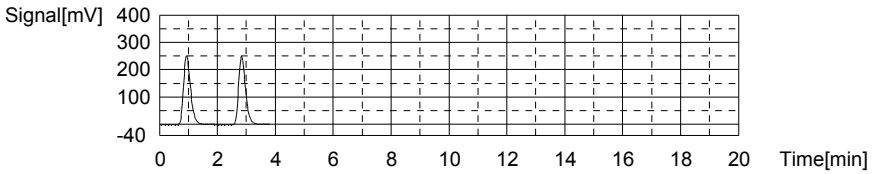
Mean Area 669.5
Mean Conc. 17.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	421.3	12.43mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 1:38:13 AM
2	418.4	12.34mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 1:42:47 AM

Mean Area 419.9
Mean Conc. 12.38mg/L



Sample

Sample Name: L15111207-23
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

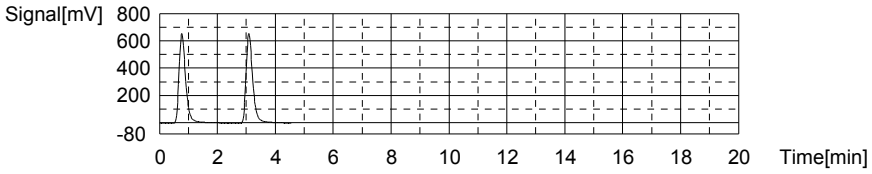
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.279mg/L TC:26.58mg/L IC:20.30mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1040	26.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 1:50:34 AM
2	1040	26.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 1:55:04 AM

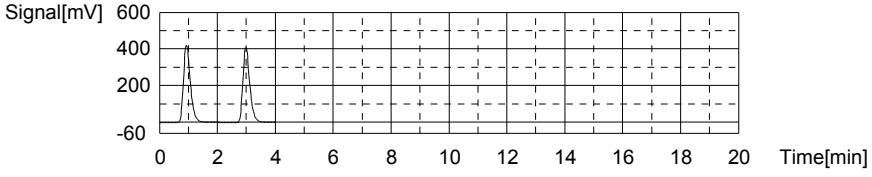
Mean Area 1040
Mean Conc. 26.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	696.0	20.65mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 2:00:02 AM
2	672.6	19.95mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 2:04:45 AM

Mean Area 684.3
Mean Conc. 20.30mg/L



Sample

Sample Name: L15111207-32
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

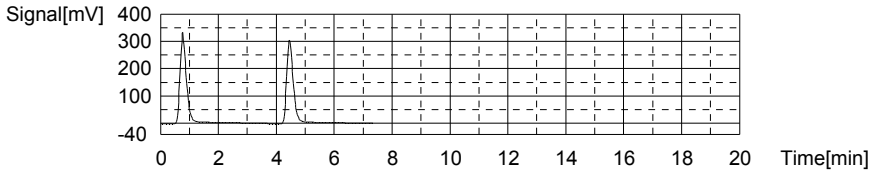
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.125mg/L TC:13.19mg/L IC:10.06mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	528.5	13.44mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 2:13:53 AM
2	508.5	12.93mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 2:19:55 AM

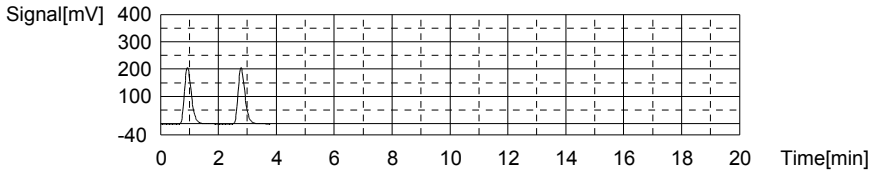
Mean Area 518.5
Mean Conc. 13.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	342.9	10.08mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 2:24:38 AM
2	341.5	10.04mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 2:29:13 AM

Mean Area 342.2
Mean Conc. 10.06mg/L



Sample

Sample Name: L15111247-36
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

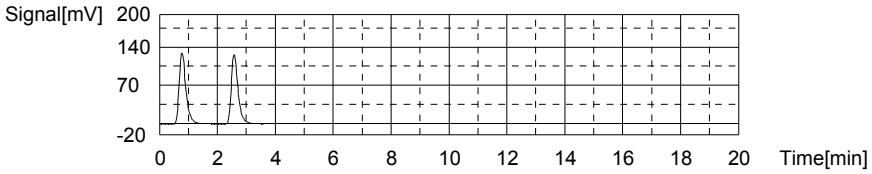
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.913mg/L TC:5.226mg/L IC:3.313mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	211.6	5.306mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 2:36:28 AM
2	205.4	5.147mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 2:40:31 AM

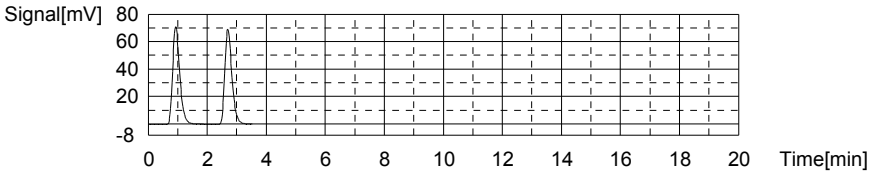
Mean Area 208.5
Mean Conc. 5.226mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118.1	3.356mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 2:45:06 AM
2	115.2	3.269mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 2:49:27 AM

Mean Area 116.7
Mean Conc. 3.313mg/L



Sample

Sample Name: L15111337-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

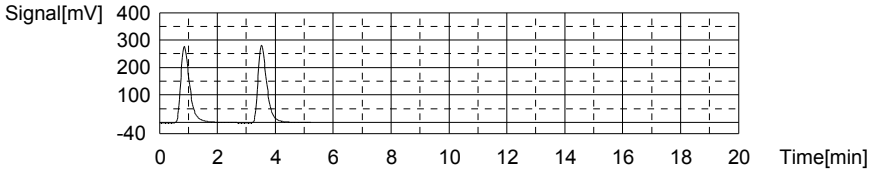
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.67mg/L TC:15.18mg/L IC:0.5142mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	594.1	15.13mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 2:57:35 AM
2	598.6	15.24mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 3:02:26 AM

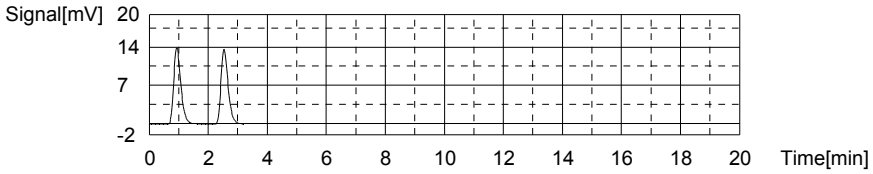
Mean Area 596.4
Mean Conc. 15.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.23	0.5177mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 3:06:51 AM
2	23.00	0.5108mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 3:11:06 AM

Mean Area 23.12
Mean Conc. 0.5142mg/L



Sample

Sample Name: L15111337-02
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

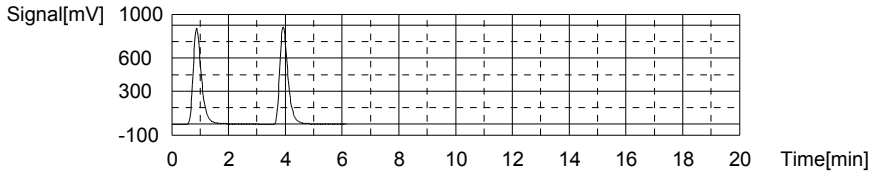
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:44.43mg/L TC:45.81mg/L IC:1.378mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1780	45.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 3:19:37 AM
2	1798	46.04mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 3:26:02 AM

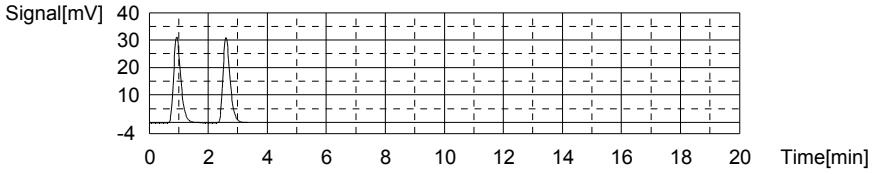
Mean Area 1789
Mean Conc. 45.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	52.37	1.390mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 3:30:29 AM
2	51.58	1.366mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 3:34:46 AM

Mean Area 51.98
Mean Conc. 1.378mg/L



Sample

Sample Name: L15111337-03
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

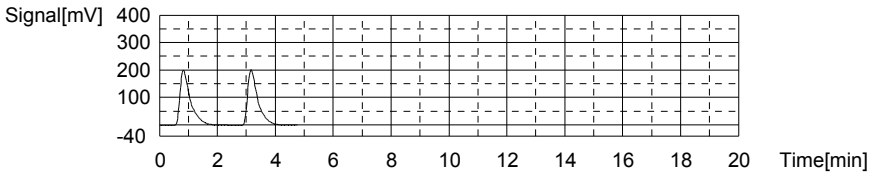
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.14mg/L TC:12.58mg/L IC:2.433mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	497.7	12.65mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 3:42:34 AM
2	491.9	12.50mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 3:47:18 AM

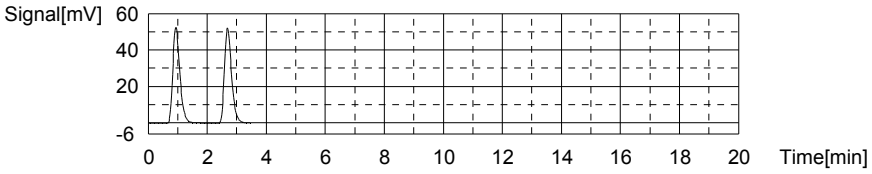
Mean Area 494.8
Mean Conc. 12.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	87.28	2.434mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 3:51:52 AM
2	87.24	2.433mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 3:56:08 AM

Mean Area 87.26
Mean Conc. 2.433mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

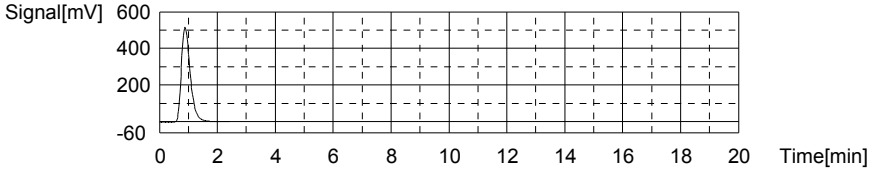
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.16mg/L TC:28.22mg/L IC:0.05679mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1104	28.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 4:04:01 AM

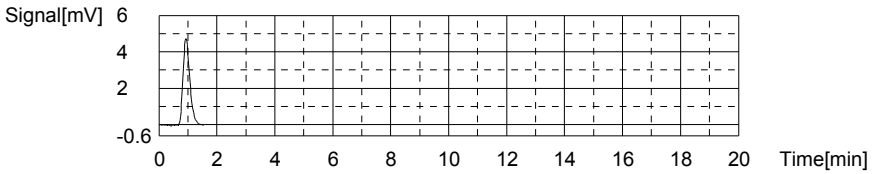
Mean Area 1104
Mean Conc. 28.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.825	0.05679mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 4:08:20 AM

Mean Area 7.825
Mean Conc. 0.05679mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

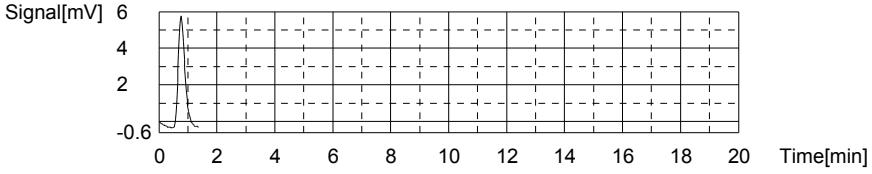
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04826mg/L TC:0.1234mg/L IC:0.07516mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.759	0.1234mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 4:13:21 AM

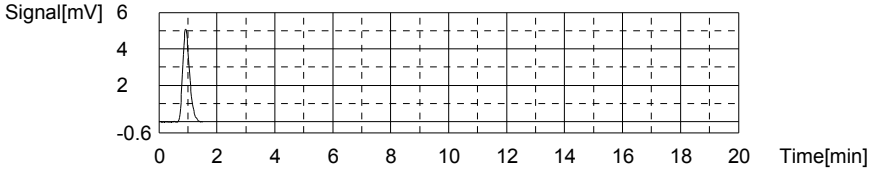
Mean Area 9.759
Mean Conc. 0.1234mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.439	0.07516mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 4:17:13 AM

Mean Area 8.439
Mean Conc. 0.07516mg/L



Sample

Sample Name: L15111337-04
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

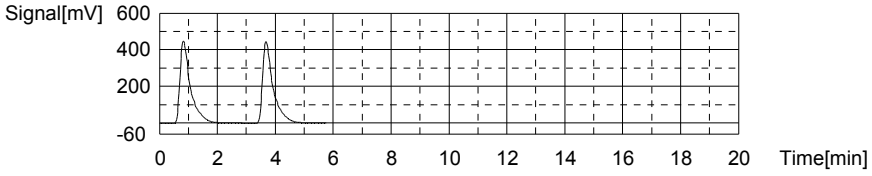
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.55mg/L TC:28.76mg/L IC:6.210mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1122	28.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 4:25:32 AM
2	1128	28.83mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 4:30:42 AM

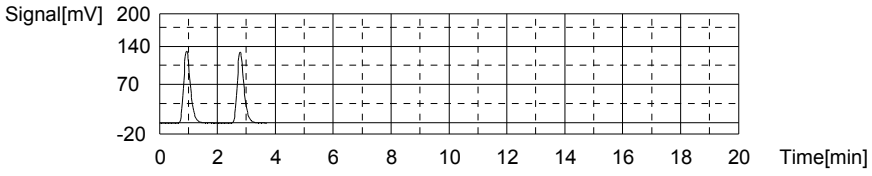
Mean Area 1125
Mean Conc. 28.76mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	214.4	6.237mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 4:35:26 AM
2	212.6	6.183mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 4:39:59 AM

Mean Area 213.5
Mean Conc. 6.210mg/L



Sample

Sample Name: WG548465-05 DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

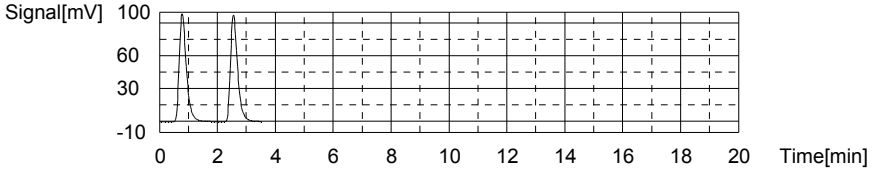
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.745mg/L TC:4.155mg/L IC:2.411mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	167.7	4.179mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 4:47:13 AM
2	165.9	4.132mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 4:51:15 AM

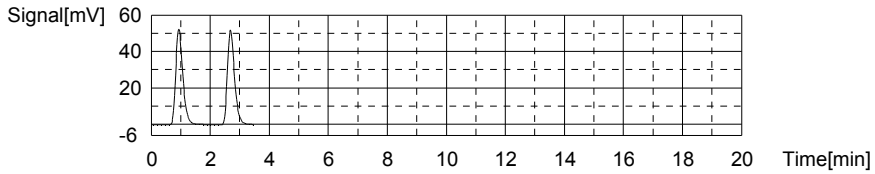
Mean Area 166.8
Mean Conc. 4.155mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.79	2.419mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 4:55:48 AM
2	86.22	2.402mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 5:00:06 AM

Mean Area 86.50
Mean Conc. 2.411mg/L



Sample

Sample Name: WG548465-06 MS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

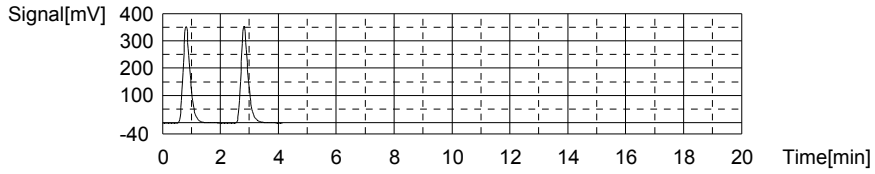
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.04mg/L TC:15.22mg/L IC:2.172mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	593.9	15.12mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 5:07:34 AM
2	601.3	15.31mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 5:11:58 AM

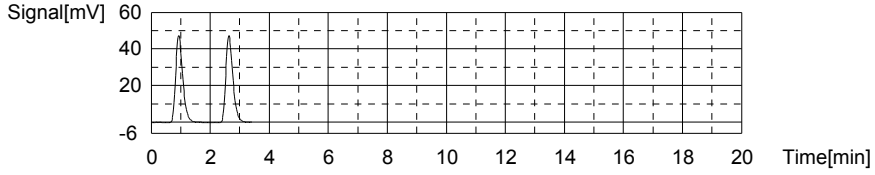
Mean Area 597.6
Mean Conc. 15.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	78.77	2.179mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 5:16:30 AM
2	78.27	2.164mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 5:20:46 AM

Mean Area 78.52
Mean Conc. 2.172mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

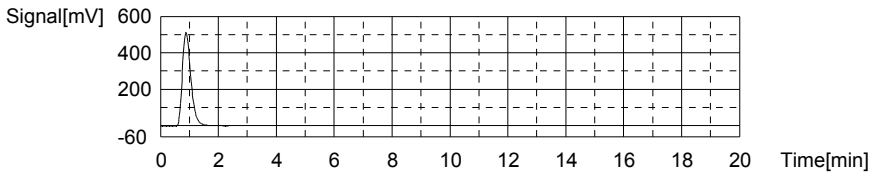
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.72mg/L TC:26.78mg/L IC:0.06110mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1048	26.78mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 5:28:34 AM

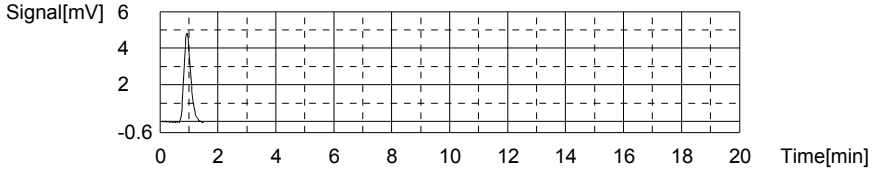
Mean Area 1048
Mean Conc. 26.78mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.969	0.06110mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 5:32:53 AM

Mean Area 7.969
Mean Conc. 0.06110mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

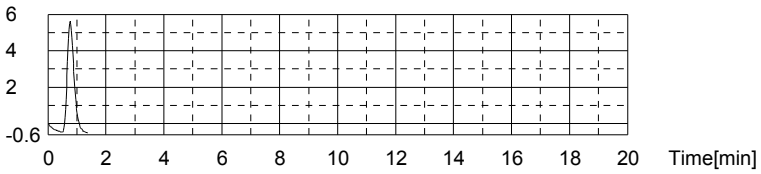
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04633mg/L TC:0.1273mg/L IC:0.08094mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.909	0.1273mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/26/2015 5:37:54 AM

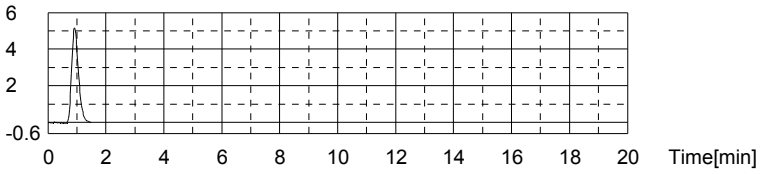
Mean Area 9.909
Mean Conc. 0.1273mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.632	0.08094mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/26/2015 5:41:54 AM

Mean Area 8.632
Mean Conc. 0.08094mg/L



WORKGROUP: WG548214

548217

Total Organic Carbon

MAKE DAILY

CCV (TOC): STD72133 (5/200)(1000) = 25mg/L

LCS (TOC): STD 72270 (5/200)(1000) = 25mg/L

CCV (TIC): STD72654 (5/200)(1000) = 25mg/L

MS (TOC): 04/40(1000)=10

Calibration Curve Date: 10/31/15

Reagent: ROT35313 ROT34459

☐ SM5310-C : Matrix 2 WG_____

☑ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K 4151 Rev. 18

WG_____ Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TIC 25	
2	TOC/TIC	
3	CCV 25	
4	BLK	
5	LCS 25	
6	LCSDUP	
7	11-1266-03	
8	04	
9	11-1211-15	1/5
10	16	1/3
11	11-1247-01	
12	02	
13	03	
14	CCV	
15	CCB	
16	11-1247-04	
17	05	
18	06	
19	07	
20	08	
21	09	
22	10	
23	11	
24	12	
25	13	

Position	Sample ID	Dilution
26	CCV	
27	CCB	
28	11-1247-14	
29	15	
30	16	
31	DUP ↓	
32	MS ↓	
33	BLK	
34	LCS 25	
35	LCSDUP	
36	11-1069-01	1/25
37	04	1/50
38	CCV	
39	CCB	
40	11-1122-01	
41	DUP 01	
42	MS 02	
43	MSD 03	
44	10	
45	13	
46	16	
47	19	
48	22	
49	25	
50	CCV	

Position	Sample ID	Dilution
51	CCB	
52	11-1122-28	
53	11-1143-01	
54	04	1/4
55	07	1/3
56	10	1/5
57	13	
58	16	1/100
59	MATRIX 19	~~1/10~~ 1/25 dm 11/24
60	22	1/3
61	~~11-1247-17~~	11-1269-04
62	CCV	
63	CCB	
64	~~11-1247-18~~	
65	~~DUP~~	
66	~~MS~~	
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: Deanna Hasson Date/Time: 11/24/15

DCN#114966

C:\TOC3201\Data\11-24-2015-DIH-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC 25	TOC:4.169mg/L TC:28.14mg/L IC:23.97mg/L	Complete	11/24/2015 10:02:23 AM	1
2	TOC	TOC/TIC	TOC:28.20mg/L TC:36.87mg/L IC:8.667mg/L	Complete	11/24/2015 10:14:56 AM	2
3	TOC	CCV	TOC:27.08mg/L TC:27.11mg/L IC:0.03797mg/L	Complete	11/24/2015 10:27:04 AM	3
4	TOC	WG548214-01 BLK	TOC:0.03708mg/L TC:0.1445mg/L IC:0.1074mg/L	Complete	11/24/2015 10:35:59 AM	0
5	TOC	WG548214-02 LCS	TOC:27.29mg/L TC:27.32mg/L IC:0.03103mg/L	Complete	11/24/2015 10:48:08 AM	5
6	TOC	WG548214-03 LCSDUP	TOC:27.59mg/L TC:27.60mg/L IC:0.01721mg/L	Complete	11/24/2015 11:00:20 AM	6
7	TOC	L15111266-03	TOC:12.07mg/L TC:30.79mg/L IC:18.71mg/L	Complete	11/24/2015 12:43:31 PM	7
8	TOC	L15111266-04	TOC:10.29mg/L TC:26.06mg/L IC:15.77mg/L	Complete	11/24/2015 12:56:12 PM	8
9	TOC		TOC:11.05mg/L TC:55.72mg/L IC:44.67mg/L	Complete	11/24/2015 1:09:19 PM	9
10	TOC	L15111211-16 (3)	TOC:15.83mg/L TC:50.15mg/L IC:34.32mg/L	Complete	11/24/2015 1:22:25 PM	10
11	TOC	L15111247-01	TOC:3.124mg/L TC:17.14mg/L IC:14.02mg/L	Complete	11/24/2015 1:34:38 PM	11
12	TOC	L15111247-02	TOC:3.295mg/L TC:16.27mg/L IC:12.97mg/L	Complete	11/24/2015 1:46:58 PM	12
13	TOC	L15111247-03	TOC:3.464mg/L TC:17.34mg/L IC:13.88mg/L	Complete	11/24/2015 1:59:23 PM	13
14	TOC	CCV	TOC:26.95mg/L TC:27.01mg/L IC:0.06619mg/L	Complete	11/24/2015 2:11:32 PM	14
15	TOC	CCB	TOC:0.06339mg/L TC:0.1486mg/L IC:0.08522mg/L	Complete	11/24/2015 2:20:26 PM	0
16	TOC	L15111247-04	TOC:2.430mg/L TC:10.17mg/L IC:7.739mg/L	Complete	11/24/2015 2:32:37 PM	16
17	TOC	L15111247-05	TOC:1.926mg/L TC:6.967mg/L IC:5.040mg/L	Complete	11/24/2015 2:44:32 PM	17
18	TOC	L15111247-06	TOC:2.240mg/L TC:9.054mg/L IC:6.815mg/L	Complete	11/24/2015 2:56:26 PM	18
19	TOC	L15111247-07	TOC:3.060mg/L TC:14.38mg/L IC:11.32mg/L	Complete	11/24/2015 3:08:39 PM	19
20	TOC	L15111247-08	TOC:3.072mg/L TC:14.12mg/L IC:11.05mg/L	Complete	11/24/2015 3:20:40 PM	20
21	TOC	L15111247-09	TOC:3.173mg/L TC:14.14mg/L IC:10.97mg/L	Complete	11/24/2015 3:32:46 PM	21
22	TOC	L15111247-10	TOC:2.965mg/L TC:13.54mg/L IC:10.57mg/L	Complete	11/24/2015 3:44:57 PM	22
23	TOC	L15111247-11	TOC:2.583mg/L TC:12.64mg/L IC:10.06mg/L	Complete	11/24/2015 3:57:03 PM	23
24	TOC	L15111247-12	TOC:2.450mg/L TC:12.05mg/L IC:9.603mg/L	Complete	11/24/2015 4:09:07 PM	24
25	TOC	L15111247-13	TOC:2.404mg/L TC:11.46mg/L IC:9.058mg/L	Complete	11/24/2015 4:21:05 PM	25
26	TOC	CCV	TOC:27.11mg/L TC:27.19mg/L IC:0.08408mg/L	Complete	11/24/2015 4:33:09 PM	26
27	TOC	CCB	TOC:0.08052mg/L TC:0.1686mg/L IC:0.08812mg/L	Complete	11/24/2015 4:42:04 PM	0
28	TOC	L15111247-14	TOC:2.485mg/L TC:10.63mg/L IC:8.146mg/L	Complete	11/24/2015 4:54:09 PM	28
29	TOC	L15111247-15	TOC:2.523mg/L TC:11.20mg/L IC:8.673mg/L	Complete	11/24/2015 5:06:11 PM	29
30	TOC	L15111247-16	TOC:1.537mg/L TC:3.891mg/L IC:2.354mg/L	Complete	11/24/2015 5:18:03 PM	30
31	TOC	WG548214-05 DUP	TOC:1.451mg/L TC:3.614mg/L IC:2.162mg/L	Complete	11/24/2015 5:29:45 PM	31
32	TOC	WG548214-06 MS	TOC:12.25mg/L TC:14.15mg/L IC:1.900mg/L	Complete	11/24/2015 5:41:38 PM	32
33	TOC	WG548217-01 BLK	TOC:0.04609mg/L TC:0.1335mg/L IC:0.08737mg/L	Complete	11/24/2015 5:50:34 PM	0
34	TOC	WG548217-02 LCS	TOC:27.52mg/L TC:27.58mg/L IC:0.05362mg/L	Complete	11/24/2015 6:02:41 PM	34
35	TOC	WG548217-03 LCSDUP	TOC:27.60mg/L TC:27.65mg/L IC:0.05763mg/L	Complete	11/24/2015 6:14:42 PM	35
36	TOC	L15111069-01 (25)	TOC:18.14mg/L TC:21.07mg/L IC:2.928mg/L	Complete	11/24/2015 6:27:02 PM	36
37	TOC	L15111069-04 (50)	TOC:25.47mg/L TC:26.58mg/L IC:1.106mg/L	Complete	11/24/2015 6:39:07 PM	37
38	TOC	CCV	TOC:27.12mg/L TC:27.19mg/L IC:0.07190mg/L	Complete	11/24/2015 6:51:14 PM	38
39	TOC	CCB	TOC:0.08659mg/L TC:0.1704mg/L IC:0.08384mg/L	Complete	11/24/2015 7:00:11 PM	0
40	TOC	L15111122-01	TOC:1.562mg/L TC:9.044mg/L IC:7.482mg/L	Complete	11/24/2015 7:12:00 PM	40
41	TOC	WG548217-05 DUP	TOC:1.622mg/L TC:8.918mg/L IC:7.296mg/L	Complete	11/24/2015 7:23:56 PM	41
42	TOC	L15111122-02 MS	TOC:11.82mg/L TC:15.40mg/L IC:3.571mg/L	Complete	11/24/2015 7:36:03 PM	42
43	TOC	L15111122-03 MSD	TOC:11.84mg/L TC:15.31mg/L IC:3.467mg/L	Complete	11/24/2015 7:48:07 PM	43
44	TOC	L15111122-10	TOC:1.090mg/L TC:4.333mg/L IC:3.242mg/L	Complete	11/24/2015 7:59:47 PM	44
45	TOC	L15111122-13	TOC:1.206mg/L TC:5.301mg/L IC:4.095mg/L	Complete	11/24/2015 8:11:29 PM	45
46	TOC	L15111122-16	TOC:1.308mg/L TC:5.511mg/L IC:4.203mg/L	Complete	11/24/2015 8:23:09 PM	46
47	TOC	L15111122-19	TOC:1.129mg/L TC:5.260mg/L IC:4.131mg/L	Complete	11/24/2015 8:34:49 PM	47
48	TOC	L15111122-22	TOC:1.134mg/L TC:4.630mg/L IC:3.497mg/L	Complete	11/24/2015 8:46:33 PM	48
49	TOC	L15111122-25	TOC:2.149mg/L TC:2.327mg/L IC:0.1784mg/L	Complete	11/24/2015 8:58:08 PM	49
50	TOC	CCV	TOC:27.19mg/L TC:27.27mg/L IC:0.07352mg/L	Complete	11/24/2015 9:10:19 PM	50
51	TOC	CCB	TOC:0.06821mg/L TC:0.1486mg/L IC:0.08040mg/L	Complete	11/24/2015 9:19:10 PM	0
52	TOC	L15111122-28	TOC:2.125mg/L TC:2.287mg/L IC:0.1629mg/L	Complete	11/24/2015 9:30:43 PM	52
53	TOC	L15111143-01	TOC:5.696mg/L TC:13.25mg/L IC:7.554mg/L	Complete	11/24/2015 9:43:27 PM	53
54	TOC	L15111143-04 (4)	TOC:8.157mg/L TC:15.00mg/L IC:6.839mg/L	Complete	11/24/2015 9:55:50 PM	54
55	TOC	L15111143-07 (3)	TOC:19.65mg/L TC:47.53mg/L IC:27.87mg/L	Complete	11/24/2015 10:09:06 PM	55
56	TOC	L15111143-10 (5)	TOC:14.98mg/L TC:24.61mg/L IC:9.624mg/L	Complete	11/24/2015 10:22:00 PM	56
57	TOC	L15111143-13	TOC:3.399mg/L TC:8.156mg/L IC:4.756mg/L	Complete	11/24/2015 10:35:31 PM	57
58	TOC	L15111143-16 (100)	TOC:5.127mg/L TC:11.93mg/L IC:6.803mg/L	Complete	11/24/2015 10:47:44 PM	58
59	TOC	L15111143-19 (25)	TOC:2.542mg/L TC:3.521mg/L IC:0.9796mg/L	Complete	11/24/2015 10:59:33 PM	59
60	TOC	L15111143-22 (3)	TOC:13.72mg/L TC:23.90mg/L IC:10.18mg/L	Complete	11/24/2015 11:12:04 PM	60
61	TOC	L15111269-04	TOC:8.472mg/L TC:19.54mg/L IC:11.07mg/L	Complete	11/24/2015 11:24:59 PM	61
62	TOC	CCV	TOC:26.73mg/L TC:26.83mg/L IC:0.1057mg/L	Complete	11/24/2015 11:37:10 PM	62
63	TOC	CCB	TOC:0.04486mg/L TC:0.1365mg/L IC:0.09168mg/L	Complete	11/24/2015 11:46:03 PM	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC 25
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

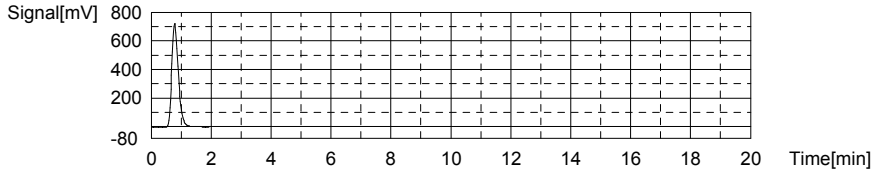
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.169mg/L TC:28.14mg/L IC:23.97mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1101	28.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 9:57:31 AM

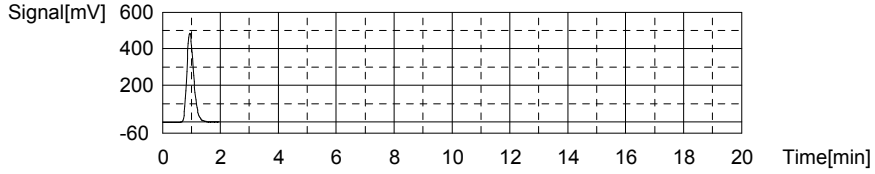
Mean Area 1101
Mean Conc. 28.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	807.2	23.97mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:02:23 AM

Mean Area 807.2
Mean Conc. 23.97mg/L



Sample

Sample Name: TOC/TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

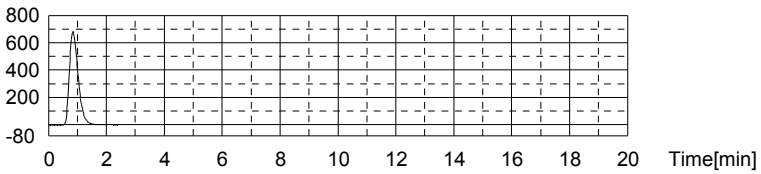
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.20mg/L TC:36.87mg/L IC:8.667mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1441	36.87mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:10:16 AM

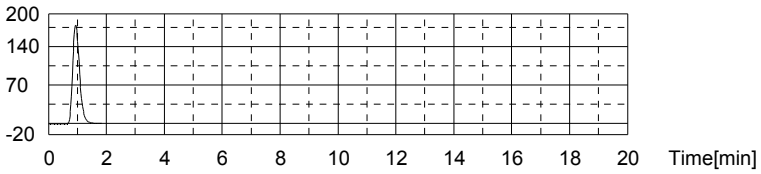
Mean Area 1441
Mean Conc. 36.87mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	295.6	8.667mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:14:56 AM

Mean Area 295.6
Mean Conc. 8.667mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

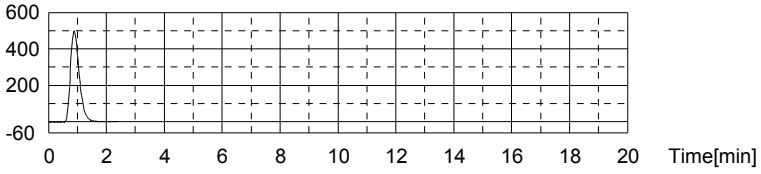
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.08mg/L TC:27.11mg/L IC:0.03797mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1061	27.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:22:46 AM

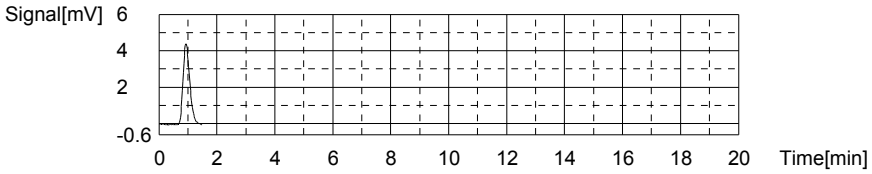
Mean Area 1061
Mean Conc. 27.11mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.196	0.03797mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:27:04 AM

Mean Area 7.196
Mean Conc. 0.03797mg/L



Sample

Sample Name: WG548214-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

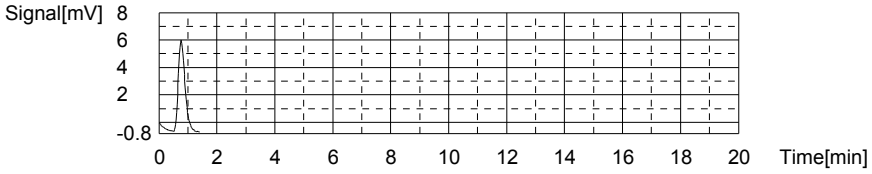
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.03708mg/L TC:0.1445mg/L IC:0.1074mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.58	0.1445mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:32:06 AM

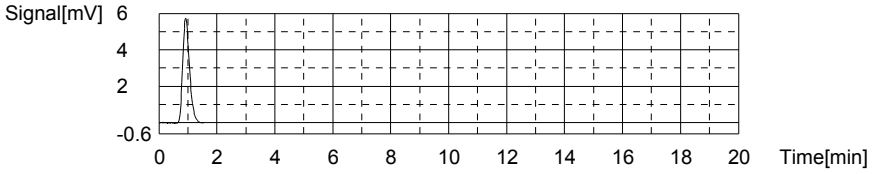
Mean Area 10.58
Mean Conc. 0.1445mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.517	0.1074mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:35:59 AM

Mean Area 9.517
Mean Conc. 0.1074mg/L



Sample

Sample Name: WG548214-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

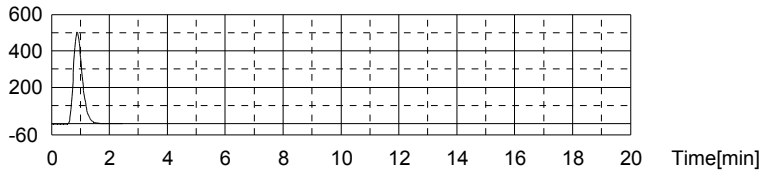
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.29mg/L TC:27.32mg/L IC:0.03103mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1069	27.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:43:53 AM

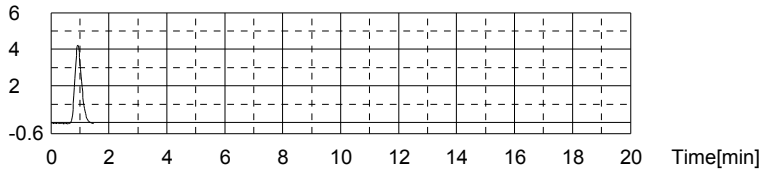
Mean Area 1069
Mean Conc. 27.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.964	0.03103mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:48:08 AM

Mean Area 6.964
Mean Conc. 0.03103mg/L



Sample

Sample Name: WG548214-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

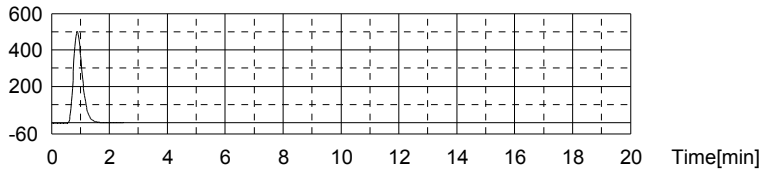
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.59mg/L TC:27.60mg/L IC:0.01721mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1080	27.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:56:03 AM

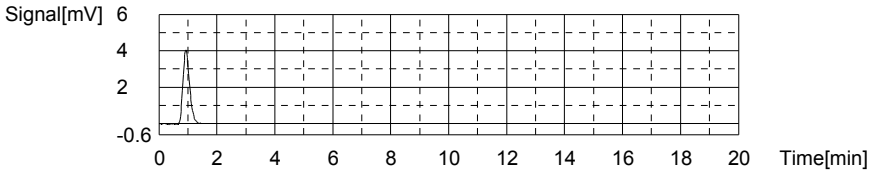
Mean Area 1080
Mean Conc. 27.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.502	0.01721mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 11:00:20 AM

Mean Area 6.502
Mean Conc. 0.01721mg/L



Sample

Sample Name: L15111266-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

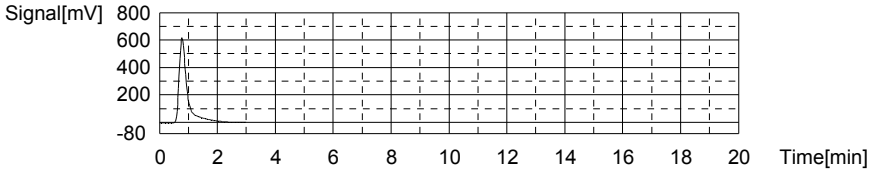
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.07mg/L TC:30.79mg/L IC:18.71mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1204	30.79mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 12:38:37 PM

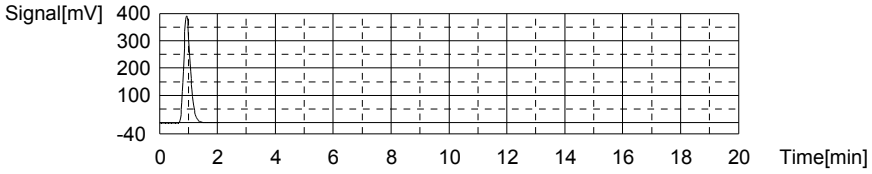
Mean Area 1204
Mean Conc. 30.79mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	631.4	18.71mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 12:43:31 PM

Mean Area 631.4
Mean Conc. 18.71mg/L



Sample

Sample Name: L15111266-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

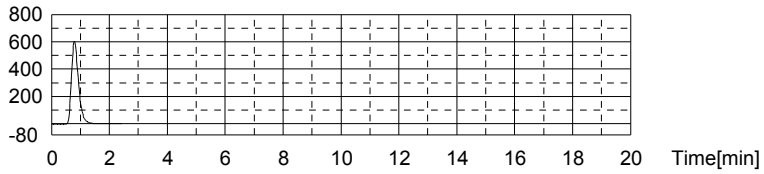
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.29mg/L TC:26.06mg/L IC:15.77mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 12:51:23 PM

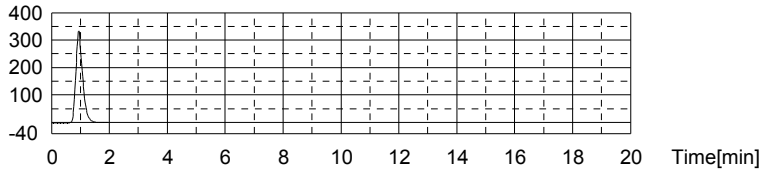
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	533.1	15.77mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 12:56:12 PM

Mean Area 533.1
Mean Conc. 15.77mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

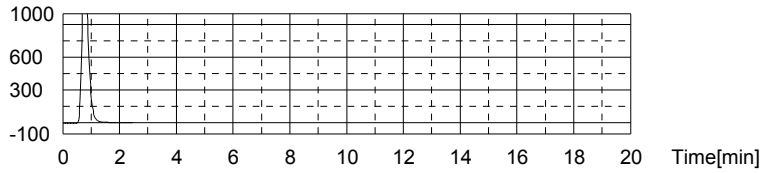
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.05mg/L TC:55.72mg/L IC:44.67mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2175	55.72mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 1:04:05 PM

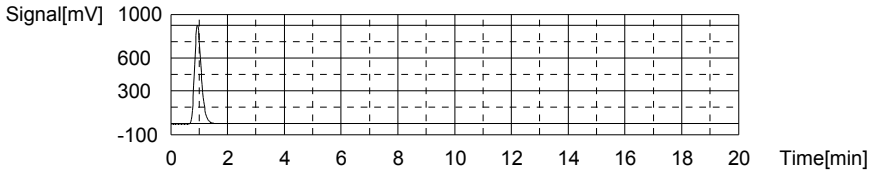
Mean Area 2175
Mean Conc. 55.72mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1499	44.67mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 1:09:19 PM

Mean Area 1499
Mean Conc. 44.67mg/L



Sample

Sample Name: L15111211-16 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

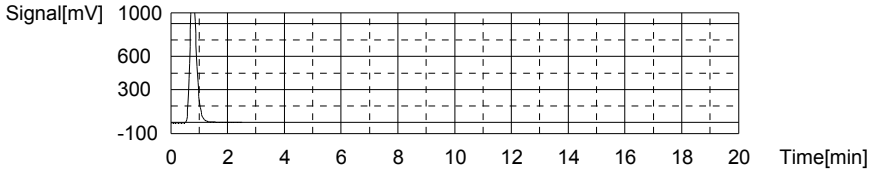
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.83mg/L TC:50.15mg/L IC:34.32mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1958	50.15mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 1:17:16 PM

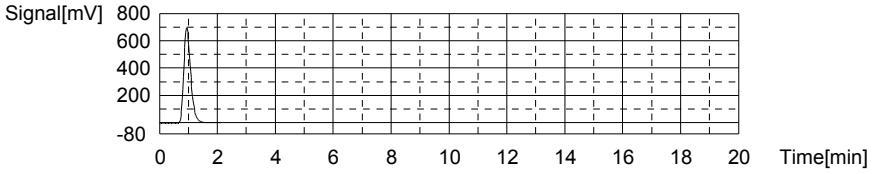
Mean Area 1958
Mean Conc. 50.15mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1153	34.32mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 1:22:25 PM

Mean Area 1153
Mean Conc. 34.32mg/L



Sample

Sample Name: L15111247-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

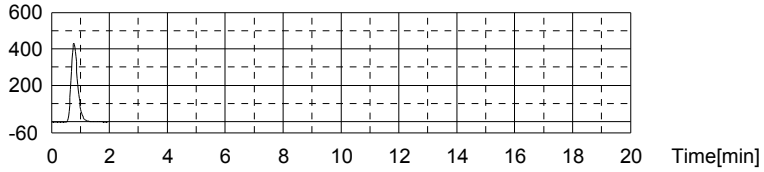
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.124mg/L TC:17.14mg/L IC:14.02mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	672.5	17.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 1:29:48 PM

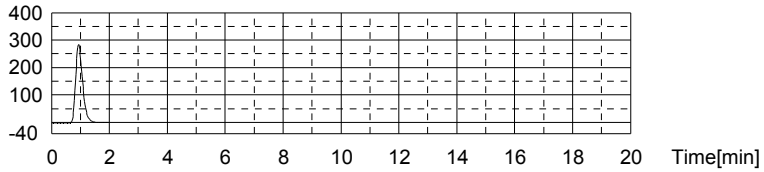
Mean Area 672.5
Mean Conc. 17.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	474.4	14.02mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 1:34:38 PM

Mean Area 474.4
Mean Conc. 14.02mg/L



Sample

Sample Name: L15111247-02
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

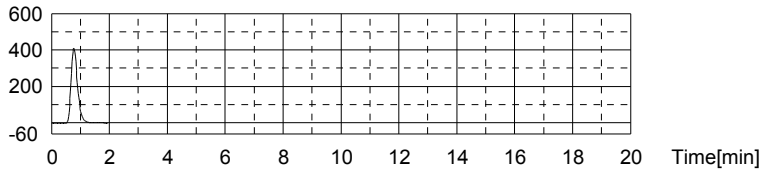
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.295mg/L TC:16.27mg/L IC:12.97mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	638.5	16.27mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 1:42:00 PM

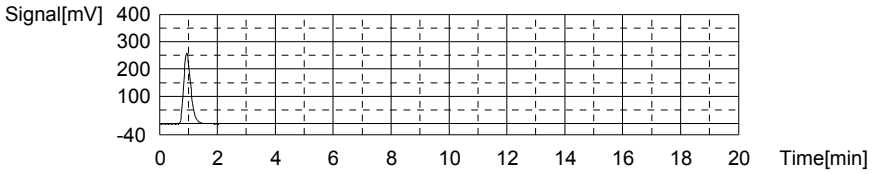
Mean Area 638.5
Mean Conc. 16.27mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	439.5	12.97mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 1:46:58 PM

Mean Area 439.5
Mean Conc. 12.97mg/L



Sample

Sample Name: L15111247-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

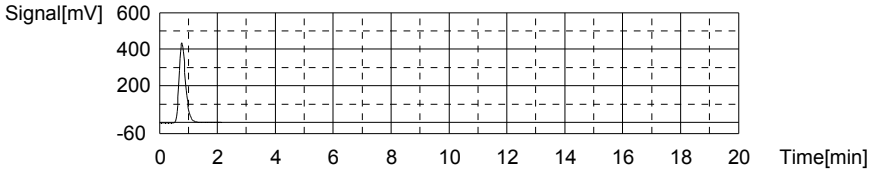
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.464mg/L TC:17.34mg/L IC:13.88mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	680.4	17.34mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 1:54:33 PM

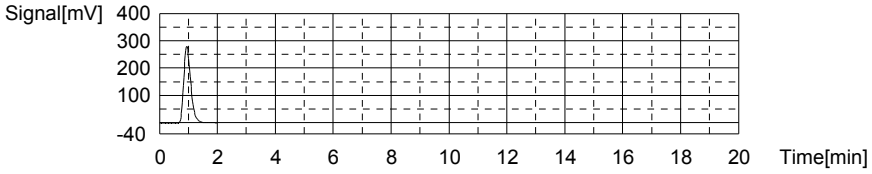
Mean Area 680.4
Mean Conc. 17.34mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	469.8	13.88mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 1:59:23 PM

Mean Area 469.8
Mean Conc. 13.88mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

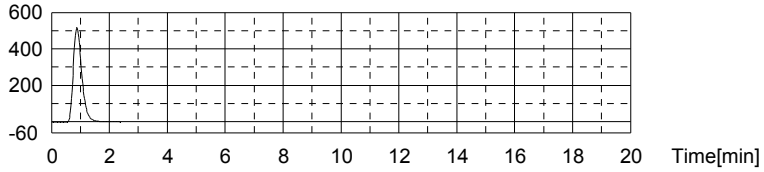
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.95mg/L TC:27.01mg/L IC:0.06619mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1057	27.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 2:07:12 PM

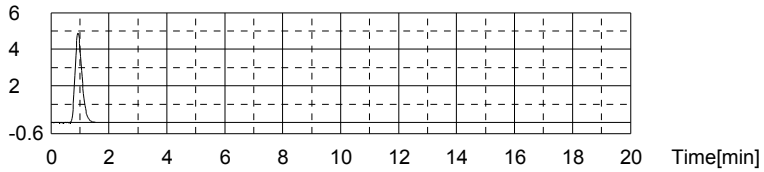
Mean Area 1057
Mean Conc. 27.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.139	0.06619mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 2:11:32 PM

Mean Area 8.139
Mean Conc. 0.06619mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

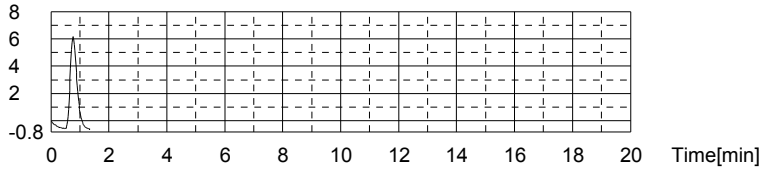
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06339mg/L TC:0.1486mg/L IC:0.08522mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.74	0.1486mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 2:16:31 PM

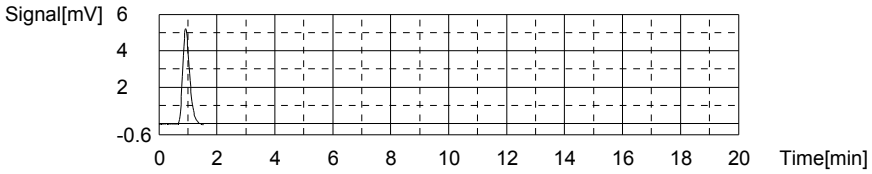
Mean Area 10.74
Mean Conc. 0.1486mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.775	0.08522mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 2:20:26 PM

Mean Area 8.775
Mean Conc. 0.08522mg/L



Sample

Sample Name: L15111247-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

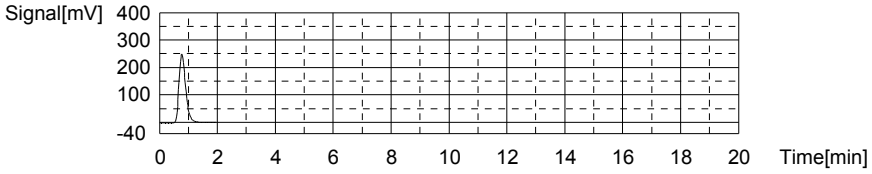
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.430mg/L TC:10.17mg/L IC:7.739mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	401.0	10.17mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 2:27:50 PM

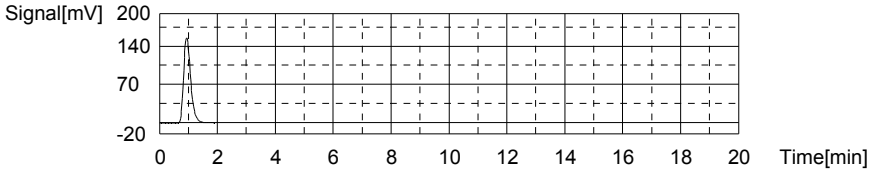
Mean Area 401.0
Mean Conc. 10.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	264.6	7.739mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 2:32:37 PM

Mean Area 264.6
Mean Conc. 7.739mg/L



Sample

Sample Name: L15111247-05
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

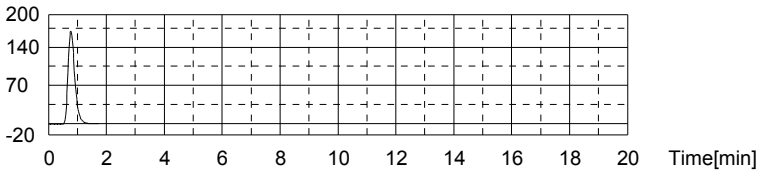
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.926mg/L TC:6.967mg/L IC:5.040mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	276.3	6.967mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 2:39:48 PM

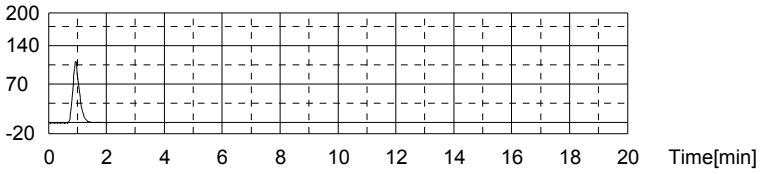
Mean Area 276.3
Mean Conc. 6.967mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	174.4	5.040mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 2:44:32 PM

Mean Area 174.4
Mean Conc. 5.040mg/L



Sample

Sample Name: L15111247-06
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

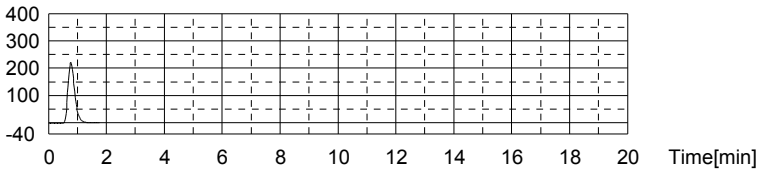
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.240mg/L TC:9.054mg/L IC:6.815mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	357.6	9.054mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 2:51:43 PM

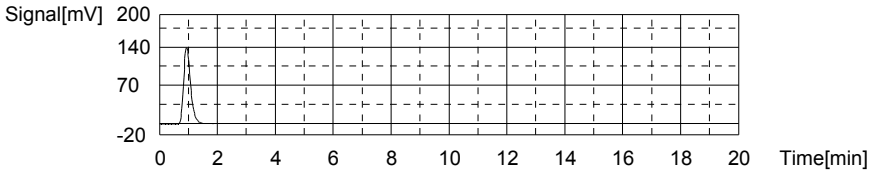
Mean Area 357.6
Mean Conc. 9.054mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	233.7	6.815mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 2:56:26 PM

Mean Area 233.7
Mean Conc. 6.815mg/L



Sample

Sample Name: L15111247-07
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

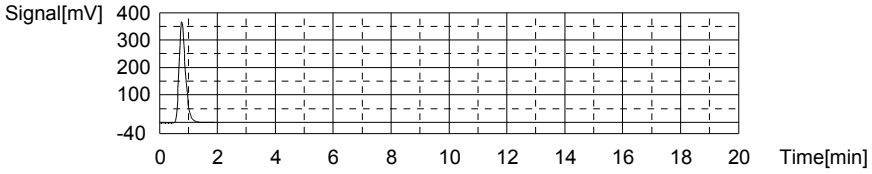
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.060mg/L TC:14.38mg/L IC:11.32mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	564.9	14.38mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 3:03:48 PM

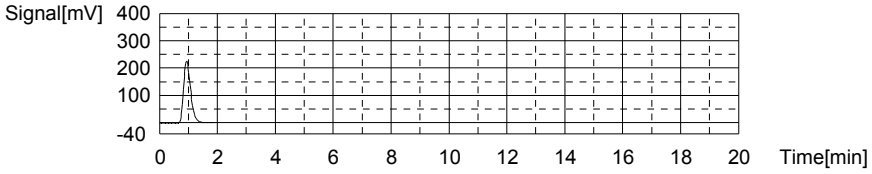
Mean Area 564.9
Mean Conc. 14.38mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	384.2	11.32mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 3:08:39 PM

Mean Area 384.2
Mean Conc. 11.32mg/L



Sample

Sample Name: L15111247-08
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

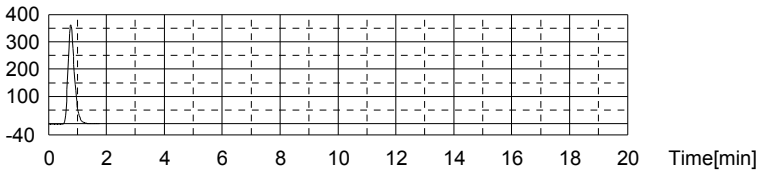
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.072mg/L TC:14.12mg/L IC:11.05mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	555.0	14.12mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 3:15:50 PM

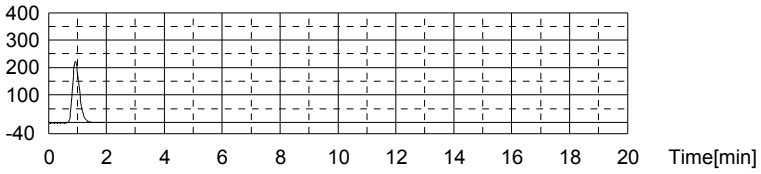
Mean Area 555.0
Mean Conc. 14.12mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	375.3	11.05mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 3:20:40 PM

Mean Area 375.3
Mean Conc. 11.05mg/L



Sample

Sample Name: L15111247-09
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

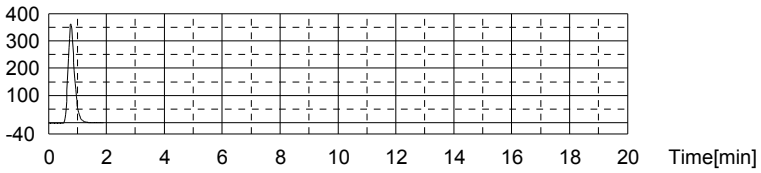
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.173mg/L TC:14.14mg/L IC:10.97mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	555.7	14.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 3:27:59 PM

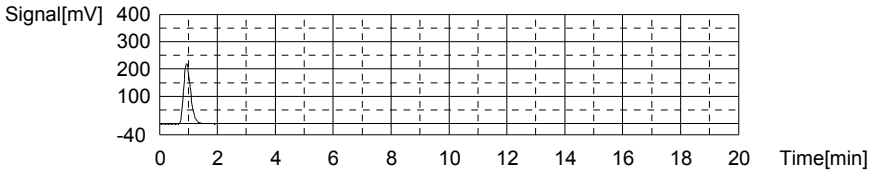
Mean Area 555.7
Mean Conc. 14.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	372.5	10.97mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 3:32:46 PM

Mean Area 372.5
Mean Conc. 10.97mg/L



Sample

Sample Name: L15111247-10
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

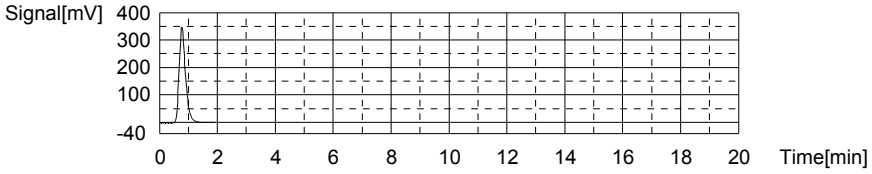
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.965mg/L TC:13.54mg/L IC:10.57mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	532.2	13.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 3:40:08 PM

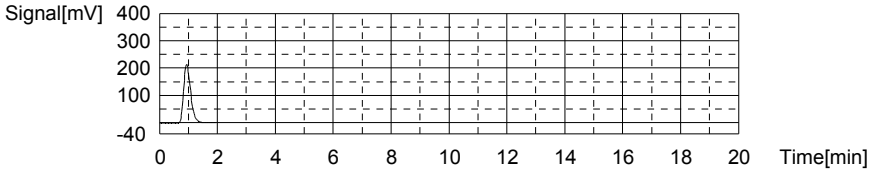
Mean Area 532.2
Mean Conc. 13.54mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	359.3	10.57mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 3:44:57 PM

Mean Area 359.3
Mean Conc. 10.57mg/L



Sample

Sample Name: L15111247-11
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

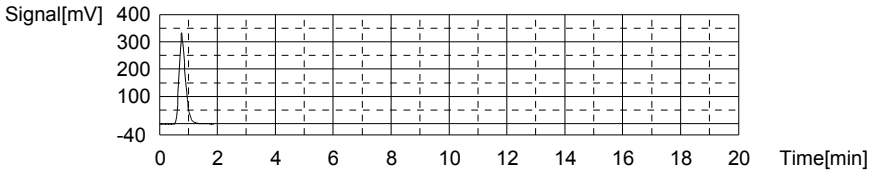
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.583mg/L TC:12.64mg/L IC:10.06mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	497.4	12.64mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 3:52:15 PM

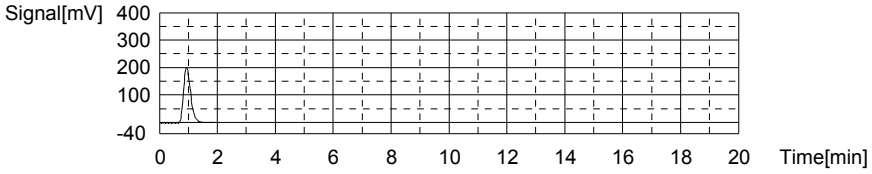
Mean Area 497.4
Mean Conc. 12.64mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	342.2	10.06mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 3:57:03 PM

Mean Area 342.2
Mean Conc. 10.06mg/L



Sample

Sample Name: L15111247-12
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

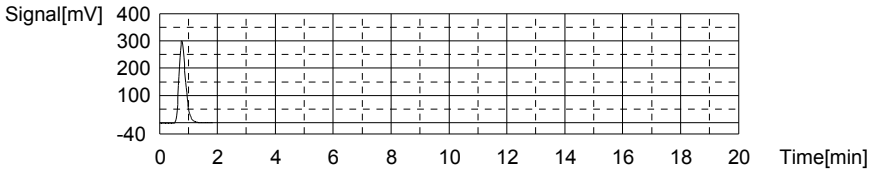
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.450mg/L TC:12.05mg/L IC:9.603mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	474.4	12.05mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 4:04:20 PM

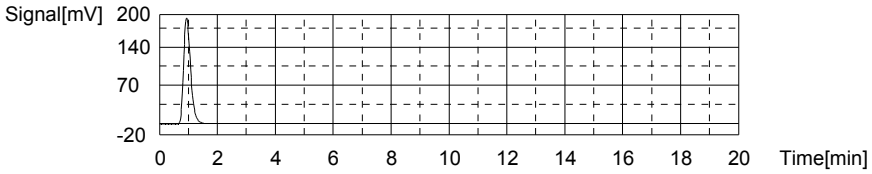
Mean Area 474.4
Mean Conc. 12.05mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	326.9	9.603mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 4:09:07 PM

Mean Area 326.9
Mean Conc. 9.603mg/L



Sample

Sample Name: L15111247-13
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

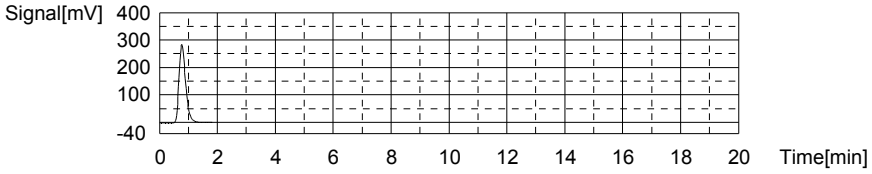
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.404mg/L TC:11.46mg/L IC:9.058mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	451.4	11.46mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 4:16:23 PM

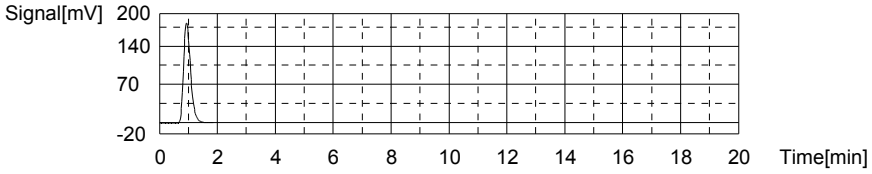
Mean Area 451.4
Mean Conc. 11.46mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	308.7	9.058mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 4:21:05 PM

Mean Area 308.7
Mean Conc. 9.058mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

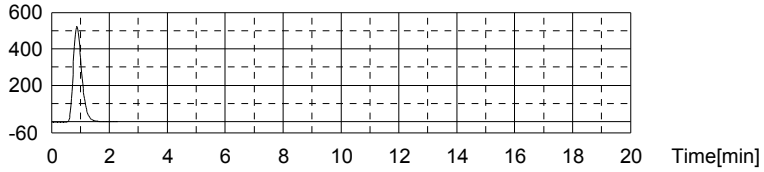
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.11mg/L TC:27.19mg/L IC:0.08408mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1064	27.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 4:28:48 PM

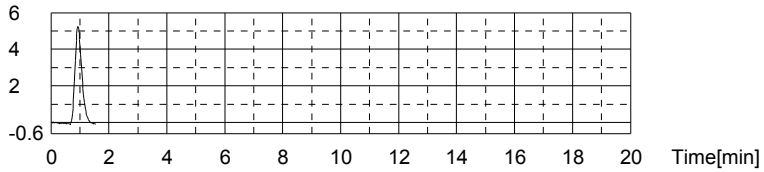
Mean Area 1064
Mean Conc. 27.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.737	0.08408mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 4:33:09 PM

Mean Area 8.737
Mean Conc. 0.08408mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

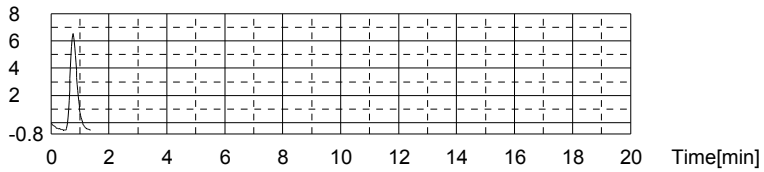
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.08052mg/L TC:0.1686mg/L IC:0.08812mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.52	0.1686mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 4:38:09 PM

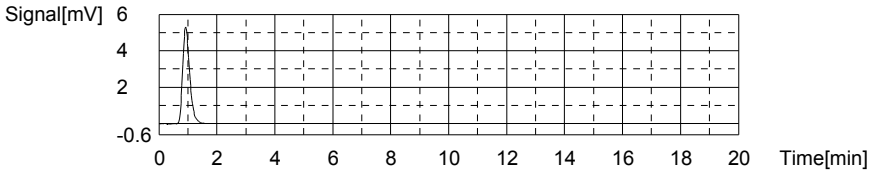
Mean Area 11.52
Mean Conc. 0.1686mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.872	0.08812mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 4:42:04 PM

Mean Area 8.872
Mean Conc. 0.08812mg/L



Sample

Sample Name: L15111247-14
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

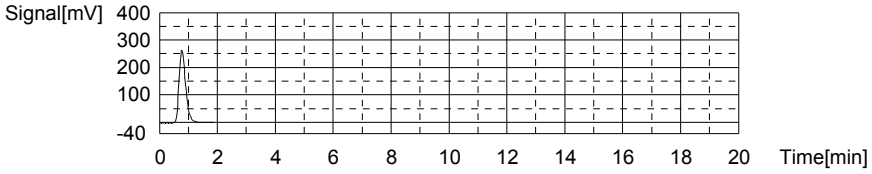
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.485mg/L TC:10.63mg/L IC:8.146mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	419.0	10.63mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 4:49:23 PM

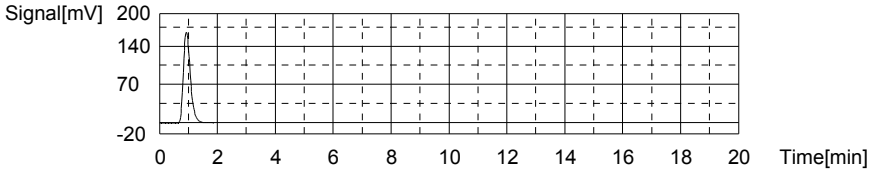
Mean Area 419.0
Mean Conc. 10.63mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	278.2	8.146mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 4:54:09 PM

Mean Area 278.2
Mean Conc. 8.146mg/L



Sample

Sample Name: L15111247-15
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

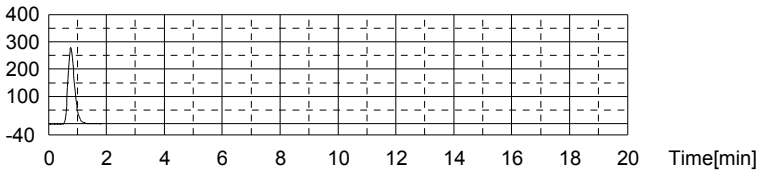
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.523mg/L TC:11.20mg/L IC:8.673mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	441.0	11.20mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 5:01:25 PM

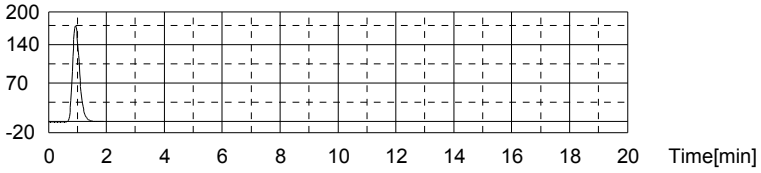
Mean Area 441.0
Mean Conc. 11.20mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	295.8	8.673mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 5:06:11 PM

Mean Area 295.8
Mean Conc. 8.673mg/L



Sample

Sample Name: L15111247-16
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

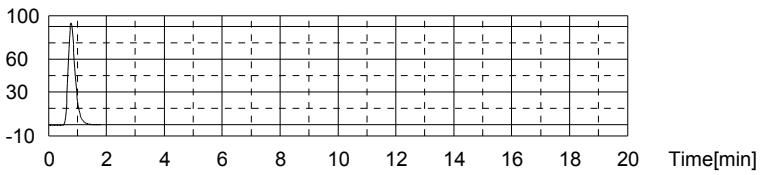
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.537mg/L TC:3.891mg/L IC:2.354mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	156.5	3.891mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 5:13:27 PM

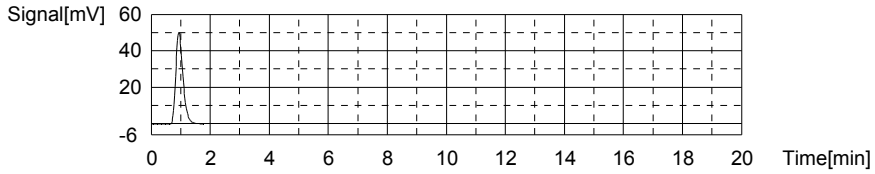
Mean Area 156.5
Mean Conc. 3.891mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	84.60	2.354mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 5:18:03 PM

Mean Area 84.60
Mean Conc. 2.354mg/L



Sample

Sample Name: WG548214-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

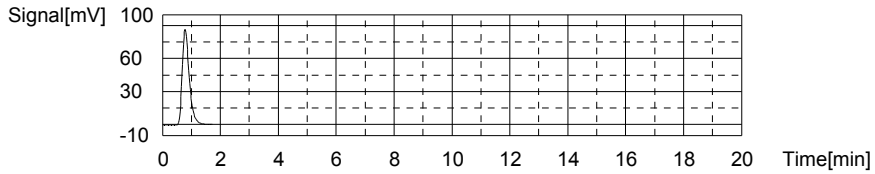
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.451mg/L TC:3.614mg/L IC:2.162mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	145.7	3.614mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 5:25:14 PM

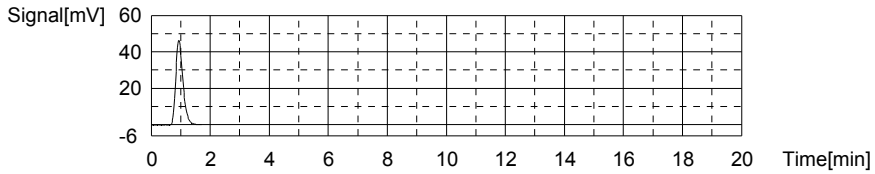
Mean Area 145.7
Mean Conc. 3.614mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	78.20	2.162mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 5:29:45 PM

Mean Area 78.20
Mean Conc. 2.162mg/L



Sample

Sample Name: WG548214-06 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

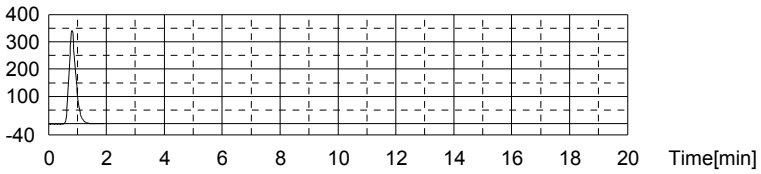
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.25mg/L TC:14.15mg/L IC:1.900mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	555.9	14.15mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 5:37:06 PM

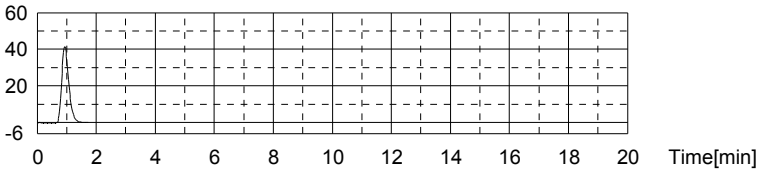
Mean Area 555.9
Mean Conc. 14.15mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.42	1.900mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 5:41:38 PM

Mean Area 69.42
Mean Conc. 1.900mg/L



Sample

Sample Name: WG548217-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

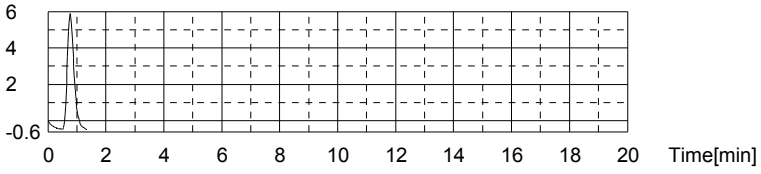
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04609mg/L TC:0.1335mg/L IC:0.08737mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.15	0.1335mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 5:46:37 PM

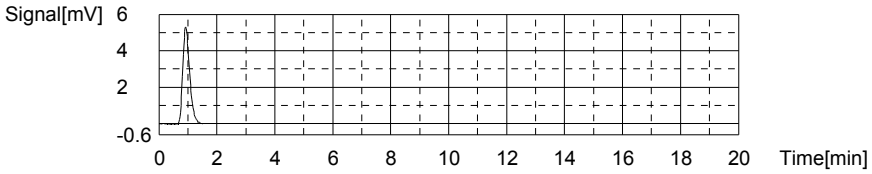
Mean Area 10.15
Mean Conc. 0.1335mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.847	0.08737mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 5:50:34 PM

Mean Area 8.847
Mean Conc. 0.08737mg/L



Sample

Sample Name: WG548217-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

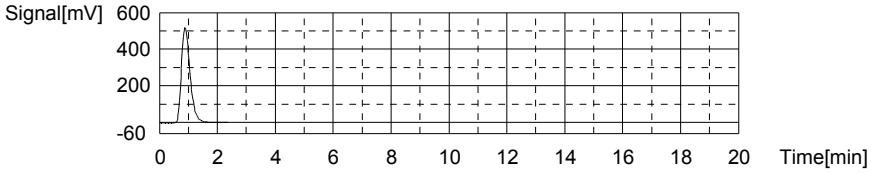
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.52mg/L TC:27.58mg/L IC:0.05362mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1079	27.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 5:58:23 PM

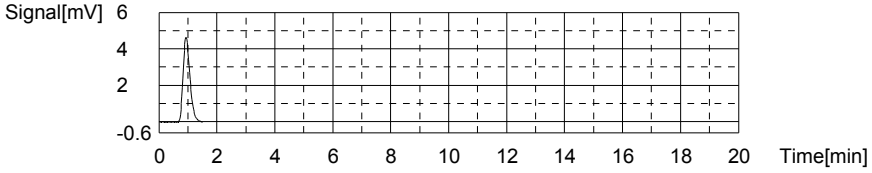
Mean Area 1079
Mean Conc. 27.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.719	0.05362mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 6:02:41 PM

Mean Area 7.719
Mean Conc. 0.05362mg/L



Sample

Sample Name: WG548217-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

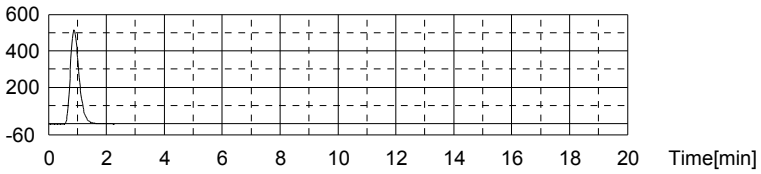
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.60mg/L TC:27.65mg/L IC:0.05763mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1082	27.65mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 6:10:25 PM

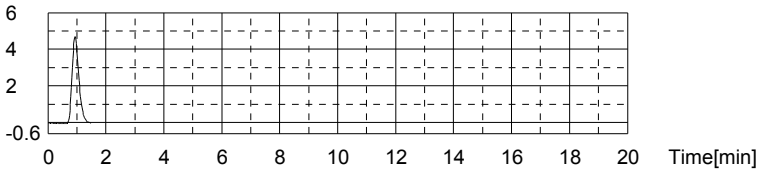
Mean Area 1082
Mean Conc. 27.65mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.853	0.05763mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 6:14:42 PM

Mean Area 7.853
Mean Conc. 0.05763mg/L



Sample

Sample Name: L15111069-01 (25)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

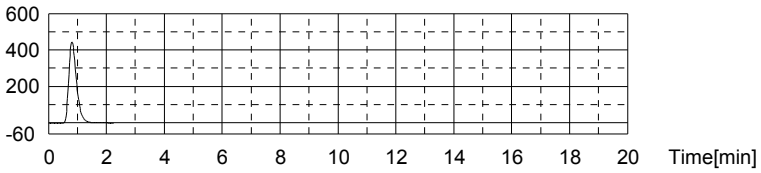
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:18.14mg/L TC:21.07mg/L IC:2.928mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	825.4	21.07mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 6:22:24 PM

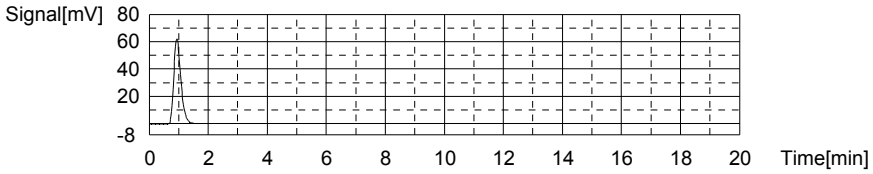
Mean Area 825.4
Mean Conc. 21.07mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	103.8	2.928mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 6:27:02 PM

Mean Area 103.8
Mean Conc. 2.928mg/L



Sample

Sample Name: L15111069-04 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

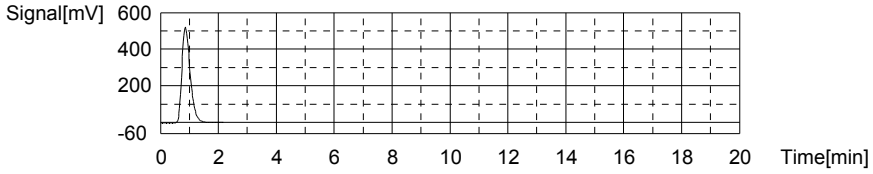
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.47mg/L TC:26.58mg/L IC:1.106mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1040	26.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 6:34:39 PM

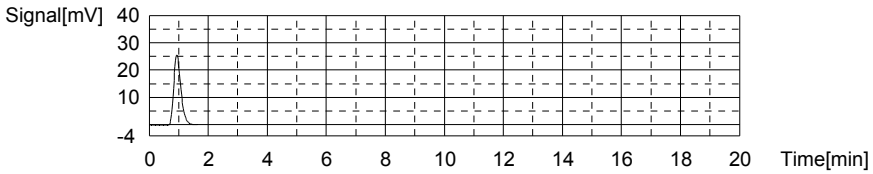
Mean Area 1040
Mean Conc. 26.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	42.89	1.106mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 6:39:07 PM

Mean Area 42.89
Mean Conc. 1.106mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

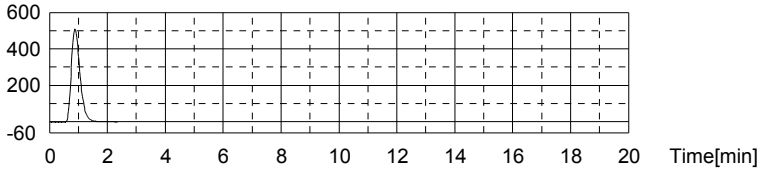
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.12mg/L TC:27.19mg/L IC:0.07190mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1064	27.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 6:46:55 PM

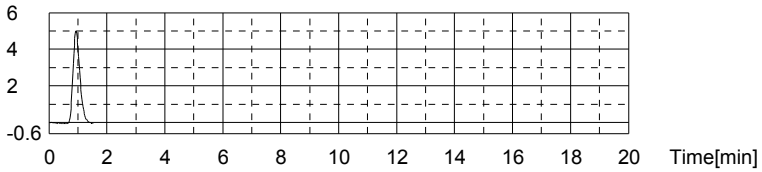
Mean Area 1064
Mean Conc. 27.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.330	0.07190mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 6:51:14 PM

Mean Area 8.330
Mean Conc. 0.07190mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

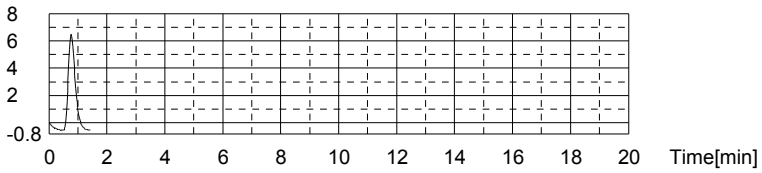
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.08659mg/L TC:0.1704mg/L IC:0.08384mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.59	0.1704mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 6:56:18 PM

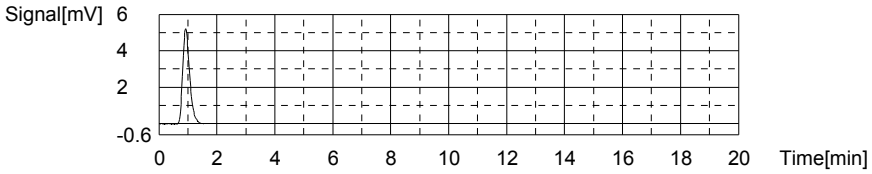
Mean Area 11.59
Mean Conc. 0.1704mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.729	0.08384mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 7:00:11 PM

Mean Area 8.729
Mean Conc. 0.08384mg/L



Sample

Sample Name: L15111122-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

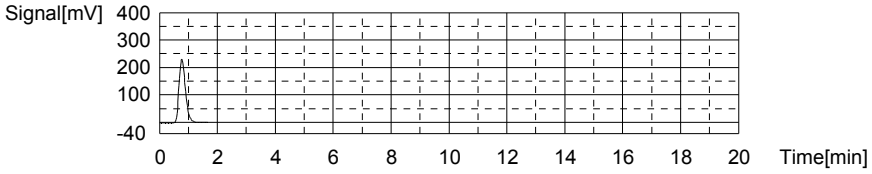
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.562mg/L TC:9.044mg/L IC:7.482mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	357.2	9.044mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 7:07:19 PM

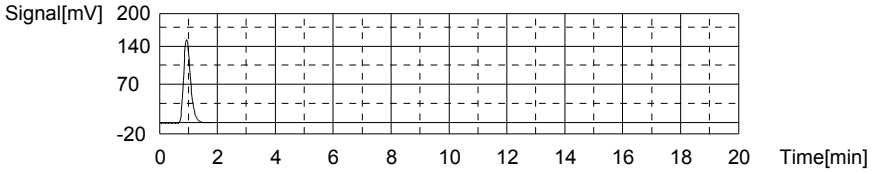
Mean Area 357.2
Mean Conc. 9.044mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	256.0	7.482mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 7:12:00 PM

Mean Area 256.0
Mean Conc. 7.482mg/L



Sample

Sample Name: WG548217-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

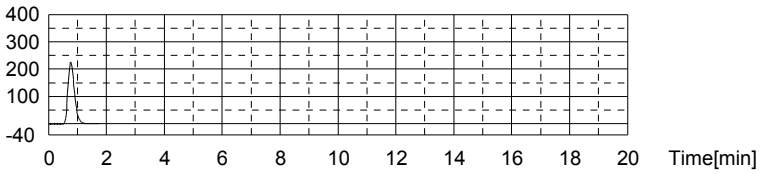
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.622mg/L TC:8.918mg/L IC:7.296mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	352.3	8.918mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 7:19:13 PM

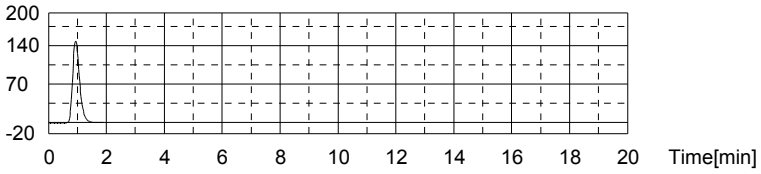
Mean Area 352.3
Mean Conc. 8.918mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	249.8	7.296mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 7:23:56 PM

Mean Area 249.8
Mean Conc. 7.296mg/L



Sample

Sample Name: L15111122-02 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

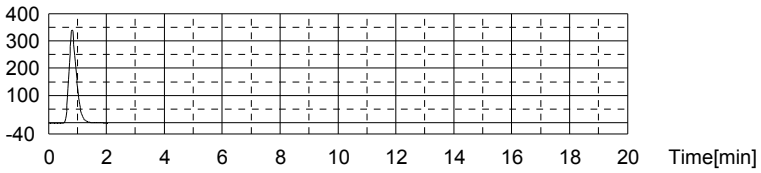
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.82mg/L TC:15.40mg/L IC:3.571mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	604.6	15.40mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 7:31:26 PM

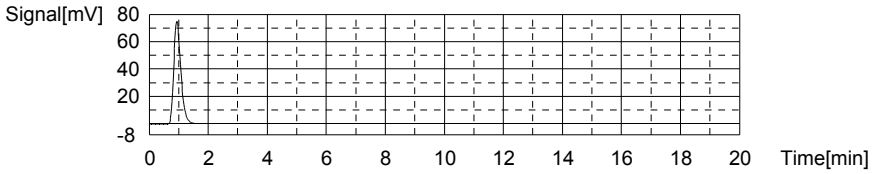
Mean Area 604.6
Mean Conc. 15.40mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	125.3	3.571mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 7:36:03 PM

Mean Area 125.3
Mean Conc. 3.571mg/L



Sample

Sample Name: L15111122-03 MSD
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

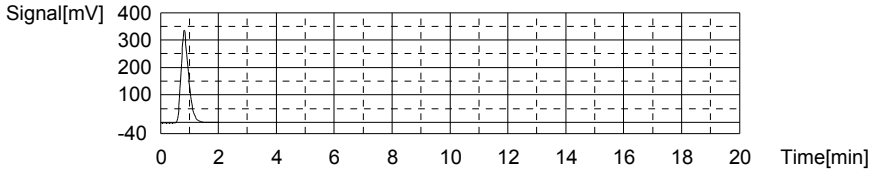
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.84mg/L TC:15.31mg/L IC:3.467mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	601.1	15.31mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 7:43:30 PM

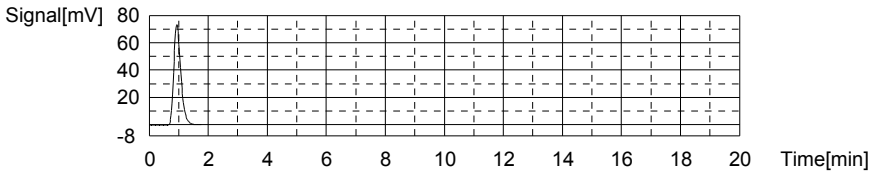
Mean Area 601.1
Mean Conc. 15.31mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	121.8	3.467mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 7:48:07 PM

Mean Area 121.8
Mean Conc. 3.467mg/L



Sample

Sample Name: L15111122-10
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

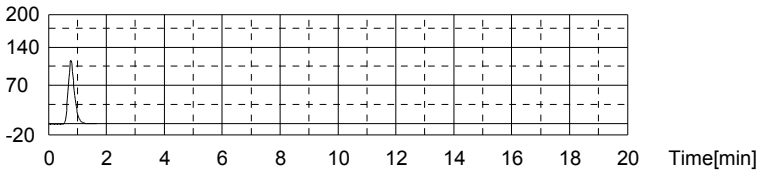
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.090mg/L TC:4.333mg/L IC:3.242mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	173.7	4.333mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 7:55:14 PM

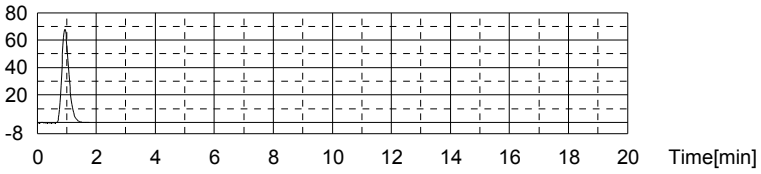
Mean Area 173.7
Mean Conc. 4.333mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	114.3	3.242mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 7:59:47 PM

Mean Area 114.3
Mean Conc. 3.242mg/L



Sample

Sample Name: L15111122-13
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

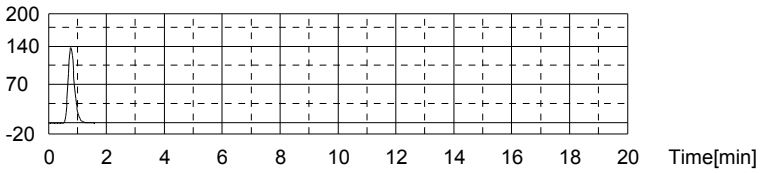
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.206mg/L TC:5.301mg/L IC:4.095mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	211.4	5.301mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 8:06:51 PM

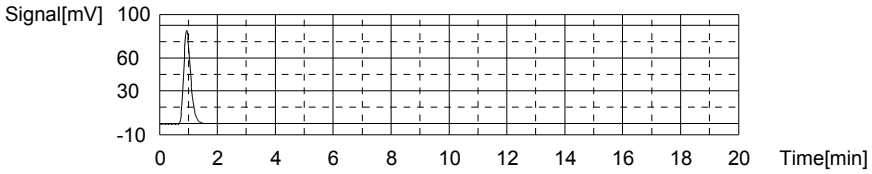
Mean Area 211.4
Mean Conc. 5.301mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	142.8	4.095mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 8:11:29 PM

Mean Area 142.8
Mean Conc. 4.095mg/L



Sample

Sample Name: L15111122-16
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

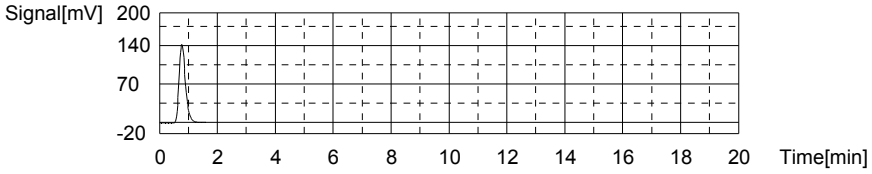
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.308mg/L TC:5.511mg/L IC:4.203mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	219.6	5.511mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 8:18:32 PM

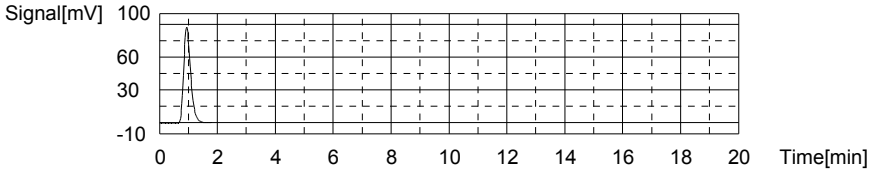
Mean Area 219.6
Mean Conc. 5.511mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	146.4	4.203mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 8:23:09 PM

Mean Area 146.4
Mean Conc. 4.203mg/L



Sample

Sample Name: L15111122-19
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

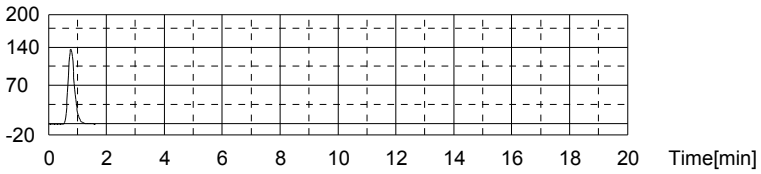
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.129mg/L TC:5.260mg/L IC:4.131mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	209.8	5.260mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 8:30:14 PM

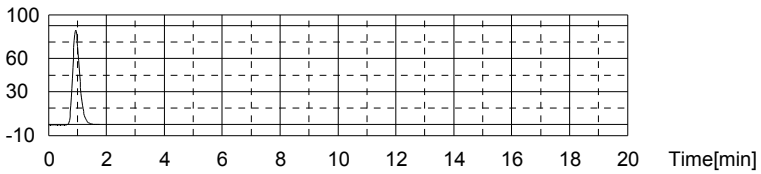
Mean Area 209.8
Mean Conc. 5.260mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	144.0	4.131mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 8:34:49 PM

Mean Area 144.0
Mean Conc. 4.131mg/L



Sample

Sample Name: L15111122-22
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

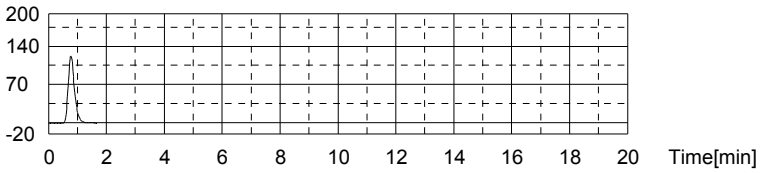
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.134mg/L TC:4.630mg/L IC:3.497mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	185.3	4.630mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 8:41:58 PM

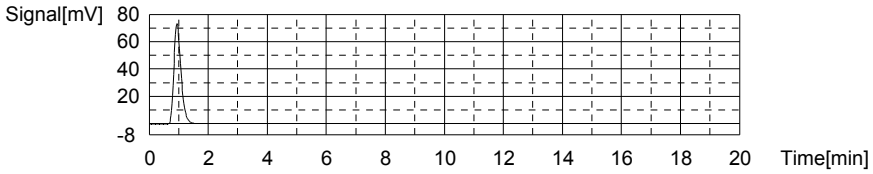
Mean Area 185.3
Mean Conc. 4.630mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	122.8	3.497mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 8:46:33 PM

Mean Area 122.8
Mean Conc. 3.497mg/L



Sample

Sample Name: L15111122-25
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

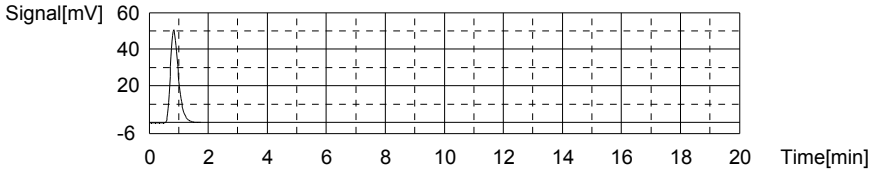
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.149mg/L TC:2.327mg/L IC:0.1784mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	95.59	2.327mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 8:53:45 PM

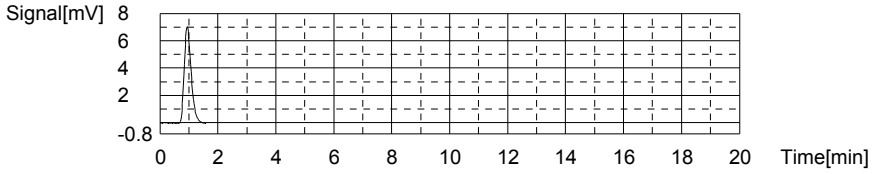
Mean Area 95.59
Mean Conc. 2.327mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.89	0.1784mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 8:58:08 PM

Mean Area 11.89
Mean Conc. 0.1784mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

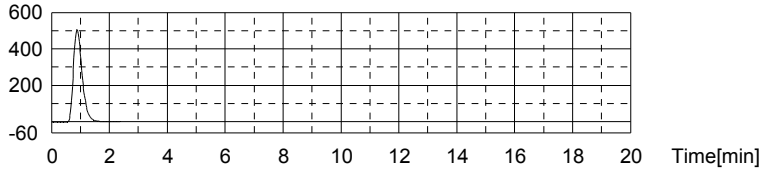
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.19mg/L TC:27.27mg/L IC:0.07352mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1067	27.27mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 9:05:59 PM

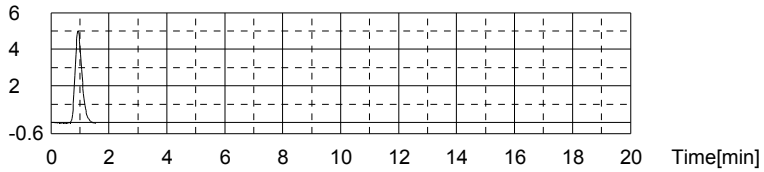
Mean Area 1067
Mean Conc. 27.27mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.384	0.07352mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 9:10:19 PM

Mean Area 8.384
Mean Conc. 0.07352mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

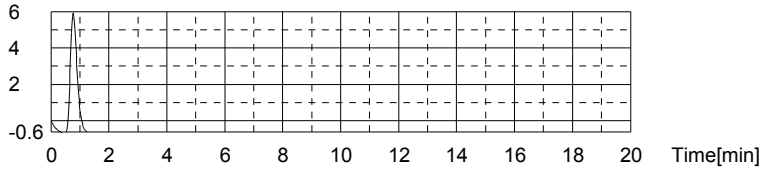
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06821mg/L TC:0.1486mg/L IC:0.08040mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.74	0.1486mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 9:15:20 PM

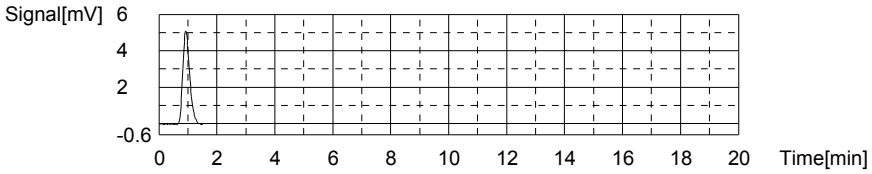
Mean Area 10.74
Mean Conc. 0.1486mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.614	0.08040mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 9:19:10 PM

Mean Area 8.614
Mean Conc. 0.08040mg/L



Sample

Sample Name: L15111122-28
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

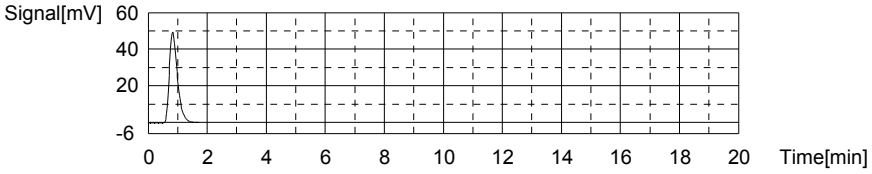
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.125mg/L TC:2.287mg/L IC:0.1629mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	94.04	2.287mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 9:26:22 PM

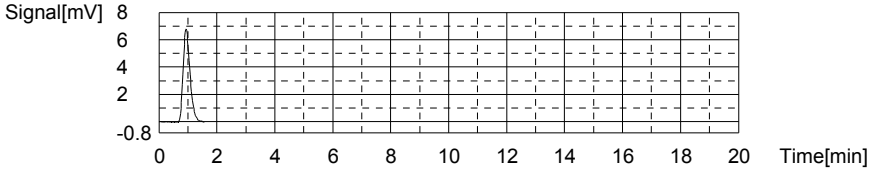
Mean Area 94.04
Mean Conc. 2.287mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.37	0.1629mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 9:30:43 PM

Mean Area 11.37
Mean Conc. 0.1629mg/L



Sample

Sample Name: L15111143-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

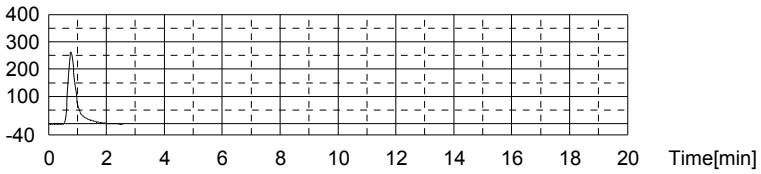
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.696mg/L TC:13.25mg/L IC:7.554mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	521.0	13.25mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 9:38:46 PM

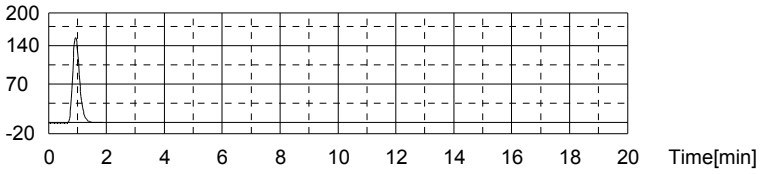
Mean Area 521.0
Mean Conc. 13.25mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	258.4	7.554mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 9:43:27 PM

Mean Area 258.4
Mean Conc. 7.554mg/L



Sample

Sample Name: L15111143-04 (4)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

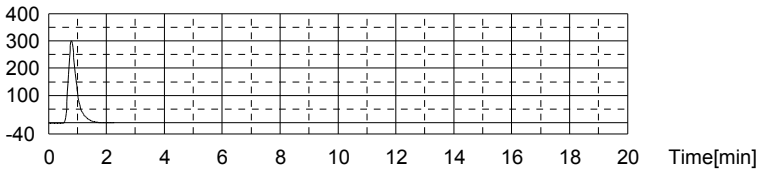
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.157mg/L TC:15.00mg/L IC:6.839mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	589.0	15.00mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 9:51:12 PM

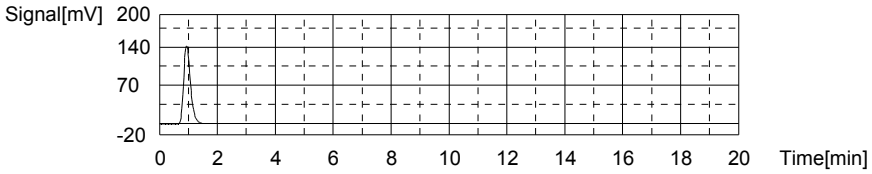
Mean Area 589.0
Mean Conc. 15.00mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	234.5	6.839mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 9:55:50 PM

Mean Area 234.5
Mean Conc. 6.839mg/L



Sample

Sample Name: L15111143-07 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

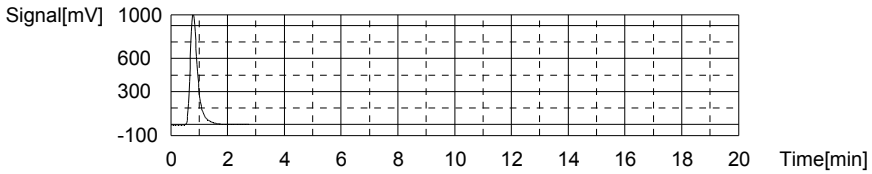
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:19.65mg/L TC:47.53mg/L IC:27.87mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1856	47.53mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:04:03 PM

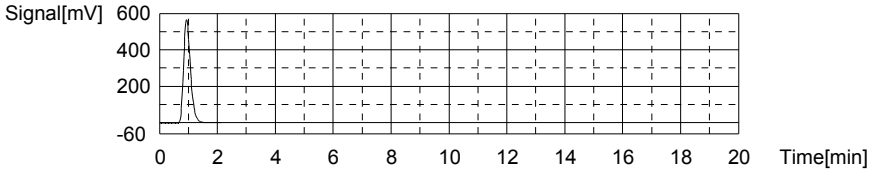
Mean Area 1856
Mean Conc. 47.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	937.6	27.87mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:09:06 PM

Mean Area 937.6
Mean Conc. 27.87mg/L



Sample

Sample Name: L15111143-10 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

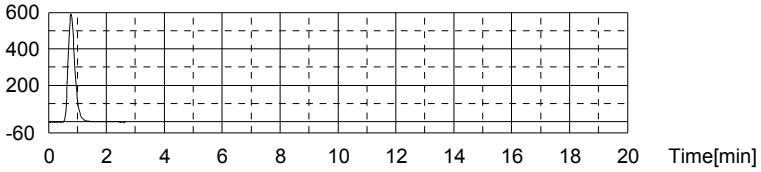
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.98mg/L TC:24.61mg/L IC:9.624mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	963.3	24.61mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:17:14 PM

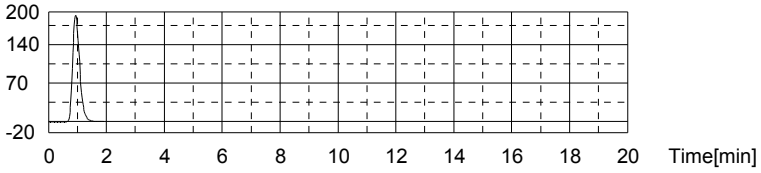
Mean Area 963.3
Mean Conc. 24.61mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	327.6	9.624mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:22:00 PM

Mean Area 327.6
Mean Conc. 9.624mg/L



Sample

Sample Name: L15111143-13
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

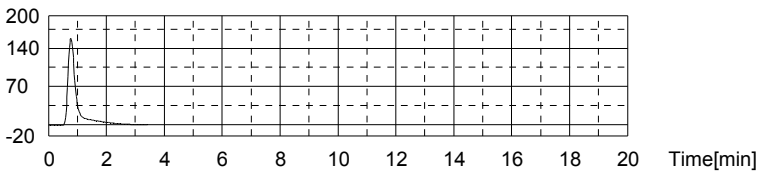
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.399mg/L TC:8.156mg/L IC:4.756mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	322.6	8.156mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:30:53 PM

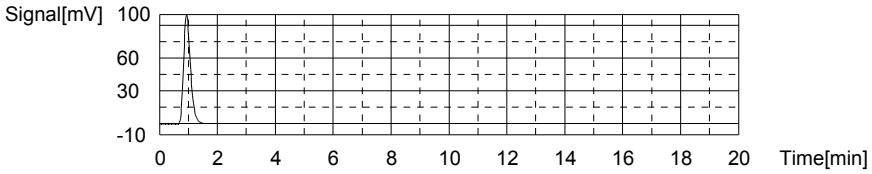
Mean Area 322.6
Mean Conc. 8.156mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	164.9	4.756mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:35:31 PM

Mean Area 164.9
Mean Conc. 4.756mg/L



Sample

Sample Name: L15111143-16 (100)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

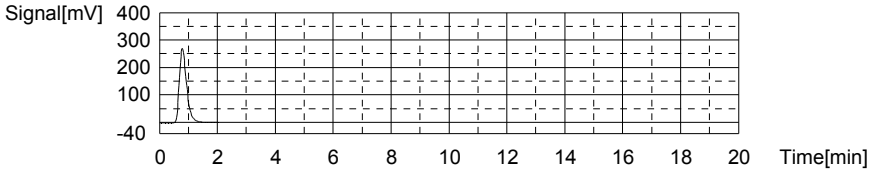
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.127mg/L TC:11.93mg/L IC:6.803mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	469.6	11.93mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:43:04 PM

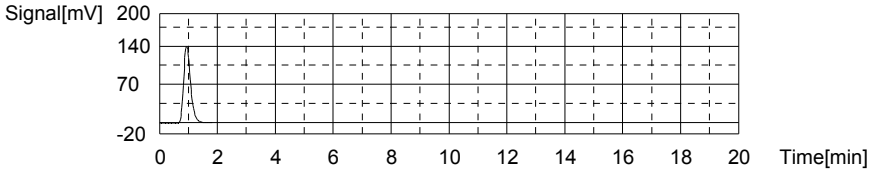
Mean Area 469.6
Mean Conc. 11.93mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	233.3	6.803mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:47:44 PM

Mean Area 233.3
Mean Conc. 6.803mg/L



Sample

Sample Name: L15111143-19 (25)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

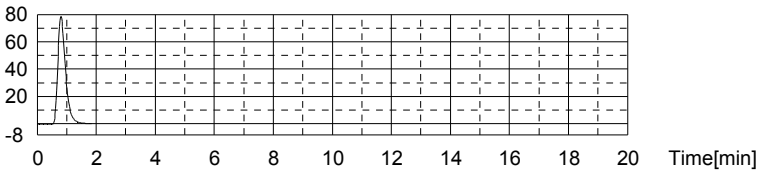
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.542mg/L TC:3.521mg/L IC:0.9796mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	142.1	3.521mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 10:55:03 PM

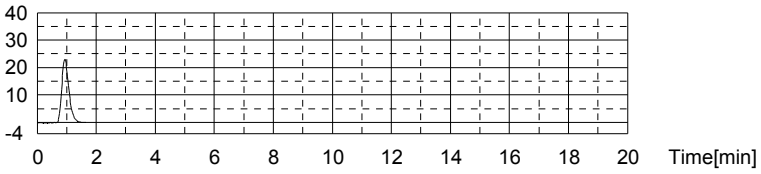
Mean Area 142.1
Mean Conc. 3.521mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	38.67	0.9796mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 10:59:33 PM

Mean Area 38.67
Mean Conc. 0.9796mg/L



Sample

Sample Name: L15111143-22 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

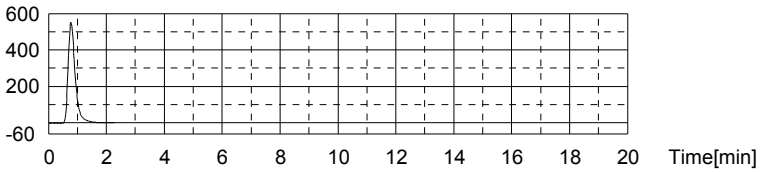
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.72mg/L TC:23.90mg/L IC:10.18mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	935.8	23.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 11:07:18 PM

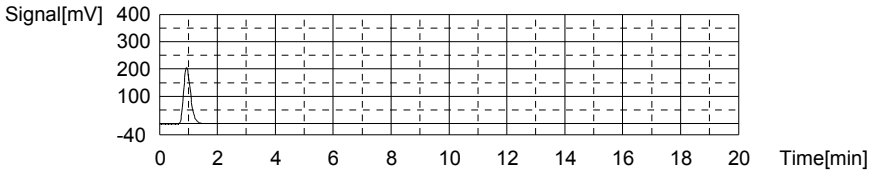
Mean Area 935.8
Mean Conc. 23.90mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	346.1	10.18mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 11:12:04 PM

Mean Area 346.1
Mean Conc. 10.18mg/L



Sample

Sample Name: L15111269-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

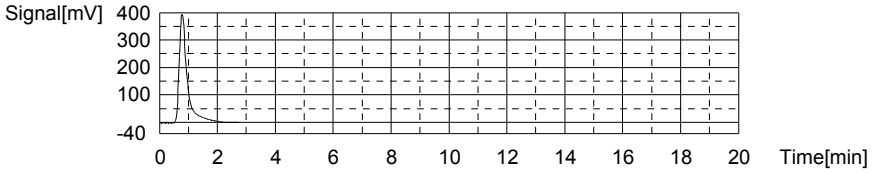
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.472mg/L TC:19.54mg/L IC:11.07mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	765.9	19.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 11:20:16 PM

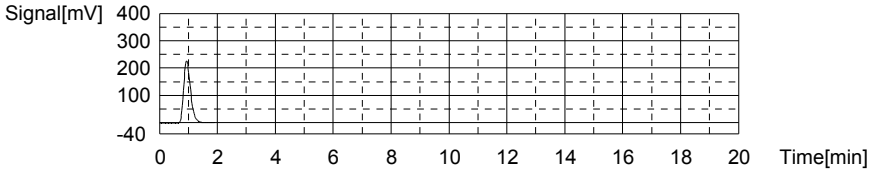
Mean Area 765.9
Mean Conc. 19.54mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	375.8	11.07mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 11:24:59 PM

Mean Area 375.8
Mean Conc. 11.07mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

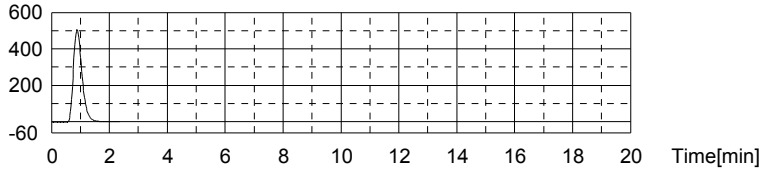
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.73mg/L TC:26.83mg/L IC:0.1057mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1050	26.83mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 11:32:49 PM

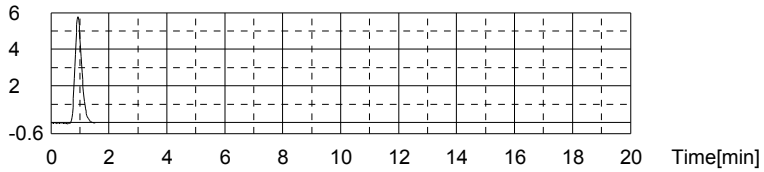
Mean Area 1050
Mean Conc. 26.83mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.461	0.1057mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 11:37:10 PM

Mean Area 9.461
Mean Conc. 0.1057mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

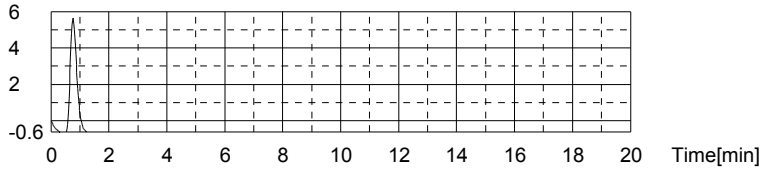
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04486mg/L TC:0.1365mg/L IC:0.09168mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.27	0.1365mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/24/2015 11:42:11 PM

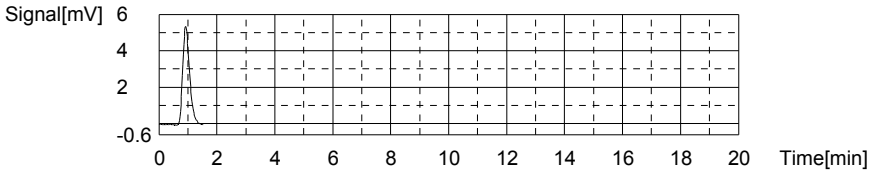
Mean Area 10.27
Mean Conc. 0.1365mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.991	0.09168mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/24/2015 11:46:03 PM

Mean Area	8.991
Mean Conc.	0.09168mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
December 8, 2015

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AWE – ANDREW W. ESSIG	AZH – AFTER HOURS
BJO – BRIAN J. OGDEN	BKT – BRENDAN TORRENCE
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CEB – CHAD E. BARNES	CJR – COURTNEY J. REXROAD
CLC – CHRYS L. CRAWFORD	CLS – CARA L. STRICKLER
CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DAK – DEAN A. KETELSEN
DCM – DAVID C. MERCKLE	DEV – DAVID E. VANDENBERG
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER
DLP – DOROTHY L. PAYNE	DLW – DIANA L. WRIGHT
DSM – DAVID S. MOSSOR	ECL – ERIC C. LAWSON
ENY – EMILY N. YOAK	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
JBK – JEREMY B. KINNEY	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JJS – JOHN J. STE MARIE
JKP – JACQUELINE K. PARSONS	JLD – JESSICA L. DELONG
JLL – JOHN L. LENT	JMW – JEANA M. WHITE
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAJ – KELLIE A. JOHNSON	KAT – KATHY A. TUCKER
KDW – KATHRYN D. WELCH	KEB – KATIE E. BARNES
KHR – KIM H. RHODES	KKB – KERRI K. BUCK
KRA – KATHY R. ALBERTSON	KRB – KAELY R. BECKER
KRP – KATHY R. PARSONS	LEC – LAURA E. CARPENTER
LKN – LINDA K. NEDEFF	LLS – LARRY L. STEPHENS
LSB – LESLIE S. BUCINA	MBK – MORGAN B. KNOWLTON
MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MLB – MEGAN L. BACHE
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS
PIT – MICROBAC WARRENDALE	PRL – PAIGE R. LAMB
PSW – PEGGY S. WEBB	QX – QIN XU
RAH – ROY A. HALSTEAD	REK – BOB E. KYER
RLB – BOB BUCHANAN	RM – RAYMOND MALEKE
RNP – RICK N. PETTY	RST – ROBIN S. TURNER
SAV – SARAH A. VANDENBERG	SCB – SARAH C. BOGOLIN
SDC – SHALYN D. CONLEY	SLM – STEPHANIE L. MOSSBURG
SLP – SHERI L. PFALZGRAF	TB – TODD BOYLE
TGF – TIM G. FELTON	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WJB – WILL J. BEASLEY	WRR – WESLEY R. RICHARDS
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
December 08, 2015

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count

Microbac Laboratories Inc.
List of Valid Qualifiers
December 08, 2015

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L15111211 / Revision: 0 / 793 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Mark Heaston	Mail to: Linda Raabe
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400
Marietta, OH 45750	Sampler (print): Scott Beesinger	San Antonio, TX 78205
Phone: 1-800-373-4071		210-296-2000
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:
Address: 112 East Pecan Ste. 400		
San Antonio, TX 78205		Program:
Turn Around Time: STANDARD		
Project Name/Location: Longhorn		
Project Number: 60256135.0002JA		

pH:

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	VOC	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 67	67WW12-111815			11/18/15	0800		✓	W	3	✓					
	67WW12FD-111815			11/18/15	0800		✓	W	3	✓					
	67WW10-111815			11/18/15	0855		✓	W	3	✓					
	67WW09A-111815			11/18/15	1000		✓	W	3	✓					
	67WW14-111815			11/18/15	1100		✓	W	3	✓					
	67WW14MS-111815			11/18/15	1100		✓	W	3	✓					
	67WW14MSD-111815			11/18/15	1100		✓	W	3	✓					
	67WW13-111815			11/18/15	1345		✓	W	3	✓					
	67WW09-111815			11/18/15	1440		✓	W	3	✓					
	67WW09FD-111815			11/18/15	1440		✓	W	3	✓					
	67WW05-111915			11/19/15	0730		✓	W	3	✓					
	67WW02-111915			11/19/15	0740		✓	W	3	✓					
	67WW07-111915			11/19/15	0755		✓	W	3	✓					
	67WW01-111915			11/19/15	0810		✓	W	3	✓					

Comments: STANDARD TAT

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Relinquished by: (Signature)
Scott Beesinger	11/19/15	1400				
Relinquished by: (Signature)	Date	Time		Time		Remarks:

Microbac OVD
Received: 11/20/2015 10:03
By: BRENDA GREGORY
221000078711
Brenda Gregory

*Homogenize all composite samples prior to analysis

Manager, Pink QA/QC Manager

Generated: 12/08/2015 12:36

00748794

L15111211 / Revision: 0 / 793 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory:	Microbac POC: Stephanie Mossburg	Project Manager:	Mark Heaston
Address:	158 Starlite Drive	Phone/Fax Number:	210-296-2000
	Marietta, OH 45750	Sampler (print):	Scott Beesinger
Phone:	1-800-373-4071		
Client:	AECOM	Signature:	Scott Beesinger
Address:	112 East Pecan Ste. 400		
	San Antonio, TX 78205		
Turn Around Time:	STANDARD	pH:	
Project Name/Location:	Longhorn		
Project Number:	60256135.0002JA		

Mail to: Linda Raabe, 112 East Pecan STE. 400, San Antonio, TX 78205, 210-296-2000

Fed Ex Airbill No:

Program:

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	VOC	Dissolved Gases	Sulfide	Nitrate / Nitrite Chloride / Sulfate	Inorganic Carbon	Total Organic Carbon	Ferrous Iron	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 67	67WW11 - 111915			11/19/15	0910		✓	W	11	✓	✓	✓	✓	✓	✓	✓					
	67WW08 - 111915			11/19/15	1020		✓	W	11	✓	✓	✓	✓	✓	✓	✓					
	TRIP BLANK			11/19/15			✓	W	2	✓											

Comments: STANDARD TAT

Relinquished by: (Signature)	Date	Time
Scott Beesinger	11/19/15	1400
Relinquished by: (Signature)	Date	Time

Microbac OVD
Received: 11/20/2015 10:03
By: BRENDA GREGORY
221000078711
Brenda Gregory

Date	Time	Relinquished by: (Signature)
Time		Remarks:

*Homogenize all composite samples prior to analysis

Manager, Pink QA/QC Manager

Generated: 12/08/2015 12:36

00748795

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-01	666259	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Samplenum	Container ID	Products
L15111211-02	666260	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-03	666261	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Samplenum	Container ID	Products
L15111211-04	666262	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-05	666263	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Samplenum	Container ID	Products
L15111211-06	666264	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-07	666265	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:52	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Samplenum	Container ID	Products
L15111211-08	666266	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-09	666267	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Samplenum	Container ID	Products
L15111211-10	666268	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-11	666269	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Samplenum	Container ID	Products
L15111211-12	666270	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:38	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-13	666271	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Samplenum	Container ID	Products
L15111211-14	666272	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-15	666273	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Samplenum	Container ID	Products
L15111211-15	666274	RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		<2
2	ANALYZ	V1	ORG1	23-NOV-2015 07:47	AWE	CLS	
3	STORE	ORG1	A1	04-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		<2
2	ANALYZ	V1	ORG1	23-NOV-2015 07:47	AWE	CLS	
3	STORE	ORG1	A1	04-DEC-2015 07:37	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		<2
2	ANALYZ	V1	ORG1	23-NOV-2015 07:47	AWE	CLS	
3	STORE	ORG1	A1	04-DEC-2015 07:37	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-15	666275	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	SEM	20-NOV-2015 13:56	BRG		
2	STORE	SEM	A1	25-NOV-2015 09:17	BRG	ALS	

Samplenum	Container ID	Products
L15111211-15	666276	TIC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	20-NOV-2015 13:56	BRG		
2	STORE	WET	A1	04-DEC-2015 14:48	CLS	DLW	

Samplenum	Container ID	Products
L15111211-15	666277	FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-NOV-2015 13:56	BRG		
2	ANALYZ	W1	WET	24-NOV-2015 07:30	DCM	CLS	
3	STORE	WET	A1	24-NOV-2015 15:14	CLS	DCM	

Samplenum	Container ID	Products
L15111211-15	666278	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-NOV-2015 13:56	BRG		<2

Samplenum	Container ID	Products
L15111211-15	666279	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-NOV-2015 13:56	BRG		
2	ANALYZ	W1	WET	21-NOV-2015 12:38	TB	CLS	
3	ANALYZ	WET	A1	23-NOV-2015 15:49	BRG	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-16	666280	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	20-NOV-2015 13:56	BRG		
2	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	

Samplenum	Container ID	Products
L15111211-16	666281	RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		<2
2	ANALYZ	V1	ORG1	23-NOV-2015 07:47	AWE	CLS	
3	STORE	ORG1	A1	04-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		<2
2	ANALYZ	V1	ORG1	23-NOV-2015 07:47	AWE	CLS	
3	STORE	ORG1	A1	04-DEC-2015 07:37	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		<2
2	ANALYZ	V1	ORG1	23-NOV-2015 07:47	AWE	CLS	
3	STORE	ORG1	A1	04-DEC-2015 07:37	CLS	AWE	

Samplenum	Container ID	Products
L15111211-16	666282	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	SEM	20-NOV-2015 13:56	BRG		
2	STORE	SEM	A1	25-NOV-2015 09:17	BRG	ALS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-16	666283	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	20-NOV-2015 13:56	BRG		
2	STORE	WET	A1	04-DEC-2015 14:48	CLS	DLW	

Comments:Products cancelled.

Samplenum	Container ID	Products
L15111211-16	666284	TIC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-NOV-2015 13:56	BRG		

Samplenum	Container ID	Products
L15111211-16	666285	FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-NOV-2015 13:56	BRG		
2	ANALYZ	W1	WET	24-NOV-2015 07:30	DCM	CLS	
3	STORE	WET	A1	24-NOV-2015 15:14	CLS	DCM	

Samplenum	Container ID	Products
L15111211-16	666286	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	20-NOV-2015 13:56	BRG		<2
2	STORE	WET	A1	25-NOV-2015 06:49	AZH	DIH	

Samplenum	Container ID	Products
L15111211-16	666287	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-NOV-2015 13:56	BRG		
2	ANALYZ	W1	WET	21-NOV-2015 12:38	TB	CLS	
3	ANALYZ	WET	A1	23-NOV-2015 15:49	BRG	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15111211
Account: 2551
Project: 2551.096
Samples: 17
Due Date: 01-DEC-2015

Samplenum	Container ID	Products
L15111211-17	666288	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-NOV-2015 13:56	BRG		
2	ANALYZ	V1	ORG4	20-NOV-2015 14:53	TMB	BRG	
3	STORE	ORG4	A1	07-DEC-2015 07:37	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - November 30, 2015

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Non-DoD LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD DoD Scope of Accreditation:

SOLID AND HAZARDOUS CHEMICALS

Fluoride by EPA 300.0/9056/9056A
Bromide by EPA 9056/9056A
Nitrate as N by EPA 9056/9056A

Microbac

Laboratory Report Number: L16031614

Kayla Teague
AECOM Technical Services, Inc.
16000 Dallas Parkway
Dallas, TX 75248

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on April 12 2016

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID: Trip Blank. COC marked for "3" containers, however only received "2". BRG	Please log per what was received. SLM

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00113361	I	4.0		J2317165803	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	All samples were checked for pH and met the standard. Exceptions are noted above under discrepancy. (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
67WW03-032916	L16031614-01	03/29/2016 08:00	03/30/2016 10:09
67WW01-032916	L16031614-02	03/29/2016 08:15	03/30/2016 10:09
TRIP BLANK	L16031614-03	03/29/2016 08:15	03/30/2016 10:09

Microbac REPORT L16031614
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 13
2.0 Full Sample Data Package 25
2.1 Volatiles Data 26
2.1.1 Volatiles GCMS Data (8260) 27
2.1.1.1 Summary Data 28
2.1.1.2 QC Summary Data 41
2.1.1.3 Sample Data 84
2.1.1.4 Standards Data 107
2.1.1.5 Raw QC Data 212
3.0 Attachments 233

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16031614
Project Name:		**Method:**	8260
Prep Batch Number(s):	563535, 563757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-04-08 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2016-04-08 17:58:45

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16031614
Project Name:		**Method:**	8260
Prep Batch Number(s):	563535, 563757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-04-08 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16031614
Project Name:		**Method:**	8260
Prep Batch Number(s):	563535, 563757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-04-08 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			1
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16031614
Project Name:		**Method:**	8260
Prep Batch Number(s):	563535, 563757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-04-08 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			2
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16031614
Project Name:		**Method:**	8260
Prep Batch Number(s):	563535, 563757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-04-08 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16031614
Project Name:		**Method:**	8260
Prep Batch Number(s):	563535, 563757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-04-08 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1)Chloromethane and 1,2Dichloropropane exceeded the UCL in the LCS analyzed 4/5/16 on HPMS8. Dichlorodifluoromethane was below the LCL in the LCS analyzed 4/6/16 on HPMS8.

2)Chloromethane exceeded the UCL in the CCV analyzed 4/5/16 on HPMS8.

1.2 Certificate of Analysis

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW03-032916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563535	**Analyst:**	TMB	**Run Date:**	04/05/2016 18:36
Collect Date:	03/29/2016 08:00	**Dilution:**	1	**File ID:**	8M411235
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.456	J	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	99.2	85	115	
1,2-Dichloroethane-d4	100	70	120	
Toluene-d8	92.9	85	120	
4-Bromofluorobenzene	95.8	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW01-032916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563535	**Analyst:**	TMB	**Run Date:**	04/05/2016 19:06
Collect Date:	03/29/2016 08:15	**Dilution:**	1	**File ID:**	8M411236
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.168	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	38.5		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	52.6		1.00	0.500	0.250
cis-1,2-Dichloroethene	156-59-2	2.16		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	2.67		1.00	0.500	0.250
Trichloroethene	79-01-6	4.00		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	3.64		1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	97.5	70	120	
Toluene-d8	93.3	85	120	
4-Bromofluorobenzene	96.2	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW01-032916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563757	**Analyst:**	TMB	**Run Date:**	04/06/2016 17:58
Collect Date:	03/29/2016 08:15	**Dilution:**	20	**File ID:**	8M411258
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1-Dichloroethene	75-35-4	728		40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.7	85	115	
1,2-Dichloroethane-d4	100	70	120	
Toluene-d8	96.3	85	120	
4-Bromofluorobenzene	95.6	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563535	**Analyst:**	TMB	**Run Date:**	04/05/2016 17:07
Collect Date:	03/29/2016 08:15	**Dilution:**	1	**File ID:**	8M411232
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.3	85	115	
1,2-Dichloroethane-d4	98.6	70	120	
Toluene-d8	91.3	85	120	
4-Bromofluorobenzene	95.8	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW03-032916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563535	**Analyst:**	TMB	**Run Date:**	04/05/2016 18:36
Collect Date:	03/29/2016 08:00	**Dilution:**	1	**File ID:**	8M411235
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.456	J	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	99.2	85	115	
1,2-Dichloroethane-d4	100	70	120	
Toluene-d8	92.9	85	120	
4-Bromofluorobenzene	95.8	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW01-032916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563535	**Analyst:**	TMB	**Run Date:**	04/05/2016 19:06
Collect Date:	03/29/2016 08:15	**Dilution:**	1	**File ID:**	8M411236
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.168	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	38.5		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	52.6		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	857	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	2.16		1.00	0.500	0.250

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	2.67		1.00	0.500	0.250
Trichloroethene	79-01-6	4.00		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	3.64		1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	97.5	70	120	
Toluene-d8	93.3	85	120	
4-Bromofluorobenzene	96.2	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

J	Estimated value ; the analyte concentration was greater than the highest standard
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	67WW01-032916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563757	**Analyst:**	TMB	**Run Date:**	04/06/2016 17:58
Collect Date:	03/29/2016 08:15	**Dilution:**	20	**File ID:**	8M411258
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	100	U	200	100	50.0
Benzene	71-43-2	5.00	U	20.0	5.00	2.50
Bromobenzene	108-86-1	5.00	U	20.0	5.00	2.50
Bromochloromethane	74-97-5	8.00	U	20.0	8.00	4.00
Bromodichloromethane	75-27-4	10.0	U	20.0	10.0	5.00
Bromoform	75-25-2	20.0	U	40.0	20.0	10.0
Bromomethane	74-83-9	20.0	U	40.0	20.0	10.0
2-Butanone	78-93-3	100	U	200	100	50.0
n-Butylbenzene	104-51-8	10.0	U	20.0	10.0	5.00
sec-Butylbenzene	135-98-8	10.0	U	20.0	10.0	5.00
tert-Butylbenzene	98-06-6	10.0	U	20.0	10.0	5.00
Carbon disulfide	75-15-0	20.0	U	40.0	20.0	10.0
Carbon tetrachloride	56-23-5	10.0	U	20.0	10.0	5.00
Chlorobenzene	108-90-7	5.00	U	20.0	5.00	2.50
Chlorodibromomethane	124-48-1	10.0	U	20.0	10.0	5.00
Chloroethane	75-00-3	20.0	U	40.0	20.0	10.0
Chloroform	67-66-3	5.00	U	20.0	5.00	2.50
Chloromethane	74-87-3	20.0	U	40.0	20.0	10.0
2-Chlorotoluene	95-49-8	5.00	U	20.0	5.00	2.50
4-Chlorotoluene	106-43-4	10.0	U	20.0	10.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8	40.0	U	100	40.0	20.0
1,2-Dibromoethane	106-93-4	10.0	U	20.0	10.0	5.00
Dibromomethane	74-95-3	10.0	U	20.0	10.0	5.00
1,2-Dichlorobenzene	95-50-1	5.00	U	20.0	5.00	2.50
1,3-Dichlorobenzene	541-73-1	10.0	U	20.0	10.0	5.00
1,4-Dichlorobenzene	106-46-7	5.00	U	20.0	5.00	2.50
Dichlorodifluoromethane	75-71-8	10.0	U	20.0	10.0	5.00
1,1-Dichloroethane	75-34-3	29.6		20.0	5.00	2.50
1,2-Dichloroethane	107-06-2	42.4		20.0	10.0	5.00
1,1-Dichloroethene	75-35-4	728		40.0	20.0	10.0
cis-1,2-Dichloroethene	156-59-2	10.0	U	20.0	10.0	5.00

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	10.0	U	20.0	10.0	5.00
1,2-Dichloropropane	78-87-5	8.00	U	20.0	8.00	4.00
1,3-Dichloropropane	142-28-9	8.00	U	20.0	8.00	4.00
2,2-Dichloropropane	594-20-7	10.0	U	20.0	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5	10.0	U	20.0	10.0	5.00
trans-1,3-Dichloropropene	10061-02-6	20.0	U	40.0	20.0	10.0
1,1-Dichloropropene	563-58-6	10.0	U	20.0	10.0	5.00
Ethylbenzene	100-41-4	10.0	U	20.0	10.0	5.00
2-Hexanone	591-78-6	100	U	200	100	50.0
Hexachlorobutadiene	87-68-3	10.0	U	20.0	10.0	5.00
Isopropylbenzene	98-82-8	10.0	U	20.0	10.0	5.00
p-Isopropyltoluene	99-87-6	10.0	U	20.0	10.0	5.00
4-Methyl-2-pentanone	108-10-1	100	U	200	100	50.0
Methylene chloride	75-09-2	10.0	U	20.0	10.0	5.00
Naphthalene	91-20-3	8.00	U	20.0	8.00	4.00
n-Propylbenzene	103-65-1	5.00	U	20.0	5.00	2.50
Styrene	100-42-5	5.00	U	20.0	5.00	2.50
1,1,1,2-Tetrachloroethane	630-20-6	10.0	U	20.0	10.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5	8.00	U	20.0	8.00	4.00
Tetrachloroethene	127-18-4	10.0	U	20.0	10.0	5.00
Toluene	108-88-3	10.0	U	20.0	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6	6.00	U	20.0	6.00	3.00
1,2,4-Trichlorobenzene	120-82-1	8.00	U	20.0	8.00	4.00
1,1,1-Trichloroethane	71-55-6	10.0	U	20.0	10.0	5.00
1,1,2-Trichloroethane	79-00-5	10.0	U	20.0	10.0	5.00
Trichloroethene	79-01-6	10.0	U	20.0	10.0	5.00
Trichlorofluoromethane	75-69-4	10.0	U	20.0	10.0	5.00
1,2,3-Trichloropropane	96-18-4	20.0	U	40.0	20.0	10.0
1,2,4-Trimethylbenzene	95-63-6	10.0	U	20.0	10.0	5.00
1,3,5-Trimethylbenzene	108-67-8	10.0	U	20.0	10.0	5.00
Vinyl chloride	75-01-4	10.0	U	20.0	10.0	5.00
o-Xylene	95-47-6	10.0	U	20.0	10.0	5.00
m-,p-Xylene	179601-23-1	20.0	U	40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.7	85	115	
1,2-Dichloroethane-d4	100	70	120	
Toluene-d8	96.3	85	120	
4-Bromofluorobenzene	95.6	75	120	

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16031614-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/17/2016 19:18
Workgroup #:	WG563535	**Analyst:**	TMB	**Run Date:**	04/05/2016 17:07
Collect Date:	03/29/2016 08:15	**Dilution:**	1	**File ID:**	8M411232
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	Q	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.3	85	115	
1,2-Dichloroethane-d4	98.6	70	120	
Toluene-d8	91.3	85	120	
4-Bromofluorobenzene	95.8	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16031614
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 100515

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 22

Method: 624 SOP: MSV10 Rev: 13

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53462

Internal Standard: STD72767 Surrogate Standard: STD72767

CCV: STD72810 LCS: STD72811 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG540826

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M407827	WG540826-01 50ng BFB STD 8260	NA	1	1	STD72715	10/05/15 11:26
8M407828	WG540826-02 5ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 11:49
8M407829	WG540826-03 20ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 12:17
8M407830	WG540826-04 50ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 12:51
8M407831	WG540826-05 100ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 13:20
8M407832	WG540826-06 200ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 13:49
8M407833	WG540826-07 300ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 14:17
8M407834	WG540826-08 400ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 14:47
8M407835	WG540826-09 500ug/L STD A9FOO	NA	1	1	STD72810	10/05/15 15:15
8M407836	RINSE	NA	1	1		10/05/15 15:50
8M407837	RINSE	NA	1	1		10/05/15 16:19
8M407838	WG540826-10 100ug/L ALT SRC STD A9/F	NA	1	1	STD72811	10/05/15 16:48

Approved: October 09, 2015

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 021716
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 23
Method: 624 SOP: MSV10 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53639

Internal Standard: STD74636 Surrogate Standard: STD74636
CCV: STD74773 LCS: STD74755 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG556046

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M410188	WG556046-01 50ng BFB STD 8260	NA	1	1	STD74606	02/17/16 12:04
8M410189	WG556046-02 0.3ug/L STD 8260	NA	1	1	STD74697	02/17/16 12:31
8M410190	WG556046-03 0.4ug/L STD 8260	NA	1	1	STD74773	02/17/16 13:01
8M410191	WG556046-01 50ng BFB STD 8260	NA	1	1	STD74606	02/17/16 14:11
8M410192	WG556046-01 50ng BFB STD 8260	NA	1	1	STD74606	02/17/16 14:25
8M410193	WG556046-02 0.3ug/L STD 8260	NA	1	1	STD74773	02/17/16 14:49
8M410194	WG556046-03 0.4ug/L STD 8260	NA	1	1	STD74773	02/17/16 15:18
8M410195	WG556046-04 1ug/L STD 8260	NA	1	1	STD74773	02/17/16 15:47
8M410196	WG556046-05 2ug/L STD 8260	NA	1	1	STD74773	02/17/16 16:23
8M410197	WG556046-06 5ug/L STD 8260	NA	1	1	STD74773	02/17/16 16:52
8M410198	WG556046-07 20ug/L STD 8260	NA	1	1	STD74773	02/17/16 17:21
8M410199	WG556046-08 50ug/L STD 8260	NA	1	1	STD74773	02/17/16 17:50
8M410200	WG556046-09 100ug/L STD 8260	NA	1	1	STD74773	02/17/16 18:19
8M410201	WG556046-10 200ug/L STD 8260	NA	1	1	STD74773	02/17/16 18:49
8M410202	WG556046-11 300ug/L STD 8260	NA	1	1	STD74773	02/17/16 19:18
8M410203	RINSE	NA	1	1		02/17/16 19:46
8M410204	RINSE	NA	1	1		02/17/16 20:15
8M410205	WG556046-12 50ug/L ALT SRC STD 8260	NA	1	1	STD74755	02/17/16 20:44
8M410206	RINSE	NA	1	1		02/17/16 21:14
8M410207	RINSE	NA	1	1		02/17/16 21:42

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X		Internal standard failure	
File ID: 8M410189				
	Internals too high, DNR.			
3	X		Internal standard failure	
File ID: 8M410190				
	Internals too high, DNR. Lowered the voltage by 20.			
4	X			
File ID: 8M410191				
	Tune failed, DNR.			

Approved: February 18, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 040516
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 23
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53693

Internal Standard: STD75032 Surrogate Standard: STD75032
CCV: STD75490 LCS: STD75403 MS/MSD: STD75403

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG563535

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M411217	WG563534-01 50ng BFB STD 8260	NA	1	1	STD75485	04/05/16 09:48
8M411218	WG563534-02 50ug/L CCV STD 8260	NA	1	1	STD75490	04/05/16 10:11
8M411219	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD75328	04/05/16 10:40
8M411220	WG563535-01 VBLK0405 BLANK STD 826	NA	1	1		04/05/16 11:09
8M411221	L16031504-11 B 826-SPE	<2	1	1		04/05/16 11:38
8M411222	WG563535-02 20ug/L LCS STD 8260	NA	1	1	STD75403	04/05/16 12:08
8M411223	L16031583-01 B 5X REF 826-SPE	<2	1	5		04/05/16 12:37
8M411224	L16031583-02 B 5X MS 826-SPE	5	1	5	STD75403	04/05/16 13:06
8M411225	L16031583-03 B 5X MSD 826-SPE	3	1	5	STD75403	04/05/16 13:35
8M411226	L16031583-06 B 100X 826-SPE D1	6	1	100		04/05/16 14:04
8M411227	L16031504-06 B 826-SPE	<2	1	1		04/05/16 14:34
8M411228	L16031504-03 B 826-SPE	<2	1	1		04/05/16 15:03
8M411229	L16031504-05 A 10X 826-SPE D1	<2	1	10		04/05/16 15:39
8M411230	L16031715-04 A TB 826-SPE	<2	1	1		04/05/16 16:08
8M411231	L16031613-02 A TB 826-LOW	<2	1	1		04/05/16 16:38
8M411232	L16031614-03 A TB 826-LOW	<2	1	1		04/05/16 17:07
8M411233	L16031616-03 A TB 826-LOW	<2	1	1		04/05/16 17:36
8M411234	L16031715-01 A EB 826-SPE	<2	1	1		04/05/16 18:06
8M411235	L16031614-01 A 826-LOW	<2	1	1		04/05/16 18:36
8M411236	L16031614-02 A 826-LOW	<2	1	1		04/05/16 19:06
8M411237	L16031616-01 A 826-LOW	<2	1	1		04/05/16 19:36
8M411238	L16031616-02 A 826-LOW	<2	1	1		04/05/16 20:05
8M411239	L16031613-01 A 826-LOW	<2	1	1		04/05/16 20:34
8M411240	L16031715-02 A 10X 826-SPE	6	1	10		04/05/16 21:03
8M411241	L16031715-03 A 10X 826-SPE	6	1	10		04/05/16 21:32
8M411242	CCV	NA	1	1		04/05/16 22:01
8M411243	RINSE	NA	1	1		04/05/16 22:30
8M411244	RINSE	NA	1	1		04/05/16 22:59
8M411245	RINSE	NA	1	1		04/05/16 23:27

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3				

Approved: April 07, 2016
Sarah Vandenberg

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 040516

Analyst1: TMB Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 23

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53693

Internal Standard: STD75032 Surrogate Standard: STD75032

CCV: STD75490 LCS: STD75403 MS/MSD: STD75403

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG563535

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 8M411219				
Not needed, DNR.				
20	X	20	Over Calibration Range	11-DCE
File ID: 8M411236				
21	X	1	Carry-over contamination	
File ID: 8M411237				
23	X	10	Over Calibration Range	PCE
File ID: 8M411239				
24	X	250	Over Calibration Range	VC, CIS12-DCE, 12-DCP
File ID: 8M411240				
25	X	500	Over Calibration Range	12-DCP
File ID: 8M411241				

Approved: April 07, 2016

Sarah Vandenberg

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 040616
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 23
Method: 624 SOP: MSV10 Rev: 14
Method: 5030B/5030C/5035S SOP: PAT01 Rev: 18
Maintenance Log ID: 53696

Internal Standard: STD75032 Surrogate Standard: STD75032
CCV: STD75490; STD75328 LCS: STD75503 MS/MSD: STD75503

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG563757

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M411246	WG563756-01 50ng BFB STD 8260	NA	1	1	STD75485	04/06/16 12:26
8M411247	WG563756-01 50ng BFB STD 8260	NA	1	1	STD75485	04/06/16 12:41
8M411248	WG563756-02 50ug/L CCV STD 8260	NA	1	1	STD75490	04/06/16 13:04
8M411249	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD75328	04/06/16 13:35
8M411250	WG563757-01 VBLK0406 BLANK STD 826	NA	1	1		04/06/16 14:05
8M411251	L16040001-01 LOD 826-SPE	NA	1	1	STD75504	04/06/16 14:35
8M411252	L16040003-01 LOQ 826-SPE	NA	1	1	STD75504	04/06/16 15:04
8M411253	L16040003-09 826-SPE	NA	1	1	STD75504	04/06/16 15:33
8M411254	WG563757-02 20ug/L LCS STD 8260	NA	1	1	STD75503	04/06/16 16:02
8M411255	L16040278-02 A MS 826-SPE	6	1	1	STD75503	04/06/16 16:31
8M411256	L16040278-03 A MSD 826-SPE	6	1	1	STD75503	04/06/16 17:00
8M411257	L16031613-01 B 10X 826-LOW D1	<2	1	10		04/06/16 17:29
8M411258	L16031614-02 B 20X 826-LOW D1	<2	1	20		04/06/16 17:58
8M411259	L16031715-02 B 250X 826-SPE D1	6	1	250		04/06/16 18:28
8M411260	L16031715-03 B 500X 826-SPE D1	6	1	500		04/06/16 18:57
8M411261	L16031616-01 B 826-LOW	<2	1	1		04/06/16 19:26
8M411262	L16040278-01 A REF 826-SPE	6	1	1		04/06/16 19:56
8M411263	L16040278-04 A TB 826-SPE	5	1	1		04/06/16 20:25
8M411264	L16040280-01 A TB 826-LOW	<2	1	1		04/06/16 20:55
8M411265	L16040280-05 A FB 826-LOW	<2	1	1		04/06/16 21:24
8M411266	L16040280-08 A ER 826-LOW	<2	1	1		04/06/16 21:54
8M411267	L16040280-02 A 826-LOW	<2	1	1		04/06/16 22:23
8M411268	L16040280-07 A 826-LOW	<2	1	1		04/06/16 22:52
8M411269	L16040280-03 A 826-LOW	<2	1	1		04/06/16 23:21
8M411270	L16040280-04 A 826-LOW	<2	1	1		04/06/16 23:51
8M411271	L16040280-06 A 826-LOW	<2	1	1		04/07/16 00:20
8M411272	RINSE	NA	1	1		04/07/16 00:50
8M411273	WG563757-06 VBLK0406 BLANK STD 624	NA	2	1		04/07/16 01:19
8M411274	L16040198-03 A 624-SPE	5	2	1		04/07/16 01:49
8M411275	L16040158-02 A 624-SPE1	6	2	1		04/07/16 02:18
8M411276	CCV	NA	1	1		04/07/16 02:48
8M411277	RINSE	NA	1	1		04/07/16 03:17
8M411278	RINSE	NA	1	1		04/07/16 03:46

Approved: April 08, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS8	Dataset:	040616		
Analyst1:	TMB	Analyst2:	NA		
Method:	8260B	SOP:	MSV01	Rev:	23
Method:	624	SOP:	MSV10	Rev:	14
Method:	5030B/5030C/5035S	SOP:	PAT01	Rev:	18
Maintenance Log ID:	53696				

Internal Standard:	STD75032	Surrogate Standard:	STD75032		
CCV:	STD75490; STD75328	LCS:	STD75503	MS/MSD:	STD75503

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG563757

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 8M411246				
	Tune failed, DNR.			
6	X			
File ID: 8M411251				
	Rerun for DCDF.			
7	X			
File ID: 8M411252				
	Rerun for DCDF.			
8	X			
File ID: 8M411253				
	Rerun for DCDF.			

Approved: April 08, 2016

Microbac Laboratories Inc.

Data Checklist

Date: 05-OCT-2015
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 70874
Analytical Workgroups: WG540826

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
06-OCT-2015
Tiffany Bailey

Secondary Reviewer:
09-OCT-2015

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-09-2015 12:12:03

Microbac Laboratories Inc.

Data Checklist

Date: 17-FEB-2016
Analyst: TMB
Analyst: NA
Method: 8260B/OVAP/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 73351
Analytical Workgroups: WG556046

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
18-FEB-2016
Tiffany Bailey

Secondary Reviewer:
18-FEB-2016

CHECKLIST1 - Modified 03/05/2008
Generated: FEB-18-2016 14:47:54

Microbac Laboratories Inc.

Data Checklist

Date: 05-APR-2016
Analyst: TMB
Analyst: NA
Method: 8260B
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 74281
Analytical Workgroups: WG563535

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	SAV
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
06-APR-2016
Tiffany Bailey

Secondary Reviewer:
07-APR-2016
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: APR-07-2016 10:56:45

Microbac Laboratories Inc.

Data Checklist

Date: 06-APR-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS/
Curve Workgroup: NA
Runlog ID: 74309
Analytical Workgroups: WG563757

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	TMB
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	X
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
07-APR-2016
Tiffany Bailey

Secondary Reviewer:
08-APR-2016

CHECKLIST1 - Modified 03/05/2008
Generated: APR-08-2016 13:26:02

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG563535

Login Number: L16031614

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW03-032916	01	03/29/16					04/05/2016	7.4	14		04/05/16	7.4	14	
67WW01-032916	02	03/29/16					04/05/2016	7.5	14		04/05/16	7.5	14	
TRIP BLANK	03	03/29/16					04/05/2016	7.4	14		04/05/16	7.4	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4704455
Report generated 04/08/2016 13:22

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG563757

Login Number: L16031614

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW01-032916	02	03/29/16					04/06/2016	8.4	14		04/06/16	8.4	14	

*** = SEE PROJECT QAPP REQUIREMENTS**

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4704455
Report generated 04/08/2016 13:22

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16031614
Instrument Id: HPMS8
Workgroup (AAB#): WG563535

Method: 8260
CAL ID: HPMS8-17-FEB-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16031614-01	1.00	01	100	99.2	95.8	92.9
L16031614-02	1.00	01	97.5	100	96.2	93.3
L16031614-03	1.00	01	98.6	97.3	95.8	91.3
WG563535-01	1.00	01	92.9	95.9	95.9	93.0
WG563535-02	1.00	01	93.4	97.9	89.3	92.8

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4704464
Report generated: 04/08/2016 13:23

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16031614
Instrument Id: HPMS8
Workgroup (AAB#): WG563757

Method: 8260
CAL ID: HPMS8-17-FEB-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16031614-02	20.0	DL01	100	97.7	95.6	96.3
WG563757-01	1.00	01	97.4	96.4	96.2	95.1
WG563757-02	1.00	01	98.3	96.1	90.4	94.8
WG563757-06	1.00	01	96.5	98.8	97.6	96.6

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4704464
Report generated: 04/08/2016 13:23

METHOD BLANK SUMMARY

Login Number:	L16031614	Work Group:	WG563535
Blank File ID:	8M411220	Blank Sample ID:	WG563535-01
Prep Date:	04/05/16 11:09	Instrument ID:	HPMS8
Analyzed Date:	04/05/16 11:09	Method:	8260B
Analyst:	TMB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG563535-02	8M411222	04/05/16 12:08	01
TRIP BLANK	L16031614-03	8M411232	04/05/16 17:07	01
67WW03-032916	L16031614-01	8M411235	04/05/16 18:36	01
67WW01-032916	L16031614-02	8M411236	04/05/16 19:06	01

Report Name: BLANK_SUMMARY
PDF File ID: 4707800
Report generated 04/08/2016 13:22

METHOD BLANK SUMMARY

Login Number:	L16031614	**Work Group:**	WG563757
Blank File ID:	8M411250	**Blank Sample ID:**	WG563757-01
Prep Date:	04/06/16 14:05	**Instrument ID:**	HPMS8
Analyzed Date:	04/06/16 14:05	**Method:**	8260B
Analyst:	TMB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG563757-02	8M411254	04/06/16 16:02	01
67WW01-032916	L16031614-02	8M411258	04/06/16 17:58	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4707800
Report generated 04/08/2016 13:22

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16031614 Prep Date:04/05/16 11:09 Sample ID:WG563535-01
Instrument ID:HPMS8 Run Date:04/05/16 11:09 Prep Method:5030B/5030C/503
File ID:8M411220 Analyst:TMB Method:8260B
Workgroup (AAB#):WG563535 Matrix:Water Units:ug/L
Contract #: Cal ID: HPMS8-17-FEB-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4707801
08-APR-2016 13:22

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16031614 Prep Date: 04/05/16 11:09 Sample ID: WG563535-01
Instrument ID: HPMS8 Run Date: 04/05/16 11:09 Prep Method: 5030B/5030C/503
File ID: 8M411220 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563535 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-17-FEB-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.9	85 - 115	PASS
1,2-Dichloroethane-d4	92.9	70 - 120	PASS
Toluene-d8	93.0	85 - 120	PASS
4-Bromofluorobenzene	95.9	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4707801
08-APR-2016 13:22

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16031614 Prep Date: 04/06/16 14:05 Sample ID: WG563757-01
Instrument ID: HPMS8 Run Date: 04/06/16 14:05 Prep Method: 5030B/5030C/503
File ID: 8M411250 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563757 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-17-FEB-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4707801
08-APR-2016 13:22

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16031614 Prep Date: 04/06/16 14:05 Sample ID: WG563757-01
Instrument ID: HPMS8 Run Date: 04/06/16 14:05 Prep Method: 5030B/5030C/503
File ID: 8M411250 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563757 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-17-FEB-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	96.4	85 - 115	PASS
1,2-Dichloroethane-d4	97.4	70 - 120	PASS
Toluene-d8	95.1	85 - 120	PASS
4-Bromofluorobenzene	96.2	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4707801
08-APR-2016 13:22

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16031614 Run Date: 04/05/2016 Sample ID: WG563535-02
Instrument ID: HPMS8 Run Time: 12:08 Prep Method: 5030B/5030C/503
File ID: 8M411222 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563535 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD75403 Cal ID: HPMS8-17-FEB-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	25.7	129	40 - 140	
Benzene	20.0	23.8	119	80 - 120	
Bromobenzene	20.0	18.2	91.0	75 - 125	
Bromochloromethane	20.0	22.5	112	65 - 130	
Bromodichloromethane	20.0	22.9	114	75 - 120	
Bromoform	20.0	19.1	95.7	70 - 130	
Bromomethane	20.0	12.7	63.3	30 - 145	
2-Butanone	20.0	25.1	126	30 - 150	
n-Butylbenzene	20.0	19.8	99.0	70 - 135	
sec-Butylbenzene	20.0	20.4	102	70 - 125	
tert-Butylbenzene	20.0	18.7	93.7	70 - 130	
Carbon disulfide	20.0	20.2	101	35 - 160	
Carbon tetrachloride	20.0	21.8	109	65 - 140	
Chlorobenzene	20.0	21.4	107	80 - 120	
Chlorodibromomethane	20.0	20.9	105	60 - 135	
Chloroethane	20.0	25.6	128	60 - 135	
Chloroform	20.0	23.0	115	65 - 135	
Chloromethane	20.0	25.6	128	40 - 125	*
2-Chlorotoluene	20.0	19.1	95.6	75 - 125	
4-Chlorotoluene	20.0	20.4	102	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.6	92.8	50 - 130	
1,2-Dibromoethane	20.0	20.7	104	80 - 120	
Dibromomethane	20.0	21.9	109	75 - 125	
1,2-Dichlorobenzene	20.0	19.9	99.5	70 - 120	
1,3-Dichlorobenzene	20.0	19.6	98.1	75 - 125	
1,4-Dichlorobenzene	20.0	19.6	98.2	75 - 125	
Dichlorodifluoromethane	20.0	26.1	130	30 - 155	
1,1-Dichloroethane	20.0	22.5	112	70 - 135	
1,2-Dichloroethane	20.0	23.5	117	70 - 130	
1,1-Dichloroethene	20.0	22.3	111	70 - 130	
cis-1,2-Dichloroethene	20.0	23.6	118	70 - 125	
trans-1,2-Dichloroethene	20.0	23.2	116	60 - 140	
1,2-Dichloropropane	20.0	25.4	127	75 - 125	*
1,3-Dichloropropane	20.0	22.4	112	75 - 125	
2,2-Dichloropropane	20.0	23.4	117	70 - 135	
cis-1,3-Dichloropropene	20.0	25.9	129	70 - 130	
trans-1,3-Dichloropropene	20.0	20.9	104	55 - 140	
1,1-Dichloropropene	20.0	21.4	107	75 - 130	
Ethylbenzene	20.0	20.1	101	75 - 125	
2-Hexanone	20.0	21.5	107	55 - 130	
Hexachlorobutadiene	20.0	18.4	92.2	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4704456
Report generated: 04/08/2016 13:22

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16031614 Run Date: 04/05/2016 Sample ID: WG563535-02
Instrument ID: HPMS8 Run Time: 12:08 Prep Method: 5030B/5030C/503
File ID: 8M411222 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563535 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD75403 Cal ID: HPMS8-17-FEB-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	22.2	111	75 - 125	
p-Isopropyltoluene	20.0	19.7	98.4	75 - 130	
4-Methyl-2-pentanone	20.0	22.4	112	60 - 135	
Methylene chloride	20.0	22.4	112	55 - 140	
Naphthalene	20.0	16.7	83.4	55 - 140	
n-Propylbenzene	20.0	20.5	103	70 - 130	
Styrene	20.0	22.4	112	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	20.4	102	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.8	98.8	65 - 130	
Tetrachloroethene	20.0	19.3	96.5	45 - 150	
Toluene	20.0	21.6	108	75 - 120	
1,2,3-Trichlorobenzene	20.0	17.9	89.3	55 - 140	
1,2,4-Trichlorobenzene	20.0	18.0	89.8	65 - 135	
1,1,1-Trichloroethane	20.0	22.2	111	65 - 130	
1,1,2-Trichloroethane	20.0	21.4	107	75 - 125	
Trichloroethene	20.0	22.3	111	70 - 125	
Trichlorofluoromethane	20.0	21.9	109	60 - 145	
1,2,3-Trichloropropane	20.0	18.7	93.7	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.0	100	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.1	100	75 - 130	
Vinyl chloride	20.0	24.4	122	50 - 145	
o-Xylene	20.0	20.8	104	80 - 120	
m-,p-Xylene	40.0	42.7	107	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	97.9	85 - 115	PASS
1,2-Dichloroethane-d4	93.4	70 - 120	PASS
Toluene-d8	92.8	85 - 120	PASS
4-Bromofluorobenzene	89.3	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4704456
Report generated: 04/08/2016 13:22

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16031614 Run Date: 04/06/2016 Sample ID: WG563757-02
Instrument ID: HPMS8 Run Time: 16:02 Prep Method: 5030B/5030C/503
File ID: 8M411254 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563757 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD75503 Cal ID: HPMS8-17-FEB-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	25.1	126	40 - 140	
Benzene	20.0	22.2	111	80 - 120	
Bromobenzene	20.0	19.2	95.9	75 - 125	
Bromochloromethane	20.0	21.5	107	65 - 130	
Bromodichloromethane	20.0	22.5	112	75 - 120	
Bromoform	20.0	20.9	105	70 - 130	
Bromomethane	20.0	10.8	53.8	30 - 145	
2-Butanone	20.0	26.4	132	30 - 150	
n-Butylbenzene	20.0	20.4	102	70 - 135	
sec-Butylbenzene	20.0	21.1	106	70 - 125	
tert-Butylbenzene	20.0	19.7	98.3	70 - 130	
Carbon disulfide	20.0	20.1	101	35 - 160	
Carbon tetrachloride	20.0	20.4	102	65 - 140	
Chlorobenzene	20.0	21.3	106	80 - 120	
Chlorodibromomethane	20.0	21.4	107	60 - 135	
Chloroethane	20.0	18.2	90.9	60 - 135	
Chloroform	20.0	21.5	107	65 - 135	
Chloromethane	20.0	12.0	60.0	40 - 125	
2-Chlorotoluene	20.0	19.1	95.4	75 - 125	
4-Chlorotoluene	20.0	21.4	107	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	20.9	104	50 - 130	
1,2-Dibromoethane	20.0	22.3	111	80 - 120	
Dibromomethane	20.0	22.7	113	75 - 125	
1,2-Dichlorobenzene	20.0	21.4	107	70 - 120	
1,3-Dichlorobenzene	20.0	20.4	102	75 - 125	
1,4-Dichlorobenzene	20.0	20.7	103	75 - 125	
Dichlorodifluoromethane	20.0	5.00	25.0	30 - 155	*
1,1-Dichloroethane	20.0	20.8	104	70 - 135	
1,2-Dichloroethane	20.0	22.9	114	70 - 130	
1,1-Dichloroethene	20.0	18.8	94.2	70 - 130	
cis-1,2-Dichloroethene	20.0	21.8	109	70 - 125	
trans-1,2-Dichloroethene	20.0	21.0	105	60 - 140	
1,2-Dichloropropane	20.0	23.7	118	75 - 125	
1,3-Dichloropropane	20.0	23.4	117	75 - 125	
2,2-Dichloropropane	20.0	20.3	102	70 - 135	
cis-1,3-Dichloropropene	20.0	24.4	122	70 - 130	
trans-1,3-Dichloropropene	20.0	21.7	109	55 - 140	
1,1-Dichloropropene	20.0	19.5	97.6	75 - 130	
Ethylbenzene	20.0	19.8	99.1	75 - 125	
2-Hexanone	20.0	23.3	117	55 - 130	
Hexachlorobutadiene	20.0	18.9	94.5	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4704456
Report generated: 04/08/2016 13:22

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16031614 Run Date: 04/06/2016 Sample ID: WG563757-02
Instrument ID: HPMS8 Run Time: 16:02 Prep Method: 5030B/5030C/503
File ID: 8M411254 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG563757 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD75503 Cal ID: HPMS8-17-FEB-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	22.3	111	75 - 125	
p-Isopropyltoluene	20.0	20.3	101	75 - 130	
4-Methyl-2-pentanone	20.0	24.6	123	60 - 135	
Methylene chloride	20.0	20.8	104	55 - 140	
Naphthalene	20.0	19.2	96.1	55 - 140	
n-Propylbenzene	20.0	21.0	105	70 - 130	
Styrene	20.0	22.4	112	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	20.4	102	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	21.9	109	65 - 130	
Tetrachloroethene	20.0	18.8	93.8	45 - 150	
Toluene	20.0	21.5	108	75 - 120	
1,2,3-Trichlorobenzene	20.0	19.8	99.2	55 - 140	
1,2,4-Trichlorobenzene	20.0	19.3	96.5	65 - 135	
1,1,1-Trichloroethane	20.0	20.5	103	65 - 130	
1,1,2-Trichloroethane	20.0	22.1	110	75 - 125	
Trichloroethene	20.0	21.4	107	70 - 125	
Trichlorofluoromethane	20.0	17.2	85.9	60 - 145	
1,2,3-Trichloropropane	20.0	21.3	107	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.7	103	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.6	103	75 - 130	
Vinyl chloride	20.0	14.2	70.8	50 - 145	
o-Xylene	20.0	20.6	103	80 - 120	
m-,p-Xylene	40.0	43.3	108	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	96.1	85 - 115	PASS
1,2-Dichloroethane-d4	98.3	70 - 120	PASS
Toluene-d8	94.8	85 - 120	PASS
4-Bromofluorobenzene	90.4	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4704456
Report generated: 04/08/2016 13:22

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16031614
Instrument: HPMS8
Analyst: TMB
Workgroup: WG540826

Tune ID: WG540826-01
Run Date: 10/05/2015
Run Time: 11:26
File ID: 8M407827
Cal ID: HPMS8-05-OCT-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.7	8565	PASS
75.0	95.0	30.0	60.0	52.2	18121	PASS
95.0	95.0	100	100	100	34714	PASS
96.0	95.0	5.00	9.00	6.52	2262	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.2	25773	PASS
175	174	5.00	9.00	7.16	1845	PASS
176	174	95.0	101	98.5	25378	PASS
177	176	5.00	9.00	6.88	1746	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG540826-02	STD	01	10/05/2015 11:49	
WG540826-03	STD	01	10/05/2015 12:17	
WG540826-04	STD	01	10/05/2015 12:51	
WG540826-05	STD-CCV	01	10/05/2015 13:20	
WG540826-06	STD	01	10/05/2015 13:49	
WG540826-07	STD	01	10/05/2015 14:17	
WG540826-08	STD	01	10/05/2015 14:47	
WG540826-09	STD	01	10/05/2015 15:15	
WG540826-10	SSCV	01	10/05/2015 16:48	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4704459
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16031614
Instrument: HPMS8
Analyst: TMB
Workgroup: WG556046

Tune ID: WG556046-01
Run Date: 02/17/2016
Run Time: 14:25
File ID: 8M410192
Cal ID: HPMS8 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.3	10897	PASS
75.0	95.0	30.0	60.0	52.3	21632	PASS
95.0	95.0	100	100	100	41381	PASS
96.0	95.0	5.00	9.00	6.35	2628	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	69.5	28751	PASS
175	174	5.00	9.00	7.35	2112	PASS
176	174	95.0	101	95.5	27459	PASS
177	176	5.00	9.00	6.72	1846	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG556046-02	STD	01	02/17/2016 14:49	
WG556046-03	STD	01	02/17/2016 15:18	
WG556046-04	STD	01	02/17/2016 15:47	
WG556046-05	STD	01	02/17/2016 16:23	
WG556046-06	STD	01	02/17/2016 16:52	
WG556046-07	STD	01	02/17/2016 17:21	
WG556046-08	STD-CCV	01	02/17/2016 17:50	
WG556046-09	STD	01	02/17/2016 18:19	
WG556046-10	STD	01	02/17/2016 18:49	
WG556046-11	STD	01	02/17/2016 19:18	
WG556046-12	SSCV	01	02/17/2016 20:44	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4704459
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16031614
Instrument: HPMS8
Analyst: TMB
Workgroup: WG563534

Tune ID: WG563534-01
Run Date: 04/05/2016
Run Time: 09:48
File ID: 8M411217
Cal ID: HPMS8-17-FEB-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	29.1	13211	PASS
75.0	95.0	30.0	60.0	53.8	24445	PASS
95.0	95.0	100	100	100	45421	PASS
96.0	95.0	5.00	9.00	6.13	2785	PASS
173	174	0	2.00	0.305	101	PASS
174	95.0	50.0	100	73.0	33149	PASS
175	174	5.00	9.00	8.21	2721	PASS
176	174	95.0	101	98.4	32632	PASS
177	176	5.00	9.00	5.93	1934	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG563534-02	CCV	01	04/05/2016 10:11	
WG563535-01	BLANK	01	04/05/2016 11:09	
WG563535-02	LCS	01	04/05/2016 12:08	
L16031614-03	TRIP BLANK	01	04/05/2016 17:07	
L16031614-01	67WW03-032916	01	04/05/2016 18:36	
L16031614-02	67WW01-032916	01	04/05/2016 19:06	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4704459
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16031614
Instrument: HPMS8
Analyst: TMB
Workgroup: WG563756

Tune ID: WG563756-01
Run Date: 04/06/2016
Run Time: 12:41
File ID: 8M411247
Cal ID: HPMS8-17-FEB-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	27.1	12100	PASS
75.0	95.0	30.0	60.0	54.1	24136	PASS
95.0	95.0	100	100	100	44610	PASS
96.0	95.0	5.00	9.00	6.40	2855	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	67.8	30224	PASS
175	174	5.00	9.00	7.71	2331	PASS
176	174	95.0	101	97.9	29596	PASS
177	176	5.00	9.00	7.76	2298	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG563756-02	CCV	01	04/06/2016 13:04	
WG563757-01	BLANK	01	04/06/2016 14:05	
WG563757-02	LCS	01	04/06/2016 16:02	
L16031614-02	67WW01-032916	DL01	04/06/2016 17:58	
WG563757-06	BLANK2	01	04/07/2016 01:19	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4704459
Report generated 04/08/2016 13:23

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Calibration: Tue Oct 06 11:55:21 2015
Curve: WG540826
Calibration Files

	Compound	5 8M407828.D	20 8M407829.D	50 8M407830.D	100 8M407831.D	200 8M407832.D	300 8M407833.D	400 8M407834.D	500 8M407835.D	Avg	%RSD
I	Fluorobenzene	ISTD									
T	Acetonitrile	0.020	0.019	0.020	0.019	0.019	0.019	0.019	0.019	0.019	3.019
T	3-Chloro-1-propene	0.474	0.484	0.476	0.471	0.484	0.465	0.458	0.432	0.468	3.632
T	2-Chloro-1,3-butadiene	0.448	0.481	0.482	0.486	0.514	0.495	0.486	0.460	0.481	4.206
T	Ethyl Acetate	0.104	0.129	0.132	0.131	0.132	0.128	0.128	0.133	0.127	7.528
T	Methacrylonitrile	0.046	0.055	0.058	0.057	0.057	0.056	0.057	0.060	0.056	7.551
T	Isobutyl Alcohol			0.005	0.005	0.005	0.005	0.005	0.006	0.005	4.964
T	1-Butanol			0.002	0.002	0.003	0.003	0.003	0.003	0.003	10.874
T	Methyl methacrylate	0.120	0.147	0.158	0.162	0.162	0.158	0.160	0.165	0.154	9.638
T	2-Nitropropane			0.021	0.022	0.025	0.026	0.029	0.031	0.026	14.916
I	Chlorobenzene-d5	ISTD									
I	1,4-Dichlorobenzene-d4	ISTD									
T	Cyclohexanone			0.057	0.052	0.054	0.051	0.052	0.054	0.053	3.733

Tue Oct 06 11:57:17 2015

Calibration Table Report
Method: 8260WTR.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Calibration: Thu Feb 18 08:44:45 2016
Curve: WG556046
Calibration Files

	Compound	0.3 8M410193.D	0.4 8M410194.D	1 8M410195.D	2 8M410196.D	5 8M410197.D	20 8M410198.D	50 8M410199.D	100 8M410200.D	200 8M410201.D	300 8M410202.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane		0.351	0.368	0.381	0.370	0.437	0.432	0.397	0.419	0.392	0.394	7.613		
P	Chloromethane			0.707	0.649	0.626	0.626	0.615	0.566	0.551	0.480	0.603	11.422		
C	Vinyl Chloride		0.412	0.459	0.470	0.454	0.465	0.439	0.384	0.371	0.321	0.419	12.261		
T	1,3-Butadiene				0.468	0.454	0.468	0.355	0.226	0.195	0.166	0.333	40.602		1.004
T	Bromomethane			0.176	0.192	0.188	0.189	0.201	0.199	0.226	0.223	0.199	8.574		
T	Chloroethane		0.157	0.179	0.185	0.187	0.194	0.195	0.190	0.209	0.209	0.190	8.249		
T	Trichlorofluoromethane		0.356	0.451	0.464	0.443	0.470	0.461	0.446	0.483	0.472	0.450	8.291		
T	Diethyl ether			0.159	0.167	0.162	0.156	0.160	0.173		0.175	0.165	4.394		
T	Isoprene		0.239	0.290	0.300	0.308	0.313	0.308	0.316	0.331	0.337	0.305	9.366		
T	Acrolein			0.021	0.026	0.025	0.025	0.025	0.027		0.030	0.026	10.130		
T	1,1,2-Trichloro-1,2,2-Trifluoroethane			0.229	0.245	0.247	0.247	0.245	0.236	0.261	0.254	0.245	4.026		
T	Acetone					0.043	0.042	0.042	0.040	0.041	0.037	0.041	5.295		
C	1,1-Dichloroethene		0.349	0.473	0.461	0.452	0.465	0.464	0.453	0.484	0.465	0.452	8.789		
T	Tert-Butyl Alcohol				0.011	0.010	0.011	0.010	0.011		0.009	0.010	8.176		
T	Dimethyl Sulfide		0.155	0.187	0.196	0.198	0.203	0.198	0.210	0.216	0.217	0.198	9.528		
T	Iodomethane			0.037	0.051	0.089	0.127	0.153	0.162	0.165	0.156	0.118	44.182		0.999
T	Methyl acetate					0.118	0.110	0.110	0.121	0.113	0.114	0.114	4.080		
T	Methylene Chloride			0.221	0.259	0.242	0.248	0.250	0.247	0.259	0.253	0.247	4.891		
T	Carbon Disulfide			0.778	0.815	0.773	0.806	0.774	0.770	0.766	0.728	0.776	3.390		
T	Acrylonitrile			0.046	0.055	0.053	0.053	0.060	0.065		0.071	0.058	14.747		
T	Methyl Tert Butyl Ether			0.480	0.497	0.506	0.495	0.504	0.523	0.516	0.496	0.502	2.688		
T	trans-1,2-Dichloroethene		0.341	0.421	0.427	0.423	0.430	0.436	0.430	0.457	0.436	0.422	7.643		
T	n-Hexane					0.364	0.355	0.338	0.348	0.376	0.378	0.360	4.412		
T	Diisopropyl ether			0.927	0.975	0.936	0.927	0.940	0.963		0.899	0.938	2.651		
T	Vinyl Acetate				0.430	0.422	0.430	0.428	0.448	0.431	0.429	0.431	1.806		
P	1,1-Dichloroethane		0.447	0.520	0.526	0.536	0.540	0.546	0.536	0.561	0.530	0.527	6.147		
T	Ethyl-Tert-Butyl ether			0.711	0.774	0.740	0.747	0.760	0.793		0.741	0.752	3.518		
T	2-Butanone					0.060	0.063	0.063	0.070	0.065	0.065	0.064	5.543		
T	Propionitrile			0.014	0.017	0.019	0.019	0.019	0.021		0.021	0.018	11.798		
T	2,2-Dichloropropane		0.382	0.424	0.435	0.440	0.400	0.404	0.409	0.428	0.408	0.414	4.495		
T	cis-1,2-Dichloroethene		0.237	0.254	0.275	0.279	0.278	0.280	0.275	0.290	0.280	0.272	5.979		
C	Chloroform	0.478	0.380	0.479	0.469	0.487	0.484	0.486	0.475	0.487	0.450	0.467	6.993		
T	1-Bromopropane			0.025	0.030	0.038	0.040	0.039	0.039	0.040	0.041	0.036	15.643	1.000	
T	Bromochloromethane		0.091	0.143	0.126	0.147	0.141	0.144	0.144	0.147	0.141	0.136	13.184		
T	Tetrahydrofuran			0.050	0.044	0.040	0.040	0.041	0.044		0.043	0.043	8.308		
S	Dibromofluoromethane			0.256	0.246	0.251	0.265	0.257	0.260	0.261	0.257	0.257	2.232		
T	1,1,1-Trichloroethane		0.381	0.405	0.430	0.434	0.435	0.437	0.431	0.455	0.431	0.427	4.995		
T	Cyclohexane			0.463	0.487	0.477	0.505	0.483	0.493	0.530	0.534	0.496	5.074		
T	1,1-Dichloropropene			0.374	0.376	0.367	0.367	0.371	0.362	0.385	0.368	0.371	1.869		
T	Tert-Amyl-Methyl ether			0.506	0.545	0.522	0.516	0.529	0.559		0.525	0.529	3.406		
T	Carbon Tetrachloride		0.326	0.366	0.396	0.388	0.399	0.408	0.397	0.417	0.397	0.3882	7.02026		
S	1,2-Dichloroethane-d4			0.28	0.262	0.274	0.28	0.279	0.282	0.276	0.266	0.2748	2.6686		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.292	0.366	0.357	0.366	0.362	0.371	0.371	0.369	0.342	0.3551	7.17543		
T	Benzene		0.865	1.032	1.016	1.033	1.022	1.017	0.968	0.933	0.816	0.967	8.25646		
T	Trichloroethene		0.209	0.271	0.272	0.266	0.266	0.266	0.259	0.272	0.264	0.2604	7.60614		
T	Methylcyclohexane					0.359	0.384	0.367	0.367	0.387	0.386	0.375	3.19985		
C	1,2-Dichloropropane		0.185	0.262	0.269	0.284	0.281	0.288	0.284	0.299	0.294	0.2719	12.7406		
T	Bromodichloromethane		0.251	0.354	0.342	0.356	0.357	0.364	0.364	0.368	0.348	0.3451	10.5088		
T	1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.0011	14.1931		
T	Dibromomethane		0.087	0.111	0.123	0.131	0.129	0.132	0.133	0.134	0.13	0.1234	12.391		
T	2-Chloroethyl Vinyl Ether				0.105	0.114	0.116	0.122	0.128	0.124	0.119	0.1183	6.24286		
T	4-Methyl-2-Pentanone					0.052	0.053	0.055	0.058	0.056	0.057	0.0551	4.31412		
T	cis-1,3-Dichloropropene		0.265	0.386	0.361	0.391	0.39	0.4	0.4	0.405	0.383	0.3756	11.5897		

T	Dimethyl Disulfide					0.162	0.192	0.199	0.211	0.213	0.211	0.198	9.81879	
I	Chlorobenzene-d5	ISTD												
S	Toluene-d8			1.316	1.165	1.244	1.298	1.265	1.231	1.204	1.152	1.2344	4.76846	
C	Toluene		1.245	1.503	1.474	1.507	1.504	1.488	1.408	1.308	1.101	1.3931	10.3952	
T	Ethyl Methacrylate			0.219	0.254	0.256	0.284	0.278	0.3	0.283	0.278	0.2691	9.32864	
T	Paraldehyde											0	0	
T	trans-1,3-Dichloropropene			0.438	0.435	0.461	0.47	0.489	0.501	0.482	0.45	0.4656	5.15607	
T	1,1,2-Trichloroethane		0.164	0.201	0.219	0.233	0.233	0.239	0.24	0.236	0.228	0.2215	11.1669	
T	2-Hexanone					0.059	0.067	0.069	0.076	0.071	0.072	0.0689	8.19995	
T	1,3-Dichloropropane		0.33	0.388	0.418	0.417	0.418	0.432	0.432	0.421	0.398	0.406	7.86782	
T	Tetrachloroethene		0.186	0.28	0.28	0.295	0.294	0.289	0.287	0.305	0.304	0.2798	13.0158	
T	Dibromochloromethane		0.228	0.29	0.279	0.3	0.317	0.335	0.336	0.331	0.317	0.3037	11.4256	
T	1,2-Dibromoethane		0.169	0.214	0.224	0.23	0.232	0.244	0.242	0.236	0.228	0.2242	10.0577	
T	1-Chlorohexane		0.404	0.45	0.475	0.504	0.496	0.48	0.484	0.482	0.476	0.4724	6.29469	
P	Chlorobenzene		0.849	0.989	0.959	1.025	0.982	1	0.977	0.957	0.841	0.9533	6.79068	
T	1,1,1,2-Tetrachloroethane		0.252	0.319	0.327	0.341	0.35	0.369	0.375	0.383	0.363	0.342	11.7428	
C	Ethylbenzene		0.453	0.515	0.552	0.55	0.551	0.558	0.562	0.599	0.569	0.5454	7.48715	
T	m-,p-Xylene		0.519	0.653	0.635	0.675	0.664	0.67	0.651	0.622	0.521	0.6234	9.75924	
T	o-Xylene			0.64	0.613	0.652	0.646	0.665	0.651	0.673	0.633	0.6466	2.9007	
T	Styrene		0.68	0.966	0.995	1.038	1.063	1.11	1.077	1.036	0.907	0.9859	13.1823	
P	Bromoform			0.144	0.156	0.165	0.174	0.194	0.195	0.189	0.184	0.175	10.6143	
T	Isopropylbenzene		1.377	1.617	1.614	1.683	1.69	1.695	1.59	1.428	1.183	1.5419	11.4107	
I	1,4-Dichlorobenzene-d4	ISTD												
P	1,1,2,2-Tetrachloroethane		0.358	0.494	0.519	0.525	0.508	0.542	0.539	0.513	0.499	0.4996	11.1252	
S	p-Bromofluorobenzene				0.839	1.01	1.018	0.977	0.968	1	0.985	0.9712	6.26503	
T	1,2,3-Trichloropropane			0.103	0.155	0.143	0.137	0.147	0.149	0.143	0.141	0.1398	11.3016	
T	trans-1,4-Dichloro-2-Butene			0.153	0.154	0.193	0.191	0.196	0.203	0.201	0.198	0.186	10.9928	
T	n-Propylbenzene		3.098	3.974	3.866	4.12	4.014	3.872	3.532	3.078		3.6942	11.14	
T	Bromobenzene	0.651	0.808	0.721	0.726	0.726	0.749	0.761	0.728	0.751	0.731	0.7353	5.36612	
T	1,3,5-Trimethylbenzene		2.266	2.707	2.643	2.797	2.797	2.779	2.633	2.497	2.088	2.5785	9.73874	
T	2-Chlorotoluene		2.378	2.661	2.489	2.516	2.443	2.493	2.286	2.444	2.006	2.4131	7.60285	
T	4-Chlorotoluene		1.872	2.489	2.416	2.66	2.584	2.559	2.431	1.921		2.3667	12.7271	
T	a-Methylstyrene					1.352	1.373	1.348	1.352	1.379	1.296	1.3502	2.17308	
T	tert-Butylbenzene			0.503	0.537	0.568	0.557	0.561	0.546	0.588	0.585	0.5556	4.94159	
T	1,2,4-Trimethylbenzene		2.284	2.83	2.74	2.918	2.92	2.903	2.731	2.528	2.094	2.661	11.2193	
T	sec-Butylbenzene			3.439	3.337	3.489	3.518	3.432	3.179	2.885	2.361	3.205	12.4661	
T	p-Isopropyltoluene			2.766	2.695	2.849	2.859	2.839	2.673	2.485	2.075	2.6551	9.99136	
T	1,3-Dichlorobenzene		1.162	1.531	1.517	1.551	1.524	1.559	1.49	1.479	1.343	1.4618	8.86916	
T	1,4-Dichlorobenzene	1.52	1.175	1.573	1.455	1.526	1.51	1.538	1.472	1.443		1.4681	7.99055	
T	n-Butylbenzene			2.784	2.906	2.915	2.893	2.823	2.636	2.411	2	2.671	11.9953	
T	1,2-Dichlorobenzene	1.201	1.043	1.287	1.323	1.333	1.342	1.379	1.315	1.294	1.193	1.2711	7.81151	
T	1,2-Dibromo-3-Chloropropane				0.06	0.093	0.091	0.099	0.102	0.097	0.092	0.0908	15.6405	0.998
T	1,2,4-Trichlorobenzene		0.767	0.935	0.912	0.967	0.946	1.001	0.962	0.948	0.891	0.9255	7.26883	
T	Hexachlorobutadiene		0.256	0.373	0.367	0.39	0.393	0.4	0.389	0.42	0.419	0.3785	13.0258	
T	Naphthalene		1.314	1.576	1.522	1.596	1.577	1.684	1.608	1.456	1.296	1.5143	8.83211	
T	1,2,3-Trichlorobenzene	0.787	0.686	0.717	0.757	0.801	0.781	0.835	0.808	0.788	0.741	0.77	5.84885	

Thu Feb 18 09:10:34 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16031614 Run Date: 02/17/2016 Sample ID: WG556046-12
Instrument ID: HPMS8 Run Time: 20:44 Method: 8260B
File ID: 8M410205 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG556046 Cal ID: HPMS8 - 17-FEB-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.9	ug/L	0.466	0.200	20	
1,1-Dichloroethene	CCC	50.0	49.2	ug/L	0.444	1.60	20	
1,2-Dichloropropane	CCC	50.0	54.1	ug/L	0.294	8.20	20	
Ethylbenzene	CCC	50.0	52.2	ug/L	0.569	4.40	20	
Toluene	CCC	50.0	53.5	ug/L	1.49	7.00	20	
Vinyl Chloride	CCC	50.0	42.6	ug/L	0.358	14.8	20	
Bromoform	SPCC	50.0	47.2	ug/L	0.165	5.50	20	
Chlorobenzene	SPCC	50.0	53.3	ug/L	1.02	6.70	20	
Chloromethane	SPCC	50.0	46.7	ug/L	0.563	6.50	20	
1,1-Dichloroethane	SPCC	50.0	49.3	ug/L	0.519	1.40	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.9	ug/L	0.488	2.30	20	
Acetone		50.0	50.4	ug/L	0.0413	0.900	20	
Benzene		50.0	51.8	ug/L	1.00	3.60	20	
Bromobenzene		50.0	49.7	ug/L	0.731	0.500	20	
Bromochloromethane		50.0	50.2	ug/L	0.137	0.400	20	
Bromodichloromethane		50.0	50.7	ug/L	0.350	1.30	20	
Bromomethane		50.0	49.6	ug/L	0.198	0.900	20	
2-Butanone		50.0	47.5	ug/L	0.0611	5.00	20	
n-Butylbenzene		50.0	52.3	ug/L	2.80	4.70	20	
sec-Butylbenzene		50.0	54.9	ug/L	3.52	9.70	20	
tert-Butylbenzene		50.0	53.2	ug/L	0.591	6.40	20	
Carbon Disulfide		50.0	48.0	ug/L	0.745	4.00	20	
Carbon Tetrachloride		50.0	49.6	ug/L	0.385	0.900	20	
Dibromochloromethane		50.0	51.8	ug/L	0.315	3.60	20	
Chloroethane		50.0	55.0	ug/L	0.209	10.1	20	
2-Chlorotoluene		50.0	52.9	ug/L	2.55	5.80	20	
4-Chlorotoluene		50.0	55.4	ug/L	2.62	10.7	20	
1,2-Dibromo-3-Chloropropane		50.0	48.3	ug/L	0.0920	3.40	20	
1,2-Dibromoethane		50.0	51.5	ug/L	0.231	3.00	20	
Dibromomethane		50.0	47.8	ug/L	0.118	4.40	20	
1,2-Dichlorobenzene		50.0	53.6	ug/L	1.36	7.30	20	
1,3-Dichlorobenzene		50.0	52.9	ug/L	1.55	5.90	20	
1,4-Dichlorobenzene		50.0	52.8	ug/L	1.55	5.60	20	
Dichlorodifluoromethane		50.0	52.5	ug/L	0.414	5.10	20	
1,2-Dichloroethane		50.0	50.1	ug/L	0.356	0.200	20	
cis-1,2-Dichloroethene		50.0	51.6	ug/L	0.281	3.20	20	
trans-1,2-Dichloroethene		50.0	52.8	ug/L	0.446	5.70	20	
1,3-Dichloropropane		50.0	54.7	ug/L	0.444	9.40	20	
2,2-Dichloropropane		50.0	50.4	ug/L	0.418	0.800	20	
cis-1,3-Dichloropropene		50.0	56.1	ug/L	0.421	12.2	20	
trans-1,3-Dichloropropene		50.0	51.1	ug/L	0.476	2.20	20	
1,1-Dichloropropene		50.0	48.2	ug/L	0.358	3.50	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4704458
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16031614 Run Date: 02/17/2016 Sample ID: WG556046-12
Instrument ID: HPMS8 Run Time: 20:44 Method: 8260B
File ID: 8M410205 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG556046 Cal ID: HPMS8 - 17-FEB-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	51.7	ug/L	0.0713	3.50	20	
Hexachlorobutadiene		50.0	57.0	ug/L	0.431	13.9	20	
Isopropylbenzene		50.0	55.8	ug/L	1.72	11.7	20	
p-Isopropyltoluene		50.0	54.2	ug/L	2.88	8.40	20	
4-Methyl-2-Pentanone		50.0	49.1	ug/L	0.0541	1.80	20	
Methylene Chloride		50.0	49.7	ug/L	0.246	0.700	20	
Naphthalene		50.0	45.1	ug/L	1.37	9.70	20	
n-Propylbenzene		50.0	54.5	ug/L	4.03	9.00	20	
Styrene		50.0	56.1	ug/L	1.11	12.2	20	
1,1,1,2-Tetrachloroethane		50.0	52.2	ug/L	0.357	4.30	20	
Tetrachloroethene		50.0	52.0	ug/L	0.291	4.00	20	
1,2,3-Trichlorobenzene		50.0	50.1	ug/L	0.771	0.100	20	
1,2,4-Trichlorobenzene		50.0	50.3	ug/L	0.930	0.500	20	
1,1,1-Trichloroethane		50.0	50.2	ug/L	0.428	0.300	20	
1,1,2-Trichloroethane		50.0	51.9	ug/L	0.230	3.80	20	
Trichloroethene		50.0	51.3	ug/L	0.267	2.60	20	
Trichlorofluoromethane		50.0	49.1	ug/L	0.441	1.80	20	
1,2,3-Trichloropropane		50.0	49.6	ug/L	0.139	0.700	20	
1,2,4-Trimethylbenzene		50.0	54.7	ug/L	2.91	9.30	20	
1,3,5-Trimethylbenzene		50.0	56.6	ug/L	2.92	13.1	20	
o-Xylene		50.0	53.3	ug/L	0.689	6.50	20	
m-,p-Xylene		100	110	ug/L	0.683	9.60	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4704458
Report generated 04/08/2016 13:23

Login Number: L16031614 Run Date: 04/05/2016 Sample ID: WG563534-02
Instrument ID: HPMS8 Run Time: 10:11 Method: 8260B
File ID: 8M411218 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG563535 Cal ID: HPMS8 - 17-FEB-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	55.8	ug/L	0.522	11.6	20	
1,1-Dichloroethene	CCC	50.0	57.4	ug/L	0.519	14.9	20	
1,2-Dichloropropane	CCC	50.0	59.2	ug/L	0.322	18.3	20	
Ethylbenzene	CCC	50.0	50.1	ug/L	0.547	0.247	20	
Toluene	CCC	50.0	51.8	ug/L	1.44	3.66	20	
Vinyl Chloride	CCC	50.0	56.8	ug/L	0.476	13.5	20	
Bromoform	SPCC	50.0	50.0	ug/L	0.175	0.0542	20	
Chlorobenzene	SPCC	50.0	50.0	ug/L	0.954	0.0358	20	
Chloromethane	SPCC	50.0	60.7	ug/L	0.732	21.4	20	*
1,1-Dichloroethane	SPCC	50.0	57.9	ug/L	0.610	15.7	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.2	ug/L	0.461	7.67	20	
Xylenes		150	152	ug/L	0.638	1.60	20	
Acetone		50.0	51.9	ug/L	0.0424	3.80	20	
Benzene		50.0	57.4	ug/L	1.11	14.9	20	
Bromobenzene		50.0	44.4	ug/L	0.653	11.2	20	
Bromochloromethane		50.0	54.6	ug/L	0.149	9.24	20	
Bromodichloromethane		50.0	55.6	ug/L	0.384	11.2	20	
Bromomethane		50.0	42.8	ug/L	0.171	14.4	20	
2-Butanone		50.0	57.4	ug/L	0.0738	14.8	20	
n-Butylbenzene		50.0	49.6	ug/L	2.65	0.773	20	
sec-Butylbenzene		50.0	48.1	ug/L	3.08	3.89	20	
tert-Butylbenzene		50.0	45.2	ug/L	0.502	9.63	20	
Carbon Disulfide		50.0	56.3	ug/L	0.875	12.7	20	
Carbon Tetrachloride		50.0	54.9	ug/L	0.426	9.79	20	
Dibromochloromethane		50.0	49.6	ug/L	0.301	0.814	20	
Chloroethane		50.0	56.8	ug/L	0.215	13.6	20	
2-Chlorotoluene		50.0	45.5	ug/L	2.20	9.02	20	
4-Chlorotoluene		50.0	47.3	ug/L	2.24	5.30	20	
1,2-Dibromo-3-Chloropropane		50.0	43.0	ug/L	0.0818	13.9	20	
1,2-Dibromoethane		50.0	48.9	ug/L	0.219	2.14	20	
Dibromomethane		50.0	55.9	ug/L	0.138	11.7	20	
1,2-Dichlorobenzene		50.0	47.0	ug/L	1.20	5.98	20	
1,3-Dichlorobenzene		50.0	47.2	ug/L	1.38	5.61	20	
1,4-Dichlorobenzene		50.0	46.0	ug/L	1.35	8.09	20	
Dichlorodifluoromethane		50.0	58.7	ug/L	0.463	17.4	20	
1,2-Dichloroethane		50.0	53.8	ug/L	0.382	7.67	20	
cis-1,2-Dichloroethene		50.0	56.0	ug/L	0.305	12.0	20	
trans-1,2-Dichloroethene		50.0	57.0	ug/L	0.482	14.0	20	
1,3-Dichloropropane		50.0	49.7	ug/L	0.404	0.505	20	
2,2-Dichloropropane		50.0	58.2	ug/L	0.482	16.4	20	
cis-1,3-Dichloropropene		50.0	58.3	ug/L	0.438	16.6	20	
trans-1,3-Dichloropropene		50.0	50.7	ug/L	0.472	1.46	20	

CCV - Modified 03/05/2008
PDF File ID: 4704461
Report generated 04/08/2016 13:23

Login Number: L16031614 Run Date: 04/05/2016 Sample ID: WG563534-02
Instrument ID: HPMS8 Run Time: 10:11 Method: 8260B
File ID: 8M411218 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG563535 Cal ID: HPMS8 - 17-FEB-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	54.3	ug/L	0.403	8.54	20	
2-Hexanone		50.0	52.3	ug/L	0.0720	4.53	20	
Hexachlorobutadiene		50.0	46.9	ug/L	0.355	6.18	20	
Isopropylbenzene		50.0	52.8	ug/L	1.63	5.69	20	
p-Isopropyltoluene		50.0	48.3	ug/L	2.56	3.40	20	
4-Methyl-2-Pentanone		50.0	55.0	ug/L	0.0606	9.97	20	
Methylene Chloride		50.0	54.7	ug/L	0.271	9.43	20	
Naphthalene		50.0	44.5	ug/L	1.35	10.9	20	
n-Propylbenzene		50.0	47.7	ug/L	3.52	4.69	20	
Styrene		50.0	53.9	ug/L	1.06	7.70	20	
1,1,1,2-Tetrachloroethane		50.0	50.5	ug/L	0.345	1.01	20	
Tetrachloroethene		50.0	49.1	ug/L	0.275	1.80	20	
1,2,3-Trichlorobenzene		50.0	44.8	ug/L	0.690	10.4	20	
1,2,4-Trichlorobenzene		50.0	44.8	ug/L	0.829	10.4	20	
1,1,1-Trichloroethane		50.0	54.3	ug/L	0.463	8.55	20	
1,1,2-Trichloroethane		50.0	50.8	ug/L	0.225	1.62	20	
Trichloroethene		50.0	53.6	ug/L	0.279	7.15	20	
Trichlorofluoromethane		50.0	54.2	ug/L	0.487	8.36	20	
1,2,3-Trichloropropane		50.0	43.3	ug/L	0.121	13.4	20	
1,2,4-Trimethylbenzene		50.0	48.6	ug/L	2.59	2.70	20	
1,3,5-Trimethylbenzene		50.0	47.0	ug/L	2.42	6.02	20	
o-Xylene		50.0	48.7	ug/L	0.630	2.52	20	
m-,p-Xylene		100	104	ug/L	0.646	3.67	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4704461
Report generated 04/08/2016 13:23

Login Number: L16031614 Run Date: 04/06/2016 Sample ID: WG563756-02
Instrument ID: HPMS8 Run Time: 13:04 Method: 8260B
File ID: 8M411248 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG563757 Cal ID: HPMS8 - 17-FEB-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	54.2	ug/L	0.507	8.49	20	
1,1-Dichloroethene	CCC	50.0	55.5	ug/L	0.502	11.1	20	
1,2-Dichloropropane	CCC	50.0	57.1	ug/L	0.311	14.3	20	
Ethylbenzene	CCC	50.0	50.3	ug/L	0.549	0.598	20	
Toluene	CCC	50.0	53.1	ug/L	1.48	6.17	20	
Vinyl Chloride	CCC	50.0	54.8	ug/L	0.460	9.53	20	
Bromoform	SPCC	50.0	52.1	ug/L	0.183	4.28	20	
Chlorobenzene	SPCC	50.0	51.0	ug/L	0.972	1.91	20	
Chloromethane	SPCC	50.0	58.7	ug/L	0.707	17.4	20	
1,1-Dichloroethane	SPCC	50.0	55.8	ug/L	0.589	11.7	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.1	ug/L	0.481	3.83	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4704461
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16031614
Instrument ID: HPMS8
Workgroup (AAB#): WG563535

ICAL CCV Number: WG556046-08
CAL ID: HPMS8-17-FEB-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG556046-08	NA	NA	312633	592238	835274
Upper Limit	NA	NA	625266	1184476	1670548
Lower Limit	NA	NA	156317	296119	417637
L16031614-01	1.00	01	354775	715880	877512
L16031614-02	1.00	01	355411	705538	888824
L16031614-03	1.00	01	366197	727482	910988
WG563535-01	1.00	01	376022	768869	970096
WG563535-02	1.00	01	449855	789603	993969

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4707802
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16031614
Instrument ID: HPMS8
Workgroup (AAB#): WG563757

ICAL CCV Number: WG556046-08
CAL ID: HPMS8-17-FEB-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG556046-08	NA	NA	312633	592238	835274
Upper Limit	NA	NA	625266	1184476	1670548
Lower Limit	NA	NA	156317	296119	417637
L16031614-02	20.0	DL01	372491	737801	996177
WG563757-01	1.00	01	369696	747152	980447
WG563757-02	1.00	01	432983	776291	1018921

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4707802
Report generated 04/08/2016 13:23

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16031614
Instrument ID: HPMS8
Workgroup (AAB#): WG563535

ICAL CCV Number: WG556046-08
CAL ID: HPMS8-17-FEB-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG556046-08	NA	NA	17.59	14.57	10.71
Upper Limit	NA	NA	18.09	15.07	11.21
Lower Limit	NA	NA	17.09	14.07	10.21
L16031614-01	1.00	01	17.59	14.57	10.71
L16031614-02	1.00	01	17.59	14.58	10.71
L16031614-03	1.00	01	17.59	14.57	10.71
WG563535-01	1.00	01	17.59	14.57	10.71
WG563535-02	1.00	01	17.59	14.57	10.71

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4707803
Report generated: 04/08/2016 13:23

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16031614

Instrument ID: HPMS8

Workgroup (AAB#): WG563757

ICAL CCV Number: WG556046-08

CAL ID: HPMS8-17-FEB-16

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG556046-08	NA	NA	17.59	14.57	10.71
Upper Limit	NA	NA	18.09	15.07	11.21
Lower Limit	NA	NA	17.09	14.07	10.21
L16031614-02	20.0	DL01	17.59	14.58	10.71
WG563757-01	1.00	01	17.6	14.57	10.72
WG563757-02	1.00	01	17.6	14.57	10.71

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 4707803

Report generated: 04/08/2016 13:23

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411235.D Vial: 19
Acq On : 5 Apr 2016 18:36 Operator: TMB
Sample : L16031614-01 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 08:29:05 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

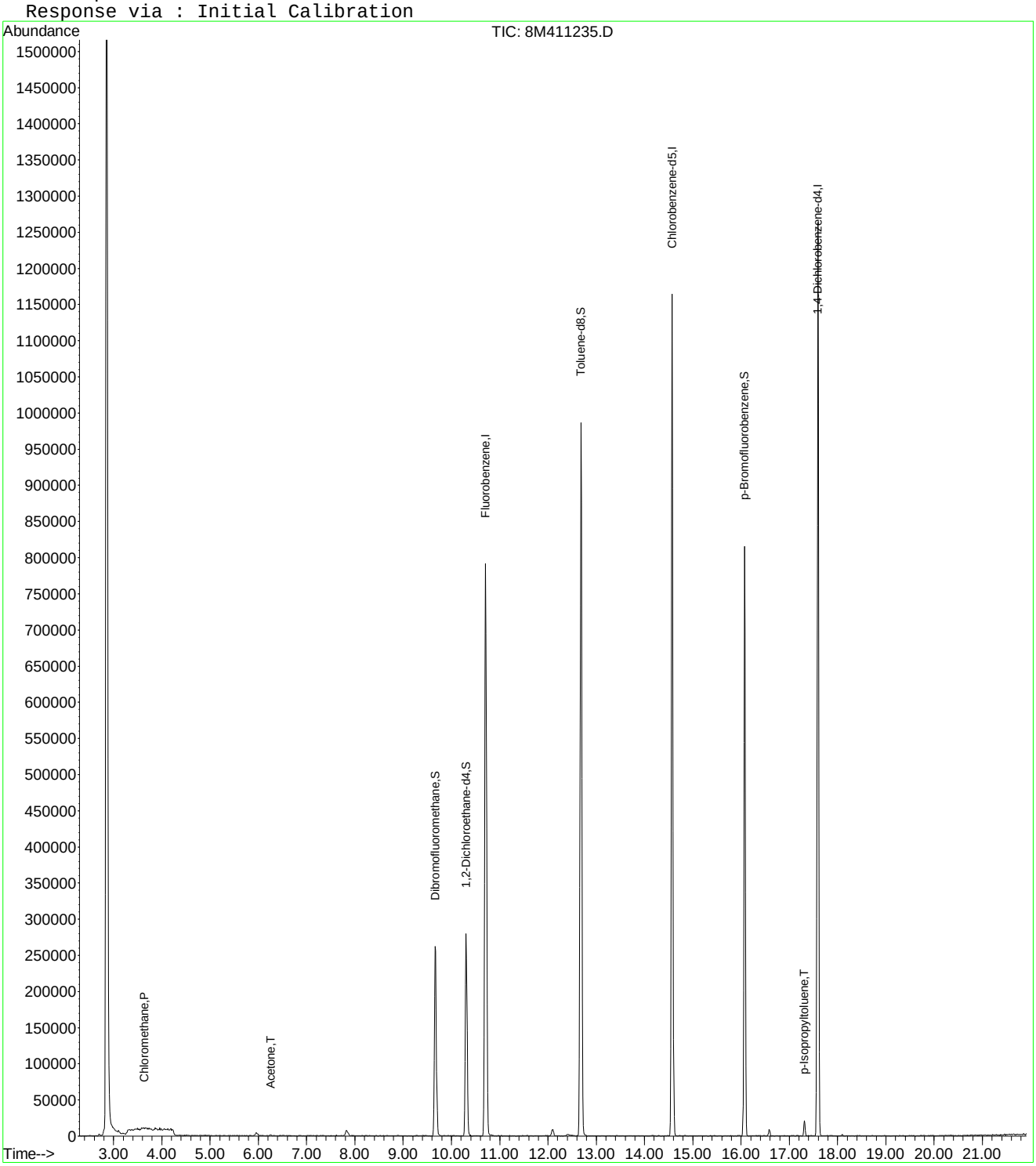
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	877512	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	715880	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	354775	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	223449	24.8066	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.24%			
43) 1,2-Dichloroethane-d4	10.30	65	241882	25.0791	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.32%			
58) Toluene-d8	12.68	98	820624	23.2155	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 92.88%			
80) p-Bromofluorobenzene	16.07	95	330243	23.9624	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.84%			
Target Compounds						Qvalue
3) Chloromethane	3.64	50	3697	0.1748	ug/L	97
13) Acetone	6.26	43	2415	1.6827	ug/L	89
92) p-Isopropyltoluene	17.31	119	17178	0.4559	ug/L	92

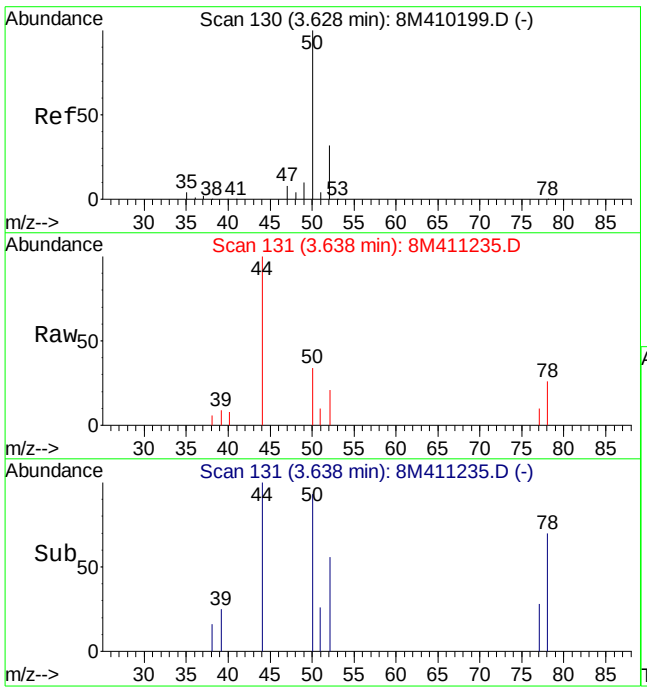
(#) = qualifier out of range (m) = manual integration
8M411235.D 8260WTR.M Wed Apr 06 08:29:06 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411235.D Vial: 19
Acq On : 5 Apr 2016 18:36 Operator: TMB
Sample : L16031614-01 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration

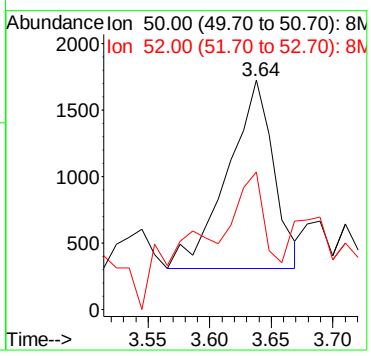


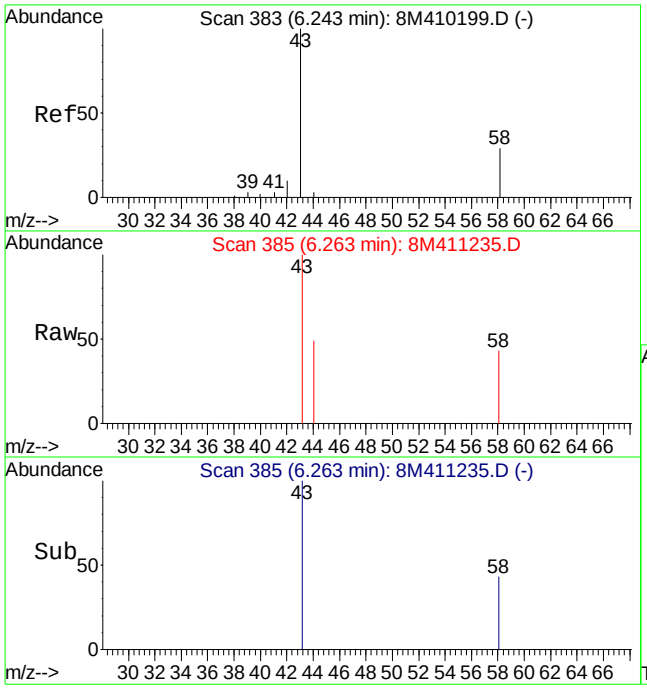


#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.64 min Scan# 131
Delta R.T. 0.02 min
Lab File: 8M411235.D
Acq: 5 Apr 2016 18:36

Tgt Ion: 50 Resp: 3697

Ion	Ratio	Lower	Upper
50	100		
52	34.0	19.3	44.9

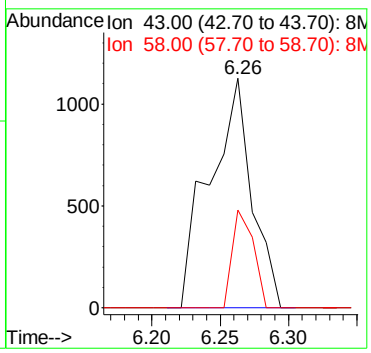


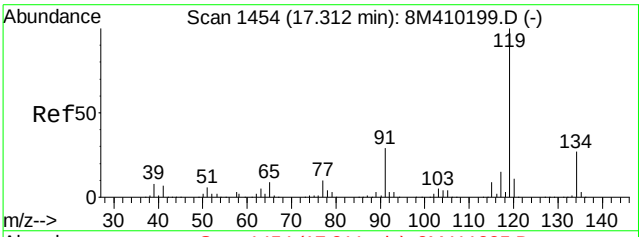


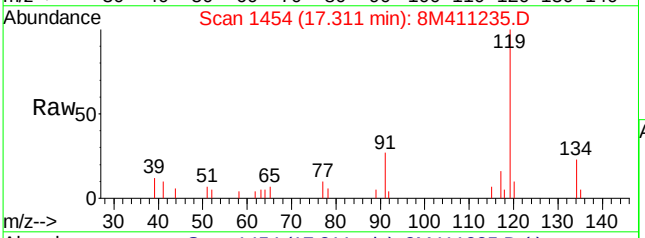
#13
Acetone
Concen: 1.68 ug/L
RT: 6.26 min Scan# 385
Delta R.T. 0.01 min
Lab File: 8M411235.D
Acq: 5 Apr 2016 18:36

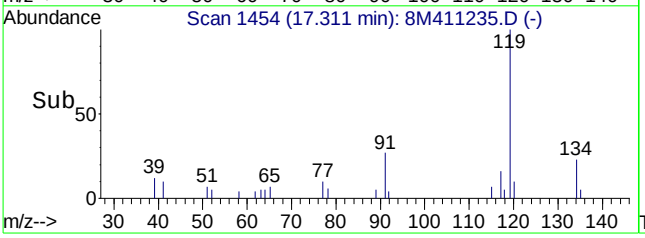
Tgt Ion: 43 Resp: 2415

Ion	Ratio	Lower	Upper
43	100		
58	21.2	16.2	37.8





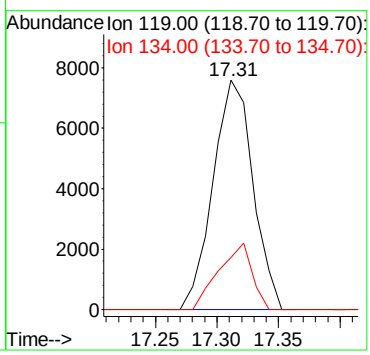




#92
p-Isopropyltoluene
Concen: 0.46 ug/L
RT: 17.31 min Scan# 1454
Delta R.T. -0.01 min
Lab File: 8M411235.D
Acq: 5 Apr 2016 18:36

Tgt Ion:119 Resp: 17178

Ion	Ratio	Lower	Upper
119	100		
134	24.0	17.0	39.6



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411236.D Vial: 20
Acq On : 5 Apr 2016 19:06 Operator: TMB
Sample : L16031614-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 08:29:06 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

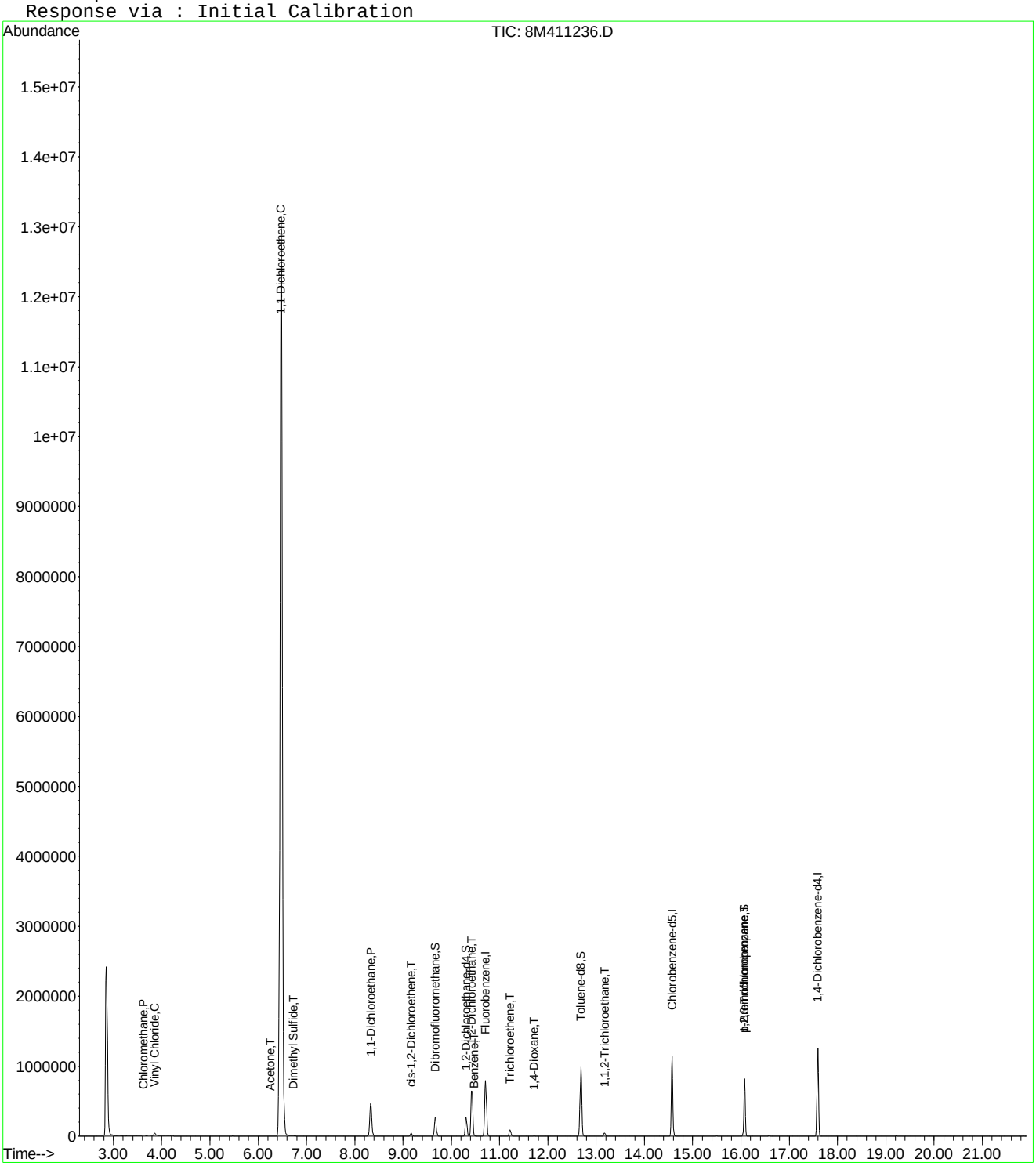
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	888824	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	705538	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	355411	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	228668	25.0629	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.24%			
43) 1,2-Dichloroethane-d4	10.31	65	238200	24.3830	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.52%			
58) Toluene-d8	12.68	98	812621	23.3261	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 93.32%			
80) p-Bromofluorobenzene	16.07	95	332003	24.0470	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.20%			
Target Compounds						Qvalue
3) Chloromethane	3.63	50	8844	0.4128	ug/L	100
4) Vinyl Chloride	3.86	62	54354	3.6445	ug/L	97
13) Acetone	6.26	43	1434	0.9865	ug/L #	48
14) 1,1-Dichloroethene	6.47	61	13758609	856.7221	ug/L	96
16) Dimethyl Sulfide	6.73	62	2204	0.3133	ug/L	98
27) 1,1-Dichloroethane	8.33	63	721195	38.4994	ug/L	97
32) cis-1,2-Dichloroethene	9.17	96	20906	2.1620	ug/L	93
45) 1,2-Dichloroethane	10.42	62	664633	52.6391	ug/L	92
46) Benzene	10.47	78	5790	0.1684	ug/L #	1
47) Trichloroethene	11.22	130	37033	3.9995	ug/L	97
51) 1,4-Dioxane	11.71	88	3279	84.1059	ug/L	89
63) 1,1,2-Trichloroethane	13.18	97	16674	2.6674	ug/L	85
81) 1,2,3-Trichloropropane	16.07	110	513	0.2581	ug/L #	1

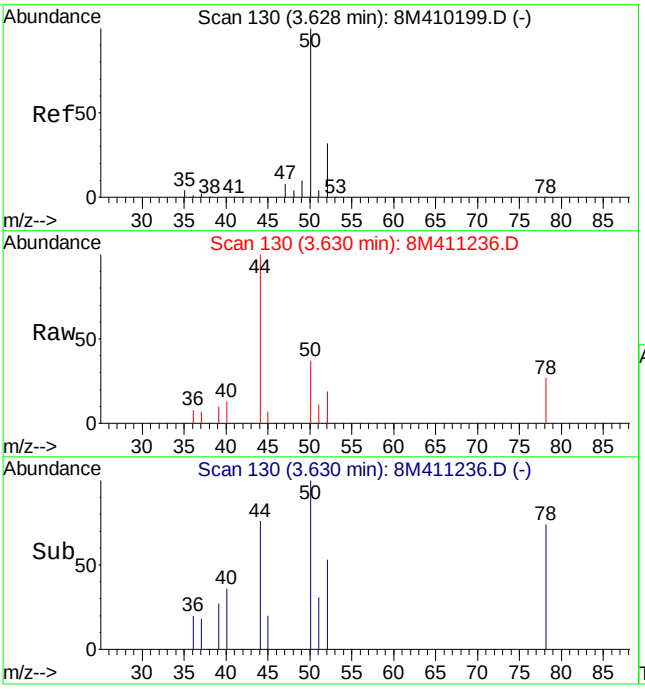
(#) = qualifier out of range (m) = manual integration
8M411236.D 8260WTR.M Wed Apr 06 08:29:07 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411236.D Vial: 20
Acq On : 5 Apr 2016 19:06 Operator: TMB
Sample : L16031614-02 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration

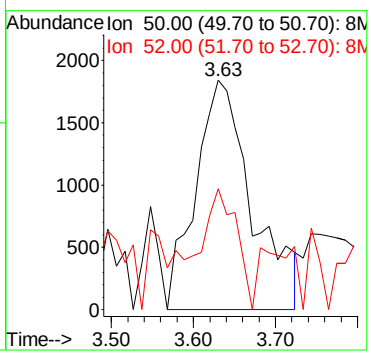


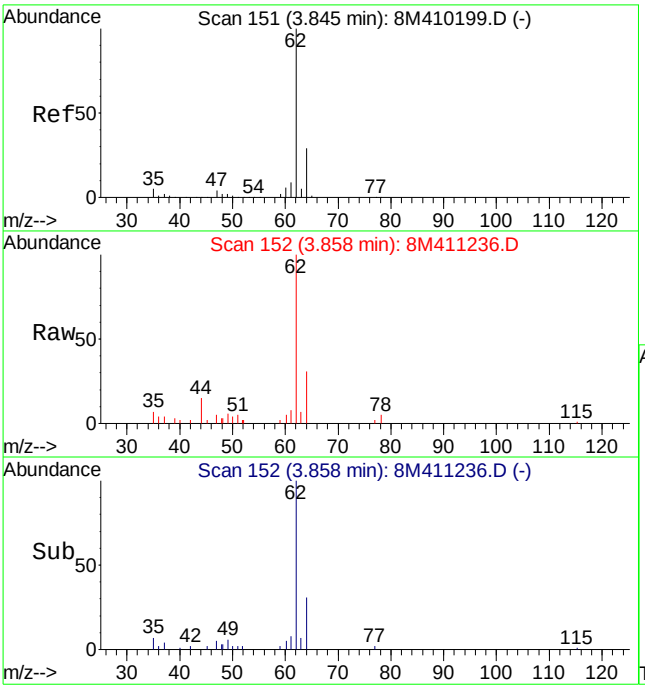


#3
Chloromethane
Concen: 0.41 ug/L
RT: 3.63 min Scan# 130
Delta R.T. 0.01 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 50 Resp: 8844

Ion	Ratio	Lower	Upper
50	100		
52	31.9	19.3	44.9

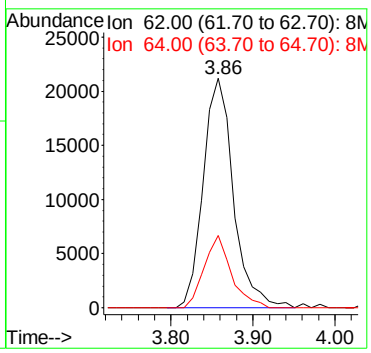


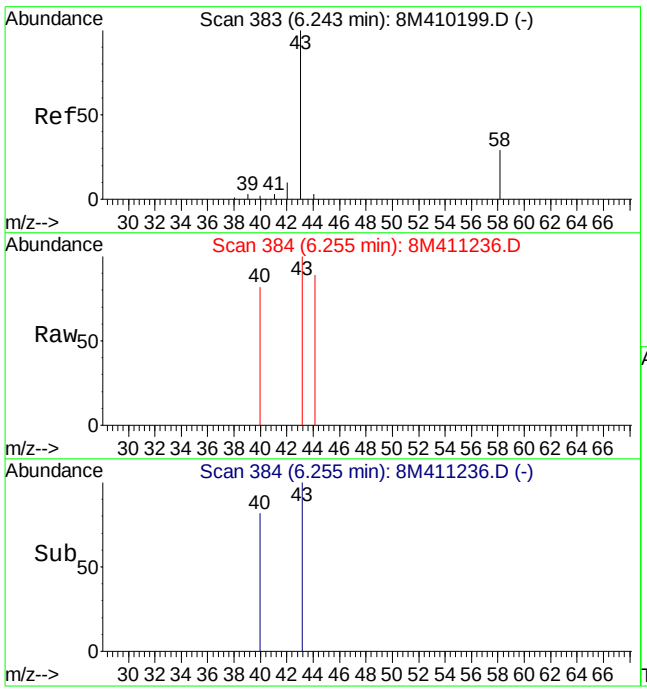


#4
Vinyl Chloride
Concen: 3.64 ug/L
RT: 3.86 min Scan# 152
Delta R.T. 0.01 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 62 Resp: 54354

Ion	Ratio	Lower	Upper
62	100		
64	28.3	18.1	42.1

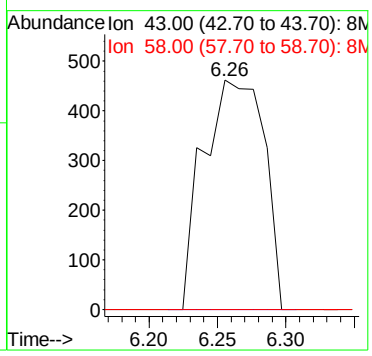


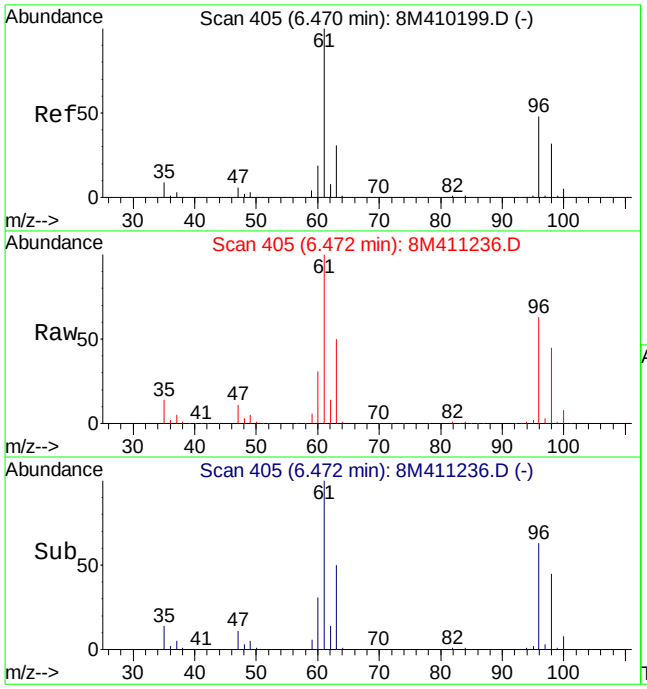


#13
Acetone
Concen: 0.99 ug/L
RT: 6.26 min Scan# 384
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 43 Resp: 1434

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.2	37.8#

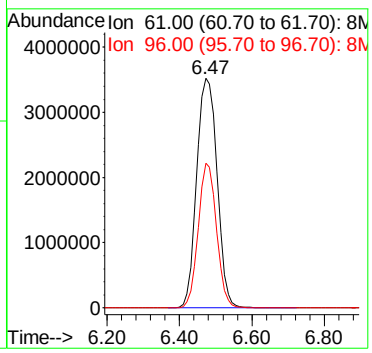


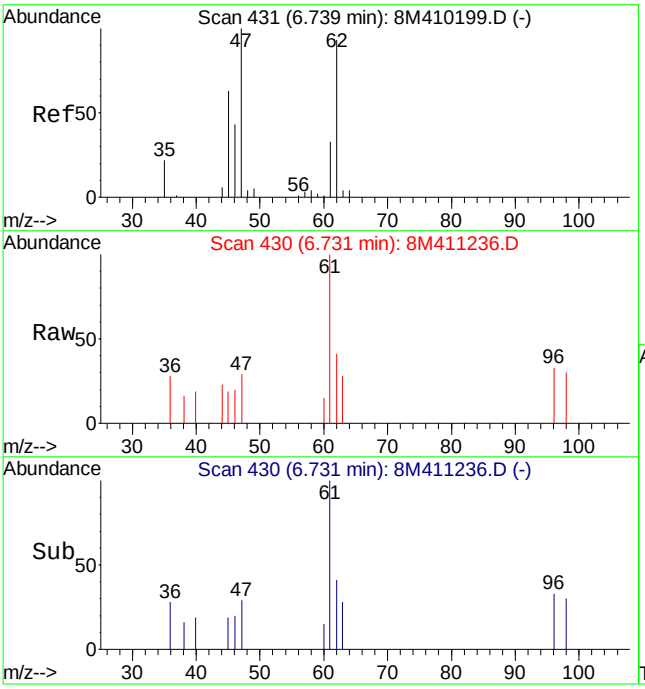


#14
1,1-Dichloroethene
Concen: 856.72 ug/L
RT: 6.47 min Scan# 405
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 61 Resp:13758609

Ion	Ratio	Lower	Upper
61	100		
96	56.1	31.9	74.5

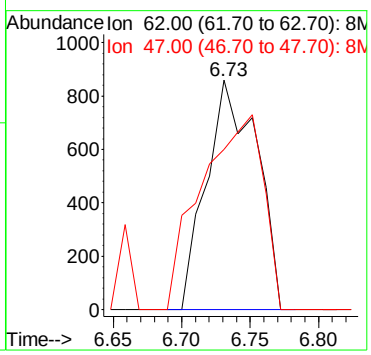


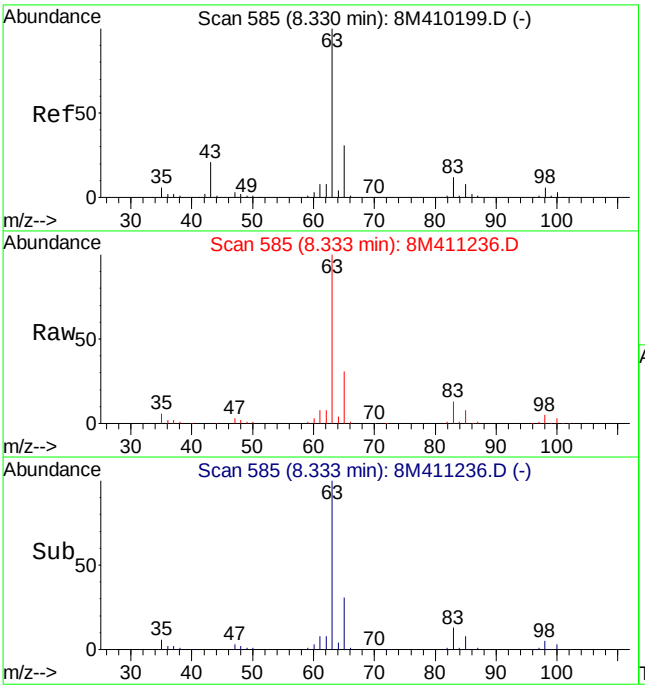


#16
Dimethyl Sulfide
Concen: 0.31 ug/L
RT: 6.73 min Scan# 430
Delta R.T. -0.01 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 62 Resp: 2204

Ion	Ratio	Lower	Upper
62	100		
47	104.9	64.2	149.8

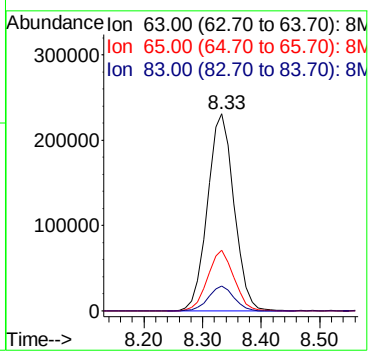


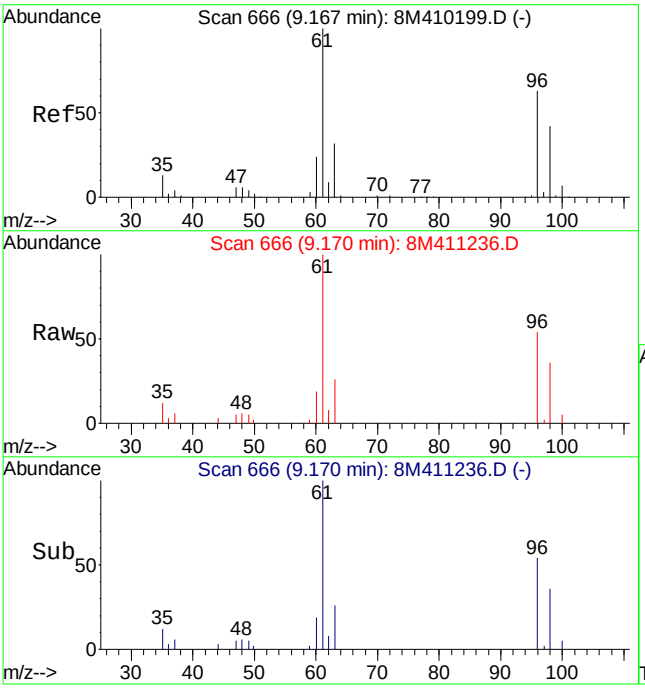


#27
1,1-Dichloroethane
Concen: 38.50 ug/L
RT: 8.33 min Scan# 585
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 63 Resp: 721195

Ion	Ratio	Lower	Upper
63	100		
65	30.3	19.1	44.5
83	11.9	7.7	18.1

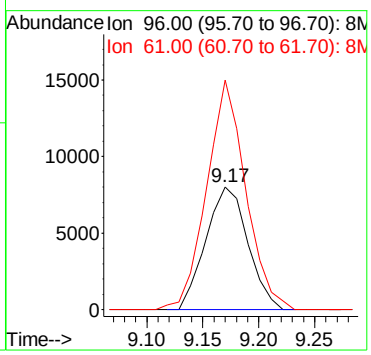


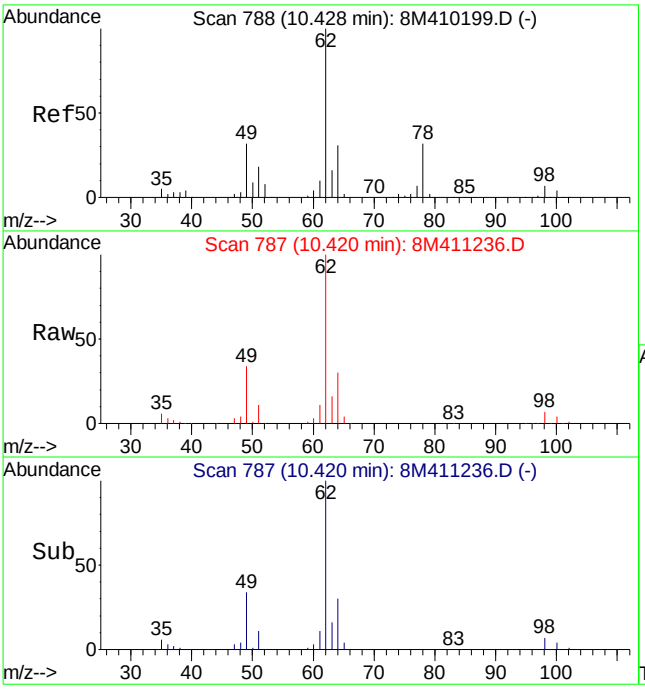


#32
cis-1,2-Dichloroethene
Concen: 2.16 ug/L
RT: 9.17 min Scan# 666
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 96 Resp: 20906

Ion	Ratio	Lower	Upper
96	100		
61	173.6	98.9	230.7

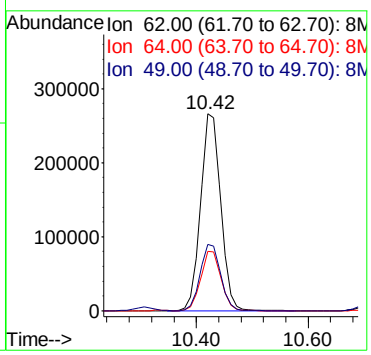


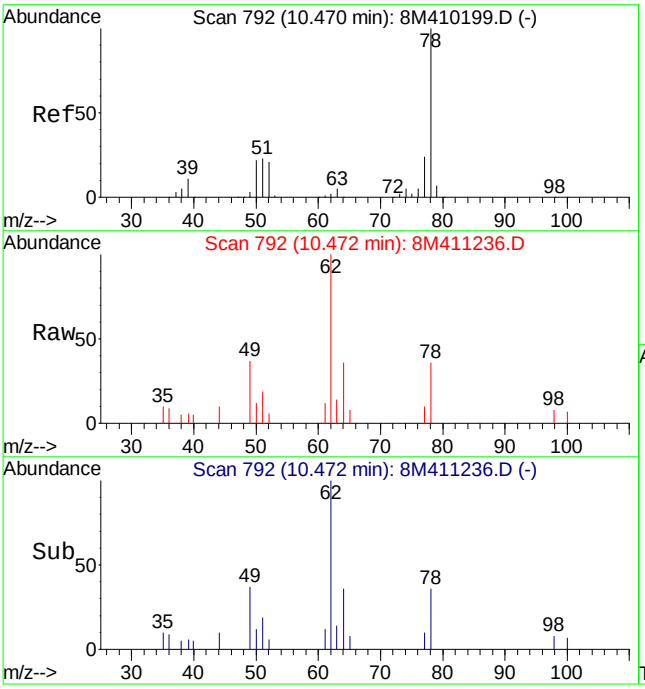


#45
1,2-Dichloroethane
Concen: 52.64 ug/L
RT: 10.42 min Scan# 787
Delta R.T. -0.01 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 62 Resp: 664633

Ion	Ratio	Lower	Upper
62	100		
64	30.5	19.1	44.7
49	34.2	25.4	59.4

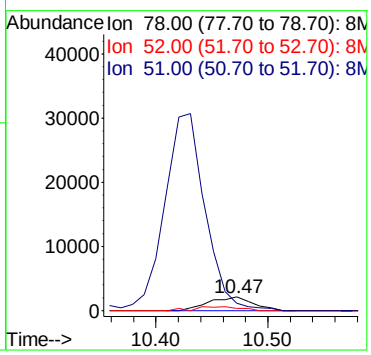


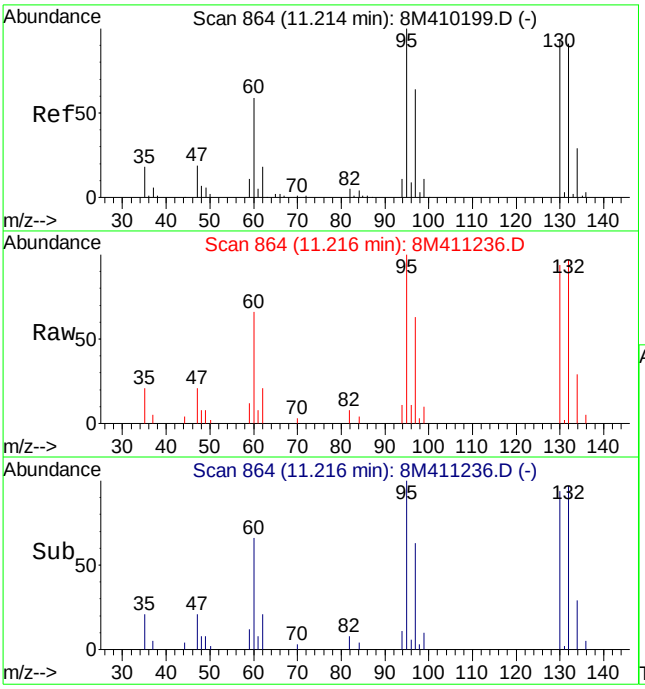


#46
Benzene
Concen: 0.17 ug/L
RT: 10.47 min Scan# 792
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 78 Resp: 5790

Ion	Ratio	Lower	Upper
78	100		
52	30.3	12.2	28.4#
51	1334.0	14.9	34.9#

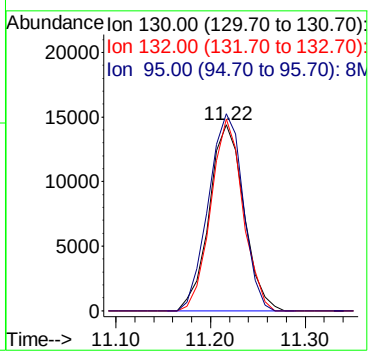


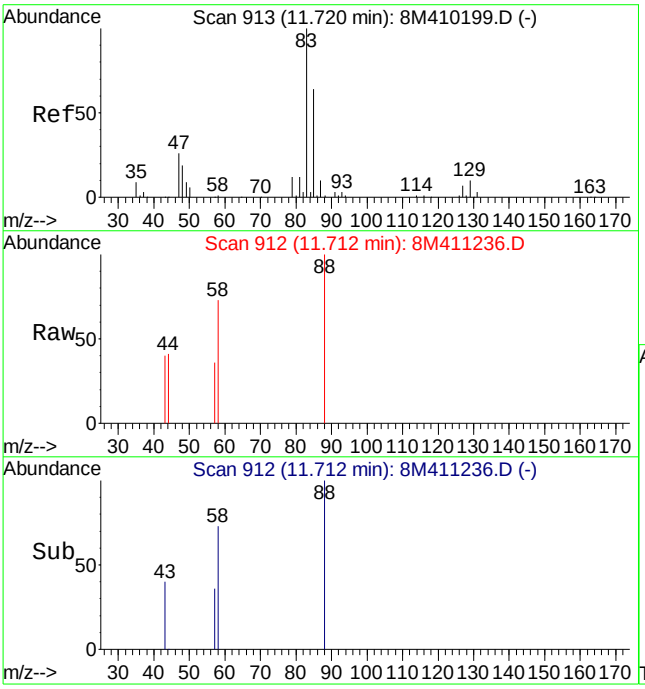


#47
Trichloroethene
Concen: 4.00 ug/L
RT: 11.22 min Scan# 864
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion:130 Resp: 37033

Ion	Ratio	Lower	Upper
130	100		
132	95.2	59.9	139.7
95	105.6	62.3	145.5

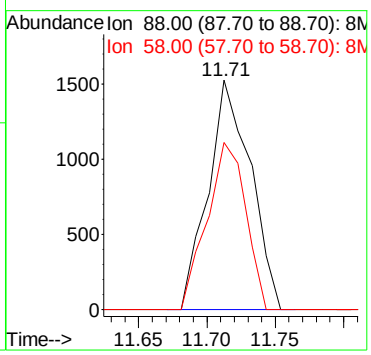


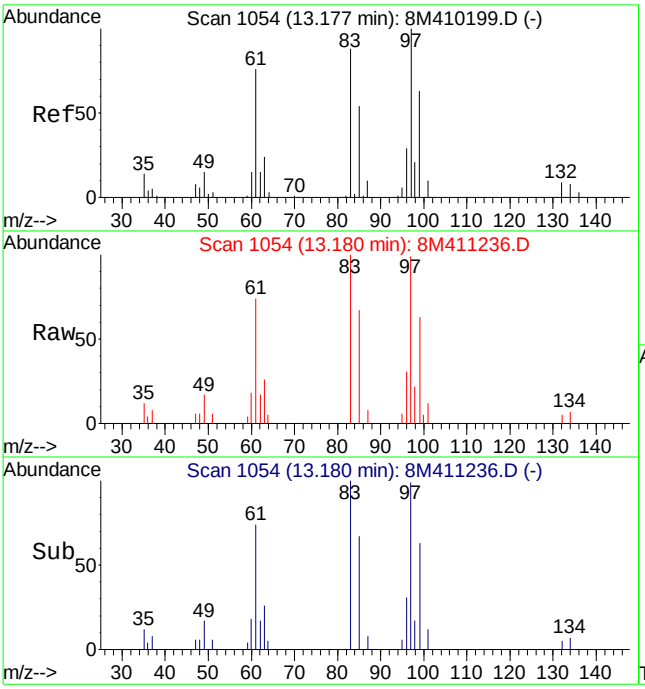


#51
1,4-Dioxane
Concen: 84.11 ug/L
RT: 11.71 min Scan# 912
Delta R.T. -0.01 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 88 Resp: 3279

Ion	Ratio	Lower	Upper
88	100		
58	66.4	45.3	105.7

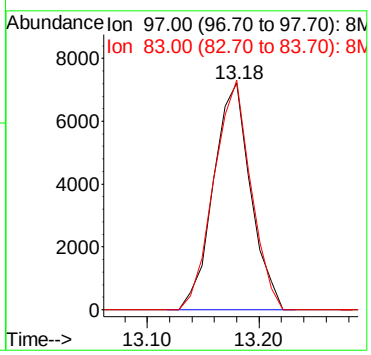


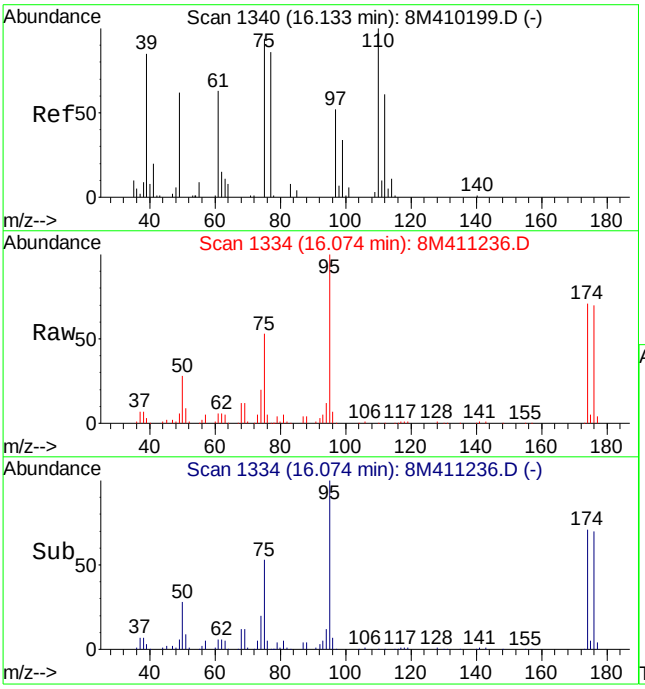


#63
1,1,2-Trichloroethane
Concen: 2.67 ug/L
RT: 13.18 min Scan# 1054
Delta R.T. 0.00 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion: 97 Resp: 16674

Ion	Ratio	Lower	Upper
97	100		
83	100.6	52.2	121.8

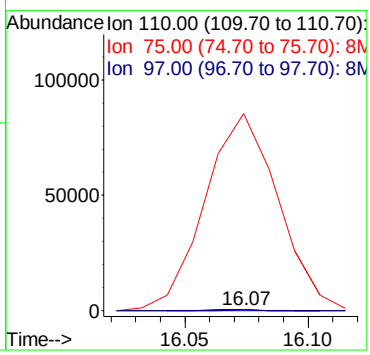




#81
1,2,3-Trichloropropane
Concen: 0.26 ug/L
RT: 16.07 min Scan# 1334
Delta R.T. -0.06 min
Lab File: 8M411236.D
Acq: 5 Apr 2016 19:06

Tgt Ion:110 Resp: 513

Ion	Ratio	Lower	Upper
110	100		
75	34653.6	116.5	271.7#
97	42.5	29.8	69.6



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040616\8M411258.D Vial: 12
Acq On : 6 Apr 2016 17:58 Operator: TMB
Sample : L16031614-02 B 20X 826-LOW D1 Inst : HPMS8
Misc : 1,20 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 08:26:04 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

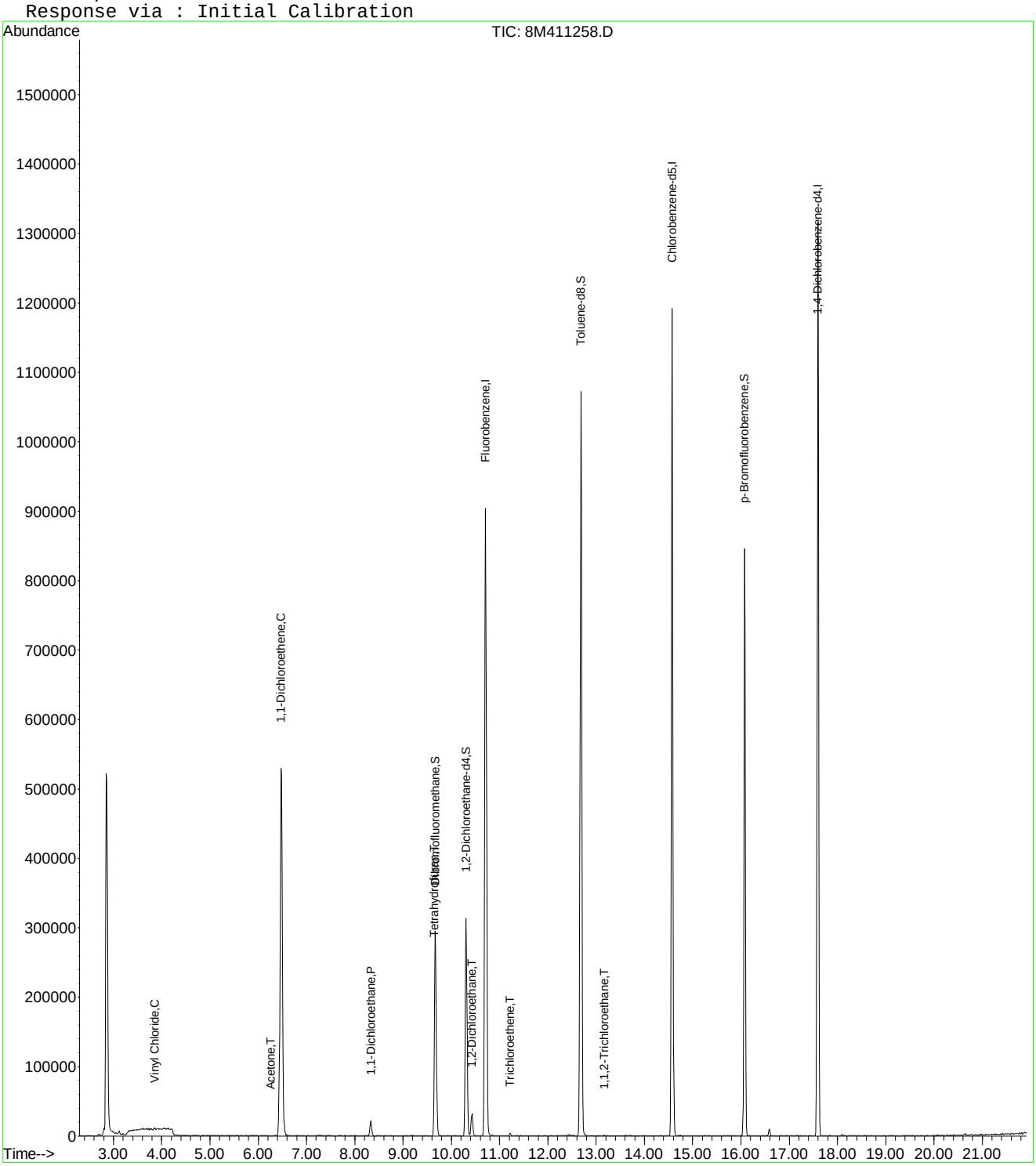
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	996177	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	737801	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	372491	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	249793	24.4279 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.72%		
43) 1,2-Dichloroethane-d4	10.31	65	273949	25.0204 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.08%		
58) Toluene-d8	12.68	98	877381	24.0837 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.32%		
80) p-Bromofluorobenzene	16.07	95	345947	23.9080 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.64%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.86	62	2632	0.1575 ug/L #	78
13) Acetone	6.27	43	206	0.1264 ug/L #	48
14) 1,1-Dichloroethene	6.47	61	654975	36.3889 ug/L	92
27) 1,1-Dichloroethane	8.33	63	31087	1.4807 ug/L	94
36) Tetrahydrofuran	9.66	42	1267	0.7383 ug/L #	41
45) 1,2-Dichloroethane	10.43	62	29968	2.1177 ug/L	93
47) Trichloroethene	11.22	130	1927	0.1857 ug/L	90
63) 1,1,2-Trichloroethane	13.17	97	854	0.1306 ug/L	97

(#) = qualifier out of range (m) = manual integration
8M411258.D 8260WTR.M Thu Apr 07 08:26:05 2016 Page 1

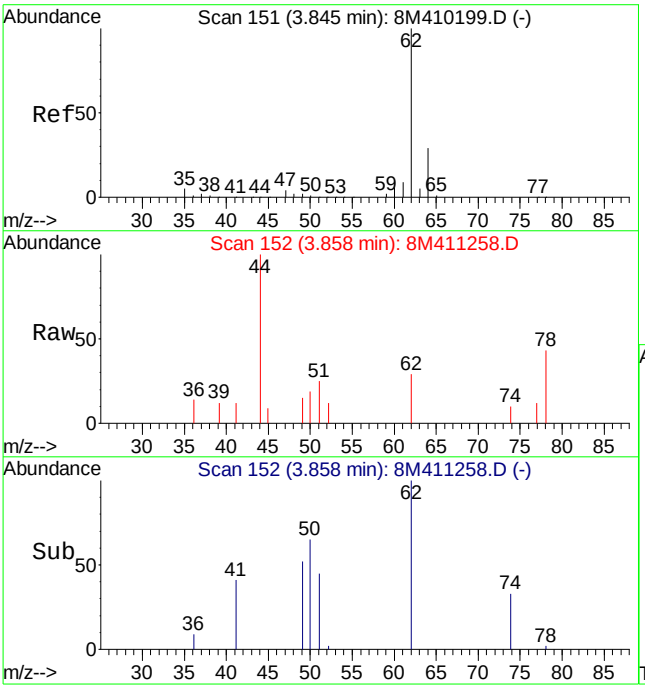
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040616\8M411258.D Vial: 12
Acq On : 6 Apr 2016 17:58 Operator: TMB
Sample : L16031614-02 B 20X 826-LOW D1 Inst : HPMS8
Misc : 1,20 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 7 8:26 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration



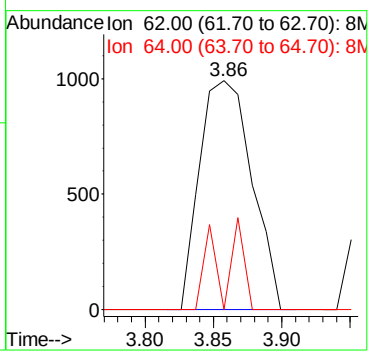
8M411258.D 8260WTR.M Thu Apr 07 08:26:05 2016 Page 2

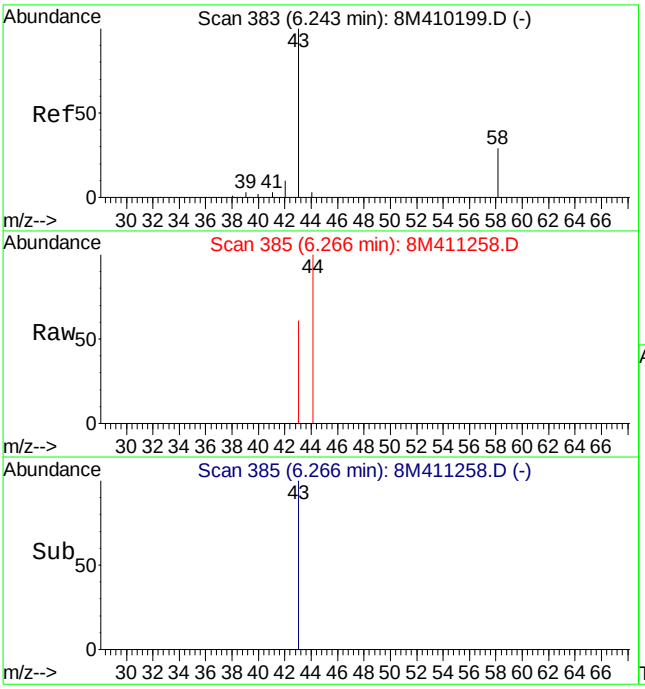


#4
Vinyl Chloride
Concen: 0.16 ug/L
RT: 3.86 min Scan# 152
Delta R.T. 0.01 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 62 Resp: 2632

Ion	Ratio	Lower	Upper
62	100		
64	18.0	18.1	42.1#

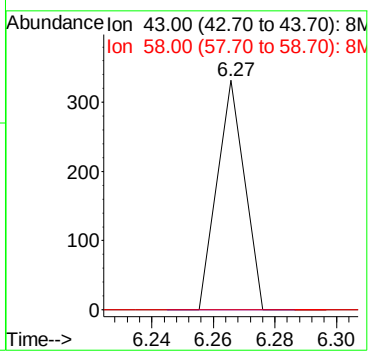


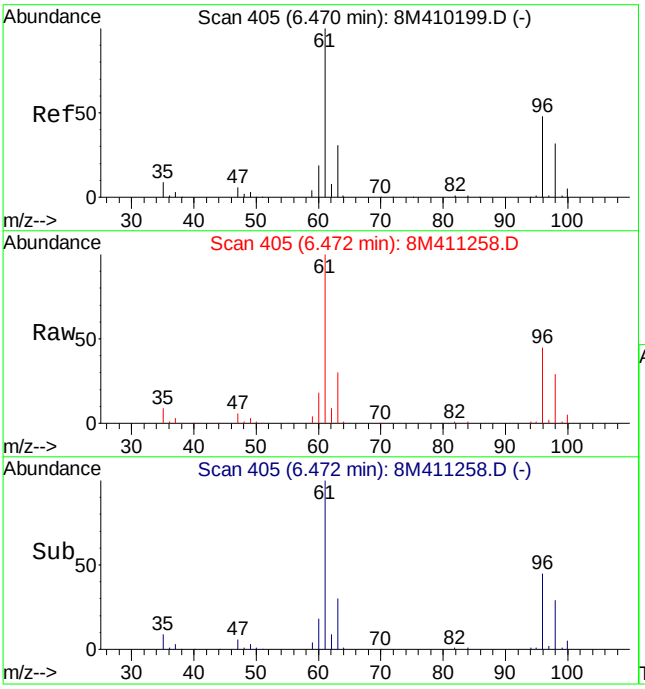


#13
Acetone
Concen: 0.13 ug/L
RT: 6.27 min Scan# 385
Delta R.T. 0.01 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 43 Resp: 206

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.2	37.8#

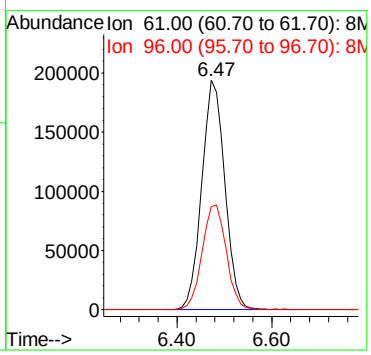


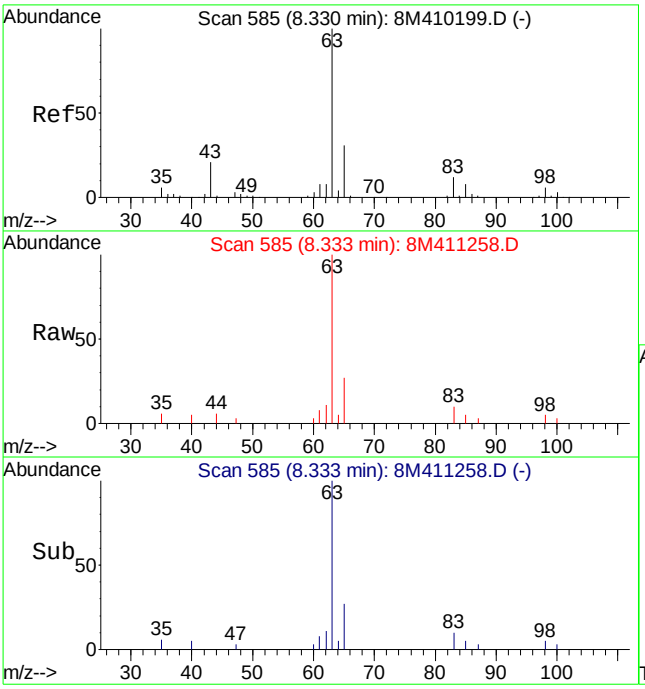


#14
1,1-Dichloroethene
Concen: 36.39 ug/L
RT: 6.47 min Scan# 405
Delta R.T. 0.00 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 61 Resp: 654975

Ion	Ratio	Lower	Upper
61	100		
96	47.3	31.9	74.5

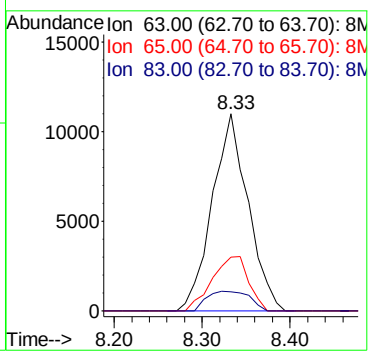


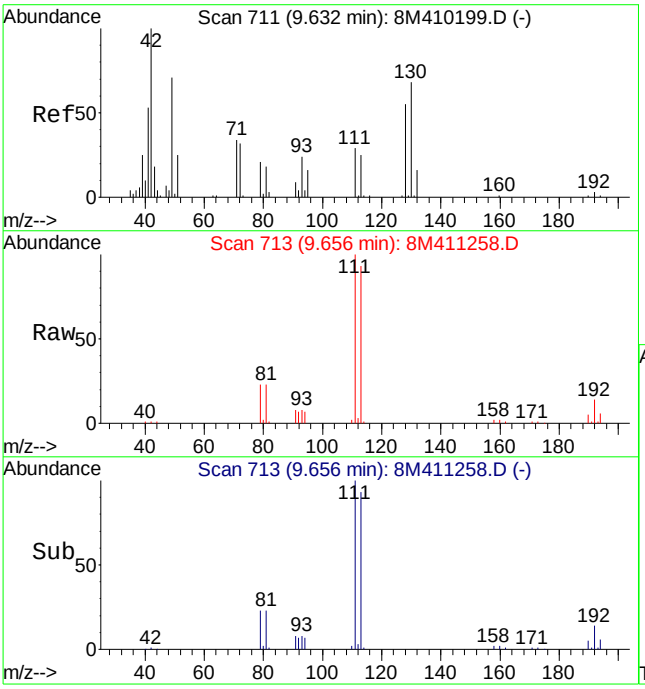


#27
1,1-Dichloroethane
Concen: 1.48 ug/L
RT: 8.33 min Scan# 585
Delta R.T. 0.00 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 63 Resp: 31087

Ion	Ratio	Lower	Upper
63	100		
65	28.0	19.1	44.5
83	11.8	7.7	18.1

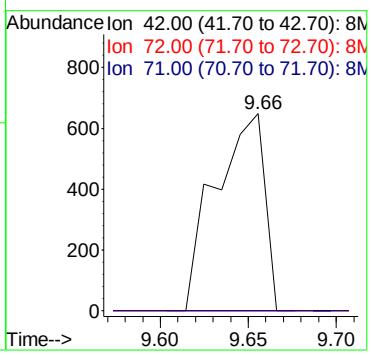


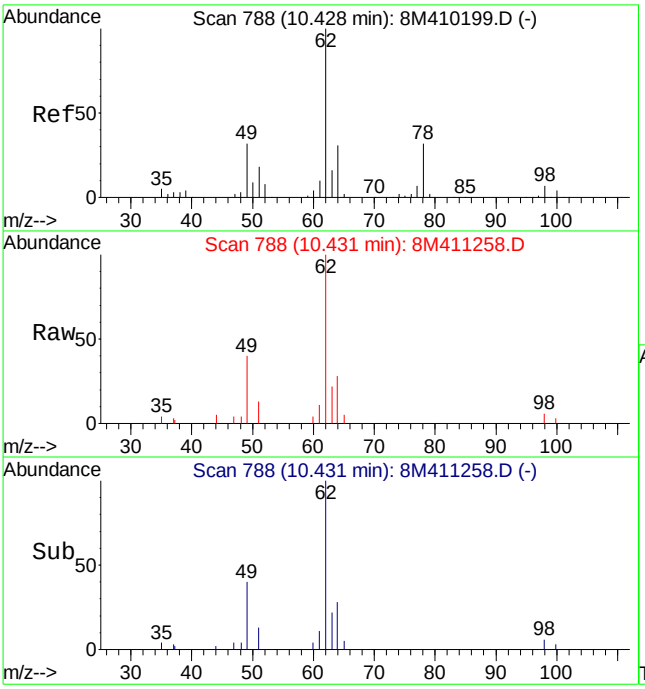


#36
Tetrahydrofuran
Concen: 0.74 ug/L
RT: 9.66 min Scan# 713
Delta R.T. 0.02 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 42 Resp: 1267

Ion	Ratio	Lower	Upper
42	100		
72	0.0	20.8	48.6#
71	0.0	19.0	44.4#

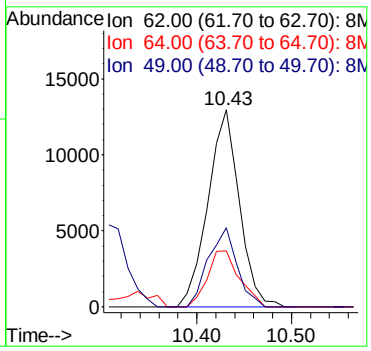


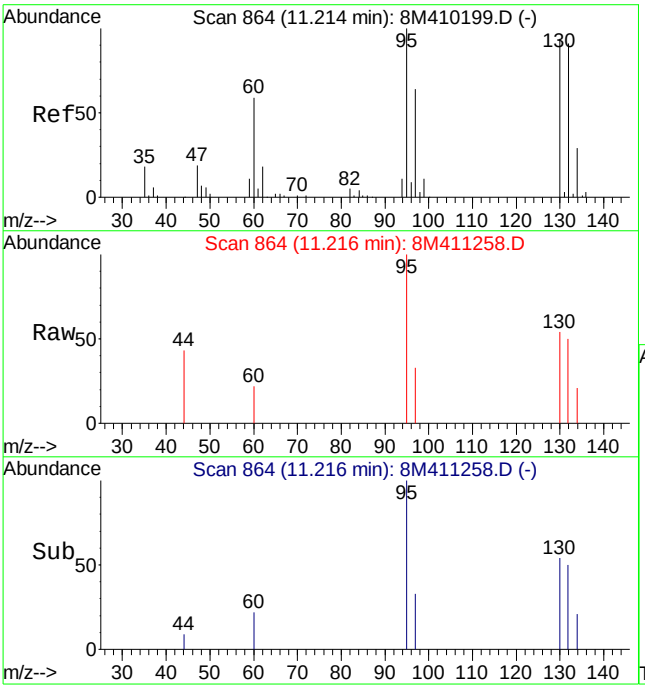


#45
1,2-Dichloroethane
Concen: 2.12 ug/L
RT: 10.43 min Scan# 788
Delta R.T. 0.00 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 62 Resp: 29968

Ion	Ratio	Lower	Upper
62	100		
64	29.0	19.1	44.7
49	36.8	25.4	59.4

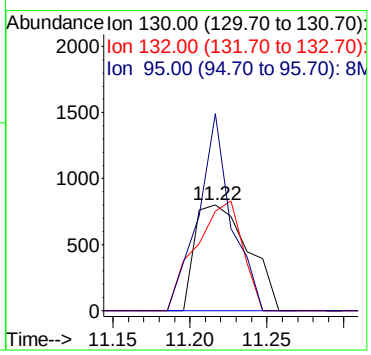


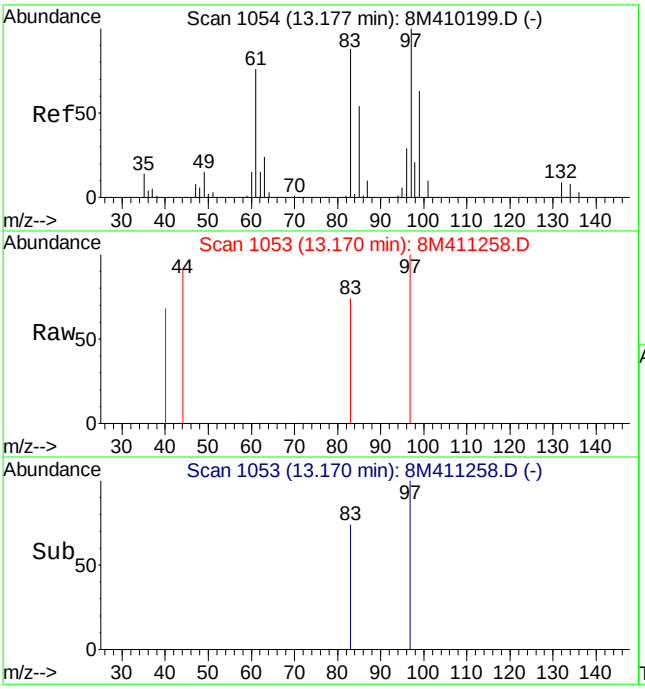


#47
Trichloroethene
Concen: 0.19 ug/L
RT: 11.22 min Scan# 864
Delta R.T. 0.00 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion:130 Resp: 1927

Ion	Ratio	Lower	Upper
130	100		
132	91.1	59.9	139.7
95	115.9	62.3	145.5

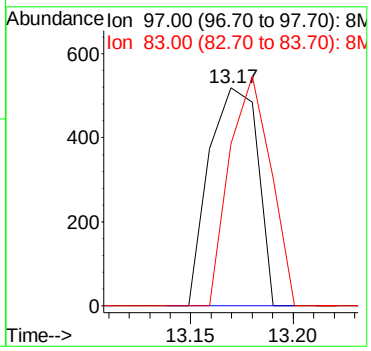




#63
1,1,2-Trichloroethane
Concen: 0.13 ug/L
RT: 13.17 min Scan# 1053
Delta R.T. -0.01 min
Lab File: 8M411258.D
Acq: 6 Apr 2016 17:58

Tgt Ion: 97 Resp: 854

Ion	Ratio	Lower	Upper
97	100		
83	89.7	52.2	121.8



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411232.D Vial: 16
Acq On : 5 Apr 2016 17:07 Operator: TMB
Sample : L16031614-03 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 08:29:01 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

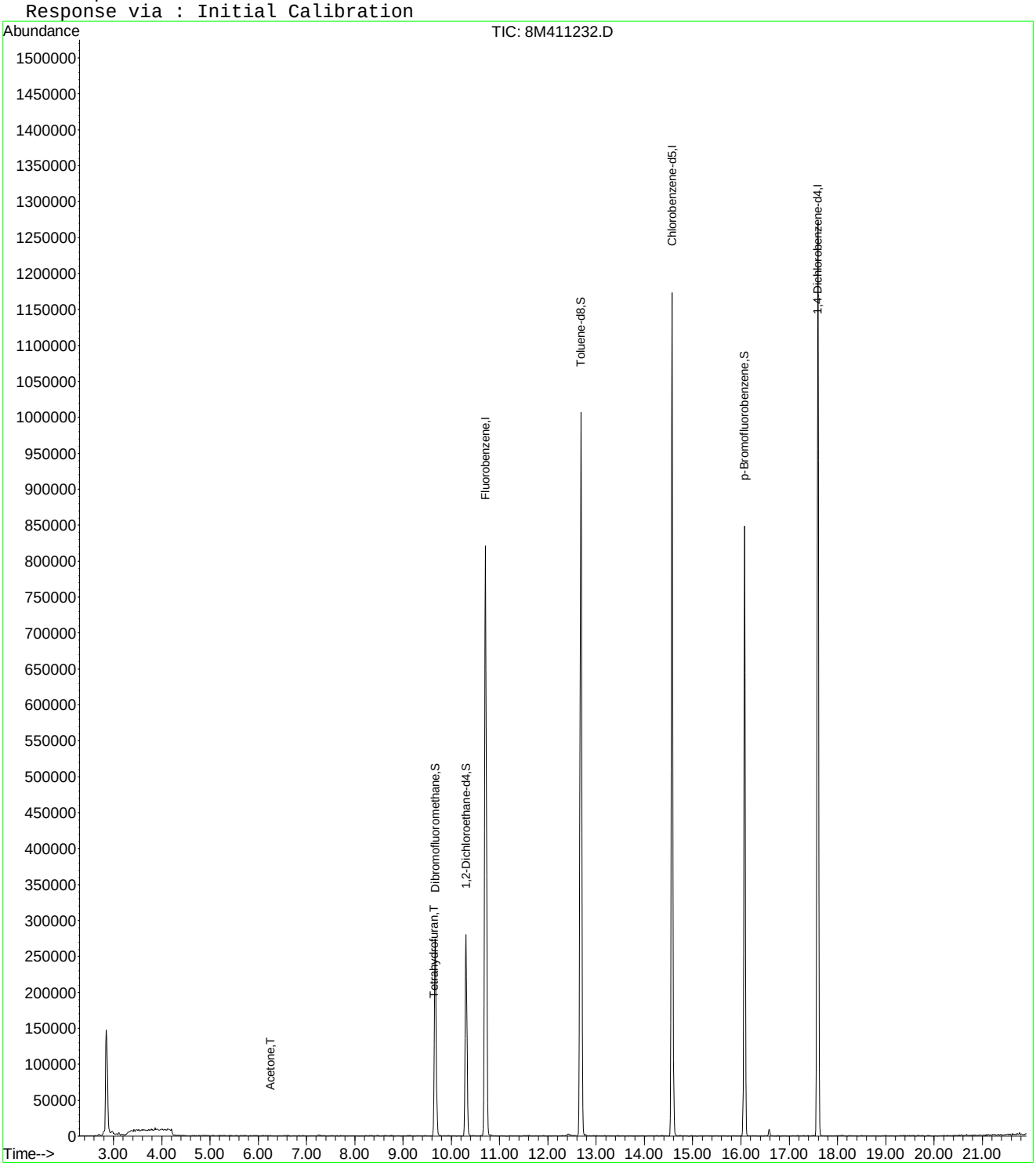
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	910988	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.57	117	727482	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	366197	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	227362	24.3135 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.24%		
43) 1,2-Dichloroethane-d4	10.31	65	246870	24.6556 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.64%		
58) Toluene-d8	12.68	98	819674	22.8188 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 91.28%		
80) p-Bromofluorobenzene	16.07	95	340833	23.9594 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.84%		
Target Compounds					Qvalue
13) Acetone	6.25	43	889	0.5967 ug/L #	48
36) Tetrahydrofuran	9.64	42	1268	0.8080 ug/L #	41

(#) = qualifier out of range (m) = manual integration
8M411232.D 8260WTR.M Wed Apr 06 08:29:02 2016 Page 1

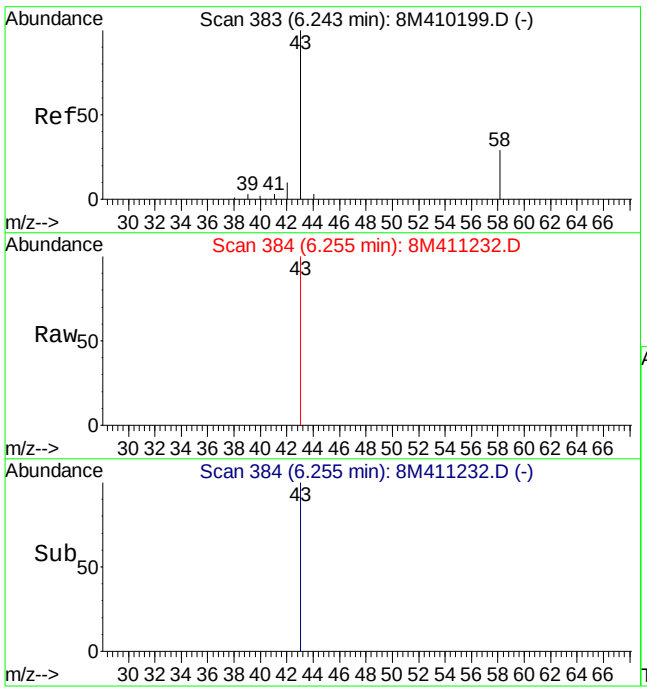
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411232.D Vial: 16
Acq On : 5 Apr 2016 17:07 Operator: TMB
Sample : L16031614-03 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration



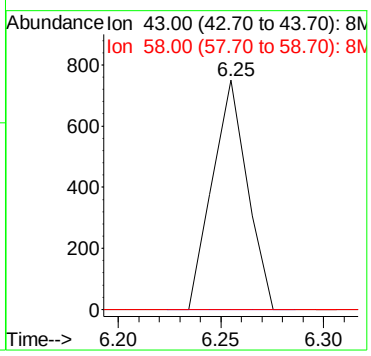
8M411232.D 8260WTR.M Wed Apr 06 08:29:02 2016 Page 2

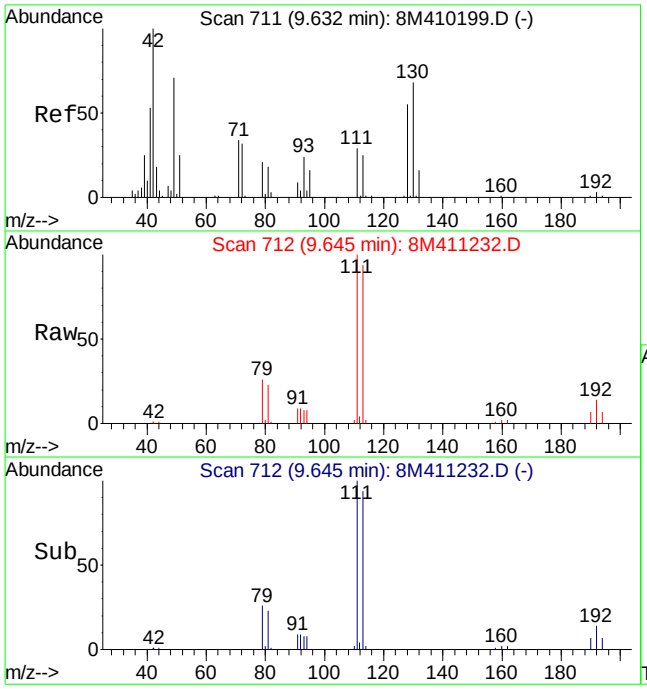


#13
Acetone
Concen: 0.60 ug/L
RT: 6.25 min Scan# 384
Delta R.T. 0.00 min
Lab File: 8M411232.D
Acq: 5 Apr 2016 17:07

Tgt Ion: 43 Resp: 889

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.2	37.8#

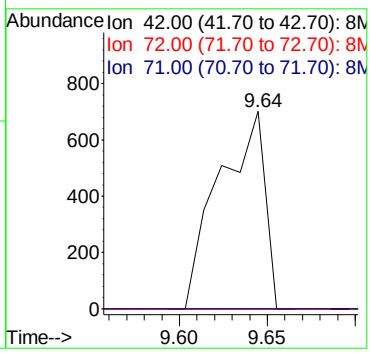




#36
Tetrahydrofuran
Concen: 0.81 ug/L
RT: 9.64 min Scan# 712
Delta R.T. 0.01 min
Lab File: 8M411232.D
Acq: 5 Apr 2016 17:07

Tgt Ion: 42 Resp: 1268

Ion	Ratio	Lower	Upper
42	100		
72	0.0	20.8	48.6#
71	0.0	19.0	44.4#



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407828.D Vial: 2
Acq On : 5 Oct 2015 11:49 Operator: TMB
Sample : WG540826-02 5ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:55 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

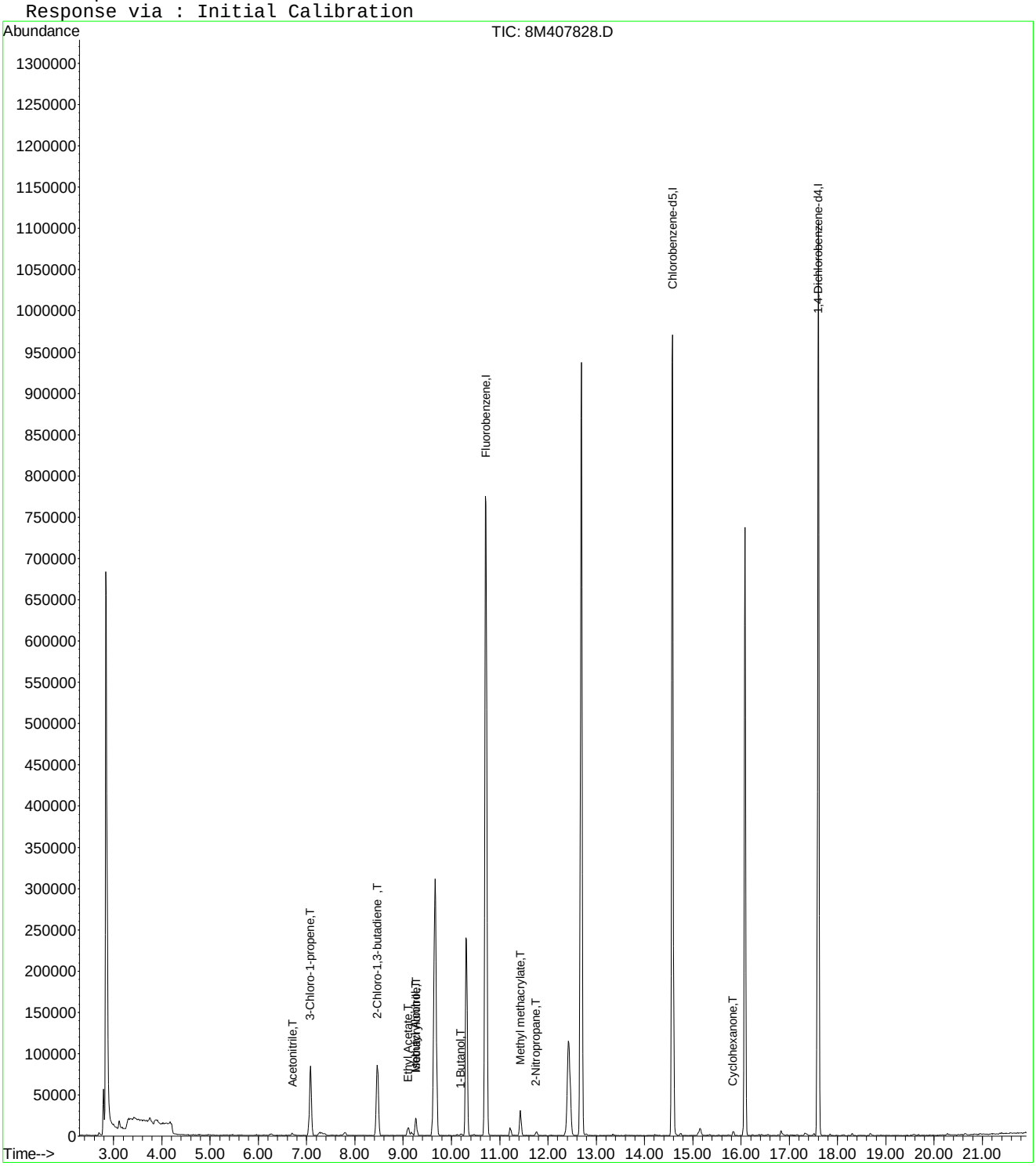
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.72	96	928093	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.58	117	670481	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	347120	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.71	41	3724	5.2139	ug/L		81
3) 3-Chloro-1-propene	7.08	41	87895	5.0600	ug/L		95
4) 2-Chloro-1,3-butadiene	8.46	53	83096	4.6491	ug/L		97
5) Ethyl Acetate	9.11	43	19297	4.0869	ug/L		95
6) Methacrylonitrile	9.27	67	8508	4.1055	ug/L		97
7) Isobutyl Alcohol	9.26	43	1318	6.8122	ug/L	#	56
8) 1-Butanol	10.19	56	1930	20.2377	ug/L	#	64
9) Methyl methacrylate	11.43	41	22250	3.8908	ug/L		96
10) 2-Nitropropane	11.75	43	2454	2.5566	ug/L		66
13) Cyclohexanone	15.83	55	2773	3.7471	ug/L	#	43

(#) = qualifier out of range (m) = manual integration
8M407828.D A9FOOWTR.M Tue Oct 06 11:56:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407828.D Vial: 2
Acq On : 5 Oct 2015 11:49 Operator: TMB
Sample : WG540826-02 5ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407828.D Vial: 2
Acq On : 5 Oct 2015 11:49 Operator: TMB
Sample : WG540826-02 5ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	5.0000	5.2139	-4.3	100	0.01
3	T	3-Chloro-1-propene	5.0000	5.0600	-1.2	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	4.6491	7.0	100	0.00
5	T	Ethyl Acetate	5.0000	4.0869	18.3	100	0.01
6	T	Methacrylonitrile	5.0000	4.1055	17.9	100	0.01
7	T	Isobutyl Alcohol	-1.0000	6.8122	0.0	100	-0.01
8	T	1-Butanol	-1.0000	20.2377	0.0	100	0.00
9	T	Methyl methacrylate	5.0000	3.8908	22.2	100	0.00
10	T	2-Nitropropane	-1.0000	2.5566	0.0	0	-0.01
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	3.7471	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407828.D A9FOOWTR.M Tue Oct 06 11:54:24 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407829.D Vial: 3
Acq On : 5 Oct 2015 12:17 Operator: TMB
Sample : WG540826-03 20ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:56 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

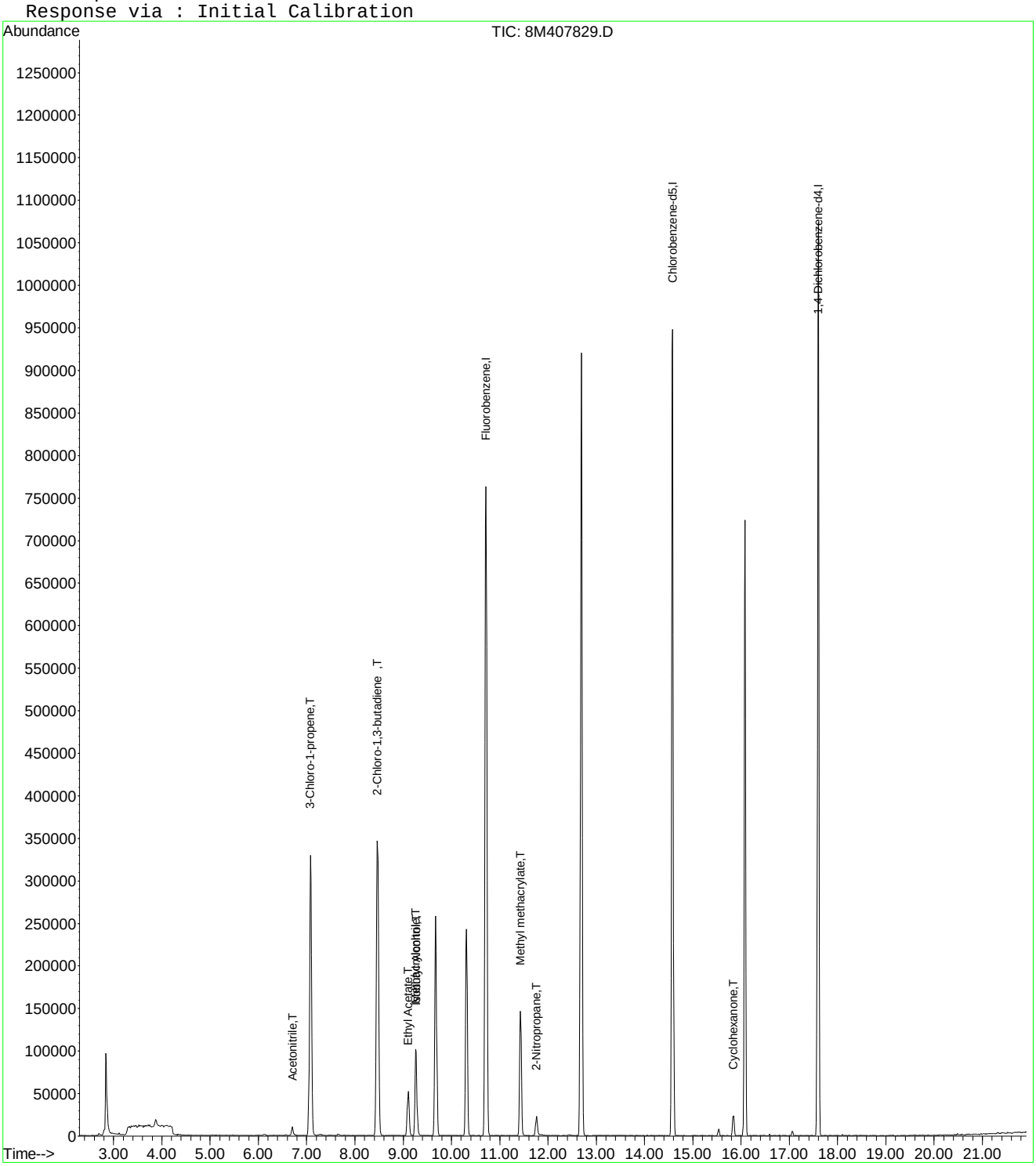
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	903673	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	657140	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	345767	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	14085	20.2529	ug/L	98
3) 3-Chloro-1-propene	7.08	41	349549	20.6667	ug/L	100
4) 2-Chloro-1,3-butadiene	8.46	53	347796	19.9846	ug/L	100
5) Ethyl Acetate	9.10	43	93237	20.2805	ug/L	97
6) Methacrylonitrile	9.26	67	40077	19.8617	ug/L	100
7) Isobutyl Alcohol	9.27	43	6436	34.1640	ug/L #	94
9) Methyl methacrylate	11.43	41	106029	19.0419	ug/L	97
10) 2-Nitropropane	11.76	43	12836	13.7339	ug/L	86
13) Cyclohexanone	15.84	55	14620	19.8329	ug/L	92

(#) = qualifier out of range (m) = manual integration
8M407829.D A9FOOWTR.M Tue Oct 06 11:56:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407829.D Vial: 3
Acq On : 5 Oct 2015 12:17 Operator: TMB
Sample : WG540826-03 20ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407829.D Vial: 3
Acq On : 5 Oct 2015 12:17 Operator: TMB
Sample : WG540826-03 20ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	20.2529	-1.3	100	0.00
3	T	3-Chloro-1-propene	20.0000	20.6667	-3.3	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	19.9846	0.1	100	0.00
5	T	Ethyl Acetate	20.0000	20.2805	-1.4	100	0.00
6	T	Methacrylonitrile	20.0000	19.8618	0.7	100	0.00
7	T	Isobutyl Alcohol	-1.0000	34.1640	0.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.19#
9	T	Methyl methacrylate	20.0000	19.0419	4.8	100	0.00
10	T	2-Nitropropane	-1.0000	13.7339	0.0	0	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	19.8329	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407829.D A9FOOWTR.M Tue Oct 06 11:54:38 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 13:13:37 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

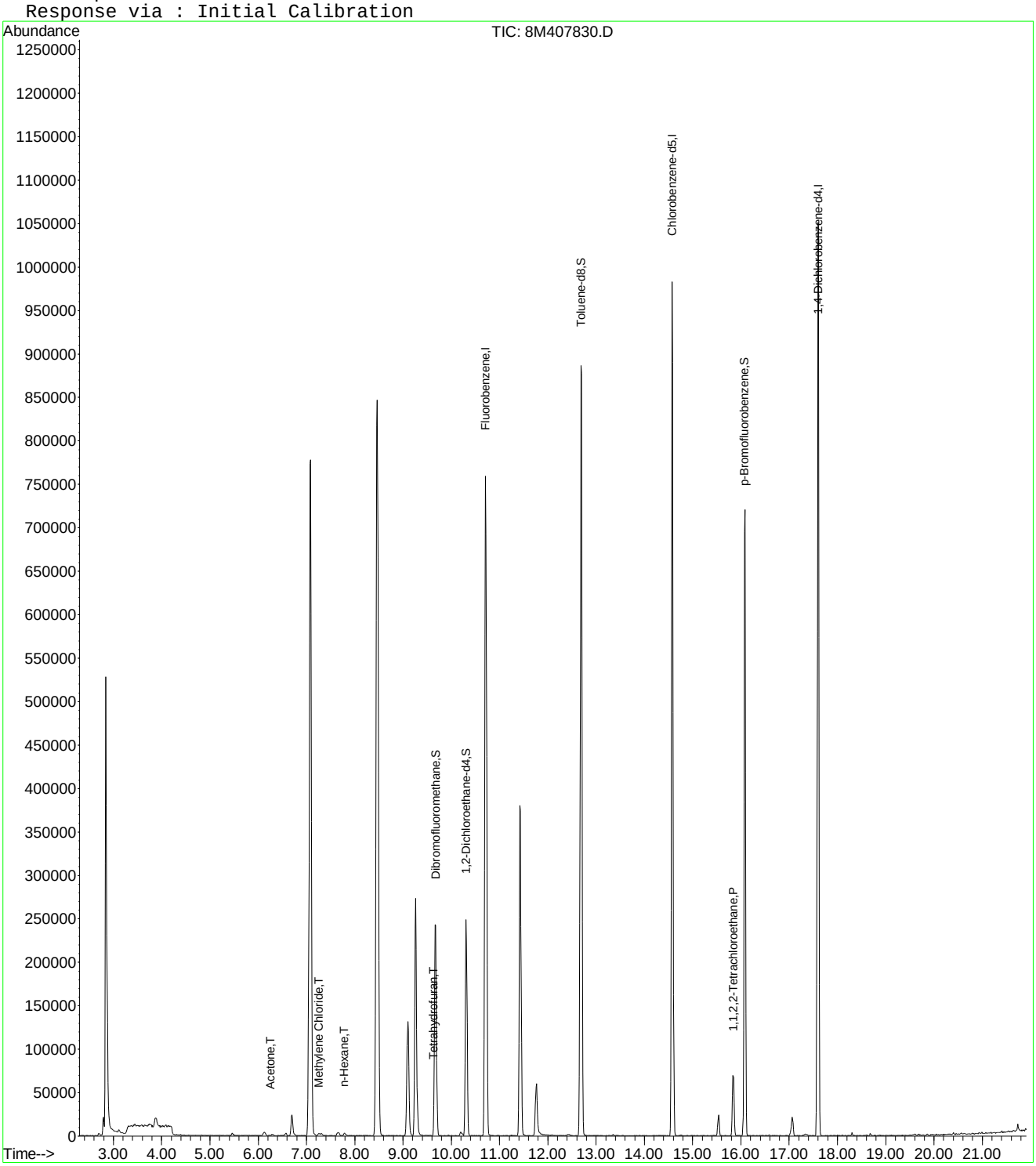
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	883897	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	665815	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	354078	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.68	111	212038	25.2054	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.84%			
43) 1,2-Dichloroethane-d4	10.31	65	214919	25.0573	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.24%			
58) Toluene-d8	12.69	98	784209	25.3851	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.56%			
80) p-Bromofluorobenzene	16.07	95	309869	25.0818	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.32%			
Target Compounds						Qvalue
13) Acetone	6.26	43	674	0.5137	ug/L #	48
19) Methylene Chloride	7.26	84	1894	0.2128	ug/L	67
24) n-Hexane	7.79	57	2250	0.1674	ug/L	96
36) Tetrahydrofuran	9.64	42	735	0.4954	ug/L #	40
79) 1,1,2,2-Tetrachloroethane	15.85	83	3323	0.5087	ug/L #	26

(#) = qualifier out of range (m) = manual integration
8M407830.D 8260WT.M Mon Oct 05 13:13:38 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 13:13 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



8M407830.D 8260WT.M Mon Oct 05 13:13:39 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:57 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

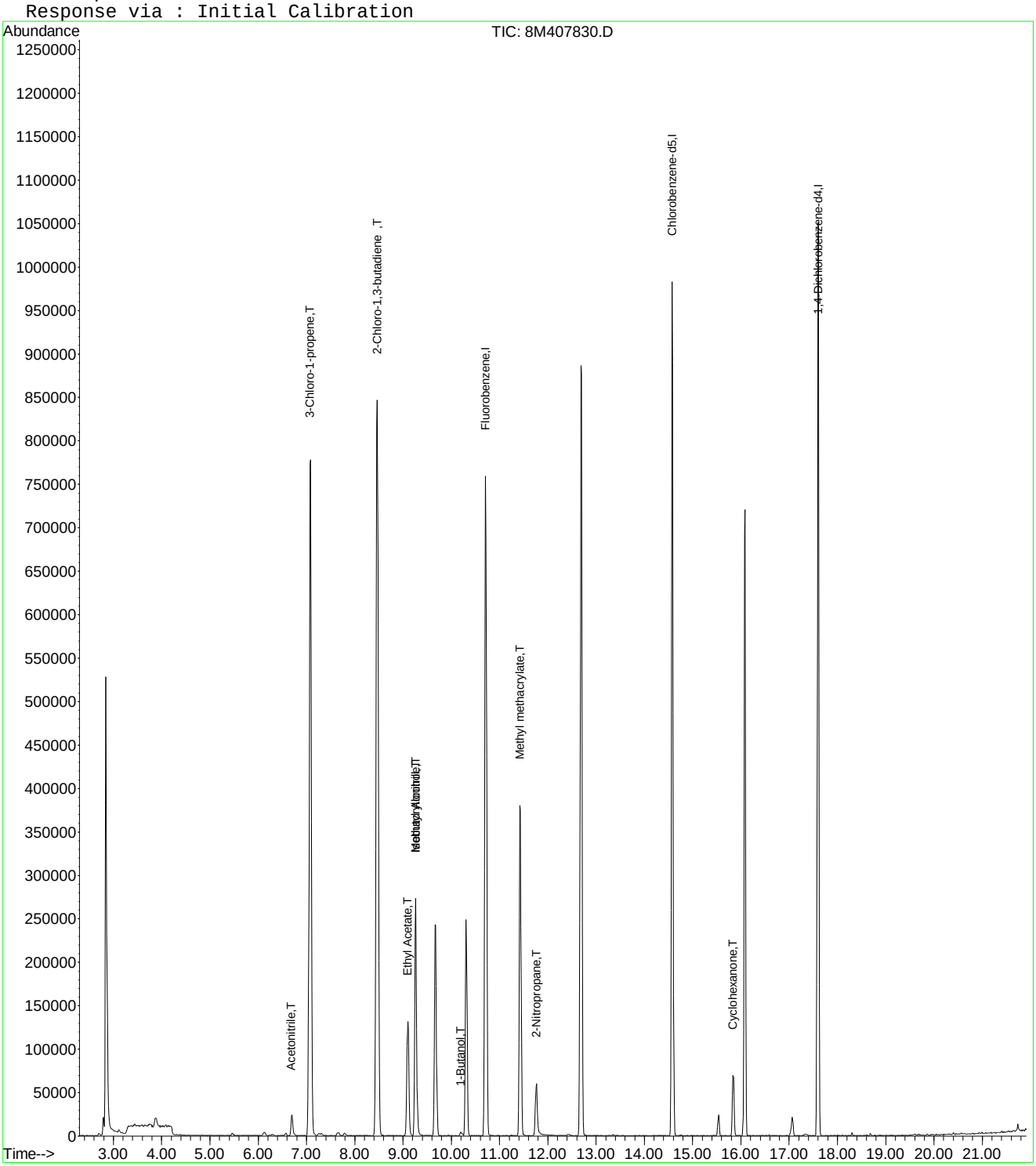
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	883897	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	665815	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	354078	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.69	41	35080	51.5703	ug/L	99
3) 3-Chloro-1-propene	7.07	41	841804	50.8844	ug/L	100
4) 2-Chloro-1,3-butadiene	8.47	53	851495	50.0222	ug/L	100
5) Ethyl Acetate	9.10	43	233139	51.8459	ug/L	97
6) Methacrylonitrile	9.26	67	101702	51.5301	ug/L	97
7) Isobutyl Alcohol	9.26	43	17567	95.3366	ug/L	98
8) 1-Butanol	10.19	56	3729	41.0570	ug/L	92
9) Methyl methacrylate	11.42	41	280126	51.4337	ug/L	98
10) 2-Nitropropane	11.76	43	37061	40.5407	ug/L	95
13) Cyclohexanone	15.84	55	40139	53.1730	ug/L	88

(#) = qualifier out of range (m) = manual integration
8M407830.D A9FOOWTR.M Tue Oct 06 11:56:57 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407830.D Vial: 4
Acq On : 5 Oct 2015 12:51 Operator: TMB
Sample : WG540826-04 50ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	51.5703	-3.1	100	0.00
3	T	3-Chloro-1-propene	50.0000	50.8844	-1.8	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	50.0222	-0.0	100	0.00
5	T	Ethyl Acetate	50.0000	51.8459	-3.7	100	0.00
6	T	Methacrylonitrile	50.0000	51.5301	-3.1	100	0.00
7	T	Isobutyl Alcohol	100.0000	95.3366	4.7	100	0.00
8	T	1-Butanol	50.0000	41.0570	17.9	100	0.00
9	T	Methyl methacrylate	50.0000	51.4337	-2.9	100	0.00
10	T	2-Nitropropane	50.0000	40.5407	18.9	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	50.0000	53.1730	-6.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407830.D A9FOOWTR.M Tue Oct 06 11:54:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 13:42:04 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

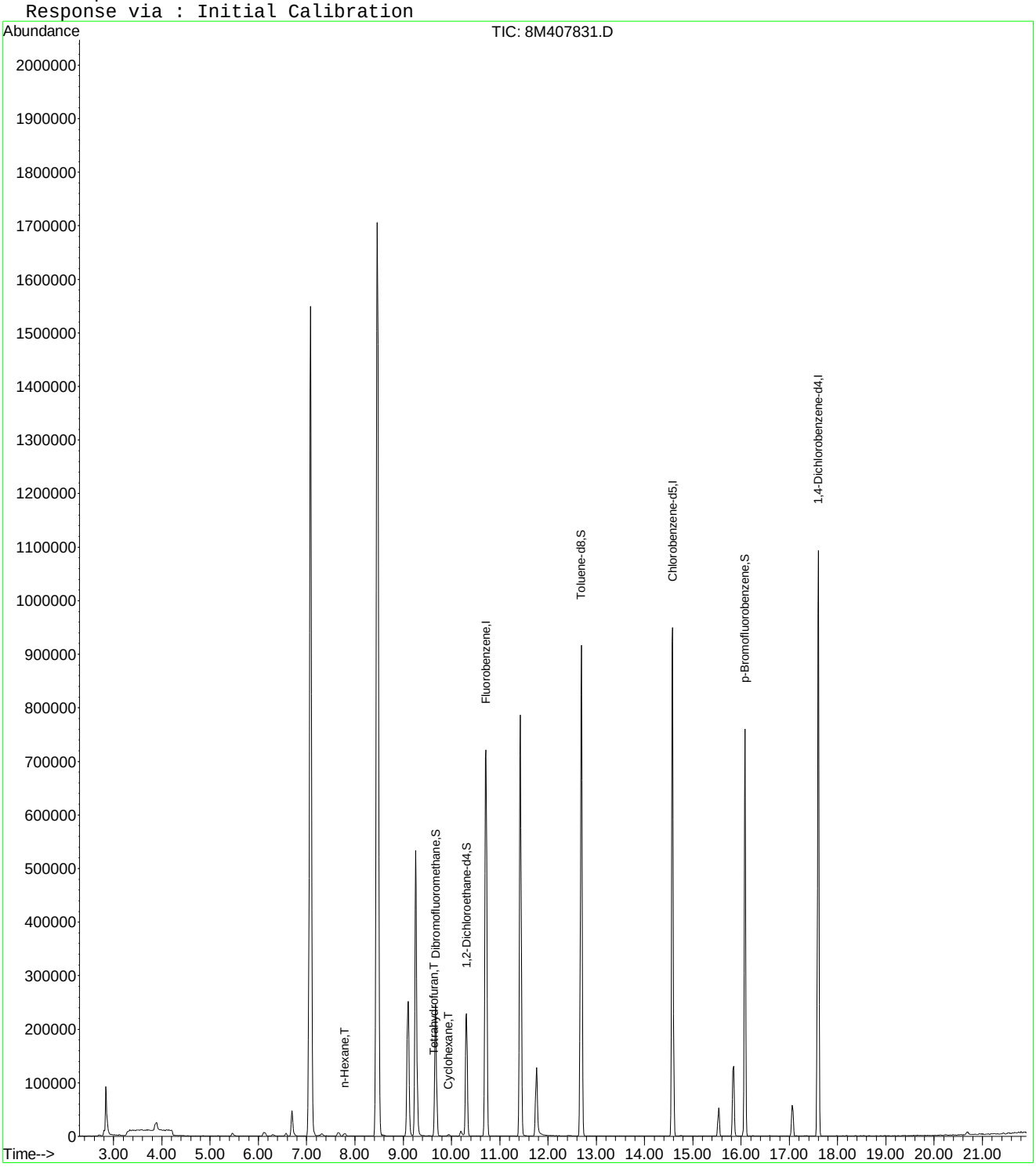
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	866178	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	661111	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	356230	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	202803	24.6008	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.40%			
43) 1,2-Dichloroethane-d4	10.31	65	203632	24.2270	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.92%			
58) Toluene-d8	12.69	98	789106	25.7254	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.92%			
80) p-Bromofluorobenzene	16.08	95	308907	24.8529	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.40%			
Target Compounds						Qvalue
24) n-Hexane	7.79	57	3351	0.2544	ug/L	79
36) Tetrahydrofuran	9.64	42	639	0.4395	ug/L #	40
39) Cyclohexane	9.94	56	2379	0.1385	ug/L #	66

(#) = qualifier out of range (m) = manual integration
8M407831.D 8260WT.M Mon Oct 05 13:42:05 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 13:42 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:58 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

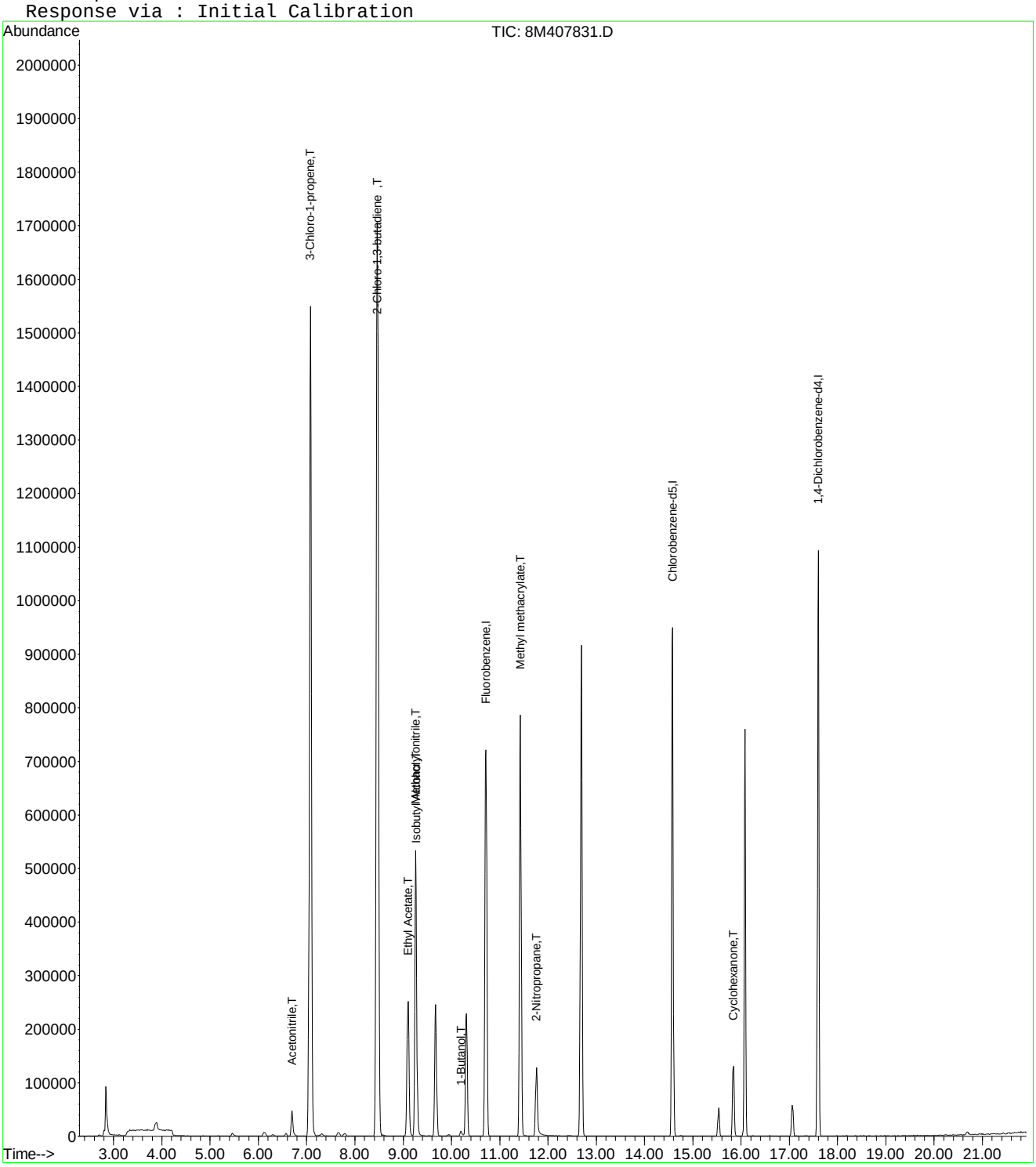
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	866178	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	661111	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	356230	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	67393	101.0995	ug/L	100
3) 3-Chloro-1-propene	7.08	41	1633129	100.7368	ug/L	100
4) 2-Chloro-1,3-butadiene	8.46	53	1684207	100.9649	ug/L	99
5) Ethyl Acetate	9.10	43	453445	102.9007	ug/L	99
6) Methacrylonitrile	9.26	67	196843	101.7762	ug/L	95
7) Isobutyl Alcohol	9.27	43	37534	207.8650	ug/L	92
8) 1-Butanol	10.20	56	8253	92.7258	ug/L	78
9) Methyl methacrylate	11.43	41	562497	105.3924	ug/L	98
10) 2-Nitropropane	11.76	43	77739	86.7776	ug/L	89
13) Cyclohexanone	15.84	55	74077	97.5385	ug/L	84

(#) = qualifier out of range (m) = manual integration
8M407831.D A9FOOWTR.M Tue Oct 06 11:56:58 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407831.D Vial: 5
Acq On : 5 Oct 2015 13:20 Operator: TMB
Sample : WG540826-05 100ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:54:01 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	100.0000	101.0995	-1.1	100	0.00
3	T	3-Chloro-1-propene	100.0000	100.7368	-0.7	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	100.9649	-1.0	100	0.00
5	T	Ethyl Acetate	100.0000	102.9007	-2.9	100	0.00
6	T	Methacrylonitrile	100.0000	101.7762	-1.8	100	0.00
7	T	Isobutyl Alcohol	200.0000	207.8650	-3.9	100	0.00
8	T	1-Butanol	100.0000	92.7258	7.3	100	0.00
9	T	Methyl methacrylate	100.0000	105.3924	-5.4	100	0.00
10	T	2-Nitropropane	100.0000	86.7776	13.2	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	100.0000	97.5386	2.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407831.D A9FOOWTR.M Tue Oct 06 11:55:12 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 14:10:58 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

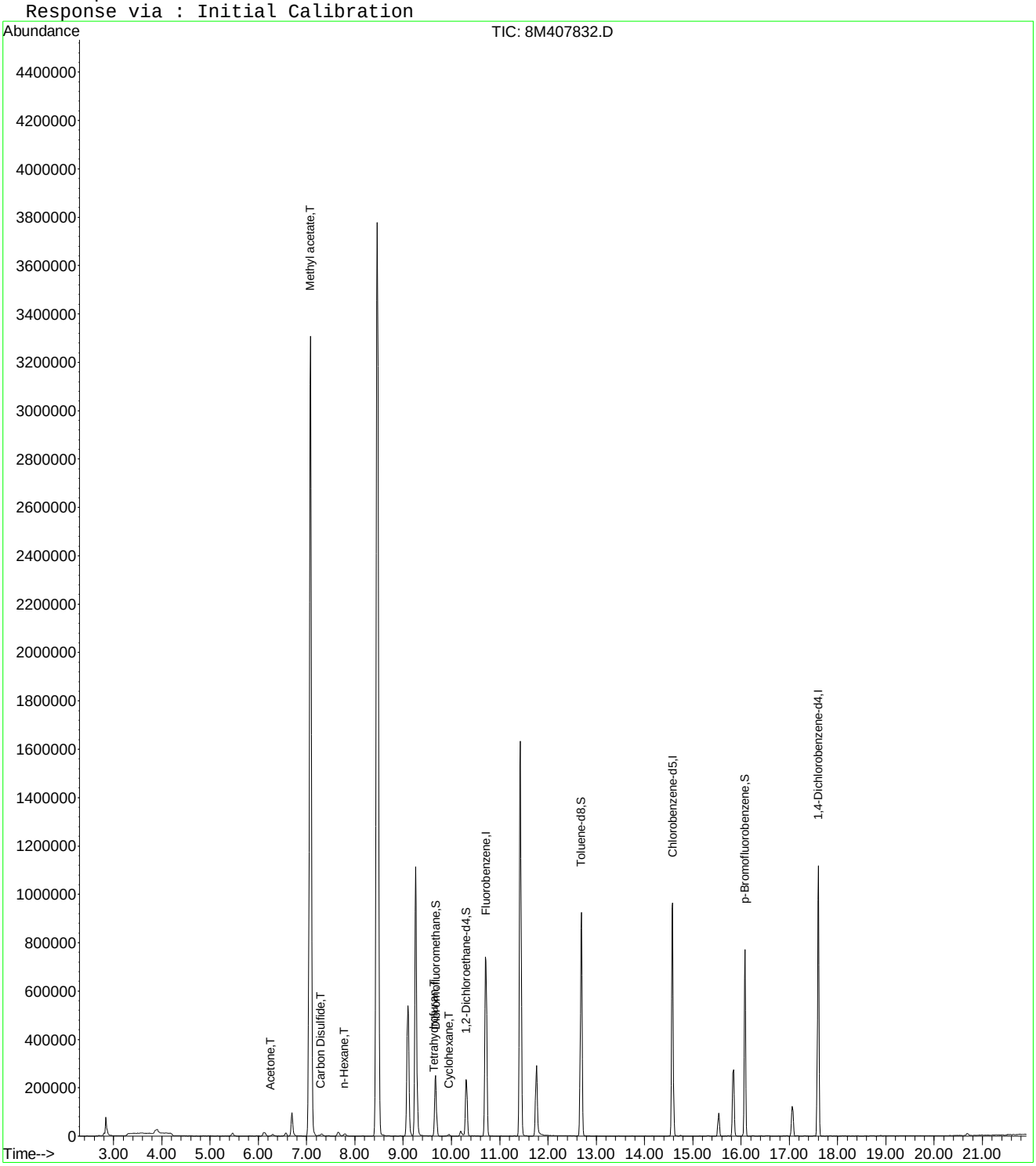
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	897754	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	673480	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	363907	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	208738	24.4301 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.72%		
43) 1,2-Dichloroethane-d4	10.30	65	213605	24.5197 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.08%		
58) Toluene-d8	12.69	98	807841	25.8525 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.40%		
80) p-Bromofluorobenzene	16.08	95	324104	25.5255 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.12%		
Target Compounds					Qvalue
13) Acetone	6.25	43	677	0.5081 ug/L #	48
18) Methyl acetate	7.08	43	1823	0.3618 ug/L #	1
20) Carbon Disulfide	7.30	76	5054	0.1712 ug/L #	78
24) n-Hexane	7.78	57	7743	0.5671 ug/L	88
36) Tetrahydrofuran	9.64	42	1466	0.9728 ug/L #	40
39) Cyclohexane	9.95	56	4715	0.2647 ug/L	84

(#) = qualifier out of range (m) = manual integration
8M407832.D 8260WT.M Mon Oct 05 14:10:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 14:10 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:58 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

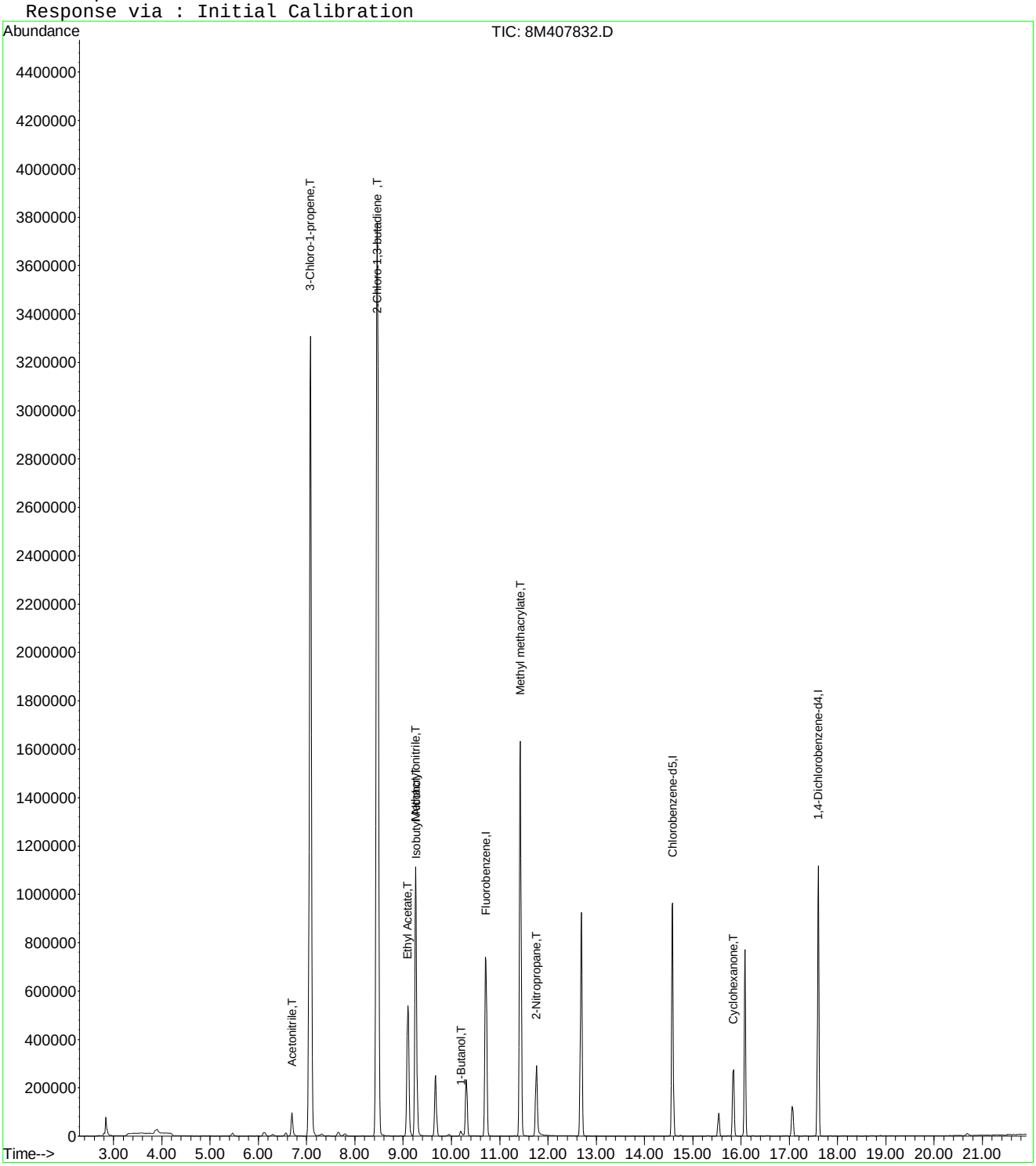
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	897754	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	673480	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	363907	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	138277	200.1400	ug/L	97
3) 3-Chloro-1-propene	7.08	41	3475078	206.8151	ug/L	99
4) 2-Chloro-1,3-butadiene	8.46	53	3691199	213.4973	ug/L	98
5) Ethyl Acetate	9.09	43	949825	207.9635	ug/L	98
6) Methacrylonitrile	9.26	67	412747	205.9018	ug/L	95
7) Isobutyl Alcohol	9.27	43	71985	384.6346	ug/L	94
8) 1-Butanol	10.20	56	18764	203.4062	ug/L	78
9) Methyl methacrylate	11.43	41	1165248	210.6479	ug/L	99
10) 2-Nitropropane	11.76	43	181242	195.1989	ug/L	92
13) Cyclohexanone	15.84	55	156208	201.3429	ug/L	89

(#) = qualifier out of range (m) = manual integration
8M407832.D A9FOOWTR.M Tue Oct 06 11:56:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407832.D Vial: 6
Acq On : 5 Oct 2015 13:49 Operator: TMB
Sample : WG540826-06 200ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 14:39:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

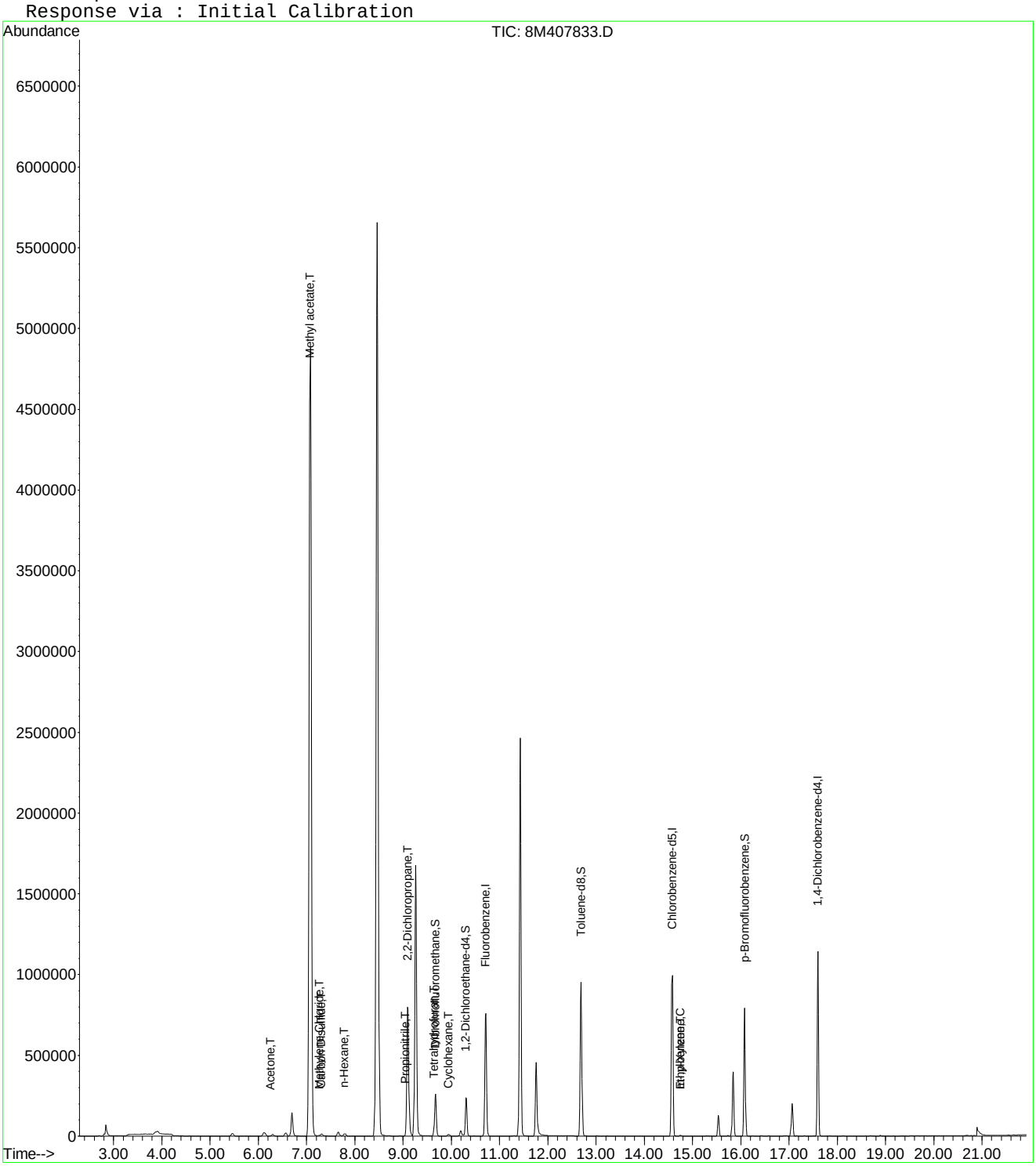
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	914795	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	689423	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	367388	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	213426	24.5135	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.04%			
43) 1,2-Dichloroethane-d4	10.30	65	216408	24.3787	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.52%			
58) Toluene-d8	12.69	98	818846	25.5987	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.40%			
80) p-Bromofluorobenzene	16.08	95	327784	25.5707	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.28%			
Target Compounds						Qvalue
13) Acetone	6.25	43	1107	0.8153	ug/L #	48
18) Methyl acetate	7.07	43	3926	0.7646	ug/L #	1
19) Methylene Chloride	7.26	84	1197	0.1300	ug/L	55
20) Carbon Disulfide	7.31	76	6659	0.2214	ug/L #	86
24) n-Hexane	7.78	57	11874	0.8534	ug/L	97
30) Propionitrile	9.05	54	208	0.3030	ug/L #	1
31) 2,2-Dichloropropane	9.09	77	2023	0.1353	ug/L #	42
36) Tetrahydrofuran	9.64	42	1301	0.8472	ug/L #	40
39) Cyclohexane	9.94	56	6598	0.3636	ug/L	94
72) Ethylbenzene	14.75	106	2422	0.1584	ug/L	54
73) m-,p-Xylene	14.75	106	2422	0.1381	ug/L	82

(#) = qualifier out of range (m) = manual integration
8M407833.D 8260WT.M Mon Oct 05 14:39:57 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 14:39 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:56:59 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

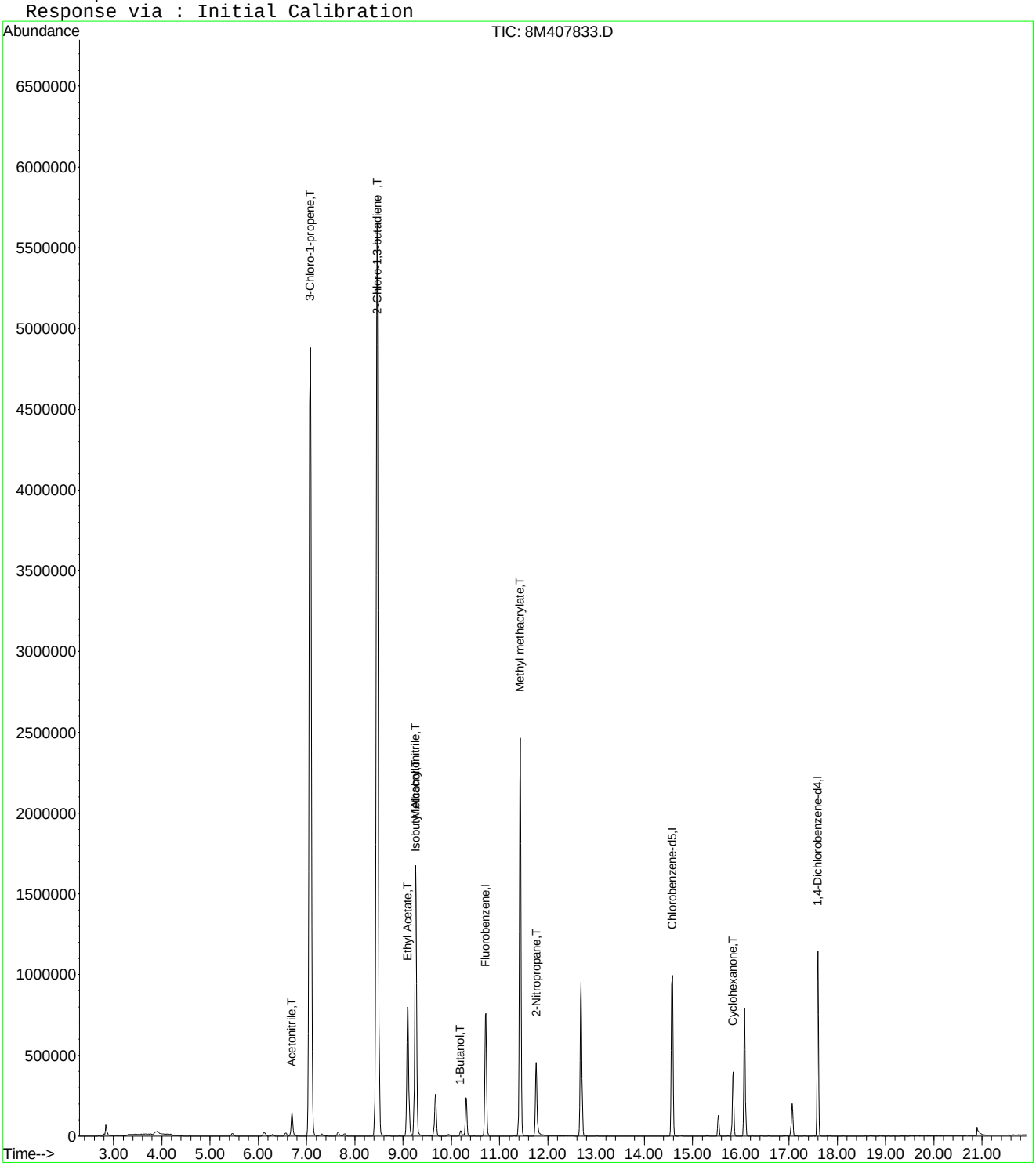
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	914795	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	689423	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	367388	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	204679	290.7307	ug/L	99
3) 3-Chloro-1-propene	7.08	41	5107808	298.3223	ug/L	99
4) 2-Chloro-1,3-butadiene	8.46	53	5432917	308.3838	ug/L	97
5) Ethyl Acetate	9.09	43	1404245	301.7310	ug/L	99
6) Methacrylonitrile	9.26	67	619787	303.4256	ug/L	96
7) Isobutyl Alcohol	9.27	43	113276	593.9881	ug/L	97
8) 1-Butanol	10.19	56	30662	326.1916	ug/L	85
9) Methyl methacrylate	11.43	41	1738162	308.3633	ug/L	98
10) 2-Nitropropane	11.76	43	289289	305.7623	ug/L	92
13) Cyclohexanone	15.84	55	224807	287.0174	ug/L	90

(#) = qualifier out of range (m) = manual integration
8M407833.D A9FOOWTR.M Tue Oct 06 11:56:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407833.D Vial: 7
Acq On : 5 Oct 2015 14:17 Operator: TMB
Sample : WG540826-07 300ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:56 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 15:09:02 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

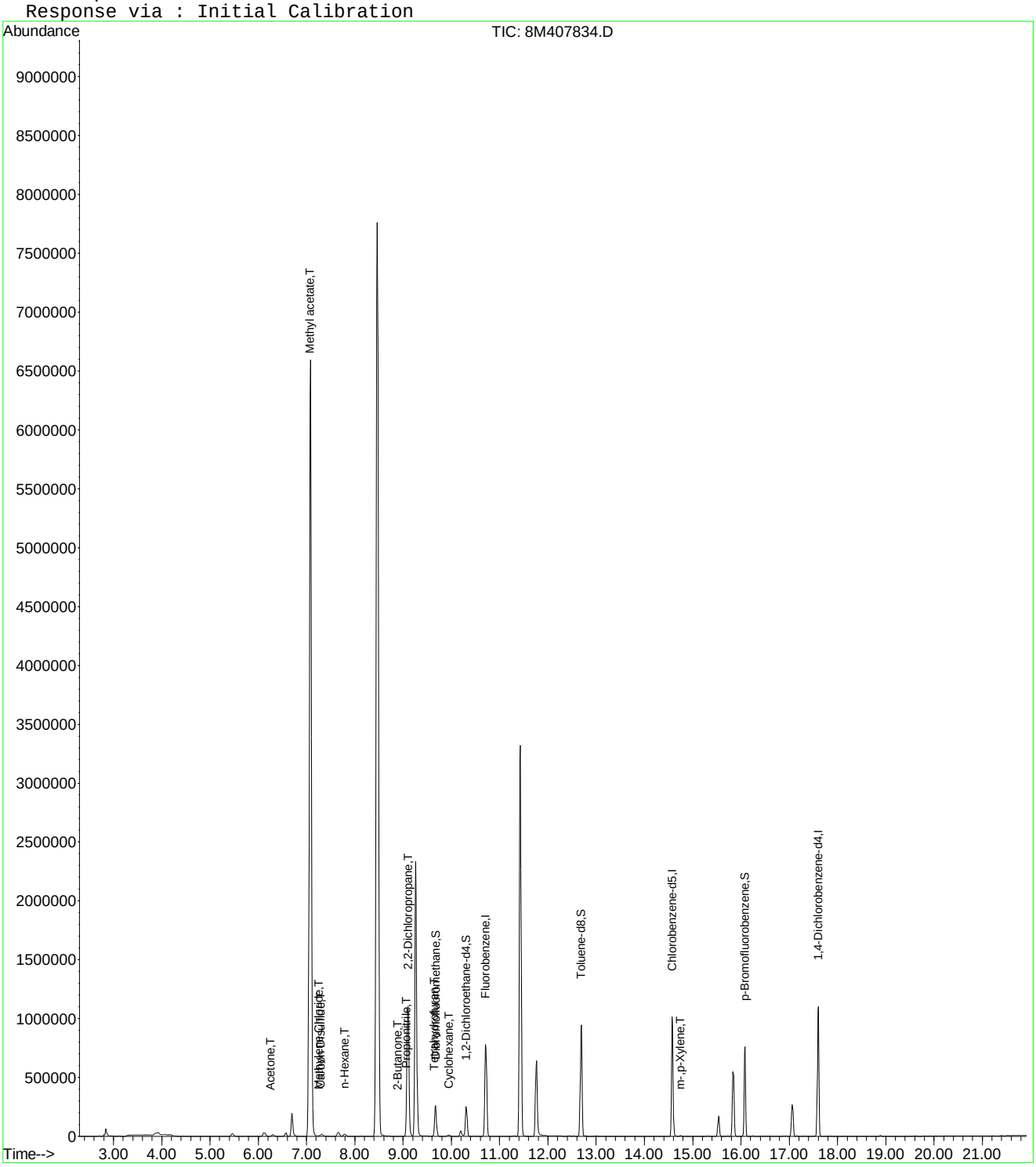
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	933879	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.57	117	691340	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	373332	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	222232	25.0033 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.00%		
43) 1,2-Dichloroethane-d4	10.31	65	222556	24.5590 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.24%		
58) Toluene-d8	12.69	98	831940	25.9359 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.76%		
80) p-Bromofluorobenzene	16.08	95	329799	25.3183 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.28%		
Target Compounds					Qvalue
13) Acetone	6.25	43	2307	1.6644 ug/L #	48
18) Methyl acetate	7.07	43	5300	1.0111 ug/L #	1
19) Methylene Chloride	7.26	84	1631	0.1735 ug/L #	6
20) Carbon Disulfide	7.30	76	9227	0.3005 ug/L #	79
24) n-Hexane	7.79	57	16005	1.1268 ug/L	89
29) 2-Butanone	8.89	43	1241	0.5197 ug/L #	57
30) Propionitrile	9.07	54	773	1.1032 ug/L #	1
31) 2,2-Dichloropropane	9.11	77	2811	0.1842 ug/L #	42
36) Tetrahydrofuran	9.65	42	1879	1.1986 ug/L #	40
39) Cyclohexane	9.95	56	9653	0.5211 ug/L	94
73) m-,p-Xylene	14.75	106	3655	0.2078 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M407834.D 8260WT.M Mon Oct 05 15:09:03 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 15:09 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:57:00 2015 Quant Results File: A9FOOWTR.RES

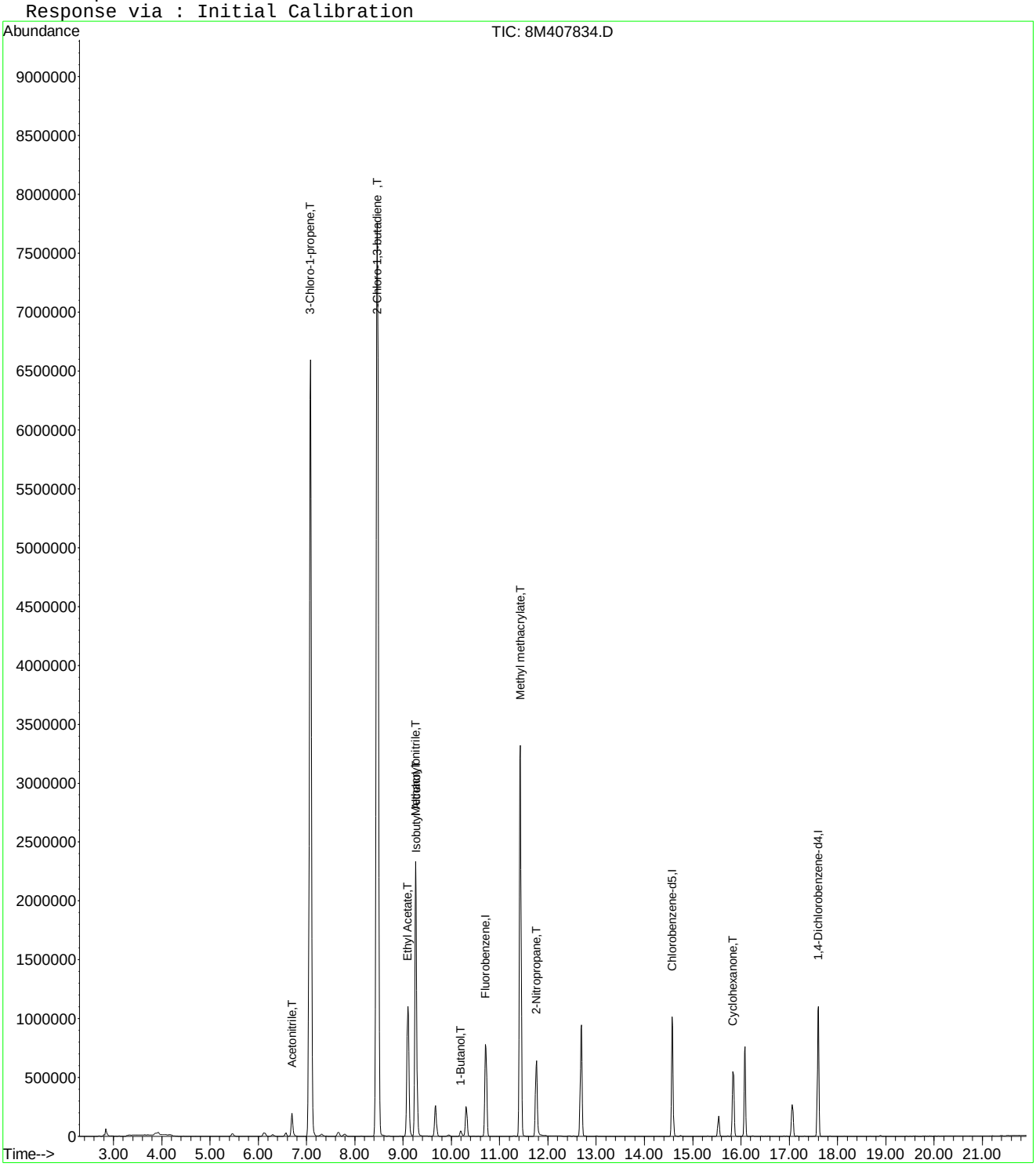
Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	933879	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	691340	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	373332	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	276454	384.6570	ug/L	96
3) 3-Chloro-1-propene	7.08	41	6839307	391.2880	ug/L	97
4) 2-Chloro-1,3-butadiene	8.47	53	7261886	403.7765	ug/L	94
5) Ethyl Acetate	9.10	43	1919647	404.0467	ug/L	99
6) Methacrylonitrile	9.26	67	856150	410.5753	ug/L	97
7) Isobutyl Alcohol	9.27	43	151941	780.4553	ug/L	92
8) 1-Butanol	10.19	56	39703	413.7412	ug/L	80
9) Methyl methacrylate	11.43	41	2385524	414.5619	ug/L	99
10) 2-Nitropropane	11.76	43	432493	447.7796	ug/L	93
13) Cyclohexanone	15.83	55	313432	393.7962	ug/L	87

(#) = qualifier out of range (m) = manual integration
8M407834.D A9FOOWTR.M Tue Oct 06 11:57:00 2015 Page 1

Data File : C:\MSDCHEM\2\DATA\100515\8M407834.D Vial: 8
Acq On : 5 Oct 2015 14:47 Operator: TMB
Sample : WG540826-08 400ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:57 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 15:37:56 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

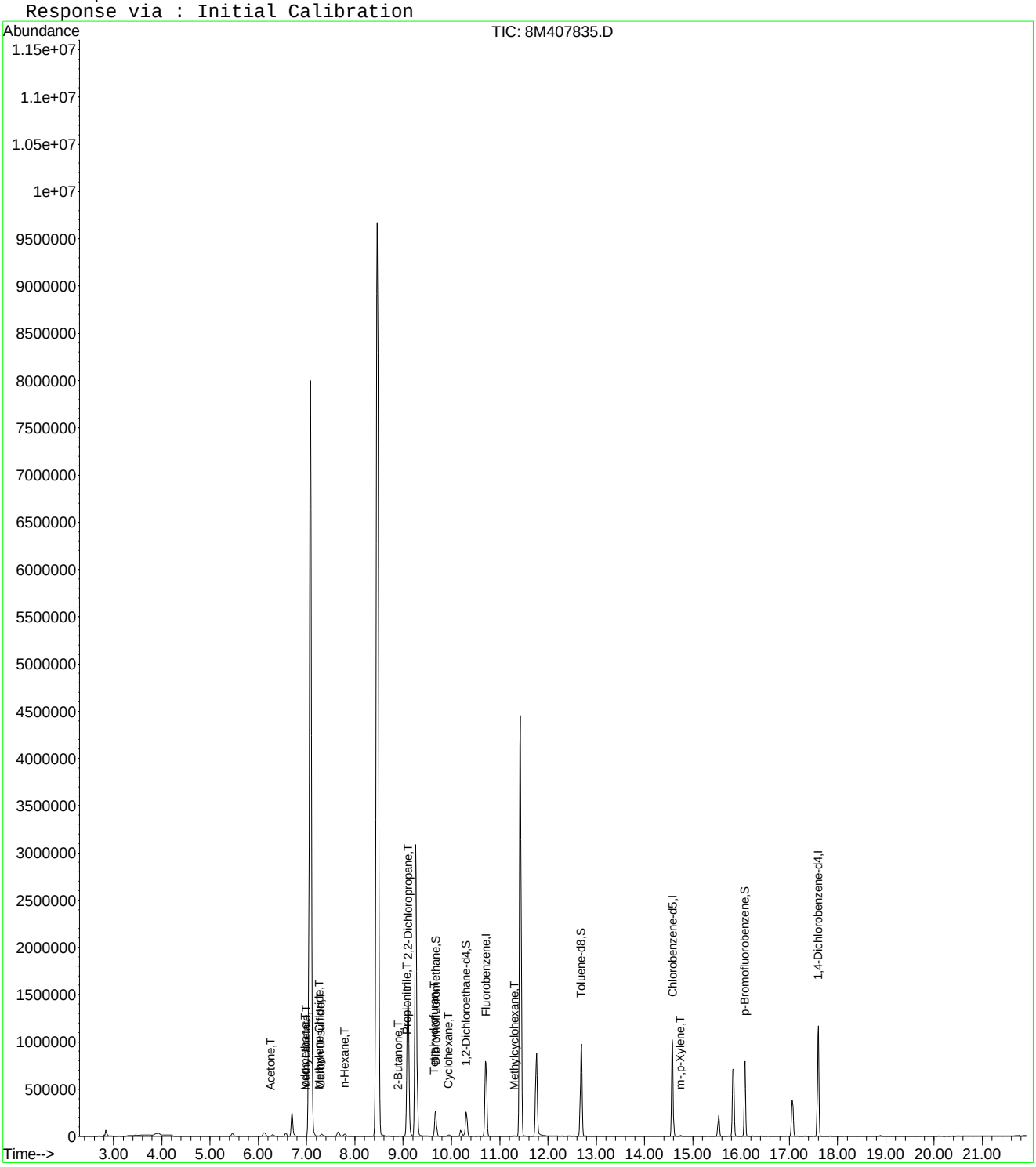
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	952136	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	712384	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	381907	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	222948	24.6029 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.40%		
43) 1,2-Dichloroethane-d4	10.30	65	229612	24.8518 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.40%		
58) Toluene-d8	12.69	98	849027	25.6867 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.76%		
80) p-Bromofluorobenzene	16.08	95	340742	25.5710 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.28%		
Target Compounds					Qvalue
13) Acetone	6.26	43	2624	1.8568 ug/L #	48
17) Iodomethane	6.98	142	414	1.8830 ug/L #	28
18) Methyl acetate	7.00	43	818	0.1531 ug/L #	64
19) Methylene Chloride	7.27	84	2206	0.2301 ug/L	69
20) Carbon Disulfide	7.30	76	12486	0.3989 ug/L #	78
24) n-Hexane	7.79	57	21760	1.5026 ug/L	96
29) 2-Butanone	8.90	43	1797	0.7381 ug/L #	57
30) Propionitrile	9.07	54	1629	2.2802 ug/L #	1
31) 2,2-Dichloropropane	9.11	77	3861	0.2482 ug/L #	52
36) Tetrahydrofuran	9.65	42	2063	1.2908 ug/L #	40
39) Cyclohexane	9.94	56	13508	0.7152 ug/L	88
48) Methylcyclohexane	11.31	83	2456	0.1572 ug/L #	73
73) m-,p-Xylene	14.75	106	3865	0.2133 ug/L	76

(#) = qualifier out of range (m) = manual integration
8M407835.D 8260WT.M Mon Oct 05 15:37:57 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 15:37 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:57:01 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

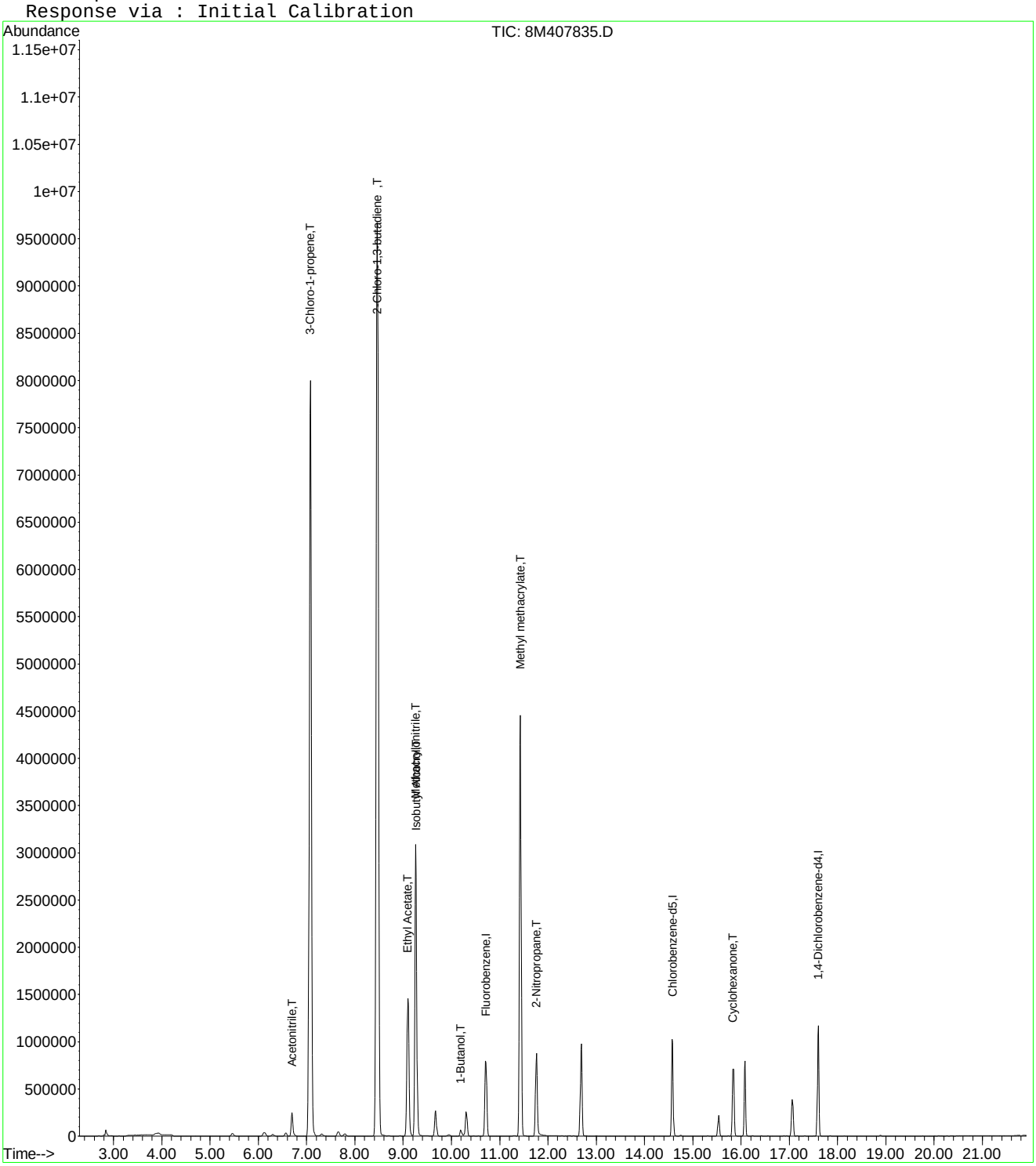
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.72	96	952136	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	712384	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	381907	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	355656	485.3695	ug/L	97
3) 3-Chloro-1-propene	7.08	41	8223448	461.4556	ug/L	95
4) 2-Chloro-1,3-butadiene	8.46	53	8764656	477.9893	ug/L	90
5) Ethyl Acetate	9.09	43	2535700	523.4795	ug/L	100
6) Methacrylonitrile	9.26	67	1137496	535.0377	ug/L	97
7) Isobutyl Alcohol	9.27	43	214402	1080.1734	ug/L	98
8) 1-Butanol	10.19	56	54442	556.4564	ug/L	87
9) Methyl methacrylate	11.43	41	3137676	534.8171	ug/L	99
10) 2-Nitropropane	11.76	43	594174	603.3794	ug/L	94
13) Cyclohexanone	15.83	55	412487	506.6127	ug/L	87

(#) = qualifier out of range (m) = manual integration
8M407835.D A9FOOWTR.M Tue Oct 06 11:57:01 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407835.D Vial: 9
Acq On : 5 Oct 2015 15:15 Operator: TMB
Sample : WG540826-09 500ug/L STD A9FOO Inst : HPMS8
Misc : 1,1 STD72810 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:57 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 05 17:10:31 2015 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

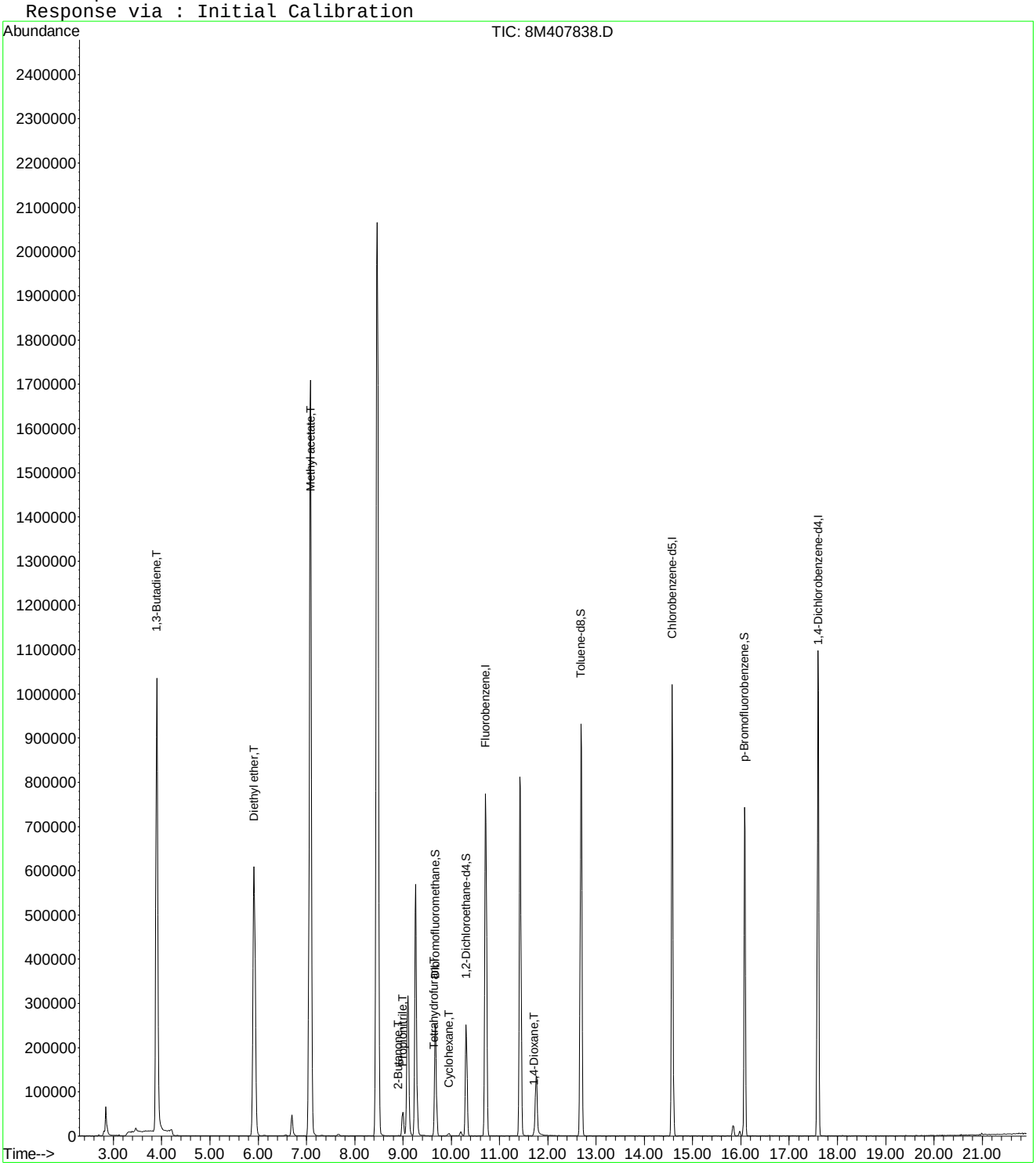
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	910348	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.58	117	672710	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	361469	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	216028	24.9336 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.72%		
43) 1,2-Dichloroethane-d4	10.31	65	220386	24.9481 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.80%		
58) Toluene-d8	12.68	98	805489	25.8067 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.24%		
80) p-Bromofluorobenzene	16.07	95	318985	25.2918 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.16%		
Target Compounds					Qvalue
5) 1,3-Butadiene	3.90	54	680860	64.5479 ug/L	96
9) Diethyl ether	5.91	59	636031	102.4537 ug/L	99
18) Methyl acetate	7.09	43	861	0.1685 ug/L #	1
29) 2-Butanone	8.90	43	1914	0.8222 ug/L	83
30) Propionitrile	8.99	54	68619	100.4600 ug/L	99
36) Tetrahydrofuran	9.65	42	849	0.5556 ug/L #	40
39) Cyclohexane	9.96	56	4155	0.2301 ug/L #	88
51) 1,4-Dioxane	11.71	88	8398	188.8572 ug/L	85

(#) = qualifier out of range (m) = manual integration
8M407838.D 8260WT.M Mon Oct 05 17:10:32 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 5 17:10 2015 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\2\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-30-15 HPMS 8
Last Update : Thu Oct 01 09:30:44 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 11:57:03 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

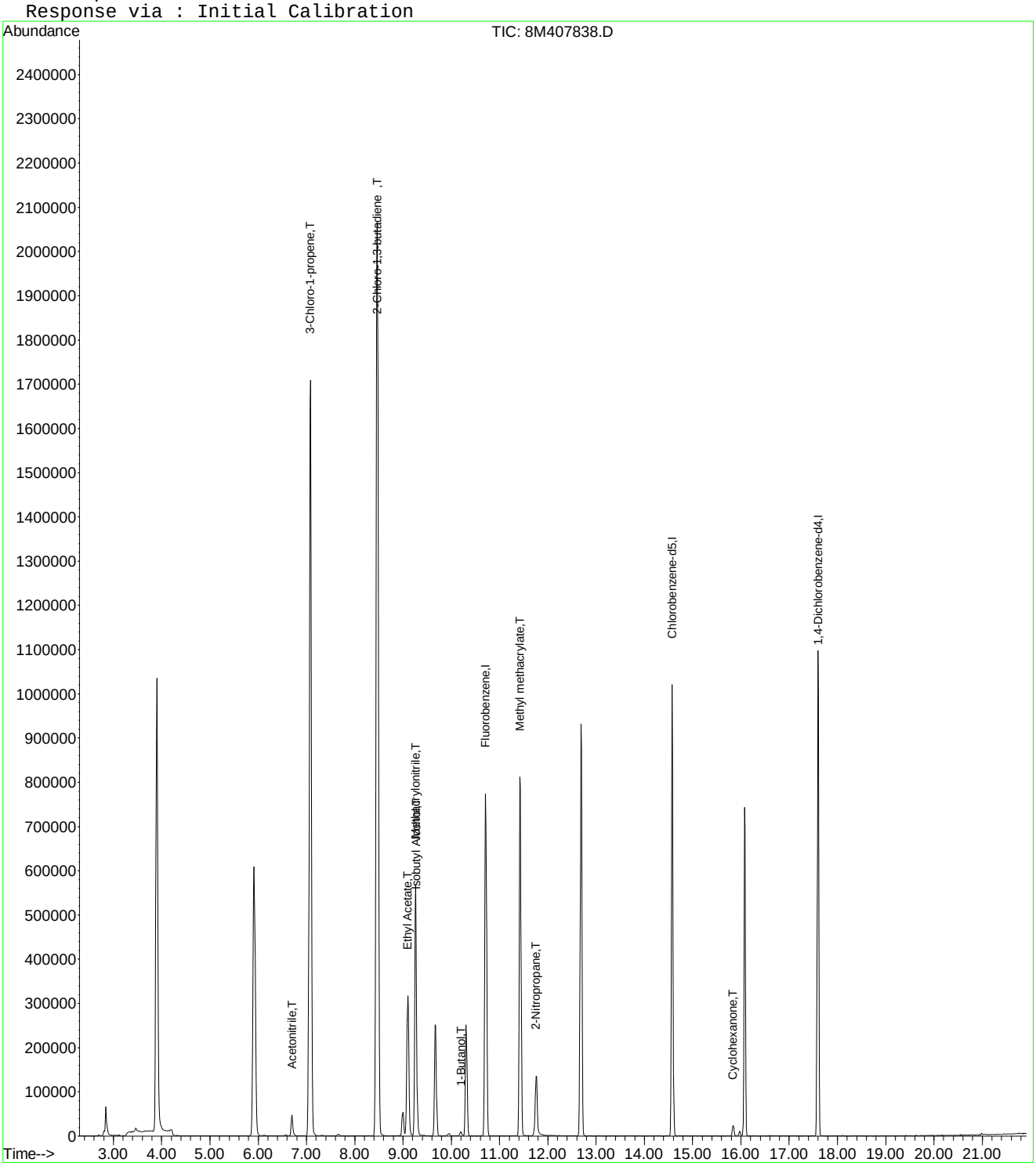
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	910348	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	672710	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	361469	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	68331	97.5330	ug/L	99
3) 3-Chloro-1-propene	7.08	41	1823769	107.0379	ug/L	100
4) 2-Chloro-1,3-butadiene	8.47	53	2081638	118.7353	ug/L	100
5) Ethyl Acetate	9.10	43	556798	120.2240	ug/L	97
6) Methacrylonitrile	9.26	67	209938	103.2802	ug/L	94
7) Isobutyl Alcohol	9.27	43	38987	205.4358	ug/L	96
8) 1-Butanol	10.20	56	7758	82.9351	ug/L	93
9) Methyl methacrylate	11.42	41	590033	105.1877	ug/L	99
10) 2-Nitropropane	11.75	43	94685	100.5656	ug/L	93
13) Cyclohexanone	15.84	55	13964	18.1202	ug/L	94

(#) = qualifier out of range (m) = manual integration
8M407838.D A9FOOWTR.M Tue Oct 06 11:57:03 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG541826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 11:57 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG540826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 06 12:32:35 2015 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration
DataAcq Meth : 8260WT

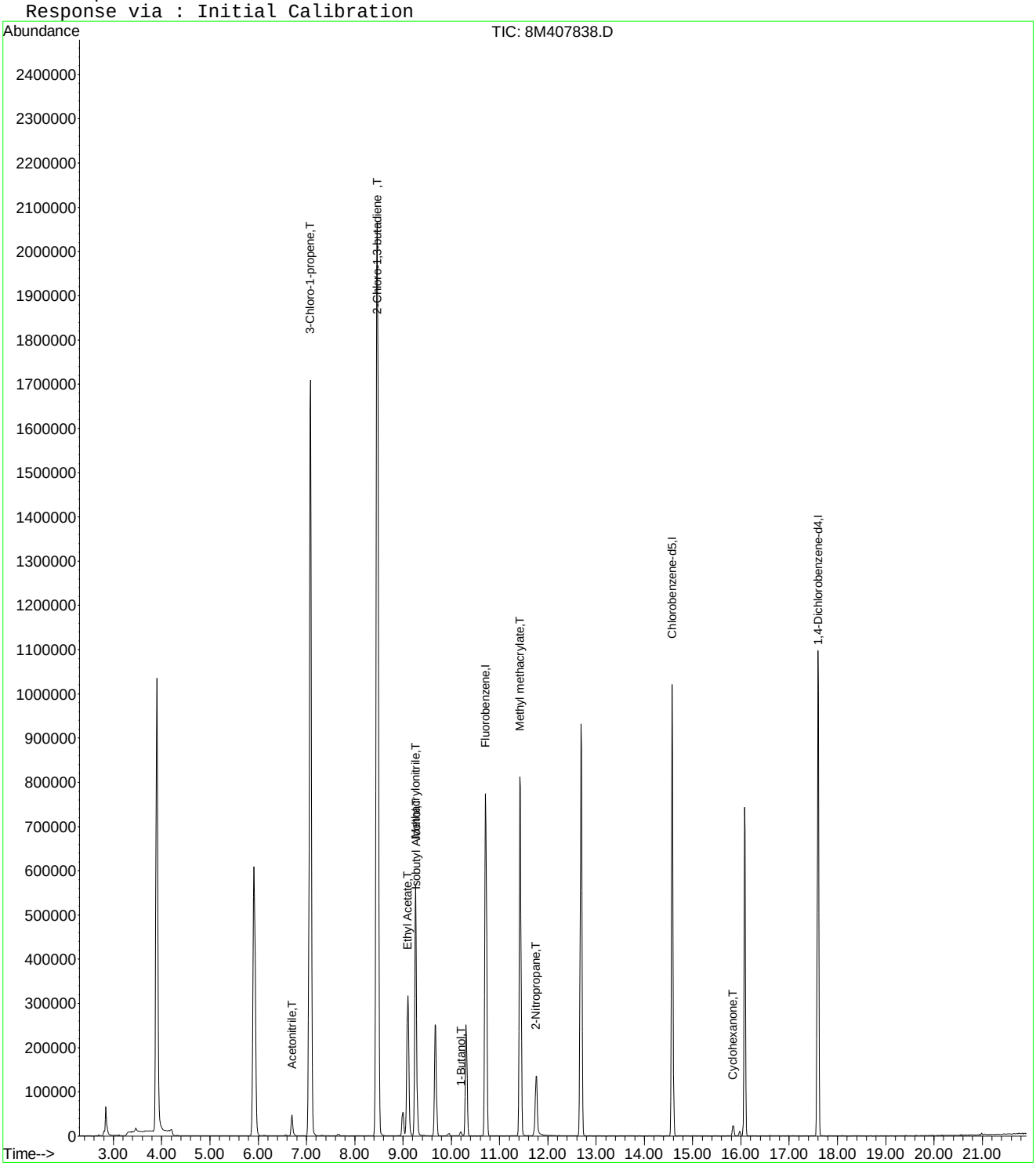
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	910348	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	672710	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	361469	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.70	41	68331	97.5330	ug/L	99
3) 3-Chloro-1-propene	7.08	41	1823769	107.0379	ug/L	100
4) 2-Chloro-1,3-butadiene	8.47	53	2081638	118.7353	ug/L	100
5) Ethyl Acetate	9.10	43	556798	120.2240	ug/L	97
6) Methacrylonitrile	9.26	67	209938	103.2802	ug/L	94
7) Isobutyl Alcohol	9.27	43	38987	205.4358	ug/L	96
8) 1-Butanol	10.20	56	7758	82.9351	ug/L	93
9) Methyl methacrylate	11.42	41	590033	105.1877	ug/L	99
10) 2-Nitropropane	11.75	43	94685	100.5656	ug/L	93
13) Cyclohexanone	15.84	55	13964	18.1202	ug/L	94

(#) = qualifier out of range (m) = manual integration
8M407838.D A9FOOWTR.M Tue Oct 06 12:32:36 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG540826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 6 12:32 2015 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Initial Calibration



8M407838.D A9FOOWTR.M Tue Oct 06 12:32:36 2015 Page 2

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100515\8M407838.D Vial: 12
Acq On : 5 Oct 2015 16:48 Operator: TMB
Sample : WG540826-10 100ug/L ALT SRC STD A9/FOO Inst : HPMS8
Misc : 1,1 STD72811 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 10-05-15 HPMS8
Last Update : Tue Oct 06 11:55:21 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	105	0.00
2	T	Acetonitrile	100.0000	97.5330	2.5	101	0.00
3	T	3-Chloro-1-propene	100.0000	107.0379	-7.0	112	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	118.7354	-18.7	124	0.00
5	T	Ethyl Acetate	100.0000	120.2240	-20.2	123	0.00
6	T	Methacrylonitrile	100.0000	103.2802	-3.3	107	0.00
7	T	Isobutyl Alcohol	200.0000	205.4358	-2.7	104	0.00
8	T	1-Butanol	100.0000	82.9351	17.1	94	0.01
9	T	Methyl methacrylate	100.0000	105.1877	-5.2	105	0.00
10	T	2-Nitropropane	100.0000	100.5656	-0.6	122	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	102	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
13	T	Cyclohexanone	100.0000	18.1202	81.9#	19	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M407838.D A9FOOWTR.M Tue Oct 06 12:32:39 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410193.D Vial: 2
Acq On : 17 Feb 2016 14:49 Operator: TMB
Sample : WG556046-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:05 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	777257	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	550547	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	269341	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	12.68	98	534	0.0196	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.08%#		
80) p-Bromofluorobenzene	16.07	95	995	0.0951	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.40%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.16	85	3421	0.2792	ug/L	79
3) Chloromethane	3.63	50	7898	0.4216	ug/L #	66
4) Vinyl Chloride	3.85	62	4042	0.3099	ug/L	95
5) 1,3-Butadiene	3.90	54	4970	Below Cal		93
6) Bromomethane	4.74	94	1632	0.2634	ug/L	98
7) Chloroethane	4.91	64	1116	0.1894	ug/L #	43
8) Trichlorofluoromethane	5.39	101	3850	0.2754	ug/L #	88
10) Isoprene	5.95	67	2992	0.3159	ug/L	79
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	1006	0.1318	ug/L #	34
14) 1,1-Dichloroethene	6.48	61	3709	0.2641	ug/L	96
16) Dimethyl Sulfide	6.74	62	1734	0.2819	ug/L	60
19) Methylene Chloride	7.25	84	2125	0.2764	ug/L	94
20) Carbon Disulfide	7.30	76	8528	0.3533	ug/L	95
22) Methyl Tert Butyl Ether	7.46	73	3897	0.2495	ug/L #	61
23) trans-1,2-Dichloroethene	7.71	61	4093	0.3118	ug/L	85
24) n-Hexane	7.79	57	3138	0.2804	ug/L	84
26) Vinyl Acetate	8.31	43	2147	0.1601	ug/L #	79
27) 1,1-Dichloroethane	8.32	63	4641	0.2833	ug/L #	79
31) 2,2-Dichloropropane	9.09	77	3960	0.3074	ug/L #	73
32) cis-1,2-Dichloroethene	9.17	96	2808	0.3321	ug/L	84
33) Chloroform	9.38	83	4455	0.3065	ug/L	100
35) Bromochloromethane	9.60	130	975	0.2304	ug/L	86
36) Tetrahydrofuran	9.63	42	4679	3.4944	ug/L	93
38) 1,1,1-Trichloroethane	9.91	97	3672	0.2769	ug/L	84
39) Cyclohexane	9.94	56	4507	0.2920	ug/L #	86
40) 1,1-Dichloropropene	10.11	75	3247	0.2814	ug/L	82
42) Carbon Tetrachloride	10.25	117	3376	0.2797	ug/L	87
45) 1,2-Dichloroethane	10.43	62	2598	0.2353	ug/L #	61
46) Benzene	10.47	78	9220	0.3067	ug/L	98
47) Trichloroethene	11.21	130	4137	0.5109	ug/L	88
48) Methylcyclohexane	11.31	83	3561	0.3054	ug/L	91
49) 1,2-Dichloropropane	11.43	63	2195	0.2597	ug/L	77
50) Bromodichloromethane	11.73	83	3110	0.2898	ug/L #	74
52) Dibromomethane	11.81	93	1040	0.2711	ug/L #	56
53) 2-Chloroethyl Vinyl Ether	12.03	63	453	0.1232	ug/L #	51
55) cis-1,3-Dichloropropene	12.36	75	3654	0.3129	ug/L #	68
59) Toluene	12.78	91	9453	0.3081	ug/L	95
60) Ethyl Methacrylate	12.87	69	1112	0.1877	ug/L	95
62) trans-1,3-Dichloropropene	12.96	75	2564	0.2500	ug/L #	59
63) 1,1,2-Trichloroethane	13.18	97	934	0.1915	ug/L	67

(#) = qualifier out of range (m) = manual integration
8M410193.D 8260WTR.M Thu Feb 18 08:46:06 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410193.D Vial: 2
Acq On : 17 Feb 2016 14:49 Operator: TMB
Sample : WG556046-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:05 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

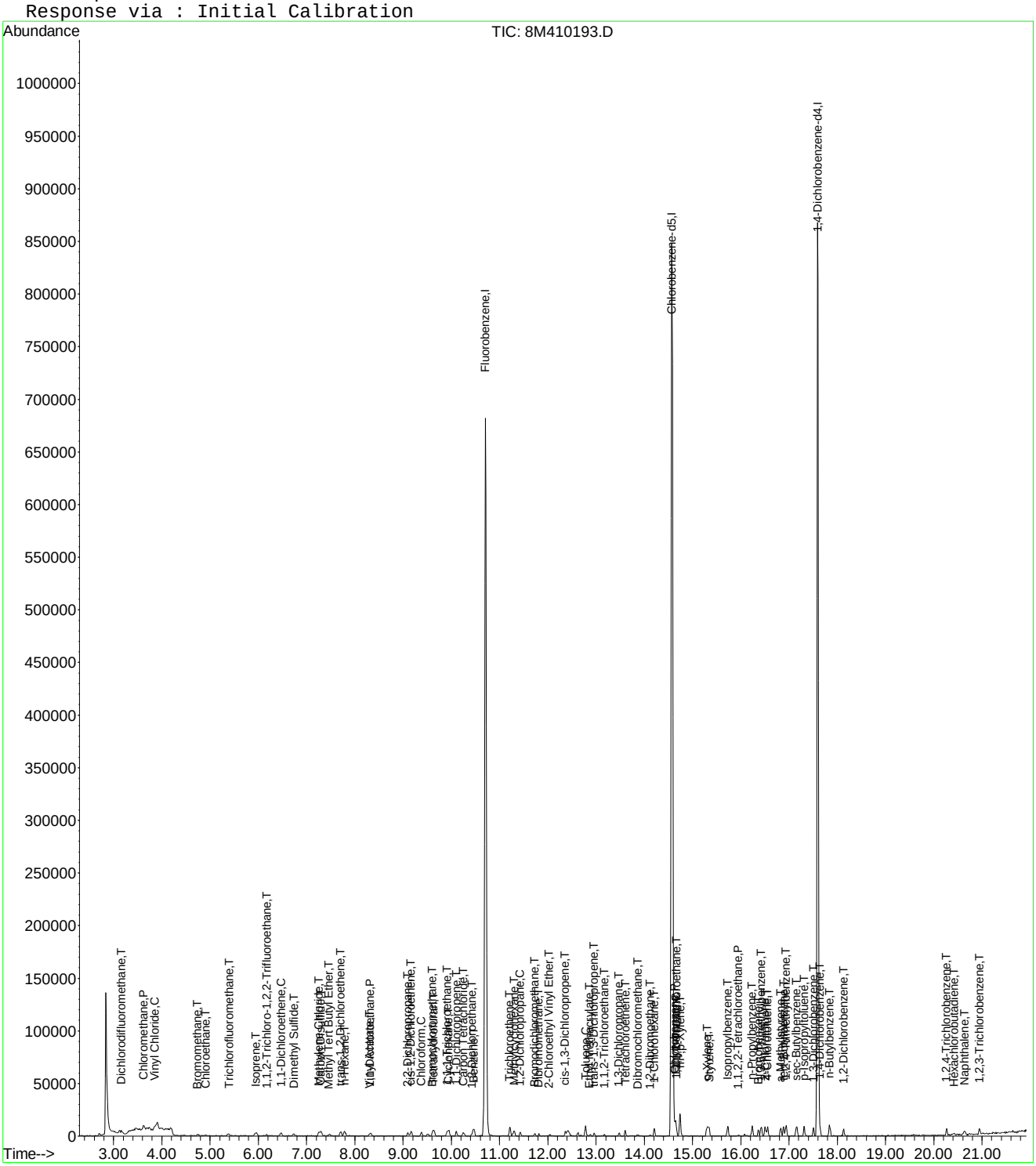
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
65)	1,3-Dichloropropane	13.48	76	1878	0.2100	ug/L		98
66)	Tetrachloroethene	13.61	164	2092	0.3395	ug/L		77
67)	Dibromochloromethane	13.87	129	1449	0.2167	ug/L		99
68)	1,2-Dibromoethane	14.12	107	727	0.1473	ug/L	#	19
69)	1-Chlorohexane	14.21	91	2856	0.2746	ug/L		90
70)	Chlorobenzene	14.62	112	6105	0.2908	ug/L	#	53
71)	1,1,1,2-Tetrachloroethane	14.66	131	1811	0.2405	ug/L		93
72)	Ethylbenzene	14.65	106	3177	0.2645	ug/L		81
73)	m-,p-Xylene	14.75	106	8105	0.5903	ug/L		87
74)	o-Xylene	15.31	106	3485	0.2447	ug/L		85
75)	Styrene	15.35	104	6091	0.2805	ug/L		93
77)	Isopropylbenzene	15.73	105	9880	0.2910	ug/L		94
79)	1,1,2,2-Tetrachloroethane	15.95	83	1189	0.2209	ug/L	#	69
83)	n-Propylbenzene	16.24	91	12897	0.3240	ug/L		86
84)	Bromobenzene	16.37	156	2103	0.2655	ug/L		76
85)	1,3,5-Trimethylbenzene	16.42	105	8493	0.3057	ug/L		96
86)	2-Chlorotoluene	16.50	91	9127	0.3511	ug/L		98
87)	4-Chlorotoluene	16.56	91	7414	0.2908	ug/L		93
88)	a-Methylstyrene	16.82	118	3662	0.2517	ug/L		79
89)	tert-Butylbenzene	16.89	134	1169	0.1953	ug/L	#	17
90)	1,2,4-Trimethylbenzene	16.94	105	8103	0.2826	ug/L		96
91)	sec-Butylbenzene	17.16	105	11348	0.3286	ug/L		98
92)	p-Isopropyltoluene	17.31	119	8622	0.3014	ug/L		100
93)	1,3-Dichlorobenzene	17.51	146	4601	0.2921	ug/L		97
94)	1,4-Dichlorobenzene	17.64	146	4914	0.3107	ug/L	#	1
95)	n-Butylbenzene	17.84	91	9322	0.3239	ug/L	#	85
96)	1,2-Dichlorobenzene	18.13	146	3883	0.2835	ug/L		98
98)	1,2,4-Trichlorobenzene	20.27	180	2603	0.2611	ug/L		90
99)	Hexachlorobutadiene	20.42	225	821	0.2014	ug/L	#	51
100)	Naphthalene	20.64	128	4699	0.2880	ug/L	#	68
101)	1,2,3-Trichlorobenzene	20.95	180	2543	0.3065	ug/L		84

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410193.D Vial: 2
Acq On : 17 Feb 2016 14:49 Operator: TMB
Sample : WG556046-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\021716\8M410193.D Vial: 2
Acq On : 17 Feb 2016 14:49 Operator: TMB
Sample : WG556046-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2792	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.4216	0.0	100	0.01
4	C	Vinyl Chloride	-1.0000	0.3099	0.0	100	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.01
6	T	Bromomethane	-1.0000	0.2634	0.0	100	0.01
7	T	Chloroethane	-1.0000	0.1894	0.0	100	0.01
8	T	Trichlorofluoromethane	-1.0000	0.2754	0.0	100	0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.91#
10	T	Isoprene	-1.0000	0.3159	0.0	100	0.01
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.15#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.1318	0.0	100	0.02
13	T	Acetone	-1.0000	0.0000	0.0	0	-6.25#
14	C	1,1-Dichloroethene	-1.0000	0.2641	0.0	100	0.01
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.59#
16	T	Dimethyl Sulfide	-1.0000	0.2819	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-6.99#
18	T	Methyl acetate	-1.0000	0.0000	0.0	0	-7.00#
19	T	Methylene Chloride	-1.0000	0.2764	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.3533	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.44#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2495	0.0	100	-0.01
23	T	trans-1,2-Dichloroethene	-1.0000	0.3118	0.0	100	0.00
24	T	n-Hexane	-1.0000	0.2804	0.0	100	0.01
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.13#
26	T	Vinyl Acetate	-1.0000	0.1601	0.0	100	0.01
27	P	1,1-Dichloroethane	-1.0000	0.2833	0.0	100	-0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.70#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-8.89#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.99#
31	T	2,2-Dichloropropane	-1.0000	0.3074	0.0	100	-0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.3321	0.0	100	0.00
33	C	Chloroform	0.3000	0.3065	-2.2	100	0.01
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35	T	Bromochloromethane	-1.0000	0.2304	0.0	100	-0.01
36	T	Tetrahydrofuran	-1.0000	3.4944	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.66#
38	T	1,1,1-Trichloroethane	-1.0000	0.2769	0.0	100	0.00
39	T	Cyclohexane	-1.0000	0.2920	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.2814	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.21#
42	T	Carbon Tetrachloride	-1.0000	0.2797	0.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.30#
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	-1.0000	0.2353	0.0	100	0.00
46	T	Benzene	-1.0000	0.3067	0.0	100	0.00
47	T	Trichloroethene	-1.0000	0.5109	0.0	100	0.00
48	T	Methylcyclohexane	-1.0000	0.3054	0.0	100	0.01
49	C	1,2-Dichloropropane	-1.0000	0.2597	0.0	100	0.00
50	T	Bromodichloromethane	-1.0000	0.2898	0.0	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.72#
52	T	Dibromomethane	-1.0000	0.2711	0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.1232	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.06#

(#) = Out of Range
8M410193.D 8260WTR.M Thu Feb 18 08:46:31 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410193.D Vial: 2
Acq On : 17 Feb 2016 14:49 Operator: TMB
Sample : WG556046-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.3129	0.0	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.1022	0.0	100	-0.01
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0196	0.0	100	-0.01
59	C	Toluene	-1.0000	0.3081	0.0	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.1877	0.0	100	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2500	0.0	100	0.00
63	T	1,1,2-Trichloroethane	-1.0000	0.1915	0.0	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.11#
65	T	1,3-Dichloropropane	-1.0000	0.2100	0.0	100	-0.01
66	T	Tetrachloroethene	-1.0000	0.3395	0.0	100	0.01
67	T	Dibromochloromethane	-1.0000	0.2167	0.0	100	0.00
68	T	1,2-Dibromoethane	-1.0000	0.1473	0.0	100	0.00
69	T	1-Chlorohexane	-1.0000	0.2746	0.0	100	0.00
70	P	Chlorobenzene	-1.0000	0.2908	0.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2405	0.0	100	0.01
72	C	Ethylbenzene	-1.0000	0.2645	0.0	100	0.00
73	T	m-,p-Xylene	-1.0000	0.5903	0.0	100	0.00
74	T	o-Xylene	-1.0000	0.2447	0.0	100	0.00
75	T	Styrene	-1.0000	0.2805	0.0	100	0.00
76	P	Bromoform	-1.0000	0.0695	0.0	100	0.00
77	T	Isopropylbenzene	-1.0000	0.2910	0.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2209	0.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0951	0.0	100	0.00
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.13#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.18#
83	T	n-Propylbenzene	-1.0000	0.3240	0.0	0	0.00
84	T	Bromobenzene	0.3000	0.2655	11.5	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.3057	0.0	100	0.00
86	T	2-Chlorotoluene	-1.0000	0.3511	0.0	100	0.00
87	T	4-Chlorotoluene	-1.0000	0.2908	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.2517	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.1953	0.0	100	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.2826	0.0	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.3286	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3014	0.0	100	-0.01
93	T	1,3-Dichlorobenzene	-1.0000	0.2921	0.0	100	0.00
94	T	1,4-Dichlorobenzene	0.3000	0.3107	-3.6	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3239	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.2836	5.5	100	-0.01
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.13#
98	T	1,2,4-Trichlorobenzene	-1.0000	0.2611	0.0	100	0.00
99	T	Hexachlorobutadiene	-1.0000	0.2014	0.0	100	0.00
100	T	Naphthalene	-1.0000	0.2880	0.0	100	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.3065	-2.2	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M410193.D 8260WTR.M Thu Feb 18 08:46:31 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410194.D Vial: 3
Acq On : 17 Feb 2016 15:18 Operator: TMB
Sample : WG556046-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:07 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	772738	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	543906	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	269409	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.00%#		
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.16	85	4341	0.3564	ug/L	82
3) Chloromethane	3.63	50	9512	0.5107	ug/L #	77
4) Vinyl Chloride	3.85	62	5096	0.3930	ug/L	91
5) 1,3-Butadiene	3.90	54	4566	Below Cal	#	41
6) Bromomethane	4.74	94	1656	0.2688	ug/L	95
7) Chloroethane	4.90	64	1946	0.3322	ug/L #	53
8) Trichlorofluoromethane	5.39	101	4405	0.3170	ug/L #	94
10) Isoprene	5.94	67	2957	0.3140	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	2310	0.3045	ug/L #	50
13) Acetone	6.25	43	223	0.1764	ug/L #	48
14) 1,1-Dichloroethene	6.48	61	4315	0.3091	ug/L	100
16) Dimethyl Sulfide	6.75	62	1913	0.3128	ug/L	97
18) Methyl acetate	7.03	43	662	0.1876	ug/L #	66
19) Methylene Chloride	7.26	84	2838	0.3712	ug/L	89
20) Carbon Disulfide	7.29	76	8915	0.3715	ug/L	97
22) Methyl Tert Butyl Ether	7.48	73	5146	0.3314	ug/L #	76
23) trans-1,2-Dichloroethene	7.71	61	4216	0.3230	ug/L	93
24) n-Hexane	7.78	57	3497	0.3143	ug/L	99
26) Vinyl Acetate	8.31	43	3352	0.2515	ug/L #	79
27) 1,1-Dichloroethane	8.33	63	5522	0.3391	ug/L #	88
31) 2,2-Dichloropropane	9.10	77	4726	0.3690	ug/L #	74
32) cis-1,2-Dichloroethene	9.18	96	2932	0.3488	ug/L	76
33) Chloroform	9.37	83	4700	0.3253	ug/L	99
35) Bromochloromethane	9.61	130	1130	0.2686	ug/L	69
36) Tetrahydrofuran	9.64	42	1602	1.2034	ug/L #	55
38) 1,1,1-Trichloroethane	9.91	97	4708	0.3571	ug/L	75
39) Cyclohexane	9.95	56	5119	0.3336	ug/L #	87
40) 1,1-Dichloropropene	10.11	75	3597	0.3136	ug/L	93
42) Carbon Tetrachloride	10.24	117	4028	0.3357	ug/L #	89
45) 1,2-Dichloroethane	10.43	62	3605	0.3284	ug/L #	72
46) Benzene	10.47	78	10695	0.3578	ug/L	99
47) Trichloroethene	11.22	130	2582	0.3207	ug/L	82
48) Methylcyclohexane	11.30	83	3747	0.3232	ug/L	85
49) 1,2-Dichloropropane	11.43	63	2282	0.2716	ug/L	90
50) Bromodichloromethane	11.73	83	3102	0.2908	ug/L #	95
52) Dibromomethane	11.81	93	1080	0.2832	ug/L #	65
53) 2-Chloroethyl Vinyl Ether	12.04	63	830	0.2271	ug/L #	51
55) cis-1,3-Dichloropropene	12.37	75	3273	0.2819	ug/L	97
56) Dimethyl Disulfide	12.62	79	1187	0.1939	ug/L	92
59) Toluene	12.78	91	10834	0.3575	ug/L	92

(#) = qualifier out of range (m) = manual integration
8M410194.D 8260WTR.M Thu Feb 18 08:46:08 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410194.D Vial: 3
Acq On : 17 Feb 2016 15:18 Operator: TMB
Sample : WG556046-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:07 2016 Quant Results File: 8260WTR.RES

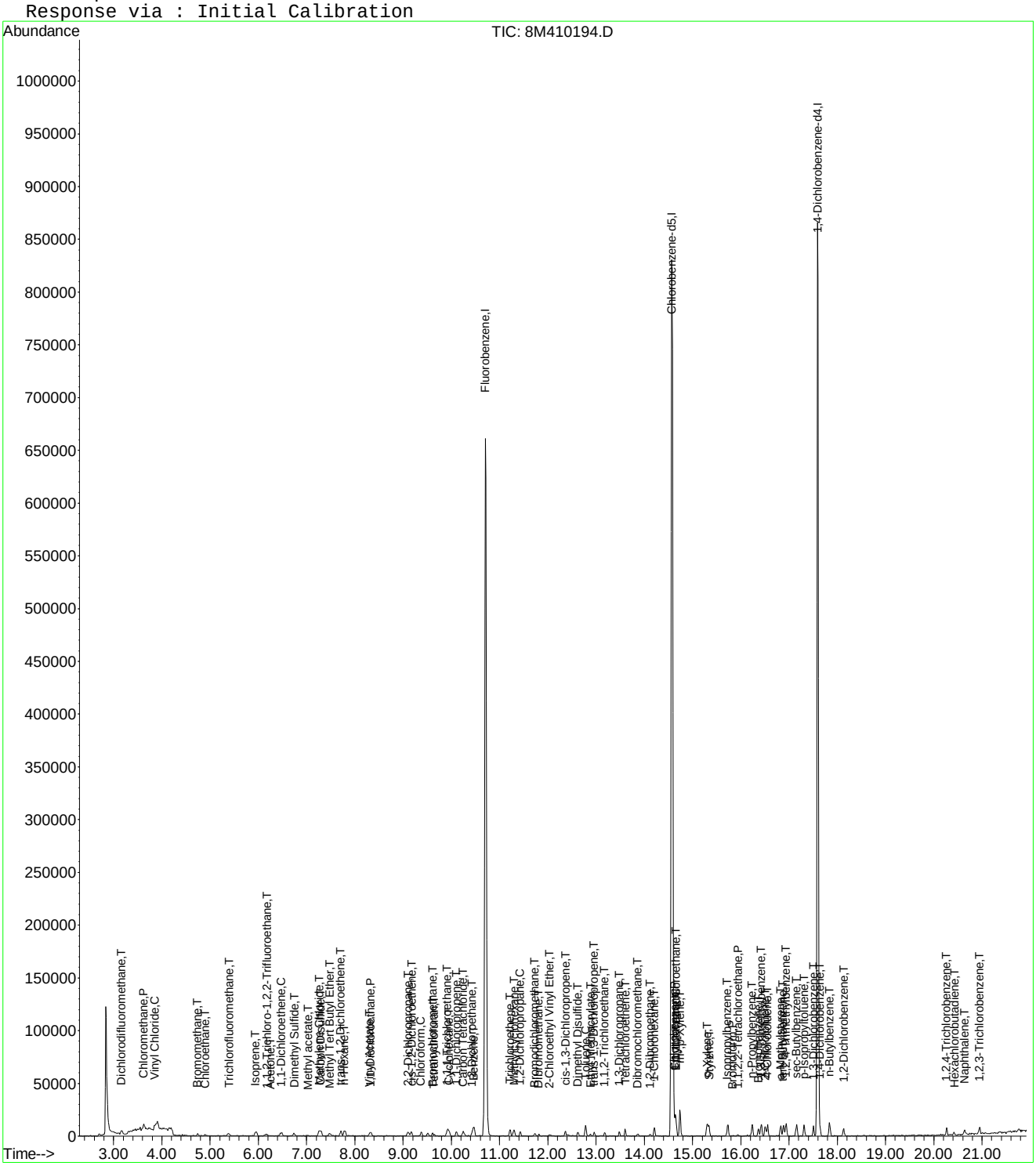
Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
60)	Ethyl Methacrylate	12.89	69	1714	0.2928	ug/L		90
62)	trans-1,3-Dichloropropene	12.96	75	2666	0.2632	ug/L		91
63)	1,1,2-Trichloroethane	13.18	97	1427	0.2961	ug/L		98
65)	1,3-Dichloropropane	13.49	76	2871	0.3250	ug/L		97
66)	Tetrachloroethene	13.61	164	1615	0.2653	ug/L		76
67)	Dibromochloromethane	13.86	129	1984	0.3003	ug/L		84
68)	1,2-Dibromoethane	14.12	107	1472	0.3018	ug/L		97
69)	1-Chlorohexane	14.21	91	3514	0.3419	ug/L		96
70)	Chlorobenzene	14.62	112	7386	0.3561	ug/L		91
71)	1,1,1,2-Tetrachloroethane	14.65	131	2191	0.2945	ug/L		83
72)	Ethylbenzene	14.65	106	3945	0.3325	ug/L		86
73)	m-,p-Xylene	14.74	106	9041	0.6666	ug/L		87
74)	o-Xylene	15.30	106	4500	0.3199	ug/L		94
75)	Styrene	15.35	104	5919	0.2759	ug/L		89
76)	Bromoform	15.83	173	569	0.1495	ug/L	#	61
77)	Isopropylbenzene	15.72	105	11980	0.3571	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	1543	0.2866	ug/L	#	93
83)	n-Propylbenzene	16.23	91	13353	0.3354	ug/L		99
84)	Bromobenzene	16.37	156	3484	0.4397	ug/L		85
85)	1,3,5-Trimethylbenzene	16.42	105	9768	0.3515	ug/L		97
86)	2-Chlorotoluene	16.50	91	10252	0.3942	ug/L		97
87)	4-Chlorotoluene	16.56	91	8071	0.3165	ug/L		90
88)	a-Methylstyrene	16.82	118	4229	0.2907	ug/L		96
89)	tert-Butylbenzene	16.88	134	1932	0.3227	ug/L		89
90)	1,2,4-Trimethylbenzene	16.94	105	9845	0.3433	ug/L		88
91)	sec-Butylbenzene	17.15	105	12403	0.3591	ug/L		89
92)	p-Isopropyltoluene	17.31	119	10261	0.3586	ug/L		96
93)	1,3-Dichlorobenzene	17.51	146	5008	0.3179	ug/L		92
94)	1,4-Dichlorobenzene	17.64	146	5067	0.3203	ug/L	#	1
95)	n-Butylbenzene	17.84	91	10731	0.3728	ug/L		96
96)	1,2-Dichlorobenzene	18.14	146	4498	0.3284	ug/L		99
98)	1,2,4-Trichlorobenzene	20.27	180	3306	0.3315	ug/L	#	82
99)	Hexachlorobutadiene	20.43	225	1103	0.2704	ug/L	#	69
100)	Naphthalene	20.64	128	5665	0.3472	ug/L		90
101)	1,2,3-Trichlorobenzene	20.95	180	2955	0.3561	ug/L	#	82

(#) = qualifier out of range (m) = manual integration
8M410194.D 8260WTR.M Thu Feb 18 08:46:08 2016 Page 2

Data File : C:\MSDCHEM\2\DATA\021716\8M410194.D Vial: 3
Acq On : 17 Feb 2016 15:18 Operator: TMB
Sample : WG556046-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\021716\8M410194.D Vial: 3
Acq On : 17 Feb 2016 15:18 Operator: TMB
Sample : WG556046-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	0.4000	0.3564	10.9	100	0.00
3	P	Chloromethane	-1.0000	0.5107	0.0	100	0.00
4	C	Vinyl Chloride	0.4000	0.3930	1.7	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.2688	0.0	100	0.00
7	T	Chloroethane	0.4000	0.3322	16.9	100	0.00
8	T	Trichlorofluoromethane	0.4000	0.3170	20.8	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.91#
10	T	Isoprene	0.4000	0.3140	21.5	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.15#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3045	0.0	100	0.03
13	T	Acetone	-1.0000	0.1764	0.0	100	0.00
14	C	1,1-Dichloroethene	0.4000	0.3090	22.7#	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.59#
16	T	Dimethyl Sulfide	0.4000	0.3128	21.8	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-6.99#
18	T	Methyl acetate	-1.0000	0.1876	0.0	100	0.03
19	T	Methylene Chloride	-1.0000	0.3712	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.3715	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.44#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3314	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.3230	19.2	100	0.00
24	T	n-Hexane	-1.0000	0.3143	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.13#
26	T	Vinyl Acetate	-1.0000	0.2515	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.3391	15.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.70#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-8.89#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.99#
31	T	2,2-Dichloropropane	0.4000	0.3690	7.8	100	0.00
32	T	cis-1,2-Dichloroethene	0.4000	0.3488	12.8	100	0.00
33	C	Chloroform	0.4000	0.3253	18.7	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35	T	Bromochloromethane	0.4000	0.2686	32.8#	100	0.00
36	T	Tetrahydrofuran	-1.0000	1.2034	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.66#
38	T	1,1,1-Trichloroethane	0.4000	0.3571	10.7	100	0.00
39	T	Cyclohexane	-1.0000	0.3336	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3136	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.21#
42	T	Carbon Tetrachloride	0.4000	0.3357	16.1	100	-0.01
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.30#
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	0.4000	0.3284	17.9	100	0.00
46	T	Benzene	0.4000	0.3578	10.5	100	0.00
47	T	Trichloroethene	0.4000	0.3207	19.8	100	0.00
48	T	Methylcyclohexane	-1.0000	0.3232	0.0	100	0.00
49	C	1,2-Dichloropropane	0.4000	0.2716	32.1#	100	0.00
50	T	Bromodichloromethane	0.4000	0.2908	27.3#	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.72#
52	T	Dibromomethane	0.4000	0.2832	29.2#	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2271	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.06#

(#) = Out of Range
8M410194.D 8260WTR.M Thu Feb 18 08:46:42 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410194.D Vial: 3
Acq On : 17 Feb 2016 15:18 Operator: TMB
Sample : WG556046-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.2819	29.5#	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.1939	0.0	100	-0.01
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0000	0.0	0	-12.69#
59	C	Toluene	0.4000	0.3574	10.6	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2928	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2632	0.0	100	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.2961	26.0#	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.11#
65	T	1,3-Dichloropropane	0.4000	0.3250	18.8	100	0.00
66	T	Tetrachloroethene	0.4000	0.2653	33.7#	100	0.00
67	T	Dibromochloromethane	0.4000	0.3003	24.9	100	-0.01
68	T	1,2-Dibromoethane	0.4000	0.3018	24.6	100	0.00
69	T	1-Chlorohexane	0.4000	0.3419	14.5	100	0.00
70	P	Chlorobenzene	0.4000	0.3561	11.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.2945	26.4#	100	0.00
72	C	Ethylbenzene	0.4000	0.3325	16.9	100	0.00
73	T	m-,p-Xylene	0.8000	0.6666	16.7	100	-0.01
74	T	o-Xylene	-1.0000	0.3199	0.0	100	0.00
75	T	Styrene	0.4000	0.2759	31.0#	100	0.00
76	P	Bromoform	-1.0000	0.1495	0.0	100	0.00
77	T	Isopropylbenzene	0.4000	0.3571	10.7	100	-0.01
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4000	0.2866	28.4#	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.07#
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.13#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.1117	0.0	100	0.00
83	T	n-Propylbenzene	0.4000	0.3354	16.1	100	0.00
84	T	Bromobenzene	0.4000	0.4397	-9.9	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.3515	12.1	100	0.00
86	T	2-Chlorotoluene	0.4000	0.3942	1.4	100	0.00
87	T	4-Chlorotoluene	0.4000	0.3165	20.9	100	0.00
88	T	a-Methylstyrene	-1.0000	0.2907	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.3227	0.0	100	-0.01
90	T	1,2,4-Trimethylbenzene	0.4000	0.3433	14.2	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.3591	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3586	0.0	100	-0.01
93	T	1,3-Dichlorobenzene	0.4000	0.3179	20.5	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.3203	19.9	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3728	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.3284	17.9	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.13#
98	T	1,2,4-Trichlorobenzene	0.4000	0.3315	17.1	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.2704	32.4#	100	0.00
100	T	Naphthalene	0.4000	0.3472	13.2	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.3561	11.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 2
8M410194.D 8260WTR.M Thu Feb 18 08:46:42 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410195.D Vial: 4
Acq On : 17 Feb 2016 15:47 Operator: TMB
Sample : WG556046-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:08 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.71	96	785884	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.57	117	555926	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	273984	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.66	111	4031	0.4997	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	2.00%#			
43) 1,2-Dichloroethane-d4	10.31	65	4398	0.5092	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	2.04%#			
58) Toluene-d8	12.68	98	14634	0.5331	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.12%#			
80) p-Bromofluorobenzene	16.07	95	6061	0.5695	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.28%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.17	85	11557	0.9329	ug/L		100
3) Chloromethane	3.63	50	22216	1.1728	ug/L		95
4) Vinyl Chloride	3.86	62	14444	1.0953	ug/L		97
5) 1,3-Butadiene	3.91	54	14933	Below Cal			75
6) Bromomethane	4.73	94	5536	0.8836	ug/L		85
7) Chloroethane	4.90	64	5632	0.9454	ug/L		88
8) Trichlorofluoromethane	5.39	101	14190	1.0040	ug/L		99
9) Diethyl ether	5.91	59	25069	4.8436	ug/L		95
10) Isoprene	5.95	67	9108	0.9510	ug/L		94
11) Acrolein	6.14	56	1675	2.0840	ug/L		83
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	7205	0.9338	ug/L		86
13) Acetone	6.26	43	1243	0.9671	ug/L	#	48
14) 1,1-Dichloroethene	6.48	61	14865	1.0469	ug/L		94
15) Tert-Butyl Alcohol	6.57	59	2583	7.9129	ug/L	#	55
16) Dimethyl Sulfide	6.74	62	5888	0.9467	ug/L		100
17) Iodomethane	7.00	142	1150	1.4137	ug/L	#	60
18) Methyl acetate	7.02	43	3094	0.8621	ug/L	#	66
19) Methylene Chloride	7.26	84	6957	0.8948	ug/L		74
20) Carbon Disulfide	7.30	76	24458	1.0021	ug/L		100
21) Acrylonitrile	7.44	53	3599	1.9860	ug/L		99
22) Methyl Tert Butyl Ether	7.47	73	15081	0.9550	ug/L		99
23) trans-1,2-Dichloroethene	7.71	61	13220	0.9959	ug/L		95
24) n-Hexane	7.79	57	11770	1.0400	ug/L		93
25) Diisopropyl ether	8.13	45	145771	4.9427	ug/L		99
26) Vinyl Acetate	8.31	43	11641	0.8587	ug/L	#	84
27) 1,1-Dichloroethane	8.33	63	16334	0.9862	ug/L		95
28) Ethyl-Tert-Butyl ether	8.70	59	111811	4.7270	ug/L		99
29) 2-Butanone	8.89	43	1302	0.6442	ug/L	#	57
30) Propionitrile	8.99	54	2259	3.8911	ug/L	#	56
31) 2,2-Dichloropropane	9.11	77	13330	1.0234	ug/L		97
32) cis-1,2-Dichloroethene	9.17	96	7971	0.9323	ug/L		76
33) Chloroform	9.38	83	15065	1.0252	ug/L		98
34) 1-Bromopropane	9.51	122	797	1.0758	ug/L		86
35) Bromochloromethane	9.61	130	4486	1.0486	ug/L		91
36) Tetrahydrofuran	9.64	42	7901	5.8360	ug/L		96
38) 1,1,1-Trichloroethane	9.90	97	12741	0.9502	ug/L		94
39) Cyclohexane	9.94	56	14543	0.9320	ug/L		98
40) 1,1-Dichloropropene	10.11	75	11745	1.0067	ug/L		91
41) Tert-Amyl-Methyl ether	10.21	73	79511	4.7826	ug/L		96
42) Carbon Tetrachloride	10.24	117	11507	0.9430	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M410195.D 8260WTR.M Thu Feb 18 08:46:09 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410195.D Vial: 4
Acq On : 17 Feb 2016 15:47 Operator: TMB
Sample : WG556046-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:08 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

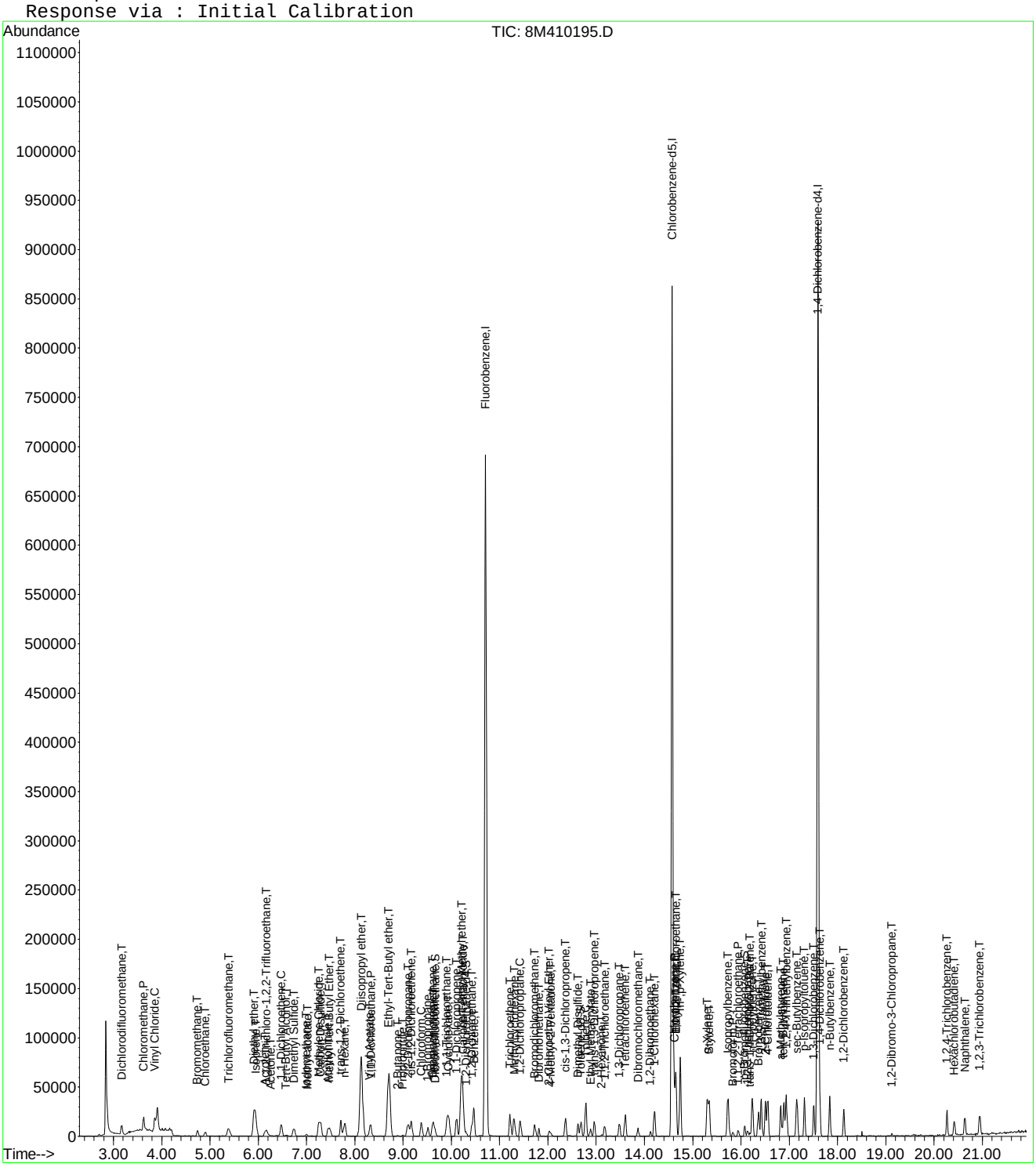
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	11516	1.0315 ug/L		99
46)	Benzene	10.47	78	32435	1.0670 ug/L		96
47)	Trichloroethene	11.21	130	8509	1.0393 ug/L		96
48)	Methylcyclohexane	11.31	83	11261	0.9552 ug/L		91
49)	1,2-Dichloropropane	11.42	63	8242	0.9644 ug/L		99
50)	Bromodichloromethane	11.72	83	11142	1.0270 ug/L		95
52)	Dibromomethane	11.81	93	3486	0.8988 ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.02	63	2937	0.7901 ug/L	#	67
54)	4-Methyl-2-Pentanone	12.06	58	1260	0.7278 ug/L	#	41
55)	cis-1,3-Dichloropropene	12.36	75	12149	1.0288 ug/L		90
56)	Dimethyl Disulfide	12.62	79	4873	0.7829 ug/L		85
59)	Toluene	12.79	91	33426	1.0790 ug/L		98
60)	Ethyl Methacrylate	12.89	69	4879	0.8154 ug/L		97
62)	trans-1,3-Dichloropropene	12.96	75	9736	0.9403 ug/L		95
63)	1,1,2-Trichloroethane	13.18	97	4471	0.9077 ug/L		90
64)	2-Hexanone	13.12	58	841	0.5487 ug/L	#	49
65)	1,3-Dichloropropane	13.48	76	8634	0.9562 ug/L		96
66)	Tetrachloroethene	13.60	164	6230	1.0012 ug/L		89
67)	Dibromochloromethane	13.87	129	6456	0.9561 ug/L		91
68)	1,2-Dibromoethane	14.12	107	4749	0.9526 ug/L		98
69)	1-Chlorohexane	14.21	91	10007	0.9527 ug/L		89
70)	Chlorobenzene	14.63	112	21998	1.0377 ug/L		96
71)	1,1,1,2-Tetrachloroethane	14.66	131	7085	0.9317 ug/L		98
72)	Ethylbenzene	14.66	106	11454	0.9444 ug/L		91
73)	m-,p-Xylene	14.74	106	29042	2.0949 ug/L		98
74)	o-Xylene	15.30	106	14229	0.9895 ug/L		97
75)	Styrene	15.34	104	21487	0.9800 ug/L		91
76)	Bromoform	15.83	173	3207	0.8242 ug/L		91
77)	Isopropylbenzene	15.73	105	35968	1.0490 ug/L		98
79)	1,1,2,2-Tetrachloroethane	15.94	83	5419	0.9897 ug/L	#	91
81)	1,2,3-Trichloropropane	16.13	110	1131	0.7381 ug/L		74
82)	trans-1,4-Dichloro-2-Buten	16.19	53	1677	0.8225 ug/L	#	74
83)	n-Propylbenzene	16.24	91	43550	1.0757 ug/L		98
84)	Bromobenzene	16.36	156	7902	0.9806 ug/L		80
85)	1,3,5-Trimethylbenzene	16.42	105	29663	1.0497 ug/L		100
86)	2-Chlorotoluene	16.51	91	29168	1.1029 ug/L		95
87)	4-Chlorotoluene	16.56	91	27279	1.0517 ug/L		92
88)	a-Methylstyrene	16.83	118	12336	0.8337 ug/L		94
89)	tert-Butylbenzene	16.88	134	5513	0.9054 ug/L		78
90)	1,2,4-Trimethylbenzene	16.94	105	31016	1.0636 ug/L		91
91)	sec-Butylbenzene	17.16	105	37691	1.0731 ug/L		95
92)	p-Isopropyltoluene	17.31	119	30310	1.0417 ug/L		92
93)	1,3-Dichlorobenzene	17.51	146	16779	1.0473 ug/L		90
94)	1,4-Dichlorobenzene	17.63	146	17242	1.0716 ug/L	#	62
95)	n-Butylbenzene	17.84	91	30515	1.0424 ug/L		94
96)	1,2-Dichlorobenzene	18.13	146	14104	1.0125 ug/L		97
97)	1,2-Dibromo-3-Chloropropan	19.12	75	766	1.2255 ug/L		65
98)	1,2,4-Trichlorobenzene	20.27	180	10252	1.0108 ug/L		98
99)	Hexachlorobutadiene	20.41	225	4087	0.9854 ug/L		94
100)	Naphthalene	20.64	128	17272	1.0408 ug/L		98
101)	1,2,3-Trichlorobenzene	20.94	180	7861	0.9315 ug/L		94

(#) = qualifier out of range (m) = manual integration
8M410195.D 8260WTR.M Thu Feb 18 08:46:09 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410195.D Vial: 4
Acq On : 17 Feb 2016 15:47 Operator: TMB
Sample : WG556046-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\021716\8M410195.D Vial: 4
Acq On : 17 Feb 2016 15:47 Operator: TMB
Sample : WG556046-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	0.9329	6.7	100	0.01
3	P	Chloromethane	1.0000	1.1728	-17.3	100	0.01
4	C	Vinyl Chloride	1.0000	1.0954	-9.5	100	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	1.0000	0.8836	11.6	100	0.00
7	T	Chloroethane	1.0000	0.9454	5.5	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0040	-0.4	100	0.00
9	T	Diethyl ether	5.0000	4.8436	3.1	100	0.00
10	T	Isoprene	1.0000	0.9510	4.9	100	0.01
11	T	Acrolein	2.5000	2.0840	16.6	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9338	6.6	100	0.01
13	T	Acetone	-1.0000	0.9671	0.0	100	0.01
14	C	1,1-Dichloroethene	1.0000	1.0469	-4.7	100	0.01
15	T	Tert-Butyl Alcohol	-1.0000	7.9129	0.0	100	-0.02
16	T	Dimethyl Sulfide	1.0000	0.9467	5.3	100	0.00
17	T	Iodomethane	1.0000	1.4137	-41.4#	100	0.01
18	T	Methyl acetate	-1.0000	0.8621	0.0	100	0.02
19	T	Methylene Chloride	1.0000	0.8948	10.5	100	0.00
20	T	Carbon Disulfide	1.0000	1.0022	-0.2	100	0.00
21	T	Acrylonitrile	2.5000	1.9860	20.6	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.9550	4.5	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	0.9959	0.4	100	0.00
24	T	n-Hexane	-1.0000	1.0400	0.0	100	0.01
25	T	Diisopropyl ether	5.0000	4.9427	1.1	100	0.00
26	T	Vinyl Acetate	-1.0000	0.8587	0.0	100	0.01
27	P	1,1-Dichloroethane	1.0000	0.9862	1.4	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.7270	5.5	100	0.00
29	T	2-Butanone	-1.0000	0.6442	0.0	100	0.00
30	T	Propionitrile	5.0000	3.8912	22.2	100	0.00
31	T	2,2-Dichloropropane	1.0000	1.0234	-2.3	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.9323	6.8	100	0.00
33	C	Chloroform	1.0000	1.0252	-2.5	100	0.00
34		1-Bromopropane	1.0000	1.0758	-7.6	100	0.00
35	T	Bromochloromethane	1.0000	1.0486	-4.9	100	0.00
36	T	Tetrahydrofuran	5.0000	5.8360	-16.7	100	0.01
37	S	Dibromofluoromethane	0.5000	0.4997	0.1	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9502	5.0	100	0.00
39	T	Cyclohexane	1.0000	0.9320	6.8	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0067	-0.7	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.7826	4.3	100	0.00
42	T	Carbon Tetrachloride	1.0000	0.9430	5.7	100	0.00
43	S	1,2-Dichloroethane-d4	0.5000	0.5092	-1.8	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	1.0000	1.0315	-3.2	100	0.00
46	T	Benzene	1.0000	1.0670	-6.7	100	0.00
47	T	Trichloroethene	1.0000	1.0393	-3.9	100	0.00
48	T	Methylcyclohexane	-1.0000	0.9552	0.0	100	0.01
49	C	1,2-Dichloropropane	1.0000	0.9644	3.6	100	0.00
50	T	Bromodichloromethane	1.0000	1.0270	-2.7	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.72#
52	T	Dibromomethane	1.0000	0.8988	10.1	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.7901	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.7278	0.0	100	0.00

(#) = Out of Range
8M410195.D 8260WTR.M Thu Feb 18 08:47:00 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410195.D Vial: 4
Acq On : 17 Feb 2016 15:47 Operator: TMB
Sample : WG556046-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	1.0288	-2.9	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.7829	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	0.5000	0.5331	-6.6	100	0.00
59	C	Toluene	1.0000	1.0790	-7.9	100	0.00
60	T	Ethyl Methacrylate	1.0000	0.8154	18.5	100	0.01
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	1.0000	0.9403	6.0	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	0.9077	9.2	100	0.00
64	T	2-Hexanone	-1.0000	0.5487	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	0.9562	4.4	100	0.00
66	T	Tetrachloroethene	1.0000	1.0012	-0.1	100	0.00
67	T	Dibromochloromethane	1.0000	0.9561	4.4	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.9526	4.7	100	0.00
69	T	1-Chlorohexane	1.0000	0.9527	4.7	100	0.00
70	P	Chlorobenzene	1.0000	1.0377	-3.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.9317	6.8	100	0.00
72	C	Ethylbenzene	1.0000	0.9444	5.6	100	0.00
73	T	m-,p-Xylene	2.0000	2.0949	-4.7	100	0.00
74	T	o-Xylene	1.0000	0.9895	1.0	100	0.00
75	T	Styrene	1.0000	0.9800	2.0	100	0.00
76	P	Bromoform	1.0000	0.8242	17.6	100	0.00
77	T	Isopropylbenzene	1.0000	1.0490	-4.9	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	1.0000	0.9897	1.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.5695	0.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	0.7381	26.2#	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8225	17.7	100	0.00
83	T	n-Propylbenzene	1.0000	1.0757	-7.6	100	0.00
84	T	Bromobenzene	1.0000	0.9806	1.9	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	1.0497	-5.0	100	0.00
86	T	2-Chlorotoluene	1.0000	1.1029	-10.3	100	0.00
87	T	4-Chlorotoluene	1.0000	1.0517	-5.2	100	0.00
88	T	a-Methylstyrene	-1.0000	0.8337	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	0.9054	9.5	100	0.00
90	T	1,2,4-Trimethylbenzene	1.0000	1.0636	-6.4	100	0.00
91	T	sec-Butylbenzene	1.0000	1.0731	-7.3	100	0.00
92	T	p-Isopropyltoluene	1.0000	1.0417	-4.2	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	1.0474	-4.7	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	1.0716	-7.2	100	0.00
95	T	n-Butylbenzene	1.0000	1.0424	-4.2	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	1.0125	-1.2	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	1.2255	0.0	0	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	1.0108	-1.1	100	0.00
99	T	Hexachlorobutadiene	1.0000	0.9853	1.5	100	0.00
100	T	Naphthalene	1.0000	1.0408	-4.1	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	0.9315	6.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M410195.D 8260WTR.M Thu Feb 18 08:47:00 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410196.D Vial: 5
Acq On : 17 Feb 2016 16:23 Operator: TMB
Sample : WG556046-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:10 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	785085	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.58	117	557240	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	280270	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	7734	0.9597	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.84%#		
43) 1,2-Dichloroethane-d4	10.30	65	8223	0.9530	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.80%#		
58) Toluene-d8	12.68	98	25965	0.9437	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.76%#		
80) p-Bromofluorobenzene	16.07	95	9408	0.8641	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	3.44%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	23918	1.9327	ug/L	100
3) Chloromethane	3.62	50	40791	2.1556	ug/L	91
4) Vinyl Chloride	3.85	62	29503	2.2396	ug/L	98
5) 1,3-Butadiene	3.90	54	29376	1.1089	ug/L	98
6) Bromomethane	4.75	94	12067	1.9280	ug/L	96
7) Chloroethane	4.89	64	11615	1.9518	ug/L	98
8) Trichlorofluoromethane	5.39	101	29119	2.0625	ug/L	98
9) Diethyl ether	5.91	59	131394	25.4127	ug/L	99
10) Isoprene	5.93	67	18814	1.9664	ug/L	97
11) Acrolein	6.14	56	10267	12.7870	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	15394	1.9973	ug/L	97
13) Acetone	6.25	43	2673	2.0818	ug/L #	48
14) 1,1-Dichloroethene	6.47	61	28926	2.0392	ug/L	95
15) Tert-Butyl Alcohol	6.59	59	17349	53.2017	ug/L #	87
16) Dimethyl Sulfide	6.73	62	12337	1.9856	ug/L	98
17) Iodomethane	6.99	142	3228	1.8283	ug/L	97
18) Methyl acetate	7.00	43	8170	2.2787	ug/L #	80
19) Methylene Chloride	7.25	84	16270	2.0948	ug/L	96
20) Carbon Disulfide	7.30	76	51176	2.0990	ug/L	97
21) Acrylonitrile	7.43	53	21751	12.0148	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	31237	1.9802	ug/L	100
23) trans-1,2-Dichloroethene	7.70	61	26849	2.0247	ug/L	96
24) n-Hexane	7.80	57	23319	2.0626	ug/L	95
25) Diisopropyl ether	8.13	45	765203	25.9721	ug/L	99
26) Vinyl Acetate	8.30	43	27022	1.9954	ug/L	94
27) 1,1-Dichloroethane	8.33	63	33058	1.9979	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	607833	25.7231	ug/L	100
29) 2-Butanone	8.89	43	3996	1.9793	ug/L #	79
30) Propionitrile	8.99	54	13597	23.4448	ug/L	99
31) 2,2-Dichloropropane	9.11	77	27313	2.0990	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	17242	2.0187	ug/L	87
33) Chloroform	9.38	83	29447	2.0060	ug/L	100
34) 1-Bromopropane	9.51	122	1876	1.9235	ug/L	62
35) Bromochloromethane	9.60	130	7895	1.8473	ug/L	77
36) Tetrahydrofuran	9.63	42	34153	25.2524	ug/L	98
38) 1,1,1-Trichloroethane	9.90	97	27001	2.0157	ug/L	99
39) Cyclohexane	9.95	56	30568	1.9609	ug/L	98
40) 1,1-Dichloropropene	10.11	75	23584	2.0235	ug/L	97
41) Tert-Amyl-Methyl ether	10.21	73	427656	25.7499	ug/L	98
42) Carbon Tetrachloride	10.26	117	24856	2.0389	ug/L	96

(#) = qualifier out of range (m) = manual integration
8M410196.D 8260WTR.M Thu Feb 18 08:46:10 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410196.D Vial: 5
Acq On : 17 Feb 2016 16:23 Operator: TMB
Sample : WG556046-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:10 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

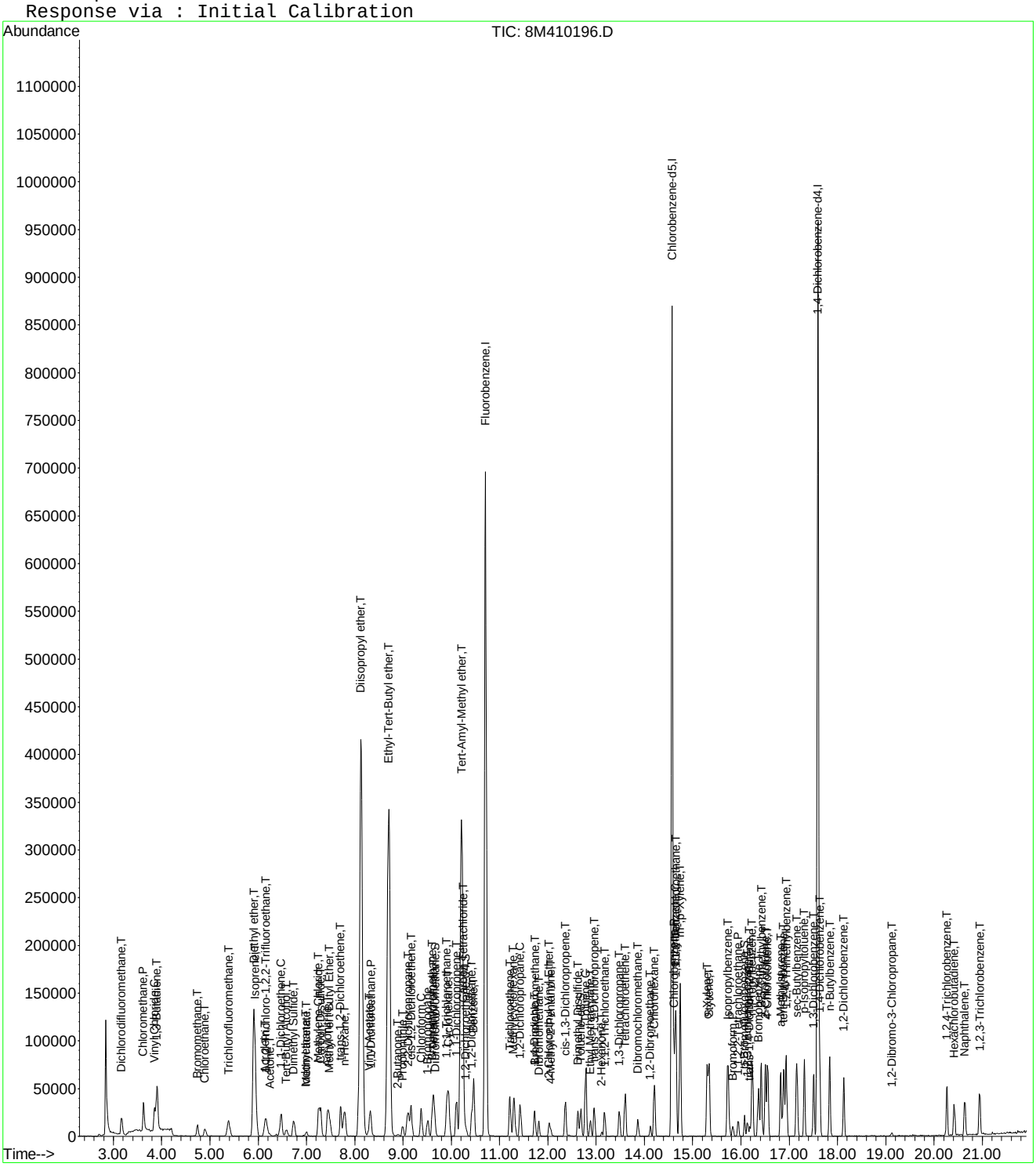
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.42	62	22413	2.0097	ug/L		95
46)	Benzene	10.46	78	63830	2.1020	ug/L		99
47)	Trichloroethene	11.22	130	17061	2.0860	ug/L		97
48)	Methylcyclohexane	11.29	83	24208	2.0555	ug/L		95
49)	1,2-Dichloropropane	11.42	63	16914	1.9811	ug/L		99
50)	Bromodichloromethane	11.73	83	21484	1.9823	ug/L		96
51)	1,4-Dioxane	11.72	88	1262	36.6474	ug/L		75
52)	Dibromomethane	11.82	93	7726	1.9939	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.02	63	6611	1.7802	ug/L		99
54)	4-Methyl-2-Pentanone	12.06	58	2130	1.2316	ug/L	#	83
55)	cis-1,3-Dichloropropene	12.36	75	22670	1.9218	ug/L		99
56)	Dimethyl Disulfide	12.62	79	8915	1.4337	ug/L		91
59)	Toluene	12.79	91	65706	2.1160	ug/L		98
60)	Ethyl Methacrylate	12.88	69	11326	1.8885	ug/L		94
62)	trans-1,3-Dichloropropene	12.96	75	19385	1.8678	ug/L		95
63)	1,1,2-Trichloroethane	13.18	97	9784	1.9817	ug/L		98
64)	2-Hexanone	13.12	58	2742	1.7849	ug/L	#	87
65)	1,3-Dichloropropane	13.48	76	18626	2.0580	ug/L		98
66)	Tetrachloroethene	13.60	164	12489	2.0023	ug/L		91
67)	Dibromochloromethane	13.86	129	12453	1.8399	ug/L		99
68)	1,2-Dibromoethane	14.12	107	9978	1.9968	ug/L		95
69)	1-Chlorohexane	14.20	91	21195	2.0131	ug/L		91
70)	Chlorobenzene	14.62	112	42771	2.0129	ug/L		81
71)	1,1,1,2-Tetrachloroethane	14.66	131	14580	1.9127	ug/L		99
72)	Ethylbenzene	14.65	106	24594	2.0230	ug/L		99
73)	m-,p-Xylene	14.74	106	56617	4.0743	ug/L		96
74)	o-Xylene	15.30	106	27322	1.8956	ug/L		97
75)	Styrene	15.34	104	44351	2.0181	ug/L		99
76)	Bromoform	15.84	173	6936	1.7783	ug/L		89
77)	Isopropylbenzene	15.73	105	71932	2.0929	ug/L		97
79)	1,1,2,2-Tetrachloroethane	15.94	83	11637	2.0776	ug/L	#	98
81)	1,2,3-Trichloropropane	16.14	110	3486	2.2241	ug/L		93
82)	trans-1,4-Dichloro-2-Buten	16.18	53	3453	1.6556	ug/L	#	56
83)	n-Propylbenzene	16.23	91	86680	2.0930	ug/L		99
84)	Bromobenzene	16.36	156	16288	1.9759	ug/L		92
85)	1,3,5-Trimethylbenzene	16.43	105	59253	2.0498	ug/L		100
86)	2-Chlorotoluene	16.51	91	55801	2.0627	ug/L		98
87)	4-Chlorotoluene	16.55	91	54177	2.0419	ug/L		94
88)	a-Methylstyrene	16.83	118	26242	1.7337	ug/L		99
89)	tert-Butylbenzene	16.88	134	12039	1.9328	ug/L		90
90)	1,2,4-Trimethylbenzene	16.94	105	61435	2.0594	ug/L		96
91)	sec-Butylbenzene	17.16	105	74823	2.0824	ug/L		95
92)	p-Isopropyltoluene	17.31	119	60435	2.0304	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	34022	2.0760	ug/L		99
94)	1,4-Dichlorobenzene	17.63	146	32632	1.9826	ug/L		75
95)	n-Butylbenzene	17.84	91	65161	2.1761	ug/L		96
96)	1,2-Dichlorobenzene	18.13	146	29661	2.0815	ug/L		96
97)	1,2-Dibromo-3-Chloropropan	19.13	75	1345	1.7462	ug/L		71
98)	1,2,4-Trichlorobenzene	20.27	180	20454	1.9715	ug/L		96
99)	Hexachlorobutadiene	20.41	225	8230	1.9397	ug/L		97
100)	Naphthalene	20.63	128	34116	2.0097	ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	16966	1.9654	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M410196.D 8260WTR.M Thu Feb 18 08:46:10 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410196.D Vial: 5
Acq On : 17 Feb 2016 16:23 Operator: TMB
Sample : WG556046-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\021716\8M410196.D Vial: 5
Acq On : 17 Feb 2016 16:23 Operator: TMB
Sample : WG556046-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.9327	3.4	100	0.00
3	P	Chloromethane	2.0000	2.1556	-7.8	100	0.00
4	C	Vinyl Chloride	2.0000	2.2396	-12.0	100	0.00
5	T	1,3-Butadiene	2.0000	1.1090	44.6#	100	0.01
6	T	Bromomethane	2.0000	1.9280	3.6	100	0.01
7	T	Chloroethane	2.0000	1.9518	2.4	100	0.00
8	T	Trichlorofluoromethane	2.0000	2.0625	-3.1	100	0.00
9	T	Diethyl ether	25.0000	25.4127	-1.7	100	0.00
10	T	Isoprene	2.0000	1.9664	1.7	100	0.00
11	T	Acrolein	12.5000	12.7870	-2.3	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.9973	0.1	100	0.00
13	T	Acetone	-1.0000	2.0818	0.0	100	0.00
14	C	1,1-Dichloroethene	2.0000	2.0392	-2.0	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	53.2017	-6.4	100	0.00
16	T	Dimethyl Sulfide	2.0000	1.9856	0.7	100	0.00
17	T	Iodomethane	2.0000	1.8283	8.6	100	0.00
18	T	Methyl acetate	-1.0000	2.2787	0.0	100	0.00
19	T	Methylene Chloride	2.0000	2.0948	-4.7	100	0.00
20	T	Carbon Disulfide	2.0000	2.0990	-5.0	100	0.00
21	T	Acrylonitrile	12.5000	12.0148	3.9	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.9802	1.0	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	2.0247	-1.2	100	0.00
24	T	n-Hexane	-1.0000	2.0626	0.0	100	0.01
25	T	Diisopropyl ether	25.0000	25.9721	-3.9	100	0.00
26	T	Vinyl Acetate	2.0000	1.9954	0.2	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.9979	0.1	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	25.7231	-2.9	100	0.00
29	T	2-Butanone	-1.0000	1.9793	0.0	100	0.00
30	T	Propionitrile	25.0000	23.4448	6.2	100	0.00
31	T	2,2-Dichloropropane	2.0000	2.0990	-5.0	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	2.0187	-0.9	100	0.00
33	C	Chloroform	2.0000	2.0060	-0.3	100	0.00
34		1-Bromopropane	2.0000	1.9235	3.8	100	0.00
35	T	Bromochloromethane	2.0000	1.8474	7.6	100	0.00
36	T	Tetrahydrofuran	25.0000	25.2524	-1.0	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9597	4.0	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	2.0157	-0.8	100	0.00
39	T	Cyclohexane	2.0000	1.9609	2.0	100	0.00
40	T	1,1-Dichloropropene	2.0000	2.0235	-1.2	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	25.7498	-3.0	100	0.00
42	T	Carbon Tetrachloride	2.0000	2.0389	-1.9	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	0.9530	4.7	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	2.0000	2.0097	-0.5	100	0.00
46	T	Benzene	2.0000	2.1020	-5.1	100	0.00
47	T	Trichloroethene	2.0000	2.0860	-4.3	100	0.00
48	T	Methylcyclohexane	-1.0000	2.0555	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	1.9811	0.9	100	0.00
50	T	Bromodichloromethane	2.0000	1.9823	0.9	100	0.00
51	T	1,4-Dioxane	-1.0000	36.6474	0.0	0	0.00
52	T	Dibromomethane	2.0000	1.9939	0.3	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.7802	11.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.2316	0.0	100	0.00

(#) = Out of Range
8M410196.D 8260WTR.M Thu Feb 18 08:47:11 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410196.D Vial: 5
Acq On : 17 Feb 2016 16:23 Operator: TMB
Sample : WG556046-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.9218	3.9	100	0.00
56	T	Dimethyl Disulfide	-1.0000	1.4337	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	0.9437	5.6	100	0.00
59	C	Toluene	2.0000	2.1160	-5.8	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.8885	5.6	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	2.0000	1.8678	6.6	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	1.9817	0.9	100	0.00
64	T	2-Hexanone	-1.0000	1.7849	0.0	100	0.00
65	T	1,3-Dichloropropane	2.0000	2.0580	-2.9	100	0.00
66	T	Tetrachloroethene	2.0000	2.0023	-0.1	100	0.00
67	T	Dibromochloromethane	2.0000	1.8399	8.0	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.9968	0.2	100	0.00
69	T	1-Chlorohexane	2.0000	2.0130	-0.7	100	0.00
70	P	Chlorobenzene	2.0000	2.0129	-0.6	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.9127	4.4	100	0.00
72	C	Ethylbenzene	2.0000	2.0230	-1.1	100	0.00
73	T	m-,p-Xylene	4.0000	4.0743	-1.9	100	0.00
74	T	o-Xylene	2.0000	1.8956	5.2	100	0.00
75	T	Styrene	2.0000	2.0181	-0.9	100	0.00
76	P	Bromoform	2.0000	1.7783	11.1	100	0.00
77	T	Isopropylbenzene	2.0000	2.0929	-4.6	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	2.0000	2.0776	-3.9	100	0.00
80	S	p-Bromofluorobenzene	1.0000	0.8641	13.6	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	2.2241	-11.2	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	1.6556	17.2	100	0.00
83	T	n-Propylbenzene	2.0000	2.0930	-4.6	100	0.00
84	T	Bromobenzene	2.0000	1.9759	1.2	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	2.0498	-2.5	100	0.00
86	T	2-Chlorotoluene	2.0000	2.0627	-3.1	100	0.00
87	T	4-Chlorotoluene	2.0000	2.0419	-2.1	100	0.00
88	T	a-Methylstyrene	-1.0000	1.7337	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.9328	3.4	100	0.00
90	T	1,2,4-Trimethylbenzene	2.0000	2.0594	-3.0	100	0.00
91	T	sec-Butylbenzene	2.0000	2.0824	-4.1	100	0.00
92	T	p-Isopropyltoluene	2.0000	2.0304	-1.5	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	2.0760	-3.8	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	1.9827	0.9	100	0.00
95	T	n-Butylbenzene	2.0000	2.1761	-8.8	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	2.0815	-4.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.7462	12.7	100	0.00
98	T	1,2,4-Trichlorobenzene	2.0000	1.9715	1.4	100	0.00
99	T	Hexachlorobutadiene	2.0000	1.9397	3.0	100	0.00
100	T	Naphthalene	2.0000	2.0097	-0.5	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.9654	1.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M410196.D 8260WTR.M Thu Feb 18 08:47:11 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410197.D Vial: 6
Acq On : 17 Feb 2016 16:52 Operator: TMB
Sample : WG556046-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:11 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	797042	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	557350	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	280695	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	20034	2.4487	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.80%#		
43) 1,2-Dichloroethane-d4	10.30	65	21857	2.4950	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.96%#		
58) Toluene-d8	12.69	98	69308	2.5184	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	10.08%#		
80) p-Bromofluorobenzene	16.07	95	28356	2.6005	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	10.40%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	59051	4.7001	ug/L	98
3) Chloromethane	3.63	50	99779	5.1936	ug/L	100
4) Vinyl Chloride	3.85	62	72392	5.4129	ug/L	97
5) 1,3-Butadiene	3.90	54	72409	5.2942	ug/L	98
6) Bromomethane	4.74	94	30020	4.7245	ug/L	100
7) Chloroethane	4.90	64	29817	4.9352	ug/L	98
8) Trichlorofluoromethane	5.38	101	70622	4.9270	ug/L	97
9) Diethyl ether	5.91	59	257952	49.1417	ug/L	98
10) Isoprene	5.95	67	49020	5.0467	ug/L	100
11) Acrolein	6.15	56	19757	24.2371	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	39355	5.0294	ug/L	89
13) Acetone	6.25	43	6934	5.3193	ug/L #	79
14) 1,1-Dichloroethene	6.47	61	72079	5.0051	ug/L	98
15) Tert-Butyl Alcohol	6.58	59	32950	99.5272	ug/L	93
16) Dimethyl Sulfide	6.74	62	31526	4.9980	ug/L	99
17) Iodomethane	6.99	142	14146	3.9631	ug/L	95
18) Methyl acetate	7.01	43	18793	5.1630	ug/L	96
19) Methylene Chloride	7.25	84	38505	4.8832	ug/L	91
20) Carbon Disulfide	7.30	76	123292	4.9811	ug/L	100
21) Acrylonitrile	7.44	53	42420	23.0804	ug/L	100
22) Methyl Tert Butyl Ether	7.48	73	80646	5.0356	ug/L	98
23) trans-1,2-Dichloroethene	7.71	61	67401	5.0066	ug/L	94
24) n-Hexane	7.79	57	58077	5.0599	ug/L	94
25) Diisopropyl ether	8.13	45	1492563	49.8998	ug/L	100
26) Vinyl Acetate	8.30	43	67337	4.8978	ug/L	98
27) 1,1-Dichloroethane	8.33	63	85443	5.0864	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1179180	49.1535	ug/L	99
29) 2-Butanone	8.90	43	9514	4.6417	ug/L	97
30) Propionitrile	8.99	54	29950	50.8669	ug/L	99
31) 2,2-Dichloropropane	9.10	77	70099	5.3063	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	44445	5.1256	ug/L	88
33) Chloroform	9.37	83	77696	5.2133	ug/L	100
34) 1-Bromopropane	9.51	122	5993	5.0847	ug/L	100
35) Bromochloromethane	9.61	130	23460	5.4070	ug/L	98
36) Tetrahydrofuran	9.63	42	64479	46.9599	ug/L	99
38) 1,1,1-Trichloroethane	9.91	97	69234	5.0911	ug/L	100
39) Cyclohexane	9.94	56	75971	4.8003	ug/L	99
40) 1,1-Dichloropropene	10.11	75	58581	4.9509	ug/L	98
41) Tert-Amyl-Methyl ether	10.21	73	831325	49.3045	ug/L	98
42) Carbon Tetrachloride	10.25	117	61888	5.0005	ug/L	96

(#) = qualifier out of range (m) = manual integration
8M410197.D 8260WTR.M Thu Feb 18 08:46:11 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410197.D Vial: 6
Acq On : 17 Feb 2016 16:52 Operator: TMB
Sample : WG556046-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:11 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

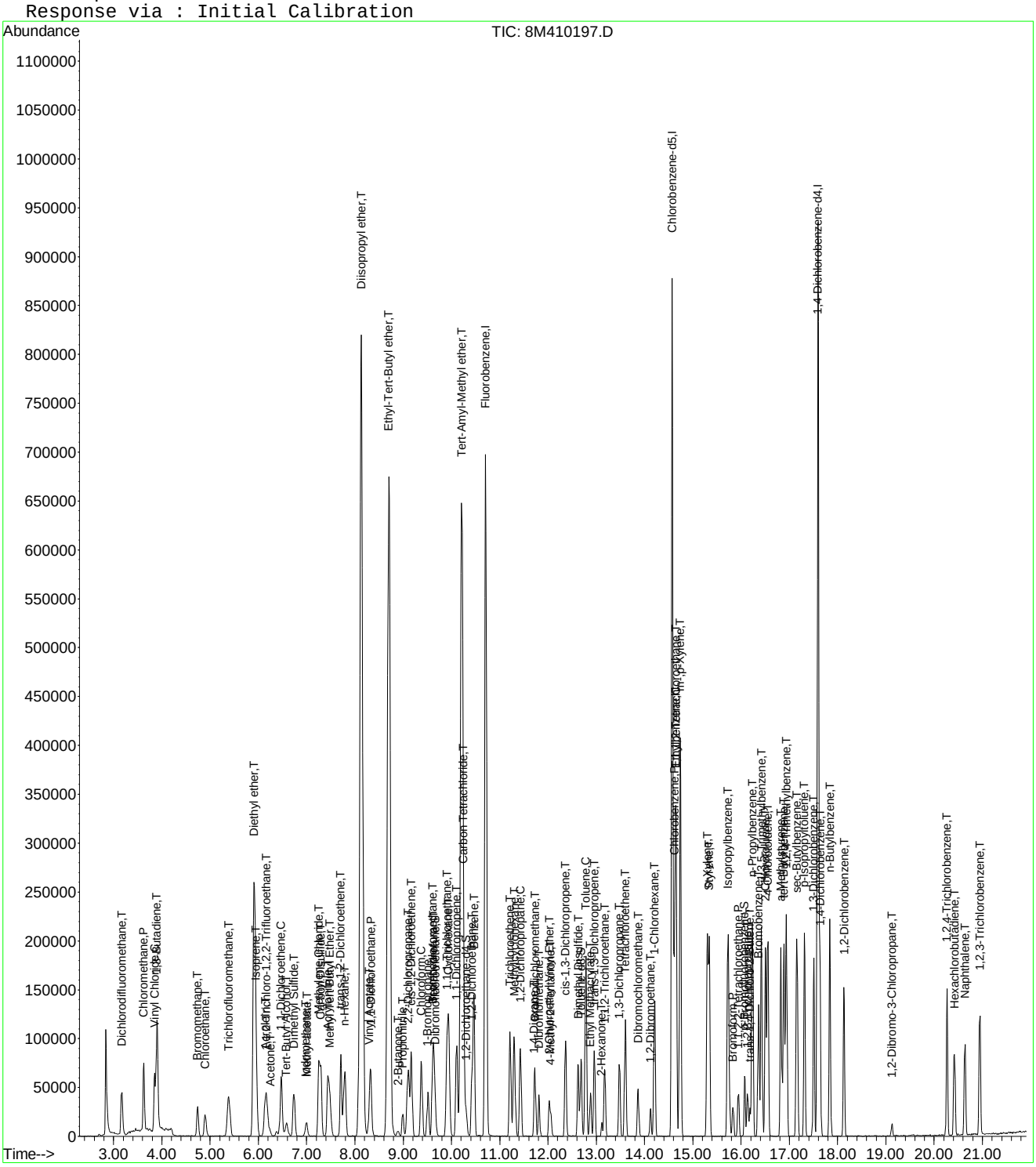
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	58329	5.1516	ug/L		97
46)	Benzene	10.47	78	164703	5.3424	ug/L		99
47)	Trichloroethene	11.21	130	42379	5.1039	ug/L		98
48)	Methylcyclohexane	11.31	83	57276	4.7903	ug/L		92
49)	1,2-Dichloropropane	11.43	63	45273	5.2232	ug/L		99
50)	Bromodichloromethane	11.73	83	56810	5.1631	ug/L		98
51)	1,4-Dioxane	11.71	88	2779	79.4892	ug/L		89
52)	Dibromomethane	11.81	93	20879	5.3076	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.03	63	18148	4.8136	ug/L		92
54)	4-Methyl-2-Pentanone	12.05	58	8288	4.7205	ug/L		91
55)	cis-1,3-Dichloropropene	12.36	75	62255	5.1983	ug/L		99
56)	Dimethyl Disulfide	12.63	79	25812	4.0888	ug/L		92
59)	Toluene	12.78	91	167982	5.4086	ug/L		100
60)	Ethyl Methacrylate	12.88	69	28551	4.7596	ug/L		96
62)	trans-1,3-Dichloropropene	12.96	75	51347	4.9464	ug/L		98
63)	1,1,2-Trichloroethane	13.18	97	25950	5.2551	ug/L		100
64)	2-Hexanone	13.11	58	6598	4.2940	ug/L	#	98
65)	1,3-Dichloropropane	13.48	76	46524	5.1395	ug/L		94
66)	Tetrachloroethene	13.60	164	32842	5.2642	ug/L		95
67)	Dibromochloromethane	13.87	129	33402	4.9341	ug/L		100
68)	1,2-Dibromoethane	14.13	107	25664	5.1349	ug/L		99
69)	1-Chlorohexane	14.21	91	56163	5.3332	ug/L		96
70)	Chlorobenzene	14.62	112	114284	5.3774	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.65	131	37976	4.9811	ug/L		99
72)	Ethylbenzene	14.65	106	61306	5.0417	ug/L		96
73)	m-,p-Xylene	14.74	106	150534	10.8306	ug/L		97
74)	o-Xylene	15.31	106	72683	5.0418	ug/L		100
75)	Styrene	15.34	104	115749	5.2659	ug/L		98
76)	Bromoform	15.83	173	18418	4.7211	ug/L		97
77)	Isopropylbenzene	15.73	105	187588	5.4570	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	29461	5.2519	ug/L		98
81)	1,2,3-Trichloropropane	16.13	110	8012	5.1040	ug/L		84
82)	trans-1,4-Dichloro-2-Buten	16.18	53	10811	5.1757	ug/L		79
83)	n-Propylbenzene	16.24	91	231310	5.5767	ug/L		98
84)	Bromobenzene	16.36	156	40784	4.9401	ug/L		85
85)	1,3,5-Trimethylbenzene	16.42	105	157000	5.4230	ug/L		100
86)	2-Chlorotoluene	16.50	91	141253	5.2135	ug/L		91
87)	4-Chlorotoluene	16.56	91	149342	5.6202	ug/L		87
88)	a-Methylstyrene	16.82	118	75916	5.0078	ug/L		95
89)	tert-Butylbenzene	16.89	134	31884	5.1110	ug/L		91
90)	1,2,4-Trimethylbenzene	16.94	105	163834	5.4836	ug/L		99
91)	sec-Butylbenzene	17.16	105	195859	5.4427	ug/L		97
92)	p-Isopropyltoluene	17.31	119	159918	5.3645	ug/L		96
93)	1,3-Dichlorobenzene	17.51	146	87076	5.3053	ug/L		94
94)	1,4-Dichlorobenzene	17.64	146	85643	5.1956	ug/L		88
95)	n-Butylbenzene	17.84	91	163635	5.4563	ug/L		97
96)	1,2-Dichlorobenzene	18.14	146	74818	5.2424	ug/L		92
97)	1,2-Dibromo-3-Chloropropan	19.13	75	5241	5.3520	ug/L		85
98)	1,2,4-Trichlorobenzene	20.27	180	54277	5.2236	ug/L		99
99)	Hexachlorobutadiene	20.42	225	21872	5.1472	ug/L		95
100)	Naphthalene	20.64	128	89617	5.2710	ug/L		99
101)	1,2,3-Trichlorobenzene	20.95	180	44963	5.2007	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M410197.D 8260WTR.M Thu Feb 18 08:46:11 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410197.D Vial: 6
Acq On : 17 Feb 2016 16:52 Operator: TMB
Sample : WG556046-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\021716\8M410197.D Vial: 6
Acq On : 17 Feb 2016 16:52 Operator: TMB
Sample : WG556046-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.7001	6.0	100	0.01
3	P	Chloromethane	5.0000	5.1936	-3.9	100	0.01
4	C	Vinyl Chloride	5.0000	5.4129	-8.3	100	0.01
5	T	1,3-Butadiene	5.0000	5.2942	-5.9	100	0.01
6	T	Bromomethane	5.0000	4.7245	5.5	100	0.01
7	T	Chloroethane	5.0000	4.9352	1.3	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.9270	1.5	100	0.00
9	T	Diethyl ether	50.0000	49.1417	1.7	100	0.00
10	T	Isoprene	5.0000	5.0467	-0.9	100	0.01
11	T	Acrolein	25.0000	24.2371	3.1	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	5.0294	-0.6	100	0.01
13	T	Acetone	5.0000	5.3193	-6.4	100	0.00
14	C	1,1-Dichloroethene	5.0000	5.0050	-0.1	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	99.5272	0.5	100	-0.01
16	T	Dimethyl Sulfide	5.0000	4.9980	0.0	100	0.00
17	T	Iodomethane	5.0000	3.9631	20.7	100	0.00
18	T	Methyl acetate	5.0000	5.1630	-3.3	100	0.01
19	T	Methylene Chloride	5.0000	4.8832	2.3	100	0.00
20	T	Carbon Disulfide	5.0000	4.9811	0.4	100	0.00
21	T	Acrylonitrile	25.0000	23.0803	7.7	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	5.0356	-0.7	100	0.01
23	T	trans-1,2-Dichloroethene	5.0000	5.0065	-0.1	100	0.00
24	T	n-Hexane	5.0000	5.0599	-1.2	100	0.01
25	T	Diisopropyl ether	50.0000	49.8998	0.2	100	0.00
26	T	Vinyl Acetate	5.0000	4.8978	2.0	100	0.00
27	P	1,1-Dichloroethane	5.0000	5.0864	-1.7	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	49.1535	1.7	100	0.00
29	T	2-Butanone	5.0000	4.6417	7.2	100	0.01
30	T	Propionitrile	50.0000	50.8670	-1.7	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.3063	-6.1	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	5.1257	-2.5	100	0.00
33	C	Chloroform	5.0000	5.2133	-4.3	100	0.00
34		1-Bromopropane	5.0000	5.0847	-1.7	100	0.00
35	T	Bromochloromethane	5.0000	5.4070	-8.1	100	0.00
36	T	Tetrahydrofuran	50.0000	46.9599	6.1	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4487	2.1	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	5.0911	-1.8	100	0.00
39	T	Cyclohexane	5.0000	4.8003	4.0	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.9509	1.0	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	49.3045	1.4	100	0.00
42	T	Carbon Tetrachloride	5.0000	5.0005	-0.0	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.4950	0.2	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	5.0000	5.1517	-3.0	100	0.00
46	T	Benzene	5.0000	5.3424	-6.8	100	0.00
47	T	Trichloroethene	5.0000	5.1039	-2.1	100	0.00
48	T	Methylcyclohexane	5.0000	4.7903	4.2	100	0.01
49	C	1,2-Dichloropropane	5.0000	5.2232	-4.5	100	0.00
50	T	Bromodichloromethane	5.0000	5.1631	-3.3	100	0.00
51	T	1,4-Dioxane	100.0000	79.4892	20.5	100	0.00
52	T	Dibromomethane	5.0000	5.3076	-6.2	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.8136	3.7	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.7205	5.6	100	-0.01

(#) = Out of Range
8M410197.D 8260WTR.M Thu Feb 18 08:47:24 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410197.D Vial: 6
Acq On : 17 Feb 2016 16:52 Operator: TMB
Sample : WG556046-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	5.1983	-4.0	100	0.00
56	T	Dimethyl Disulfide	5.0000	4.0888	18.2	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.5184	-0.7	100	0.00
59	C	Toluene	5.0000	5.4086	-8.2	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.7596	4.8	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	5.0000	4.9464	1.1	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	5.2551	-5.1	100	0.00
64	T	2-Hexanone	5.0000	4.2940	14.1	100	0.00
65	T	1,3-Dichloropropane	5.0000	5.1395	-2.8	100	-0.01
66	T	Tetrachloroethene	5.0000	5.2642	-5.3	100	0.00
67	T	Dibromochloromethane	5.0000	4.9341	1.3	100	0.00
68	T	1,2-Dibromoethane	5.0000	5.1349	-2.7	100	0.01
69	T	1-Chlorohexane	5.0000	5.3332	-6.7	100	0.00
70	P	Chlorobenzene	5.0000	5.3774	-7.5	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.9810	0.4	100	0.00
72	C	Ethylbenzene	5.0000	5.0418	-0.8	100	0.00
73	T	m-,p-Xylene	10.0000	10.8306	-8.3	100	-0.01
74	T	o-Xylene	5.0000	5.0418	-0.8	100	0.00
75	T	Styrene	5.0000	5.2659	-5.3	100	-0.01
76	P	Bromoform	5.0000	4.7211	5.6	100	0.00
77	T	Isopropylbenzene	5.0000	5.4570	-9.1	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	-0.01
79	P	1,1,2,2-Tetrachloroethane	5.0000	5.2519	-5.0	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.6005	-4.0	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	5.1040	-2.1	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	5.1757	-3.5	100	0.00
83	T	n-Propylbenzene	5.0000	5.5767	-11.5	100	0.00
84	T	Bromobenzene	5.0000	4.9401	1.2	100	-0.01
85	T	1,3,5-Trimethylbenzene	5.0000	5.4230	-8.5	100	0.00
86	T	2-Chlorotoluene	5.0000	5.2135	-4.3	100	0.00
87	T	4-Chlorotoluene	5.0000	5.6202	-12.4	100	0.00
88	T	a-Methylstyrene	5.0000	5.0078	-0.2	100	0.00
89	T	tert-Butylbenzene	5.0000	5.1110	-2.2	100	0.00
90	T	1,2,4-Trimethylbenzene	5.0000	5.4836	-9.7	100	0.00
91	T	sec-Butylbenzene	5.0000	5.4427	-8.9	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.3645	-7.3	100	-0.01
93	T	1,3-Dichlorobenzene	5.0000	5.3053	-6.1	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	5.1956	-3.9	100	0.00
95	T	n-Butylbenzene	5.0000	5.4563	-9.1	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	5.2424	-4.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	5.3520	-7.0	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	5.2236	-4.5	100	0.00
99	T	Hexachlorobutadiene	5.0000	5.1471	-2.9	100	0.00
100	T	Naphthalene	5.0000	5.2710	-5.4	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	5.2007	-4.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M410197.D 8260WTR.M Thu Feb 18 08:47:24 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410198.D Vial: 7
Acq On : 17 Feb 2016 17:21 Operator: TMB
Sample : WG556046-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:12 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	823727	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	577593	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	295141	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	87309	10.3257	ug/L	0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 41.32%#			
43) 1,2-Dichloroethane-d4	10.30	65	92239	10.1881	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 40.76%#			
58) Toluene-d8	12.68	98	299824	10.5128	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 42.04%#			
80) p-Bromofluorobenzene	16.07	95	120192	10.4832	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.92%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	288132	22.1907	ug/L	100
3) Chloromethane	3.63	50	412247	20.7629	ug/L	99
4) Vinyl Chloride	3.85	62	306309	22.1615	ug/L	98
5) 1,3-Butadiene	3.90	54	308554	28.6584	ug/L	97
6) Bromomethane	4.74	94	124777	19.0010	ug/L	96
7) Chloroethane	4.90	64	128070	20.5110	ug/L	99
8) Trichlorofluoromethane	5.38	101	309967	20.9246	ug/L	98
9) Diethyl ether	5.92	59	412082	75.9614	ug/L	99
10) Isoprene	5.95	67	206506	20.5715	ug/L	97
11) Acrolein	6.15	56	32355	38.4061	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	162586	20.1047	ug/L	94
13) Acetone	6.25	43	27531	20.4356	ug/L	99
14) 1,1-Dichloroethene	6.48	61	306515	20.5944	ug/L	94
15) Tert-Butyl Alcohol	6.58	59	56104	163.9751	ug/L	95
16) Dimethyl Sulfide	6.74	62	133779	20.5215	ug/L	96
17) Iodomethane	7.00	142	83366	17.0267	ug/L	96
18) Methyl acetate	7.01	43	72219	19.1979	ug/L	99
19) Methylene Chloride	7.25	84	163490	20.0621	ug/L	96
20) Carbon Disulfide	7.30	76	531297	20.7693	ug/L	99
21) Acrylonitrile	7.44	53	69771	36.7320	ug/L	96
22) Methyl Tert Butyl Ether	7.47	73	326460	19.7242	ug/L	97
23) trans-1,2-Dichloroethene	7.71	61	283266	20.3594	ug/L	92
24) n-Hexane	7.79	57	234124	19.7372	ug/L	96
25) Diisopropyl ether	8.13	45	2443113	79.0328	ug/L	100
26) Vinyl Acetate	8.30	43	283060	19.9215	ug/L	99
27) 1,1-Dichloroethane	8.33	63	356159	20.5153	ug/L	97
28) Ethyl-Tert-Butyl ether	8.71	59	1970314	79.4708	ug/L	99
29) 2-Butanone	8.89	43	41256	19.4760	ug/L	96
30) Propionitrile	9.00	54	49449	81.2633	ug/L	98
31) 2,2-Dichloropropane	9.10	77	263742	19.3177	ug/L	100
32) cis-1,2-Dichloroethene	9.18	96	183241	20.4478	ug/L	88
33) Chloroform	9.38	83	318837	20.7007	ug/L	100
34) 1-Bromopropane	9.52	122	26063	19.9503	ug/L	98
35) Bromochloromethane	9.61	130	92999	20.7400	ug/L	93
36) Tetrahydrofuran	9.64	42	105134	74.0884	ug/L	98
38) 1,1,1-Trichloroethane	9.91	97	286634	20.3946	ug/L	99
39) Cyclohexane	9.94	56	332633	20.3368	ug/L	97
40) 1,1-Dichloropropene	10.11	75	241787	19.7723	ug/L	98
41) Tert-Amyl-Methyl ether	10.21	73	1355434	77.7843	ug/L	97
42) Carbon Tetrachloride	10.25	117	262820	20.5478	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M410198.D 8260WTR.M Thu Feb 18 08:46:13 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410198.D Vial: 7
Acq On : 17 Feb 2016 17:21 Operator: TMB
Sample : WG556046-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:12 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

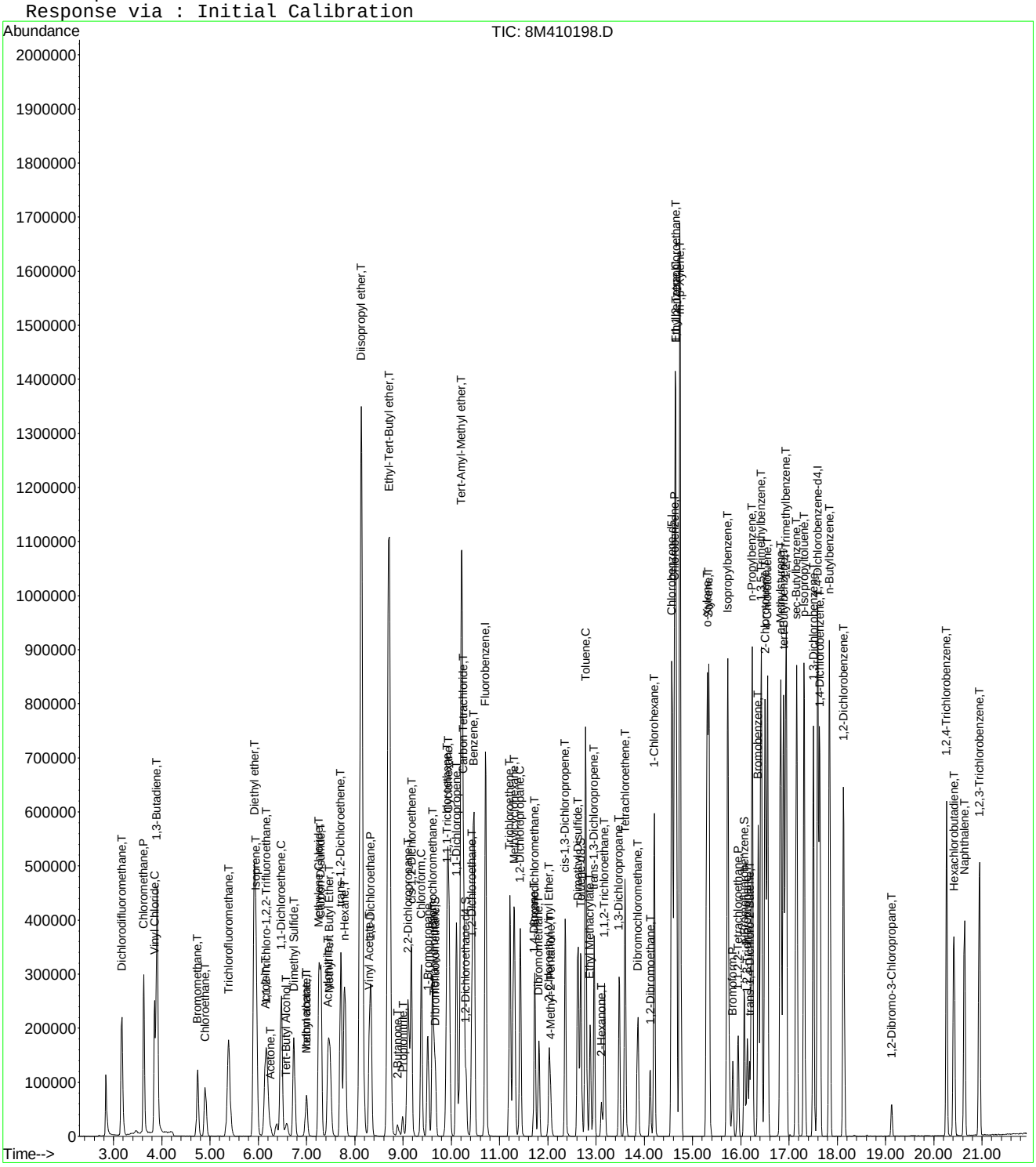
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	238823	20.4097	ug/L		96
46)	Benzene	10.47	78	673798	21.1478	ug/L		98
47)	Trichloroethene	11.21	130	175099	20.4046	ug/L		98
48)	Methylcyclohexane	11.31	83	253261	20.4952	ug/L		96
49)	1,2-Dichloropropane	11.43	63	185391	20.6959	ug/L		98
50)	Bromodichloromethane	11.73	83	235412	20.7018	ug/L		99
51)	1,4-Dioxane	11.72	88	5613	155.3505	ug/L		99
52)	Dibromomethane	11.81	93	85288	20.9787	ug/L		95
53)	2-Chloroethyl Vinyl Ether	12.03	63	76501	19.6338	ug/L		98
54)	4-Methyl-2-Pentanone	12.06	58	34788	19.1719	ug/L		98
55)	cis-1,3-Dichloropropene	12.36	75	257004	20.7646	ug/L		99
56)	Dimethyl Disulfide	12.63	79	126729	19.4242	ug/L		99
59)	Toluene	12.78	91	695071	21.5954	ug/L		99
60)	Ethyl Methacrylate	12.88	69	131425	21.1414	ug/L		97
62)	trans-1,3-Dichloropropene	12.96	75	217105	20.1812	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	107486	21.0041	ug/L		99
64)	2-Hexanone	13.11	58	30881	19.3931	ug/L	#	93
65)	1,3-Dichloropropane	13.48	76	193371	20.6130	ug/L		94
66)	Tetrachloroethene	13.60	164	135742	20.9955	ug/L		93
67)	Dibromochloromethane	13.87	129	146543	20.8885	ug/L		99
68)	1,2-Dibromoethane	14.13	107	107361	20.7283	ug/L		100
69)	1-Chlorohexane	14.21	91	229265	21.0077	ug/L		93
70)	Chlorobenzene	14.62	112	453571	20.5939	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.65	131	161638	20.4579	ug/L		99
72)	Ethylbenzene	14.65	106	254478	20.1946	ug/L		100
73)	m-,p-Xylene	14.74	106	613555	42.5970	ug/L		98
74)	o-Xylene	15.31	106	298414	19.9744	ug/L		99
75)	Styrene	15.34	104	491369	21.5711	ug/L		97
76)	Bromoform	15.83	173	80430	19.8940	ug/L		99
77)	Isopropylbenzene	15.73	105	780984	21.9227	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	119916	20.3306	ug/L		98
81)	1,2,3-Trichloropropane	16.13	110	32413	19.6379	ug/L		87
82)	trans-1,4-Dichloro-2-Buten	16.18	53	45061	20.5166	ug/L		87
83)	n-Propylbenzene	16.24	91	947796	21.7322	ug/L		99
84)	Bromobenzene	16.36	156	176903	20.3791	ug/L		89
85)	1,3,5-Trimethylbenzene	16.42	105	660417	21.6951	ug/L		99
86)	2-Chlorotoluene	16.50	91	576854	20.2490	ug/L		91
87)	4-Chlorotoluene	16.56	91	610186	21.8391	ug/L		90
88)	a-Methylstyrene	16.82	118	324226	20.3406	ug/L		99
89)	tert-Butylbenzene	16.89	134	131402	20.0327	ug/L		88
90)	1,2,4-Trimethylbenzene	16.94	105	689555	21.9502	ug/L		99
91)	sec-Butylbenzene	17.16	105	830718	21.9549	ug/L		97
92)	p-Isopropyltoluene	17.31	119	674945	21.5331	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	359899	20.8545	ug/L		94
94)	1,4-Dichlorobenzene	17.64	146	356534	20.5707	ug/L		93
95)	n-Butylbenzene	17.84	91	683032	21.6606	ug/L		97
96)	1,2-Dichlorobenzene	18.13	146	316865	21.1157	ug/L		92
97)	1,2-Dibromo-3-Chloropropan	19.13	75	21395	19.3410	ug/L		87
98)	1,2,4-Trichlorobenzene	20.27	180	223420	20.4493	ug/L		100
99)	Hexachlorobutadiene	20.42	225	92782	20.7657	ug/L		97
100)	Naphthalene	20.64	128	372235	20.8222	ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	184489	20.2948	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M410198.D 8260WTR.M Thu Feb 18 08:46:13 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410198.D Vial: 7
Acq On : 17 Feb 2016 17:21 Operator: TMB
Sample : WG556046-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410199.D Vial: 8
Acq On : 17 Feb 2016 17:50 Operator: TMB
Sample : WG556046-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:14 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	835274	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	592238	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	312633	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	214477	25.0146	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.04%			
43) 1,2-Dichloroethane-d4	10.30	65	233352	25.4181	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 101.68%			
58) Toluene-d8	12.68	98	749387	25.6262	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.52%			
80) p-Bromofluorobenzene	16.07	95	305463	25.1520	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.16	85	721282	54.7820	ug/L	99
3) Chloromethane	3.63	50	1027734	51.0464	ug/L	99
4) Vinyl Chloride	3.84	62	733207	52.3142	ug/L	98
5) 1,3-Butadiene	3.90	54	592954	59.3556	ug/L	93
6) Bromomethane	4.74	94	336011	50.4603	ug/L	100
7) Chloroethane	4.90	64	326014	51.4908	ug/L	99
8) Trichlorofluoromethane	5.38	101	770080	51.2663	ug/L	99
9) Diethyl ether	5.91	59	533035	96.8990	ug/L	99
10) Isoprene	5.95	67	514801	50.5739	ug/L	98
11) Acrolein	6.14	56	41897	49.0451	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	409046	49.8818	ug/L	93
13) Acetone	6.24	43	69466	50.8500	ug/L	100
14) 1,1-Dichloroethene	6.47	61	775236	51.3672	ug/L	94
15) Tert-Butyl Alcohol	6.58	59	66373	191.3066	ug/L	97
16) Dimethyl Sulfide	6.74	62	331415	50.1359	ug/L	99
17) Iodomethane	6.99	142	256295	49.2035	ug/L	97
18) Methyl acetate	7.01	43	183066	47.9915	ug/L	100
19) Methylene Chloride	7.26	84	416883	50.4490	ug/L	96
20) Carbon Disulfide	7.30	76	1292800	49.8392	ug/L	99
21) Acrylonitrile	7.44	53	100176	52.0101	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	842736	50.2128	ug/L	97
23) trans-1,2-Dichloroethene	7.71	61	728370	51.6270	ug/L	92
24) n-Hexane	7.78	57	565010	46.9732	ug/L	94
25) Diisopropyl ether	8.13	45	3141690	100.2263	ug/L	100
26) Vinyl Acetate	8.30	43	715107	49.6328	ug/L	100
27) 1,1-Dichloroethane	8.33	63	912395	51.8288	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	2537926	100.9498	ug/L	99
29) 2-Butanone	8.89	43	105385	49.0620	ug/L	99
30) Propionitrile	8.99	54	62101	100.6444	ug/L	99
31) 2,2-Dichloropropane	9.11	77	674566	48.7254	ug/L	100
32) cis-1,2-Dichloroethene	9.17	96	467788	51.4787	ug/L	89
33) Chloroform	9.37	83	811667	51.9694	ug/L	99
34) 1-Bromopropane	9.52	122	64557	48.0824	ug/L	100
35) Bromochloromethane	9.61	130	240807	52.9607	ug/L	93
36) Tetrahydrofuran	9.63	42	135480	94.1535	ug/L	99
38) 1,1,1-Trichloroethane	9.91	97	730602	51.2652	ug/L	99
39) Cyclohexane	9.94	56	807134	48.6651	ug/L	97
40) 1,1-Dichloropropene	10.11	75	619589	49.9668	ug/L	97
41) Tert-Amyl-Methyl ether	10.21	73	1767449	100.0264	ug/L	98
42) Carbon Tetrachloride	10.25	117	681525	52.5464	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M410199.D 8260WTR.M Thu Feb 18 08:46:14 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410199.D Vial: 8
Acq On : 17 Feb 2016 17:50 Operator: TMB
Sample : WG556046-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:14 2016 Quant Results File: 8260WTR.RES

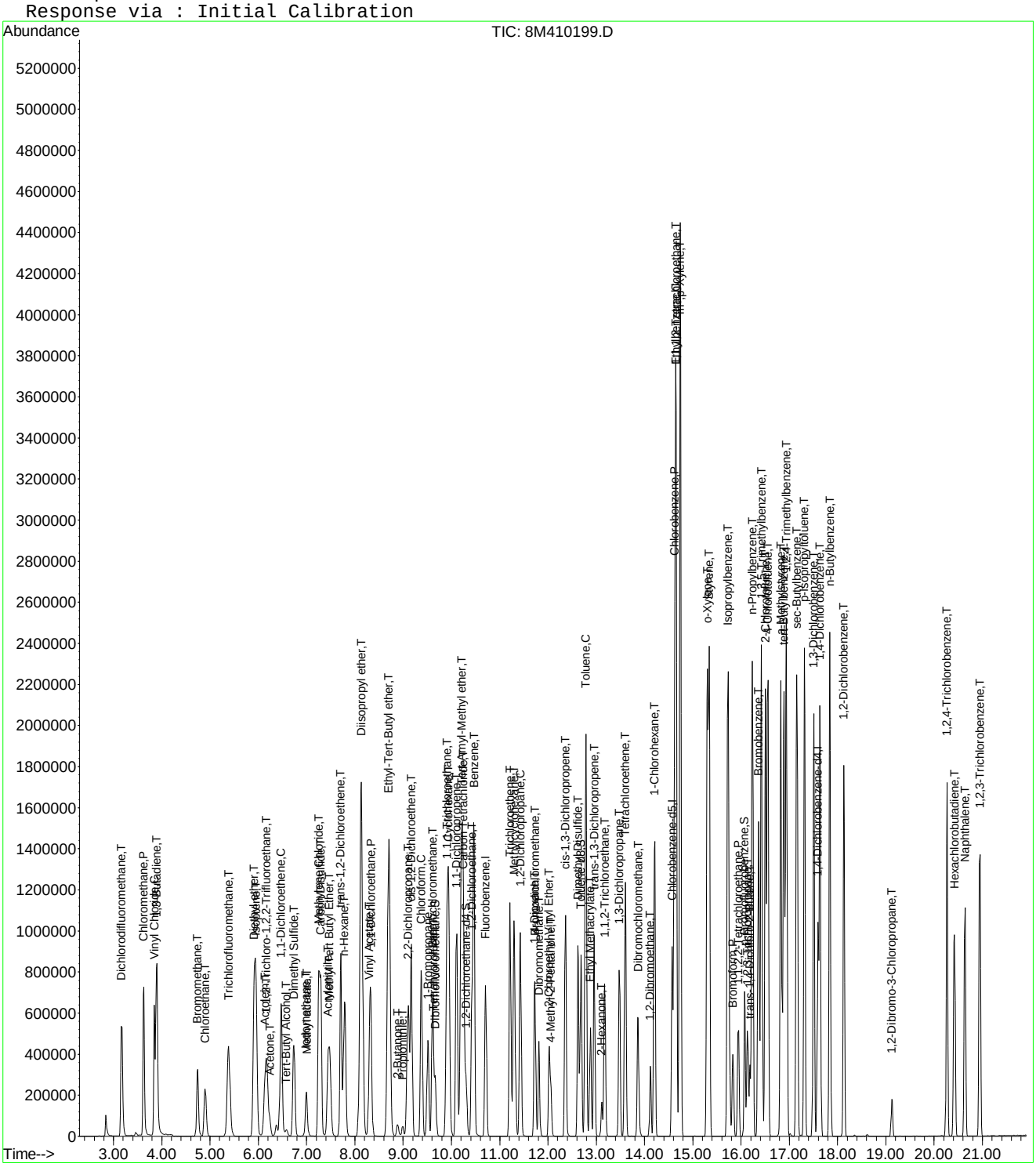
Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	619162	52.1817	ug/L		96
46)	Benzene	10.47	78	1699725	52.6101	ug/L		97
47)	Trichloroethene	11.21	130	444753	51.1115	ug/L		98
48)	Methylcyclohexane	11.30	83	612738	48.9006	ug/L		96
49)	1,2-Dichloropropane	11.43	63	481617	53.0215	ug/L		100
50)	Bromodichloromethane	11.73	83	608651	52.7840	ug/L		99
51)	1,4-Dioxane	11.72	88	7116	194.2263	ug/L		97
52)	Dibromomethane	11.81	93	220726	53.5424	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.02	63	203656	51.5453	ug/L		99
54)	4-Methyl-2-Pentanone	12.06	58	91485	49.7210	ug/L		99
55)	cis-1,3-Dichloropropene	12.36	75	667924	53.2187	ug/L		99
56)	Dimethyl Disulfide	12.62	79	332655	50.2825	ug/L		99
59)	Toluene	12.78	91	1762446	53.4039	ug/L		99
60)	Ethyl Methacrylate	12.88	69	328729	51.5727	ug/L		98
62)	trans-1,3-Dichloropropene	12.96	75	579282	52.5162	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	283473	54.0244	ug/L		99
64)	2-Hexanone	13.12	58	82143	50.3098	ug/L	#	92
65)	1,3-Dichloropropane	13.48	76	511486	53.1751	ug/L		95
66)	Tetrachloroethene	13.60	164	342897	51.7250	ug/L		93
67)	Dibromochloromethane	13.87	129	396784	55.1596	ug/L		99
68)	1,2-Dibromoethane	14.12	107	288531	54.3294	ug/L		98
69)	1-Chlorohexane	14.21	91	568699	50.8218	ug/L		93
70)	Chlorobenzene	14.62	112	1184148	52.4355	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.66	131	437522	54.0062	ug/L		100
72)	Ethylbenzene	14.66	106	660497	51.1188	ug/L		99
73)	m-,p-Xylene	14.74	106	1587940	107.5191	ug/L		99
74)	o-Xylene	15.31	106	787640	51.4172	ug/L		99
75)	Styrene	15.34	104	1314879	56.2957	ug/L		96
76)	Bromoform	15.83	173	229214	55.2931	ug/L		99
77)	Isopropylbenzene	15.73	105	2008012	54.9722	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	339093	54.2734	ug/L		99
81)	1,2,3-Trichloropropane	16.13	110	91604	52.3945	ug/L		91
82)	trans-1,4-Dichloro-2-Buten	16.18	53	122745	52.7598	ug/L		86
83)	n-Propylbenzene	16.24	91	2421064	52.4072	ug/L		99
84)	Bromobenzene	16.36	156	475611	51.7245	ug/L		87
85)	1,3,5-Trimethylbenzene	16.42	105	1737839	53.8949	ug/L		100
86)	2-Chlorotoluene	16.51	91	1558978	51.6622	ug/L		99
87)	4-Chlorotoluene	16.56	91	1599988	54.0609	ug/L		97
88)	a-Methylstyrene	16.83	118	842979	49.9261	ug/L		99
89)	tert-Butylbenzene	16.89	134	350928	50.5068	ug/L		90
90)	1,2,4-Trimethylbenzene	16.94	105	1815097	54.5462	ug/L		99
91)	sec-Butylbenzene	17.16	105	2145835	53.5389	ug/L		98
92)	p-Isopropyltoluene	17.31	119	1775425	53.4730	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	974599	53.3139	ug/L		93
94)	1,4-Dichlorobenzene	17.63	146	961360	52.3636	ug/L		92
95)	n-Butylbenzene	17.84	91	1765145	52.8452	ug/L		99
96)	1,2-Dichlorobenzene	18.13	146	862493	54.2603	ug/L		91
97)	1,2-Dibromo-3-Chloropropan	19.12	75	62184	52.1991	ug/L		88
98)	1,2,4-Trichlorobenzene	20.27	180	625598	54.0562	ug/L		99
99)	Hexachlorobutadiene	20.42	225	250126	52.8490	ug/L		96
100)	Naphthalene	20.64	128	1052890	55.6016	ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	521877	54.1972	ug/L		100

(#) = qualifier out of range (m) = manual integration
8M410199.D 8260WTR.M Thu Feb 18 08:46:14 2016 Page 2

Data File : C:\MSDCHEM\2\DATA\021716\8M410199.D Vial: 8
Acq On : 17 Feb 2016 17:50 Operator: TMB
Sample : WG556046-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410200.D Vial: 9
Acq On : 17 Feb 2016 18:19 Operator: TMB
Sample : WG556046-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:15 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	903347	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	637319	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	336830	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	468963	50.5739	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 202.28%#			
43) 1,2-Dichloroethane-d4	10.30	65	509308	51.2964	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 205.20%#			
58) Toluene-d8	12.68	98	1569538	49.8757	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 199.52%#			
80) p-Bromofluorobenzene	16.07	95	652340	49.8554	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 199.44%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	1433681	100.6839	ug/L	99
3) Chloromethane	3.63	50	2046102	93.9692	ug/L	100
4) Vinyl Chloride	3.84	62	1388202	91.5841	ug/L	100
5) 1,3-Butadiene	3.89	54	815853	79.1082	ug/L	89
6) Bromomethane	4.74	94	719896	99.9632	ug/L	99
7) Chloroethane	4.90	64	687141	100.3491	ug/L	99
8) Trichlorofluoromethane	5.38	101	1611966	99.2261	ug/L	100
9) Diethyl ether	5.91	59	1248419	209.8449	ug/L	99
10) Isoprene	5.94	67	1143199	103.8445	ug/L	97
11) Acrolein	6.15	56	99364	107.5514	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	851054	95.9624	ug/L	94
13) Acetone	6.24	43	145476	98.4656	ug/L	91
14) 1,1-Dichloroethene	6.47	61	1637015	100.2950	ug/L	95
15) Tert-Butyl Alcohol	6.58	59	164137	437.4408	ug/L	96
16) Dimethyl Sulfide	6.74	62	759272	106.2058	ug/L	99
17) Iodomethane	6.99	142	584203	102.3505	ug/L	97
18) Methyl acetate	7.00	43	438076	106.1892	ug/L	99
19) Methylene Chloride	7.25	84	891713	99.7788	ug/L	95
20) Carbon Disulfide	7.30	76	2782313	99.1790	ug/L	100
21) Acrylonitrile	7.44	53	233985	112.3276	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	1891075	104.1852	ug/L	97
23) trans-1,2-Dichloroethene	7.71	61	1553137	101.7909	ug/L	92
24) n-Hexane	7.79	57	1256661	96.6021	ug/L	95
25) Diisopropyl ether	8.13	45	6957088	205.2202	ug/L	99
26) Vinyl Acetate	8.30	43	1617440	103.8007	ug/L	99
27) 1,1-Dichloroethane	8.33	63	1936758	101.7273	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	5732317	210.8294	ug/L	98
29) 2-Butanone	8.89	43	254274	109.4567	ug/L	99
30) Propionitrile	8.99	54	150086	224.9084	ug/L	98
31) 2,2-Dichloropropane	9.10	77	1476332	98.6029	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	995286	101.2746	ug/L	86
33) Chloroform	9.37	83	1716606	101.6283	ug/L	99
34) 1-Bromopropane	9.52	122	141797	97.1880	ug/L	100
35) Bromochloromethane	9.61	130	520554	105.8582	ug/L	94
36) Tetrahydrofuran	9.63	42	319359	205.2176	ug/L	99
38) 1,1,1-Trichloroethane	9.91	97	1556799	101.0064	ug/L	100
39) Cyclohexane	9.94	56	1782227	99.3595	ug/L	96
40) 1,1-Dichloropropene	10.11	75	1307923	97.5292	ug/L	97
41) Tert-Amyl-Methyl ether	10.21	73	4037773	211.2925	ug/L	96
42) Carbon Tetrachloride	10.25	117	1435237	102.3197	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M410200.D 8260WTR.M Thu Feb 18 08:46:15 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410200.D Vial: 9
Acq On : 17 Feb 2016 18:19 Operator: TMB
Sample : WG556046-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:15 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

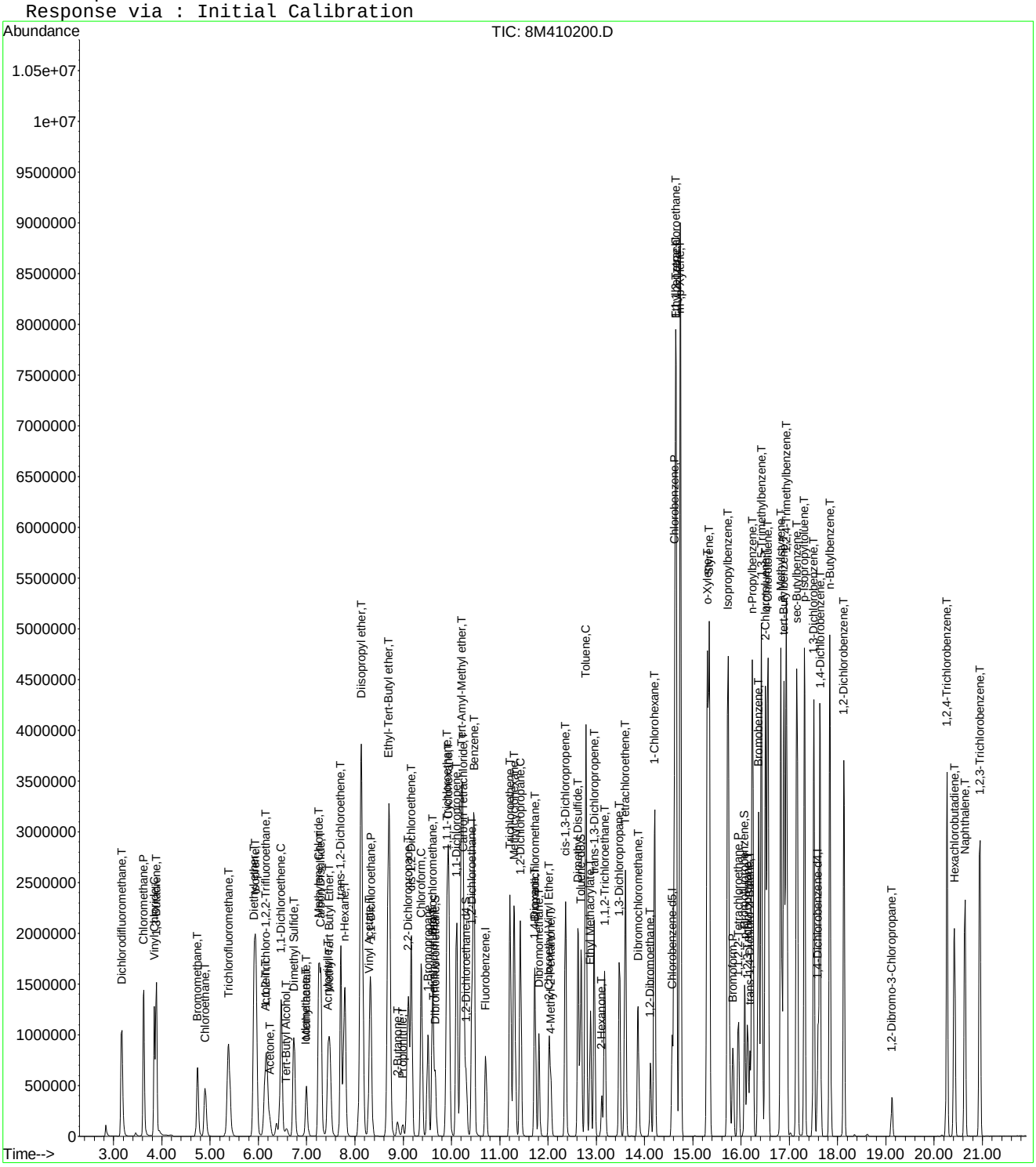
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	1340737	104.4797 ug/L		96
46)	Benzene	10.47	78	3497550	100.0987 ug/L		94
47)	Trichloroethene	11.21	130	934321	99.2819 ug/L		98
48)	Methylcyclohexane	11.30	83	1326547	97.8895 ug/L		94
49)	1,2-Dichloropropane	11.43	63	1027383	104.5820 ug/L		99
50)	Bromodichloromethane	11.73	83	1315657	105.4996 ug/L		99
51)	1,4-Dioxane	11.72	88	18464	465.9852 ug/L		96
52)	Dibromomethane	11.81	93	482157	108.1452 ug/L		95
53)	2-Chloroethyl Vinyl Ether	12.02	63	461514	108.0067 ug/L		98
54)	4-Methyl-2-Pentanone	12.06	58	210364	105.7147 ug/L		99
55)	cis-1,3-Dichloropropene	12.36	75	1446960	106.6027 ug/L		99
56)	Dimethyl Disulfide	12.62	79	760668	106.3144 ug/L		99
59)	Toluene	12.78	91	3588819	101.0528 ug/L		97
60)	Ethyl Methacrylate	12.88	69	765654	111.6230 ug/L		98
62)	trans-1,3-Dichloropropene	12.96	75	1276094	107.5041 ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	611318	108.2641 ug/L		99
64)	2-Hexanone	13.11	58	193867	110.3380 ug/L	#	92
65)	1,3-Dichloropropane	13.48	76	1101893	106.4520 ug/L		95
66)	Tetrachloroethene	13.60	164	730579	102.4103 ug/L		92
67)	Dibromochloromethane	13.87	129	856678	110.6685 ug/L		100
68)	1,2-Dibromoethane	14.12	107	615818	107.7542 ug/L		99
69)	1-Chlorohexane	14.21	91	1234803	102.5426 ug/L		91
70)	Chlorobenzene	14.62	112	2490690	102.4894 ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.65	131	956138	109.6739 ug/L		98
72)	Ethylbenzene	14.65	106	1433262	103.0801 ug/L		90
73)	m-,p-Xylene	14.74	106	3318826	208.8215 ug/L		89
74)	o-Xylene	15.31	106	1659760	100.6851 ug/L		96
75)	Styrene	15.34	104	2744935	109.2096 ug/L		94
76)	Bromoform	15.83	173	495939	111.1725 ug/L		100
77)	Isopropylbenzene	15.73	105	4054328	103.1419 ug/L		96
79)	1,1,2,2-Tetrachloroethane	15.95	83	726241	107.8880 ug/L		99
81)	1,2,3-Trichloropropane	16.13	110	201190	106.8074 ug/L		90
82)	trans-1,4-Dichloro-2-Buten	16.18	53	273166	108.9807 ug/L		88
83)	n-Propylbenzene	16.24	91	4758905	95.6127 ug/L		96
84)	Bromobenzene	16.36	156	980332	98.9559 ug/L		87
85)	1,3,5-Trimethylbenzene	16.42	105	3548144	102.1323 ug/L		98
86)	2-Chlorotoluene	16.50	91	3080378	94.7460 ug/L		89
87)	4-Chlorotoluene	16.56	91	3275680	102.7288 ug/L		91
88)	a-Methylstyrene	16.82	118	1822200	100.1685 ug/L		99
89)	tert-Butylbenzene	16.89	134	736282	98.3559 ug/L		94
90)	1,2,4-Trimethylbenzene	16.94	105	3679498	102.6307 ug/L		96
91)	sec-Butylbenzene	17.16	105	4282594	99.1755 ug/L		100
92)	p-Isopropyltoluene	17.31	119	3601403	100.6765 ug/L		99
93)	1,3-Dichlorobenzene	17.51	146	2007576	101.9319 ug/L		91
94)	1,4-Dichlorobenzene	17.64	146	1983749	100.2892 ug/L		92
95)	n-Butylbenzene	17.84	91	3551291	98.6814 ug/L		99
96)	1,2-Dichlorobenzene	18.13	146	1771782	103.4573 ug/L		90
97)	1,2-Dibromo-3-Chloropropan	19.12	75	137946	106.9493 ug/L		86
98)	1,2,4-Trichlorobenzene	20.27	180	1296017	103.9406 ug/L		99
99)	Hexachlorobutadiene	20.42	225	524135	102.7887 ug/L		97
100)	Naphthalene	20.64	128	2166531	106.1924 ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	1088968	104.9658 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410200.D Vial: 9
Acq On : 17 Feb 2016 18:19 Operator: TMB
Sample : WG556046-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410201.D Vial: 10
Acq On : 17 Feb 2016 18:49 Operator: TMB
Sample : WG556046-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:16 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	956583	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.57	117	687631	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	351072	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	997283	101.5636 ug/L	0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 406.24%#		
43) 1,2-Dichloroethane-d4	10.30	65	1054235	100.2710 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 401.08%#		
58) Toluene-d8	12.68	98	3312230	97.5527 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 390.20%#		
80) p-Bromofluorobenzene	16.07	95	1404127	102.9579 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 411.84%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.16	85	3207125	212.6940 ug/L	98
3) Chloromethane	3.62	50	4218032	182.9364 ug/L	96
4) Vinyl Chloride	3.84	62	2842345	177.0828 ug/L	98
5) 1,3-Butadiene	3.89	54	1493970	169.3326 ug/L	91
6) Bromomethane	4.73	94	1725839	226.3095 ug/L	99
7) Chloroethane	4.90	64	1596246	220.1402 ug/L	99
8) Trichlorofluoromethane	5.38	101	3695131	214.7988 ug/L	99
10) Isoprene	5.94	67	2535752	217.5206 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	1996391	212.5797 ug/L	94
13) Acetone	6.25	43	315092	201.4015 ug/L	97
14) 1,1-Dichloroethene	6.47	61	3702570	214.2209 ug/L	95
15) Tert-Butyl Alcohol	6.57	59	6262	15.7601 ug/L #	69
16) Dimethyl Sulfide	6.74	62	1652751	218.3184 ug/L	100
17) Iodomethane	7.00	142	1265211	207.9212 ug/L	97
18) Methyl acetate	7.01	43	863527	197.6690 ug/L	99
19) Methylene Chloride	7.26	84	1981498	209.3817 ug/L	95
20) Carbon Disulfide	7.30	76	5864970	197.4292 ug/L	98
21) Acrylonitrile	7.47	53	50942	23.0944 ug/L #	32
22) Methyl Tert Butyl Ether	7.47	73	3951157	205.5671 ug/L	95
23) trans-1,2-Dichloroethene	7.71	61	3497569	216.4698 ug/L	91
24) n-Hexane	7.79	57	2877796	208.9106 ug/L	95
26) Vinyl Acetate	8.30	43	3301434	200.0815 ug/L	98
27) 1,1-Dichloroethane	8.33	63	4293451	212.9613 ug/L	99
29) 2-Butanone	8.89	43	497150	202.0970 ug/L	100
30) Propionitrile	8.98	54	214	0.3028 ug/L #	56
31) 2,2-Dichloropropane	9.11	77	3277205	206.7004 ug/L	98
32) cis-1,2-Dichloroethene	9.17	96	2220701	213.3902 ug/L	87
33) Chloroform	9.37	83	3724924	208.2541 ug/L	97
34) 1-Bromopropane	9.52	122	308611	199.2751 ug/L	99
35) Bromochloromethane	9.61	130	1125830	216.2039 ug/L	94
36) Tetrahydrofuran	9.64	42	4028	2.4443 ug/L #	67
38) 1,1,1-Trichloroethane	9.91	97	3479442	213.1856 ug/L	99
39) Cyclohexane	9.94	56	4055633	213.5193 ug/L	95
40) 1,1-Dichloropropene	10.11	75	2944518	207.3473 ug/L	98
42) Carbon Tetrachloride	10.25	117	3192786	214.9499 ug/L	100
45) 1,2-Dichloroethane	10.43	62	2825501	207.9292 ug/L	98
46) Benzene	10.47	78	7136625	192.8809 ug/L	88
47) Trichloroethene	11.21	130	2082554	208.9787 ug/L	97
48) Methylcyclohexane	11.30	83	2958611	206.1737 ug/L	93
49) 1,2-Dichloropropane	11.43	63	2286532	219.8032 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M410201.D 8260WTR.M Thu Feb 18 08:46:17 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410201.D Vial: 10
Acq On : 17 Feb 2016 18:49 Operator: TMB
Sample : WG556046-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:16 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

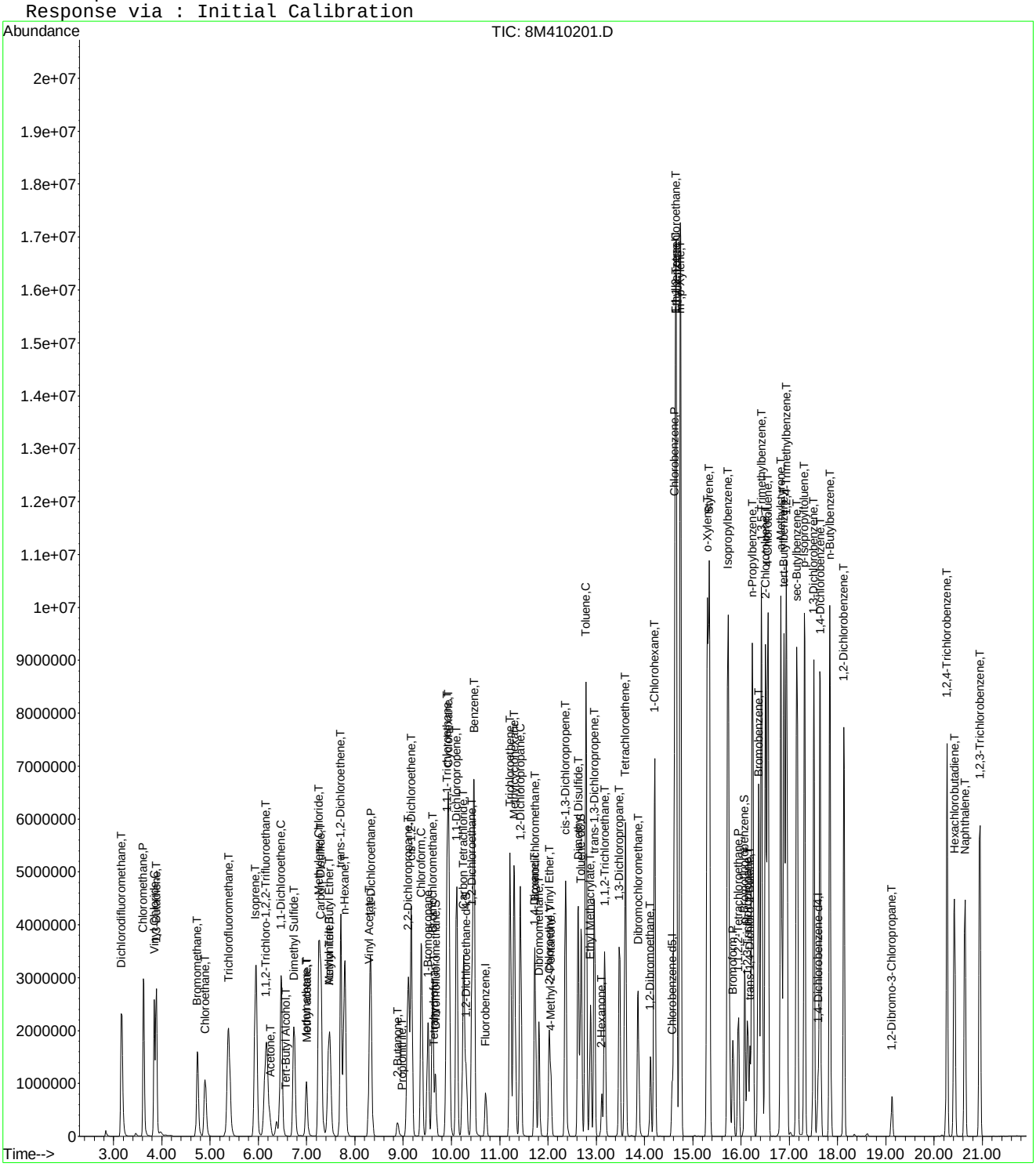
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	Bromodichloromethane	11.73	83	2817911	213.3868 ug/L		98
51)	1,4-Dioxane	11.72	88	4608	109.8224 ug/L	#	29
52)	Dibromomethane	11.81	93	1022585	216.5958 ug/L		96
53)	2-Chloroethyl Vinyl Ether	12.03	63	946919	209.2718 ug/L		98
54)	4-Methyl-2-Pentanone	12.06	58	427769	203.0043 ug/L		98
55)	cis-1,3-Dichloropropene	12.36	75	3096808	215.4556 ug/L		98
56)	Dimethyl Disulfide	12.63	79	1628540	214.9449 ug/L		98
59)	Toluene	12.78	91	7196894	187.8206 ug/L		89
60)	Ethyl Methacrylate	12.88	69	1556070	210.2576 ug/L		98
62)	trans-1,3-Dichloropropene	12.96	75	2651231	207.0100 ug/L		98
63)	1,1,2-Trichloroethane	13.18	97	1298808	213.1885 ug/L		99
64)	2-Hexanone	13.12	58	388009	204.6749 ug/L	#	91
65)	1,3-Dichloropropane	13.48	76	2313774	207.1747 ug/L		95
66)	Tetrachloroethene	13.60	164	1675803	217.7213 ug/L		94
67)	Dibromochloromethane	13.87	129	1819960	217.9063 ug/L		99
68)	1,2-Dibromoethane	14.12	107	1296002	210.1788 ug/L		98
69)	1-Chlorohexane	14.21	91	2650311	203.9882 ug/L		87
70)	Chlorobenzene	14.62	112	5266219	200.8443 ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.66	131	2104814	223.7680 ug/L		99
72)	Ethylbenzene	14.66	106	3293664	219.5482 ug/L		66
73)	m-,p-Xylene	14.75	106	6845381	399.1994 ug/L		67
74)	o-Xylene	15.31	106	3703866	208.2459 ug/L		82
75)	Styrene	15.34	104	5701446	210.2400 ug/L		91
76)	Bromoform	15.83	173	1037882	215.6347 ug/L		99
77)	Isopropylbenzene	15.73	105	7855864	185.2302 ug/L		88
79)	1,1,2,2-Tetrachloroethane	15.95	83	1439550	205.1793 ug/L		99
81)	1,2,3-Trichloropropane	16.13	110	401727	204.6165 ug/L		90
82)	trans-1,4-Dichloro-2-Buten	16.18	53	563568	215.7168 ug/L		90
83)	n-Propylbenzene	16.24	91	8643474	166.6140 ug/L		84
84)	Bromobenzene	16.37	156	2109944	204.3404 ug/L		90
85)	1,3,5-Trimethylbenzene	16.42	105	7012987	193.6777 ug/L		90
86)	2-Chlorotoluene	16.51	91	6864917	202.5847 ug/L		92
87)	4-Chlorotoluene	16.56	91	5395143	162.3335 ug/L		91
88)	a-Methylstyrene	16.83	118	3872958	204.2643 ug/L		98
89)	tert-Butylbenzene	16.89	134	1650907	211.5891 ug/L		96
90)	1,2,4-Trimethylbenzene	16.94	105	7099816	189.9985 ug/L		86
91)	sec-Butylbenzene	17.16	105	8103104	180.0377 ug/L		92
92)	p-Isopropyltoluene	17.31	119	6978546	187.1698 ug/L		93
93)	1,3-Dichlorobenzene	17.51	146	4155181	202.4151 ug/L		89
94)	1,4-Dichlorobenzene	17.64	146	4053106	196.5938 ug/L		88
95)	n-Butylbenzene	17.84	91	6771269	180.5235 ug/L		93
96)	1,2-Dichlorobenzene	18.13	146	3634804	203.6321 ug/L		88
97)	1,2-Dibromo-3-Chloropropan	19.12	75	273206	202.7744 ug/L		85
98)	1,2,4-Trichlorobenzene	20.27	180	2662342	204.8580 ug/L		98
99)	Hexachlorobutadiene	20.42	225	1179047	221.8441 ug/L		97
100)	Naphthalene	20.64	128	4088314	192.2593 ug/L		98
101)	1,2,3-Trichlorobenzene	20.95	180	2212178	204.5819 ug/L		99

(#) = qualifier out of range (m) = manual integration
8M410201.D 8260WTR.M Thu Feb 18 08:46:17 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410201.D Vial: 10
Acq On : 17 Feb 2016 18:49 Operator: TMB
Sample : WG556046-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410202.D Vial: 11
Acq On : 17 Feb 2016 19:18 Operator: TMB
Sample : WG556046-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:17 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1008689	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	733562	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	373286	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	1555004	150.1816	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 600.72%#			
43) 1,2-Dichloroethane-d4	10.30	65	1607347	144.9817	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 579.92%#			
58) Toluene-d8	12.69	98	5071107	140.0039	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 560.00%#			
80) p-Bromofluorobenzene	16.07	95	2206855	152.1884	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 608.76%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.16	85	4742513	298.2725	ug/L	96
3) Chloromethane	3.62	50	5815191	239.1772	ug/L	93
4) Vinyl Chloride	3.84	62	3879738	229.2278	ug/L	96
5) 1,3-Butadiene	3.89	54	2012878	Below Cal		91
6) Bromomethane	4.73	94	2694799	335.1153	ug/L	99
7) Chloroethane	4.90	64	2526714	330.4617	ug/L	99
8) Trichlorofluoromethane	5.38	101	5708944	314.7192	ug/L	99
9) Diethyl ether	5.91	59	2119585	319.0702	ug/L	99
10) Isoprene	5.94	67	4076181	331.5983	ug/L	95
11) Acrolein	6.15	56	179096	173.6082	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	3078534	310.8748	ug/L	95
13) Acetone	6.25	43	458158	277.7192	ug/L	95
14) 1,1-Dichloroethene	6.47	61	5625075	308.6400	ug/L	97
15) Tert-Butyl Alcohol	6.59	59	217629	519.4298	ug/L	97
16) Dimethyl Sulfide	6.74	62	2625688	328.9208	ug/L	99
17) Iodomethane	6.99	142	1892743	294.2921	ug/L	96
18) Methyl acetate	7.00	43	1374996	298.4898	ug/L	99
19) Methylene Chloride	7.25	84	3066708	307.3143	ug/L	97
20) Carbon Disulfide	7.30	76	8814282	281.3831	ug/L	96
21) Acrylonitrile	7.44	53	432432	185.9146	ug/L	93
22) Methyl Tert Butyl Ether	7.47	73	6004862	296.2768	ug/L	93
23) trans-1,2-Dichloroethene	7.71	61	5275304	309.6306	ug/L	93
24) n-Hexane	7.78	57	4580413	315.3337	ug/L	95
25) Diisopropyl ether	8.13	45	10882775	287.4946	ug/L	97
26) Vinyl Acetate	8.30	43	5196820	298.6808	ug/L	98
27) 1,1-Dichloroethane	8.33	63	6412833	301.6543	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	8966752	295.3476	ug/L	95
29) 2-Butanone	8.89	43	787190	303.4711	ug/L	100
30) Propionitrile	8.99	54	249973	335.4717	ug/L	99
31) 2,2-Dichloropropane	9.10	77	4932564	295.0365	ug/L	97
32) cis-1,2-Dichloroethene	9.17	96	3389566	308.8829	ug/L	90
33) Chloroform	9.37	83	5444181	288.6517	ug/L	95
34) 1-Bromopropane	9.52	122	499152	305.4202	ug/L	100
35) Bromochloromethane	9.61	130	1711364	311.6725	ug/L	94
36) Tetrahydrofuran	9.63	42	514819	296.2698	ug/L	99
38) 1,1,1-Trichloroethane	9.91	97	5214542	302.9910	ug/L	98
39) Cyclohexane	9.94	56	6466550	322.8617	ug/L	95
40) 1,1-Dichloropropene	10.11	75	4453616	297.4147	ug/L	100
41) Tert-Amyl-Methyl ether	10.21	73	6339266	297.0835	ug/L	94
42) Carbon Tetrachloride	10.25	117	4801994	306.5875	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M410202.D 8260WTR.M Thu Feb 18 08:46:18 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410202.D Vial: 11
Acq On : 17 Feb 2016 19:18 Operator: TMB
Sample : WG556046-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:17 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

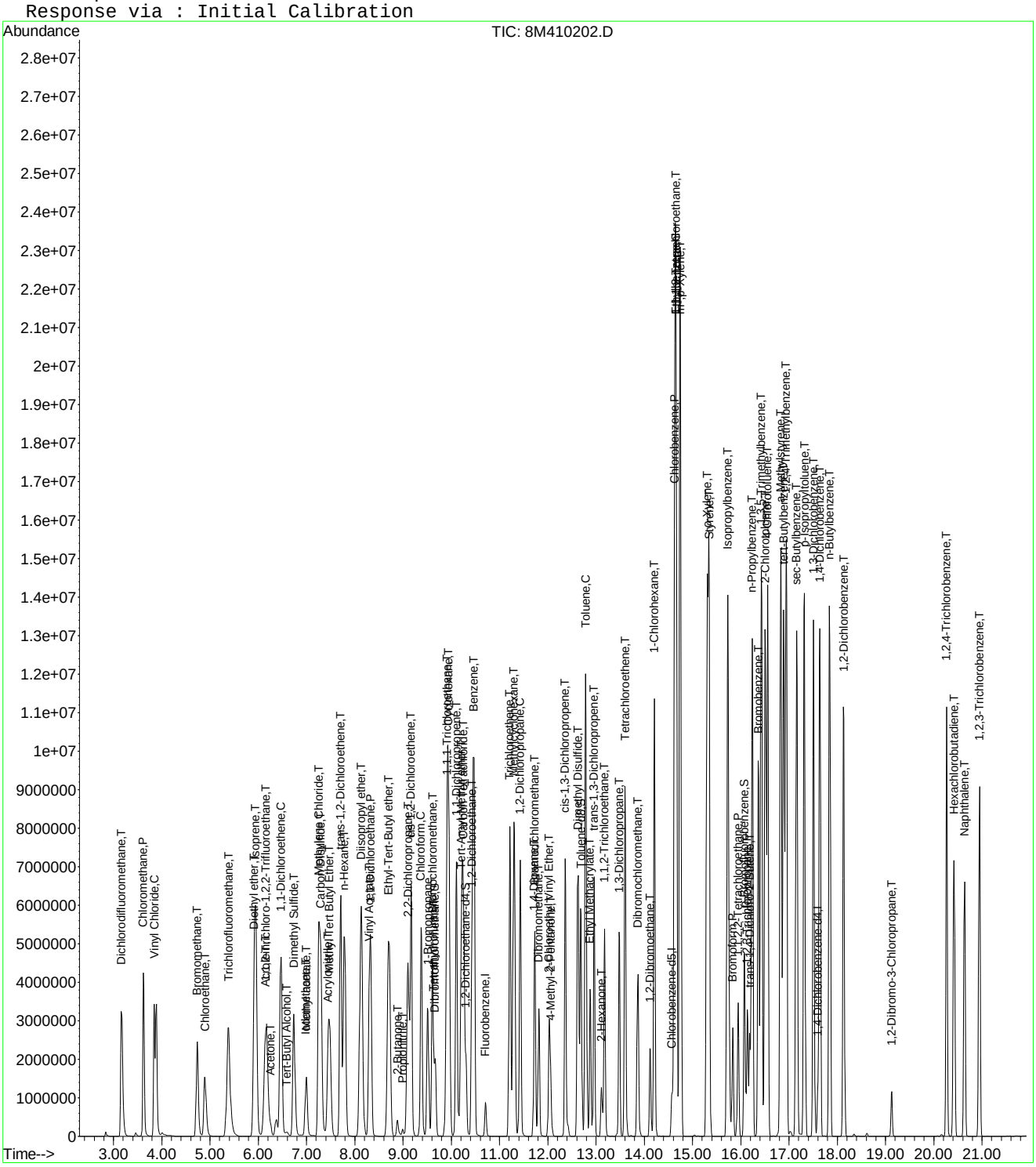
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	4142690	289.1132 ug/L		98
46)	Benzene	10.47	78	9878306	253.1886 ug/L	#	81
47)	Trichloroethene	11.21	130	3199385	304.4652 ug/L		98
48)	Methylcyclohexane	11.30	83	4673038	308.8233 ug/L		92
49)	1,2-Dichloropropane	11.43	63	3558824	324.4357 ug/L		97
50)	Bromodichloromethane	11.73	83	4217604	302.8805 ug/L		97
51)	1,4-Dioxane	11.72	88	29150	658.8435 ug/L		94
52)	Dibromomethane	11.81	93	1569045	315.1747 ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.03	63	1443066	302.4472 ug/L		98
54)	4-Methyl-2-Pentanone	12.06	58	687070	309.2162 ug/L		98
55)	cis-1,3-Dichloropropene	12.36	75	4637758	305.9968 ug/L		96
56)	Dimethyl Disulfide	12.63	79	2558598	320.2552 ug/L		95
59)	Toluene	12.78	91	9689919	237.0483 ug/L		82
60)	Ethyl Methacrylate	12.88	69	2445173	309.7068 ug/L		98
62)	trans-1,3-Dichloropropene	12.96	75	3963876	290.1232 ug/L		95
63)	1,1,2-Trichloroethane	13.18	97	2009765	309.2308 ug/L		99
64)	2-Hexanone	13.11	58	630123	311.5779 ug/L	#	86
65)	1,3-Dichloropropane	13.49	76	3502124	293.9449 ug/L		95
66)	Tetrachloroethene	13.60	164	2672024	325.4145 ug/L		96
67)	Dibromochloromethane	13.87	129	2786535	312.7456 ug/L		99
68)	1,2-Dibromoethane	14.12	107	2005051	304.8086 ug/L		99
69)	1-Chlorohexane	14.21	91	4187732	302.1383 ug/L		87
70)	Chlorobenzene	14.62	112	7405610	264.7524 ug/L		89
71)	1,1,1,2-Tetrachloroethane	14.65	131	3193835	318.2844 ug/L		99
72)	Ethylbenzene	14.65	106	5012485	313.2004 ug/L		48
73)	m-,p-Xylene	14.75	106	9170400	501.3016 ug/L		58
74)	o-Xylene	15.31	106	5573611	293.7491 ug/L		70
75)	Styrene	15.35	104	7985647	276.0318 ug/L		85
76)	Bromoform	15.83	173	1620565	315.6136 ug/L		99
77)	Isopropylbenzene	15.73	105	10413717	230.1666 ug/L	#	77
79)	1,1,2,2-Tetrachloroethane	15.95	83	2233257	299.3643 ug/L		98
81)	1,2,3-Trichloropropane	16.13	110	631306	302.4155 ug/L		94
82)	trans-1,4-Dichloro-2-Buten	16.18	53	887643	319.5438 ug/L		94
83)	n-Propylbenzene	16.24	91	11061244	200.5310 ug/L	#	72
84)	Bromobenzene	16.37	156	3275875	298.3768 ug/L		96
85)	1,3,5-Trimethylbenzene	16.42	105	9351351	242.8877 ug/L		80
86)	2-Chlorotoluene	16.50	91	8986138	249.4014 ug/L		82
87)	4-Chlorotoluene	16.56	91	7331626	207.4723 ug/L		79
88)	a-Methylstyrene	16.82	118	5805469	287.9661 ug/L		95
89)	tert-Butylbenzene	16.89	134	2620155	315.8291 ug/L		82
90)	1,2,4-Trimethylbenzene	16.94	105	9380563	236.0948 ug/L		74
91)	sec-Butylbenzene	17.16	105	10576965	221.0180 ug/L	#	82
92)	p-Isopropyltoluene	17.32	119	9294639	234.4541 ug/L		84
93)	1,3-Dichlorobenzene	17.51	146	6013808	275.5224 ug/L		84
94)	1,4-Dichlorobenzene	17.64	146	5876289	268.0646 ug/L		84
95)	n-Butylbenzene	17.84	91	8960384	224.6699 ug/L	#	83
96)	1,2-Dichlorobenzene	18.14	146	5343587	281.5482 ug/L		85
97)	1,2-Dibromo-3-Chloropropan	19.13	75	413804	288.6380 ug/L		87
98)	1,2,4-Trichlorobenzene	20.27	180	3991013	288.8197 ug/L		98
99)	Hexachlorobutadiene	20.42	225	1876505	332.0634 ug/L		97
100)	Naphthalene	20.64	128	5805822	256.7801 ug/L		95
101)	1,2,3-Trichlorobenzene	20.95	180	3319180	288.6905 ug/L		98

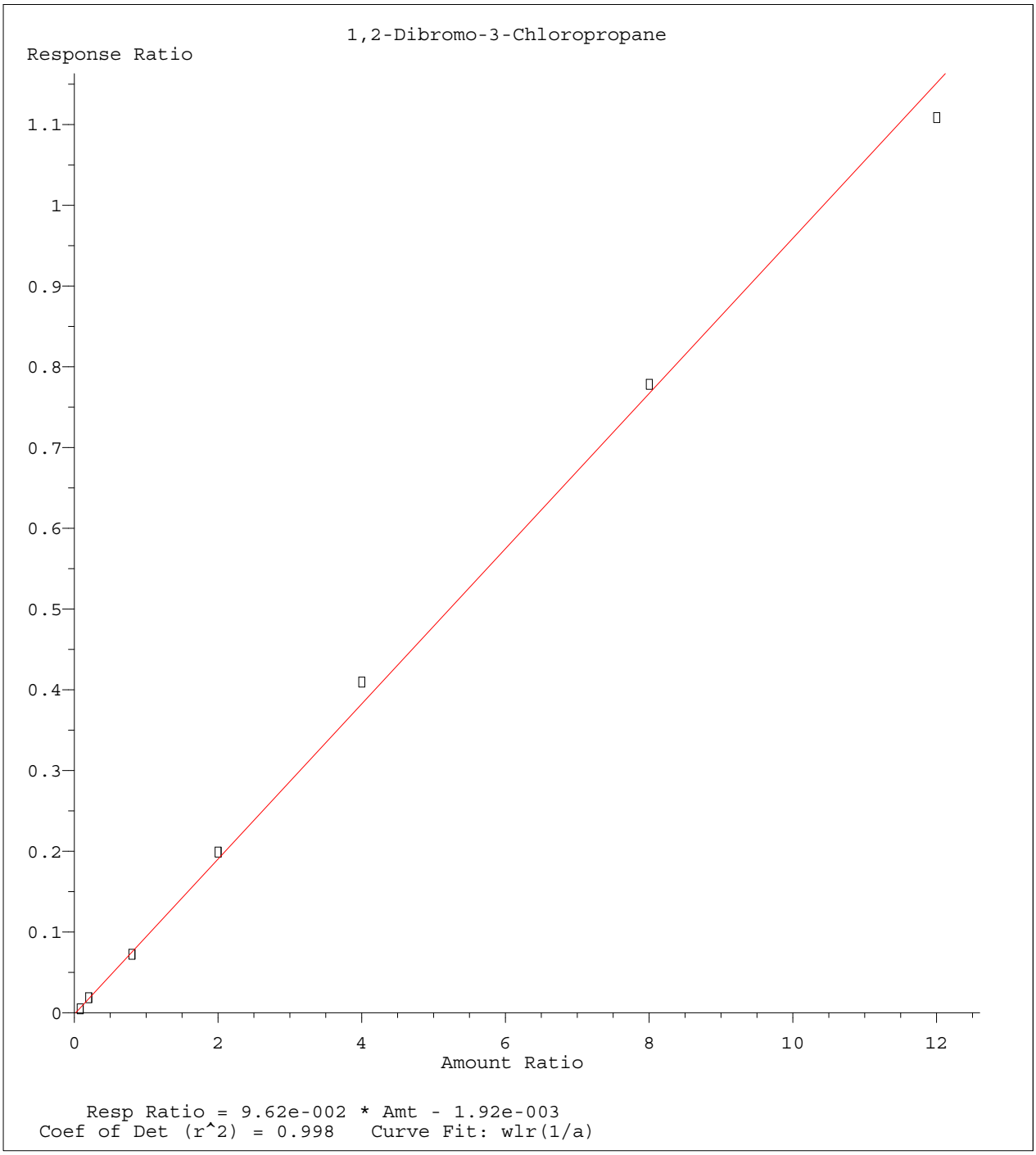
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

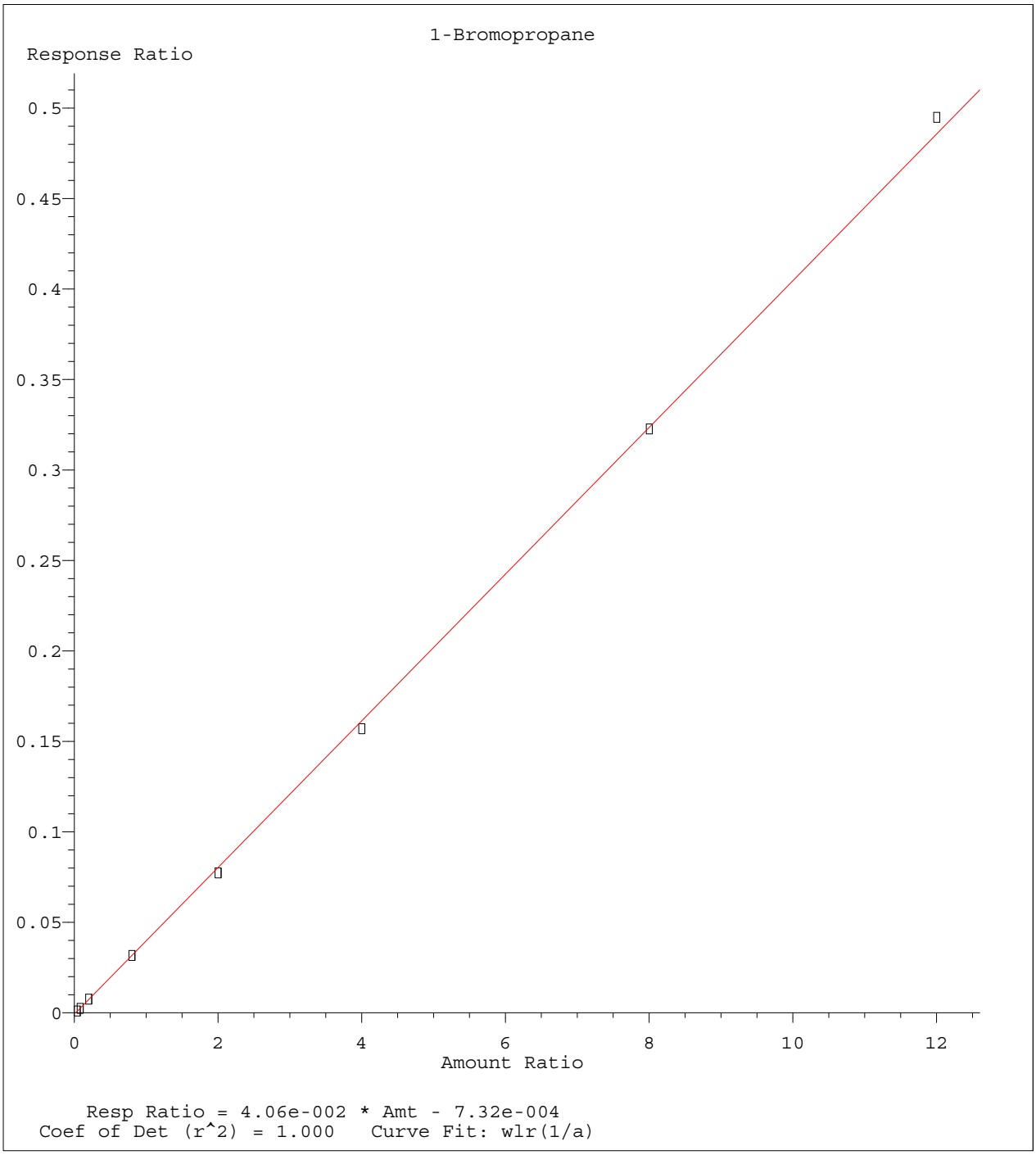
Data File : C:\MSDCHEM\2\DATA\021716\8M410202.D Vial: 11
Acq On : 17 Feb 2016 19:18 Operator: TMB
Sample : WG556046-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD74773 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration

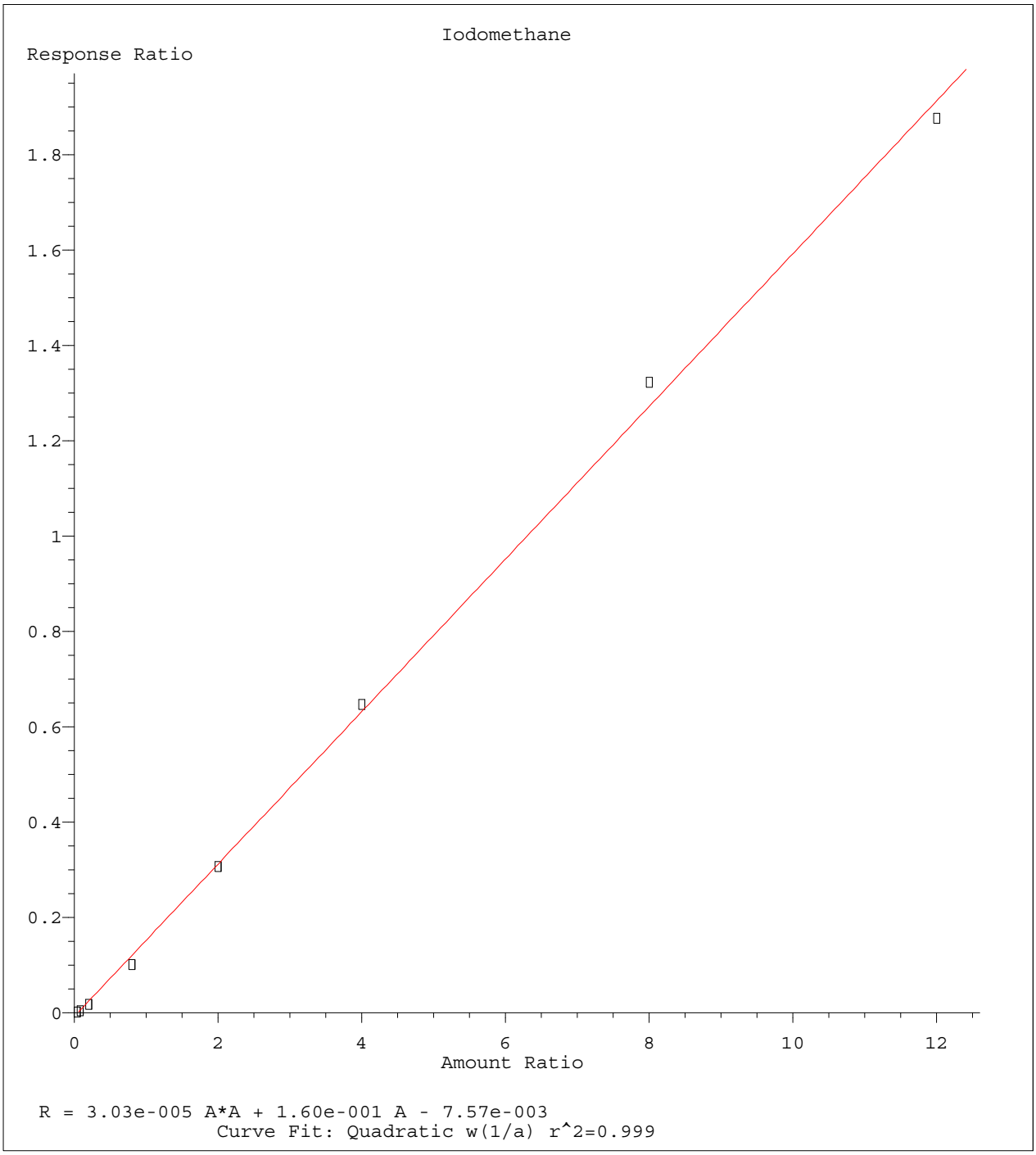




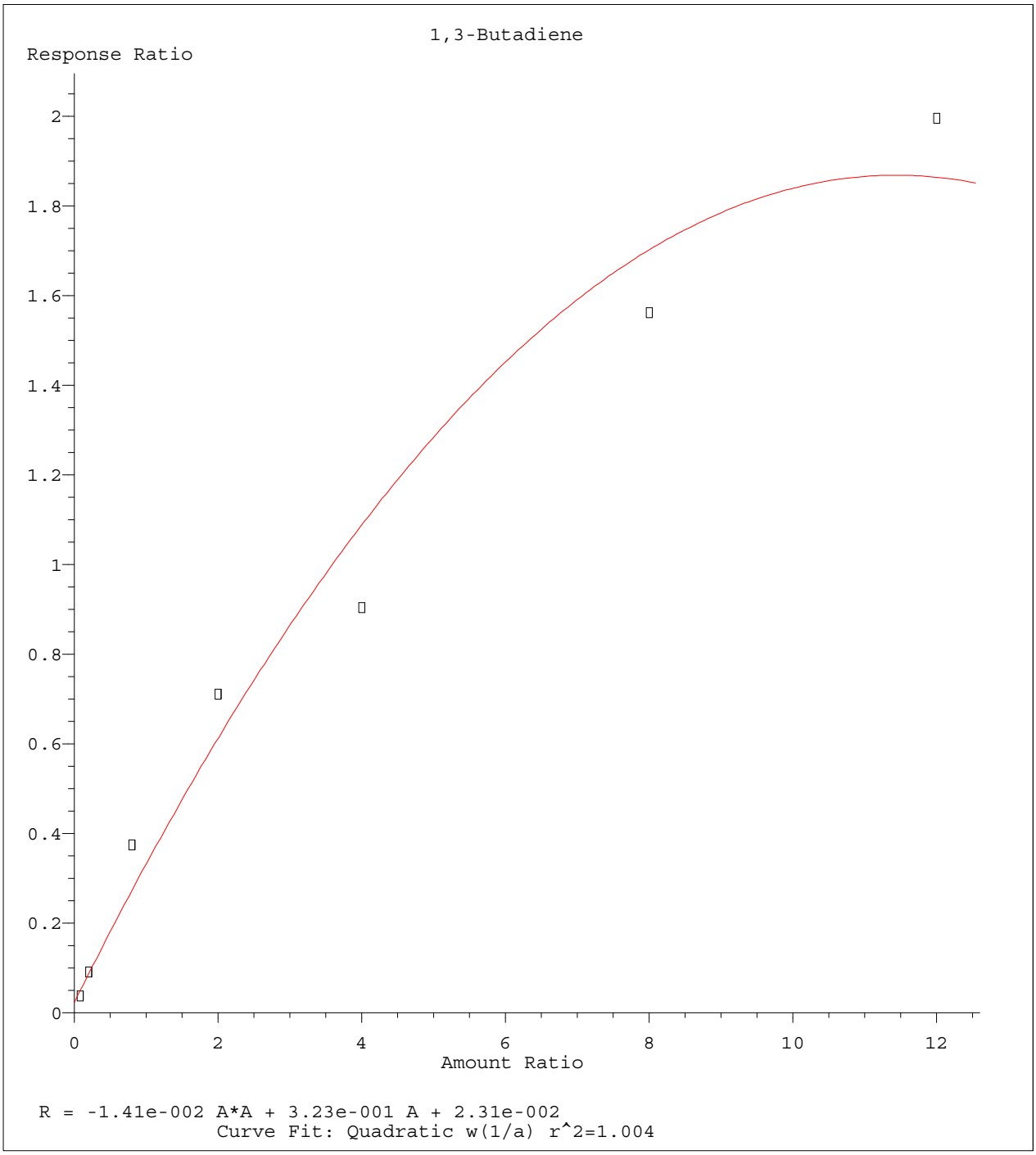
Method Name: C:\MSDCHEM\2\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Feb 18 08:47:33 2016



Method Name: C:\MSDCHEM\2\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Feb 18 08:47:33 2016



Method Name: C:\MSDCHEM\2\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Feb 18 08:47:33 2016



Method Name: C:\MSDCHEM\2\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Feb 18 08:47:33 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410205.D Vial: 14
Acq On : 17 Feb 2016 20:44 Operator: TMB
Sample : WG556046-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD74755 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:19 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	976244	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.57	117	675638	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	348468	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.66	111	247596	24.7074 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.84%		
43) 1,2-Dichloroethane-d4	10.30	65	253347	23.6112 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.44%		
58) Toluene-d8	12.68	98	852761	25.5616 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.24%		
80) p-Bromofluorobenzene	16.07	95	353968	26.1487 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.60%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.16	85	808654	52.5492 ug/L	100
3) Chloromethane	3.62	50	1099502	46.7251 ug/L	99
4) Vinyl Chloride	3.84	62	698028	42.6125 ug/L	98
5) 1,3-Butadiene	3.89	54	144967	9.8810 ug/L	93
6) Bromomethane	4.73	94	385658	49.5529 ug/L	98
7) Chloroethane	4.90	64	407329	55.0439 ug/L	99
8) Trichlorofluoromethane	5.37	101	861620	49.0775 ug/L	99
9) Diethyl ether	5.91	59	618680	96.2278 ug/L	98
10) Isoprene	5.94	67	760979	63.9632 ug/L	97
11) Acrolein	6.15	56	86733	86.8695 ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	477348	49.8053 ug/L	95
13) Acetone	6.25	43	80544	50.4455 ug/L	97
14) 1,1-Dichloroethene	6.47	61	867778	49.1962 ug/L	95
15) Tert-Butyl Alcohol	6.58	59	78677	194.0246 ug/L	95
16) Dimethyl Sulfide	6.74	62	604240	78.2090 ug/L	99
17) Iodomethane	6.99	142	289966	47.6676 ug/L	98
18) Methyl acetate	7.00	43	233759	52.4319 ug/L	98
19) Methylene Chloride	7.26	84	479742	49.6726 ug/L	93
20) Carbon Disulfide	7.30	76	1455366	48.0045 ug/L	99
21) Acrylonitrile	7.43	53	119025	52.8729 ug/L	96
22) Methyl Tert Butyl Ether	7.47	73	978729	49.8949 ug/L	97
23) trans-1,2-Dichloroethene	7.71	61	871366	52.8440 ug/L	90
24) n-Hexane	7.78	57	720742	51.2678 ug/L	93
25) Diisopropyl ether	8.13	45	3638969	99.3270 ug/L	98
26) Vinyl Acetate	8.30	43	726709	43.1548 ug/L	100
27) 1,1-Dichloroethane	8.33	63	1013898	49.2780 ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	2801608	95.3464 ug/L	99
29) 2-Butanone	8.89	43	119204	47.4818 ug/L	99
30) Propionitrile	8.99	54	73439	101.8330 ug/L	99
31) 2,2-Dichloropropane	9.11	77	815209	50.3815 ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	547762	51.5752 ug/L	87
33) Chloroform	9.37	83	910688	49.8896 ug/L	98
34) 1-Bromopropane	9.51	122	126753	80.4675 ug/L	99
35) Bromochloromethane	9.61	130	266686	50.1828 ug/L	96
36) Tetrahydrofuran	9.63	42	150924	89.7408 ug/L	98
38) 1,1,1-Trichloroethane	9.91	97	835487	50.1594 ug/L	100
39) Cyclohexane	9.94	56	1035909	53.4397 ug/L	96
40) 1,1-Dichloropropene	10.11	75	699121	48.2393 ug/L	97
41) Tert-Amyl-Methyl ether	10.21	73	2047058	99.1217 ug/L	97
42) Carbon Tetrachloride	10.25	117	751391	49.5676 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M410205.D 8260WTR.M Thu Feb 18 08:46:19 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410205.D Vial: 14
Acq On : 17 Feb 2016 20:44 Operator: TMB
Sample : WG556046-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD74755 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 08:46:19 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

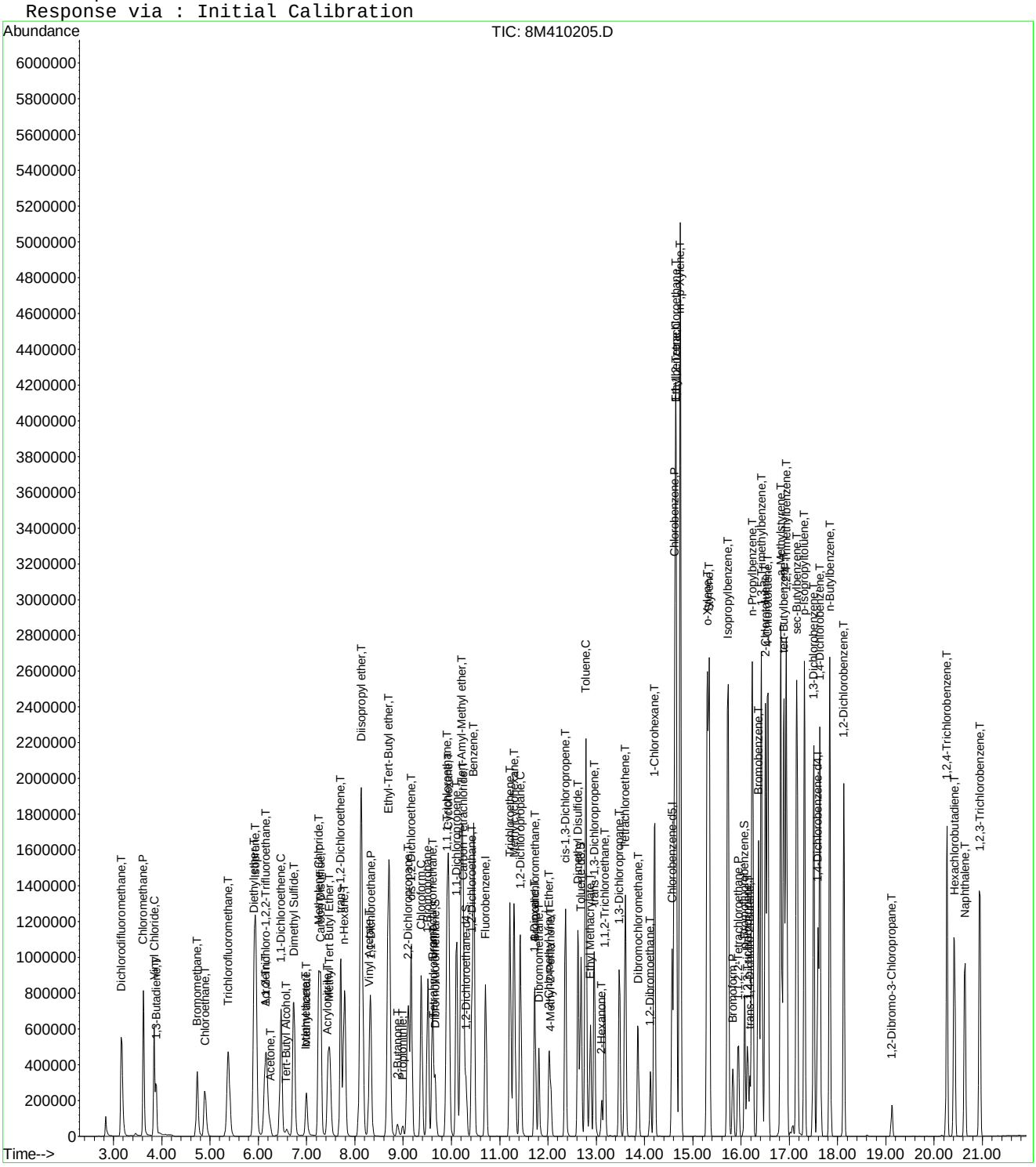
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	694894	50.1075	ug/L		97
46)	Benzene	10.46	78	1955621	51.7899	ug/L		97
47)	Trichloroethene	11.21	130	521512	51.2784	ug/L		97
48)	Methylcyclohexane	11.30	83	762983	52.0984	ug/L		93
49)	1,2-Dichloropropane	11.43	63	574415	54.1062	ug/L		98
50)	Bromodichloromethane	11.73	83	682792	50.6632	ug/L		100
51)	1,4-Dioxane	11.72	88	7599	177.4594	ug/L		93
52)	Dibromomethane	11.81	93	230246	47.7867	ug/L		95
53)	2-Chloroethyl Vinyl Ether	12.02	63	235486	50.9950	ug/L		98
54)	4-Methyl-2-Pentanone	12.05	58	105559	49.0857	ug/L		97
55)	cis-1,3-Dichloropropene	12.36	75	822786	56.0912	ug/L		100
56)	Dimethyl Disulfide	12.62	79	422139	54.5945	ug/L		99
59)	Toluene	12.78	91	2013734	53.4862	ug/L		98
60)	Ethyl Methacrylate	12.88	69	415338	57.1170	ug/L		96
62)	trans-1,3-Dichloropropene	12.96	75	643114	51.1061	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	310746	51.9118	ug/L		99
64)	2-Hexanone	13.12	58	96369	51.7370	ug/L	#	86
65)	1,3-Dichloropropane	13.48	76	600011	54.6785	ug/L		97
66)	Tetrachloroethene	13.60	164	393140	51.9836	ug/L		95
67)	Dibromochloromethane	13.87	129	425141	51.8063	ug/L		99
68)	1,2-Dibromoethane	14.12	107	312164	51.5237	ug/L		100
69)	1-Chlorohexane	14.21	91	709973	55.6149	ug/L		91
70)	Chlorobenzene	14.62	112	1374147	53.3378	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.66	131	482124	52.1656	ug/L		98
72)	Ethylbenzene	14.66	106	769203	52.1835	ug/L		96
73)	m-,p-Xylene	14.74	106	1846902	109.6169	ug/L		98
74)	o-Xylene	15.31	106	930708	53.2569	ug/L		99
75)	Styrene	15.34	104	1494770	56.0978	ug/L		97
76)	Bromoform	15.83	173	223351	47.2280	ug/L		99
77)	Isopropylbenzene	15.73	105	2326705	55.8342	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	340363	48.8745	ug/L		99
81)	1,2,3-Trichloropropane	16.13	110	96719	49.6312	ug/L		93
82)	trans-1,4-Dichloro-2-Buten	16.19	53	117135	45.1708	ug/L		78
83)	n-Propylbenzene	16.24	91	2805201	54.4779	ug/L		98
84)	Bromobenzene	16.36	156	509646	49.7262	ug/L		90
85)	1,3,5-Trimethylbenzene	16.42	105	2032788	56.5590	ug/L		100
86)	2-Chlorotoluene	16.51	91	1779453	52.9043	ug/L		100
87)	4-Chlorotoluene	16.56	91	1826278	55.3612	ug/L		98
88)	a-Methylstyrene	16.83	118	1134796	60.2977	ug/L		100
89)	tert-Butylbenzene	16.89	134	411892	53.1848	ug/L		93
90)	1,2,4-Trimethylbenzene	16.94	105	2027362	54.6598	ug/L		99
91)	sec-Butylbenzene	17.16	105	2451245	54.8696	ug/L		98
92)	p-Isopropyltoluene	17.31	119	2006459	54.2169	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	1078732	52.9419	ug/L		93
94)	1,4-Dichlorobenzene	17.63	146	1080656	52.8084	ug/L		94
95)	n-Butylbenzene	17.84	91	1948431	52.3338	ug/L		99
96)	1,2-Dichlorobenzene	18.13	146	950125	53.6265	ug/L		92
97)	1,2-Dibromo-3-Chloropropan	19.12	75	64103	48.3139	ug/L		83
98)	1,2,4-Trichlorobenzene	20.27	180	648347	50.2609	ug/L		99
99)	Hexachlorobutadiene	20.42	225	300524	56.9678	ug/L		98
100)	Naphthalene	20.64	128	952570	45.1308	ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	537378	50.0680	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\021716\8M410205.D Vial: 14
Acq On : 17 Feb 2016 20:44 Operator: TMB
Sample : WG556046-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD74755 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 18 8:46 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\2\DATA\021716\8M410205.D Vial: 14
Acq On : 17 Feb 2016 20:44 Operator: TMB
Sample : WG556046-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD74755 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	117	0.00
2	T	Dichlorodifluoromethane	50.0000	52.5492	-5.1	112	0.00
3	P	Chloromethane	50.0000	46.7251	6.5	107	0.00
4	C	Vinyl Chloride	50.0000	42.6125	14.8	95	0.00
5	T	1,3-Butadiene	50.0000	9.8810	80.2#	24	0.00
6	T	Bromomethane	50.0000	49.5529	0.9	115	0.00
7	T	Chloroethane	50.0000	55.0439	-10.1	125	0.00
8	T	Trichlorofluoromethane	50.0000	49.0775	1.8	112	0.00
9	T	Diethyl ether	100.0000	96.2278	3.8	116	0.00
10	T	Isoprene	50.0000	63.9632	-27.9#	148	0.00
11	T	Acrolein	50.0000	86.8695	-73.7#	207	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.8053	0.4	117	0.00
13	T	Acetone	50.0000	50.4455	-0.9	116	0.00
14	C	1,1-Dichloroethene	50.0000	49.1962	1.6	112	0.00
15	T	Tert-Butyl Alcohol	200.0000	194.0246	3.0	119	0.00
16	T	Dimethyl Sulfide	50.0000	78.2090	-56.4#	182	0.00
17	T	Iodomethane	50.0000	47.6676	4.7	113	0.00
18	T	Methyl acetate	50.0000	52.4319	-4.9	128	0.00
19	T	Methylene Chloride	50.0000	49.6726	0.7	115	0.00
20	T	Carbon Disulfide	50.0000	48.0045	4.0	113	0.00
21	T	Acrylonitrile	50.0000	52.8729	-5.7	119	0.00
22	T	Methyl Tert Butyl Ether	50.0000	49.8949	0.2	116	0.00
23	T	trans-1,2-Dichloroethene	50.0000	52.8440	-5.7	120	0.00
24	T	n-Hexane	50.0000	51.2678	-2.5	128	0.00
25	T	Diisopropyl ether	100.0000	99.3270	0.7	116	0.00
26	T	Vinyl Acetate	50.0000	43.1548	13.7	102	0.00
27	P	1,1-Dichloroethane	50.0000	49.2780	1.4	111	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	95.3465	4.7	110	0.00
29	T	2-Butanone	50.0000	47.4818	5.0	113	0.00
30	T	Propionitrile	100.0000	101.8330	-1.8	118	0.00
31	T	2,2-Dichloropropane	50.0000	50.3815	-0.8	121	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.5752	-3.2	117	0.00
33	C	Chloroform	50.0000	49.8896	0.2	112	0.00
34		1-Bromopropane	50.0000	80.4675	-60.9#	196	0.00
35	T	Bromochloromethane	50.0000	50.1828	-0.4	111	0.00
36	T	Tetrahydrofuran	100.0000	89.7408	10.3	111	0.00
37	S	Dibromofluoromethane	25.0000	24.7074	1.2	115	0.00
38	T	1,1,1-Trichloroethane	50.0000	50.1594	-0.3	114	0.00
39	T	Cyclohexane	50.0000	53.4397	-6.9	128	0.00
40	T	1,1-Dichloropropene	50.0000	48.2393	3.5	113	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	99.1217	0.9	116	0.00
42	T	Carbon Tetrachloride	50.0000	49.5676	0.9	110	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.6112	5.6	109	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	50.0000	50.1075	-0.2	112	0.00
46	T	Benzene	50.0000	51.7899	-3.6	115	0.00
47	T	Trichloroethene	50.0000	51.2784	-2.6	117	0.00
48	T	Methylcyclohexane	50.0000	52.0984	-4.2	125	0.00
49	C	1,2-Dichloropropane	50.0000	54.1062	-8.2	119	0.00
50	T	Bromodichloromethane	50.0000	50.6632	-1.3	112	0.00
51	T	1,4-Dioxane	200.0000	177.4594	11.3	107	0.00
52	T	Dibromomethane	50.0000	47.7867	4.4	104	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	50.9950	-2.0	116	0.00
54	T	4-Methyl-2-Pentanone	50.0000	49.0857	1.8	115	0.00

(#) = Out of Range
8M410205.D 8260WTR.M Thu Feb 18 08:47:57 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\021716\8M410205.D Vial: 14
Acq On : 17 Feb 2016 20:44 Operator: TMB
Sample : WG556046-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD74755 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:44:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	56.0912	-12.2	123	0.00
56	T	Dimethyl Disulfide	50.0000	54.5945	-9.2	127	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	114	0.00
58	S	Toluene-d8	25.0000	25.5616	-2.2	114	0.00
59	C	Toluene	50.0000	53.4862	-7.0	114	0.00
60	T	Ethyl Methacrylate	50.0000	57.1170	-14.2	126	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	50.0000	51.1061	-2.2	111	0.00
63	T	1,1,2-Trichloroethane	50.0000	51.9118	-3.8	110	0.00
64	T	2-Hexanone	50.0000	51.7370	-3.5	117	0.00
65	T	1,3-Dichloropropane	50.0000	54.6785	-9.4	117	0.00
66	T	Tetrachloroethene	50.0000	51.9836	-4.0	115	0.00
67	T	Dibromochloromethane	50.0000	51.8063	-3.6	107	0.00
68	T	1,2-Dibromoethane	50.0000	51.5237	-3.0	108	0.00
69	T	1-Chlorohexane	50.0000	55.6149	-11.2	125	0.00
70	P	Chlorobenzene	50.0000	53.3378	-6.7	116	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	52.1656	-4.3	110	0.00
72	C	Ethylbenzene	50.0000	52.1835	-4.4	116	0.00
73	T	m-,p-Xylene	100.0000	109.6169	-9.6	116	0.00
74	T	o-Xylene	50.0000	53.2569	-6.5	118	0.00
75	T	Styrene	50.0000	56.0978	-12.2	114	0.00
76	P	Bromoform	50.0000	47.2280	5.5	97	0.00
77	T	Isopropylbenzene	50.0000	55.8342	-11.7	116	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	111	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	48.8745	2.3	100	0.00
80	S	p-Bromofluorobenzene	25.0000	26.1487	-4.6	116	0.00
81	T	1,2,3-Trichloropropane	50.0000	49.6312	0.7	106	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	45.1708	9.7	95	0.00
83	T	n-Propylbenzene	50.0000	54.4779	-9.0	116	0.00
84	T	Bromobenzene	50.0000	49.7262	0.5	107	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	56.5590	-13.1	117	0.00
86	T	2-Chlorotoluene	50.0000	52.9043	-5.8	114	0.00
87	T	4-Chlorotoluene	50.0000	55.3612	-10.7	114	0.00
88	T	a-Methylstyrene	50.0000	60.2977	-20.6	135	0.00
89	T	tert-Butylbenzene	50.0000	53.1848	-6.4	117	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	54.6598	-9.3	112	0.00
91	T	sec-Butylbenzene	50.0000	54.8696	-9.7	114	0.00
92	T	p-Isopropyltoluene	50.0000	54.2169	-8.4	113	0.00
93	T	1,3-Dichlorobenzene	50.0000	52.9419	-5.9	111	0.00
94	T	1,4-Dichlorobenzene	50.0000	52.8084	-5.6	112	0.00
95	T	n-Butylbenzene	50.0000	52.3338	-4.7	110	0.00
96	T	1,2-Dichlorobenzene	50.0000	53.6265	-7.3	110	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	48.3139	3.4	103	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	50.2609	-0.5	104	0.00
99	T	Hexachlorobutadiene	50.0000	56.9678	-13.9	120	0.00
100	T	Naphthalene	50.0000	45.1308	9.7	90	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	50.0680	-0.1	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M410205.D 8260WTR.M Thu Feb 18 08:47:57 2016 Page 2

Data File : C:\MSDchem\2\data\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 10:33:46 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1024914	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	820290	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	468128	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	250083	23.7705	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.08%			
43) 1,2-Dichloroethane-d4	10.30	65	262728	23.3227	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.28%			
58) Toluene-d8	12.68	98	935193	23.0892	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 92.36%			
80) p-Bromofluorobenzene	16.07	95	406523	22.3548	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 89.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	948449	58.7068	ug/L	99
3) Chloromethane	3.63	50	1499352	60.6917	ug/L	97
4) Vinyl Chloride	3.86	62	976179	56.7629	ug/L	98
5) 1,3-Butadiene	3.90	54	894369	75.8655	ug/L	99
6) Bromomethane	4.74	94	349737	42.8035	ug/L	100
7) Chloroethane	4.90	64	441089	56.7755	ug/L	96
8) Trichlorofluoromethane	5.38	101	998609	54.1792	ug/L	99
9) Diethyl ether	5.91	59	700135	103.7259	ug/L	95
10) Isoprene	5.95	67	699864	56.0328	ug/L	91
11) Acrolein	6.15	56	39982	38.1433	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	546944	54.3568	ug/L	91
13) Acetone	6.24	43	86997	51.8997	ug/L	89
14) 1,1-Dichloroethene	6.47	61	1063453	57.4265	ug/L	93
15) Tert-Butyl Alcohol	6.58	59	101464	238.3373	ug/L	96
16) Dimethyl Sulfide	6.74	62	452630	55.8035	ug/L	91
17) Iodomethane	6.99	142	201226	31.9140	ug/L	96
18) Methyl acetate	7.00	43	297059	63.4659	ug/L	95
19) Methylene Chloride	7.26	84	554800	54.7163	ug/L	82
20) Carbon Disulfide	7.30	76	1793111	56.3363	ug/L	99
21) Acrylonitrile	7.44	53	142743	60.3977	ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	1060989	51.5199	ug/L	95
23) trans-1,2-Dichloroethene	7.71	61	987097	57.0198	ug/L	91
24) n-Hexane	7.78	57	914105	61.9344	ug/L	98
25) Diisopropyl ether	8.13	45	4501746	117.0418	ug/L	98
26) Vinyl Acetate	8.30	43	1026537	58.0650	ug/L	98
27) 1,1-Dichloroethane	8.33	63	1249632	57.8511	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	3302492	107.0557	ug/L	97
29) 2-Butanone	8.88	43	151242	57.3826	ug/L	95
30) Propionitrile	8.99	54	97006	128.1242	ug/L	100
31) 2,2-Dichloropropane	9.11	77	988323	58.1797	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	624238	55.9848	ug/L	82
33) Chloroform	9.37	83	1069064	55.7847	ug/L	99
34) 1-Bromopropane	9.51	122	96928	58.7339	ug/L	100
35) Bromochloromethane	9.61	130	304728	54.6183	ug/L	80
36) Tetrahydrofuran	9.63	42	242467	137.3268	ug/L	94
38) 1,1,1-Trichloroethane	9.91	97	949151	54.2774	ug/L	100
39) Cyclohexane	9.94	56	1189609	58.4545	ug/L	92
40) 1,1-Dichloropropene	10.11	75	825728	54.2696	ug/L	96
41) Tert-Amyl-Methyl ether	10.21	73	2227773	102.7497	ug/L	94
42) Carbon Tetrachloride	10.25	117	873624	54.8943	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M411218.D 8260WTR.M Tue Apr 05 10:33:46 2016 Page 1

Data File : C:\MSDchem\2\data\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 10:33:46 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

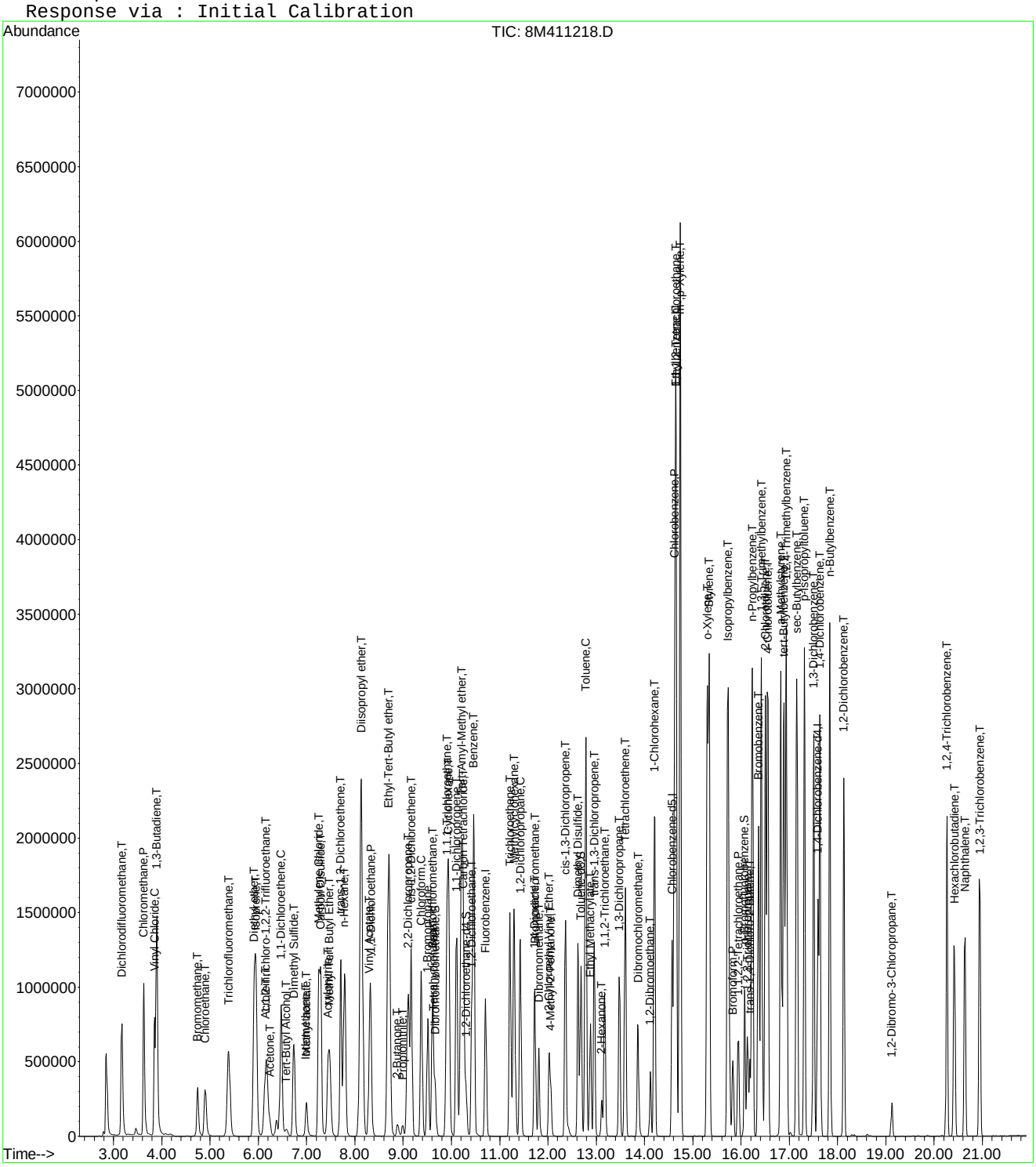
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.42	62	783803	53.8347	ug/L		97
46)	Benzene	10.46	78	2276962	57.4364	ug/L		93
47)	Trichloroethene	11.21	130	572028	53.5745	ug/L		97
48)	Methylcyclohexane	11.30	83	854556	55.5803	ug/L		91
49)	1,2-Dichloropropane	11.43	63	659374	59.1594	ug/L		94
50)	Bromodichloromethane	11.73	83	787003	55.6227	ug/L		99
51)	1,4-Dioxane	11.72	88	11647	259.0763	ug/L		90
52)	Dibromomethane	11.81	93	282563	55.8600	ug/L		93
53)	2-Chloroethyl Vinyl Ether	12.02	63	252364	52.0548	ug/L		95
54)	4-Methyl-2-Pentanone	12.05	58	124140	54.9848	ug/L		92
55)	cis-1,3-Dichloropropene	12.36	75	897685	58.2912	ug/L		99
56)	Dimethyl Disulfide	12.62	79	451957	55.6751	ug/L		98
59)	Toluene	12.78	91	2369160	51.8299	ug/L		100
60)	Ethyl Methacrylate	12.88	69	461443	52.2671	ug/L		90
62)	trans-1,3-Dichloropropene	12.96	75	775061	50.7303	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	369263	50.8092	ug/L		98
64)	2-Hexanone	13.12	58	118200	52.2671	ug/L	#	99
65)	1,3-Dichloropropane	13.48	76	662779	49.7476	ug/L		89
66)	Tetrachloroethene	13.60	164	450825	49.0992	ug/L		92
67)	Dibromochloromethane	13.87	129	494109	49.5928	ug/L		100
68)	1,2-Dibromoethane	14.12	107	359921	48.9304	ug/L		100
69)	1-Chlorohexane	14.21	91	804649	51.9162	ug/L		86
70)	Chlorobenzene	14.62	112	1564505	50.0179	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.66	131	566720	50.5058	ug/L		98
72)	Ethylbenzene	14.66	106	897018	50.1233	ug/L		98
73)	m-,p-Xylene	14.74	106	2120599	103.6666	ug/L		97
74)	o-Xylene	15.31	106	1034089	48.7379	ug/L		100
75)	Styrene	15.34	104	1742090	53.8504	ug/L		97
76)	Bromoform	15.83	173	286930	49.9729	ug/L		99
77)	Isopropylbenzene	15.73	105	2673646	52.8457	ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	431879	46.1637	ug/L		98
81)	1,2,3-Trichloropropane	16.13	110	113356	43.2998	ug/L	#	46
82)	trans-1,4-Dichloro-2-Buten	16.18	53	179156	51.4281	ug/L		65
83)	n-Propylbenzene	16.24	91	3296414	47.6537	ug/L		100
84)	Bromobenzene	16.36	156	611640	44.4233	ug/L		91
85)	1,3,5-Trimethylbenzene	16.42	105	2268878	46.9915	ug/L		98
86)	2-Chlorotoluene	16.51	91	2055426	45.4888	ug/L		99
87)	4-Chlorotoluene	16.56	91	2098307	47.3485	ug/L		99
88)	a-Methylstyrene	16.83	118	1189274	47.0395	ug/L		98
89)	tert-Butylbenzene	16.89	134	470127	45.1874	ug/L		91
90)	1,2,4-Trimethylbenzene	16.94	105	2423983	48.6479	ug/L		99
91)	sec-Butylbenzene	17.16	105	2884124	48.0571	ug/L		98
92)	p-Isopropyltoluene	17.31	119	2401315	48.3005	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	1291829	47.1943	ug/L		94
94)	1,4-Dichlorobenzene	17.63	146	1263368	45.9561	ug/L		93
95)	n-Butylbenzene	17.84	91	2481455	49.6137	ug/L		97
96)	1,2-Dichlorobenzene	18.13	146	1118917	47.0105	ug/L		93
97)	1,2-Dibromo-3-Chloropropan	19.12	75	76630	43.0472	ug/L		84
98)	1,2,4-Trichlorobenzene	20.27	180	776267	44.7952	ug/L		99
99)	Hexachlorobutadiene	20.42	225	332426	46.9076	ug/L		98
100)	Naphthalene	20.64	128	1262806	44.5360	ug/L		99
101)	1,2,3-Trichlorobenzene	20.95	180	646244	44.8204	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M411218.D 8260WTR.M Tue Apr 05 10:33:47 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 10:33 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS8
Initial cal date: 17 Feb 2016 17:50
CCV date: 5 Apr 2016 10:11
CCV Filename: 8M411218.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	835274	10.71	592238	14.57	312633	17.59
CCV	1024914	10.71	820290	14.57	468128	17.59

Data File : C:\MSDCHEM\2\DATA\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	123	0.00
2	T	Dichlorodifluoromethane	0.3941	0.4627	-17.4	131	0.01
3	P	Chloromethane	0.6026	0.7315	-21.4	146	0.01
4	C	Vinyl Chloride	0.4195	0.4762	-13.5	133	0.01
5	T	1,3-Butadiene	0.3333	0.4363	-30.9#	151#	0.01
6	T	Bromomethane	0.1993	0.1706	14.4	104	0.01
7	T	Chloroethane	0.1895	0.2152	-13.6	135	0.00
8	T	Trichlorofluoromethane	0.4496	0.4872	-8.4	130	0.00
9	T	Diethyl ether	0.1646	0.1708	-3.7	131	0.00
10	T	Isoprene	0.3047	0.3414	-12.1	136	0.01
11	T	Acrolein	0.0256	0.0195	23.7	95	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2454	0.2668	-8.7	134	0.00
13	T	Acetone	0.0409	0.0424	-3.8	125	0.00
14	C	1,1-Dichloroethene	0.4517	0.5188	-14.9	137	0.00
15	T	Tert-Butyl Alcohol	0.0104	0.0124	-19.2	153#	0.00
16	T	Dimethyl Sulfide	0.1979	0.2208	-11.6	137	0.00
17	T	Iodomethane	0.1175	0.0982	16.5	79	0.00
18	T	Methyl acetate	0.1142	0.1449	-26.9#	162#	0.00
19	T	Methylene Chloride	0.2473	0.2707	-9.4	133	0.00
20	T	Carbon Disulfide	0.7764	0.8748	-12.7	139	0.00
21	T	Acrylonitrile	0.0577	0.0696	-20.8	142	0.00
22	T	Methyl Tert Butyl Ether	0.5023	0.5176	-3.0	126	0.00
23	T	trans-1,2-Dichloroethene	0.4223	0.4815	-14.0	136	0.00
24	T	n-Hexane	0.3600	0.4459	-23.9	162#	0.00
25	T	Diisopropyl ether	0.9382	1.0981	-17.0	143	0.00
26	T	Vinyl Acetate	0.4312	0.5008	-16.1	144	0.00
27	P	1,1-Dichloroethane	0.5269	0.6096	-15.7	137	0.00
28	T	Ethyl-Tert-Butyl ether	0.7525	0.8055	-7.1	130	0.00
29	T	2-Butanone	0.0643	0.0738	-14.8	144	0.00
30	T	Propionitrile	0.0185	0.0237	-28.1#	156#	0.00
31	T	2,2-Dichloropropane	0.4144	0.4822	-16.4	147	0.00
32	T	cis-1,2-Dichloroethene	0.2720	0.3045	-12.0	133	0.00
33	C	Chloroform	0.4675	0.5215	-11.6	132	0.00
34		1-Bromopropane	0.0365	0.0473	-29.6#	150#	0.00
35	T	Bromochloromethane	0.1361	0.1487	-9.2	127	0.00
36	T	Tetrahydrofuran	0.0431	0.0591	-37.3#	179#	0.00
37	S	Dibromofluoromethane	0.2566	0.2440	4.9	117	0.00
38	T	1,1,1-Trichloroethane	0.4265	0.4630	-8.6	130	0.00
39	T	Cyclohexane	0.4964	0.5804	-16.9	147	0.00
40	T	1,1-Dichloropropene	0.3711	0.4028	-8.5	133	0.00
41	T	Tert-Amyl-Methyl ether	0.5289	0.5434	-2.7	126	0.00
42	T	Carbon Tetrachloride	0.3882	0.4262	-9.8	128	0.00
43	S	1,2-Dichloroethane-d4	0.2748	0.2563	6.7	113	0.00
44		Heptane	0.0000	0.0000	0.0	0#	-2.54#
45	T	1,2-Dichloroethane	0.3551	0.3824	-7.7	127	0.00
46	T	Benzene	0.9670	1.1108	-14.9	134	0.00
47	T	Trichloroethene	0.2604	0.2791	-7.1	129	0.00
48	T	Methylcyclohexane	0.3750	0.4169	-11.2	139	0.00
49	C	1,2-Dichloropropane	0.2719	0.3217	-18.3	137	0.00
50	T	Bromodichloromethane	0.3451	0.3839	-11.2	129	0.00
51	T	1,4-Dioxane	0.0011	0.0014	-29.1#	164#	0.00
52	T	Dibromomethane	0.1234	0.1379	-11.7	128	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1182	0.1231	-4.1	124	0.00
54	T	4-Methyl-2-Pentanone	0.0551	0.0606	-10.0	136	0.00

(#) = Out of Range
8M411218.D 8260WTR.M Tue Apr 05 11:04:05 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3756	0.4379	-16.6	134	0.00
56	T	Dimethyl Disulfide	0.1980	0.2205	-11.4	136	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	139	0.00
58	S	Toluene-d8	1.2344	1.1401	7.6	125	0.00
59	C	Toluene	1.3931	1.4441	-3.7	134	0.00
60	T	Ethyl Methacrylate	0.2691	0.2813	-4.5	140	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.14#
62	T	trans-1,3-Dichloropropene	0.4656	0.4724	-1.5	134	0.00
63	T	1,1,2-Trichloroethane	0.2215	0.2251	-1.6	130	0.00
64	T	2-Hexanone	0.0689	0.0721	-4.5	144	0.00
65	T	1,3-Dichloropropane	0.4060	0.4040	0.5	130	0.00
66	T	Tetrachloroethene	0.2798	0.2748	1.8	131	0.00
67	T	Dibromochloromethane	0.3036	0.3012	0.8	125	0.00
68	T	1,2-Dibromoethane	0.2242	0.2194	2.1	125	0.00
69	T	1-Chlorohexane	0.4724	0.4905	-3.8	141	0.00
70	P	Chlorobenzene	0.9533	0.9536	-0.0	132	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3420	0.3454	-1.0	130	0.00
72	C	Ethylbenzene	0.5454	0.5468	-0.2	136	0.00
73	T	m-,p-Xylene	0.6234	0.6463	-3.7	134	0.00
74	T	o-Xylene	0.6466	0.6303	2.5	131	0.00
75	T	Styrene	0.9859	1.0619	-7.7	132	0.00
76	P	Bromoform	0.1750	0.1749	0.1	125	0.00
77	T	Isopropylbenzene	1.5419	1.6297	-5.7	133	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	150	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4996	0.4613	7.7	127	0.00
80	S	p-Bromofluorobenzene	0.9712	0.8684	10.6	133	0.00
81	T	1,2,3-Trichloropropane	0.1398	0.1211	13.4	124	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1860	0.1913	-2.9	146	0.00
83	T	n-Propylbenzene	3.6942	3.5208	4.7	136	0.00
84	T	Bromobenzene	0.7353	0.6533	11.2	129	0.00
85	T	1,3,5-Trimethylbenzene	2.5785	2.4234	6.0	131	0.00
86	T	2-Chlorotoluene	2.4131	2.1954	9.0	132	0.00
87	T	4-Chlorotoluene	2.3667	2.2412	5.3	131	0.00
88	T	a-Methylstyrene	1.3502	1.2702	5.9	141	0.00
89	T	tert-Butylbenzene	0.5556	0.5021	9.6	134	0.00
90	T	1,2,4-Trimethylbenzene	2.6610	2.5890	2.7	134	0.00
91	T	sec-Butylbenzene	3.2050	3.0805	3.9	134	0.00
92	T	p-Isopropyltoluene	2.6551	2.5648	3.4	135	0.00
93	T	1,3-Dichlorobenzene	1.4618	1.3798	5.6	133	0.00
94	T	1,4-Dichlorobenzene	1.4681	1.3494	8.1	131	0.00
95	T	n-Butylbenzene	2.6710	2.6504	0.8	141	0.00
96	T	1,2-Dichlorobenzene	1.2711	1.1951	6.0	130	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0908	0.0819	9.8	123	0.00
98	T	1,2,4-Trichlorobenzene	0.9254	0.8291	10.4	124	0.00
99	T	Hexachlorobutadiene	0.3785	0.3551	6.2	133	0.00
100	T	Naphthalene	1.5143	1.3488	10.9	120	0.00
101	T	1,2,3-Trichlorobenzene	0.7700	0.6902	10.4	124	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M411218.D 8260WTR.M Tue Apr 05 11:04:05 2016 Page 2

Data File : C:\MSDCHEM\2\DATA\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	123	0.00
2	T	Dichlorodifluoromethane	50.0000	58.7068	-17.4	131	0.01
3	P	Chloromethane	50.0000	60.6917	-21.4	146	0.01
4	C	Vinyl Chloride	50.0000	56.7629	-13.5	133	0.01
5	T	1,3-Butadiene	50.0000	75.8655	-51.7#	151	0.01
6	T	Bromomethane	50.0000	42.8035	14.4	104	0.01
7	T	Chloroethane	50.0000	56.7755	-13.6	135	0.00
8	T	Trichlorofluoromethane	50.0000	54.1792	-8.4	130	0.00
9	T	Diethyl ether	100.0000	103.7258	-3.7	131	0.00
10	T	Isoprene	50.0000	56.0328	-12.1	136	0.01
11	T	Acrolein	50.0000	38.1433	23.7	95	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	54.3568	-8.7	134	0.00
13	T	Acetone	50.0000	51.8997	-3.8	125	0.00
14	C	1,1-Dichloroethene	50.0000	57.4265	-14.9	137	0.00
15	T	Tert-Butyl Alcohol	200.0000	238.3373	-19.2	153	0.00
16	T	Dimethyl Sulfide	50.0000	55.8035	-11.6	137	0.00
17	T	Iodomethane	50.0000	31.9140	36.2#	79	0.00
18	T	Methyl acetate	50.0000	63.4659	-26.9#	162	0.00
19	T	Methylene Chloride	50.0000	54.7163	-9.4	133	0.00
20	T	Carbon Disulfide	50.0000	56.3363	-12.7	139	0.00
21	T	Acrylonitrile	50.0000	60.3977	-20.8	142	0.00
22	T	Methyl Tert Butyl Ether	50.0000	51.5199	-3.0	126	0.00
23	T	trans-1,2-Dichloroethene	50.0000	57.0198	-14.0	136	0.00
24	T	n-Hexane	50.0000	61.9344	-23.9	162	0.00
25	T	Diisopropyl ether	100.0000	117.0418	-17.0	143	0.00
26	T	Vinyl Acetate	50.0000	58.0650	-16.1	144	0.00
27	P	1,1-Dichloroethane	50.0000	57.8511	-15.7	137	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	107.0557	-7.1	130	0.00
29	T	2-Butanone	50.0000	57.3826	-14.8	144	0.00
30	T	Propionitrile	100.0000	128.1242	-28.1#	156	0.00
31	T	2,2-Dichloropropane	50.0000	58.1797	-16.4	147	0.00
32	T	cis-1,2-Dichloroethene	50.0000	55.9848	-12.0	133	0.00
33	C	Chloroform	50.0000	55.7847	-11.6	132	0.00
34		1-Bromopropane	50.0000	58.7339	-17.5	150	0.00
35	T	Bromochloromethane	50.0000	54.6183	-9.2	127	0.00
36	T	Tetrahydrofuran	100.0000	137.3268	-37.3#	179	0.00
37	S	Dibromofluoromethane	25.0000	23.7706	4.9	117	0.00
38	T	1,1,1-Trichloroethane	50.0000	54.2774	-8.6	130	0.00
39	T	Cyclohexane	50.0000	58.4545	-16.9	147	0.00
40	T	1,1-Dichloropropene	50.0000	54.2696	-8.5	133	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	102.7497	-2.7	126	0.00
42	T	Carbon Tetrachloride	50.0000	54.8943	-9.8	128	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.3227	6.7	113	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	50.0000	53.8347	-7.7	127	0.00
46	T	Benzene	50.0000	57.4364	-14.9	134	0.00
47	T	Trichloroethene	50.0000	53.5745	-7.1	129	0.00
48	T	Methylcyclohexane	50.0000	55.5803	-11.2	139	0.00
49	C	1,2-Dichloropropane	50.0000	59.1594	-18.3	137	0.00
50	T	Bromodichloromethane	50.0000	55.6227	-11.2	129	0.00
51	T	1,4-Dioxane	200.0000	259.0763	-29.5#	164	0.00
52	T	Dibromomethane	50.0000	55.8600	-11.7	128	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	52.0548	-4.1	124	0.00
54	T	4-Methyl-2-Pentanone	50.0000	54.9848	-10.0	136	0.00

(#) = Out of Range
8M411218.D 8260WTR.M Tue Apr 05 11:04:06 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\040516\8M411218.D Vial: 2
Acq On : 5 Apr 2016 10:11 Operator: TMB
Sample : WG563534-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	58.2912	-16.6	134	0.00
56	T	Dimethyl Disulfide	50.0000	55.6751	-11.4	136	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	139	0.00
58	S	Toluene-d8	25.0000	23.0892	7.6	125	0.00
59	C	Toluene	50.0000	51.8299	-3.7	134	0.00
60	T	Ethyl Methacrylate	50.0000	52.2671	-4.5	140	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	50.0000	50.7303	-1.5	134	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.8092	-1.6	130	0.00
64	T	2-Hexanone	50.0000	52.2671	-4.5	144	0.00
65	T	1,3-Dichloropropane	50.0000	49.7476	0.5	130	0.00
66	T	Tetrachloroethene	50.0000	49.0992	1.8	131	0.00
67	T	Dibromochloromethane	50.0000	49.5928	0.8	125	0.00
68	T	1,2-Dibromoethane	50.0000	48.9304	2.1	125	0.00
69	T	1-Chlorohexane	50.0000	51.9162	-3.8	141	0.00
70	P	Chlorobenzene	50.0000	50.0179	-0.0	132	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	50.5058	-1.0	130	0.00
72	C	Ethylbenzene	50.0000	50.1233	-0.2	136	0.00
73	T	m-,p-Xylene	100.0000	103.6666	-3.7	134	0.00
74	T	o-Xylene	50.0000	48.7379	2.5	131	0.00
75	T	Styrene	50.0000	53.8504	-7.7	132	0.00
76	P	Bromoform	50.0000	49.9729	0.1	125	0.00
77	T	Isopropylbenzene	50.0000	52.8457	-5.7	133	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	150	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	46.1637	7.7	127	0.00
80	S	p-Bromofluorobenzene	25.0000	22.3547	10.6	133	0.00
81	T	1,2,3-Trichloropropane	50.0000	43.2998	13.4	124	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	51.4281	-2.9	146	0.00
83	T	n-Propylbenzene	50.0000	47.6537	4.7	136	0.00
84	T	Bromobenzene	50.0000	44.4233	11.2	129	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	46.9915	6.0	131	0.00
86	T	2-Chlorotoluene	50.0000	45.4888	9.0	132	0.00
87	T	4-Chlorotoluene	50.0000	47.3485	5.3	131	0.00
88	T	a-Methylstyrene	50.0000	47.0395	5.9	141	0.00
89	T	tert-Butylbenzene	50.0000	45.1874	9.6	134	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	48.6479	2.7	134	0.00
91	T	sec-Butylbenzene	50.0000	48.0571	3.9	134	0.00
92	T	p-Isopropyltoluene	50.0000	48.3005	3.4	135	0.00
93	T	1,3-Dichlorobenzene	50.0000	47.1943	5.6	133	0.00
94	T	1,4-Dichlorobenzene	50.0000	45.9561	8.1	131	0.00
95	T	n-Butylbenzene	50.0000	49.6137	0.8	141	0.00
96	T	1,2-Dichlorobenzene	50.0000	47.0105	6.0	130	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	43.0472	13.9	123	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	44.7952	10.4	124	0.00
99	T	Hexachlorobutadiene	50.0000	46.9076	6.2	133	0.00
100	T	Naphthalene	50.0000	44.5360	10.9	120	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	44.8204	10.4	124	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M411218.D 8260WTR.M Tue Apr 05 11:04:06 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 13:26:38 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1055221	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	797930	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	460643	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	260236	24.0252	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.12%			
43) 1,2-Dichloroethane-d4	10.31	65	269534	23.2397	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.96%			
58) Toluene-d8	12.68	98	938948	23.8315	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.32%			
80) p-Bromofluorobenzene	16.07	95	392825	21.9525	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 87.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	946363	56.8953	ug/L	99
3) Chloromethane	3.63	50	1492920	58.6957	ug/L	98
4) Vinyl Chloride	3.85	62	969676	54.7653	ug/L	98
5) 1,3-Butadiene	3.90	54	938361	77.6260	ug/L	98
6) Bromomethane	4.75	94	351281	41.7577	ug/L	98
7) Chloroethane	4.90	64	442766	55.3545	ug/L	97
8) Trichlorofluoromethane	5.39	101	985302	51.9219	ug/L	99
9) Diethyl ether	5.91	59	728827	104.8754	ug/L	94
10) Isoprene	5.96	67	736193	57.2485	ug/L	93
11) Acrolein	6.14	56	37780	35.0074	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	548368	52.9331	ug/L	92
13) Acetone	6.24	43	87036	50.4317	ug/L	93
14) 1,1-Dichloroethene	6.47	61	1059031	55.5452	ug/L	93
15) Tert-Butyl Alcohol	6.59	59	97949	223.4724	ug/L	96
16) Dimethyl Sulfide	6.74	62	471667	56.4804	ug/L	91
17) Iodomethane	7.00	142	218141	33.5400	ug/L	97
18) Methyl acetate	7.00	43	315252	65.4184	ug/L	95
19) Methylene Chloride	7.26	84	557012	53.3567	ug/L	82
20) Carbon Disulfide	7.30	76	1854485	56.5911	ug/L	100
21) Acrylonitrile	7.43	53	145808	59.9226	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	1066832	50.3158	ug/L	93
23) trans-1,2-Dichloroethene	7.71	61	989150	55.4974	ug/L	90
24) n-Hexane	7.79	57	959592	63.1490	ug/L	99
25) Diisopropyl ether	8.14	45	4641856	117.2183	ug/L	98
26) Vinyl Acetate	8.30	43	1058148	58.1340	ug/L	98
27) 1,1-Dichloroethane	8.33	63	1241906	55.8421	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	3397544	106.9737	ug/L	97
29) 2-Butanone	8.89	43	149366	55.0432	ug/L	94
30) Propionitrile	8.99	54	98137	125.8953	ug/L	99
31) 2,2-Dichloropropane	9.11	77	976735	55.8462	ug/L	100
32) cis-1,2-Dichloroethene	9.17	96	624469	54.3969	ug/L	85
33) Chloroform	9.38	83	1070324	54.2464	ug/L	99
34) 1-Bromopropane	9.52	122	102139	60.1034	ug/L	97
35) Bromochloromethane	9.61	130	315328	54.8950	ug/L	83
36) Tetrahydrofuran	9.63	42	256684	141.2035	ug/L	96
38) 1,1,1-Trichloroethane	9.91	97	947942	52.6513	ug/L	99
39) Cyclohexane	9.94	56	1231588	58.7791	ug/L	92
40) 1,1-Dichloropropene	10.11	75	814478	51.9928	ug/L	97
41) Tert-Amyl-Methyl ether	10.21	73	2256970	101.1065	ug/L	93
42) Carbon Tetrachloride	10.25	117	865683	52.8330	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M411248.D 8260WTR.M Wed Apr 06 13:26:38 2016 Page 1

Data File : C:\MSDchem\2\data\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 13:26:38 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

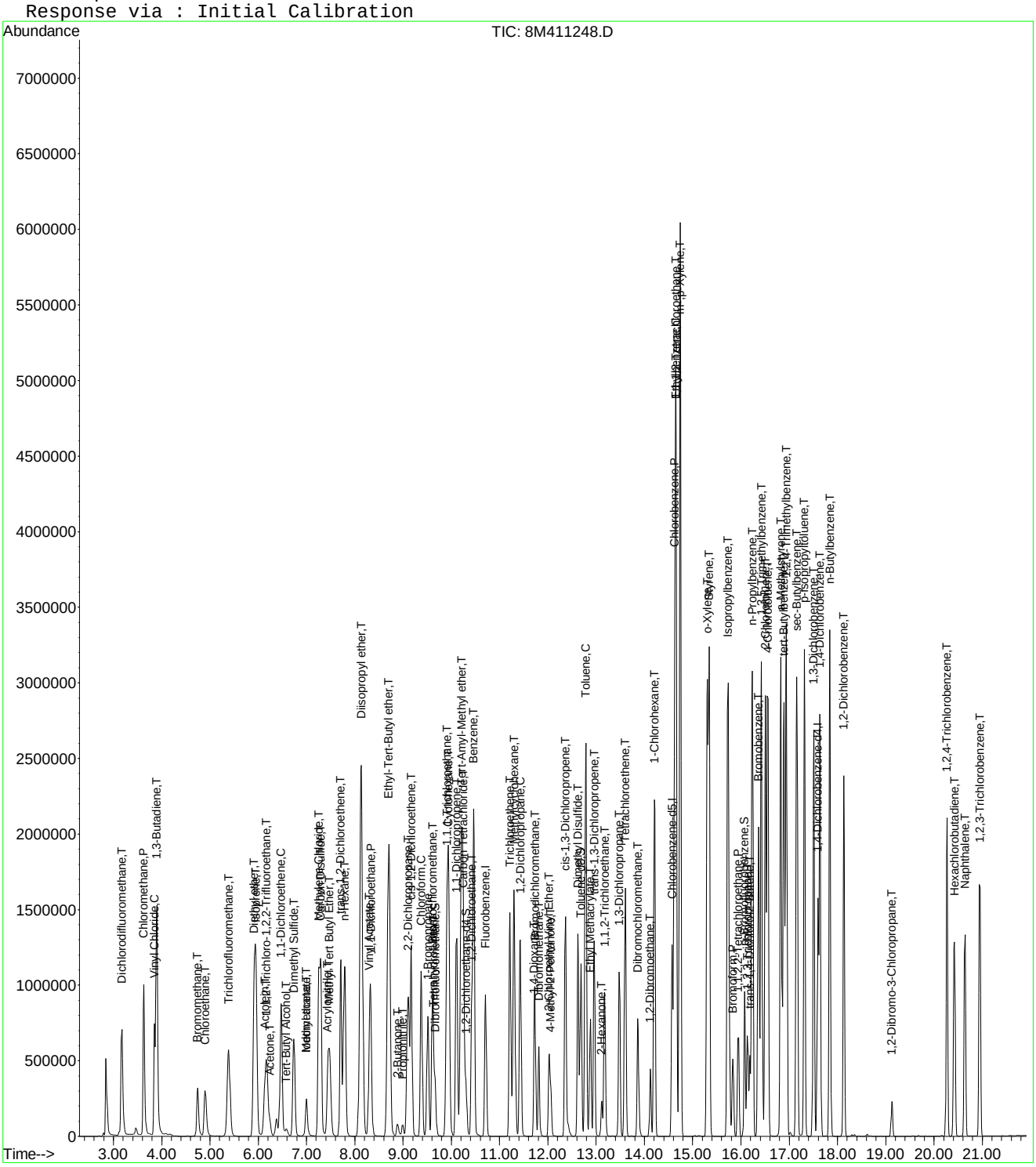
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.42	62	795838	53.0914	ug/L		97
46)	Benzene	10.46	78	2281723	55.9034	ug/L		94
47)	Trichloroethene	11.22	130	564845	51.3824	ug/L		96
48)	Methylcyclohexane	11.30	83	887431	56.0608	ug/L		90
49)	1,2-Dichloropropane	11.43	63	655678	57.1382	ug/L		93
50)	Bromodichloromethane	11.73	83	794374	54.5311	ug/L		100
51)	1,4-Dioxane	11.71	88	12965	280.1109	ug/L		100
52)	Dibromomethane	11.82	93	283414	54.4191	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.02	63	250926	50.2716	ug/L		93
54)	4-Methyl-2-Pentanone	12.05	58	120340	51.7708	ug/L		91
55)	cis-1,3-Dichloropropene	12.36	75	902154	56.8988	ug/L		99
56)	Dimethyl Disulfide	12.62	79	460495	55.0976	ug/L		99
59)	Toluene	12.79	91	2360387	53.0850	ug/L		99
60)	Ethyl Methacrylate	12.88	69	477861	55.6435	ug/L		90
62)	trans-1,3-Dichloropropene	12.96	75	776581	52.2542	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	365108	51.6453	ug/L		97
64)	2-Hexanone	13.12	58	114323	51.9693	ug/L	#	96
65)	1,3-Dichloropropane	13.48	76	670333	51.7246	ug/L		89
66)	Tetrachloroethene	13.60	164	443698	49.6771	ug/L		91
67)	Dibromochloromethane	13.86	129	507131	52.3262	ug/L		100
68)	1,2-Dibromoethane	14.12	107	365376	51.0639	ug/L		99
69)	1-Chlorohexane	14.21	91	831629	55.1605	ug/L		87
70)	Chlorobenzene	14.63	112	1550311	50.9530	ug/L		97
71)	1,1,1,2-Tetrachloroethane	14.66	131	556978	51.0285	ug/L		100
72)	Ethylbenzene	14.66	106	875622	50.2988	ug/L		100
73)	m-,p-Xylene	14.74	106	2084247	104.7447	ug/L		98
74)	o-Xylene	15.31	106	1026570	49.7394	ug/L		100
75)	Styrene	15.34	104	1737558	55.2154	ug/L		97
76)	Bromoform	15.84	173	291220	52.1414	ug/L		99
77)	Isopropylbenzene	15.73	105	2648599	53.8177	ug/L		98
79)	1,1,2,2-Tetrachloroethane	15.94	83	442639	48.0826	ug/L		99
81)	1,2,3-Trichloropropane	16.14	110	116004	45.0313	ug/L	#	44
82)	trans-1,4-Dichloro-2-Buten	16.19	53	185101	53.9981	ug/L		67
83)	n-Propylbenzene	16.24	91	3264424	47.9580	ug/L		99
84)	Bromobenzene	16.36	156	608969	44.9480	ug/L		90
85)	1,3,5-Trimethylbenzene	16.42	105	2252900	47.4188	ug/L		99
86)	2-Chlorotoluene	16.51	91	2078098	46.7379	ug/L		99
87)	4-Chlorotoluene	16.56	91	2064323	47.3385	ug/L		98
88)	a-Methylstyrene	16.83	118	1203753	48.3859	ug/L		98
89)	tert-Butylbenzene	16.89	134	461378	45.0671	ug/L		91
90)	1,2,4-Trimethylbenzene	16.94	105	2396597	48.8798	ug/L		98
91)	sec-Butylbenzene	17.16	105	2862876	48.4782	ug/L		98
92)	p-Isopropyltoluene	17.31	119	2368140	48.4072	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	1277395	47.4253	ug/L		93
94)	1,4-Dichlorobenzene	17.63	146	1253907	46.3531	ug/L		93
95)	n-Butylbenzene	17.84	91	2438312	49.5433	ug/L		97
96)	1,2-Dichlorobenzene	18.13	146	1097828	46.8739	ug/L		91
97)	1,2-Dibromo-3-Chloropropan	19.12	75	75775	43.2561	ug/L		88
98)	1,2,4-Trichlorobenzene	20.27	180	761131	44.6355	ug/L		99
99)	Hexachlorobutadiene	20.42	225	320691	45.9870	ug/L		96
100)	Naphthalene	20.64	128	1247736	44.7196	ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	622257	43.8580	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M411248.D 8260WTR.M Wed Apr 06 13:26:39 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 13:26 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS8
Initial cal date: 17 Feb 2016 17:50
CCV date: 6 Apr 2016 13:04
CCV Filename: 8M411248.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	835274	10.71	592238	14.57	312633	17.59
CCV	1055221	10.71	797930	14.57	460643	17.59

Data File : C:\MSDCHEM\2\DATA\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	126	0.00
2	T	Dichlorodifluoromethane	0.3941	0.4484	-13.8	131	0.01
3	P	Chloromethane	0.6026	0.7074	-17.4	145	0.01
4	C	Vinyl Chloride	0.4195	0.4595	-9.5	132	0.00
5	T	1,3-Butadiene	0.3333	0.4446	-33.4#	158#	0.01
6	T	Bromomethane	0.1993	0.1664	16.5	105	0.01
7	T	Chloroethane	0.1895	0.2098	-10.7	136	0.00
8	T	Trichlorofluoromethane	0.4496	0.4669	-3.8	128	0.00
9	T	Diethyl ether	0.1646	0.1727	-4.9	137	0.00
10	T	Isoprene	0.3047	0.3488	-14.5	143	0.01
11	T	Acrolein	0.0256	0.0179	30.0#	90	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2454	0.2598	-5.9	134	0.01
13	T	Acetone	0.0409	0.0412	-0.9	125	0.00
14	C	1,1-Dichloroethene	0.4517	0.5018	-11.1	137	0.00
15	T	Tert-Butyl Alcohol	0.0104	0.0116	-11.8	148	0.00
16	T	Dimethyl Sulfide	0.1979	0.2235	-13.0	142	0.00
17	T	Iodomethane	0.1175	0.1034	12.0	85	0.01
18	T	Methyl acetate	0.1142	0.1494	-30.8#	172#	0.00
19	T	Methylene Chloride	0.2473	0.2639	-6.7	134	0.00
20	T	Carbon Disulfide	0.7764	0.8787	-13.2	143	0.00
21	T	Acrylonitrile	0.0577	0.0691	-19.8	146	0.00
22	T	Methyl Tert Butyl Ether	0.5023	0.5055	-0.6	127	0.00
23	T	trans-1,2-Dichloroethene	0.4223	0.4687	-11.0	136	0.00
24	T	n-Hexane	0.3600	0.4547	-26.3#	170#	0.01
25	T	Diisopropyl ether	0.9382	1.0997	-17.2	148	0.00
26	T	Vinyl Acetate	0.4312	0.5014	-16.3	148	0.00
27	P	1,1-Dichloroethane	0.5269	0.5885	-11.7	136	0.00
28	T	Ethyl-Tert-Butyl ether	0.7525	0.8049	-7.0	134	0.00
29	T	2-Butanone	0.0643	0.0708	-10.1	142	0.00
30	T	Propionitrile	0.0185	0.0233	-25.9#	158#	0.00
31	T	2,2-Dichloropropane	0.4144	0.4628	-11.7	145	0.00
32	T	cis-1,2-Dichloroethene	0.2720	0.2959	-8.8	133	0.00
33	C	Chloroform	0.4675	0.5072	-8.5	132	0.00
34		1-Bromopropane	0.0365	0.0484	-32.7#	158#	0.00
35	T	Bromochloromethane	0.1361	0.1494	-9.8	131	0.00
36	T	Tetrahydrofuran	0.0431	0.0608	-41.2#	189#	0.00
37	S	Dibromofluoromethane	0.2566	0.2466	3.9	121	0.00
38	T	1,1,1-Trichloroethane	0.4265	0.4492	-5.3	130	0.00
39	T	Cyclohexane	0.4964	0.5836	-17.6	153#	0.00
40	T	1,1-Dichloropropene	0.3711	0.3859	-4.0	131	0.00
41	T	Tert-Amyl-Methyl ether	0.5289	0.5347	-1.1	128	0.00
42	T	Carbon Tetrachloride	0.3882	0.4102	-5.7	127	0.00
43	S	1,2-Dichloroethane-d4	0.2748	0.2554	7.0	116	0.00
44		Heptane	0.0000	0.0000	0.0	0#	-2.54#
45	T	1,2-Dichloroethane	0.3551	0.3771	-6.2	129	0.00
46	T	Benzene	0.9670	1.0812	-11.8	134	0.00
47	T	Trichloroethene	0.2604	0.2676	-2.8	127	0.00
48	T	Methylcyclohexane	0.3750	0.4205	-12.1	145	0.00
49	C	1,2-Dichloropropane	0.2719	0.3107	-14.3	136	0.00
50	T	Bromodichloromethane	0.3451	0.3764	-9.1	131	0.00
51	T	1,4-Dioxane	0.0011	0.0015	-40.0#	182#	0.00
52	T	Dibromomethane	0.1234	0.1343	-8.8	128	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1182	0.1189	-0.5	123	0.00
54	T	4-Methyl-2-Pentanone	0.0551	0.0570	-3.5	132	0.00

(#) = Out of Range
8M411248.D 8260WTR.M Wed Apr 06 13:30:36 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3756	0.4275	-13.8	135	0.00
56	T	Dimethyl Disulfide	0.1980	0.2182	-10.2	138	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	135	0.00
58	S	Toluene-d8	1.2344	1.1767	4.7	125	0.00
59	C	Toluene	1.3931	1.4791	-6.2	134	0.00
60	T	Ethyl Methacrylate	0.2691	0.2994	-11.3	145	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.14#
62	T	trans-1,3-Dichloropropene	0.4656	0.4866	-4.5	134	0.00
63	T	1,1,2-Trichloroethane	0.2215	0.2288	-3.3	129	0.00
64	T	2-Hexanone	0.0689	0.0716	-3.9	139	0.00
65	T	1,3-Dichloropropane	0.4060	0.4200	-3.4	131	0.00
66	T	Tetrachloroethene	0.2798	0.2780	0.6	129	0.00
67	T	Dibromochloromethane	0.3036	0.3178	-4.7	128	0.00
68	T	1,2-Dibromoethane	0.2242	0.2289	-2.1	127	0.00
69	T	1-Chlorohexane	0.4724	0.5211	-10.3	146	0.00
70	P	Chlorobenzene	0.9533	0.9715	-1.9	131	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3420	0.3490	-2.1	127	0.00
72	C	Ethylbenzene	0.5454	0.5487	-0.6	133	0.00
73	T	m-,p-Xylene	0.6234	0.6530	-4.7	131	0.00
74	T	o-Xylene	0.6466	0.6433	0.5	130	0.00
75	T	Styrene	0.9859	1.0888	-10.4	132	0.00
76	P	Bromoform	0.1750	0.1825	-4.3	127	0.00
77	T	Isopropylbenzene	1.5419	1.6597	-7.6	132	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	147	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4996	0.4805	3.8	131	0.00
80	S	p-Bromofluorobenzene	0.9712	0.8528	12.2	129	0.00
81	T	1,2,3-Trichloropropane	0.1398	0.1259	9.9	127	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1860	0.2009	-8.0	151#	0.00
83	T	n-Propylbenzene	3.6942	3.5433	4.1	135	0.00
84	T	Bromobenzene	0.7353	0.6610	10.1	128	0.00
85	T	1,3,5-Trimethylbenzene	2.5785	2.4454	5.2	130	0.00
86	T	2-Chlorotoluene	2.4131	2.2557	6.5	133	0.00
87	T	4-Chlorotoluene	2.3667	2.2407	5.3	129	0.00
88	T	a-Methylstyrene	1.3502	1.3066	3.2	143	0.00
89	T	tert-Butylbenzene	0.5556	0.5008	9.9	131	0.00
90	T	1,2,4-Trimethylbenzene	2.6610	2.6014	2.2	132	0.00
91	T	sec-Butylbenzene	3.2050	3.1075	3.0	133	0.00
92	T	p-Isopropyltoluene	2.6551	2.5705	3.2	133	0.00
93	T	1,3-Dichlorobenzene	1.4618	1.3865	5.1	131	0.00
94	T	1,4-Dichlorobenzene	1.4681	1.3610	7.3	130	0.00
95	T	n-Butylbenzene	2.6710	2.6466	0.9	138	0.00
96	T	1,2-Dichlorobenzene	1.2711	1.1916	6.3	127	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0908	0.0823	9.4	122	0.00
98	T	1,2,4-Trichlorobenzene	0.9254	0.8262	10.7	122	0.00
99	T	Hexachlorobutadiene	0.3785	0.3481	8.0	128	0.00
100	T	Naphthalene	1.5143	1.3543	10.6	119	0.00
101	T	1,2,3-Trichlorobenzene	0.7700	0.6754	12.3	119	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M411248.D 8260WTR.M Wed Apr 06 13:30:36 2016 Page 2

Data File : C:\MSDCHEM\2\DATA\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	126	0.00
2	T	Dichlorodifluoromethane	50.0000	56.8953	-13.8	131	0.01
3	P	Chloromethane	50.0000	58.6957	-17.4	145	0.01
4	C	Vinyl Chloride	50.0000	54.7653	-9.5	132	0.00
5	T	1,3-Butadiene	50.0000	77.6260	-55.3#	158	0.01
6	T	Bromomethane	50.0000	41.7577	16.5	105	0.01
7	T	Chloroethane	50.0000	55.3545	-10.7	136	0.00
8	T	Trichlorofluoromethane	50.0000	51.9219	-3.8	128	0.00
9	T	Diethyl ether	100.0000	104.8754	-4.9	137	0.00
10	T	Isoprene	50.0000	57.2485	-14.5	143	0.01
11	T	Acrolein	50.0000	35.0074	30.0#	90	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	52.9331	-5.9	134	0.01
13	T	Acetone	50.0000	50.4317	-0.9	125	0.00
14	C	1,1-Dichloroethene	50.0000	55.5452	-11.1	137	0.00
15	T	Tert-Butyl Alcohol	200.0000	223.4724	-11.7	148	0.00
16	T	Dimethyl Sulfide	50.0000	56.4804	-13.0	142	0.00
17	T	Iodomethane	50.0000	33.5400	32.9#	85	0.01
18	T	Methyl acetate	50.0000	65.4184	-30.8#	172	0.00
19	T	Methylene Chloride	50.0000	53.3567	-6.7	134	0.00
20	T	Carbon Disulfide	50.0000	56.5911	-13.2	143	0.00
21	T	Acrylonitrile	50.0000	59.9226	-19.8	146	0.00
22	T	Methyl Tert Butyl Ether	50.0000	50.3158	-0.6	127	0.00
23	T	trans-1,2-Dichloroethene	50.0000	55.4974	-11.0	136	0.00
24	T	n-Hexane	50.0000	63.1490	-26.3#	170	0.01
25	T	Diisopropyl ether	100.0000	117.2183	-17.2	148	0.00
26	T	Vinyl Acetate	50.0000	58.1340	-16.3	148	0.00
27	P	1,1-Dichloroethane	50.0000	55.8421	-11.7	136	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	106.9737	-7.0	134	0.00
29	T	2-Butanone	50.0000	55.0432	-10.1	142	0.00
30	T	Propionitrile	100.0000	125.8953	-25.9#	158	0.00
31	T	2,2-Dichloropropane	50.0000	55.8462	-11.7	145	0.00
32	T	cis-1,2-Dichloroethene	50.0000	54.3969	-8.8	133	0.00
33	C	Chloroform	50.0000	54.2464	-8.5	132	0.00
34		1-Bromopropane	50.0000	60.1034	-20.2	158	0.00
35	T	Bromochloromethane	50.0000	54.8950	-9.8	131	0.00
36	T	Tetrahydrofuran	100.0000	141.2035	-41.2#	189	0.00
37	S	Dibromofluoromethane	25.0000	24.0252	3.9	121	0.00
38	T	1,1,1-Trichloroethane	50.0000	52.6513	-5.3	130	0.00
39	T	Cyclohexane	50.0000	58.7791	-17.6	153	0.00
40	T	1,1-Dichloropropene	50.0000	51.9928	-4.0	131	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	101.1065	-1.1	128	0.00
42	T	Carbon Tetrachloride	50.0000	52.8330	-5.7	127	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.2397	7.0	116	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.54#
45	T	1,2-Dichloroethane	50.0000	53.0914	-6.2	129	0.00
46	T	Benzene	50.0000	55.9034	-11.8	134	0.00
47	T	Trichloroethene	50.0000	51.3824	-2.8	127	0.00
48	T	Methylcyclohexane	50.0000	56.0608	-12.1	145	0.00
49	C	1,2-Dichloropropane	50.0000	57.1382	-14.3	136	0.00
50	T	Bromodichloromethane	50.0000	54.5311	-9.1	131	0.00
51	T	1,4-Dioxane	200.0000	280.1109	-40.1#	182	0.00
52	T	Dibromomethane	50.0000	54.4191	-8.8	128	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	50.2716	-0.5	123	0.00
54	T	4-Methyl-2-Pentanone	50.0000	51.7708	-3.5	132	0.00

(#) = Out of Range
8M411248.D 8260WTR.M Wed Apr 06 13:30:37 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\040616\8M411248.D Vial: 2
Acq On : 6 Apr 2016 13:04 Operator: TMB
Sample : WG563756-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD75490 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

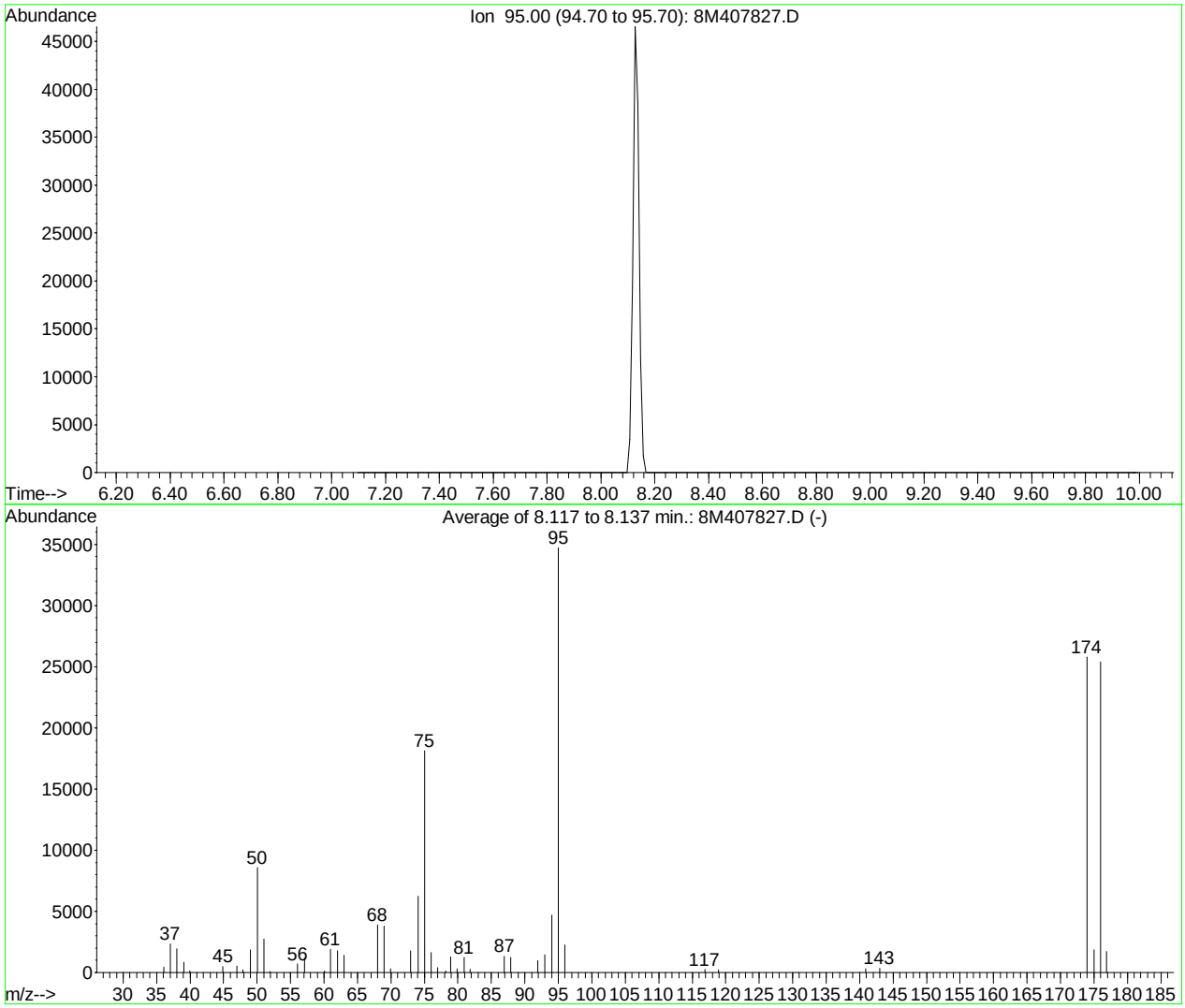
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	56.8988	-13.8	135	0.00
56	T	Dimethyl Disulfide	50.0000	55.0976	-10.2	138	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	135	0.00
58	S	Toluene-d8	25.0000	23.8315	4.7	125	0.00
59	C	Toluene	50.0000	53.0850	-6.2	134	0.00
60	T	Ethyl Methacrylate	50.0000	55.6435	-11.3	145	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	50.0000	52.2542	-4.5	134	0.00
63	T	1,1,2-Trichloroethane	50.0000	51.6453	-3.3	129	0.00
64	T	2-Hexanone	50.0000	51.9693	-3.9	139	0.00
65	T	1,3-Dichloropropane	50.0000	51.7246	-3.4	131	0.00
66	T	Tetrachloroethene	50.0000	49.6771	0.6	129	0.00
67	T	Dibromochloromethane	50.0000	52.3262	-4.7	128	0.00
68	T	1,2-Dibromoethane	50.0000	51.0639	-2.1	127	0.00
69	T	1-Chlorohexane	50.0000	55.1605	-10.3	146	0.00
70	P	Chlorobenzene	50.0000	50.9530	-1.9	131	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	51.0285	-2.1	127	0.00
72	C	Ethylbenzene	50.0000	50.2988	-0.6	133	0.00
73	T	m-,p-Xylene	100.0000	104.7447	-4.7	131	0.00
74	T	o-Xylene	50.0000	49.7394	0.5	130	0.00
75	T	Styrene	50.0000	55.2154	-10.4	132	0.00
76	P	Bromoform	50.0000	52.1414	-4.3	127	0.00
77	T	Isopropylbenzene	50.0000	53.8177	-7.6	132	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	147	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	48.0826	3.8	131	0.00
80	S	p-Bromofluorobenzene	25.0000	21.9525	12.2	129	0.00
81	T	1,2,3-Trichloropropane	50.0000	45.0313	9.9	127	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	53.9980	-8.0	151	0.00
83	T	n-Propylbenzene	50.0000	47.9580	4.1	135	0.00
84	T	Bromobenzene	50.0000	44.9480	10.1	128	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	47.4188	5.2	130	0.00
86	T	2-Chlorotoluene	50.0000	46.7379	6.5	133	0.00
87	T	4-Chlorotoluene	50.0000	47.3385	5.3	129	0.00
88	T	a-Methylstyrene	50.0000	48.3859	3.2	143	0.00
89	T	tert-Butylbenzene	50.0000	45.0671	9.9	131	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	48.8798	2.2	132	0.00
91	T	sec-Butylbenzene	50.0000	48.4782	3.0	133	0.00
92	T	p-Isopropyltoluene	50.0000	48.4072	3.2	133	0.00
93	T	1,3-Dichlorobenzene	50.0000	47.4253	5.1	131	0.00
94	T	1,4-Dichlorobenzene	50.0000	46.3531	7.3	130	0.00
95	T	n-Butylbenzene	50.0000	49.5433	0.9	138	0.00
96	T	1,2-Dichlorobenzene	50.0000	46.8739	6.3	127	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	43.2561	13.5	122	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	44.6355	10.7	122	0.00
99	T	Hexachlorobutadiene	50.0000	45.9870	8.0	128	0.00
100	T	Naphthalene	50.0000	44.7196	10.6	119	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	43.8580	12.3	119	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M411248.D 8260WTR.M Wed Apr 06 13:30:37 2016 Page 2

2.1.1.5 Raw QC Data

BFB

Data File : C:\MSDCHEM\2\DATA\100515\8M407827.D Vial: 1
Acq On : 5 Oct 2015 11:26 Operator: TMB
Sample : WG540826-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD72715 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title : SOP:OVL MSV01



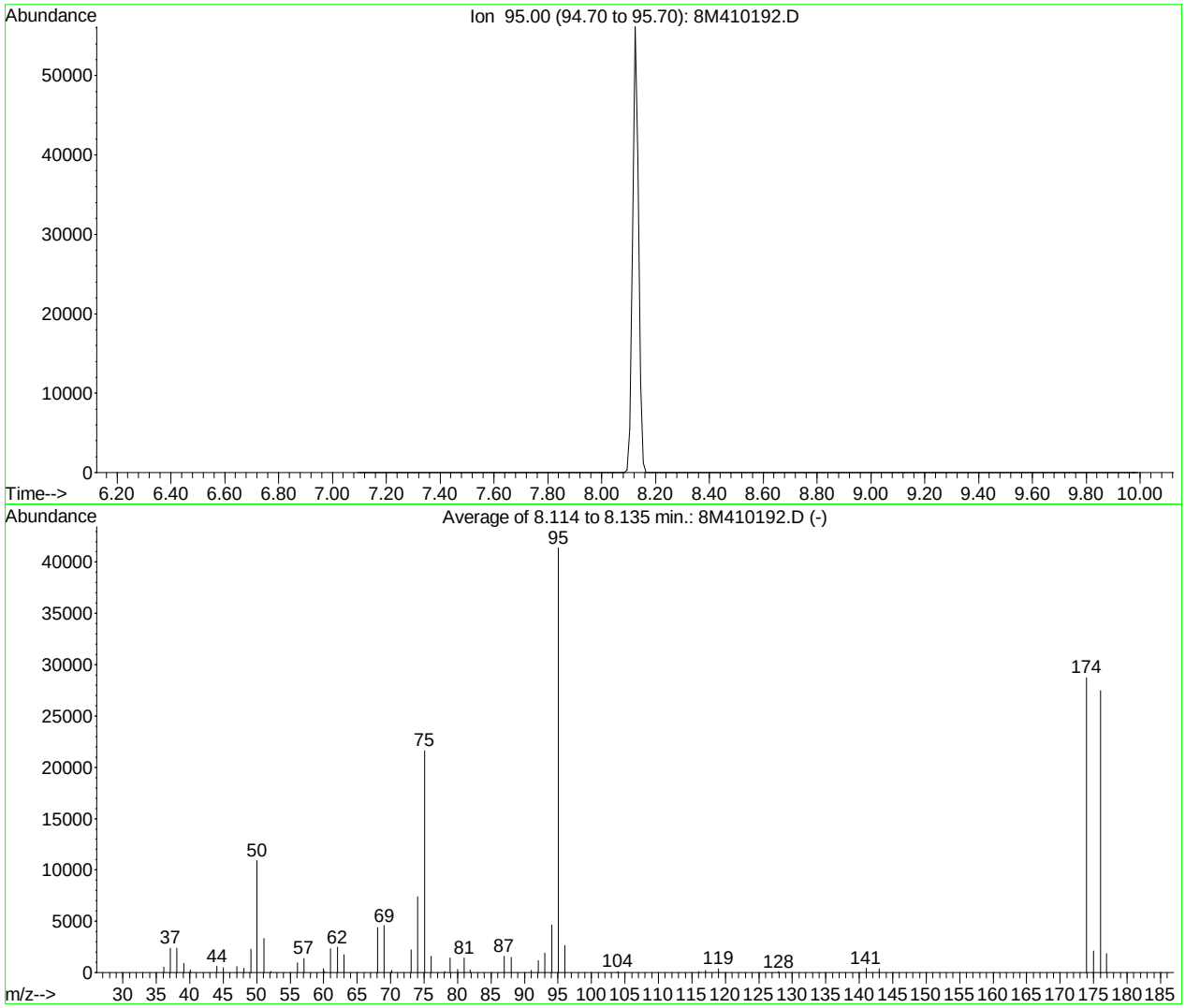
AutoFind: Scans 101, 102, 103; Background Corrected with Scan 97

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.7	8565	PASS
75	95	30	60	52.2	18121	PASS
95	95	100	100	100.0	34714	PASS
96	95	5	9	6.5	2262	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.2	25773	PASS
175	174	5	9	7.2	1845	PASS
176	174	95	101	98.5	25378	PASS
177	176	5	9	6.9	1746	PASS

8M407827.D BFB.M Mon Oct 05 12:46:56 2015

BFB

Data File : C:\MSDCHEM\2\DATA\021716\8M410192.D Vial: 2
Acq On : 17 Feb 2016 14:25 Operator: TMB
Sample : WG556046-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD74606 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title : SOP:OVL MSV01



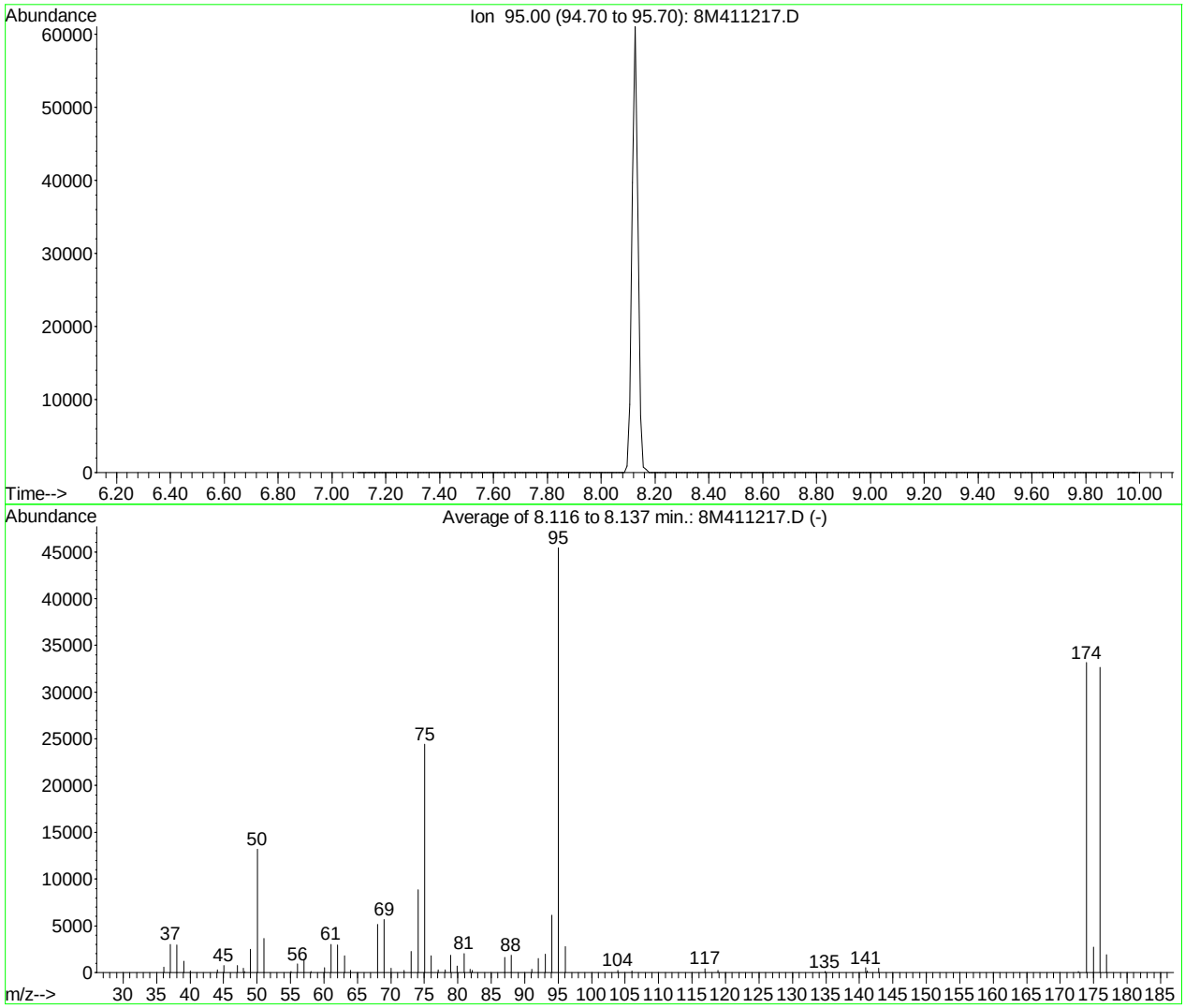
AutoFind: Scans 101, 102, 103; Background Corrected with Scan 96

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.3	10897	PASS
75	95	30	60	52.3	21632	PASS
95	95	100	100	100.0	41381	PASS
96	95	5	9	6.4	2628	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.5	28751	PASS
175	174	5	9	7.3	2112	PASS
176	174	95	101	95.5	27459	PASS
177	176	5	9	6.7	1846	PASS

8M410192.D BFB.M Wed Feb 17 15:20:19 2016

BFB

Data File : C:\MSDCHEM\2\DATA\040516\8M411217.D Vial: 1
Acq On : 5 Apr 2016 9:48 Operator: TMB
Sample : WG563534-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD75485 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title : SOP:OVL MSV01



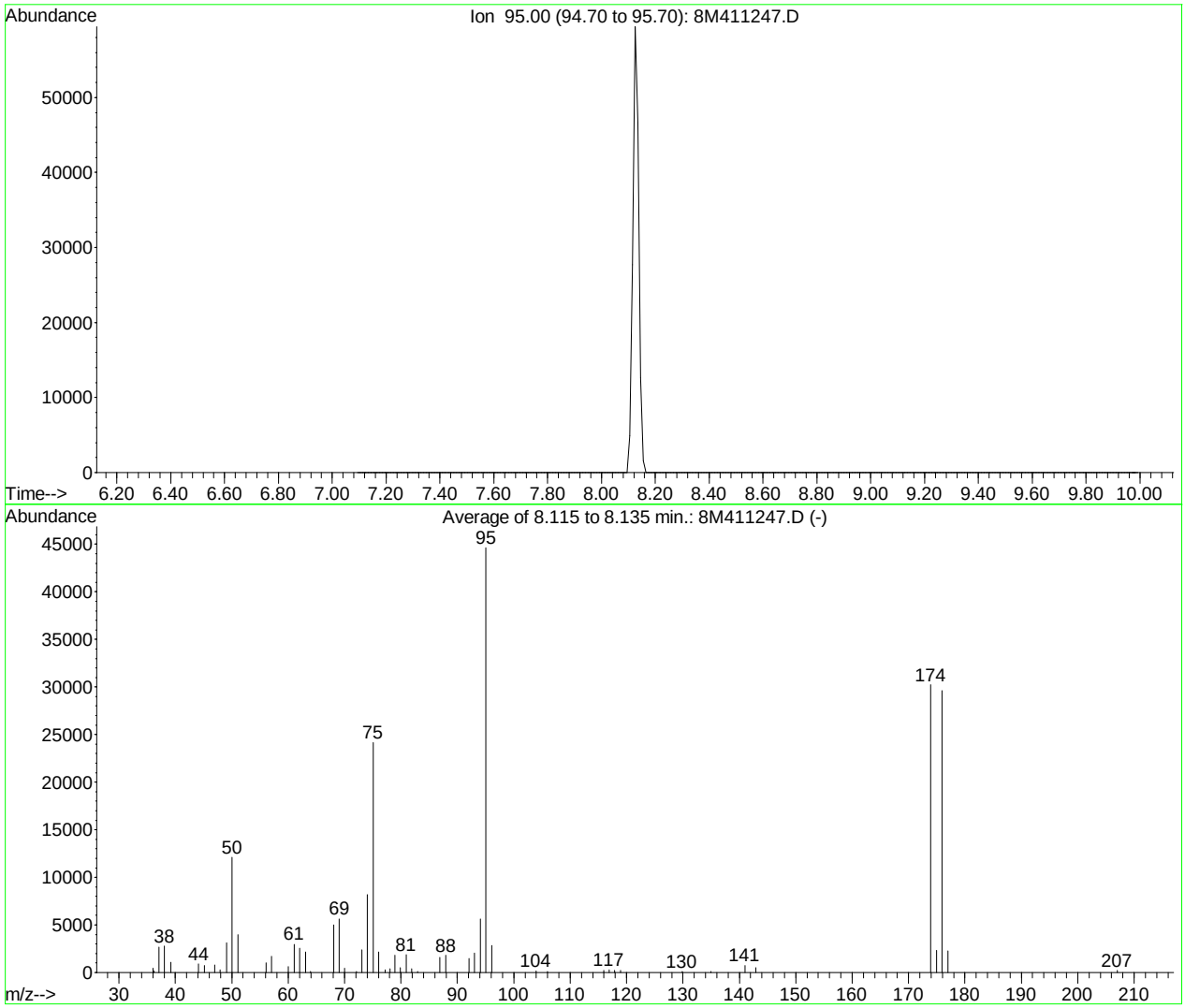
AutoFind: Scans 101, 102, 103; Background Corrected with Scan 96

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.1	13211	PASS
75	95	30	60	53.8	24445	PASS
95	95	100	100	100.0	45421	PASS
96	95	5	9	6.1	2785	PASS
173	174	0.00	2	0.3	101	PASS
174	95	50	100	73.0	33149	PASS
175	174	5	9	8.2	2721	PASS
176	174	95	101	98.4	32632	PASS
177	176	5	9	5.9	1934	PASS

8M411217.D BFB.M Tue Apr 05 09:58:55 2016

BFB

Data File : C:\MSDCHEM\2\DATA\040616\8M411247.D Vial: 2
Acq On : 6 Apr 2016 12:41 Operator: TMB
Sample : WG563756-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD75485 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\2\METHODS\BFB.M (RTE Integrator)
Title : SOP:OVL MSV01



AutoFind: Scans 101, 102, 103; Background Corrected with Scan 97

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.1	12100	PASS
75	95	30	60	54.1	24136	PASS
95	95	100	100	100.0	44610	PASS
96	95	5	9	6.4	2855	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	67.8	30224	PASS
175	174	5	9	7.7	2331	PASS
176	174	95	101	97.9	29596	PASS
177	176	5	9	7.8	2298	PASS

8M411247.D BFB.M Wed Apr 06 12:53:19 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040516\8M411220.D Vial: 4
Acq On : 5 Apr 2016 11:09 Operator: TMB
Sample : WG563535-01 VBLK0405 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 16:36:55 2016 Quant Results File: 8260WTR.RES

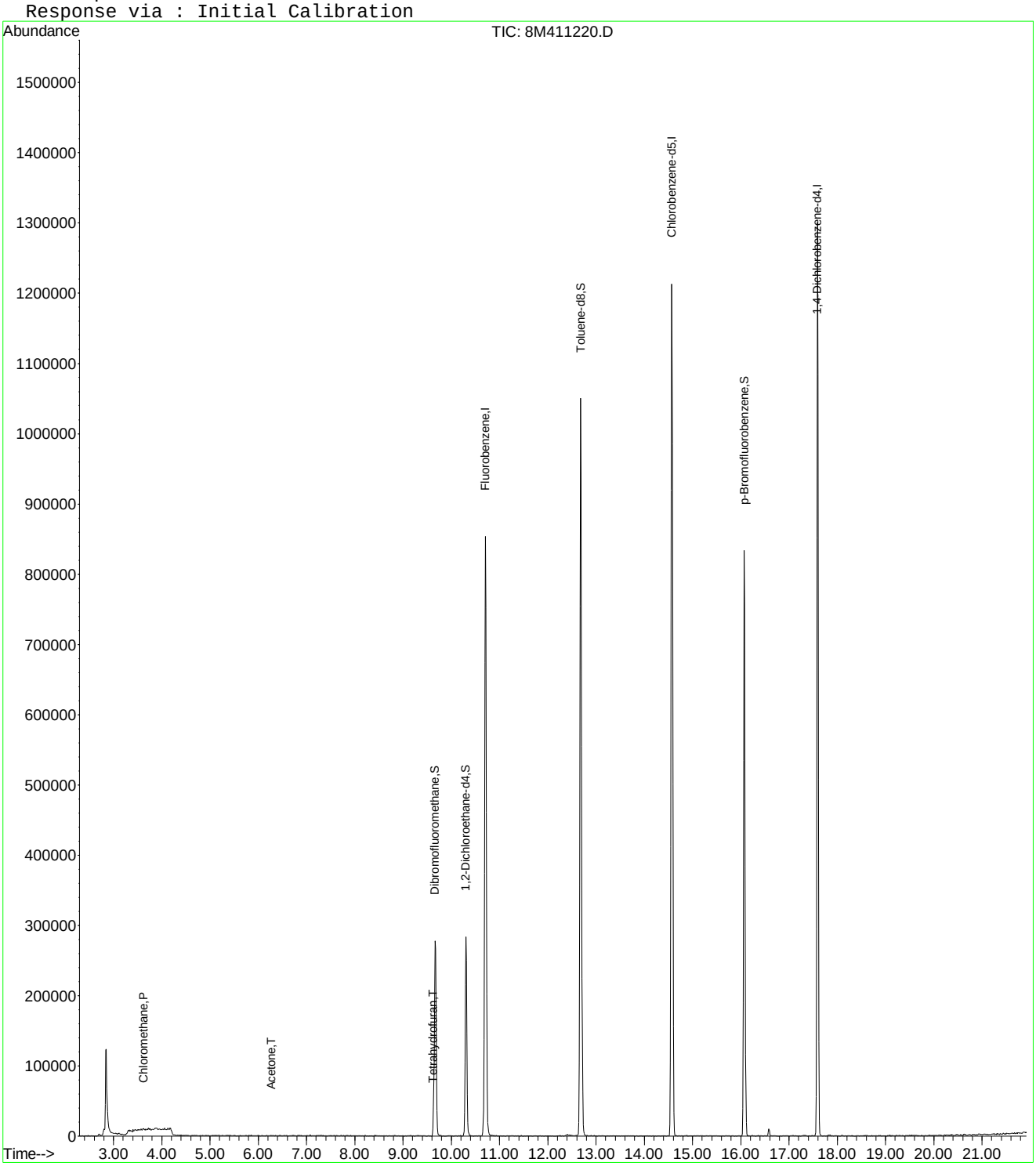
Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

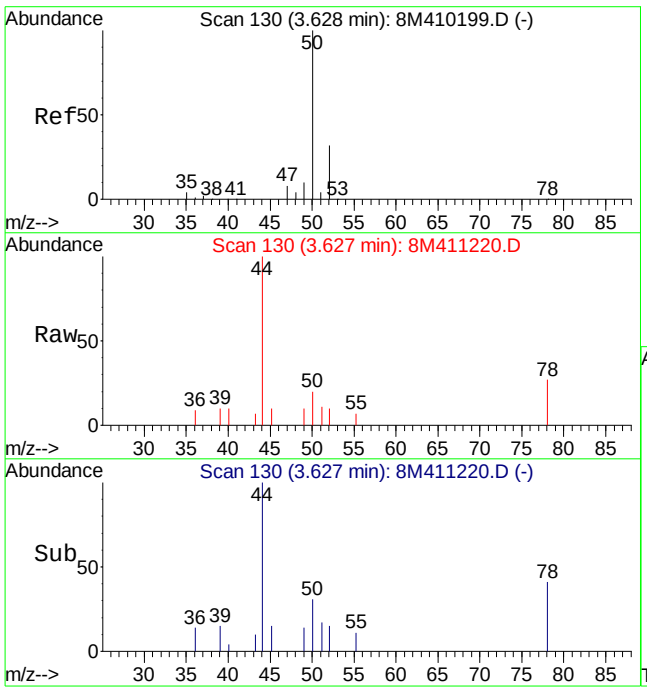
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.71	96	970096	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.57	117	768869	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	376022	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.66	111	238776	23.9783 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.92%		
43) 1,2-Dichloroethane-d4	10.30	65	247666	23.2280 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.92%		
58) Toluene-d8	12.68	98	882242	23.2386 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 92.96%		
80) p-Bromofluorobenzene	16.07	95	350120	23.9692 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.88%		
Target Compounds					Qvalue
3) Chloromethane	3.63	50	4033	0.1725 ug/L #	43
5) 1,3-Butadiene	3.91	54	204	Below Cal #	1
13) Acetone	6.27	43	235	0.1481 ug/L #	48
36) Tetrahydrofuran	9.62	42	3489	2.0877 ug/L #	66

(#) = qualifier out of range (m) = manual integration
8M411220.D 8260WTR.M Tue Apr 05 16:36:55 2016 Page 1

Data File : C:\MSDCHEM\2\DATA\040516\8M411220.D Vial: 4
Acq On : 5 Apr 2016 11:09 Operator: TMB
Sample : WG563535-01 VBLK0405 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 16:36 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration

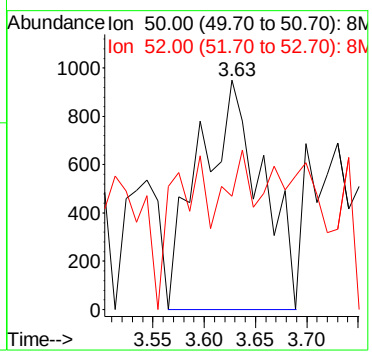


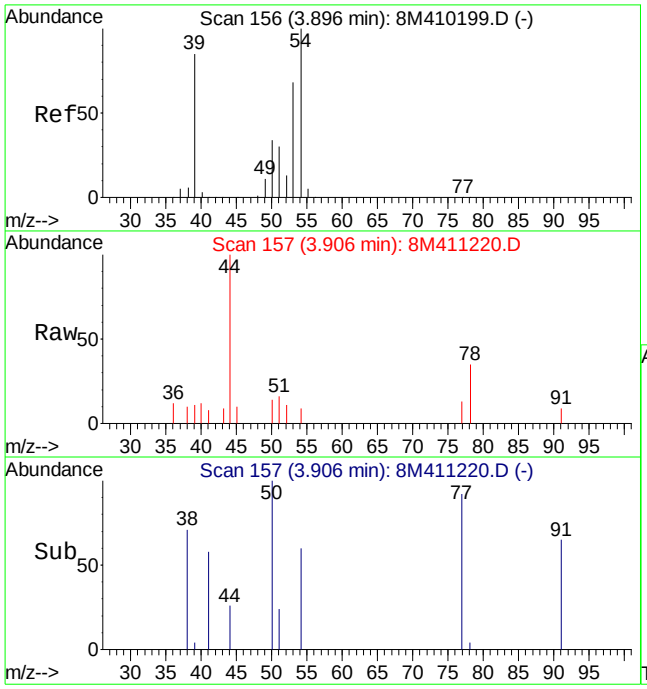


#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.63 min Scan# 130
Delta R.T. 0.01 min
Lab File: 8M411220.D
Acq: 5 Apr 2016 11:09

Tgt Ion: 50 Resp: 4033

Ion	Ratio	Lower	Upper
50	100		
52	0.0	19.3	44.9#

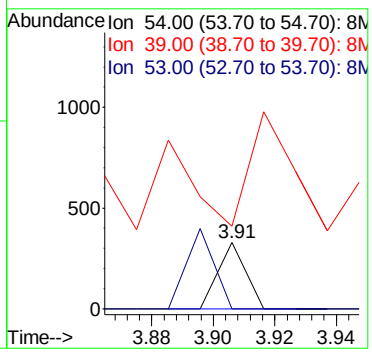


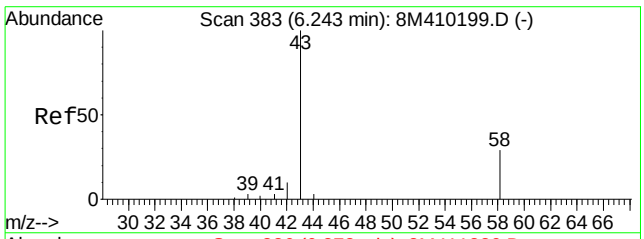


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.91 min Scan# 157
Delta R.T. 0.02 min
Lab File: 8M411220.D
Acq: 5 Apr 2016 11:09

Tgt Ion: 54 Resp: 204

Ion	Ratio	Lower	Upper
54	100		
39	270.6	60.0	140.0#
53	121.1	42.5	99.1#

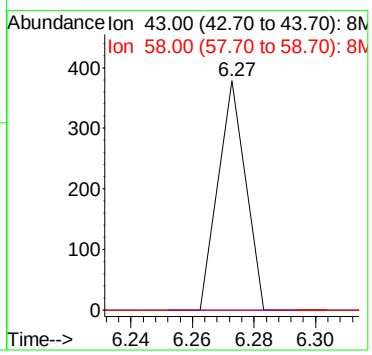


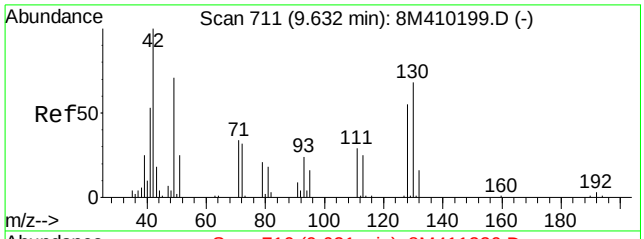


#13
Acetone
Concen: 0.15 ug/L
RT: 6.27 min Scan# 386
Delta R.T. 0.02 min
Lab File: 8M411220.D
Acq: 5 Apr 2016 11:09

Tgt Ion: 43 Resp: 235

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.2	37.8#

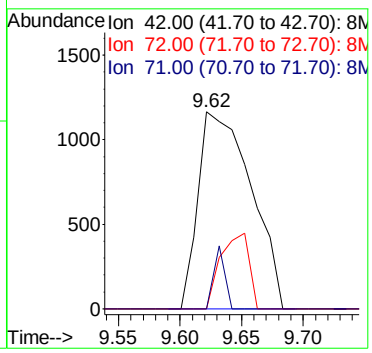




#36
Tetrahydrofuran
Concen: 2.09 ug/L
RT: 9.62 min Scan# 710
Delta R.T. -0.01 min
Lab File: 8M411220.D
Acq: 5 Apr 2016 11:09

Tgt Ion: 42 Resp: 3489

Ion	Ratio	Lower	Upper
42	100		
72	20.5	20.8	48.6#
71	6.6	19.0	44.4#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040616\8M411250.D Vial: 4
Acq On : 6 Apr 2016 14:05 Operator: TMB
Sample : WG563757-01 VBLK0406 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 08:25:39 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

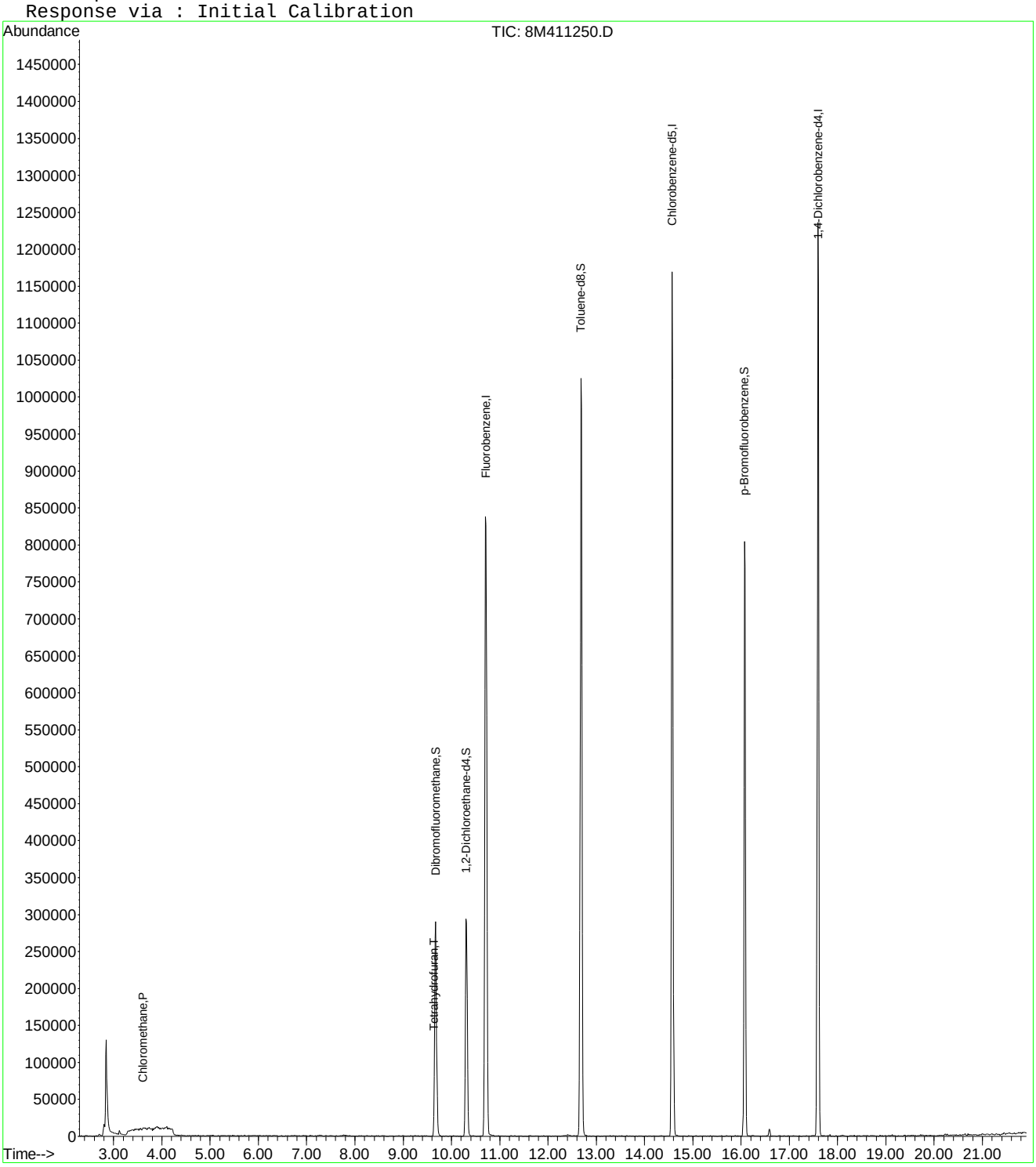
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.72	96	980447	25.00 ug/L	0.01
57) Chlorobenzene-d5	14.57	117	747152	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	369696	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.67	111	242443	24.0895 ug/L	0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.36%		
43) 1,2-Dichloroethane-d4	10.30	65	262420	24.3519 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.40%		
58) Toluene-d8	12.68	98	877399	23.7828 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.12%		
80) p-Bromofluorobenzene	16.07	95	345453	24.0543 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.20%		
Target Compounds					Qvalue
3) Chloromethane	3.62	50	4586	0.1941 ug/L #	45
36) Tetrahydrofuran	9.64	42	4350	2.5755 ug/L	90

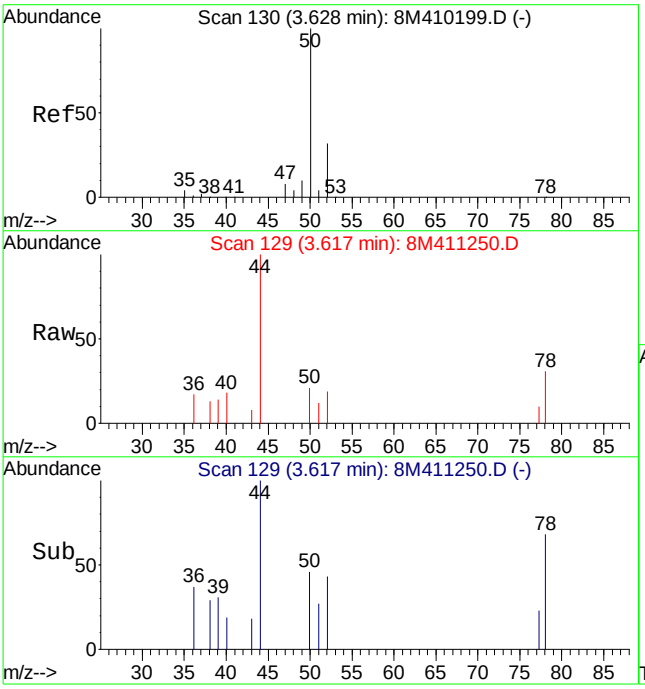
(#) = qualifier out of range (m) = manual integration
8M411250.D 8260WTR.M Thu Apr 07 08:25:40 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040616\8M411250.D Vial: 4
Acq On : 6 Apr 2016 14:05 Operator: TMB
Sample : WG563757-01 VBLK0406 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 7 8:25 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration

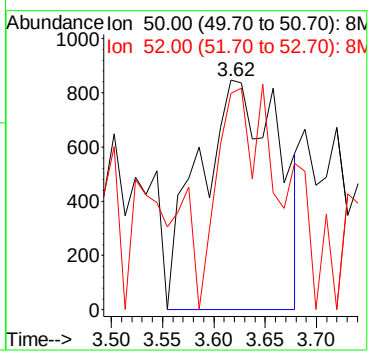


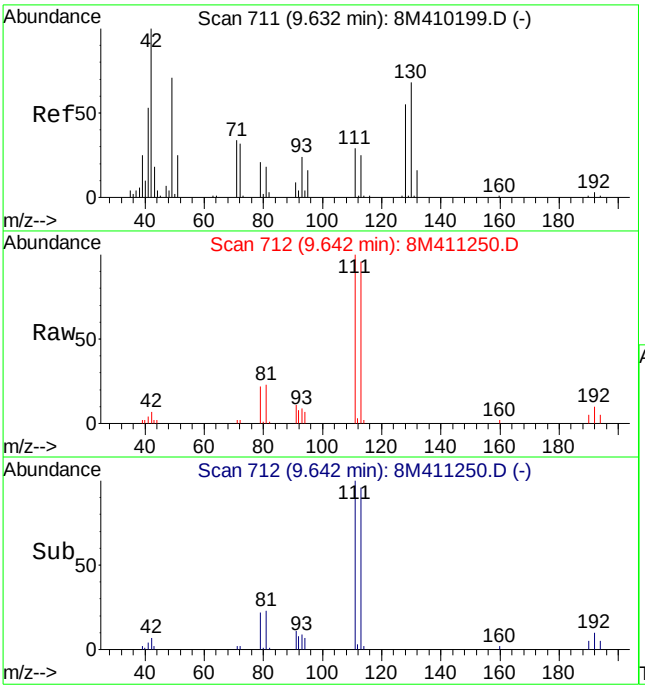


#3
Chloromethane
Concen: 0.19 ug/L
RT: 3.62 min Scan# 129
Delta R.T. 0.00 min
Lab File: 8M411250.D
Acq: 6 Apr 2016 14:05

Tgt Ion: 50 Resp: 4586

Ion	Ratio	Lower	Upper
50	100		
52	62.8	19.3	44.9#

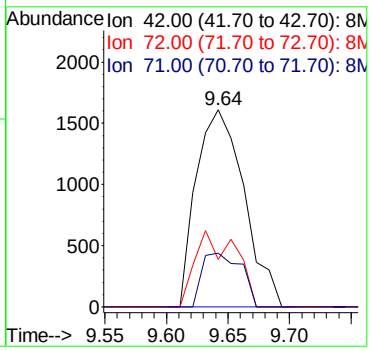




#36
Tetrahydrofuran
Concen: 2.58 ug/L
RT: 9.64 min Scan# 712
Delta R.T. 0.01 min
Lab File: 8M411250.D
Acq: 6 Apr 2016 14:05

Tgt Ion: 42 Resp: 4350

Ion	Ratio	Lower	Upper
42	100		
72	32.6	20.8	48.6
71	22.2	19.0	44.4



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040616\8M411273.D Vial: 27
Acq On : 7 Apr 2016 1:19 Operator: TMB
Sample : WG563757-06 VBLK0406 BLANK STD 624 Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 08:26:25 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

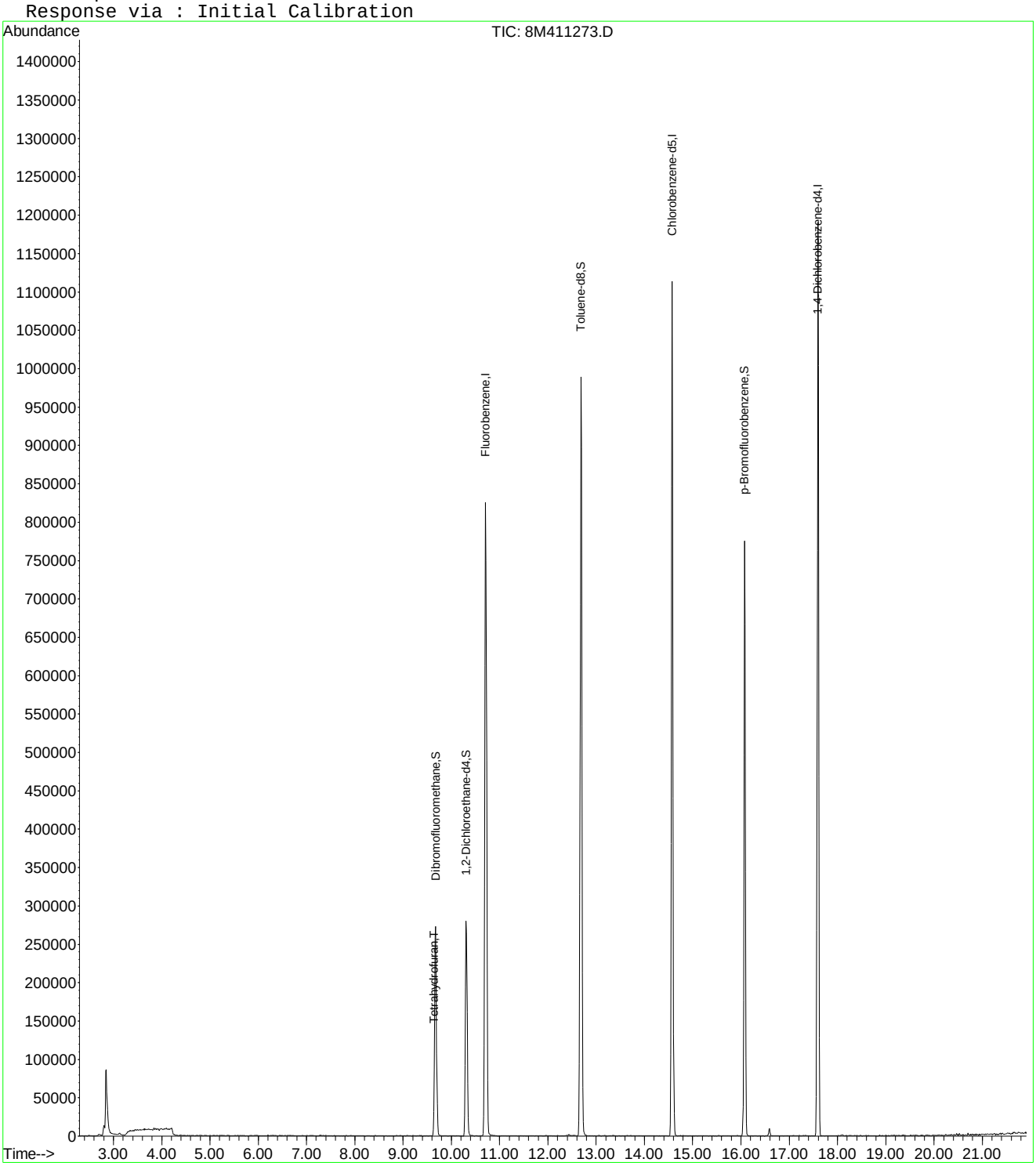
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	918594	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	688207	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	338155	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.68	111	232863	24.6956	ug/L	0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.80%			
43) 1,2-Dichloroethane-d4	10.31	65	243693	24.1368	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.56%			
58) Toluene-d8	12.68	98	820613	24.1487	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.60%			
80) p-Bromofluorobenzene	16.07	95	320593	24.4055	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.64%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.64	42	4396	2.7779	ug/L #	64

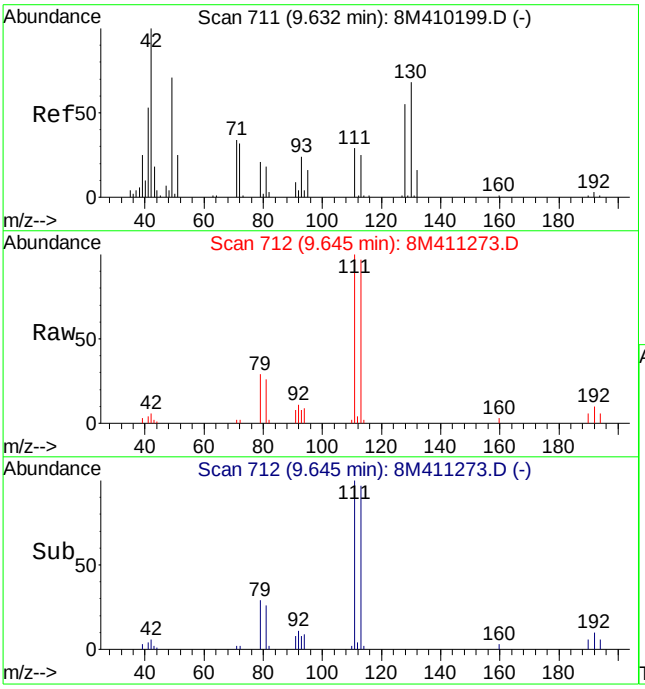
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\040616\8M411273.D Vial: 27
Acq On : 7 Apr 2016 1:19 Operator: TMB
Sample : WG563757-06 VBLK0406 BLANK STD 624 Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 7 8:26 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration

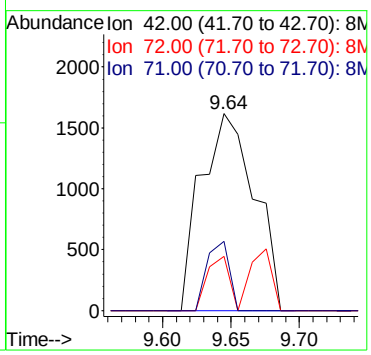




#36
Tetrahydrofuran
Concen: 2.78 ug/L
RT: 9.64 min Scan# 712
Delta R.T. 0.01 min
Lab File: 8M411273.D
Acq: 7 Apr 2016 1:19

Tgt Ion: 42 Resp: 4396

Ion	Ratio	Lower	Upper
42	100		
72	11.4	20.8	48.6#
71	14.7	19.0	44.4#



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040516\8M411222.D Vial: 6
Acq On : 5 Apr 2016 12:08 Operator: TMB
Sample : WG563535-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD75403 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 12:29:58 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	993969	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	789603	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	449855	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	249645	24.4677	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.88%			
43) 1,2-Dichloroethane-d4	10.30	65	255208	23.3605	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.44%			
58) Toluene-d8	12.68	98	904761	23.2059	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 92.84%			
80) p-Bromofluorobenzene	16.07	95	390138	22.3252	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 89.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	408794	26.0912	ug/L	99
3) Chloromethane	3.63	50	614396	25.6442	ug/L	99
4) Vinyl Chloride	3.84	62	406841	24.3935	ug/L	99
5) 1,3-Butadiene	3.89	54	48793	2.0179	ug/L	94
6) Bromomethane	4.74	94	100249	12.6512	ug/L	99
7) Chloroethane	4.90	64	192534	25.5539	ug/L	98
8) Trichlorofluoromethane	5.38	101	390996	21.8738	ug/L	99
9) Diethyl ether	5.91	59	786425	120.1371	ug/L	95
10) Isoprene	5.95	67	310902	25.6665	ug/L	90
11) Acrolein	6.15	56	94876	93.3308	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	227151	23.2777	ug/L	88
13) Acetone	6.24	43	41806	25.7166	ug/L	99
14) 1,1-Dichloroethene	6.47	61	399824	22.2627	ug/L	92
15) Tert-Butyl Alcohol	6.59	59	98080	237.5609	ug/L	97
16) Dimethyl Sulfide	6.74	62	247151	31.4192	ug/L	91
17) Iodomethane	7.00	142	52051	9.3823	ug/L	97
18) Methyl acetate	7.01	43	123828	27.2792	ug/L	97
19) Methylene Chloride	7.26	84	220236	22.3967	ug/L	81
20) Carbon Disulfide	7.30	76	624673	20.2371	ug/L	99
21) Acrylonitrile	7.44	53	57301	25.0001	ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	428722	21.4662	ug/L	93
23) trans-1,2-Dichloroethene	7.71	61	389484	23.1991	ug/L	91
24) n-Hexane	7.78	57	319904	22.3496	ug/L	100
25) Diisopropyl ether	8.13	45	4666711	125.1081	ug/L	98
26) Vinyl Acetate	8.30	43	343807	20.0525	ug/L	97
27) 1,1-Dichloroethane	8.33	63	471041	22.4855	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	3270426	109.3168	ug/L	97
29) 2-Butanone	8.89	43	64263	25.1410	ug/L	97
30) Propionitrile	8.99	54	92894	126.5129	ug/L	98
31) 2,2-Dichloropropane	9.11	77	385779	23.4167	ug/L	98
32) cis-1,2-Dichloroethene	9.17	96	255150	23.5955	ug/L	87
33) Chloroform	9.37	83	426805	22.9644	ug/L	100
34) 1-Bromopropane	9.52	122	51257	32.2314	ug/L	100
35) Bromochloromethane	9.61	130	121476	22.4508	ug/L	82
36) Tetrahydrofuran	9.63	42	207754	121.3296	ug/L	94
38) 1,1,1-Trichloroethane	9.91	97	375770	22.1575	ug/L	98
39) Cyclohexane	9.94	56	453942	23.0000	ug/L	93
40) 1,1-Dichloropropene	10.11	75	316286	21.4345	ug/L	95
41) Tert-Amyl-Methyl ether	10.21	73	2362150	112.3392	ug/L	94
42) Carbon Tetrachloride	10.25	117	335917	21.7645	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M411222.D 8260WTR.M Tue Apr 05 12:29:59 2016 Page 1

Data File : C:\MSDchem\2\data\040516\8M411222.D Vial: 6
Acq On : 5 Apr 2016 12:08 Operator: TMB
Sample : WG563535-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD75403 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 12:29:58 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

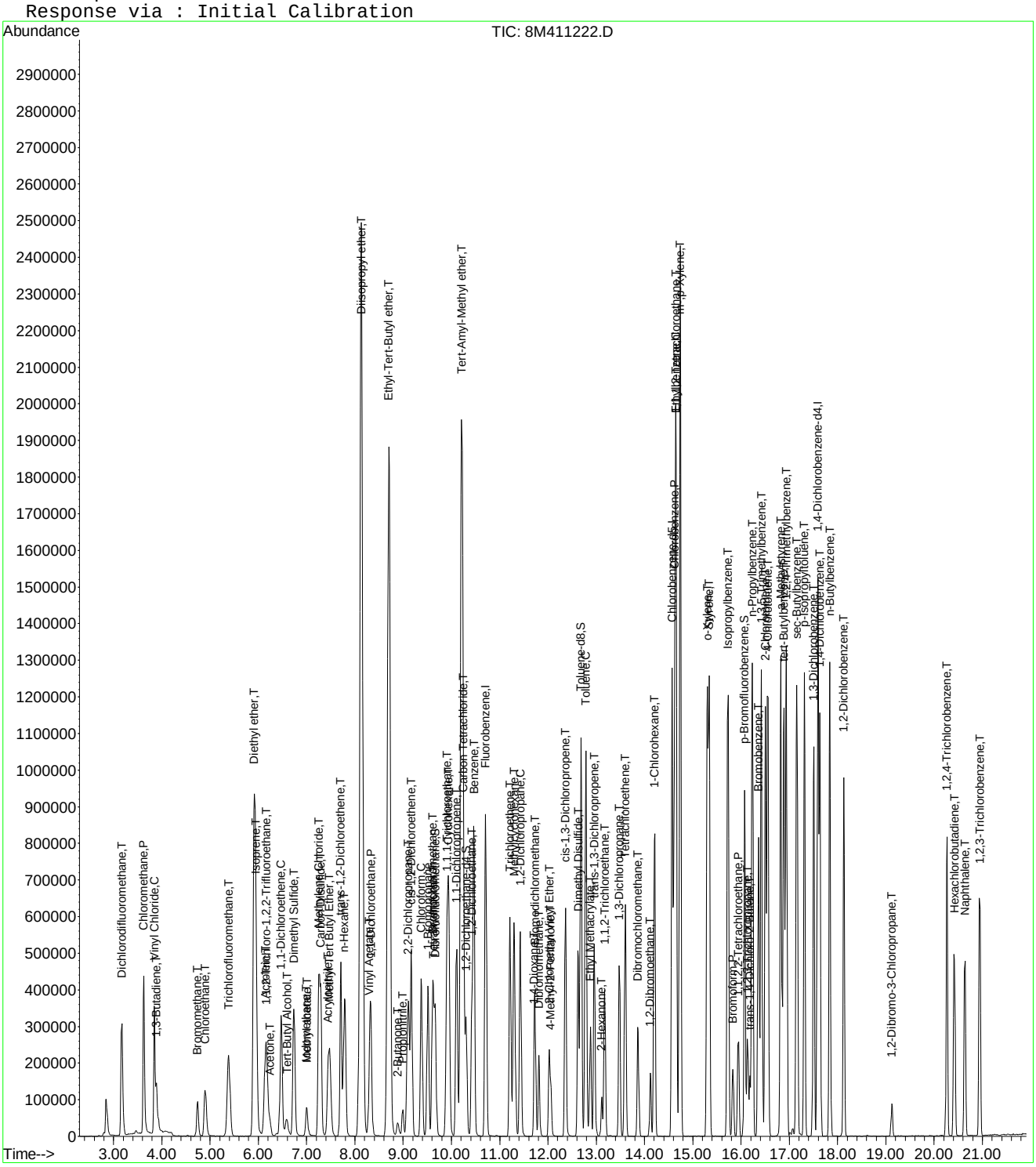
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	331443	23.4735 ug/L		98
46)	Benzene	10.47	78	915888	23.8226 ug/L		94
47)	Trichloroethene	11.21	130	230666	22.2761 ug/L		96
48)	Methylcyclohexane	11.30	83	323510	21.6962 ug/L		90
49)	1,2-Dichloropropane	11.43	63	274317	25.3781 ug/L		93
50)	Bromodichloromethane	11.73	83	313833	22.8712 ug/L		99
51)	1,4-Dioxane	11.71	88	10741	246.3615 ug/L		91
52)	Dibromomethane	11.81	93	107218	21.8559 ug/L		93
53)	2-Chloroethyl Vinyl Ether	12.03	63	106858	22.7277 ug/L		95
54)	4-Methyl-2-Pentanone	12.05	58	49009	22.3832 ug/L		94
55)	cis-1,3-Dichloropropene	12.36	75	386288	25.8645 ug/L		98
56)	Dimethyl Disulfide	12.63	79	175951	22.3496 ug/L		94
59)	Toluene	12.78	91	949959	21.5899 ug/L		99
60)	Ethyl Methacrylate	12.88	69	194183	22.8497 ug/L		96
62)	trans-1,3-Dichloropropene	12.96	75	307342	20.8984 ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	149932	21.4319 ug/L		98
64)	2-Hexanone	13.12	58	46762	21.4814 ug/L	#	97
65)	1,3-Dichloropropane	13.48	76	286999	22.3791 ug/L		88
66)	Tetrachloroethene	13.60	164	170517	19.2927 ug/L		89
67)	Dibromochloromethane	13.86	129	200649	20.9214 ug/L		96
68)	1,2-Dibromoethane	14.12	107	146716	20.7208 ug/L		100
69)	1-Chlorohexane	14.21	91	308180	20.6566 ug/L		86
70)	Chlorobenzene	14.62	112	643981	21.3885 ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.66	131	220781	20.4406 ug/L		96
72)	Ethylbenzene	14.66	106	347111	20.1496 ug/L		97
73)	m-,p-Xylene	14.74	106	840958	42.7084 ug/L		96
74)	o-Xylene	15.31	106	423812	20.7511 ug/L		99
75)	Styrene	15.34	104	696508	22.3668 ug/L		100
76)	Bromoform	15.83	173	105809	19.1443 ug/L		99
77)	Isopropylbenzene	15.73	105	1080130	22.1789 ug/L		99
79)	1,1,2,2-Tetrachloroethane	15.95	83	177695	19.7654 ug/L		97
81)	1,2,3-Trichloropropane	16.13	110	47157	18.7447 ug/L	#	1
82)	trans-1,4-Dichloro-2-Buten	16.18	53	49744	14.8594 ug/L	#	1
83)	n-Propylbenzene	16.24	91	1363603	20.5133 ug/L		98
84)	Bromobenzene	16.36	156	240848	18.2033 ug/L		90
85)	1,3,5-Trimethylbenzene	16.42	105	932096	20.0891 ug/L		98
86)	2-Chlorotoluene	16.51	91	830502	19.1265 ug/L		99
87)	4-Chlorotoluene	16.56	91	869566	20.4189 ug/L		98
88)	a-Methylstyrene	16.83	118	488712	20.1153 ug/L		97
89)	tert-Butylbenzene	16.89	134	187292	18.7333 ug/L		90
90)	1,2,4-Trimethylbenzene	16.94	105	958842	20.0251 ug/L		100
91)	sec-Butylbenzene	17.16	105	1176229	20.3952 ug/L		97
92)	p-Isopropyltoluene	17.31	119	940622	19.6884 ug/L		95
93)	1,3-Dichlorobenzene	17.51	146	516179	19.6235 ug/L		94
94)	1,4-Dichlorobenzene	17.63	146	519032	19.6472 ug/L		94
95)	n-Butylbenzene	17.84	91	951780	19.8027 ug/L		96
96)	1,2-Dichlorobenzene	18.13	146	454998	19.8929 ug/L		92
97)	1,2-Dibromo-3-Chloropropan	19.12	75	31254	18.5573 ug/L		82
98)	1,2,4-Trichlorobenzene	20.27	180	298939	17.9513 ug/L		99
99)	Hexachlorobutadiene	20.42	225	125512	18.4300 ug/L		97
100)	Naphthalene	20.64	128	454672	16.6865 ug/L		99
101)	1,2,3-Trichlorobenzene	20.95	180	247355	17.8522 ug/L		98

(#) = qualifier out of range (m) = manual integration
8M411222.D 8260WTR.M Tue Apr 05 12:29:59 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040516\8M411222.D Vial: 6
Acq On : 5 Apr 2016 12:08 Operator: TMB
Sample : WG563535-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD75403 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 12:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration



8M411222.D 8260WTR.M Tue Apr 05 12:29:59 2016 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040616\8M411254.D Vial: 8
Acq On : 6 Apr 2016 16:02 Operator: TMB
Sample : WG563757-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD75503 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 16:24:28 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	1018921	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.57	117	776291	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.60	152	432983	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	251319	24.0285	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.12%			
43) 1,2-Dichloroethane-d4	10.30	65	275267	24.5796	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.32%			
58) Toluene-d8	12.68	98	908654	23.7055	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 94.84%			
80) p-Bromofluorobenzene	16.07	95	380201	22.6043	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 90.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.17	85	80296	4.9994	ug/L	96
3) Chloromethane	3.63	50	294801	12.0033	ug/L	98
4) Vinyl Chloride	3.86	62	242108	14.1609	ug/L	96
5) 1,3-Butadiene	3.89	54	285655	20.6704	ug/L	94
6) Bromomethane	4.74	94	87338	10.7520	ug/L	98
7) Chloroethane	4.90	64	140427	18.1816	ug/L	96
8) Trichlorofluoromethane	5.39	101	314905	17.1856	ug/L	99
9) Diethyl ether	5.91	59	829657	123.6376	ug/L	94
10) Isoprene	5.95	67	325628	26.2239	ug/L	91
11) Acrolein	6.15	56	90199	86.5571	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	193915	19.3852	ug/L	92
13) Acetone	6.26	43	41870	25.1252	ug/L	98
14) 1,1-Dichloroethene	6.48	61	347001	18.8483	ug/L	93
15) Tert-Butyl Alcohol	6.58	59	108232	255.7305	ug/L	99
16) Dimethyl Sulfide	6.74	62	250222	31.0306	ug/L	90
17) Iodomethane	7.00	142	67143	11.5000	ug/L	92
18) Methyl acetate	7.01	43	118716	25.5126	ug/L	97
19) Methylene Chloride	7.27	84	209585	20.7916	ug/L	78
20) Carbon Disulfide	7.30	76	637374	20.1429	ug/L	99
21) Acrylonitrile	7.44	53	59648	25.3868	ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	451505	22.0533	ug/L	95
23) trans-1,2-Dichloroethene	7.71	61	360879	20.9689	ug/L	91
24) n-Hexane	7.79	57	318303	21.6932	ug/L	100
25) Diisopropyl ether	8.13	45	4819688	126.0450	ug/L	98
26) Vinyl Acetate	8.30	43	407250	23.1711	ug/L	98
27) 1,1-Dichloroethane	8.33	63	447441	20.8359	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	3435982	112.0381	ug/L	97
29) 2-Butanone	8.89	43	69252	26.4294	ug/L	96
30) Propionitrile	8.99	54	99577	132.2935	ug/L	99
31) 2,2-Dichloropropane	9.11	77	342841	20.3008	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	242056	21.8365	ug/L	87
33) Chloroform	9.39	83	408979	21.4664	ug/L	99
34) 1-Bromopropane	9.52	122	48544	29.8122	ug/L	100
35) Bromochloromethane	9.61	130	118987	21.4522	ug/L	80
36) Tetrahydrofuran	9.63	42	234409	133.5438	ug/L	92
38) 1,1,1-Trichloroethane	9.91	97	356531	20.5082	ug/L	98
39) Cyclohexane	9.94	56	460608	22.7663	ug/L	92
40) 1,1-Dichloropropene	10.11	75	295354	19.5258	ug/L	95
41) Tert-Amyl-Methyl ether	10.21	73	2482529	115.1730	ug/L	93
42) Carbon Tetrachloride	10.25	117	322554	20.3869	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M411254.D 8260WTR.M Wed Apr 06 16:24:29 2016 Page 1

Data File : C:\MSDchem\2\data\040616\8M411254.D Vial: 8
Acq On : 6 Apr 2016 16:02 Operator: TMB
Sample : WG563757-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD75503 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 16:24:28 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

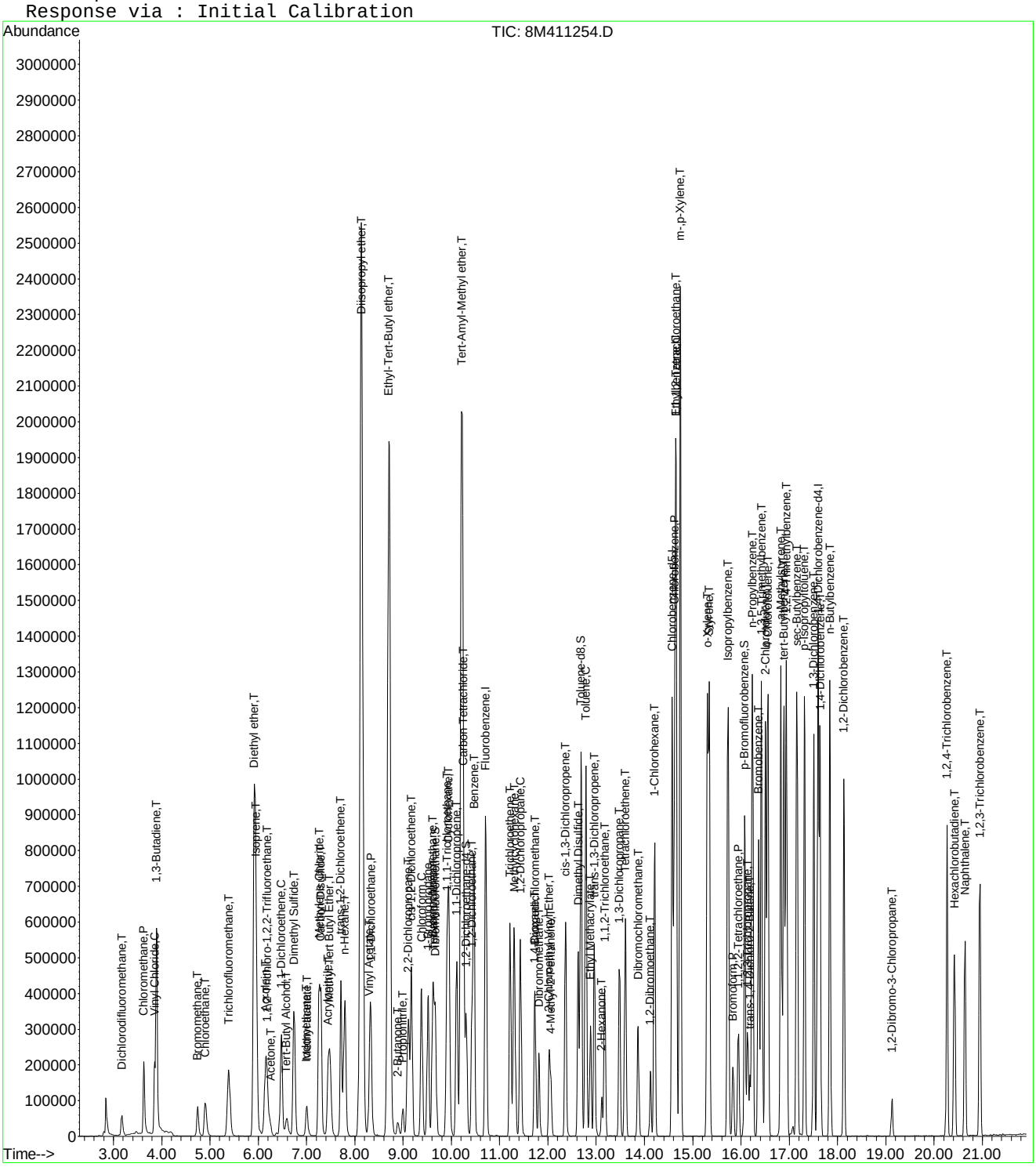
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.43	62	330954	22.8649	ug/L		98
46)	Benzene	10.47	78	873609	22.1664	ug/L		95
47)	Trichloroethene	11.21	130	227354	21.4186	ug/L		97
48)	Methylcyclohexane	11.31	83	324071	21.2016	ug/L		90
49)	1,2-Dichloropropane	11.43	63	262412	23.6822	ug/L		93
50)	Bromodichloromethane	11.73	83	316122	22.4738	ug/L		99
51)	1,4-Dioxane	11.72	88	11289	252.5899	ug/L		95
52)	Dibromomethane	11.81	93	113992	22.6677	ug/L		94
53)	2-Chloroethyl Vinyl Ether	12.02	63	111294	23.0915	ug/L		93
54)	4-Methyl-2-Pentanone	12.06	58	55306	24.6405	ug/L		94
55)	cis-1,3-Dichloropropene	12.36	75	373935	24.4243	ug/L		99
56)	Dimethyl Disulfide	12.63	79	183003	22.6761	ug/L		96
59)	Toluene	12.79	91	930853	21.5184	ug/L		98
60)	Ethyl Methacrylate	12.88	69	197847	23.6801	ug/L		89
62)	trans-1,3-Dichloropropene	12.96	75	313972	21.7153	ug/L		99
63)	1,1,2-Trichloroethane	13.18	97	151878	22.0823	ug/L		96
64)	2-Hexanone	13.12	58	49950	23.3394	ug/L	#	98
65)	1,3-Dichloropropane	13.48	76	295360	23.4260	ug/L		89
66)	Tetrachloroethene	13.60	164	162980	18.7561	ug/L		89
67)	Dibromochloromethane	13.87	129	202126	21.4369	ug/L		100
68)	1,2-Dibromoethane	14.12	107	154963	22.2609	ug/L		100
69)	1-Chlorohexane	14.21	91	301686	20.5681	ug/L		86
70)	Chlorobenzene	14.63	112	629938	21.2809	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.66	131	216726	20.4092	ug/L		100
72)	Ethylbenzene	14.66	106	335840	19.8296	ug/L		96
73)	m-,p-Xylene	14.74	106	837689	43.2719	ug/L		97
74)	o-Xylene	15.31	106	413809	20.6088	ug/L		97
75)	Styrene	15.34	104	685519	22.3914	ug/L		98
76)	Bromoform	15.83	173	113610	20.9083	ug/L		99
77)	Isopropylbenzene	15.73	105	1065754	22.2590	ug/L		100
79)	1,1,2,2-Tetrachloroethane	15.95	83	189296	21.8763	ug/L		99
81)	1,2,3-Trichloropropane	16.13	110	51646	21.3291	ug/L	#	1
82)	trans-1,4-Dichloro-2-Buten	16.19	53	58504	18.1572	ug/L	#	1
83)	n-Propylbenzene	16.24	91	1345084	21.0232	ug/L		99
84)	Bromobenzene	16.36	156	244248	19.1796	ug/L		87
85)	1,3,5-Trimethylbenzene	16.42	105	921632	20.6376	ug/L		100
86)	2-Chlorotoluene	16.51	91	797547	19.0833	ug/L		99
87)	4-Chlorotoluene	16.56	91	876333	21.3796	ug/L		98
88)	a-Methylstyrene	16.83	118	490311	20.9675	ug/L		98
89)	tert-Butylbenzene	16.89	134	189198	19.6613	ug/L		90
90)	1,2,4-Trimethylbenzene	16.94	105	952884	20.6761	ug/L		100
91)	sec-Butylbenzene	17.16	105	1171728	21.1088	ug/L		97
92)	p-Isopropyltoluene	17.31	119	932896	20.2875	ug/L		97
93)	1,3-Dichlorobenzene	17.51	146	516132	20.3863	ug/L		92
94)	1,4-Dichlorobenzene	17.64	146	525091	20.6510	ug/L		93
95)	n-Butylbenzene	17.84	91	941755	20.3576	ug/L		96
96)	1,2-Dichlorobenzene	18.13	146	470614	21.3774	ug/L		92
97)	1,2-Dibromo-3-Chloropropan	19.13	75	33983	20.8993	ug/L		84
98)	1,2,4-Trichlorobenzene	20.27	180	309433	19.3055	ug/L		100
99)	Hexachlorobutadiene	20.42	225	123942	18.9087	ug/L		96
100)	Naphthalene	20.64	128	504016	19.2182	ug/L		100
101)	1,2,3-Trichlorobenzene	20.95	180	264517	19.8347	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M411254.D 8260WTR.M Wed Apr 06 16:24:29 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\2\data\040616\8M411254.D Vial: 8
Acq On : 6 Apr 2016 16:02 Operator: TMB
Sample : WG563757-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD75503 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 16:24 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\2\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 02-17-16 HPMS 8
Last Update : Thu Feb 18 08:47:33 2016
Response via : Initial Calibration



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
April 12, 2016

---

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AWE – ANDREW W. ESSIG	AZH – AFTER HOURS
BJO – BRIAN J. OGDEN	BKT – BRENDAN TORRENCE
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CEB – CHAD E. BARNES	CJR – COURTNEY J. REXROAD
CLC – CHRYS L. CRAWFORD	CLS – CARA L. STRICKLER
CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DAK – DEAN A. KETELSEN
DCM – DAVID C. MERCKLE	DEV – DAVID E. VANDENBERG
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER
DLP – DOROTHY L. PAYNE	DLW – DIANA L. WRIGHT
DSM – DAVID S. MOSSOR	ECL – ERIC C. LAWSON
ENY – EMILY N. YOAK	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JJS – JOHN J. STE MARIE	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KAT – KATHY A. TUCKER	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LEC – LAURA E. CARPENTER	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
MAP – MARLA A. PORTER	MBK – MORGAN B. KNOWLTON
MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MLB – MEGAN L. BACHE
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS
PIT – MICROBAC WARRENDALE	PRL – PAIGE R. LAMB
PSW – PEGGY S. WEBB	QX – QIN XU
RAH – ROY A. HALSTEAD	REK – BOB E. KYER
RLB – BOB BUCHANAN	RM – RAYMOND MALEKE
RNP – RICK N. PETTY	RST – ROBIN S. TURNER
SAV – SARAH A. VANDENBERG	SCB – SARAH C. BOGOLIN
SDC – SHALYN D. CONLEY	SLM – STEPHANIE L. MOSSBURG
SLP – SHERI L. PFALZGRAF	TB – TODD BOYLE
TGF – TIM G. FELTON	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WJB – WILL J. BEASLEY	WRR – WESLEY R. RICHARDS
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
April 12, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count

Microbac Laboratories Inc.
List of Valid Qualifiers
April 12, 2016

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L16031614 / Revision: 0 / 241 total pages

Page 237

Generated: 04/12/2016 09:51

AECOM

Chain of Custody Record

COC Number:

Laboratory:	Microbac POC: Stephanie Mossburg	Project Manager:	Debra Richmann
Address:	158 Starlite Drive	Phone/Fax Number:	210-296-2000
	Marietta, OH 45750	Sampler (print):	Scott Beesinger
Phone:	1-800-373-4071		
Client:	AECOM	Signature:	Scott Beesinger
Address:	112 East Pecan Ste. 400		
	San Antonio, TX 78205		
Turn Around Time:	STANDARD	pH:	
Project Name/Location:	Longhorn		
Project Number:	60256135.0002JA		

Mail to: Linda Raabe
112 East Pecan STE. 400
San Antonio, TX 78205
210-296-2000

Fed Ex Airbill No:

Program:

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	VOC	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 67	67WW03-032916			3/29/16	0800		✓	W	3	✓					
	67WW01-032916			3/29/16	0815		✓	W	3	✓					
	TRip Blank			3/29/16			✓	W	3	✓					

Comments: STANDARD TAT

Microbac OVD
Received: 03/30/2016 10:09
By: CARA STRICKLER
221000083886

Relinquished by: (Signature)	Scott Beesinger	Date 3/29/16	Time 1230	Re	Date	Time	Relinquished by: (Signature)
Relinquished by: (Signature)		Date	Time	Re (S		Time	Remarks:

Cara Strickler

*Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

00749047

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16031614
Account: 2551
Project: 2551.096
Samples: 3
Due Date: 08-APR-2016

Samplenum	Container ID	Products
L16031614-01	721691	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Samplenum	Container ID	Products
L16031614-02	721692	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Samplenum	Container ID	Products
L16031614-03	721693	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	30-MAR-2016 12:42	BRG		
2	ANALYZ	V1	ORG4	31-MAR-2016 07:34	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Microbac

Laboratory Report Number: L16051153

Kayla Teague
AECOM Technical Services, Inc.
16000 Dallas Parkway
Dallas, TX 75248

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on May 31 2016

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID: 67WW07-051916 (5/19 @ 08:00). NO sample received. BRG	Sample was left out of cooler. Shipping out for receipt on Saturday/Monday. BRG/ENY
Sample ID: 67WW14-051816 (5/18 @ 08:30). 1 of 3 voa vials received w/headspace. BRG Sample ID: 67WW08-051916 (5/19 @ 09:55). 1 of 3 RSK vials received w/headspace. BRG	Please proceed. -eny

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00113619	I	4.0		J2317165223	X
00113839	H	3.0		J2317165198	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	All samples were checked for pH and met the standard. Exceptions are noted above under discrepancy. (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	No

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
67WW14-051816	L16051153-01	05/18/2016 08:30	05/20/2016 10:04
67WW09-051816	L16051153-02	05/18/2016 09:45	05/20/2016 10:04
67WW09FD-051816	L16051153-03	05/18/2016 09:45	05/20/2016 10:04
67WW16-051816	L16051153-04	05/18/2016 10:45	05/20/2016 10:04
67WW12-051816	L16051153-05	05/18/2016 16:15	05/20/2016 10:04
67WW12MS-051816	L16051153-06	05/18/2016 16:15	05/20/2016 10:04
67WW12MSD-051816	L16051153-07	05/18/2016 16:15	05/20/2016 10:04
67WW10-051816	L16051153-08	05/18/2016 17:10	05/20/2016 10:04
67WW09A-051816	L16051153-09	05/18/2016 18:05	05/20/2016 10:04
67WW05-051916	L16051153-10	05/19/2016 07:05	05/20/2016 10:04
67WW02-051916	L16051153-11	05/19/2016 07:20	05/20/2016 10:04
67WW02FD-051916	L16051153-12	05/19/2016 07:20	05/20/2016 10:04
67WW03-051916	L16051153-13	05/19/2016 07:35	05/20/2016 10:04
67WW01-051916	L16051153-14	05/19/2016 07:48	05/20/2016 10:04
67WW11-051916	L16051153-15	05/19/2016 08:50	05/20/2016 10:04
67WW08-051916	L16051153-16	05/19/2016 09:55	05/20/2016 10:04
67WW13-051916	L16051153-17	05/19/2016 11:00	05/20/2016 10:04
67WW15-051916	L16051153-18	05/19/2016 14:45	05/20/2016 10:04
TRIP BLANK	L16051153-19	05/19/2016 00:01	05/20/2016 10:04
67WW07-051916	L16051153-20	05/19/2016 08:00	05/20/2016 10:04
TRIP BLANK	L16051153-21	05/19/2016 00:01	05/20/2016 10:04

Microbac REPORT L16051153
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 43
2.0 Full Sample Data Package 122
2.1 Volatiles Data 123
2.1.1 Volatiles GCMS Data (8260) 124
2.1.1.1 Summary Data 125
2.1.1.2 QC Summary Data 190
2.1.1.3 Sample Data 268
2.1.1.4 Standards Data 390
2.1.1.5 Raw QC Data 665
2.1.2 RSK 175 706
2.1.2.1 Summary Data 707
2.1.2.2 QC Summary Data 712
2.1.2.3 Sample Data 730
2.1.2.4 Standards Data 737
2.1.2.5 Raw QC Data 768
2.2 General Chemistry Data 775
2.2.1 Method 9056 776
2.2.1.1 Summary Data 777
2.2.1.2 QC Summary Data 785
2.2.1.3 Sample Data 806
2.2.1.4 Standards Data 813
2.2.1.5 Raw QC Data 836
2.2.2 Ferrous Iron Data 840
2.2.2.1 Summary Data 841
2.2.2.2 QC Summary Data 845
2.2.2.3 Raw Data 852
2.2.3 Sulfide Data 860
2.2.3.1 Summary Data 861
2.2.3.2 QC Summary Data 866
2.2.3.3 Raw Data 873
2.2.4 Total Organic Carbon Data 876
2.2.4.1 Summary Data 877
2.2.4.2 QC Summary Data 880
2.2.4.3 Raw Data 887
3.0 Attachments 914

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	8260
Prep Batch Number(s):	570084,570238,569960	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-05-31 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Sarah Vandenberg	Sarah Vandenberg		2016-05-31 18:57:35

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	8260
Prep Batch Number(s):	570084,570238,569960	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-05-31 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	8260
Prep Batch Number(s):	570084,570238,569960	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-05-31 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			1
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	8260
Prep Batch Number(s):	570084,570238,569960	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-05-31 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			4
Was the ICAL curve verified for each analyte?		X			3
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	8260
Prep Batch Number(s):	570084,570238,569960	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-05-31 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	8260
Prep Batch Number(s):	570084,570238,569960	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2016-05-31 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1)Carbon disulfide exceeded the percent recovery limit in the LCS analyzed 05/24/2016 on HPMS6.
2)Carbon disulfide exceeded the percent recovery limit in the MS/MSD analyzed on HPMS6.
3)Carbon disulfide and dichlorodifluoromethane exceeded the UCL in the ICV analyzed 05/11/2016 on HPMS6.
4)Bromomethane exceeded the UCL in the CCV analyzed 05/24/2016 on HPMS6. Hexachlorobutadiene exceeded the UCL in the CCV analyzed 05/24/2016 on HPMS11. Carbon Tetrachloride and Hexachlorobutadiene exceeded the UCL in the CCV analyzed 05/25/2016 on HPMS11.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	569917	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-05-31 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2016-05-31 19:52:34

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	569917	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-05-31 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	569917	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-05-31 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	569917	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-05-31 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	569917	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-05-31 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	569917	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-05-31 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There were no exceptions.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG569764	**Reviewer Name:**	Adriane Steed
LRC Date:	2016-05-20 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Adriane Steed			2016-05-21 16:06:34

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG569764	**Reviewer Name:**	Adriane Steed
LRC Date:	2016-05-20 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?	X				
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG569764	**Reviewer Name:**	Adriane Steed
LRC Date:	2016-05-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					1
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG569764	**Reviewer Name:**	Adriane Steed
LRC Date:	2016-05-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?			X		
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG569764	**Reviewer Name:**	Adriane Steed
LRC Date:	2016-05-20 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG569764	**Reviewer Name:**	Adriane Steed
LRC Date:	2016-05-20 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1. Fractions -15,-16 and -17 were analyzed at dilutions only due to their high analyte concentrations (Cl and/or SO4) which were over 200 ppm. Any sample that has a single anion load greater than 200 ppm (or a total anion load greater than 400 ppm) will be diluted in order to prevent damage to the IC from repeated overloading of the analytical column and oversaturation of the suppressor membranes.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG570158	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-05-26 18:02:41

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG570158	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG570158	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG570158	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG570158	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG570158	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	S
Prep Batch Number(s):	WG569927	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-05-26 18:03:15

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	S
Prep Batch Number(s):	WG569927	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	S
Prep Batch Number(s):	WG569927	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	S
Prep Batch Number(s):	WG569927	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			X		
Were percent differences for each analyte within the method-required QC limits?			X		
Was the ICAL curve verified for each analyte?			X		
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	S
Prep Batch Number(s):	WG569927	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	S
Prep Batch Number(s):	WG569927	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG569998	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-05-26 18:03:44

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG569998	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG569998	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG569998	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG569998	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16051153
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG569998	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-05-26 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1.2 Certificate of Analysis

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW14-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 11:25
Collect Date:	05/18/2016 08:30	**Dilution:**	1	**File ID:**	6M139580
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	2.15		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	3.54		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	10.8		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.8	70	120	
Toluene-d8	98.8	85	120	
4-Bromofluorobenzene	96.4	75	120	

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW09-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 11:57
Collect Date:	05/18/2016 09:45	**Dilution:**	1	**File ID:**	6M139581
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.477	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	99.7	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	98.1	85	120	
4-Bromofluorobenzene	97.3	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW09FD-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 12:29
Collect Date:	05/18/2016 09:45	**Dilution:**	1	**File ID:**	6M139582
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.487	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	98.3	85	120	
4-Bromofluorobenzene	97.2	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW16-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 16:14
Collect Date:	05/18/2016 10:45	**Dilution:**	1	**File ID:**	6M139589
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	99.1	70	120	
Toluene-d8	98.2	85	120	
4-Bromofluorobenzene	94.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW12-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 13:01
Collect Date:	05/18/2016 16:15	**Dilution:**	1	**File ID:**	6M139583
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	0.681	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	99.0	70	120	
Toluene-d8	97.6	85	120	
4-Bromofluorobenzene	98.1	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW12MS-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 09:16
Collect Date:	05/18/2016 16:15	**Dilution:**	1	**File ID:**	6M139576
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.1		10.0	5.00	2.50
Benzene	71-43-2	20.2		1.00	0.250	0.125
Bromobenzene	108-86-1	19.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	20.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	20.5		1.00	0.500	0.250
Bromoform	75-25-2	20.1		2.00	1.00	0.500
Bromomethane	74-83-9	16.5	Q	2.00	1.00	0.500
2-Butanone	78-93-3	20.5		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.3		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.1		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	35.9		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	20.0		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	21.5		1.00	0.500	0.250
Chloroethane	75-00-3	20.7		2.00	1.00	0.500
Chloroform	67-66-3	19.7		1.00	0.250	0.125
Chloromethane	74-87-3	19.5		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	20.1		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.4		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	21.2		1.00	0.500	0.250
Dibromomethane	74-95-3	20.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.2		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.1		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.2		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	24.6		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	19.7		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.7		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	19.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.7		1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.7		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.9		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.9		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	21.0		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.9		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.7		1.00	0.500	0.250
2-Hexanone	591-78-6	19.5		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	17.7		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.8		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	19.6		10.0	5.00	2.50
Methylene chloride	75-09-2	20.8		1.00	0.500	0.250
Naphthalene	91-20-3	17.7		1.00	0.400	0.200
n-Propylbenzene	103-65-1	20.7		1.00	0.250	0.125
Styrene	100-42-5	19.9		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.7		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.2		1.00	0.500	0.250
Toluene	108-88-3	19.9		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.6		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	19.2		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	20.1		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	21.1		1.00	0.500	0.250
Trichloroethene	79-01-6	20.1		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	21.1		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	21.2		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.8		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.2		1.00	0.500	0.250
o-Xylene	95-47-6	20.3		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	40.4		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	98.2	70	120	
Toluene-d8	98.1	85	120	
4-Bromofluorobenzene	95.0	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW12MSD-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 09:48
Collect Date:	05/18/2016 16:15	**Dilution:**	1	**File ID:**	6M139577
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.1		10.0	5.00	2.50
Benzene	71-43-2	20.1		1.00	0.250	0.125
Bromobenzene	108-86-1	19.0		1.00	0.250	0.125
Bromochloromethane	74-97-5	20.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	20.4		1.00	0.500	0.250
Bromoform	75-25-2	19.7		2.00	1.00	0.500
Bromomethane	74-83-9	16.0	Q	2.00	1.00	0.500
2-Butanone	78-93-3	19.4		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.3		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.0		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	36.0		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.3		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	21.1		1.00	0.500	0.250
Chloroethane	75-00-3	20.5		2.00	1.00	0.500
Chloroform	67-66-3	19.7		1.00	0.250	0.125
Chloromethane	74-87-3	19.2		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	20.2		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.7		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.8		1.00	0.500	0.250
Dibromomethane	74-95-3	19.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.1		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.1		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.0		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	24.2		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	19.4		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.4		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	19.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.3		1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.4		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.6		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.6		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	20.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.2		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.6		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.1		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.4		1.00	0.500	0.250
2-Hexanone	591-78-6	18.8		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	17.4		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.1		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.6		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	5.00	2.50
Methylene chloride	75-09-2	20.6		1.00	0.500	0.250
Naphthalene	91-20-3	17.2		1.00	0.400	0.200
n-Propylbenzene	103-65-1	20.7		1.00	0.250	0.125
Styrene	100-42-5	19.7		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.6		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.0		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.1		1.00	0.500	0.250
Toluene	108-88-3	19.9		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	19.1		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.9		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.7		1.00	0.500	0.250
Trichloroethene	79-01-6	19.9		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	20.7		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.7		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.8		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.1		1.00	0.500	0.250
o-Xylene	95-47-6	20.3		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	40.2		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	96.9	70	120	
Toluene-d8	98.4	85	120	
4-Bromofluorobenzene	94.9	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW10-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 13:34
Collect Date:	05/18/2016 17:10	**Dilution:**	1	**File ID:**	6M139584
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.6	70	120	
Toluene-d8	98.8	85	120	
4-Bromofluorobenzene	96.6	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW09A-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 14:05
Collect Date:	05/18/2016 18:05	**Dilution:**	1	**File ID:**	6M139585
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.5	70	120	
Toluene-d8	98.0	85	120	
4-Bromofluorobenzene	96.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW05-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 14:37
Collect Date:	05/19/2016 07:05	**Dilution:**	1	**File ID:**	6M139586
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	98.2	85	120	
4-Bromofluorobenzene	97.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW02-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 15:09
Collect Date:	05/19/2016 07:20	**Dilution:**	1	**File ID:**	6M139587
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	3.27		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.377	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	67.6		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.285	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	97.8	70	120	
Toluene-d8	97.7	85	120	
4-Bromofluorobenzene	96.3	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-12	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW02FD-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 15:41
Collect Date:	05/19/2016 07:20	**Dilution:**	1	**File ID:**	6M139588
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	3.25		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.321	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	66.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.273	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	97.3	70	120	
Toluene-d8	97.4	85	120	
4-Bromofluorobenzene	97.5	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-13	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW03-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 23:08
Collect Date:	05/19/2016 07:35	**Dilution:**	1	**File ID:**	11M12117
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	108	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	104	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-14	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW01-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570238	**Analyst:**	JDS	**Run Date:**	05/25/2016 18:02
Collect Date:	05/19/2016 07:48	**Dilution:**	5	**File ID:**	11M12137
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	25.0	U	50.0	25.0	12.5
Benzene	71-43-2	1.25	U	5.00	1.25	0.625
Bromobenzene	108-86-1	1.25	U	5.00	1.25	0.625
Bromochloromethane	74-97-5	2.00	U	5.00	2.00	1.00
Bromodichloromethane	75-27-4	2.50	U	5.00	2.50	1.25
Bromoform	75-25-2	5.00	U	10.0	5.00	2.50
Bromomethane	74-83-9	5.00	U	10.0	5.00	2.50
2-Butanone	78-93-3	25.0	U	50.0	25.0	12.5
n-Butylbenzene	104-51-8	2.50	U	5.00	2.50	1.25
sec-Butylbenzene	135-98-8	2.50	U	5.00	2.50	1.25
tert-Butylbenzene	98-06-6	2.50	U	5.00	2.50	1.25
Carbon disulfide	75-15-0	5.00	U	10.0	5.00	2.50
Carbon tetrachloride	56-23-5	2.50	Q	5.00	2.50	1.25
Chlorobenzene	108-90-7	1.25	U	5.00	1.25	0.625
Chlorodibromomethane	124-48-1	2.50	U	5.00	2.50	1.25
Chloroethane	75-00-3	5.00	U	10.0	5.00	2.50
Chloroform	67-66-3	1.25	U	5.00	1.25	0.625
Chloromethane	74-87-3	5.00	U	10.0	5.00	2.50
2-Chlorotoluene	95-49-8	1.25	U	5.00	1.25	0.625
4-Chlorotoluene	106-43-4	2.50	U	5.00	2.50	1.25
1,2-Dibromo-3-chloropropane	96-12-8	10.0	U	25.0	10.0	5.00
1,2-Dibromoethane	106-93-4	2.50	U	5.00	2.50	1.25
Dibromomethane	74-95-3	2.50	U	5.00	2.50	1.25
1,2-Dichlorobenzene	95-50-1	1.25	U	5.00	1.25	0.625
1,3-Dichlorobenzene	541-73-1	2.50	U	5.00	2.50	1.25
1,4-Dichlorobenzene	106-46-7	1.25	U	5.00	1.25	0.625
Dichlorodifluoromethane	75-71-8	2.50	U	5.00	2.50	1.25
1,1-Dichloroethane	75-34-3	27.6		5.00	1.25	0.625
1,2-Dichloroethane	107-06-2	43.3		5.00	2.50	1.25
1,1-Dichloroethene	75-35-4	714		10.0	5.00	2.50
cis-1,2-Dichloroethene	156-59-2	1.47	J	5.00	2.50	1.25

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	2.50	U	5.00	2.50	1.25
1,2-Dichloropropane	78-87-5	2.00	U	5.00	2.00	1.00
1,3-Dichloropropane	142-28-9	2.00	U	5.00	2.00	1.00
2,2-Dichloropropane	594-20-7	2.50	U	5.00	2.50	1.25
cis-1,3-Dichloropropene	10061-01-5	2.50	U	5.00	2.50	1.25
trans-1,3-Dichloropropene	10061-02-6	5.00	U	10.0	5.00	2.50
1,1-Dichloropropene	563-58-6	2.50	U	5.00	2.50	1.25
Ethylbenzene	100-41-4	2.50	U	5.00	2.50	1.25
2-Hexanone	591-78-6	25.0	U	50.0	25.0	12.5
Hexachlorobutadiene	87-68-3	2.50	Q	5.00	2.50	1.25
Isopropylbenzene	98-82-8	2.50	U	5.00	2.50	1.25
p-Isopropyltoluene	99-87-6	2.50	U	5.00	2.50	1.25
4-Methyl-2-pentanone	108-10-1	25.0	U	50.0	25.0	12.5
Methylene chloride	75-09-2	2.50	U	5.00	2.50	1.25
Naphthalene	91-20-3	2.00	U	5.00	2.00	1.00
n-Propylbenzene	103-65-1	1.25	U	5.00	1.25	0.625
Styrene	100-42-5	1.25	U	5.00	1.25	0.625
1,1,1,2-Tetrachloroethane	630-20-6	2.50	U	5.00	2.50	1.25
1,1,2,2-Tetrachloroethane	79-34-5	2.00	U	5.00	2.00	1.00
Tetrachloroethene	127-18-4	2.50	U	5.00	2.50	1.25
Toluene	108-88-3	2.50	U	5.00	2.50	1.25
1,2,3-Trichlorobenzene	87-61-6	1.50	U	5.00	1.50	0.750
1,2,4-Trichlorobenzene	120-82-1	2.00	U	5.00	2.00	1.00
1,1,1-Trichloroethane	71-55-6	2.50	U	5.00	2.50	1.25
1,1,2-Trichloroethane	79-00-5	1.62	J	5.00	2.50	1.25
Trichloroethene	79-01-6	3.28	J	5.00	2.50	1.25
Trichlorofluoromethane	75-69-4	2.50	U	5.00	2.50	1.25
1,2,3-Trichloropropane	96-18-4	5.00	U	10.0	5.00	2.50
1,2,4-Trimethylbenzene	95-63-6	2.50	U	5.00	2.50	1.25
1,3,5-Trimethylbenzene	108-67-8	2.50	U	5.00	2.50	1.25
Vinyl chloride	75-01-4	2.98	J	5.00	2.50	1.25
o-Xylene	95-47-6	2.50	U	5.00	2.50	1.25
m-,p-Xylene	179601-23-1	5.00	U	10.0	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW11-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 23:40
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	11M12118
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	6.58		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.396	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	19.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	110	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW11-051916	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG569917	**Analyst:**	JDS	**Run Date:**	05/23/2016 18:08
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	16G49988
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.00	U	5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW11-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 17:11
Collect Date:	05/19/2016 08:50	**Dilution:**	10	**File ID:**	I1_052016-07
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	409		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW11-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 17:28
Collect Date:	05/19/2016 08:50	**Dilution:**	100	**File ID:**	I1_052016-08
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1430		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW11-051916	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	05/13/2016 11:00
Workgroup #:	WG570158	**Analyst:**	DCM	**Run Date:**	05/25/2016 09:10
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	00.1605250910-05
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW11-051916	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG569927	**Analyst:**	TB	**Run Date:**	05/23/2016 15:00
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	ET.1605231500-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 13:59
Collect Date:	05/19/2016 08:50	**Dilution:**	3	**File ID:**	TC05242016.011
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	22.1		6.00	3.00	1.50

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 13:59
Collect Date:	05/19/2016 08:50	**Dilution:**	3	**File ID:**	TC05242016.011
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		74.8		6.00	3.00	1.50

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW08-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/25/2016 01:15
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	11M12121
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	50.0	U	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	U	20.0	10.0	5.00
2-Butanone	78-93-3	50.0	U	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	2.50	U	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	U	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	2.50	U	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	31.9		10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	56.1		10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	1130		20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	5.00	U	10.0	5.00	2.50
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	U	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	Q	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	5.00	U	10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	2.76	J	10.0	5.00	2.50
Trichloroethene	79-01-6	5.00	U	10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	5.00	U	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	110	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW08-051916	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG569917	**Analyst:**	JDS	**Run Date:**	05/23/2016 18:19
Collect Date:	05/19/2016 09:55	**Dilution:**	1	**File ID:**	16G49989
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	11.3		5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW08-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 17:46
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	I1_052016-09
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	365		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW08-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 18:04
Collect Date:	05/19/2016 09:55	**Dilution:**	100	**File ID:**	I1_052016-10
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1510		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW08-051916	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	05/13/2016 11:00
Workgroup #:	WG570158	**Analyst:**	DCM	**Run Date:**	05/25/2016 09:10
Collect Date:	05/19/2016 09:55	**Dilution:**	1	**File ID:**	00.1605250910-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0585		0.0400	0.0400	0.0200

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW08-051916	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG569927	**Analyst:**	TB	**Run Date:**	05/23/2016 15:00
Collect Date:	05/19/2016 09:55	**Dilution:**	1	**File ID:**	ET.1605231500-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 18:43
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	TC05242016.022
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	65.4		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 18:43
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	TC05242016.022
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		44.2		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW13-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570238	**Analyst:**	JDS	**Run Date:**	05/25/2016 18:34
Collect Date:	05/19/2016 11:00	**Dilution:**	2	**File ID:**	11M12138
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	10.0	U	20.0	10.0	5.00
Benzene	71-43-2	0.500	U	2.00	0.500	0.250
Bromobenzene	108-86-1	0.500	U	2.00	0.500	0.250
Bromochloromethane	74-97-5	0.800	U	2.00	0.800	0.400
Bromodichloromethane	75-27-4	1.00	U	2.00	1.00	0.500
Bromoform	75-25-2	2.00	U	4.00	2.00	1.00
Bromomethane	74-83-9	2.00	U	4.00	2.00	1.00
2-Butanone	78-93-3	10.0	U	20.0	10.0	5.00
n-Butylbenzene	104-51-8	1.00	U	2.00	1.00	0.500

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
sec-Butylbenzene	135-98-8	1.00	U	2.00	1.00	0.500
tert-Butylbenzene	98-06-6	1.00	U	2.00	1.00	0.500
Carbon disulfide	75-15-0	2.00	U	4.00	2.00	1.00
Carbon tetrachloride	56-23-5	1.00	Q	2.00	1.00	0.500
Chlorobenzene	108-90-7	0.500	U	2.00	0.500	0.250
Chlorodibromomethane	124-48-1	1.00	U	2.00	1.00	0.500
Chloroethane	75-00-3	2.00	U	4.00	2.00	1.00
Chloroform	67-66-3	1.36	J	2.00	0.500	0.250
Chloromethane	74-87-3	2.00	U	4.00	2.00	1.00
2-Chlorotoluene	95-49-8	0.500	U	2.00	0.500	0.250
4-Chlorotoluene	106-43-4	1.00	U	2.00	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8	4.00	U	10.0	4.00	2.00
1,2-Dibromoethane	106-93-4	1.00	U	2.00	1.00	0.500
Dibromomethane	74-95-3	1.00	U	2.00	1.00	0.500
1,2-Dichlorobenzene	95-50-1	0.500	U	2.00	0.500	0.250
1,3-Dichlorobenzene	541-73-1	1.00	U	2.00	1.00	0.500
1,4-Dichlorobenzene	106-46-7	0.500	U	2.00	0.500	0.250
Dichlorodifluoromethane	75-71-8	1.00	U	2.00	1.00	0.500
1,1-Dichloroethane	75-34-3	22.5		2.00	0.500	0.250
1,2-Dichloroethane	107-06-2	35.7		2.00	1.00	0.500
1,1-Dichloroethene	75-35-4	274		4.00	2.00	1.00
cis-1,2-Dichloroethene	156-59-2	1.55	J	2.00	1.00	0.500
trans-1,2-Dichloroethene	156-60-5	1.00	U	2.00	1.00	0.500
1,2-Dichloropropane	78-87-5	0.800	U	2.00	0.800	0.400
1,3-Dichloropropane	142-28-9	0.800	U	2.00	0.800	0.400
2,2-Dichloropropane	594-20-7	1.00	U	2.00	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	1.00	U	2.00	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6	2.00	U	4.00	2.00	1.00
1,1-Dichloropropene	563-58-6	1.00	U	2.00	1.00	0.500
Ethylbenzene	100-41-4	1.00	U	2.00	1.00	0.500
2-Hexanone	591-78-6	10.0	U	20.0	10.0	5.00
Hexachlorobutadiene	87-68-3	1.00	Q	2.00	1.00	0.500
Isopropylbenzene	98-82-8	1.00	U	2.00	1.00	0.500
p-Isopropyltoluene	99-87-6	1.00	U	2.00	1.00	0.500
4-Methyl-2-pentanone	108-10-1	10.0	U	20.0	10.0	5.00
Methylene chloride	75-09-2	1.00	U	2.00	1.00	0.500
Naphthalene	91-20-3	0.800	U	2.00	0.800	0.400
n-Propylbenzene	103-65-1	0.500	U	2.00	0.500	0.250
Styrene	100-42-5	0.500	U	2.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1,1,2-Tetrachloroethane	630-20-6	1.00	U	2.00	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5	0.800	U	2.00	0.800	0.400
Tetrachloroethene	127-18-4	1.00	U	2.00	1.00	0.500
Toluene	108-88-3	1.00	U	2.00	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	0.600	U	2.00	0.600	0.300
1,2,4-Trichlorobenzene	120-82-1	0.800	U	2.00	0.800	0.400
1,1,1-Trichloroethane	71-55-6	1.00	U	2.00	1.00	0.500
1,1,2-Trichloroethane	79-00-5	7.00		2.00	1.00	0.500
Trichloroethene	79-01-6	1.67	J	2.00	1.00	0.500
Trichlorofluoromethane	75-69-4	1.00	U	2.00	1.00	0.500
1,2,3-Trichloropropane	96-18-4	2.00	U	4.00	2.00	1.00
1,2,4-Trimethylbenzene	95-63-6	1.00	U	2.00	1.00	0.500
1,3,5-Trimethylbenzene	108-67-8	1.00	U	2.00	1.00	0.500
Vinyl chloride	75-01-4	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	1.00	U	2.00	1.00	0.500
m-,p-Xylene	179601-23-1	2.00	U	4.00	2.00	1.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	107	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW13-051916	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG569917	**Analyst:**	JDS	**Run Date:**	05/23/2016 18:31
Collect Date:	05/19/2016 11:00	**Dilution:**	1	**File ID:**	16G49990
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.00	U	5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW13-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 18:21
Collect Date:	05/19/2016 11:00	**Dilution:**	10	**File ID:**	I1_052016-11
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	358		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW13-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 18:39
Collect Date:	05/19/2016 11:00	**Dilution:**	100	**File ID:**	I1_052016-12
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1660		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW13-051916	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	05/13/2016 11:00
Workgroup #:	WG570158	**Analyst:**	DCM	**Run Date:**	05/25/2016 09:10
Collect Date:	05/19/2016 11:00	**Dilution:**	1	**File ID:**	00.1605250910-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW13-051916	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG569927	**Analyst:**	TB	**Run Date:**	05/23/2016 15:00
Collect Date:	05/19/2016 11:00	**Dilution:**	1	**File ID:**	ET.1605231500-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW13-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 19:03
Collect Date:	05/19/2016 11:00	**Dilution:**	10	**File ID:**	TC05242016.023
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	93.3		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW13-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 19:03
Collect Date:	05/19/2016 11:00	**Dilution:**	10	**File ID:**	TC05242016.023
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		71.9		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L16051153-18	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW15-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/25/2016 02:19
Collect Date:	05/19/2016 14:45	**Dilution:**	1	**File ID:**	11M12123
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.145	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	1.38		1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.173	J	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	57.3		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	117		1.00	0.500	0.250
cis-1,2-Dichloroethene	156-59-2	7.49		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.307	J	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	25.7		1.00	0.500	0.250
Trichloroethene	79-01-6	6.89		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	1.07		1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	115	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	103	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-18	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW15-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570238	**Analyst:**	JDS	**Run Date:**	05/25/2016 19:38
Collect Date:	05/19/2016 14:45	**Dilution:**	20	**File ID:**	11M12140
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	100	U	200	100	50.0
Benzene	71-43-2	5.00	U	20.0	5.00	2.50
Bromobenzene	108-86-1	5.00	U	20.0	5.00	2.50
Bromochloromethane	74-97-5	8.00	U	20.0	8.00	4.00
Bromodichloromethane	75-27-4	10.0	U	20.0	10.0	5.00
Bromoform	75-25-2	20.0	U	40.0	20.0	10.0
Bromomethane	74-83-9	20.0	U	40.0	20.0	10.0
2-Butanone	78-93-3	100	U	200	100	50.0
n-Butylbenzene	104-51-8	10.0	U	20.0	10.0	5.00
sec-Butylbenzene	135-98-8	10.0	U	20.0	10.0	5.00
tert-Butylbenzene	98-06-6	10.0	U	20.0	10.0	5.00
Carbon disulfide	75-15-0	20.0	U	40.0	20.0	10.0
Carbon tetrachloride	56-23-5	10.0	Q	20.0	10.0	5.00
Chlorobenzene	108-90-7	5.00	U	20.0	5.00	2.50
Chlorodibromomethane	124-48-1	10.0	U	20.0	10.0	5.00
Chloroethane	75-00-3	20.0	U	40.0	20.0	10.0
Chloroform	67-66-3	5.00	U	20.0	5.00	2.50
Chloromethane	74-87-3	20.0	U	40.0	20.0	10.0
2-Chlorotoluene	95-49-8	5.00	U	20.0	5.00	2.50
4-Chlorotoluene	106-43-4	10.0	U	20.0	10.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8	52.6	J	100	40.0	20.0
1,2-Dibromoethane	106-93-4	10.0	U	20.0	10.0	5.00
Dibromomethane	74-95-3	10.0	U	20.0	10.0	5.00
1,2-Dichlorobenzene	95-50-1	5.00	U	20.0	5.00	2.50
1,3-Dichlorobenzene	541-73-1	10.0	U	20.0	10.0	5.00
1,4-Dichlorobenzene	106-46-7	5.00	U	20.0	5.00	2.50
Dichlorodifluoromethane	75-71-8	10.0	U	20.0	10.0	5.00
1,1-Dichloroethane	75-34-3	46.0		20.0	5.00	2.50
1,2-Dichloroethane	107-06-2	86.5		20.0	10.0	5.00
1,1-Dichloroethene	75-35-4	2460		40.0	20.0	10.0
cis-1,2-Dichloroethene	156-59-2	6.10	J	20.0	10.0	5.00

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	10.0	U	20.0	10.0	5.00
1,2-Dichloropropane	78-87-5	8.00	U	20.0	8.00	4.00
1,3-Dichloropropane	142-28-9	8.00	U	20.0	8.00	4.00
2,2-Dichloropropane	594-20-7	10.0	U	20.0	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5	10.0	U	20.0	10.0	5.00
trans-1,3-Dichloropropene	10061-02-6	20.0	U	40.0	20.0	10.0
1,1-Dichloropropene	563-58-6	10.0	U	20.0	10.0	5.00
Ethylbenzene	100-41-4	10.0	U	20.0	10.0	5.00
2-Hexanone	591-78-6	100	U	200	100	50.0
Hexachlorobutadiene	87-68-3	10.0	Q	20.0	10.0	5.00
Isopropylbenzene	98-82-8	10.0	U	20.0	10.0	5.00
p-Isopropyltoluene	99-87-6	10.0	U	20.0	10.0	5.00
4-Methyl-2-pentanone	108-10-1	100	U	200	100	50.0
Methylene chloride	75-09-2	10.0	U	20.0	10.0	5.00
Naphthalene	91-20-3	36.7		20.0	8.00	4.00
n-Propylbenzene	103-65-1	5.21	J	20.0	5.00	2.50
Styrene	100-42-5	5.00	U	20.0	5.00	2.50
1,1,1,2-Tetrachloroethane	630-20-6	10.0	U	20.0	10.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5	8.00	U	20.0	8.00	4.00
Tetrachloroethene	127-18-4	10.0	U	20.0	10.0	5.00
Toluene	108-88-3	10.0	U	20.0	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6	6.00	U	20.0	6.00	3.00
1,2,4-Trichlorobenzene	120-82-1	8.00	U	20.0	8.00	4.00
1,1,1-Trichloroethane	71-55-6	10.0	U	20.0	10.0	5.00
1,1,2-Trichloroethane	79-00-5	22.7		20.0	10.0	5.00
Trichloroethene	79-01-6	5.48	J	20.0	10.0	5.00
Trichlorofluoromethane	75-69-4	10.0	U	20.0	10.0	5.00
1,2,3-Trichloropropane	96-18-4	20.0	U	40.0	20.0	10.0
1,2,4-Trimethylbenzene	95-63-6	10.0	U	20.0	10.0	5.00
1,3,5-Trimethylbenzene	108-67-8	10.0	U	20.0	10.0	5.00
Vinyl chloride	75-01-4	10.0	U	20.0	10.0	5.00
o-Xylene	95-47-6	10.0	U	20.0	10.0	5.00
m-,p-Xylene	179601-23-1	20.0	U	40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.9	85	115	
1,2-Dichloroethane-d4	94.6	70	120	
Toluene-d8	98.8	85	120	
4-Bromofluorobenzene	102	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-19	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 18:20
Collect Date:	05/19/2016 00:01	**Dilution:**	1	**File ID:**	11M12108
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	104	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	105	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-20	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW07-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/25/2016 00:11
Collect Date:	05/19/2016 08:00	**Dilution:**	1	**File ID:**	11M12119
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.330	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	111	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-21	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 18:52
Collect Date:	05/19/2016 00:01	**Dilution:**	1	**File ID:**	11M12109
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	105	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW14-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 11:25
Collect Date:	05/18/2016 08:30	**Dilution:**	1	**File ID:**	6M139580
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	2.15		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	3.54		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	10.8		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.8	70	120	
Toluene-d8	98.8	85	120	
4-Bromofluorobenzene	96.4	75	120	

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW09-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 11:57
Collect Date:	05/18/2016 09:45	**Dilution:**	1	**File ID:**	6M139581
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.477	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	99.7	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	98.1	85	120	
4-Bromofluorobenzene	97.3	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW09FD-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 12:29
Collect Date:	05/18/2016 09:45	**Dilution:**	1	**File ID:**	6M139582
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.487	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	98.3	85	120	
4-Bromofluorobenzene	97.2	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW16-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 16:14
Collect Date:	05/18/2016 10:45	**Dilution:**	1	**File ID:**	6M139589
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	99.1	70	120	
Toluene-d8	98.2	85	120	
4-Bromofluorobenzene	94.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW12-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 13:01
Collect Date:	05/18/2016 16:15	**Dilution:**	1	**File ID:**	6M139583
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	0.681	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	99.0	70	120	
Toluene-d8	97.6	85	120	
4-Bromofluorobenzene	98.1	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW12MS-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 09:16
Collect Date:	05/18/2016 16:15	**Dilution:**	1	**File ID:**	6M139576
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.1		10.0	5.00	2.50
Benzene	71-43-2	20.2		1.00	0.250	0.125
Bromobenzene	108-86-1	19.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	20.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	20.5		1.00	0.500	0.250
Bromoform	75-25-2	20.1		2.00	1.00	0.500
Bromomethane	74-83-9	16.5	Q	2.00	1.00	0.500
2-Butanone	78-93-3	20.5		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.3		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.1		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	35.9		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	20.0		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	21.5		1.00	0.500	0.250
Chloroethane	75-00-3	20.7		2.00	1.00	0.500
Chloroform	67-66-3	19.7		1.00	0.250	0.125
Chloromethane	74-87-3	19.5		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	20.1		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.4		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	21.2		1.00	0.500	0.250
Dibromomethane	74-95-3	20.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.2		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.1		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.2		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	24.6		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	19.7		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.7		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	19.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.7		1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.7		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.9		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.9		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	21.0		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.9		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.7		1.00	0.500	0.250
2-Hexanone	591-78-6	19.5		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	17.7		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.8		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	19.6		10.0	5.00	2.50
Methylene chloride	75-09-2	20.8		1.00	0.500	0.250
Naphthalene	91-20-3	17.7		1.00	0.400	0.200
n-Propylbenzene	103-65-1	20.7		1.00	0.250	0.125
Styrene	100-42-5	19.9		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.7		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.2		1.00	0.500	0.250
Toluene	108-88-3	19.9		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.6		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	19.2		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	20.1		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	21.1		1.00	0.500	0.250
Trichloroethene	79-01-6	20.1		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	21.1		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	21.2		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.8		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.2		1.00	0.500	0.250
o-Xylene	95-47-6	20.3		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	40.4		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	98.2	70	120	
Toluene-d8	98.1	85	120	
4-Bromofluorobenzene	95.0	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW12MSD-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 09:48
Collect Date:	05/18/2016 16:15	**Dilution:**	1	**File ID:**	6M139577
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.1		10.0	5.00	2.50
Benzene	71-43-2	20.1		1.00	0.250	0.125
Bromobenzene	108-86-1	19.0		1.00	0.250	0.125
Bromochloromethane	74-97-5	20.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	20.4		1.00	0.500	0.250
Bromoform	75-25-2	19.7		2.00	1.00	0.500
Bromomethane	74-83-9	16.0	Q	2.00	1.00	0.500
2-Butanone	78-93-3	19.4		10.0	5.00	2.50
n-Butylbenzene	104-51-8	19.3		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.0		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	36.0		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.3		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	21.1		1.00	0.500	0.250
Chloroethane	75-00-3	20.5		2.00	1.00	0.500
Chloroform	67-66-3	19.7		1.00	0.250	0.125
Chloromethane	74-87-3	19.2		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	20.2		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.7		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.8		1.00	0.500	0.250
Dibromomethane	74-95-3	19.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.1		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.1		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.0		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	24.2		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	19.4		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.4		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	19.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.3		1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	20.4		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.6		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.6		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	20.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.2		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.6		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	19.1		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.4		1.00	0.500	0.250
2-Hexanone	591-78-6	18.8		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	17.4		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.1		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.6		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	5.00	2.50
Methylene chloride	75-09-2	20.6		1.00	0.500	0.250
Naphthalene	91-20-3	17.2		1.00	0.400	0.200
n-Propylbenzene	103-65-1	20.7		1.00	0.250	0.125
Styrene	100-42-5	19.7		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.6		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.0		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.1		1.00	0.500	0.250
Toluene	108-88-3	19.9		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	19.1		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.9		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.7		1.00	0.500	0.250
Trichloroethene	79-01-6	19.9		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	20.7		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.7		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.8		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.1		1.00	0.500	0.250
o-Xylene	95-47-6	20.3		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	40.2		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	96.9	70	120	
Toluene-d8	98.4	85	120	
4-Bromofluorobenzene	94.9	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW10-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 13:34
Collect Date:	05/18/2016 17:10	**Dilution:**	1	**File ID:**	6M139584
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.6	70	120	
Toluene-d8	98.8	85	120	
4-Bromofluorobenzene	96.6	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW09A-051816	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 14:05
Collect Date:	05/18/2016 18:05	**Dilution:**	1	**File ID:**	6M139585
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	98.5	70	120	
Toluene-d8	98.0	85	120	
4-Bromofluorobenzene	96.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW05-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 14:37
Collect Date:	05/19/2016 07:05	**Dilution:**	1	**File ID:**	6M139586
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	100	85	115	
1,2-Dichloroethane-d4	98.0	70	120	
Toluene-d8	98.2	85	120	
4-Bromofluorobenzene	97.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW02-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 15:09
Collect Date:	05/19/2016 07:20	**Dilution:**	1	**File ID:**	6M139587
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	3.27		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.377	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	67.6		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.285	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	97.8	70	120	
Toluene-d8	97.7	85	120	
4-Bromofluorobenzene	96.3	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-12	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	67WW02FD-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/11/2016 15:29
Workgroup #:	WG569960	**Analyst:**	TMB	**Run Date:**	05/24/2016 15:41
Collect Date:	05/19/2016 07:20	**Dilution:**	1	**File ID:**	6M139588
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	3.25		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.321	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	66.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.273	J	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	85	115	
1,2-Dichloroethane-d4	97.3	70	120	
Toluene-d8	97.4	85	120	
4-Bromofluorobenzene	97.5	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-13	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW03-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 23:08
Collect Date:	05/19/2016 07:35	**Dilution:**	1	**File ID:**	11M12117
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	108	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	104	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-14	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW01-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570238	**Analyst:**	JDS	**Run Date:**	05/25/2016 18:02
Collect Date:	05/19/2016 07:48	**Dilution:**	5	**File ID:**	11M12137
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	25.0	U	50.0	25.0	12.5
Benzene	71-43-2	1.25	U	5.00	1.25	0.625
Bromobenzene	108-86-1	1.25	U	5.00	1.25	0.625
Bromochloromethane	74-97-5	2.00	U	5.00	2.00	1.00
Bromodichloromethane	75-27-4	2.50	U	5.00	2.50	1.25
Bromoform	75-25-2	5.00	U	10.0	5.00	2.50
Bromomethane	74-83-9	5.00	U	10.0	5.00	2.50
2-Butanone	78-93-3	25.0	U	50.0	25.0	12.5
n-Butylbenzene	104-51-8	2.50	U	5.00	2.50	1.25
sec-Butylbenzene	135-98-8	2.50	U	5.00	2.50	1.25
tert-Butylbenzene	98-06-6	2.50	U	5.00	2.50	1.25
Carbon disulfide	75-15-0	5.00	U	10.0	5.00	2.50
Carbon tetrachloride	56-23-5	2.50	Q	5.00	2.50	1.25
Chlorobenzene	108-90-7	1.25	U	5.00	1.25	0.625
Chlorodibromomethane	124-48-1	2.50	U	5.00	2.50	1.25
Chloroethane	75-00-3	5.00	U	10.0	5.00	2.50
Chloroform	67-66-3	1.25	U	5.00	1.25	0.625
Chloromethane	74-87-3	5.00	U	10.0	5.00	2.50
2-Chlorotoluene	95-49-8	1.25	U	5.00	1.25	0.625
4-Chlorotoluene	106-43-4	2.50	U	5.00	2.50	1.25
1,2-Dibromo-3-chloropropane	96-12-8	10.0	U	25.0	10.0	5.00
1,2-Dibromoethane	106-93-4	2.50	U	5.00	2.50	1.25
Dibromomethane	74-95-3	2.50	U	5.00	2.50	1.25
1,2-Dichlorobenzene	95-50-1	1.25	U	5.00	1.25	0.625
1,3-Dichlorobenzene	541-73-1	2.50	U	5.00	2.50	1.25
1,4-Dichlorobenzene	106-46-7	1.25	U	5.00	1.25	0.625
Dichlorodifluoromethane	75-71-8	2.50	U	5.00	2.50	1.25
1,1-Dichloroethane	75-34-3	27.6		5.00	1.25	0.625
1,2-Dichloroethane	107-06-2	43.3		5.00	2.50	1.25
1,1-Dichloroethene	75-35-4	714		10.0	5.00	2.50
cis-1,2-Dichloroethene	156-59-2	1.47	J	5.00	2.50	1.25

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	2.50	U	5.00	2.50	1.25
1,2-Dichloropropane	78-87-5	2.00	U	5.00	2.00	1.00
1,3-Dichloropropane	142-28-9	2.00	U	5.00	2.00	1.00
2,2-Dichloropropane	594-20-7	2.50	U	5.00	2.50	1.25
cis-1,3-Dichloropropene	10061-01-5	2.50	U	5.00	2.50	1.25
trans-1,3-Dichloropropene	10061-02-6	5.00	U	10.0	5.00	2.50
1,1-Dichloropropene	563-58-6	2.50	U	5.00	2.50	1.25
Ethylbenzene	100-41-4	2.50	U	5.00	2.50	1.25
2-Hexanone	591-78-6	25.0	U	50.0	25.0	12.5
Hexachlorobutadiene	87-68-3	2.50	Q	5.00	2.50	1.25
Isopropylbenzene	98-82-8	2.50	U	5.00	2.50	1.25
p-Isopropyltoluene	99-87-6	2.50	U	5.00	2.50	1.25
4-Methyl-2-pentanone	108-10-1	25.0	U	50.0	25.0	12.5
Methylene chloride	75-09-2	2.50	U	5.00	2.50	1.25
Naphthalene	91-20-3	2.00	U	5.00	2.00	1.00
n-Propylbenzene	103-65-1	1.25	U	5.00	1.25	0.625
Styrene	100-42-5	1.25	U	5.00	1.25	0.625
1,1,1,2-Tetrachloroethane	630-20-6	2.50	U	5.00	2.50	1.25
1,1,2,2-Tetrachloroethane	79-34-5	2.00	U	5.00	2.00	1.00
Tetrachloroethene	127-18-4	2.50	U	5.00	2.50	1.25
Toluene	108-88-3	2.50	U	5.00	2.50	1.25
1,2,3-Trichlorobenzene	87-61-6	1.50	U	5.00	1.50	0.750
1,2,4-Trichlorobenzene	120-82-1	2.00	U	5.00	2.00	1.00
1,1,1-Trichloroethane	71-55-6	2.50	U	5.00	2.50	1.25
1,1,2-Trichloroethane	79-00-5	1.62	J	5.00	2.50	1.25
Trichloroethene	79-01-6	3.28	J	5.00	2.50	1.25
Trichlorofluoromethane	75-69-4	2.50	U	5.00	2.50	1.25
1,2,3-Trichloropropane	96-18-4	5.00	U	10.0	5.00	2.50
1,2,4-Trimethylbenzene	95-63-6	2.50	U	5.00	2.50	1.25
1,3,5-Trimethylbenzene	108-67-8	2.50	U	5.00	2.50	1.25
Vinyl chloride	75-01-4	2.98	J	5.00	2.50	1.25
o-Xylene	95-47-6	2.50	U	5.00	2.50	1.25
m-,p-Xylene	179601-23-1	5.00	U	10.0	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW11-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 23:40
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	11M12118
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	6.58		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.396	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	19.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	110	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW08-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/25/2016 01:15
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	11M12121
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	50.0	U	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	U	20.0	10.0	5.00
2-Butanone	78-93-3	50.0	U	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	2.50	U	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	U	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	2.50	U	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	31.9		10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	56.1		10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	1130		20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	U	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	Q	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	5.00	U	10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	2.76	J	10.0	5.00	2.50
Trichloroethene	79-01-6	5.00	U	10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	5.00	U	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	110	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW13-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570238	**Analyst:**	JDS	**Run Date:**	05/25/2016 18:34
Collect Date:	05/19/2016 11:00	**Dilution:**	2	**File ID:**	11M12138
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	10.0	U	20.0	10.0	5.00
Benzene	71-43-2	0.500	U	2.00	0.500	0.250
Bromobenzene	108-86-1	0.500	U	2.00	0.500	0.250
Bromochloromethane	74-97-5	0.800	U	2.00	0.800	0.400
Bromodichloromethane	75-27-4	1.00	U	2.00	1.00	0.500
Bromoform	75-25-2	2.00	U	4.00	2.00	1.00
Bromomethane	74-83-9	2.00	U	4.00	2.00	1.00
2-Butanone	78-93-3	10.0	U	20.0	10.0	5.00
n-Butylbenzene	104-51-8	1.00	U	2.00	1.00	0.500
sec-Butylbenzene	135-98-8	1.00	U	2.00	1.00	0.500
tert-Butylbenzene	98-06-6	1.00	U	2.00	1.00	0.500
Carbon disulfide	75-15-0	2.00	U	4.00	2.00	1.00
Carbon tetrachloride	56-23-5	1.00	Q	2.00	1.00	0.500
Chlorobenzene	108-90-7	0.500	U	2.00	0.500	0.250
Chlorodibromomethane	124-48-1	1.00	U	2.00	1.00	0.500
Chloroethane	75-00-3	2.00	U	4.00	2.00	1.00
Chloroform	67-66-3	1.36	J	2.00	0.500	0.250
Chloromethane	74-87-3	2.00	U	4.00	2.00	1.00
2-Chlorotoluene	95-49-8	0.500	U	2.00	0.500	0.250
4-Chlorotoluene	106-43-4	1.00	U	2.00	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8	4.00	U	10.0	4.00	2.00
1,2-Dibromoethane	106-93-4	1.00	U	2.00	1.00	0.500
Dibromomethane	74-95-3	1.00	U	2.00	1.00	0.500
1,2-Dichlorobenzene	95-50-1	0.500	U	2.00	0.500	0.250
1,3-Dichlorobenzene	541-73-1	1.00	U	2.00	1.00	0.500
1,4-Dichlorobenzene	106-46-7	0.500	U	2.00	0.500	0.250
Dichlorodifluoromethane	75-71-8	1.00	U	2.00	1.00	0.500
1,1-Dichloroethane	75-34-3	22.5		2.00	0.500	0.250
1,2-Dichloroethane	107-06-2	35.7		2.00	1.00	0.500
1,1-Dichloroethene	75-35-4	274		4.00	2.00	1.00
cis-1,2-Dichloroethene	156-59-2	1.55	J	2.00	1.00	0.500

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	1.00	U	2.00	1.00	0.500
1,2-Dichloropropane	78-87-5	0.800	U	2.00	0.800	0.400
1,3-Dichloropropane	142-28-9	0.800	U	2.00	0.800	0.400
2,2-Dichloropropane	594-20-7	1.00	U	2.00	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	1.00	U	2.00	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6	2.00	U	4.00	2.00	1.00
1,1-Dichloropropene	563-58-6	1.00	U	2.00	1.00	0.500
Ethylbenzene	100-41-4	1.00	U	2.00	1.00	0.500
2-Hexanone	591-78-6	10.0	U	20.0	10.0	5.00
Hexachlorobutadiene	87-68-3	1.00	Q	2.00	1.00	0.500
Isopropylbenzene	98-82-8	1.00	U	2.00	1.00	0.500
p-Isopropyltoluene	99-87-6	1.00	U	2.00	1.00	0.500
4-Methyl-2-pentanone	108-10-1	10.0	U	20.0	10.0	5.00
Methylene chloride	75-09-2	1.00	U	2.00	1.00	0.500
Naphthalene	91-20-3	0.800	U	2.00	0.800	0.400
n-Propylbenzene	103-65-1	0.500	U	2.00	0.500	0.250
Styrene	100-42-5	0.500	U	2.00	0.500	0.250
1,1,1,2-Tetrachloroethane	630-20-6	1.00	U	2.00	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5	0.800	U	2.00	0.800	0.400
Tetrachloroethene	127-18-4	1.00	U	2.00	1.00	0.500
Toluene	108-88-3	1.00	U	2.00	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	0.600	U	2.00	0.600	0.300
1,2,4-Trichlorobenzene	120-82-1	0.800	U	2.00	0.800	0.400
1,1,1-Trichloroethane	71-55-6	1.00	U	2.00	1.00	0.500
1,1,2-Trichloroethane	79-00-5	7.00		2.00	1.00	0.500
Trichloroethene	79-01-6	1.67	J	2.00	1.00	0.500
Trichlorofluoromethane	75-69-4	1.00	U	2.00	1.00	0.500
1,2,3-Trichloropropane	96-18-4	2.00	U	4.00	2.00	1.00
1,2,4-Trimethylbenzene	95-63-6	1.00	U	2.00	1.00	0.500
1,3,5-Trimethylbenzene	108-67-8	1.00	U	2.00	1.00	0.500
Vinyl chloride	75-01-4	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	1.00	U	2.00	1.00	0.500
m-,p-Xylene	179601-23-1	2.00	U	4.00	2.00	1.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	85	115	
1,2-Dichloroethane-d4	107	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-18	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW15-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/25/2016 02:19
Collect Date:	05/19/2016 14:45	**Dilution:**	1	**File ID:**	11M12123
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.145	J	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	1.38		1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.173	J	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	57.3		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	117		1.00	0.500	0.250
cis-1,2-Dichloroethene	156-59-2	7.49		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.307	J	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	25.7		1.00	0.500	0.250
Trichloroethene	79-01-6	6.89		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	1.07		1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	115	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	103	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-18	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW15-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570238	**Analyst:**	JDS	**Run Date:**	05/25/2016 19:38
Collect Date:	05/19/2016 14:45	**Dilution:**	20	**File ID:**	11M12140
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	100	U	200	100	50.0
Benzene	71-43-2	5.00	U	20.0	5.00	2.50
Bromobenzene	108-86-1	5.00	U	20.0	5.00	2.50
Bromochloromethane	74-97-5	8.00	U	20.0	8.00	4.00
Bromodichloromethane	75-27-4	10.0	U	20.0	10.0	5.00
Bromoform	75-25-2	20.0	U	40.0	20.0	10.0
Bromomethane	74-83-9	20.0	U	40.0	20.0	10.0
2-Butanone	78-93-3	100	U	200	100	50.0
n-Butylbenzene	104-51-8	10.0	U	20.0	10.0	5.00
sec-Butylbenzene	135-98-8	10.0	U	20.0	10.0	5.00
tert-Butylbenzene	98-06-6	10.0	U	20.0	10.0	5.00
Carbon disulfide	75-15-0	20.0	U	40.0	20.0	10.0
Carbon tetrachloride	56-23-5	10.0	Q	20.0	10.0	5.00
Chlorobenzene	108-90-7	5.00	U	20.0	5.00	2.50
Chlorodibromomethane	124-48-1	10.0	U	20.0	10.0	5.00
Chloroethane	75-00-3	20.0	U	40.0	20.0	10.0
Chloroform	67-66-3	5.00	U	20.0	5.00	2.50
Chloromethane	74-87-3	20.0	U	40.0	20.0	10.0
2-Chlorotoluene	95-49-8	5.00	U	20.0	5.00	2.50
4-Chlorotoluene	106-43-4	10.0	U	20.0	10.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8	52.6	J	100	40.0	20.0
1,2-Dibromoethane	106-93-4	10.0	U	20.0	10.0	5.00
Dibromomethane	74-95-3	10.0	U	20.0	10.0	5.00
1,2-Dichlorobenzene	95-50-1	5.00	U	20.0	5.00	2.50
1,3-Dichlorobenzene	541-73-1	10.0	U	20.0	10.0	5.00
1,4-Dichlorobenzene	106-46-7	5.00	U	20.0	5.00	2.50
Dichlorodifluoromethane	75-71-8	10.0	U	20.0	10.0	5.00
1,1-Dichloroethane	75-34-3	46.0		20.0	5.00	2.50
1,2-Dichloroethane	107-06-2	86.5		20.0	10.0	5.00
1,1-Dichloroethene	75-35-4	2460		40.0	20.0	10.0
cis-1,2-Dichloroethene	156-59-2	6.10	J	20.0	10.0	5.00

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	10.0	U	20.0	10.0	5.00
1,2-Dichloropropane	78-87-5	8.00	U	20.0	8.00	4.00
1,3-Dichloropropane	142-28-9	8.00	U	20.0	8.00	4.00
2,2-Dichloropropane	594-20-7	10.0	U	20.0	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5	10.0	U	20.0	10.0	5.00
trans-1,3-Dichloropropene	10061-02-6	20.0	U	40.0	20.0	10.0
1,1-Dichloropropene	563-58-6	10.0	U	20.0	10.0	5.00
Ethylbenzene	100-41-4	10.0	U	20.0	10.0	5.00
2-Hexanone	591-78-6	100	U	200	100	50.0
Hexachlorobutadiene	87-68-3	10.0	Q	20.0	10.0	5.00
Isopropylbenzene	98-82-8	10.0	U	20.0	10.0	5.00
p-Isopropyltoluene	99-87-6	10.0	U	20.0	10.0	5.00
4-Methyl-2-pentanone	108-10-1	100	U	200	100	50.0
Methylene chloride	75-09-2	10.0	U	20.0	10.0	5.00
Naphthalene	91-20-3	36.7		20.0	8.00	4.00
n-Propylbenzene	103-65-1	5.21	J	20.0	5.00	2.50
Styrene	100-42-5	5.00	U	20.0	5.00	2.50
1,1,1,2-Tetrachloroethane	630-20-6	10.0	U	20.0	10.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5	8.00	U	20.0	8.00	4.00
Tetrachloroethene	127-18-4	10.0	U	20.0	10.0	5.00
Toluene	108-88-3	10.0	U	20.0	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6	6.00	U	20.0	6.00	3.00
1,2,4-Trichlorobenzene	120-82-1	8.00	U	20.0	8.00	4.00
1,1,1-Trichloroethane	71-55-6	10.0	U	20.0	10.0	5.00
1,1,2-Trichloroethane	79-00-5	22.7		20.0	10.0	5.00
Trichloroethene	79-01-6	5.48	J	20.0	10.0	5.00
Trichlorofluoromethane	75-69-4	10.0	U	20.0	10.0	5.00
1,2,3-Trichloropropane	96-18-4	20.0	U	40.0	20.0	10.0
1,2,4-Trimethylbenzene	95-63-6	10.0	U	20.0	10.0	5.00
1,3,5-Trimethylbenzene	108-67-8	10.0	U	20.0	10.0	5.00
Vinyl chloride	75-01-4	10.0	U	20.0	10.0	5.00
o-Xylene	95-47-6	10.0	U	20.0	10.0	5.00
m-,p-Xylene	179601-23-1	20.0	U	40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.9	85	115	
1,2-Dichloroethane-d4	94.6	70	120	
Toluene-d8	98.8	85	120	
4-Bromofluorobenzene	102	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-19	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 18:20
Collect Date:	05/19/2016 00:01	**Dilution:**	1	**File ID:**	11M12108
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	104	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	105	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-20	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	67WW07-051916	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/25/2016 00:11
Collect Date:	05/19/2016 08:00	**Dilution:**	1	**File ID:**	11M12119
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.330	J	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	85	115	
1,2-Dichloroethane-d4	111	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	106	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-21	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	05/13/2016 19:26
Workgroup #:	WG570084	**Analyst:**	JDS	**Run Date:**	05/24/2016 18:52
Collect Date:	05/19/2016 00:01	**Dilution:**	1	**File ID:**	11M12109
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	Q	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	102	85	115	
1,2-Dichloroethane-d4	106	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	105	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 061415

Analyst1: TMB Analyst2: DLW

Method: 8260B SOP: MSV01 Rev: 22

Method: 624 SOP: MSV10 Rev: 13

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD70890 Surrogate Standard: STD70872

CCV: STD70883 LCS: STD70514 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG527475

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M08234	WG527475-01 50ng BFB STD	NA	1	1	STD70707	06/14/15 09:34
11M08235	WG527475-02 5ug/L STD8260	NA	1	1	STD70883	06/14/15 09:58
11M08236	WG527475-03 20ug/L STD8260	NA	1	1	STD70883	06/14/15 10:30
11M08237	WG527475-04 50ug/L STD8260	NA	1	1	STD70883	06/14/15 11:02
11M08238	WG527475-05 100ug/L STD8260	NA	1	1	STD70883	06/14/15 11:34
11M08239	WG527475-06 200ug/L STD8260	NA	1	1	STD70883	06/14/15 12:06
11M08240	WG527475-07 300ug/L STD8260	NA	1	1	STD70883	06/14/15 12:38
11M08241	WG527475-08 400ug/L STD8260	NA	1	1	STD70883	06/14/15 13:10
11M08242	WG527475-09 500ug/L STD8260	NA	1	1	STD70883	06/14/15 13:42
11M08243	RINSE	NA	1	1		06/14/15 14:14
11M08244	RINSE	NA	1	1		06/14/15 14:46
11M08245	WG527475-10 100ug/L ALT STD8260	NA	1	1	STD70514	06/14/15 15:18

Approved: September 15, 2015

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 042416

Analyst1: JDS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 23

Method: 624 SOP: MSV10 Rev: 14

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD75498 Surrogate Standard: STD75498

CCV: STD75791 LCS: STD75801 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG566155

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M138749	RINSE	NA	1	1		04/24/16 16:05
6M138750	WG566155-01 50ng BFB 826-A9	NA	1	1	STD75485	04/24/16 16:33
6M138751	WG566155-02 5ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 16:59
6M138752	WG566155-03 20ug/L STD 826-A	NA	1	1	STD75791	04/24/16 17:31
6M138753	WG566155-04 50ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 18:03
6M138754	WG566155-05 100ug/L STD 826-A	NA	1	1	STD75791	04/24/16 18:36
6M138755	WG566155-06 200ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 19:08
6M138756	WG566155-07 300ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 19:40
6M138757	WG566155-08 400ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 20:12
6M138758	WG566155-09 500ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 20:44
6M138759	RINSE	NA	1	1		04/24/16 21:16
6M138760	RINSE	NA	1	1		04/24/16 21:49
6M138761	WG566155-10 100ug/L ALT SRC	NA	1	1	STD75801	04/24/16 22:21
6M138762	RINSE	NA	1	1		04/24/16 22:53
6M138763	RINSE	NA	1	1		04/24/16 23:25

Approved: April 29, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 051116

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 624 SOP: MSV10 Rev: 14

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53746

Internal Standard: STD75822 Surrogate Standard: STD75822

CCV: STD76070; STD76072 LCS: STD76109; STD75801 MS/MSD: STD76055

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG568265; WG568472

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M139171	bfb check	NA	1	1	STD76034	05/11/16 06:22
6M139172	bfb check	NA	1	1	STD76034	05/11/16 06:38
6M139173	WG568265-01 50ng BFB STD 8260	NA	1	1	STD76034	05/11/16 08:06
6M139174	WG568265-02 0.3ug/L STD 8260	NA	1	1	STD76070	05/11/16 08:32
6M139175	WG568265-03 0.4ug/L STD 8260	NA	1	1	STD76070	05/11/16 09:04
6M139176	WG568265-04 1ug/L STD 8260	NA	1	1	STD76070	05/11/16 09:38
6M139177	WG568265-01 50ng BFB STD 8260	NA	1	1	STD76034	05/11/16 10:08
6M139178	WG568265-02 0.3ug/L STD 8260	NA	1	1	STD76070	05/11/16 10:40
6M139179	WG568265-03 0.4ug/L STD 8260	NA	1	1	STD76070	05/11/16 11:12
6M139180	WG568265-04 1ug/L STD 8260	NA	1	1	STD76070	05/11/16 11:45
6M139181	WG568265-05 2ug/L STD 8260	NA	1	1	STD76070	05/11/16 12:16
6M139182	WG568265-06 5ug/L STD 8260	NA	1	1	STD76070	05/11/16 12:48
6M139183	WG568265-07 20ug/L STD 8260	NA	1	1	STD76070	05/11/16 13:20
6M139184	WG568265-08 50ug/L STD 8260	NA	1	1	STD76070	05/11/16 13:53
6M139185	WG568265-09 100ug/L STD 8260	NA	1	1	STD76070	05/11/16 14:25
6M139186	WG568265-10 200ug/L STD 8260	NA	1	1	STD76070	05/11/16 14:57
6M139187	WG568265-11 300ug/L STD 8260	NA	1	1	STD76070	05/11/16 15:29
6M139188	RINSE	NA	1	1		05/11/16 16:08
6M139189	RINSE	NA	1	1		05/11/16 16:40
6M139190	WG568265-12 50ug/L ALT SRC STD 8260	NA	1	1	STD76109	05/11/16 17:12
6M139191	WG568265-12 50ug/L ALT SRC STD 8260	NA	1	1	STD76109	05/11/16 18:17
6M139192	WG568470-01 BFB 50ng 8260	NA	1	1	STD76034	05/11/16 19:11
6M139193	WG568470-02 50ug/L CCV 8260	NA	1	1	STD76070	05/11/16 19:40
6M139194	WG568471-01 100ug/L CCV A9	NA	1	1	STD76072	05/11/16 20:12
6M139195	WG568472-01 VBLK0511 BLANK 8260	NA	1	1		05/11/16 20:44
6M139196	WG568472-02 20ug/L LCS 8260	NA	1	1	STD76109	05/11/16 21:16
6M139197	L16050479-08 2X MS A 826-A9-SPE	7	1	2	STD76055	05/11/16 21:49
6M139198	L16050479-09 2X MSD A 826-A9-SPE	7	1	2	STD76055	05/11/16 22:21
6M139199	WG568472-06 100ug/L LCS A9	NA	1	1	STD75801	05/11/16 22:53
6M139200	L16050479-07 2X REF A 826-A9-SPE	7	1	2		05/11/16 23:25
6M139201	L16050479-04 A 826-A9-SPE	7	1	1		05/11/16 23:57
6M139202	L16050418-05 A 826-A9-SPE	7	1	1		05/12/16 00:30
6M139203	L16050418-06 A 826-A9-SPE	7	1	1		05/12/16 01:02
6M139204	L16050418-07 A 826-A9-SPE	7	1	1		05/12/16 01:34

Approved: May 13, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 051116
Analyst1: TMB Analyst2: FJB
Method: 8260B SOP: MSV01 Rev: 23
Method: 624 SOP: MSV10 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53746

Internal Standard: STD75822 Surrogate Standard: STD75822
CCV: STD76070; STD76072 LCS: STD76109; STD75801 MS/MSD: STD76055

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG568265; WG568472

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M139205	L16050418-08 A 826-A9-SPE	7	1	1		05/12/16 02:06
6M139206	L16050479-01 A 826-A9-SPE	7	1	1		05/12/16 02:38
6M139207	L16050479-12 A 826-A9-SPE	7	1	1		05/12/16 03:10
6M139208	L16050479-10 A 826-A9-SPE	7	1	1		05/12/16 03:42
6M139209	L16050479-02 10X A 826-A9-SPE	7	1	10		05/12/16 04:14
6M139210	L16050479-03 10X A 826-A9-SPE	7	1	10		05/12/16 04:46
6M139211	L16050479-05 10X A 826-A9-SPE	7	1	10		05/12/16 05:19
6M139212	L16050479-06 2X A 826-A9-SPE	7	1	2		05/12/16 05:51
6M139213	L16050479-14 2X A 826-A9-SPE	7	1	2		05/12/16 06:23
6M139214	L16050479-11 20X A 826-A9-SPE	7	1	20		05/12/16 06:55
6M139215	CCV	NA	1	1		05/12/16 07:27
6M139216	RINSE	NA	1	1		05/12/16 07:59

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X		Internal standard failure	
File ID: 6M139174				
	First internal was over 1 million. Too high to start out with a curve.			
5	X		Internal standard failure	
File ID: 6M139175				
	First internal still too high. DNR.			
6	X		Internal standard failure	
File ID: 6M139176				
	First internal still too high. DNR. Restart.			
20	X			
File ID: 6M139190				
	Several compounds were high. DNR.			
31	X	10	Over Calibration Range	TCE
File ID: 6M139201				
32	X	1	Carry-over contamination	
File ID: 6M139202				
	Possible TCE carry over.			
38	X	1	Carry-over contamination	
File ID: 6M139208				

Approved: May 13, 2016

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 051116

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 624 SOP: MSV10 Rev: 14

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53746

Internal Standard: STD75822 Surrogate Standard: STD75822

CCV: STD76070; STD76072 LCS: STD76109; STD75801 MS/MSD: STD76055

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG568265; WG568472

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
42	X	10	Over Calibration Range	CIS12-DCE
File ID: 6M139212				
44	X	100	Over Calibration Range	TCE
File ID: 6M139214				

Approved: May 13, 2016

Page: 3

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051316

Analyst1: JDS Analyst2: NA

Method: 8260B SOP: MSV01 / OVAP MSV01 Rev: 23 / 0

Method: 5030B/5030C/5035A SOP: PAT01 / OVAP PAT01 Rev: 18 / 0

Method: 624 SOP: MSV10 Rev: 14

Maintenance Log ID:

Internal Standard: STD76110 Surrogate Standard: STD75929

CCV: STD76127 LCS: STD76109 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG568769

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11835	RINSE	NA	1	1		05/13/16 11:59
11M11836	WG568769-01 50ng BFB STD 8260	NA	1	1	STD76034	05/13/16 14:15
11M11837	WG568769-02 0.3ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 14:40
11M11838	WG568769-03 0.4ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 15:12
11M11839	WG568769-04 1.0ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 15:43
11M11840	WG568769-05 2.0ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 16:15
11M11841	WG568769-06 5.0ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 16:47
11M11842	WG568769-07 20ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 17:19
11M11843	WG568769-08 50ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 17:51
11M11844	WG568769-09 100ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 18:22
11M11845	WG568769-10 200ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 18:54
11M11846	WG568769-11 300ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 19:26
11M11847	RINSE	NA	1	1		05/13/16 19:58
11M11848	WG568769-12 50ug/L ALT SRC STD 8260	NA	1	1	STD76109	05/13/16 20:30
11M11849	RINSE	NA	1	1		05/13/16 21:02
11M11850	RINSE	NA	1	1		05/13/16 21:34

Approved: May 23, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 052416

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53766

Internal Standard: STD76146 Surrogate Standard: STD76146

CCV: STD76244; STD76072 LCS: STD76265 MS/MSD: STD76265

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG569960; WG570140

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M139570	WG569959-01 50ng BFB STD 8260	NA	1	1	STD76034	05/24/16 06:10
6M139571	WG569959-02 50ug/L CCV STD 8260	NA	1	1	STD76244	05/24/16 06:35
6M139572	WG569959-02 50ug/L CCV STD 8260	NA	1	1	STD76244	05/24/16 07:07
6M139573	WG569963-01 100ug/L A9 CCV STD 8260	NA	1	1	STD76072	05/24/16 07:39
6M139574	WG569960-01 VBLK0524 BLANK STD 826	NA	1	1		05/24/16 08:12
6M139575	WG569960-02 20ug/L LCS STD 8260	NA	1	1	STD76265	05/24/16 08:44
6M139576	L16051153-06 A MS 826-LOW	<2	1	1	STD76265	05/24/16 09:16
6M139577	L16051153-07 A MSD 826-LOW	<2	1	1	STD76265	05/24/16 09:48
6M139578	L16050923-02 A TB 826-SPE	<2	1	1		05/24/16 10:20
6M139579	L16050987-02 A TB 826-SPE CT1	<2	1	1		05/24/16 10:52
6M139580	L16051153-01 A 826-LOW	<2	1	1		05/24/16 11:25
6M139581	L16051153-02 A 826-LOW	<2	1	1		05/24/16 11:57
6M139582	L16051153-03 A 826-LOW	<2	1	1		05/24/16 12:29
6M139583	L16051153-05 REF A 826-LOW	<2	1	1		05/24/16 13:01
6M139584	L16051153-08 A 826-LOW	<2	1	1		05/24/16 13:34
6M139585	L16051153-09 A 826-LOW	<2	1	1		05/24/16 14:05
6M139586	L16051153-10 A 826-LOW	<2	1	1		05/24/16 14:37
6M139587	L16051153-11 A 826-LOW	<2	1	1		05/24/16 15:09
6M139588	L16051153-12 A 826-LOW	<2	1	1		05/24/16 15:41
6M139589	L16051153-04 A 826-LOW	<2	1	1		05/24/16 16:14
6M139590	L16050993-02 C 50X 826-A9-SPE A1	7	1	50		05/24/16 16:46
6M139591	L16050923-01 A 10X 826-SPE	<2	1	10		05/24/16 17:18
6M139592	L16050987-01 A 10X 826-SPE CT1	<2	1	10		05/24/16 17:50
6M139593	RINSE	NA	1	1		05/24/16 18:28
6M139594	WG570139-01 BFB 50ng 8260	NA	1	1	STD76034	05/24/16 18:59
6M139595	WG570139-02 50ug/L CCV 8260	NA	1	1	STD76244	05/24/16 19:29
6M139596	WG570141-01 100ug/L CCV A9	NA	1	1	STD76072	05/24/16 20:04
6M139597	WG570140-01 BLANK 0524 8260	NA	1	1		05/24/16 20:36
6M139598	WG570140-02 20ug/L LCS 8260	NA	1	1	STD76265	05/24/16 21:08
6M139599	WG570140-03 20ug/L LCS2 8260	NA	1	1	STD76265	05/24/16 21:40
6M139600	L16050923-01 500X B 826-SPE D1	<2	1	500		05/24/16 22:12
6M139601	L16050987-01 10X B 826-SPE A1	<2	1	10		05/24/16 22:45
6M139602	L16051231-06 TB A 826-VAP2	<2	1	1		05/24/16 23:17
6M139603	L16050931-02 B 826-SPE	<2	1	1		05/24/16 23:49

Approved: May 25, 2016

Sarah Vandenberg

Microbac

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 052416

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53766

Internal Standard: STD76146 Surrogate Standard: STD76146

CCV: STD76244; STD76072 LCS: STD76265 MS/MSD: STD76265

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG569960; WG570140

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M139604	L16050932-01 B 826-SPE	<2	1	1		05/25/16 00:21
6M139605	L16050932-03 B 826-SPE	<2	1	1		05/25/16 00:53
6M139606	L16050932-04 B 826-SPE	<2	1	1		05/25/16 01:25
6M139607	L16050933-01 B 826-SPE	<2	1	1		05/25/16 01:57
6M139608	L16050933-02 B 826-SPE	<2	1	1		05/25/16 02:29
6M139609	L16050933-03 B 826-SPE	<2	1	1		05/25/16 03:01
6M139610	L16050948-01 B 826-SPE	<2	1	1		05/25/16 03:33
6M139611	L16051231-01 2.5X A 826-VAP2	<2	1	2.5		05/25/16 04:06
6M139612	L16051231-03 2.5X A 826-VAP2	<2	1	2.5		05/25/16 04:38
6M139613	L16051231-05 100X A 826-VAP2	<2	1	100		05/25/16 05:10
6M139614	L16051191-01 A 826-VAP2	3	1	1		05/25/16 05:42
6M139615	L16051231-02 A 826-VAP2	<2	1	1		05/25/16 06:14
6M139616	L16051231-04 A 826-VAP2	<2	1	1		05/25/16 06:46
6M139617	CCV	NA	1	1		05/25/16 07:18
6M139618	RINSE	NA	1	1		05/25/16 07:50

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 6M139571				
	Ketones were low, DNR.			
22	X	500	Over Calibration Range	N-HEXANE
File ID: 6M139591				
	Received sample with head space.			
23	X	10	Carry-over contamination	
File ID: 6M139592				
	Possible n-hexane carry over. DNR.			
31				
File ID: 6M139600				
	Received sample with head space.			
32				
File ID: 6M139601				
	Received sample with head space.			
42	X	1	Analyzed too dilute	

Approved: May 25, 2016

Sarah Vandenberg

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 052416

Analyst1: TMB Analyst2: FJB

Method: 8260B SOP: MSV01 Rev: 23

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53766

Internal Standard: STD76146 Surrogate Standard: STD76146

CCV: STD76244; STD76072 LCS: STD76265 MS/MSD: STD76265

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG569960; WG570140

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 6M139611				
	DNR.			
43	X	1	Analyzed too dilute	
File ID: 6M139612				
	DNR.			
44	X	1	Analyzed too dilute	
File ID: 6M139613				
	DNR.			

Approved: May 25, 2016

Sarah Vandenberg

Page: 3

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 052416

Analyst1: JDS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 24

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD76110 Surrogate Standard: STD75929

CCV: STD76227 LCS: STD76265 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG570084

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M12101	WG570083-01 50ng BFB STD 8260	NA	1	1	STD76034	05/24/16 14:44
11M12102	WG570083-02 50ug/L CCV STD 8260	NA	1	1	STD76227	05/24/16 15:08
11M12103	WGXXXXXX-01 50ug/L A9-CCV STD 8260	NA	1	1	STDXXXXX	05/24/16 15:40
11M12104	WG570084-01 BLANK STD 8260	NA	1	1		05/24/16 16:12
11M12105	WG570084-02 20ug/L LCS STD 8260	NA	1	1	STD76265	05/24/16 16:44
11M12106	WG570084-03 20ug/L LCS2 STD 8260	NA	1	1	STD76265	05/24/16 17:16
11M12107	RINSE	NA	1	1		05/24/16 17:48
11M12108	L16051153-19 A TB 826-LOW	<2	1	1		05/24/16 18:20
11M12109	L16051153-21 A TB 826-LOW	<2	1	1		05/24/16 18:52
11M12110	L16051175-01 A 826-SPE	<2	1	1		05/24/16 19:24
11M12111	L16051175-02 A 826-SPE	<2	1	1		05/24/16 19:56
11M12112	L16051175-03 A 826-SPE	<2	1	1		05/24/16 20:28
11M12113	L16051175-04 A 826-SPE	<2	1	1		05/24/16 21:00
11M12114	L16051175-05 A 826-SPE	<2	1	1		05/24/16 21:32
11M12115	L16051175-06 A 826-SPE	<2	1	1		05/24/16 22:04
11M12116	L16051175-07 A 826-SPE	<2	1	1		05/24/16 22:36
11M12117	L16051153-13 A 826-LOW	<2	1	1		05/24/16 23:08
11M12118	L16051153-15 A 826-LOW	<2	1	1		05/24/16 23:40
11M12119	L16051153-20 A 826-LOW	<2	1	1		05/25/16 00:11
11M12120	L16051153-14 A 20X 826-LOW	<2	1	20		05/25/16 00:43
11M12121	L16051153-16 A 10X 826-LOW	<2	1	10		05/25/16 01:15
11M12122	L16051153-17 A 5X 826-LOW	<2	1	5		05/25/16 01:47
11M12123	L16051153-18 A 826-LOW	<2	1	1		05/25/16 02:19
11M12124	CCV	NA	1	1		05/25/16 02:51
11M12125	RINSE	NA	1	1		05/25/16 03:22
11M12126	RINSE	NA	1	1		05/25/16 03:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes
20	X	5	Analyzed too dilute	
File ID: 11M12120				
	L16051153-14			
22	X	2	Analyzed too dilute	

Approved: May 31, 2016

Sarah Vandenberg

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 052416

Analyst1: JDS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 24

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD76110 Surrogate Standard: STD75929

CCV: STD76227 LCS: STD76265 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG570084

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 11M12122				
	L16051153-17			
23	X	20	Over Calibration Range	1,1- DCE
File ID: 11M12123				
	L16051153-18			

Approved: May 31, 2016

Sarah Vandenberg

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 052516

Analyst1: JDS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 24

Method: 624 SOP: MSV10 Rev: 15

Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD76110 Surrogate Standard: STD75929

CCV: STD76227 LCS: STD76265 MS/MSD: STD76265

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG570238

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M12128	WG570237-01 50ng BFB STD 8260	NA	1	1	STD76034	05/25/16 13:22
11M12129	WG570237-02 50ug/L CCV STD 8260	NA	1	1	STD76227	05/25/16 13:46
11M12130	WGXXXXXX-01 50ug/L A9-CCV STD 8260	NA	1	1	STDXXXXX	05/25/16 14:19
11M12131	WG570238-01 BLANK STD 8260	NA	1	1		05/25/16 14:51
11M12132	WG570238-02 20ug/L LCS STD 8260	NA	1	1	STD76265	05/25/16 15:23
11M12133	L16051341-08 A MS 826-SPE1	NA	1	1	STD76265	05/25/16 15:55
11M12134	L16051341-09 A MSD 826-SPE1	NA	1	1	STD76265	05/25/16 16:26
11M12135	RINSE	NA	1	1		05/25/16 16:58
11M12136	L16050948-03 B A1 826-SPE	<2	1	1		05/25/16 17:30
11M12137	L16051153-14 B 00 5X 826-LOW	<2	1	5		05/25/16 18:02
11M12138	L16051153-17 B 00 2X 826-LOW	<2	1	2		05/25/16 18:34
11M12139	L16051247-02 B 00 10X 8260	6	12	10		05/25/16 19:06
11M12140	L16051153-18 B D1 20X 826-LOW	<2	1	20		05/25/16 19:38
11M12141	L16051181-02 B D1 20X AF 8260	<2	1	20		05/25/16 20:10
11M12142	RINSE	NA	1	1		05/25/16 20:42
11M12143	L16051341-01 A 826-SPE1	<2	1	1		05/25/16 21:14
11M12144	L16051341-02 A 826-SPE1	<2	1	1		05/25/16 21:46
11M12145	L16051341-04 A 826-SPE1	<2	1	1		05/25/16 22:18
11M12146	L16051341-05 A 826-SPE1	NA	1	1		05/25/16 22:50
11M12147	L16051341-07 A 826-SPE1	<2	1	1		05/25/16 23:22
11M12148	L16051341-06 A 826-SPE1	<2	1	1		05/25/16 23:53
11M12149	AF RINSE	NA	1	1		05/26/16 00:25
11M12150	WG570238-06 BLANK2 STD 624	NA	2	1		05/26/16 00:57
11M12151	L16051324-02 A 624-SPE12	7	2	1		05/26/16 01:29
11M12152	L16051324-03 A 624-SPE12	7	2	1		05/26/16 02:01
11M12153	CCV	NA	1	1		05/26/16 02:32
11M12154	RNSE	NA	1	1		05/26/16 03:04
11M12155	RNSE	NA	1	1		05/26/16 03:36

Comments

Seq.	Rerun	Dil.	Reason	Analytes
9				
File ID: 11M12136				

Approved: May 31, 2016

Sarah Vandenberg

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS11	Dataset:	052516		
Analyst1:	JDS	Analyst2:	NA		
Method:	8260B	SOP:	MSV01	Rev:	24
Method:	624	SOP:	MSV10	Rev:	15
Method:	5030B/5030C/5035A	SOP:	PAT01	Rev:	18
Maintenance Log ID:					

Internal Standard: STD76110 Surrogate Standard: STD75929

CCV: STD76227 LCS: STD76265 MS/MSD: STD76265

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG570238

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
			L16050948-03 RR not needed. DNR.	
14 File ID: 11M12141				
			L16051181-02 too foamy to RR straight. Ran at 20x with anti-foam to prevent instrument damage.	

Approved: May 31, 2016

Sarah Vandenberg

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 14-JUN-2015
Analyst: TMB
Analyst: DLW
Method: 8260B/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 69930
Analytical Workgroups: WG527475

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
20-AUG-2015
Tiffany Bailey

Secondary Reviewer:
15-SEP-2015

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-15-2015 14:33:53

Microbac Laboratories Inc.

Data Checklist

Date: 24-APR-2016
Analyst: JDS
Analyst: NA
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 74754
Analytical Workgroups: WG566155

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
27-APR-2016
Tiffany Bailey

Secondary Reviewer:
29-APR-2016

CHECKLIST1 - Modified 03/05/2008
Generated: APR-29-2016 12:29:57

Microbac Laboratories Inc.

Data Checklist

Date: 11-MAY-2016
Analyst: TMB
Analyst: FJB
Method: 8260B/624/OVAP
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 75043
Analytical Workgroups: WG568265; WG568472

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	WTD
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
12-MAY-2016
Tiffany Bailey

Secondary Reviewer:
13-MAY-2016
Wade D

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-13-2016 12:40:41

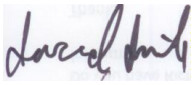
Microbac Laboratories Inc.

Data Checklist

Date: 13-MAY-2016
Analyst: JDS
Analyst: NA
Method: 8260B
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 75133
Analytical Workgroups: WG568769

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	X
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
23-MAY-2016



Secondary Reviewer:
23-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-23-2016 15:39:32

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAY-2016
Analyst: TMB
Analyst: FJB
Method: 8260B
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 75294
Analytical Workgroups: WG569960; WG570140

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	SAV
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
25-MAY-2016
Tiffany Bailey

Secondary Reviewer:
25-MAY-2016
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-25-2016 13:16:01

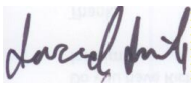
Microbac Laboratories Inc.

Data Checklist

Date: 24-MAY-2016
Analyst: JDS
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 75326
Analytical Workgroups: WG570084

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	X
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	SAV
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
27-MAY-2016



Secondary Reviewer:
31-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-31-2016 11:47:54

Microbac

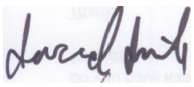
Microbac Laboratories Inc.

Data Checklist

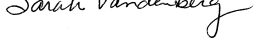
Date: 25-MAY-2016
Analyst: JDS
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 75327
Analytical Workgroups: WG570238

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	SAV
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
31-MAY-2016



Secondary Reviewer:
31-MAY-2016



CHECKLIST1 - Modified 03/05/2008
Generated: MAY-31-2016 13:19:07

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG569960

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW14-051816	01	05/18/16					05/24/2016	6.1	14		05/24/16	6.1	14	
67WW09-051816	02	05/18/16					05/24/2016	6.1	14		05/24/16	6.1	14	
67WW09FD-051816	03	05/18/16					05/24/2016	6.1	14		05/24/16	6.1	14	
67WW16-051816	04	05/18/16					05/24/2016	6.2	14		05/24/16	6.2	14	
67WW12-051816	05	05/18/16					05/24/2016	5.9	14		05/24/16	5.9	14	
67WW12MS-051816	06	05/18/16					05/24/2016	5.7	14		05/24/16	5.7	14	
67WW12MSD-051816	07	05/18/16					05/24/2016	5.7	14		05/24/16	5.7	14	
67WW10-051816	08	05/18/16					05/24/2016	5.9	14		05/24/16	5.9	14	
67WW09A-051816	09	05/18/16					05/24/2016	5.8	14		05/24/16	5.8	14	
67WW05-051916	10	05/19/16					05/24/2016	5.3	14		05/24/16	5.3	14	
67WW02-051916	11	05/19/16					05/24/2016	5.3	14		05/24/16	5.3	14	
67WW02FD-051916	12	05/19/16					05/24/2016	5.3	14		05/24/16	5.3	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4779004
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG570084

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW03-051916	13	05/19/16					05/24/2016	5.6	14		05/24/16	5.6	14	
67WW11-051916	15	05/19/16					05/24/2016	5.6	14		05/24/16	5.6	14	
67WW08-051916	16	05/19/16					05/25/2016	5.6	14		05/25/16	5.6	14	
67WW15-051916	18	05/19/16					05/25/2016	5.5	14		05/25/16	5.5	14	
TRIP BLANK	19	05/19/16					05/24/2016	5.8	14		05/24/16	5.8	14	
67WW07-051916	20	05/19/16					05/25/2016	5.7	14		05/25/16	5.7	14	
TRIP BLANK	21	05/19/16					05/24/2016	5.8	14		05/24/16	5.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4779004
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG570238

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW01-051916	14	05/19/16					05/25/2016	6.4	14		05/25/16	6.4	14	
67WW13-051916	17	05/19/16					05/25/2016	6.3	14		05/25/16	6.3	14	
67WW15-051916	18	05/19/16					05/25/2016	6.2	14		05/25/16	6.2	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4779004
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16051153
Instrument Id: HPMS11
Workgroup (AAB#): WG570084

Method: 8260
CAL ID: HPMS11-13-MAY-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16051153-13	1.00	01	108	105	104	102
L16051153-15	1.00	01	110	107	106	101
L16051153-16	10.0	DL01	110	106	106	101
L16051153-18	1.00	01	115	106	103	102
L16051153-19	1.00	01	106	104	105	102
L16051153-20	1.00	01	111	106	106	102
L16051153-21	1.00	01	106	102	105	102
WG570084-01	1.00	01	108	103	101	103
WG570084-02	1.00	01	106	106	99.3	102
WG570084-03	1.00	01	105	107	104	101

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4779013
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16051153
Instrument Id: HPMS6
Workgroup (AAB#): WG569960

Method: 8260
CAL ID: HPMS6-11-MAY-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16051153-01	1.00	01	98.8	101	96.4	98.8
L16051153-02	1.00	01	98.0	99.7	97.3	98.1
L16051153-03	1.00	01	98.0	101	97.2	98.3
L16051153-04	1.00	01	99.1	101	94.0	98.2
L16051153-05	1.00	01	99.0	100	98.1	97.6
L16051153-06	1.00	01	98.2	102	95.0	98.1
L16051153-07	1.00	01	96.9	100	94.9	98.4
L16051153-08	1.00	01	98.6	101	96.6	98.8
L16051153-09	1.00	01	98.5	101	96.0	98.0
L16051153-10	1.00	01	98.0	100	97.0	98.2
L16051153-11	1.00	01	97.8	101	96.3	97.7
L16051153-12	1.00	01	97.3	101	97.5	97.4
WG569960-01	1.00	01	97.8	99.6	97.6	98.2
WG569960-02	1.00	01	97.1	100	93.9	97.6

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4779013
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16051153
Instrument Id: HPMS11
Workgroup (AAB#): WG570238

Method: 8260
CAL ID: HPMS11-13-MAY-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16051153-14	5.00	DL01	106	102	106	102
L16051153-17	2.00	DL01	107	105	106	103
L16051153-18	20.0	DL01	94.6	95.9	102	98.8
WG570238-01	1.00	01	110	107	108	103
WG570238-02	1.00	01	109	108	100	103
WG570238-06	1.00	01	95.5	99.0	103	102

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4779013
Report generated: 05/31/2016 13:11

METHOD BLANK SUMMARY

Login Number: L16051153
Work Group: WG570084
Blank File ID: 11M12104
Blank Sample ID: WG570084-01
Prep Date: 05/24/16 16:12
Instrument ID: HPMS11
Analyzed Date: 05/24/16 16:12
Method: 8260B
Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG570084-02	11M12105	05/24/16 16:44	01
LCS2	WG570084-03	11M12106	05/24/16 17:16	01
TRIP BLANK	L16051153-19	11M12108	05/24/16 18:20	01
TRIP BLANK	L16051153-21	11M12109	05/24/16 18:52	01
67WW03-051916	L16051153-13	11M12117	05/24/16 23:08	01
67WW11-051916	L16051153-15	11M12118	05/24/16 23:40	01
67WW07-051916	L16051153-20	11M12119	05/25/16 00:11	01
67WW08-051916	L16051153-16	11M12121	05/25/16 01:15	DL01
67WW15-051916	L16051153-18	11M12123	05/25/16 02:19	01

Report Name: BLANK_SUMMARY
PDF File ID: 4780321
Report generated 05/31/2016 13:11

METHOD BLANK SUMMARY

Login Number: L16051153 **Work Group:** WG570238
Blank File ID: 11M12131 **Blank Sample ID:** WG570238-01
Prep Date: 05/25/16 14:51 **Instrument ID:** HPMS11
Analyzed Date: 05/25/16 14:51 **Method:** 8260B
Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG570238-02	11M12132	05/25/16 15:23	01
67WW01-051916	L16051153-14	11M12137	05/25/16 18:02	DL01
67WW13-051916	L16051153-17	11M12138	05/25/16 18:34	DL01
67WW15-051916	L16051153-18	11M12140	05/25/16 19:38	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4780321
Report generated 05/31/2016 13:11

METHOD BLANK SUMMARY

Login Number: L16051153
Blank File ID: 6M139574
Prep Date: 05/24/16 08:12
Analyzed Date: 05/24/16 08:12
Analyst: TMB

Work Group: WG569960
Blank Sample ID: WG569960-01
Instrument ID: HPMS6
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569960-02	6M139575	05/24/16 08:44	01
67WW12MS-051816	L16051153-06	6M139576	05/24/16 09:16	01
67WW12MSD-051816	L16051153-07	6M139577	05/24/16 09:48	01
67WW14-051816	L16051153-01	6M139580	05/24/16 11:25	01
67WW09-051816	L16051153-02	6M139581	05/24/16 11:57	01
67WW09FD-051816	L16051153-03	6M139582	05/24/16 12:29	01
67WW12-051816	L16051153-05	6M139583	05/24/16 13:01	01
67WW10-051816	L16051153-08	6M139584	05/24/16 13:34	01
67WW09A-051816	L16051153-09	6M139585	05/24/16 14:05	01
67WW05-051916	L16051153-10	6M139586	05/24/16 14:37	01
67WW02-051916	L16051153-11	6M139587	05/24/16 15:09	01
67WW02FD-051916	L16051153-12	6M139588	05/24/16 15:41	01
67WW16-051816	L16051153-04	6M139589	05/24/16 16:14	01

Report Name: BLANK_SUMMARY
PDF File ID: 4780321
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16051153 Prep Date:05/24/16 16:12 Sample ID:WG570084-01
Instrument ID:HPMS11 Run Date:05/24/16 16:12 Prep Method:5030B/5030C/503
File ID:11M12104 Analyst:JDS Method:8260B
Workgroup (AAB#):WG570084 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS11-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4779006
31-MAY-2016 13:11

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/24/16 16:12 Sample ID: WG570084-01
Instrument ID: HPMS11 Run Date: 05/24/16 16:12 Prep Method: 5030B/5030C/503
File ID: 11M12104 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG570084 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS11-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	103	85 - 115	PASS
1,2-Dichloroethane-d4	108	70 - 120	PASS
Toluene-d8	103	85 - 120	PASS
4-Bromofluorobenzene	101	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4779006
31-MAY-2016 13:11

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16051153 Prep Date:05/25/16 14:51 Sample ID:WG570238-01
Instrument ID:HPMS11 Run Date:05/25/16 14:51 Prep Method:5030B/5030C/503
File ID:11M12131 Analyst:JDS Method:8260B
Workgroup (AAB#):WG570238 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS11-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4779006
31-MAY-2016 13:11

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/25/16 14:51 Sample ID: WG570238-01
Instrument ID: HPMS11 Run Date: 05/25/16 14:51 Prep Method: 5030B/5030C/503
File ID: 11M12131 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG570238 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS11-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	107	85 - 115	PASS
1,2-Dichloroethane-d4	110	70 - 120	PASS
Toluene-d8	103	85 - 120	PASS
4-Bromofluorobenzene	108	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4779006
31-MAY-2016 13:11

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16051153 Prep Date:05/24/16 08:12 Sample ID:WG569960-01
Instrument ID:HPMS6 Run Date:05/24/16 08:12 Prep Method:5030B/5030C/503
File ID:6M139574 Analyst:TMB Method:8260B
Workgroup (AAB#):WG569960 Matrix:Water Units:ug/L
Contract #: Cal ID: HPMS6-11-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4779006
31-MAY-2016 13:11

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/24/16 08:12 Sample ID: WG569960-01
Instrument ID: HPMS6 Run Date: 05/24/16 08:12 Prep Method: 5030B/5030C/503
File ID: 6M139574 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG569960 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-11-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	99.6	85 - 115	PASS
1,2-Dichloroethane-d4	97.8	70 - 120	PASS
Toluene-d8	98.2	85 - 120	PASS
4-Bromofluorobenzene	97.6	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4779006
31-MAY-2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG570084-02
Instrument ID: HPMS11 Run Time: 16:44 Prep Method: 5030B/5030C/503
File ID: 11M12105 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG570084 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD76265 Cal ID: HPMS11-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	21.9	109	40 - 140	
Benzene	20.0	19.2	96.0	80 - 120	
Bromobenzene	20.0	20.1	100	75 - 125	
Bromochloromethane	20.0	22.1	110	65 - 130	
Bromodichloromethane	20.0	21.4	107	75 - 120	
Bromoform	20.0	21.1	105	70 - 130	
Bromomethane	20.0	20.6	103	30 - 145	
2-Butanone	20.0	20.4	102	30 - 150	
n-Butylbenzene	20.0	19.2	95.8	70 - 135	
sec-Butylbenzene	20.0	19.9	99.6	70 - 125	
tert-Butylbenzene	20.0	20.7	104	70 - 130	
Carbon disulfide	20.0	19.2	95.8	35 - 160	
Carbon tetrachloride	20.0	22.7	113	65 - 140	
Chlorobenzene	20.0	21.0	105	80 - 120	
Chlorodibromomethane	20.0	22.1	110	60 - 135	
Chloroethane	20.0	21.6	108	60 - 135	
Chloroform	20.0	20.2	101	65 - 135	
Chloromethane	20.0	20.6	103	40 - 125	
2-Chlorotoluene	20.0	20.7	104	75 - 125	
4-Chlorotoluene	20.0	20.6	103	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	19.9	99.3	50 - 130	
1,2-Dibromoethane	20.0	21.0	105	80 - 120	
Dibromomethane	20.0	20.9	104	75 - 125	
1,2-Dichlorobenzene	20.0	20.6	103	70 - 120	
1,3-Dichlorobenzene	20.0	20.2	101	75 - 125	
1,4-Dichlorobenzene	20.0	20.2	101	75 - 125	
Dichlorodifluoromethane	20.0	25.4	127	30 - 155	
1,1-Dichloroethane	20.0	19.1	95.4	70 - 135	
1,2-Dichloroethane	20.0	22.7	113	70 - 130	
1,1-Dichloroethene	20.0	19.5	97.5	70 - 130	
cis-1,2-Dichloroethene	20.0	20.5	102	70 - 125	
trans-1,2-Dichloroethene	20.0	20.1	101	60 - 140	
1,2-Dichloropropane	20.0	19.8	98.9	75 - 125	
1,3-Dichloropropane	20.0	22.2	111	75 - 125	
2,2-Dichloropropane	20.0	21.3	107	70 - 135	
cis-1,3-Dichloropropene	20.0	22.7	113	70 - 130	
trans-1,3-Dichloropropene	20.0	21.7	108	55 - 140	
1,1-Dichloropropene	20.0	19.4	96.9	75 - 130	
Ethylbenzene	20.0	20.1	100	75 - 125	
2-Hexanone	20.0	19.1	95.5	55 - 130	
Hexachlorobutadiene	20.0	16.3	81.7	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4779008
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG570084-02
Instrument ID: HPMS11 Run Time: 16:44 Prep Method: 5030B/5030C/503
File ID: 11M12105 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG570084 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD76265 Cal ID: HPMS11-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.2	106	75 - 125	
p-Isopropyltoluene	20.0	20.1	100	75 - 130	
4-Methyl-2-pentanone	20.0	18.9	94.6	60 - 135	
Methylene chloride	20.0	19.8	99.1	55 - 140	
Naphthalene	20.0	17.4	86.9	55 - 140	
n-Propylbenzene	20.0	20.9	105	70 - 130	
Styrene	20.0	21.1	106	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	21.1	105	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.4	96.8	65 - 130	
Tetrachloroethene	20.0	20.2	101	45 - 150	
Toluene	20.0	20.5	103	75 - 120	
1,2,3-Trichlorobenzene	20.0	18.5	92.5	55 - 140	
1,2,4-Trichlorobenzene	20.0	18.6	93.1	65 - 135	
1,1,1-Trichloroethane	20.0	21.9	109	65 - 130	
1,1,2-Trichloroethane	20.0	20.6	103	75 - 125	
Trichloroethene	20.0	20.8	104	70 - 125	
Trichlorofluoromethane	20.0	21.5	107	60 - 145	
1,2,3-Trichloropropane	20.0	20.8	104	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.8	104	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.5	103	75 - 130	
Vinyl chloride	20.0	23.9	120	50 - 145	
o-Xylene	20.0	21.0	105	80 - 120	
m-,p-Xylene	40.0	41.3	103	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	106	85 - 115	PASS
1,2-Dichloroethane-d4	106	70 - 120	PASS
Toluene-d8	102	85 - 120	PASS
4-Bromofluorobenzene	99.3	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4779008
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Run Date: 05/25/2016 Sample ID: WG570238-02
Instrument ID: HPMS11 Run Time: 15:23 Prep Method: 5030B/5030C/503
File ID: 11M12132 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG570238 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD76265 Cal ID: HPMS11-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	20.7	103	40 - 140	
Benzene	20.0	19.2	96.0	80 - 120	
Bromobenzene	20.0	20.2	101	75 - 125	
Bromochloromethane	20.0	22.2	111	65 - 130	
Bromodichloromethane	20.0	21.9	110	75 - 120	
Bromoform	20.0	20.8	104	70 - 130	
Bromomethane	20.0	21.2	106	30 - 145	
2-Butanone	20.0	20.7	104	30 - 150	
n-Butylbenzene	20.0	18.9	94.5	70 - 135	
sec-Butylbenzene	20.0	20.0	100	70 - 125	
tert-Butylbenzene	20.0	20.5	103	70 - 130	
Carbon disulfide	20.0	18.7	93.6	35 - 160	
Carbon tetrachloride	20.0	22.7	114	65 - 140	
Chlorobenzene	20.0	21.1	105	80 - 120	
Chlorodibromomethane	20.0	22.8	114	60 - 135	
Chloroethane	20.0	20.9	105	60 - 135	
Chloroform	20.0	20.3	102	65 - 135	
Chloromethane	20.0	21.0	105	40 - 125	
2-Chlorotoluene	20.0	20.6	103	75 - 125	
4-Chlorotoluene	20.0	20.6	103	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	19.7	98.5	50 - 130	
1,2-Dibromoethane	20.0	21.1	106	80 - 120	
Dibromomethane	20.0	21.3	107	75 - 125	
1,2-Dichlorobenzene	20.0	21.1	105	70 - 120	
1,3-Dichlorobenzene	20.0	20.2	101	75 - 125	
1,4-Dichlorobenzene	20.0	20.5	103	75 - 125	
Dichlorodifluoromethane	20.0	25.1	126	30 - 155	
1,1-Dichloroethane	20.0	19.5	97.4	70 - 135	
1,2-Dichloroethane	20.0	23.6	118	70 - 130	
1,1-Dichloroethene	20.0	20.1	100	70 - 130	
cis-1,2-Dichloroethene	20.0	20.2	101	70 - 125	
trans-1,2-Dichloroethene	20.0	19.7	98.7	60 - 140	
1,2-Dichloropropane	20.0	19.7	98.5	75 - 125	
1,3-Dichloropropane	20.0	21.8	109	75 - 125	
2,2-Dichloropropane	20.0	21.8	109	70 - 135	
cis-1,3-Dichloropropene	20.0	22.6	113	70 - 130	
trans-1,3-Dichloropropene	20.0	21.4	107	55 - 140	
1,1-Dichloropropene	20.0	19.9	99.6	75 - 130	
Ethylbenzene	20.0	19.9	99.7	75 - 125	
2-Hexanone	20.0	18.8	93.9	55 - 130	
Hexachlorobutadiene	20.0	16.5	82.6	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4779008
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Run Date: 05/25/2016 Sample ID: WG570238-02
Instrument ID: HPMS11 Run Time: 15:23 Prep Method: 5030B/5030C/503
File ID: 11M12132 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG570238 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD76265 Cal ID: HPMS11-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.2	106	75 - 125	
p-Isopropyltoluene	20.0	19.9	99.7	75 - 130	
4-Methyl-2-pentanone	20.0	19.2	96.2	60 - 135	
Methylene chloride	20.0	19.5	97.6	55 - 140	
Naphthalene	20.0	17.3	86.6	55 - 140	
n-Propylbenzene	20.0	21.0	105	70 - 130	
Styrene	20.0	21.2	106	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	21.7	108	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.3	96.3	65 - 130	
Tetrachloroethene	20.0	19.8	99.2	45 - 150	
Toluene	20.0	20.4	102	75 - 120	
1,2,3-Trichlorobenzene	20.0	17.8	89.2	55 - 140	
1,2,4-Trichlorobenzene	20.0	18.8	94.2	65 - 135	
1,1,1-Trichloroethane	20.0	22.5	112	65 - 130	
1,1,2-Trichloroethane	20.0	20.7	103	75 - 125	
Trichloroethene	20.0	20.9	104	70 - 125	
Trichlorofluoromethane	20.0	21.9	110	60 - 145	
1,2,3-Trichloropropane	20.0	21.6	108	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.7	103	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.8	104	75 - 130	
Vinyl chloride	20.0	23.3	116	50 - 145	
o-Xylene	20.0	20.5	103	80 - 120	
m-,p-Xylene	40.0	41.1	103	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	108	85 - 115	PASS
1,2-Dichloroethane-d4	109	70 - 120	PASS
Toluene-d8	103	85 - 120	PASS
4-Bromofluorobenzene	100	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4779008
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG569960-02
Instrument ID: HPMS6 Run Time: 08:44 Prep Method: 5030B/5030C/503
File ID: 6M139575 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG569960 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD76254 Cal ID: HPMS6-11-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	17.3	86.4	40 - 140	
Benzene	20.0	19.4	97.2	80 - 120	
Bromobenzene	20.0	18.3	91.3	75 - 125	
Bromochloromethane	20.0	19.8	98.9	65 - 130	
Bromodichloromethane	20.0	19.5	97.7	75 - 120	
Bromoform	20.0	18.6	93.2	70 - 130	
Bromomethane	20.0	15.9	79.4	30 - 145	
2-Butanone	20.0	19.6	97.8	30 - 150	
n-Butylbenzene	20.0	18.6	93.0	70 - 135	
sec-Butylbenzene	20.0	19.3	96.6	70 - 125	
tert-Butylbenzene	20.0	19.1	95.5	70 - 130	
Carbon disulfide	20.0	36.0	180	35 - 160	*
Carbon tetrachloride	20.0	19.3	96.6	65 - 140	
Chlorobenzene	20.0	19.6	97.8	80 - 120	
Chlorodibromomethane	20.0	20.2	101	60 - 135	
Chloroethane	20.0	20.1	100	60 - 135	
Chloroform	20.0	19.0	95.0	65 - 135	
Chloromethane	20.0	18.0	90.1	40 - 125	
2-Chlorotoluene	20.0	19.3	96.7	75 - 125	
4-Chlorotoluene	20.0	19.0	95.1	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.1	90.7	50 - 130	
1,2-Dibromoethane	20.0	19.5	97.4	80 - 120	
Dibromomethane	20.0	19.0	94.9	75 - 125	
1,2-Dichlorobenzene	20.0	19.1	95.6	70 - 120	
1,3-Dichlorobenzene	20.0	19.1	95.7	75 - 125	
1,4-Dichlorobenzene	20.0	19.1	95.6	75 - 125	
Dichlorodifluoromethane	20.0	24.4	122	30 - 155	
1,1-Dichloroethane	20.0	18.8	93.9	70 - 135	
1,2-Dichloroethane	20.0	19.3	96.5	70 - 130	
1,1-Dichloroethene	20.0	18.4	92.0	70 - 130	
cis-1,2-Dichloroethene	20.0	19.7	98.6	70 - 125	
trans-1,2-Dichloroethene	20.0	19.6	98.2	60 - 140	
1,2-Dichloropropane	20.0	19.6	98.1	75 - 125	
1,3-Dichloropropane	20.0	20.6	103	75 - 125	
2,2-Dichloropropane	20.0	19.3	96.7	70 - 135	
cis-1,3-Dichloropropene	20.0	21.0	105	70 - 130	
trans-1,3-Dichloropropene	20.0	19.4	97.0	55 - 140	
1,1-Dichloropropene	20.0	18.8	93.9	75 - 130	
Ethylbenzene	20.0	18.9	94.6	75 - 125	
2-Hexanone	20.0	17.9	89.4	55 - 130	
Hexachlorobutadiene	20.0	18.1	90.3	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4779008
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG569960-02
Instrument ID: HPMS6 Run Time: 08:44 Prep Method: 5030B/5030C/503
File ID: 6M139575 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG569960 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD76254 Cal ID: HPMS6-11-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	19.4	97.2	75 - 125	
p-Isopropyltoluene	20.0	18.9	94.7	75 - 130	
4-Methyl-2-pentanone	20.0	18.8	93.8	60 - 135	
Methylene chloride	20.0	19.5	97.5	55 - 140	
Naphthalene	20.0	15.8	79.2	55 - 140	
n-Propylbenzene	20.0	19.8	98.9	70 - 130	
Styrene	20.0	18.9	94.7	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	19.6	97.8	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.5	97.4	65 - 130	
Tetrachloroethene	20.0	18.7	93.3	45 - 150	
Toluene	20.0	19.3	96.7	75 - 120	
1,2,3-Trichlorobenzene	20.0	17.3	86.4	55 - 140	
1,2,4-Trichlorobenzene	20.0	18.0	89.8	65 - 135	
1,1,1-Trichloroethane	20.0	19.5	97.3	65 - 130	
1,1,2-Trichloroethane	20.0	20.0	100	75 - 125	
Trichloroethene	20.0	19.4	97.2	70 - 125	
Trichlorofluoromethane	20.0	20.5	102	60 - 145	
1,2,3-Trichloropropane	20.0	20.0	100	75 - 125	
1,2,4-Trimethylbenzene	20.0	19.0	94.9	75 - 130	
1,3,5-Trimethylbenzene	20.0	18.8	93.9	75 - 130	
Vinyl chloride	20.0	20.4	102	50 - 145	
o-Xylene	20.0	19.6	98.0	80 - 120	
m-,p-Xylene	40.0	39.0	97.5	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	100	85 - 115	PASS
1,2-Dichloroethane-d4	97.1	70 - 120	PASS
Toluene-d8	97.6	85 - 120	PASS
4-Bromofluorobenzene	93.9	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4779008
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: JDS Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG570084 Units: ug/L
QC Key: DOD4 Lot #: STD76265

Sample ID: WG570084-02 LCS File ID: 11M12105 Run Date: 05/24/2016 16:44
Sample ID: WG570084-03 LCS2 File ID: 11M12106 Run Date: 05/24/2016 17:16

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	21.1	105	20.0	21.5	107	1.87	80 - 130	30	
1,1,1-Trichloroethane	20.0	21.9	109	20.0	22.3	111	1.84	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	19.4	96.8	20.0	20.0	99.9	3.19	65 - 130	30	
1,1,2-Trichloroethane	20.0	20.6	103	20.0	20.2	101	2.23	75 - 125	30	
1,1-Dichloroethane	20.0	19.1	95.4	20.0	19.8	98.8	3.53	70 - 135	30	
1,1-Dichloroethene	20.0	19.5	97.5	20.0	19.7	98.4	0.919	70 - 130	30	
1,1-Dichloropropene	20.0	19.4	96.9	20.0	20.2	101	4.24	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	18.5	92.5	20.0	19.5	97.3	5.02	55 - 140	30	
1,2,3-Trichloropropane	20.0	20.8	104	20.0	21.1	106	1.32	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	18.6	93.1	20.0	20.1	101	7.78	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	20.8	104	20.0	21.9	110	5.15	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	19.9	99.3	20.0	20.3	101	2.12	50 - 130	30	
1,2-Dibromoethane	20.0	21.0	105	20.0	20.8	104	0.987	80 - 120	30	
1,2-Dichlorobenzene	20.0	20.6	103	20.0	21.7	108	5.01	70 - 120	30	
1,2-Dichloroethane	20.0	22.7	113	20.0	22.9	115	1.09	70 - 130	30	
1,2-Dichloropropane	20.0	19.8	98.9	20.0	20.1	100	1.38	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	20.5	103	20.0	21.4	107	4.28	75 - 130	30	
1,3-Dichlorobenzene	20.0	20.2	101	20.0	21.4	107	5.95	75 - 125	30	
1,3-Dichloropropane	20.0	22.2	111	20.0	21.5	107	3.06	75 - 125	30	
1,4-Dichlorobenzene	20.0	20.2	101	20.0	21.5	107	6.01	75 - 125	30	
2,2-Dichloropropane	20.0	21.3	107	20.0	21.9	109	2.53	70 - 135	30	
2-Butanone	20.0	20.4	102	20.0	19.8	99.2	2.79	30 - 150	30	
2-Chlorotoluene	20.0	20.7	104	20.0	21.7	109	4.56	75 - 125	30	
2-Hexanone	20.0	19.1	95.5	20.0	18.9	94.5	1.02	55 - 130	30	
4-Chlorotoluene	20.0	20.6	103	20.0	21.7	108	5.06	75 - 130	30	
4-Methyl-2-pentanone	20.0	18.9	94.6	20.0	19.3	96.7	2.22	60 - 135	30	
Acetone	20.0	21.9	109	20.0	21.4	107	2.06	40 - 140	30	
Benzene	20.0	19.2	96.0	20.0	19.7	98.3	2.44	80 - 120	30	
Bromobenzene	20.0	20.1	100	20.0	20.9	105	4.09	75 - 125	30	
Bromochloromethane	20.0	22.1	110	20.0	21.8	109	1.40	65 - 130	30	
Bromodichloromethane	20.0	21.4	107	20.0	21.7	109	1.62	75 - 120	30	
Bromoform	20.0	21.1	105	20.0	20.6	103	2.20	70 - 130	30	
Bromomethane	20.0	20.6	103	20.0	20.6	103	0.0271	30 - 145	30	
Carbon disulfide	20.0	19.2	95.8	20.0	19.7	98.5	2.77	35 - 160	30	
Carbon tetrachloride	20.0	22.7	113	20.0	22.1	110	2.82	65 - 140	30	
Chlorobenzene	20.0	21.0	105	20.0	21.3	106	1.17	80 - 120	30	
Chloroethane	20.0	21.6	108	20.0	21.7	109	0.251	60 - 135	30	
Chloroform	20.0	20.2	101	20.0	20.1	101	0.361	65 - 135	30	
Chloromethane	20.0	20.6	103	20.0	22.7	114	9.97	40 - 125	30	
cis-1,2-Dichloroethene	20.0	20.5	102	20.0	20.3	102	0.811	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4784388
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: JDS Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG570084 Units: ug/L
QC Key: DOD4 Lot #: STD76265

Sample ID: WG570084-02 LCS File ID: 11M12105 Run Date: 05/24/2016 16:44
Sample ID: WG570084-03 LCS2 File ID: 11M12106 Run Date: 05/24/2016 17:16

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	22.7	113	20.0	22.4	112	1.33	70 - 130	30	
Chlorodibromomethane	20.0	22.1	110	20.0	22.0	110	0.434	60 - 135	30	
Dibromomethane	20.0	20.9	104	20.0	21.2	106	1.67	75 - 125	30	
Dichlorodifluoromethane	20.0	25.4	127	20.0	27.2	136	6.92	30 - 155	30	
Ethylbenzene	20.0	20.1	100	20.0	20.5	103	2.24	75 - 125	30	
Hexachlorobutadiene	20.0	16.3	81.7	20.0	18.1	90.5	10.2	50 - 140	30	
Isopropylbenzene	20.0	21.2	106	20.0	21.5	108	1.67	75 - 125	30	
m-,p-Xylene	40.0	41.3	103	40.0	41.4	104	0.304	75 - 130	30	
Methylene chloride	20.0	19.8	99.1	20.0	20.0	100	0.934	55 - 140	30	
n-Butylbenzene	20.0	19.2	95.8	20.0	20.1	101	5.05	70 - 135	30	
n-Propylbenzene	20.0	20.9	105	20.0	21.9	110	4.78	70 - 130	30	
Naphthalene	20.0	17.4	86.9	20.0	18.3	91.3	4.97	55 - 140	30	
o-Xylene	20.0	21.0	105	20.0	20.9	104	0.728	80 - 120	30	
p-Isopropyltoluene	20.0	20.1	100	20.0	21.1	106	5.25	75 - 130	30	
sec-Butylbenzene	20.0	19.9	99.6	20.0	21.2	106	6.26	70 - 125	30	
Styrene	20.0	21.1	106	20.0	21.5	107	1.66	65 - 135	30	
tert-Butylbenzene	20.0	20.7	104	20.0	21.8	109	5.02	70 - 130	30	
Tetrachloroethene	20.0	20.2	101	20.0	20.7	103	2.50	45 - 150	30	
Toluene	20.0	20.5	103	20.0	20.5	102	0.0578	75 - 120	30	
trans-1,2-Dichloroethene	20.0	20.1	101	20.0	20.3	101	0.524	60 - 140	30	
trans-1,3-Dichloropropene	20.0	21.7	108	20.0	21.5	108	0.809	55 - 140	30	
Trichloroethene	20.0	20.8	104	20.0	21.4	107	2.87	70 - 125	30	
Trichlorofluoromethane	20.0	21.5	107	20.0	22.3	111	3.72	60 - 145	30	
Vinyl chloride	20.0	23.9	120	20.0	25.3	126	5.47	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	106	105	70 - 120	PASS
Dibromofluoromethane	106	107	85 - 115	PASS
4-Bromofluorobenzene	99.3	104	75 - 120	PASS
Toluene-d8	102	101	85 - 120	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4784388
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L16051153 Cal ID: HPMS6- 11-MAY-16 Worknum: WG569960

Instrument ID: HPMS6 Contract #: Prep Method: 5030B/5030C/

Parent ID: L16051153-05 File ID: 6M139583 Dil: 1 Method: 5035A

Sample ID: L16051153-06 MS File ID: 6M139576 Dil: 1 Matrix: 8260B

Sample ID: L16051153-07 MSD File ID: 6M139577 Dil: 1 Units: Water ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	20.5	103	20.0	20.6	103	0.336	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	20.1	100	20.0	19.9	99.3	0.942	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	21.7	109	20.0	21.0	105	3.38	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	21.1	105	20.0	20.7	103	2.02	75 - 125	30	
1,1-Dichloroethane	U	20.0	19.7	98.6	20.0	19.4	96.9	1.73	70 - 135	30	
1,1-Dichloroethene	0.681	20.0	19.4	93.6	20.0	19.3	93.1	0.560	70 - 130	30	
1,1-Dichloropropene	U	20.0	19.6	98	20.0	19.1	95.7	2.44	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	18.6	92.9	20.0	18.3	91.4	1.66	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	21.2	106	20.0	20.7	104	2.27	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	19.2	95.9	20.0	19.1	95.3	0.601	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	19.8	99.1	20.0	19.8	99	0.178	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	20.4	102	20.0	19.7	98.3	3.44	50 - 130	30	
1,2-Dibromoethane	U	20.0	21.2	106	20.0	20.8	104	2.22	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	20.2	101	20.0	20.1	100	0.780	70 - 120	30	
1,2-Dichloroethane	U	20.0	20.7	104	20.0	20.4	102	1.43	70 - 130	30	
1,2-Dichloropropane	U	20.0	20.9	105	20.0	20.6	103	1.66	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	19.7	98.7	20.0	19.7	98.4	0.321	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	20.1	101	20.0	20.1	101	0.112	75 - 125	30	
1,3-Dichloropropane	U	20.0	21.9	110	20.0	21.6	108	1.59	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	20.2	101	20.0	20.0	100	0.749	75 - 125	30	
2,2-Dichloropropane	U	20.0	21.0	105	20.0	20.2	101	3.66	70 - 135	30	
2-Butanone	U	20.0	20.5	103	20.0	19.4	97	5.70	30 - 150	30	
2-Chlorotoluene	U	20.0	20.0	100	20.0	20.0	99.8	0.398	75 - 125	30	
2-Hexanone	U	20.0	19.5	97.5	20.0	18.8	93.9	3.82	55 - 130	30	
4-Chlorotoluene	U	20.0	20.1	100	20.0	20.2	101	0.733	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	19.6	97.9	20.0	18.7	93.6	4.50	60 - 135	30	
Acetone	U	20.0	18.1	90.4	20.0	18.1	90.7	0.386	40 - 140	30	
Benzene	U	20.0	20.2	101	20.0	20.1	100	0.841	80 - 120	30	
Bromobenzene	U	20.0	19.2	96	20.0	19.0	95.1	0.898	75 - 125	30	
Bromochloromethane	U	20.0	20.8	104	20.0	20.8	104	0.286	65 - 130	30	
Bromodichloromethane	U	20.0	20.5	103	20.0	20.4	102	0.828	75 - 120	30	
Bromoform	U	20.0	20.1	101	20.0	19.7	98.6	1.92	70 - 130	30	
Bromomethane	U	20.0	16.5	82.5	20.0	16.0	79.9	3.21	30 - 145	30	
Carbon disulfide	U	20.0	35.9	179	20.0	36.0	180	0.417	35 - 160	30	*
Carbon tetrachloride	U	20.0	20.0	100	20.0	19.5	97.3	2.98	65 - 140	30	
Chlorobenzene	U	20.0	20.4	102	20.0	20.3	102	0.643	80 - 120	30	
Chloroethane	U	20.0	20.7	104	20.0	20.5	103	0.827	60 - 135	30	
Chloroform	U	20.0	19.7	98.7	20.0	19.7	98.7	0.0593	65 - 135	30	
Chloromethane	U	20.0	19.5	97.4	20.0	19.2	95.9	1.50	40 - 125	30	
cis-1,2-Dichloroethene	U	20.0	20.7	104	20.0	20.3	102	2.14	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	22.1	111	20.0	22.2	111	0.557	70 - 130	30	

MS_MSD - Modified 03/06/2008

PDF File ID: 4779009

Report generated 05/31/2016 13:11

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L16051153 Cal ID: HPMS6 11-MAY-16 Worknum: WG569960

Instrument ID: HPMS6 Contract #: Prep Method: 5030B/5030C/

Parent ID: L16051153-05 File ID: 6M139583 Dil: 1 Method: 5035A

Sample ID: L16051153-06 MS File ID: 6M139576 Dil: 1 Matrix: 8260B

Sample ID: L16051153-07 MSD File ID: 6M139577 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Chlorodibromomethane	U	20.0	21.5	107	20.0	21.1	106	1.60	60 - 135	30	
Dibromomethane	U	20.0	20.7	104	20.0	19.7	98.7	4.89	75 - 125	30	
Dichlorodifluoromethane	U	20.0	24.6	123	20.0	24.2	121	1.75	30 - 155	30	
Ethylbenzene	U	20.0	19.7	98.7	20.0	19.4	97.1	1.54	75 - 125	30	
Hexachlorobutadiene	U	20.0	17.7	88.7	20.0	17.4	87.2	1.67	50 - 140	30	
Isopropylbenzene	U	20.0	20.3	101	20.0	20.1	101	0.782	75 - 125	30	
m-,p-Xylene	U	40.0	40.4	101	40.0	40.2	101	0.324	75 - 130	30	
Methylene chloride	U	20.0	20.8	104	20.0	20.6	103	0.730	55 - 140	30	
n-Butylbenzene	U	20.0	19.3	96.4	20.0	19.3	96.6	0.164	70 - 135	30	
n-Propylbenzene	U	20.0	20.7	103	20.0	20.7	103	0.150	70 - 130	30	
Naphthalene	U	20.0	17.7	88.7	20.0	17.2	86	3.13	55 - 140	30	
o-Xylene	U	20.0	20.3	102	20.0	20.3	101	0.154	80 - 120	30	
p-Isopropyltoluene	U	20.0	19.8	98.8	20.0	19.6	98.2	0.550	75 - 130	30	
sec-Butylbenzene	U	20.0	20.1	100	20.0	20.0	99.8	0.656	70 - 125	30	
Styrene	U	20.0	19.9	99.7	20.0	19.7	98.7	0.996	65 - 135	30	
tert-Butylbenzene	U	20.0	19.9	99.3	20.0	19.9	99.3	0.0171	70 - 130	30	
Tetrachloroethene	U	20.0	19.2	96.1	20.0	19.1	95.4	0.732	45 - 150	30	
Toluene	U	20.0	19.9	99.5	20.0	19.9	99.7	0.227	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	20.7	103	20.0	20.4	102	1.45	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	20.9	104	20.0	20.6	103	1.36	55 - 140	30	
Trichloroethene	U	20.0	20.1	101	20.0	19.9	99.6	1.10	70 - 125	30	
Trichlorofluoromethane	U	20.0	21.1	106	20.0	20.7	103	2.15	60 - 145	30	
Vinyl chloride	U	20.0	21.2	106	20.0	21.1	106	0.632	50 - 145	30	

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 4779009

Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS11
Analyst: TMB /DLW
Workgroup: WG527475

Tune ID: WG527475-01
Run Date: 06/14/2015
Run Time: 09:34
File ID: 11M08234
Cal ID: HPMS11-14-JUN-15

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.9	7754	PASS
75.0	95.0	30.0	60.0	49.9	19472	PASS
95.0	95.0	100	100	100	38997	PASS
96.0	95.0	5.00	9.00	7.00	2731	PASS
173	174	0	2.00	0.338	111	PASS
174	95.0	50.0	100	84.2	32837	PASS
175	174	5.00	9.00	7.18	2357	PASS
176	174	95.0	101	97.9	32146	PASS
177	176	5.00	9.00	7.11	2284	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG527475-02	STD	01	06/14/2015 09:58	
WG527475-03	STD	01	06/14/2015 10:30	
WG527475-04	STD	01	06/14/2015 11:02	
WG527475-05	STD-CCV	01	06/14/2015 11:34	
WG527475-06	STD	01	06/14/2015 12:06	
WG527475-07	STD	01	06/14/2015 12:38	
WG527475-08	STD	01	06/14/2015 13:10	
WG527475-09	STD	01	06/14/2015 13:42	
WG527475-10	SSCV	01	06/14/2015 15:18	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS11
Analyst: JDS
Workgroup: WG568769

Tune ID: WG568769-01
Run Date: 05/13/2016
Run Time: 14:15
File ID: 11M11836
Cal ID: HPMS11-13-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.2	11638	PASS
75.0	95.0	30.0	60.0	50.2	24088	PASS
95.0	95.0	100	100	100	48016	PASS
96.0	95.0	5.00	9.00	6.26	3008	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	86.2	41402	PASS
175	174	5.00	9.00	8.26	3421	PASS
176	174	95.0	101	97.3	40288	PASS
177	176	5.00	9.00	6.92	2789	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG568769-02	STD	01	05/13/2016 14:40	
WG568769-03	STD	01	05/13/2016 15:12	
WG568769-04	STD	01	05/13/2016 15:43	
WG568769-05	STD	01	05/13/2016 16:15	
WG568769-06	STD	01	05/13/2016 16:47	
WG568769-07	STD	01	05/13/2016 17:19	
WG568769-08	STD-CCV	01	05/13/2016 17:51	
WG568769-09	STD	01	05/13/2016 18:22	
WG568769-10	STD	01	05/13/2016 18:54	
WG568769-11	STD	01	05/13/2016 19:26	
WG568769-12	SSCV	01	05/13/2016 20:30	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS11
Analyst: JDS
Workgroup: WG570083

Tune ID: WG570083-01
Run Date: 05/24/2016
Run Time: 14:44
File ID: 11M12101
Cal ID: HPMS11-13-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.3	7972	PASS
75.0	95.0	30.0	60.0	52.0	17796	PASS
95.0	95.0	100	100	100	34232	PASS
96.0	95.0	5.00	9.00	6.77	2319	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	92.2	31557	PASS
175	174	5.00	9.00	7.62	2404	PASS
176	174	95.0	101	98.7	31138	PASS
177	176	5.00	9.00	6.74	2100	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG570083-02	CCV	01	05/24/2016 15:08	
WG570084-01	BLANK	01	05/24/2016 16:12	
WG570084-02	LCS	01	05/24/2016 16:44	
WG570084-03	LCS2	01	05/24/2016 17:16	
L16051153-19	TRIP BLANK	01	05/24/2016 18:20	
L16051153-21	TRIP BLANK	01	05/24/2016 18:52	
L16051153-13	67WW03-051916	01	05/24/2016 23:08	
L16051153-15	67WW11-051916	01	05/24/2016 23:40	
L16051153-20	67WW07-051916	01	05/25/2016 00:11	
L16051153-16	67WW08-051916	DL01	05/25/2016 01:15	
L16051153-18	67WW15-051916	01	05/25/2016 02:19	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS11
Analyst: JDS
Workgroup: WG570237

Tune ID: WG570237-01
Run Date: 05/25/2016
Run Time: 13:22
File ID: 11M12128
Cal ID: HPMS11-13-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.2	6879	PASS
75.0	95.0	30.0	60.0	52.7	15631	PASS
95.0	95.0	100	100	100	29640	PASS
96.0	95.0	5.00	9.00	7.17	2125	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	96.2	28528	PASS
175	174	5.00	9.00	8.21	2341	PASS
176	174	95.0	101	96.0	27384	PASS
177	176	5.00	9.00	5.76	1576	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG570237-02	CCV	01	05/25/2016 13:46	
WG570238-01	BLANK	01	05/25/2016 14:51	
WG570238-02	LCS	01	05/25/2016 15:23	
L16051153-14	67WW01-051916	DL01	05/25/2016 18:02	
L16051153-17	67WW13-051916	DL01	05/25/2016 18:34	
L16051153-18	67WW15-051916	DL01	05/25/2016 19:38	
WG570238-06	BLANK2	01	05/26/2016 00:57	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS6
Analyst: JDS
Workgroup: WG566155

Tune ID: WG566155-01
Run Date: 04/24/2016
Run Time: 16:33
File ID: 6M138750
Cal ID: HPMS6-24-APR-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.5	10010	PASS
75.0	95.0	30.0	60.0	52.0	23152	PASS
95.0	95.0	100	100	100	44552	PASS
96.0	95.0	5.00	9.00	6.92	3085	PASS
173	174	0	2.00	0.346	113	PASS
174	95.0	50.0	100	73.2	32632	PASS
175	174	5.00	9.00	7.16	2336	PASS
176	174	95.0	101	99.2	32384	PASS
177	176	5.00	9.00	6.95	2251	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG566155-02	STD	01	04/24/2016 16:59	
WG566155-03	STD	01	04/24/2016 17:31	
WG566155-04	STD	01	04/24/2016 18:03	
WG566155-05	STD-CCV	01	04/24/2016 18:36	
WG566155-06	STD	01	04/24/2016 19:08	
WG566155-07	STD	01	04/24/2016 19:40	
WG566155-08	STD	01	04/24/2016 20:12	
WG566155-09	STD	01	04/24/2016 20:44	
WG566155-10	SSCV	01	04/24/2016 22:21	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS6
Analyst: TMB
Workgroup: WG568265

Tune ID: WG568265-01
Run Date: 05/11/2016
Run Time: 10:08
File ID: 6M139177
Cal ID: HPMS6 - 11-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.6	9547	PASS
75.0	95.0	30.0	60.0	48.4	20449	PASS
95.0	95.0	100	100	100	42216	PASS
96.0	95.0	5.00	9.00	6.70	2828	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	80.4	33962	PASS
175	174	5.00	9.00	7.45	2530	PASS
176	174	95.0	101	97.5	33112	PASS
177	176	5.00	9.00	7.37	2439	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG568265-02	STD	01	05/11/2016 10:40	
WG568265-03	STD	01	05/11/2016 11:12	
WG568265-04	STD	01	05/11/2016 11:45	
WG568265-05	STD	01	05/11/2016 12:16	
WG568265-06	STD	01	05/11/2016 12:48	
WG568265-07	STD	01	05/11/2016 13:20	
WG568265-08	STD-CCV	01	05/11/2016 13:53	
WG568265-09	STD	01	05/11/2016 14:25	
WG568265-11	STD	01	05/11/2016 15:29	
WG568265-12	SSCV	01	05/11/2016 18:17	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS6
Analyst: TMB
Workgroup: WG569959

Tune ID: WG569959-01
Run Date: 05/24/2016
Run Time: 06:10
File ID: 6M139570
Cal ID: HPMS6-11-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.9	9273	PASS
75.0	95.0	30.0	60.0	48.5	20581	PASS
95.0	95.0	100	100	100	42402	PASS
96.0	95.0	5.00	9.00	6.80	2885	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	82.0	34778	PASS
175	174	5.00	9.00	7.57	2633	PASS
176	174	95.0	101	98.4	34213	PASS
177	176	5.00	9.00	7.09	2426	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG569959-02	CCV	01	05/24/2016 07:07	
WG569963-01	CCV	01	05/24/2016 07:39	
WG569960-01	BLANK	01	05/24/2016 08:12	
WG569960-02	LCS	01	05/24/2016 08:44	
L16051153-06	67WW12MS-051816	01	05/24/2016 09:16	
L16051153-07	67WW12MSD-051816	01	05/24/2016 09:48	
L16051153-01	67WW14-051816	01	05/24/2016 11:25	
L16051153-02	67WW09-051816	01	05/24/2016 11:57	
L16051153-03	67WW09FD-051816	01	05/24/2016 12:29	
L16051153-05	67WW12-051816	01	05/24/2016 13:01	
L16051153-08	67WW10-051816	01	05/24/2016 13:34	
L16051153-09	67WW09A-051816	01	05/24/2016 14:05	
L16051153-10	67WW05-051916	01	05/24/2016 14:37	
L16051153-11	67WW02-051916	01	05/24/2016 15:09	
L16051153-12	67WW02FD-051916	01	05/24/2016 15:41	
L16051153-04	67WW16-051816	01	05/24/2016 16:14	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16051153
Instrument: HPMS6
Analyst: FJB
Workgroup: WG570139

Tune ID: WG570139-01
Run Date: 05/24/2016
Run Time: 18:59
File ID: 6M139594
Cal ID: HPMS6-11-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.1	9020	PASS
75.0	95.0	30.0	60.0	49.8	19469	PASS
95.0	95.0	100	100	100	39106	PASS
96.0	95.0	5.00	9.00	7.29	2849	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	77.2	30189	PASS
175	174	5.00	9.00	7.66	2313	PASS
176	174	95.0	101	96.7	29185	PASS
177	176	5.00	9.00	7.31	2134	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG570139-02	CCV	01	05/24/2016 19:29	
WG570141-01	CCV	01	05/24/2016 20:04	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4779011
Report generated 05/31/2016 13:11

Calibration Table Report
Method: A9FOOWT.M
Title: Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Calibration: Thu Aug 20 11:41:47 2015
Curve: WG527475
Calibration Files

	Compound	5 11M08235.D	20 11M08236.D	50 11M08237.D	100 11M08238.D	200 11M08239.D	300 11M08240.D	400 11M08241.D	500 11M08242.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD											
T	Acetonitrile	0.024	0.022	0.018	0.018	0.018	0.018	0.018	0.018	0.019	13.425		
T	3-Chloro-1-propene	0.380	0.372	0.371	0.380	0.375	0.379	0.368	0.385	0.376	1.470		
T	2-Chloro-1,3-butadiene	0.421	0.418	0.426	0.444	0.450	0.482	0.477	0.496	0.452	6.648		
T	Methacrylonitrile	0.124	0.115	0.112	0.114	0.112	0.114	0.120	0.119	0.116	3.530		
T	Isobutyl Alcohol		0.006	0.006	0.006	0.005	0.006	0.006	0.006	0.006	5.929		
T	1-Butanol			0.003	0.003	0.003	0.003	0.003	0.003	0.003	5.214		
T	Cyclohexanone		0.031	0.028	0.031	0.030	0.027	0.028	0.026	0.029	6.768		
T	2-Nitropropane			0.028	0.032	0.035	0.039	0.042	0.044	0.037	16.955	0.996	
T	Ethyl Acetate	0.133	0.145	0.133	0.140	0.137	0.136	0.141	0.139	0.138	3.039		
T	Methyl methacrylate	0.151	0.161	0.151	0.158	0.158	0.161	0.170	0.172	0.160	4.681		
I	Chlorobenzene-d5	ISTD											
I	1,4-Dichlorobenzene-d4	ISTD											

Thu Aug 20 11:49:17 2015

Calibration Table Report
Method: 8260WT.M
Title: 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Calibration: Sat May 14 18:45:57 2016
Curve: WG568769
Calibration Files

	Compound	0.3 11M11837.D	0.4 11M11838.D	1 11M11839.D	2 11M11840.D	5 11M11841.D	20 11M11842.D	50 11M11843.D	100 11M11844.D	200 11M11845.D	300 11M11846.D	Avg	%RSD	Linear	Quadratic
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.345	0.368	0.326	0.431	0.400	0.424	0.417	0.424	0.392	10.308		
P	Chloromethane			0.348	0.363	0.289	0.310	0.276	0.296	0.305	0.324	0.314	9.474		
C	Vinyl Chloride		0.275	0.241	0.249	0.244	0.268	0.250	0.271	0.271	0.276	0.261	5.458		
T	1,3-Butadiene					0.242	0.284	0.269	0.264	0.256	0.240	0.259	6.530		
T	Bromomethane			0.167	0.174	0.164	0.180	0.165	0.182	0.194	0.206	0.179	8.292		
T	Chloroethane			0.164	0.165	0.151	0.174	0.161	0.171	0.173	0.181	0.167	5.524		
T	Trichlorofluoromethane		0.514	0.523	0.537	0.496	0.552	0.498	0.524	0.514	0.514	0.519	3.376		
T	Diethyl ether			0.189	0.191	0.195	0.196	0.188	0.193		0.192	0.192	1.552		
T	Isoprene					0.299	0.331	0.317	0.323	0.325	0.325	0.320	3.522		
T	Acrolein			0.013	0.022	0.024	0.024	0.024	0.025		0.027	0.023	19.436	0.999	
T	1,1,2-Trichloro-1,2,2-Trifluor			0.261	0.245	0.234	0.268	0.245	0.252	0.254	0.257	0.252	4.225		
T	Acetone					0.063	0.067	0.058	0.057	0.057	0.054	0.059	7.931		
C	1,1-Dichloroethene		0.459	0.452	0.460	0.429	0.492	0.441	0.464	0.461	0.461	0.458	3.810		
T	Tert-Butyl Alcohol			0.014	0.015	0.017	0.018	0.017	0.017		0.017	0.016	9.673		
T	Dimethyl Sulfide					0.169	0.185	0.186	0.185	0.188	0.184	0.183	3.765		
T	Iodomethane				0.043	0.072	0.164	0.206	0.217	0.219	0.208	0.162	45.603		0.999
T	Methyl acetate				0.182	0.317	0.215	0.178	0.176	0.169	0.168	0.201	26.745		1.000
T	Methylene Chloride			0.239	0.256	0.230	0.243	0.224	0.232	0.234	0.238	0.237	4.076		
T	Carbon Disulfide			0.737	0.762	0.714	0.798	0.783	0.783	0.782	0.770	0.766	3.624		
T	Acrylonitrile			0.072	0.069	0.075	0.085	0.081	0.085		0.090	0.080	9.576		
T	Methyl Tert Butyl Ether			0.568	0.546	0.564	0.650	0.585	0.606	0.612	0.595	0.591	5.543		
T	trans-1,2-Dichloroethene		0.288	0.230	0.264	0.229	0.263	0.242	0.251	0.254	0.260	0.253	7.263		
T	n-Hexane				0.424	0.377	0.450	0.431	0.426	0.424	0.422	0.422	5.186		
T	Diisopropyl ether			1.034	1.075	1.083	1.055	1.046	1.062		1.015	1.053	2.218		
T	Vinyl Acetate					0.235	0.391	0.393	0.395	0.430	0.431	0.379	19.260	0.999	
P	1,1-Dichloroethane		0.463	0.517	0.527	0.505	0.535	0.495	0.513	0.511	0.508	0.508	4.023		
T	Ethyl-Tert-Butyl ether			0.815	0.854	0.881	0.876	0.855	0.873		0.844	0.857	2.667		
T	2-Butanone					0.079	0.097	0.087	0.092	0.092	0.091	0.090	6.720		
T	Propionitrile			0.023	0.025	0.026	0.029	0.027	0.027		0.027	0.026	7.381		
T	2,2-Dichloropropane		0.325	0.372	0.435	0.395	0.406	0.386	0.422	0.418	0.419	0.398	8.479		
T	cis-1,2-Dichloroethene		0.276	0.266	0.289	0.269	0.294	0.271	0.280	0.284	0.285	0.279	3.456		
C	Chloroform	0.587	0.483	0.491	0.514	0.480	0.509	0.470	0.486	0.489	0.482	0.499	6.767		
T	1-Bromopropane			0.014	0.041	0.045	0.047	0.048	0.049	0.050	0.050	0.043	28.190	1.000	
T	Bromochloromethane		0.115	0.140	0.169	0.167	0.188	0.172	0.179	0.180	0.181	0.166	14.065		
T	Tetrahydrofuran			0.074	0.061	0.058	0.067	0.061	0.062		0.059	0.063	8.769		
S	Dibromofluoromethane				0.251	0.266	0.284	0.268	0.284	0.285	0.278	0.274	4.605		
T	1,1,1-Trichloroethane		0.475	0.478	0.508	0.471	0.515	0.477	0.502	0.499	0.495	0.491	3.293		
T	Cyclohexane		0.477	0.485	0.547	0.509	0.574	0.551	0.560	0.558	0.556	0.535	6.606		
T	1,1-Dichloropropene		0.342	0.350	0.346	0.332	0.370	0.339	0.358	0.359	0.362	0.351	3.562		
T	Carbon Tetrachloride		0.409	0.457	0.522	0.465	0.518	0.473	0.496	0.492	0.486	0.480	7.177		
T	Tert-Amyl-Methyl ether			0.565	0.596	0.603	0.611	0.588	0.605		0.6	0.59537	2.5818		
S	1,2-Dichloroethane-d4			0.315	0.304	0.32	0.326	0.303	0.319	0.31	0.298	0.31197	3.15125		
T	1,2-Dichloroethane		0.388	0.391	0.419	0.395	0.441	0.402	0.413	0.409	0.391	0.40536	4.2274		
T	Benzene		1.058	0.952	1.016	0.923	0.996	0.908	0.943	0.931	0.914	0.96002	5.38884		
T	Trichloroethene		0.308	0.317	0.329	0.306	0.322	0.294	0.313	0.309	0.311	0.31204	3.21019		
T	Methylcyclohexane		0.332	0.37	0.389	0.35	0.411	0.401	0.4	0.405	0.407	0.3851	7.28708		
C	1,2-Dichloropropane		0.259	0.262	0.273	0.254	0.276	0.257	0.268	0.27	0.273	0.26575	2.95636		
T	1,4-Dioxane				0.001	0.001	0.002	0.001	0.002		0.002	0.0014	19.4617	0.999	
T	Bromodichloromethane		0.346	0.346	0.373	0.362	0.4	0.369	0.387	0.389	0.385	0.37307	5.09783		
T	Dibromomethane		0.118	0.136	0.135	0.137	0.149	0.137	0.146	0.145	0.144	0.13848	6.69192		
T	2-Chloroethyl Vinyl Ether					0.112	0.138	0.128	0.136	0.138	0.135	0.13098	7.7176		
T	4-Methyl-2-Pentanone					0.06	0.08	0.073	0.076	0.077	0.077	0.07387	9.67651		
T	cis-1,3-Dichloropropene		0.326	0.338	0.358	0.357	0.406	0.379	0.395	0.401	0.399	0.37315	7.91395		
T	Dimethyl Disulfide					0.185	0.229	0.227	0.233	0.238	0.235	0.22454	8.74309		

I	Chlorobenzene-d5	ISTD											
S	Toluene-d8				1.101	1.093	1.115	1.056	1.103	1.092	1.044	1.08625	2.42896	
C	Toluene		1.309	1.253	1.287	1.269	1.347	1.249	1.287	1.241	1.149	1.2656	4.33323	
T	Ethyl Methacrylate			0.234	0.233	0.25	0.299	0.285	0.289	0.291	0.281	0.27024	9.93745	
T	trans-1,3-Dichloropropene			0.335	0.388	0.387	0.448	0.418	0.432	0.43	0.412	0.40623	8.82781	
T	1,1,2-Trichloroethane		0.222	0.201	0.243	0.21	0.246	0.221	0.228	0.227	0.221	0.22442	6.30977	
T	2-Hexanone					0.137	0.179	0.165	0.172	0.172	0.165	0.16482	8.91224	
T	1,3-Dichloropropane		0.337	0.338	0.351	0.355	0.396	0.361	0.374	0.373	0.358	0.36039	5.16222	
T	Tetrachloroethene		0.274	0.287	0.317	0.286	0.306	0.286	0.3	0.299	0.294	0.29431	4.41886	
T	Dibromochloromethane		0.283	0.297	0.336	0.33	0.378	0.354	0.372	0.372	0.359	0.3423	9.88235	
T	1,2-Dibromoethane		0.232	0.182	0.228	0.214	0.243	0.224	0.233	0.235	0.232	0.22485	7.92714	
T	1-Chlorohexane		0.37	0.399	0.414	0.391	0.442	0.429	0.44	0.438	0.432	0.41726	6.09034	
P	Chlorobenzene		0.927	0.917	0.998	0.932	0.976	0.909	0.93	0.902	0.853	0.92715	4.48215	
T	1,1,1,2-Tetrachloroethane		0.341	0.361	0.405	0.366	0.388	0.371	0.384	0.385	0.376	0.37515	4.87731	
C	Ethylbenzene		0.453	0.457	0.512	0.463	0.495	0.466	0.482	0.479	0.472	0.47542	3.94078	
T	m-,p-Xylene		0.619	0.583	0.605	0.564	0.604	0.568	0.579	0.559	0.522	0.57798	5.08853	
T	o-Xylene		0.539	0.549	0.574	0.539	0.6	0.561	0.574	0.57	0.557	0.56249	3.43829	
T	Styrene		0.865	0.848	0.897	0.918	1.018	0.955	0.985	0.959	0.917	0.92933	5.96246	
P	Bromoform			0.172	0.189	0.185	0.226	0.21	0.225	0.226	0.228	0.20747	10.9157	
T	Isopropylbenzene		1.515	1.456	1.567	1.46	1.592	1.493	1.534	1.449	1.323	1.48754	5.34769	
I	1,4-Dichlorobenzene-d4	ISTD											
P	1,1,2,2-Tetrachloroethane		0.288	0.357	0.369	0.371	0.441	0.396	0.412	0.428	0.442	0.38931	12.6902	
S	p-Bromofluorobenzene				0.772	0.784	0.794	0.716	0.767	0.789	0.773	0.77065	3.38935	
T	1,2,3-Trichloropropane			0.087	0.129	0.138	0.151	0.137	0.142	0.148	0.148	0.13515	15.3522	0.999
T	trans-1,4-Dichloro-2-Butene			0.105	0.117	0.124	0.177	0.178	0.184	0.192	0.193	0.15883	23.0996	0.999
T	n-Propylbenzene		2.87	2.8	3.077	2.949	3.134	2.886	2.979	2.836	2.526	2.89527	6.10377	
T	Bromobenzene	0.663	0.778	0.81	0.798	0.765	0.784	0.718	0.752	0.769	0.76	0.75973	5.57443	
T	1,3,5-Trimethylbenzene		2.338	2.056	2.263	2.172	2.357	2.166	2.252	2.223	2.059	2.20939	4.86261	
T	2-Chlorotoluene		2.158	2.096	2.122	2.033	2.128	1.936	2.002	1.954	1.82	2.0279	5.4704	
T	4-Chlorotoluene		1.782	1.755	1.937	1.808	1.916	1.763	1.832	1.838	1.717	1.8165	4.03452	
T	a-Methylstyrene			1	1.066	1.101	1.241	1.231	1.235	1.242	1.208	1.16555	8.18507	
T	tert-Butylbenzene		0.378	0.44	0.48	0.489	0.498	0.458	0.483	0.49	0.497	0.46809	8.31778	
T	1,2,4-Trimethylbenzene		2.159	2.195	2.274	2.295	2.472	2.234	2.309	2.244	2.067	2.24981	4.97706	
T	sec-Butylbenzene			2.593	2.734	2.647	2.87	2.634	2.723	2.617	2.404	2.65291	5.05975	
T	p-Isopropyltoluene			2.247	2.592	2.45	2.641	2.43	2.506	2.404	2.226	2.43674	6.05243	
T	1,3-Dichlorobenzene		1.487	1.488	1.538	1.46	1.53	1.398	1.451	1.446	1.406	1.46732	3.33475	
T	1,4-Dichlorobenzene	1.482	1.601	1.511	1.569	1.484	1.538	1.404	1.456	1.434	1.395	1.4873	4.59741	
T	n-Butylbenzene		2.048	2.099	2.295	2.049	2.32	2.134	2.224	2.136	2.021	2.14721	5.09289	
T	1,2-Dichlorobenzene	1.33	1.26	1.333	1.432	1.33	1.406	1.296	1.343	1.326	1.31	1.33665	3.71841	
T	1,2-Dibromo-3-Chloropropane				0.057	0.079	0.096	0.081	0.086	0.087	0.091	0.08248	15.3444	0.999
T	1,2,4-Trichlorobenzene		0.927	0.903	0.957	0.956	1.042	0.972	0.998	1.002	1.047	0.97808	4.96993	
T	Hexachlorobutadiene		0.393	0.381	0.451	0.418	0.447	0.415	0.441	0.442	0.49	0.43089	7.64497	
T	Naphthalene		1.885	1.633	1.765	1.712	2.026	1.824	1.878	1.821	1.794	1.81543	6.15168	
T	1,2,3-Trichlorobenzene	0.854	0.957	0.865	0.918	0.834	0.946	0.86	0.889	0.912	0.943	0.89764	4.8559	

Tue May 17 13:57:02 2016

Calibration Table Report
Method: A9FOOWT.M
Title: A9-FOO Water - IC: 042416 - HPMS6
Last Calibration: Wed Apr 27 16:03:33 2016
Curve: WG566155
Calibration Files

	Compound	5 6M138751.D	20 6M138752.D	50 6M138753.D	100 6M138754.D	200 6M138755.D	300 6M138756.D	400 6M138757.D	500 6M138758.D	Avg	%RSD
I	Fluorobenzene	ISTD									
T	Acetonitrile	0.036	0.037	0.039	0.038	0.038	0.038	0.038	0.036	0.037	2.606
T	3-Chloro-1-propene	0.567	0.621	0.656	0.672	0.635	0.622	0.617	0.603	0.624	5.157
T	2-Chloro-1,3-butadiene	0.415	0.507	0.558	0.590	0.558	0.553	0.556	0.548	0.535	10.001
T	Ethyl Acetate	0.229	0.259	0.279	0.281	0.277	0.272	0.279	0.268	0.268	6.419
T	Methacrylonitrile	0.071	0.089	0.099	0.099	0.097	0.095	0.096	0.093	0.092	9.852
T	Isobutyl Alcohol		0.008	0.008	0.007	0.007	0.008	0.010	0.010	0.009	13.654
T	1-Butanol									0.000	0.000
T	Methyl methacrylate	0.159	0.200	0.231	0.244	0.244	0.241	0.246	0.236	0.225	13.591
T	2-Nitropropane			0.079	0.082	0.085	0.085	0.088	0.084	0.084	3.643
I	Chlorobenzene-d5	ISTD									
I	1,4-Dichlorobenzene-d4	ISTD									
T	Cyclohexanone			0.026	0.027	0.032	0.034	0.035	0.033	0.031	12.127

Wed Apr 27 16:05:59 2016

Calibration Table Report
Method: 8260WTR.M
Title: 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Calibration: Thu May 12 09:29:09 2016
Curve: WG568265
Calibration Files

	Compound	0.3 6M139178.D	0.4 6M139179.D	1 6M139180.D	2 6M139181.D	5 6M139182.D	20 6M139183.D	50 6M139184.D	100 6M139185.D	200 6M139186.D	300 6M139187.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.384	0.382	0.369	0.408	0.413	0.426	0.396	0.372	0.394	5.184		
P	Chloromethane			0.685	0.562	0.535	0.524	0.516	0.544	0.508	0.448	0.540	12.500		
C	Vinyl Chloride		0.419	0.417	0.364	0.337	0.332	0.328	0.335	0.310	0.282	0.347	13.198		
T	1,3-Butadiene					0.061	0.052	0.034	0.034	0.032	0.031	0.041	31.194		0.999
T	Bromomethane			0.239	0.202	0.190	0.178	0.179	0.197	0.200	0.185	0.196	9.907		
T	Chloroethane			0.244	0.230	0.218	0.214	0.214	0.228	0.220	0.208	0.222	5.284		
T	Trichlorofluoromethane		0.429	0.466	0.445	0.428	0.440	0.449	0.455	0.432	0.422	0.441	3.264		
T	Diethyl ether			0.248	0.239	0.226	0.222	0.223	0.240		0.235	0.233	4.245		
T	Isoprene					0.213	0.218	0.211	0.231	0.221	0.226	0.220	3.523		
T	Acrolein				0.037	0.036	0.033	0.034	0.034		0.037	0.035	5.049		
T	1,1,2-Trichloro-1,2,2-Trifluoroet			0.267	0.256	0.250	0.240	0.245	0.254	0.249	0.253	0.252	3.183		
T	Acetone					0.119	0.080	0.074	0.072	0.073	0.068	0.081	23.456	0.998	
C	1,1-Dichloroethene		0.477	0.497	0.457	0.451	0.437	0.438	0.451	0.446	0.448	0.456	4.258		
T	Tert-Butyl Alcohol			0.022	0.023	0.023	0.022	0.023	0.023		0.021	0.023	3.421		
T	Dimethyl Sulfide					0.153	0.151	0.148	0.147	0.148	0.145	0.149	1.987		
T	Iodomethane				0.041	0.059	0.112	0.138	0.142	0.137	0.132	0.109	38.212	0.998	
T	Methyl acetate					0.249	0.217	0.206	0.202	0.203	0.202	0.213	8.613		
T	Methylene Chloride			0.296	0.284	0.269	0.256	0.259	0.263	0.263	0.264	0.269	5.153		
T	Carbon Disulfide			0.502	0.490	0.466	0.466	0.452	0.469	0.464	0.465	0.472	3.401		
T	Acrylonitrile			0.088	0.094	0.089	0.090	0.096	0.093		0.103	0.093	5.419		
T	Methyl Tert Butyl Ether			0.717	0.713	0.711	0.674	0.683	0.681	0.691	0.686	0.694	2.414		
T	trans-1,2-Dichloroethene		0.247	0.279	0.275	0.252	0.252	0.257	0.261	0.260	0.263	0.261	4.021		
T	n-Hexane					0.298	0.274	0.265	0.274	0.268	0.272	0.275	4.316		
T	Diisopropyl ether			1.127	1.128	1.057	1.049	1.059	1.033		1.011	1.066	4.209		
T	Vinyl Acetate					0.346	0.324	0.339	0.388	0.383	0.430	0.368	10.668		
P	1,1-Dichloroethane		0.513	0.539	0.535	0.522	0.510	0.509	0.516	0.515	0.520	0.520	2.034		
T	Ethyl-Tert-Butyl ether			0.902	0.925	0.875	0.872	0.879	0.872		0.880	0.886	2.235		
T	2-Butanone					0.130	0.116	0.113	0.109	0.109	0.103	0.113	8.180		
T	Propionitrile			0.032	0.032	0.032	0.031	0.032	0.031		0.029	0.031	4.098		
T	2,2-Dichloropropane		0.397	0.432	0.408	0.403	0.351	0.353	0.368	0.362	0.367	0.382	7.445		
T	cis-1,2-Dichloroethene		0.287	0.302	0.298	0.283	0.279	0.281	0.286	0.286	0.290	0.288	2.622		
C	Chloroform	0.515	0.499	0.502	0.495	0.461	0.452	0.454	0.461	0.461	0.460	0.476	4.984		
T	1-Bromopropane			0.032	0.033	0.040	0.042	0.040	0.041	0.041	0.042	0.039	10.780		
T	Bromochloromethane		0.128	0.159	0.162	0.162	0.158	0.162	0.163	0.164	0.164	0.158	7.350		
T	Tetrahydrofuran			0.106	0.082	0.076	0.073	0.074	0.070		0.071	0.079	15.948	1.000	
S	Dibromofluoromethane				0.272	0.261	0.266	0.257	0.259	0.259	0.264	0.262	2.049		
T	1,1,1-Trichloroethane		0.396	0.435	0.424	0.412	0.407	0.410	0.422	0.419	0.428	0.417	2.856		
T	Cyclohexane			0.451	0.429	0.417	0.412	0.396	0.410	0.406	0.420	0.418	4.035		
T	1,1-Dichloropropene			0.375	0.371	0.362	0.353	0.353	0.361	0.358	0.366	0.362	2.153		
T	Tert-Amyl-Methyl ether			0.693	0.715	0.681	0.677	0.683	0.685		0.700	0.691	1.906		
T	Carbon Tetrachloride		0.35	0.373	0.368	0.357	0.36	0.368	0.385	0.378	0.395	0.3704	3.8425		
S	1,2-Dichloroethane-d4				0.296	0.303	0.301	0.288	0.288	0.286	0.284	0.2923	2.5758		
T	Heptane										0	0			
T	1,2-Dichloroethane		0.376	0.363	0.371	0.371	0.358	0.358	0.361	0.367	0.365	0.3655	1.7609		
T	Benzene		1.131	1.14	1.089	1.064	1.01	1.008	1.024	1	0.927	1.0438	6.59		
T	Trichloroethene		0.286	0.281	0.279	0.27	0.268	0.268	0.269	0.269	0.267	0.273	2.5894		
T	Methylcyclohexane					0.367	0.36	0.347	0.361	0.357	0.364	0.3595	1.9207		
C	1,2-Dichloropropane		0.3	0.31	0.297	0.292	0.283	0.285	0.29	0.291	0.289	0.2929	2.849		
T	1,4-Dioxane					0.002	0.002	0.002	0.002		0.002	0.002	6.9396		
T	Bromodichloromethane		0.339	0.36	0.359	0.354	0.347	0.357	0.363	0.367	0.361	0.3564	2.4148		
T	Dibromomethane		0.13	0.143	0.154	0.153	0.146	0.148	0.15	0.153	0.151	0.1476	5.1278		
T	2-Chloroethyl Vinyl Ether				0.14	0.144	0.152	0.152	0.145	0.143	0.132	0.1439	4.7089		
T	4-Methyl-2-Pentanone					0.088	0.089	0.091	0.087	0.09	0.082	0.0878	3.5099		
T	cis-1,3-Dichloropropene		0.415	0.415	0.425	0.416	0.411	0.417	0.423	0.425	0.414	0.4179	1.1911		
T	Dimethyl Disulfide					0.206	0.227	0.227	0.235	0.242	0.242	0.2299	5.8129		
I	Chlorobenzene-d5	ISTD													
S	Toluene-d8				1.282	1.228	1.259	1.204	1.183	1.181	1.275	1.2304	3.4522		
C	Toluene		1.607	1.587	1.564	1.492	1.434	1.449	1.456	1.405	1.341	1.4818	5.999		
T	Ethyl Methacrylate			0.415	0.43	0.422	0.437	0.425	0.427	0.441	0.45	0.4307	2.6246		
T	Paraldehyde										0	0			
T	trans-1,3-Dichloropropene			0.471	0.503	0.5	0.493	0.505	0.508	0.519	0.537	0.5044	3.8199		
T	1,1,2-Trichloroethane		0.251	0.288	0.283	0.277	0.269	0.273	0.272	0.276	0.281	0.2746	3.836		
T	2-Hexanone					0.264	0.242	0.24	0.229	0.236	0.231	0.2405	5.2697		
T	1,3-Dichloropropane		0.458	0.519	0.517	0.493	0.477	0.486	0.476	0.483	0.486	0.4882	3.9326		
T	Tetrachloroethene		0.378	0.418	0.403	0.389	0.37	0.374	0.374	0.37	0.394	0.3856	4.3544		
T	Dibromochloromethane		0.276	0.316	0.331	0.336	0.337	0.352	0.356	0.362	0.364	0.3366	8.2282		
T	1,2-Dibromoethane		0.249	0.271	0.268	0.277	0.268	0.274	0.27	0.273	0.273	0.2693	3.0782		
T	1-Chlorohexane		0.543	0.521	0.534	0.504	0.497	0.484	0.5	0.497	0.512	0.5102	3.7341		
P	Chlorobenzene		1.032	1.028	1.013	0.973	0.947	0.967	0.983	0.964	0.929	0.9818	3.6351		
T	1,1,1,2-Tetrachloroethane		0.336	0.35	0.351	0.343	0.347	0.363	0.375	0.38	0.375	0.3577	4.4657		
C	Ethylbenzene		0.51	0.532	0.552	0.528	0.507	0.524	0.541	0.542	0.543	0.5312	2.8969		
T	m-,p-Xylene		0.686	0.679	0.666	0.642	0.611	0.629	0.647	0.619	0.568	0.6387	5.7865		
T	o-Xylene			0.686	0.643	0.621	0.607	0.621	0.638	0.63	0.617	0.6327	3.8491		
T	Styrene		1.063	1.116	1.115	1.087	1.058	1.098	1.141	1.119	1.04	1.0932	3.0737		
P	Bromoform			0.187	0.186	0.196	0.205	0.225	0.237	0.247	0.244	0.2159	11.839		
T	Isopropylbenzene		1.7	1.714	1.678	1.624	1.558	1.596	1.647	1.532	1.35	1.5998	7.0166		
I	1,4-Dichlorobenzene-d4	ISTD													
P	1,1,2,2-Tetrachloroethane		0.535	0.623	0.619	0.613	0.584	0.595	0.596	0.618	0.624	0.6008	4.7256		
S	p-Bromofluorobenzene				0.986	0.945	0.963	0.904	0.87	0.898	0.921	0.9267	4.3507		

T	1,2,3-Trichloropropane			0.175	0.17	0.177	0.172	0.177	0.171	0.18	0.178	0.1751	2.1045
T	trans-1,4-Dichloro-2-Butene			0.177	0.188	0.21	0.218	0.219	0.22	0.231	0.233	0.212	9.3686
T	n-Propylbenzene		3.836	3.937	3.773	3.58	3.404	3.413	3.355	3.063	2.677	3.4489	11.54
T	Bromobenzene	0.978	0.763	0.856	0.836	0.786	0.766	0.766	0.758	0.777	0.78	0.8065	8.4758
T	1,3,5-Trimethylbenzene		2.683	2.702	2.619	2.523	2.399	2.456	2.457	2.387	2.187	2.4903	6.5516
T	2-Chlorotoluene		2.531	2.467	2.374	2.389	2.27	2.202	2.128	2.096	2.15	2.2897	6.8711
T	4-Chlorotoluene		2.487	2.423	2.283	2.119	2.004	2.128	2.206	2.199	1.845	2.1882	9.0518
T	a-Methylstyrene					1.338	1.398	1.373	1.402	1.41	1.376	1.3827	1.9102
T	tert-Butylbenzene			0.574	0.561	0.542	0.527	0.533	0.541	0.541	0.546	0.5457	2.7675
T	1,2,4-Trimethylbenzene			2.772	2.692	2.593	2.49	2.554	2.577	2.483	2.246	2.5509	6.1589
T	sec-Butylbenzene			3.297	3.208	3.132	2.981	3.026	3.039	2.838	2.537	3.0074	7.8709
T	p-Isopropyltoluene			2.789	2.726	2.697	2.56	2.624	2.643	2.495	2.253	2.5985	6.4475
T	1,3-Dichlorobenzene		1.622	1.617	1.598	1.546	1.474	1.5	1.514	1.497	1.44	1.5342	4.2771
T	1,4-Dichlorobenzene	1.8	1.56	1.675	1.582	1.525	1.473	1.505	1.513	1.497	1.429	1.5558	6.9803
T	n-Butylbenzene			2.715	2.6	2.528	2.399	2.489	2.521	2.383	2.156	2.4739	6.7387
T	1,2-Dichlorobenzene	1.669	1.494	1.527	1.479	1.441	1.377	1.411	1.405	1.387	1.335	1.4526	6.5937
T	1,2-Dibromo-3-Chloropropane				0.108	0.105	0.111	0.118	0.115	0.118	0.116	0.1129	4.4522
T	1,2,4-Trichlorobenzene		1.116	1.021	1.062	1.052	1.011	1.027	1.023	1.024	1.006	1.0381	3.3039
T	Hexachlorobutadiene		0.481	0.457	0.506	0.464	0.442	0.438	0.442	0.432	0.435	0.4552	5.4185
T	Naphthalene		2.006	2.115	2.07	2.126	2.062	2.12	2.057	2.029	1.866	2.05	3.9226
T	1,2,3-Trichlorobenzene	1.154	1.022	0.997	0.967	0.952	0.928	0.944	0.936	0.937	0.917	0.9755	7.2383

Thu May 12 12:59:08 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16051153 Run Date: 05/13/2016 Sample ID: WG568769-12
Instrument ID: HPMS11 Run Time: 20:30 Method: 8260B
File ID: 11M11848 Analyst: JDS QC Key: DOD4
ICal Workgroup: WG568769 Cal ID: HPMS11 - 13-MAY-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.6	ug/L	0.475	4.80	20	
1,1-Dichloroethene	CCC	50.0	47.5	ug/L	0.435	4.90	20	
1,2-Dichloropropane	CCC	50.0	52.8	ug/L	0.281	5.60	20	
Ethylbenzene	CCC	50.0	52.4	ug/L	0.498	4.80	20	
Toluene	CCC	50.0	53.8	ug/L	1.36	7.50	20	
Vinyl Chloride	CCC	50.0	56.1	ug/L	0.292	12.2	20	
Bromoform	SPCC	50.0	49.8	ug/L	0.207	0.300	20	
Chlorobenzene	SPCC	50.0	53.3	ug/L	0.988	6.60	20	
Chloromethane	SPCC	50.0	55.1	ug/L	0.346	10.2	20	
1,1-Dichloroethane	SPCC	50.0	48.5	ug/L	0.493	3.00	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	54.9	ug/L	0.428	9.90	20	
Acetone		50.0	49.7	ug/L	0.0590	0.700	20	
Benzene		50.0	51.2	ug/L	0.983	2.40	20	
Bromobenzene		50.0	51.6	ug/L	0.785	3.30	20	
Bromochloromethane		50.0	53.9	ug/L	0.179	7.80	20	
Bromodichloromethane		50.0	49.5	ug/L	0.370	0.900	20	
Bromomethane		50.0	50.5	ug/L	0.181	1.00	20	
2-Butanone		50.0	50.3	ug/L	0.0904	0.700	20	
n-Butylbenzene		50.0	53.9	ug/L	2.31	7.80	20	
sec-Butylbenzene		50.0	55.9	ug/L	2.97	11.8	20	
tert-Butylbenzene		50.0	56.5	ug/L	0.529	13.1	20	
Carbon Disulfide		50.0	44.7	ug/L	0.685	10.6	20	
Carbon Tetrachloride		50.0	47.3	ug/L	0.454	5.30	20	
Dibromochloromethane		50.0	52.5	ug/L	0.360	5.10	20	
Chloroethane		50.0	58.9	ug/L	0.197	17.7	20	
2-Chlorotoluene		50.0	52.8	ug/L	2.14	5.50	20	
4-Chlorotoluene		50.0	55.4	ug/L	2.01	10.8	20	
1,2-Dibromo-3-Chloropropane		50.0	48.1	ug/L	0.0844	3.80	20	
1,2-Dibromoethane		50.0	52.6	ug/L	0.237	5.30	20	
Dibromomethane		50.0	48.0	ug/L	0.133	3.90	20	
1,2-Dichlorobenzene		50.0	53.6	ug/L	1.43	7.20	20	
1,3-Dichlorobenzene		50.0	52.7	ug/L	1.55	5.40	20	
1,4-Dichlorobenzene		50.0	53.0	ug/L	1.58	6.10	20	
Dichlorodifluoromethane		50.0	56.6	ug/L	0.443	13.2	20	
1,2-Dichloroethane		50.0	47.9	ug/L	0.388	4.20	20	
cis-1,2-Dichloroethene		50.0	53.2	ug/L	0.297	6.30	20	
trans-1,2-Dichloroethene		50.0	52.1	ug/L	0.264	4.30	20	
1,3-Dichloropropane		50.0	56.3	ug/L	0.406	12.6	20	
2,2-Dichloropropane		50.0	45.6	ug/L	0.362	8.90	20	
cis-1,3-Dichloropropene		50.0	57.6	ug/L	0.430	15.2	20	
trans-1,3-Dichloropropene		50.0	52.1	ug/L	0.423	4.20	20	
1,1-Dichloropropene		50.0	50.1	ug/L	0.352	0.200	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4779010
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16051153 Run Date: 05/13/2016 Sample ID: WG568769-12
Instrument ID: HPMS11 Run Time: 20:30 Method: 8260B
File ID: 11M11848 Analyst: JDS QC Key: DOD4
ICal Workgroup: WG568769 Cal ID: HPMS11 - 13-MAY-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	52.2	ug/L	0.172	4.40	20	
Hexachlorobutadiene		50.0	55.9	ug/L	0.482	11.8	20	
Isopropylbenzene		50.0	54.2	ug/L	1.61	8.50	20	
p-Isopropyltoluene		50.0	54.7	ug/L	2.67	9.40	20	
4-Methyl-2-Pentanone		50.0	52.6	ug/L	0.0777	5.10	20	
Methylene Chloride		50.0	52.0	ug/L	0.246	4.00	20	
Naphthalene		50.0	51.1	ug/L	1.86	2.30	20	
n-Propylbenzene		50.0	56.6	ug/L	3.28	13.2	20	
Styrene		50.0	55.0	ug/L	1.02	9.90	20	
1,1,1,2-Tetrachloroethane		50.0	51.0	ug/L	0.383	2.10	20	
Tetrachloroethene		50.0	52.2	ug/L	0.307	4.40	20	
1,2,3-Trichlorobenzene		50.0	54.1	ug/L	0.971	8.10	20	
1,2,4-Trichlorobenzene		50.0	55.4	ug/L	1.08	10.9	20	
1,1,1-Trichloroethane		50.0	48.1	ug/L	0.472	3.90	20	
1,1,2-Trichloroethane		50.0	52.8	ug/L	0.237	5.50	20	
Trichloroethene		50.0	52.3	ug/L	0.327	4.60	20	
Trichlorofluoromethane		50.0	47.5	ug/L	0.494	4.90	20	
1,2,3-Trichloropropane		50.0	50.1	ug/L	0.147	0.300	20	
1,2,4-Trimethylbenzene		50.0	53.8	ug/L	2.42	7.70	20	
1,3,5-Trimethylbenzene		50.0	55.1	ug/L	2.44	10.3	20	
o-Xylene		50.0	54.7	ug/L	0.615	9.40	20	
m-,p-Xylene		100	107	ug/L	0.620	7.20	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4779010
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16051153 Run Date: 05/11/2016 Sample ID: WG568265-12
Instrument ID: HPMS6 Run Time: 18:17 Method: 8260B
File ID: 6M139191 Analyst: FJB QC Key: DOD4
ICal Workgroup: WG568265 Cal ID: HPMS6 - 11-MAY-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.8	ug/L	0.483	1.50	20	
1,1-Dichloroethene	CCC	50.0	50.3	ug/L	0.459	0.700	20	
1,2-Dichloropropane	CCC	50.0	52.5	ug/L	0.308	5.00	20	
Ethylbenzene	CCC	50.0	52.4	ug/L	0.557	4.80	20	
Toluene	CCC	50.0	52.1	ug/L	1.54	4.30	20	
Vinyl Chloride	CCC	50.0	50.0	ug/L	0.347	0	20	
Bromoform	SPCC	50.0	49.2	ug/L	0.212	1.60	20	
Chlorobenzene	SPCC	50.0	52.7	ug/L	1.04	5.50	20	
Chloromethane	SPCC	50.0	47.4	ug/L	0.512	5.10	20	
1,1-Dichloroethane	SPCC	50.0	50.2	ug/L	0.522	0.500	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.5	ug/L	0.595	0.900	20	
Acetone		50.0	50.8	ug/L	0.0763	1.70	20	
Benzene		50.0	52.0	ug/L	1.09	4.00	20	
Bromobenzene		50.0	48.4	ug/L	0.781	3.20	20	
Bromochloromethane		50.0	53.3	ug/L	0.168	6.50	20	
Bromodichloromethane		50.0	52.4	ug/L	0.374	4.90	20	
Bromomethane		50.0	49.7	ug/L	0.195	0.700	20	
2-Butanone		50.0	50.4	ug/L	0.114	0.800	20	
n-Butylbenzene		50.0	52.8	ug/L	2.61	5.50	20	
sec-Butylbenzene		50.0	54.0	ug/L	3.25	8.00	20	
tert-Butylbenzene		50.0	53.0	ug/L	0.578	6.00	20	
Carbon Disulfide		50.0	88.6	ug/L	0.836	77.2	20	*
Carbon Tetrachloride		50.0	54.1	ug/L	0.401	8.20	20	
Dibromochloromethane		50.0	53.0	ug/L	0.356	5.90	20	
Chloroethane		50.0	54.0	ug/L	0.240	8.00	20	
2-Chlorotoluene		50.0	50.4	ug/L	2.31	0.800	20	
4-Chlorotoluene		50.0	53.0	ug/L	2.32	6.00	20	
1,2-Dibromo-3-Chloropropane		50.0	50.2	ug/L	0.113	0.400	20	
1,2-Dibromoethane		50.0	51.0	ug/L	0.275	2.10	20	
Dibromomethane		50.0	49.9	ug/L	0.147	0.300	20	
1,2-Dichlorobenzene		50.0	51.3	ug/L	1.49	2.60	20	
1,3-Dichlorobenzene		50.0	51.0	ug/L	1.56	2.00	20	
1,4-Dichlorobenzene		50.0	51.2	ug/L	1.59	2.40	20	
Dichlorodifluoromethane		50.0	61.6	ug/L	0.485	23.2	20	*
1,2-Dichloroethane		50.0	51.4	ug/L	0.376	2.80	20	
cis-1,2-Dichloroethene		50.0	53.9	ug/L	0.310	7.70	20	
trans-1,2-Dichloroethene		50.0	54.3	ug/L	0.283	8.50	20	
1,3-Dichloropropane		50.0	52.8	ug/L	0.515	5.60	20	
2,2-Dichloropropane		50.0	58.2	ug/L	0.445	16.3	20	
cis-1,3-Dichloropropene		50.0	57.9	ug/L	0.484	15.8	20	
trans-1,3-Dichloropropene		50.0	52.5	ug/L	0.530	5.00	20	
1,1-Dichloropropene		50.0	52.4	ug/L	0.379	4.70	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4779010
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16051153 Run Date: 05/11/2016 Sample ID: WG568265-12
Instrument ID: HPMS6 Run Time: 18:17 Method: 8260B
File ID: 6M139191 Analyst: FJB QC Key: DOD4
ICal Workgroup: WG568265 Cal ID: HPMS6 - 11-MAY-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	46.9	ug/L	0.226	6.20	20	
Hexachlorobutadiene		50.0	57.3	ug/L	0.522	14.6	20	
Isopropylbenzene		50.0	53.4	ug/L	1.71	6.80	20	
p-Isopropyltoluene		50.0	53.0	ug/L	2.75	6.00	20	
4-Methyl-2-Pentanone		50.0	49.7	ug/L	0.0872	0.700	20	
Methylene Chloride		50.0	52.3	ug/L	0.282	4.60	20	
Naphthalene		50.0	45.7	ug/L	1.87	8.60	20	
n-Propylbenzene		50.0	53.9	ug/L	3.72	7.80	20	
Styrene		50.0	52.0	ug/L	1.14	4.10	20	
1,1,1,2-Tetrachloroethane		50.0	53.1	ug/L	0.380	6.20	20	
Tetrachloroethene		50.0	51.5	ug/L	0.397	3.00	20	
1,2,3-Trichlorobenzene		50.0	49.6	ug/L	0.968	0.800	20	
1,2,4-Trichlorobenzene		50.0	52.3	ug/L	1.09	4.60	20	
1,1,1-Trichloroethane		50.0	53.4	ug/L	0.445	6.70	20	
1,1,2-Trichloroethane		50.0	50.8	ug/L	0.279	1.70	20	
Trichloroethene		50.0	53.5	ug/L	0.292	6.90	20	
Trichlorofluoromethane		50.0	51.2	ug/L	0.451	2.40	20	
1,2,3-Trichloropropane		50.0	50.3	ug/L	0.176	0.600	20	
1,2,4-Trimethylbenzene		50.0	51.2	ug/L	2.61	2.40	20	
1,3,5-Trimethylbenzene		50.0	51.8	ug/L	2.58	3.60	20	
o-Xylene		50.0	53.1	ug/L	0.672	6.20	20	
m-,p-Xylene		100	106	ug/L	0.680	6.40	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4779010
Report generated 05/31/2016 13:11

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG569959-02
Instrument ID: HPMS6 Run Time: 07:07 Method: 8260B
File ID: 6M139572 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG569960 Cal ID: HPMS6 - 11-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.0	ug/L	0.467	1.93	20	
1,1-Dichloroethene	CCC	50.0	49.4	ug/L	0.450	1.26	20	
1,2-Dichloropropane	CCC	50.0	49.7	ug/L	0.291	0.633	20	
Ethylbenzene	CCC	50.0	49.1	ug/L	0.522	1.74	20	
Toluene	CCC	50.0	48.9	ug/L	1.45	2.16	20	
Vinyl Chloride	CCC	50.0	48.5	ug/L	0.337	2.91	20	
Bromoform	SPCC	50.0	53.9	ug/L	0.233	7.80	20	
Chlorobenzene	SPCC	50.0	49.1	ug/L	0.965	1.76	20	
Chloromethane	SPCC	50.0	42.3	ug/L	0.457	15.3	20	
1,1-Dichloroethane	SPCC	50.0	50.5	ug/L	0.525	0.968	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	52.4	ug/L	0.630	4.83	20	
Xylenes		150	147	ug/L	0.621	2.07	20	
Acetone		50.0	44.4	ug/L	0.0674	11.2	20	
Benzene		50.0	49.6	ug/L	1.04	0.741	20	
Bromobenzene		50.0	47.9	ug/L	0.772	4.29	20	
Bromochloromethane		50.0	52.8	ug/L	0.167	5.51	20	
Bromodichloromethane		50.0	51.2	ug/L	0.365	2.39	20	
Bromomethane		50.0	34.4	ug/L	0.135	31.2	20	*
2-Butanone		50.0	46.8	ug/L	0.106	6.31	20	
n-Butylbenzene		50.0	50.0	ug/L	2.47	0.0930	20	
sec-Butylbenzene		50.0	49.5	ug/L	2.98	1.06	20	
tert-Butylbenzene		50.0	48.2	ug/L	0.526	3.55	20	
Carbon Disulfide		50.0	48.9	ug/L	0.462	2.17	20	
Carbon Tetrachloride		50.0	51.9	ug/L	0.385	3.86	20	
Dibromochloromethane		50.0	53.3	ug/L	0.359	6.60	20	
Chloroethane		50.0	47.2	ug/L	0.210	5.50	20	
2-Chlorotoluene		50.0	50.1	ug/L	2.29	0.149	20	
4-Chlorotoluene		50.0	47.3	ug/L	2.07	5.40	20	
1,2-Dibromo-3-Chloropropane		50.0	50.6	ug/L	0.114	1.11	20	
1,2-Dibromoethane		50.0	50.0	ug/L	0.269	0.0200	20	
Dibromomethane		50.0	51.3	ug/L	0.152	2.62	20	
1,2-Dichlorobenzene		50.0	48.3	ug/L	1.40	3.39	20	
1,3-Dichlorobenzene		50.0	49.5	ug/L	1.52	0.963	20	
1,4-Dichlorobenzene		50.0	48.4	ug/L	1.50	3.30	20	
Dichlorodifluoromethane		50.0	54.5	ug/L	0.429	8.98	20	
1,2-Dichloroethane		50.0	49.5	ug/L	0.362	1.08	20	
cis-1,2-Dichloroethene		50.0	50.4	ug/L	0.290	0.790	20	
trans-1,2-Dichloroethene		50.0	50.8	ug/L	0.265	1.51	20	
1,3-Dichloropropane		50.0	49.0	ug/L	0.479	1.99	20	
2,2-Dichloropropane		50.0	53.2	ug/L	0.407	6.40	20	
cis-1,3-Dichloropropene		50.0	51.0	ug/L	0.426	2.05	20	
trans-1,3-Dichloropropene		50.0	51.2	ug/L	0.517	2.50	20	

CCV - Modified 03/05/2008
PDF File ID: 4779012
Report generated 05/31/2016 13:11

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG569959-02
Instrument ID: HPMS6 Run Time: 07:07 Method: 8260B
File ID: 6M139572 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG569960 Cal ID: HPMS6 - 11-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	49.8	ug/L	0.361	0.484	20	
2-Hexanone		50.0	44.5	ug/L	0.214	11.0	20	
Hexachlorobutadiene		50.0	45.6	ug/L	0.415	8.80	20	
Isopropylbenzene		50.0	49.4	ug/L	1.58	1.25	20	
p-Isopropyltoluene		50.0	49.5	ug/L	2.57	1.03	20	
4-Methyl-2-Pentanone		50.0	48.1	ug/L	0.0845	3.74	20	
Methylene Chloride		50.0	50.0	ug/L	0.270	0.0662	20	
Naphthalene		50.0	48.0	ug/L	1.97	4.10	20	
n-Propylbenzene		50.0	49.6	ug/L	3.42	0.774	20	
Styrene		50.0	49.9	ug/L	1.09	0.107	20	
1,1,1,2-Tetrachloroethane		50.0	51.3	ug/L	0.367	2.62	20	
Tetrachloroethene		50.0	48.4	ug/L	0.373	3.25	20	
1,2,3-Trichlorobenzene		50.0	46.0	ug/L	0.898	7.95	20	
1,2,4-Trichlorobenzene		50.0	47.8	ug/L	0.993	4.40	20	
1,1,1-Trichloroethane		50.0	50.3	ug/L	0.420	0.580	20	
1,1,2-Trichloroethane		50.0	50.3	ug/L	0.276	0.562	20	
Trichloroethene		50.0	48.4	ug/L	0.264	3.15	20	
Trichlorofluoromethane		50.0	53.3	ug/L	0.469	6.51	20	
1,2,3-Trichloropropane		50.0	50.6	ug/L	0.177	1.19	20	
1,2,4-Trimethylbenzene		50.0	50.1	ug/L	2.56	0.279	20	
1,3,5-Trimethylbenzene		50.0	48.6	ug/L	2.42	2.76	20	
o-Xylene		50.0	48.5	ug/L	0.613	3.05	20	
m-,p-Xylene		100	98.4	ug/L	0.629	1.57	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4779012
Report generated 05/31/2016 13:11

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG570083-02
Instrument ID: HPMS11 Run Time: 15:08 Method: 8260B
File ID: 11M12102 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG570084 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.6	ug/L	0.515	3.19	20	
1,1-Dichloroethene	CCC	50.0	51.9	ug/L	0.475	3.81	20	
1,2-Dichloropropane	CCC	50.0	48.0	ug/L	0.255	3.92	20	
Ethylbenzene	CCC	50.0	51.9	ug/L	0.493	3.76	20	
Toluene	CCC	50.0	52.0	ug/L	1.32	3.96	20	
Vinyl Chloride	CCC	50.0	54.6	ug/L	0.284	9.12	20	
Bromoform	SPCC	50.0	53.2	ug/L	0.221	6.38	20	
Chlorobenzene	SPCC	50.0	52.5	ug/L	0.974	5.05	20	
Chloromethane	SPCC	50.0	47.8	ug/L	0.300	4.43	20	
1,1-Dichloroethane	SPCC	50.0	50.6	ug/L	0.514	1.14	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.1	ug/L	0.359	7.83	20	
Xylenes		150	155	ug/L	0.588	3.08	20	
Acetone		50.0	45.8	ug/L	0.0544	8.38	20	
Benzene		50.0	48.0	ug/L	0.922	4.01	20	
Bromobenzene		50.0	49.9	ug/L	0.758	0.277	20	
Bromochloromethane		50.0	53.7	ug/L	0.178	7.31	20	
Bromodichloromethane		50.0	54.2	ug/L	0.404	8.34	20	
Bromomethane		50.0	46.5	ug/L	0.167	6.96	20	
2-Butanone		50.0	42.4	ug/L	0.0760	15.3	20	
n-Butylbenzene		50.0	49.1	ug/L	2.11	1.78	20	
sec-Butylbenzene		50.0	49.9	ug/L	2.65	0.277	20	
tert-Butylbenzene		50.0	50.5	ug/L	0.473	1.01	20	
Carbon Disulfide		50.0	49.9	ug/L	0.765	0.124	20	
Carbon Tetrachloride		50.0	58.4	ug/L	0.561	16.9	20	
Dibromochloromethane		50.0	55.9	ug/L	0.383	11.8	20	
Chloroethane		50.0	48.6	ug/L	0.163	2.88	20	
2-Chlorotoluene		50.0	50.7	ug/L	2.06	1.45	20	
4-Chlorotoluene		50.0	51.9	ug/L	1.88	3.72	20	
1,2-Dibromo-3-Chloropropane		50.0	44.0	ug/L	0.0770	12.1	20	
1,2-Dibromoethane		50.0	50.5	ug/L	0.227	0.985	20	
Dibromomethane		50.0	52.0	ug/L	0.144	3.94	20	
1,2-Dichlorobenzene		50.0	50.3	ug/L	1.34	0.549	20	
1,3-Dichlorobenzene		50.0	51.0	ug/L	1.50	1.93	20	
1,4-Dichlorobenzene		50.0	50.0	ug/L	1.49	0.0862	20	
Dichlorodifluoromethane		50.0	53.1	ug/L	0.416	6.17	20	
1,2-Dichloroethane		50.0	54.8	ug/L	0.444	9.52	20	
cis-1,2-Dichloroethene		50.0	49.9	ug/L	0.279	0.103	20	
trans-1,2-Dichloroethene		50.0	49.7	ug/L	0.252	0.613	20	
1,3-Dichloropropane		50.0	49.8	ug/L	0.359	0.306	20	
2,2-Dichloropropane		50.0	55.3	ug/L	0.440	10.6	20	
cis-1,3-Dichloropropene		50.0	52.6	ug/L	0.392	5.11	20	
trans-1,3-Dichloropropene		50.0	53.0	ug/L	0.430	5.95	20	

CCV - Modified 03/05/2008
PDF File ID: 4779012
Report generated 05/31/2016 13:11

Login Number: L16051153 Run Date: 05/24/2016 Sample ID: WG570083-02
Instrument ID: HPMS11 Run Time: 15:08 Method: 8260B
File ID: 11M12102 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG570084 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	51.0	ug/L	0.358	2.10	20	
2-Hexanone		50.0	44.0	ug/L	0.145	12.1	20	
Hexachlorobutadiene		50.0	38.7	ug/L	0.334	22.5	20	*
Isopropylbenzene		50.0	53.6	ug/L	1.59	7.18	20	
p-Isopropyltoluene		50.0	51.4	ug/L	2.51	2.87	20	
4-Methyl-2-Pentanone		50.0	41.6	ug/L	0.0614	16.9	20	
Methylene Chloride		50.0	47.6	ug/L	0.226	4.80	20	
Naphthalene		50.0	44.2	ug/L	1.61	11.5	20	
n-Propylbenzene		50.0	51.8	ug/L	3.00	3.62	20	
Styrene		50.0	54.2	ug/L	1.01	8.35	20	
1,1,1,2-Tetrachloroethane		50.0	54.4	ug/L	0.408	8.76	20	
Tetrachloroethene		50.0	53.1	ug/L	0.312	6.12	20	
1,2,3-Trichlorobenzene		50.0	43.5	ug/L	0.780	13.1	20	
1,2,4-Trichlorobenzene		50.0	46.6	ug/L	0.912	6.75	20	
1,1,1-Trichloroethane		50.0	55.3	ug/L	0.544	10.7	20	
1,1,2-Trichloroethane		50.0	48.9	ug/L	0.220	2.11	20	
Trichloroethene		50.0	50.5	ug/L	0.315	1.04	20	
Trichlorofluoromethane		50.0	56.2	ug/L	0.584	12.4	20	
1,2,3-Trichloropropane		50.0	46.4	ug/L	0.136	7.11	20	
1,2,4-Trimethylbenzene		50.0	52.5	ug/L	2.36	4.97	20	
1,3,5-Trimethylbenzene		50.0	51.9	ug/L	2.29	3.79	20	
o-Xylene		50.0	51.5	ug/L	0.580	3.07	20	
m-,p-Xylene		100	103	ug/L	0.596	3.09	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4779012
Report generated 05/31/2016 13:11

Login Number: L16051153 Run Date: 05/25/2016 Sample ID: WG570237-02
Instrument ID: HPMS11 Run Time: 13:46 Method: 8260B
File ID: 11M12129 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG570238 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	52.6	ug/L	0.525	5.12	20	
1,1-Dichloroethene	CCC	50.0	54.9	ug/L	0.502	9.77	20	
1,2-Dichloropropane	CCC	50.0	48.3	ug/L	0.257	3.32	20	
Ethylbenzene	CCC	50.0	52.3	ug/L	0.498	4.68	20	
Toluene	CCC	50.0	51.9	ug/L	1.31	3.75	20	
Vinyl Chloride	CCC	50.0	57.0	ug/L	0.297	14.1	20	
Bromoform	SPCC	50.0	52.9	ug/L	0.219	5.74	20	
Chlorobenzene	SPCC	50.0	52.4	ug/L	0.971	4.77	20	
Chloromethane	SPCC	50.0	49.5	ug/L	0.311	0.955	20	
1,1-Dichloroethane	SPCC	50.0	51.4	ug/L	0.522	2.77	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	45.2	ug/L	0.352	9.68	20	
Xylenes		150	156	ug/L	0.592	3.77	20	
Acetone		50.0	44.1	ug/L	0.0523	11.9	20	
Benzene		50.0	48.2	ug/L	0.926	3.51	20	
Bromobenzene		50.0	50.0	ug/L	0.760	0.000800	20	
Bromochloromethane		50.0	54.8	ug/L	0.182	9.52	20	
Bromodichloromethane		50.0	55.2	ug/L	0.412	10.5	20	
Bromomethane		50.0	46.9	ug/L	0.168	6.14	20	
2-Butanone		50.0	41.5	ug/L	0.0744	17.1	20	
n-Butylbenzene		50.0	49.8	ug/L	2.14	0.382	20	
sec-Butylbenzene		50.0	50.5	ug/L	2.68	0.956	20	
tert-Butylbenzene		50.0	50.7	ug/L	0.475	1.38	20	
Carbon Disulfide		50.0	49.9	ug/L	0.765	0.177	20	
Carbon Tetrachloride		50.0	60.5	ug/L	0.580	21.0	20	*
Dibromochloromethane		50.0	55.2	ug/L	0.378	10.4	20	
Chloroethane		50.0	50.2	ug/L	0.168	0.303	20	
2-Chlorotoluene		50.0	51.5	ug/L	2.09	2.97	20	
4-Chlorotoluene		50.0	50.7	ug/L	1.84	1.38	20	
1,2-Dibromo-3-Chloropropane		50.0	42.7	ug/L	0.0748	14.5	20	
1,2-Dibromoethane		50.0	49.5	ug/L	0.222	1.10	20	
Dibromomethane		50.0	52.4	ug/L	0.145	4.89	20	
1,2-Dichlorobenzene		50.0	50.3	ug/L	1.34	0.579	20	
1,3-Dichlorobenzene		50.0	51.2	ug/L	1.50	2.41	20	
1,4-Dichlorobenzene		50.0	49.8	ug/L	1.48	0.302	20	
Dichlorodifluoromethane		50.0	54.6	ug/L	0.428	9.20	20	
1,2-Dichloroethane		50.0	55.3	ug/L	0.448	10.6	20	
cis-1,2-Dichloroethene		50.0	50.5	ug/L	0.282	1.02	20	
trans-1,2-Dichloroethene		50.0	50.1	ug/L	0.254	0.240	20	
1,3-Dichloropropane		50.0	49.4	ug/L	0.356	1.19	20	
2,2-Dichloropropane		50.0	56.8	ug/L	0.451	13.5	20	
cis-1,3-Dichloropropene		50.0	52.1	ug/L	0.389	4.18	20	
trans-1,3-Dichloropropene		50.0	53.6	ug/L	0.435	7.12	20	

CCV - Modified 03/05/2008
PDF File ID: 4779012
Report generated 05/31/2016 13:11

Login Number: L16051153 Run Date: 05/25/2016 Sample ID: WG570237-02
Instrument ID: HPMS11 Run Time: 13:46 Method: 8260B
File ID: 11M12129 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG570238 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	52.2	ug/L	0.366	4.42	20	
2-Hexanone		50.0	40.7	ug/L	0.134	18.7	20	
Hexachlorobutadiene		50.0	39.6	ug/L	0.342	20.7	20	*
Isopropylbenzene		50.0	53.9	ug/L	1.60	7.86	20	
p-Isopropyltoluene		50.0	51.9	ug/L	2.53	3.85	20	
4-Methyl-2-Pentanone		50.0	40.0	ug/L	0.0591	20.0	20	
Methylene Chloride		50.0	47.9	ug/L	0.227	4.28	20	
Naphthalene		50.0	44.2	ug/L	1.61	11.5	20	
n-Propylbenzene		50.0	52.1	ug/L	3.01	4.13	20	
Styrene		50.0	54.0	ug/L	1.00	8.09	20	
1,1,1,2-Tetrachloroethane		50.0	55.7	ug/L	0.418	11.4	20	
Tetrachloroethene		50.0	53.3	ug/L	0.314	6.60	20	
1,2,3-Trichlorobenzene		50.0	44.0	ug/L	0.789	12.1	20	
1,2,4-Trichlorobenzene		50.0	46.8	ug/L	0.915	6.43	20	
1,1,1-Trichloroethane		50.0	57.2	ug/L	0.562	14.5	20	
1,1,2-Trichloroethane		50.0	48.4	ug/L	0.217	3.25	20	
Trichloroethene		50.0	52.0	ug/L	0.325	4.07	20	
Trichlorofluoromethane		50.0	58.5	ug/L	0.608	17.0	20	
1,2,3-Trichloropropane		50.0	46.0	ug/L	0.134	7.93	20	
1,2,4-Trimethylbenzene		50.0	53.2	ug/L	2.39	6.36	20	
1,3,5-Trimethylbenzene		50.0	52.4	ug/L	2.31	4.75	20	
o-Xylene		50.0	52.0	ug/L	0.585	4.02	20	
m-,p-Xylene		100	104	ug/L	0.599	3.64	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4779012
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16051153
Instrument ID: HPMS6
Workgroup (AAB#): WG569960

ICAL CCV Number: WG568265-08
CAL ID: HPMS6-11-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568265-08	NA	NA	328042	582993	798515
Upper Limit	NA	NA	656084	1165986	1597030
Lower Limit	NA	NA	164021	291497	399258
L16051153-01	1.00	01	276466	517369	707449
L16051153-02	1.00	01	272493	517260	704820
L16051153-03	1.00	01	269237	510162	694786
L16051153-04	1.00	01	268435	494352	677842
L16051153-05	1.00	01	266880	505388	688515
L16051153-06	1.00	01	306977	542286	732331
L16051153-07	1.00	01	307768	546954	742774
L16051153-08	1.00	01	267459	502205	686671
L16051153-09	1.00	01	268074	504575	688161
L16051153-10	1.00	01	265673	503913	692097
L16051153-11	1.00	01	266089	504124	688440
L16051153-12	1.00	01	261973	501053	689687
WG569960-01	1.00	01	270574	518099	709856
WG569960-02	1.00	01	303537	535675	728534

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4780322
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16051153
Instrument ID: HPMS11
Workgroup (AAB#): WG570084

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	263885	438582	521583
Upper Limit	NA	NA	527770	877164	1043166
Lower Limit	NA	NA	131943	219291	260792
L16051153-13	1.00	01	225175	391804	464053
L16051153-15	1.00	01	219864	385741	451577
L16051153-16	10.0	DL01	217586	382562	451594
L16051153-18	1.00	01	217769	380506	449441
L16051153-19	1.00	01	232113	408433	479395
L16051153-20	1.00	01	216790	375788	445002
L16051153-21	1.00	01	229981	400317	472818
WG570084-01	1.00	01	232903	400338	473725
WG570084-02	1.00	01	254483	417356	490321
WG570084-03	1.00	01	241751	415508	480929

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4780322
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16051153
Instrument ID: HPMS11
Workgroup (AAB#): WG570238

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	263885	438582	521583
Upper Limit	NA	NA	527770	877164	1043166
Lower Limit	NA	NA	131943	219291	260792
L16051153-14	5.00	DL01	232162	400296	472718
L16051153-17	2.00	DL01	225719	393487	468731
L16051153-18	20.0	DL01	297399	514094	601079
WG570238-01	1.00	01	216058	383586	451122
WG570238-02	1.00	01	242886	399853	468540

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4780322
Report generated 05/31/2016 13:11

Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number:L16051153
Instrument ID:HPMS6
Workgroup (AAB#):WG569960

ICAL CCV Number:WG568265-08
CAL ID: HPMS6-11-MAY-16
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568265-08	NA	NA	19.65	16.06	11.57
Upper Limit	NA	NA	20.15	16.56	12.07
Lower Limit	NA	NA	19.15	15.56	11.07
L16051153-01	1.00	01	19.64	16.07	11.56
L16051153-02	1.00	01	19.65	16.06	11.57
L16051153-03	1.00	01	19.65	16.06	11.57
L16051153-04	1.00	01	19.64	16.07	11.56
L16051153-05	1.00	01	19.64	16.06	11.57
L16051153-06	1.00	01	19.65	16.06	11.57
L16051153-07	1.00	01	19.65	16.06	11.57
L16051153-08	1.00	01	19.64	16.07	11.56
L16051153-09	1.00	01	19.65	16.06	11.57
L16051153-10	1.00	01	19.65	16.06	11.57
L16051153-11	1.00	01	19.64	16.07	11.56
L16051153-12	1.00	01	19.65	16.06	11.56
WG569960-01	1.00	01	19.64	16.06	11.56
WG569960-02	1.00	01	19.64	16.06	11.57

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4780323
Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number:L16051153

Instrument ID:HPMS11

Workgroup (AAB#):WG570084

ICAL CCV Number:WG568769-08

CAL ID: HPMS11-13-MAY-16

Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	17.06	14.25	10.61
Upper Limit	NA	NA	17.56	14.75	11.11
Lower Limit	NA	NA	16.56	13.75	10.11
L16051153-13	1.00	01	17.06	14.25	10.61
L16051153-15	1.00	01	17.06	14.25	10.61
L16051153-16	10.0	DL01	17.06	14.25	10.61
L16051153-18	1.00	01	17.06	14.25	10.61
L16051153-19	1.00	01	17.06	14.25	10.61
L16051153-20	1.00	01	17.06	14.25	10.61
L16051153-21	1.00	01	17.06	14.25	10.61
WG570084-01	1.00	01	17.06	14.25	10.61
WG570084-02	1.00	01	17.06	14.25	10.61
WG570084-03	1.00	01	17.06	14.25	10.61

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 4780323

Report generated: 05/31/2016 13:11

Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16051153
Instrument ID: HPMS11
Workgroup (AAB#): WG570238

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	17.06	14.25	10.61
Upper Limit	NA	NA	17.56	14.75	11.11
Lower Limit	NA	NA	16.56	13.75	10.11
L16051153-14	5.00	DL01	17.06	14.25	10.61
L16051153-17	2.00	DL01	17.06	14.25	10.61
L16051153-18	20.0	DL01	17.06	14.25	10.61
WG570238-01	1.00	01	17.06	14.25	10.61
WG570238-02	1.00	01	17.06	14.25	10.61

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4780323
Report generated: 05/31/2016 13:11

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139580.D Vial: 11
Acq On : 24 May 2016 11:25 Operator: TMB
Sample : L16051153-01 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:35 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

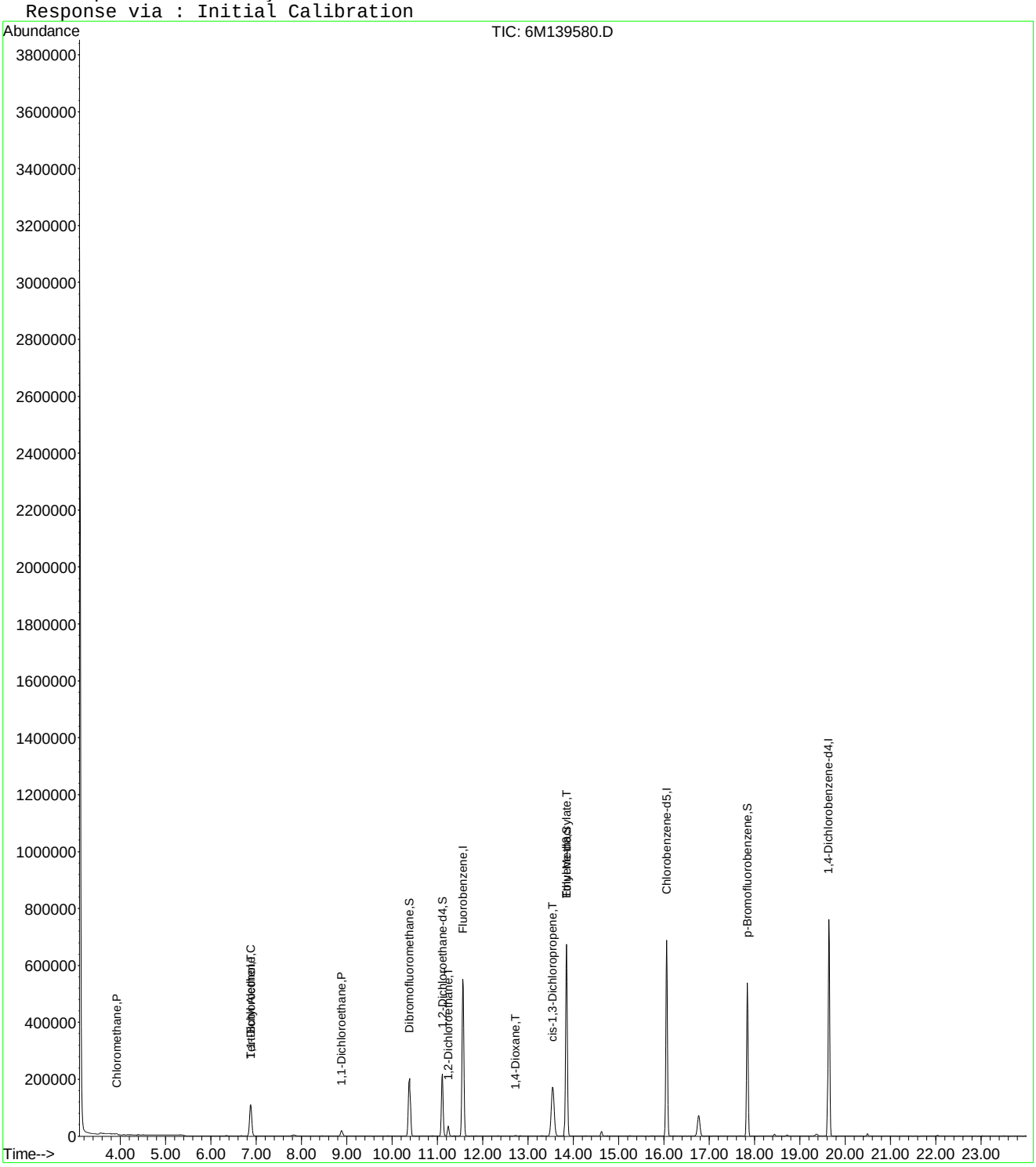
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	707449	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	517369	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	276466	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	187099	25.1936 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.76%		
43) 1,2-Dichloroethane-d4	11.11	65	204410	24.7125 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.84%		
58) Toluene-d8	13.85	98	629049	24.7056 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.84%		
80) p-Bromofluorobenzene	17.84	95	246990	24.1010 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.40%		
Target Compounds					Qvalue
3) Chloromethane	3.92	50	2313	0.1514 ug/L	92
13) Acetone	6.65	43	1182	Below Cal	79
14) 1,1-Dichloroethene	6.88	61	139479	10.8116 ug/L	99
15) Tert-Butyl Alcohol	6.88	59	4445	6.9455 ug/L #	57
27) 1,1-Dichloroethane	8.89	63	31594	2.1481 ug/L	97
45) 1,2-Dichloroethane	11.25	62	36566	3.5352 ug/L	91
50) 1,4-Dioxane	12.73	88	2505	43.5168 ug/L	97
55) cis-1,3-Dichloropropene	13.54	75	6107	0.5165 ug/L #	46
60) Ethyl Methacrylate	13.85	69	1165	0.1307 ug/L #	41

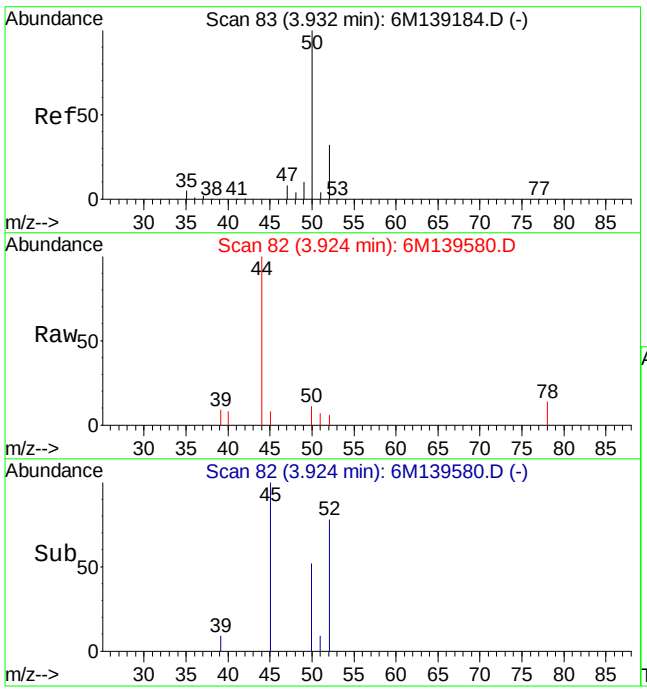
(#) = qualifier out of range (m) = manual integration
6M139580.D 8260WTR.M Wed May 25 08:29:36 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139580.D Vial: 11
Acq On : 24 May 2016 11:25 Operator: TMB
Sample : L16051153-01 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

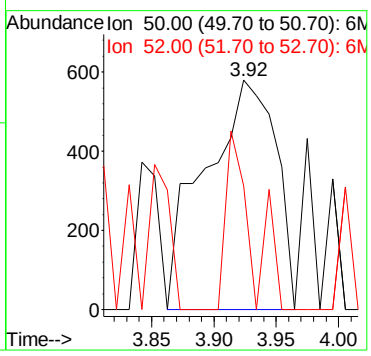


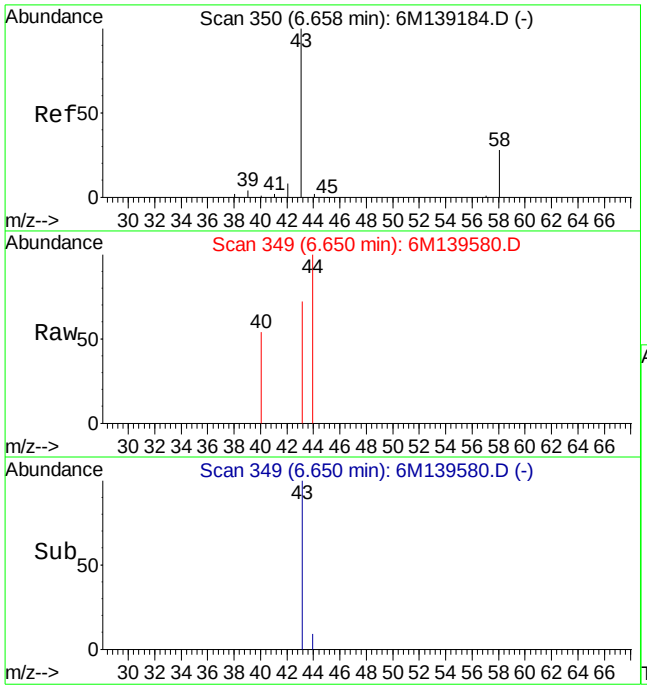


#3
Chloromethane
Concen: 0.15 ug/L
RT: 3.92 min Scan# 82
Delta R.T. -0.01 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 50 Resp: 2313

Ion	Ratio	Lower	Upper
50	100		
52	28.3	19.8	46.2

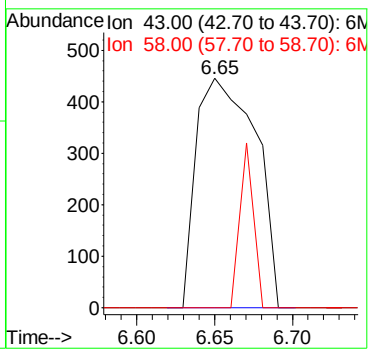


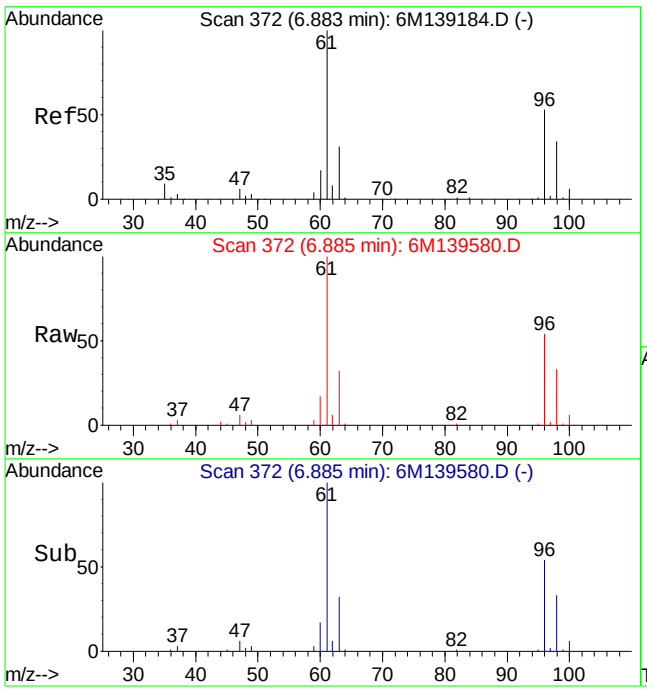


#13
Acetone
Concen: Below Cal
RT: 6.65 min Scan# 349
Delta R.T. -0.01 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 43 Resp: 1182

Ion	Ratio	Lower	Upper
43	100		
58	16.6	16.4	38.2

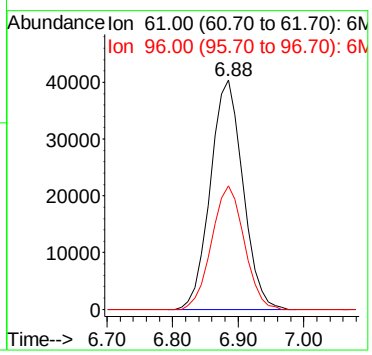


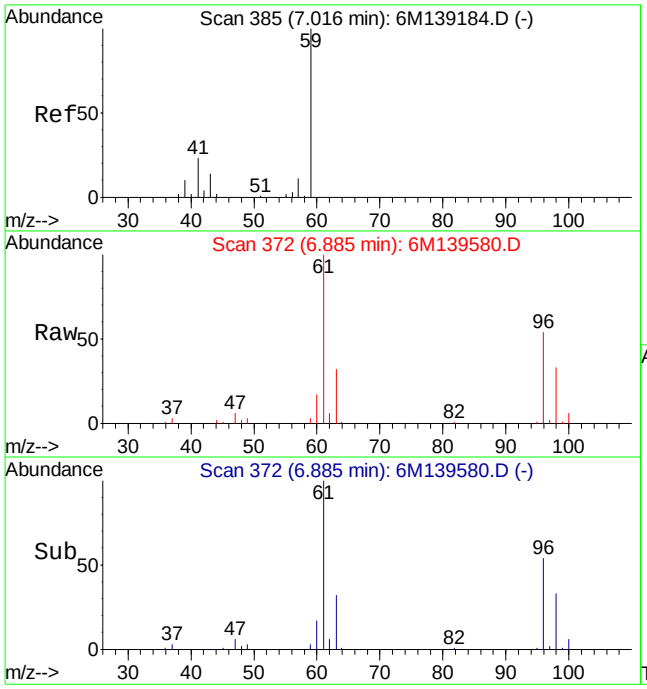


#14
1,1-Dichloroethene
Concen: 10.81 ug/L
RT: 6.88 min Scan# 372
Delta R.T. 0.00 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 61 Resp: 139479

Ion	Ratio	Lower	Upper
61	100		
96	53.7	32.0	74.6

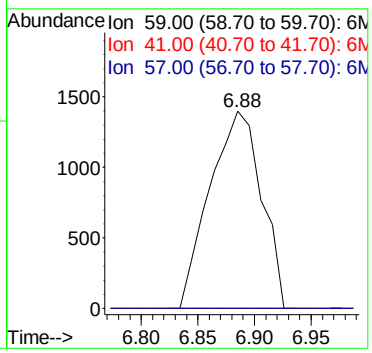


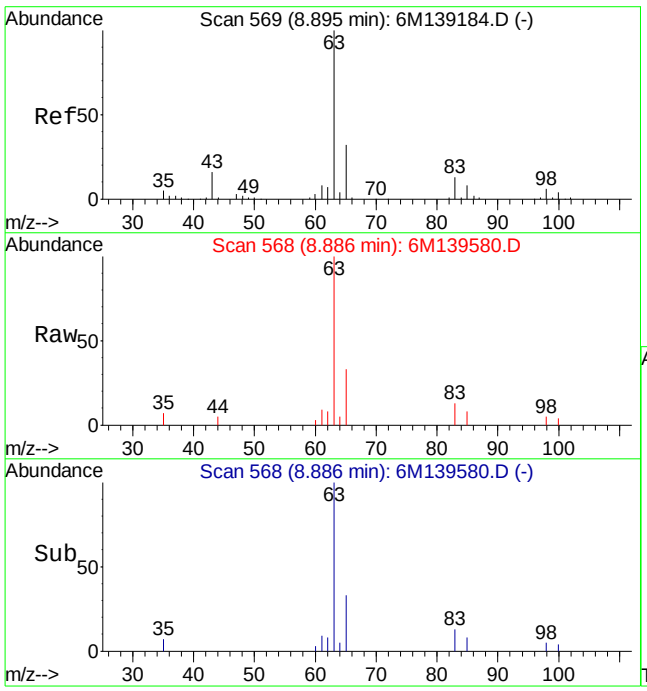


#15
Tert-Butyl Alcohol
Concen: 6.95 ug/L
RT: 6.88 min Scan# 372
Delta R.T. -0.13 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 59 Resp: 4445

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.6	34.0#
57	0.0	6.4	14.8#

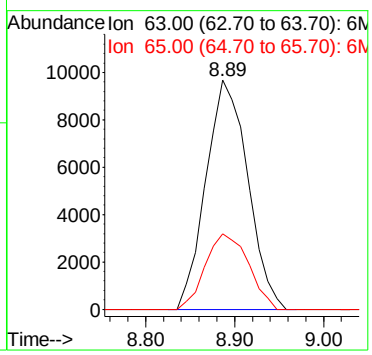


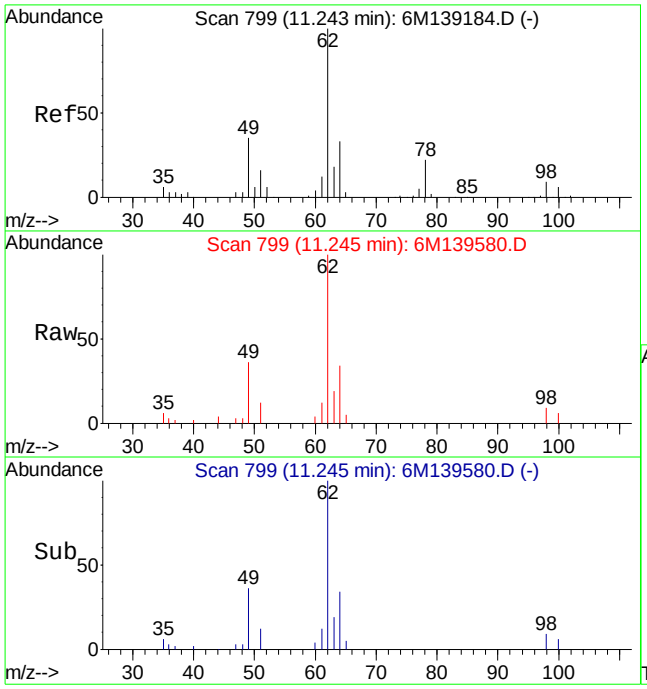


#27
1,1-Dichloroethane
Concen: 2.15 ug/L
RT: 8.89 min Scan# 568
Delta R.T. -0.01 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 63 Resp: 31594

Ion	Ratio	Lower	Upper
63	100		
65	33.9	19.3	44.9

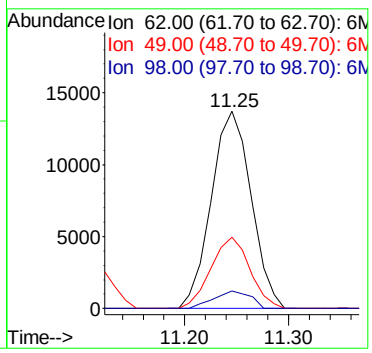


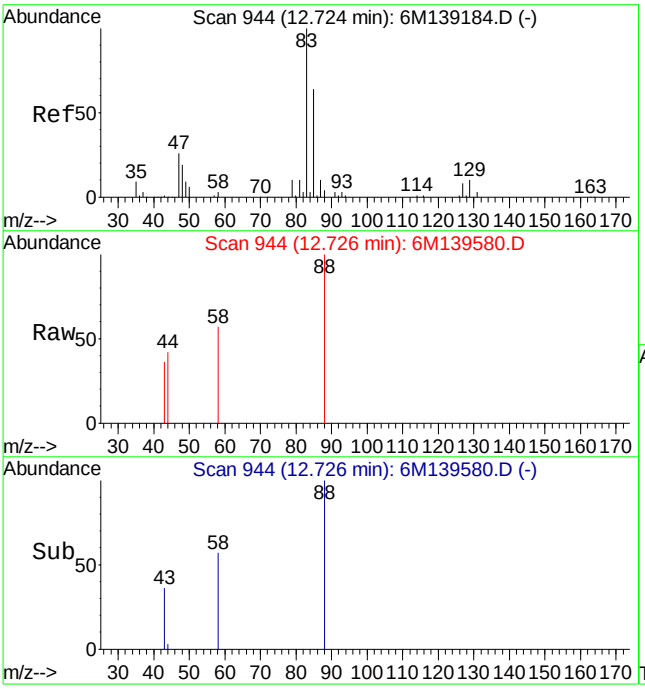


#45
1,2-Dichloroethane
Concen: 3.54 ug/L
RT: 11.25 min Scan# 799
Delta R.T. 0.00 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 62 Resp: 36566

Ion	Ratio	Lower	Upper
62	100		
49	35.4	25.1	58.5
98	8.2	5.2	12.0

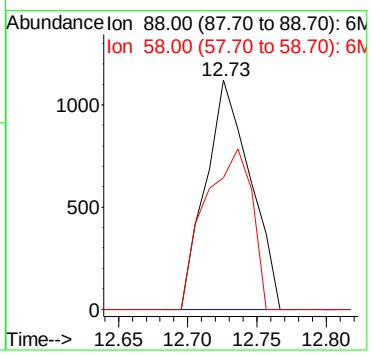


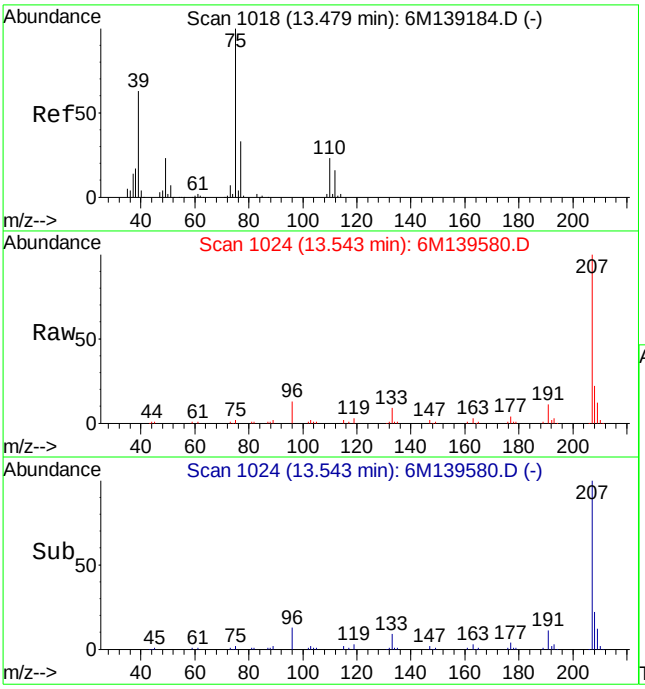


#50
1,4-Dioxane
Concen: 43.52 ug/L
RT: 12.73 min Scan# 944
Delta R.T. 0.00 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 88 Resp: 2505

Ion	Ratio	Lower	Upper
88	100		
58	73.9	42.6	99.4

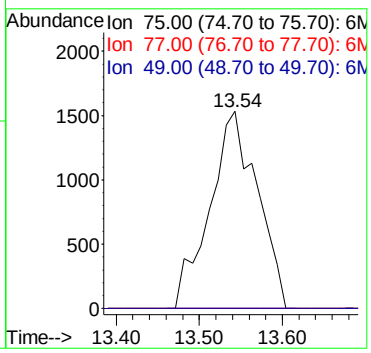


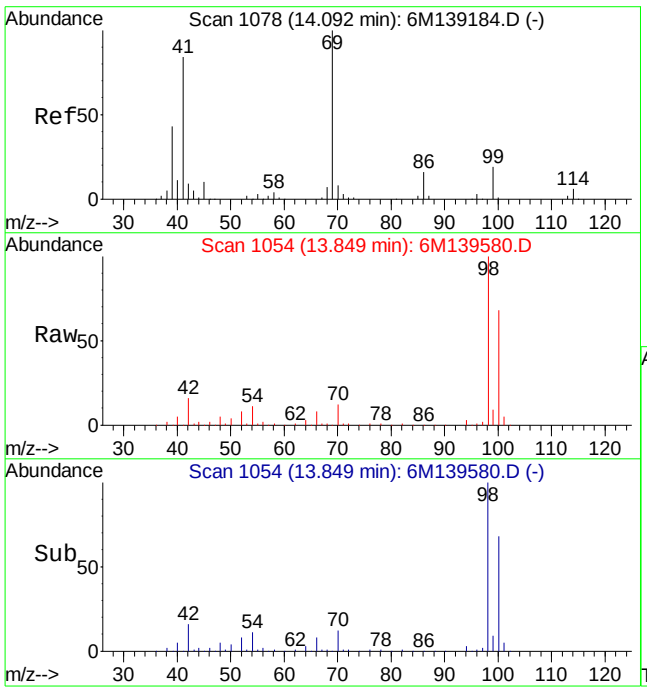


#55
cis-1,3-Dichloropropene
Concen: 0.52 ug/L
RT: 13.54 min Scan# 1024
Delta R.T. 0.06 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 75 Resp: 6107

Ion	Ratio	Lower	Upper
75	100		
77	0.0	19.5	45.5#
49	0.0	14.1	32.9#

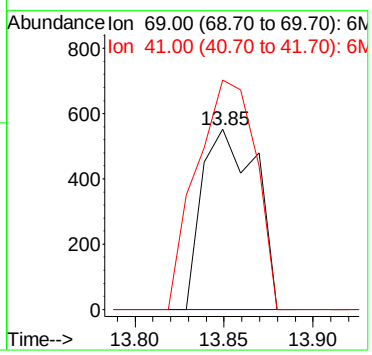




#60
Ethyl Methacrylate
Concen: 0.13 ug/L
RT: 13.85 min Scan# 1054
Delta R.T. -0.24 min
Lab File: 6M139580.D
Acq: 24 May 2016 11:25

Tgt Ion: 69 Resp: 1165

Ion	Ratio	Lower	Upper
69	100		
41	139.9	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139581.D Vial: 12
Acq On : 24 May 2016 11:57 Operator: TMB
Sample : L16051153-02 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:37 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

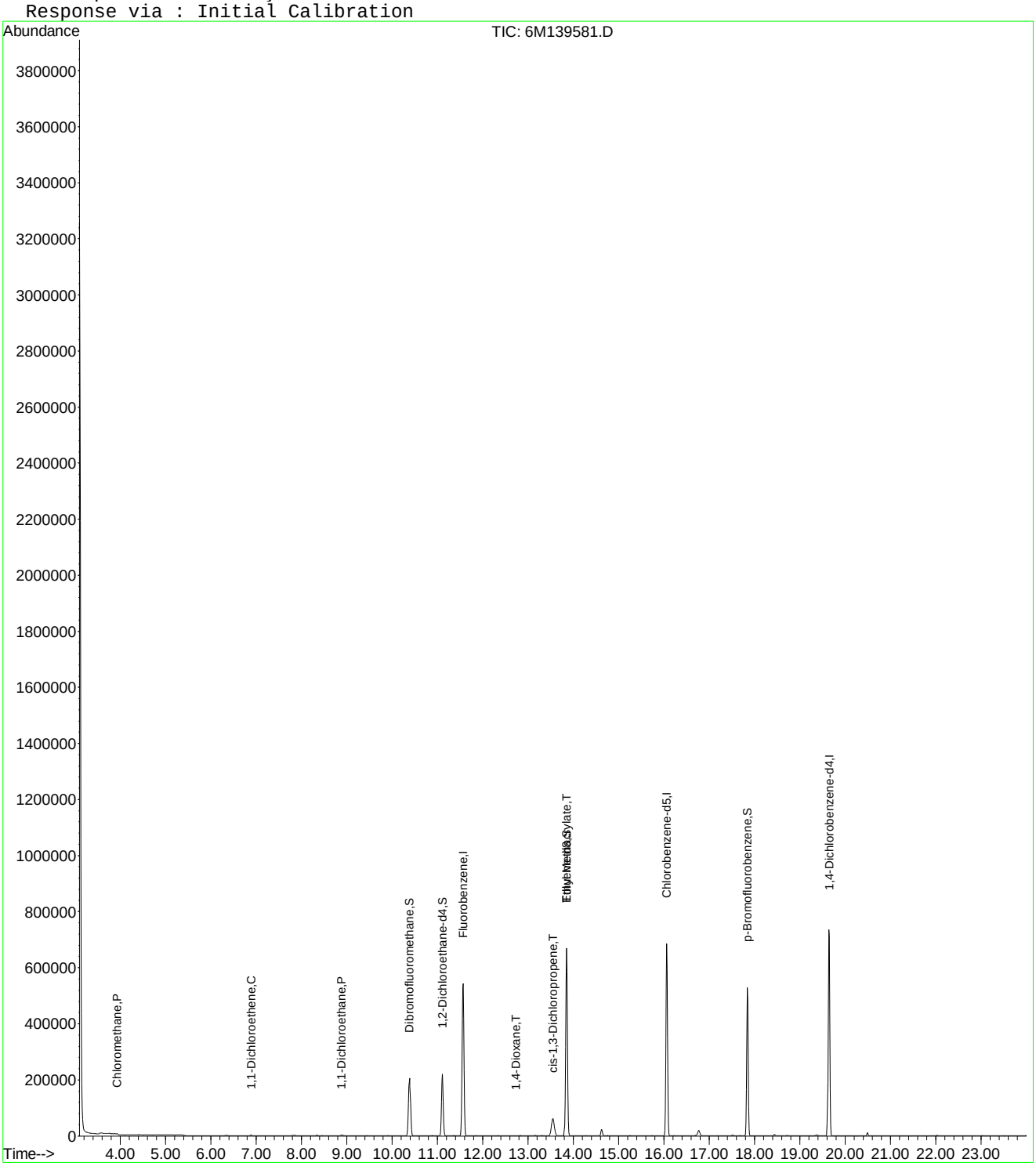
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	704820	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	517260	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	272493	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	184460	24.9309 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.72%		
43) 1,2-Dichloroethane-d4	11.11	65	201945	24.5055 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.04%		
58) Toluene-d8	13.85	98	624464	24.5307 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.12%		
80) p-Bromofluorobenzene	17.84	95	245625	24.3173 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.28%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	2003	0.1316 ug/L	77
13) Acetone	6.66	43	1546	Below Cal #	48
14) 1,1-Dichloroethene	6.89	61	4065	0.3163 ug/L	82
27) 1,1-Dichloroethane	8.88	63	6988	0.4769 ug/L	93
50) 1,4-Dioxane	12.73	88	529	9.2241 ug/L #	11
55) cis-1,3-Dichloropropene	13.55	75	1724	0.1463 ug/L #	46
60) Ethyl Methacrylate	13.85	69	1172	0.1315 ug/L #	6

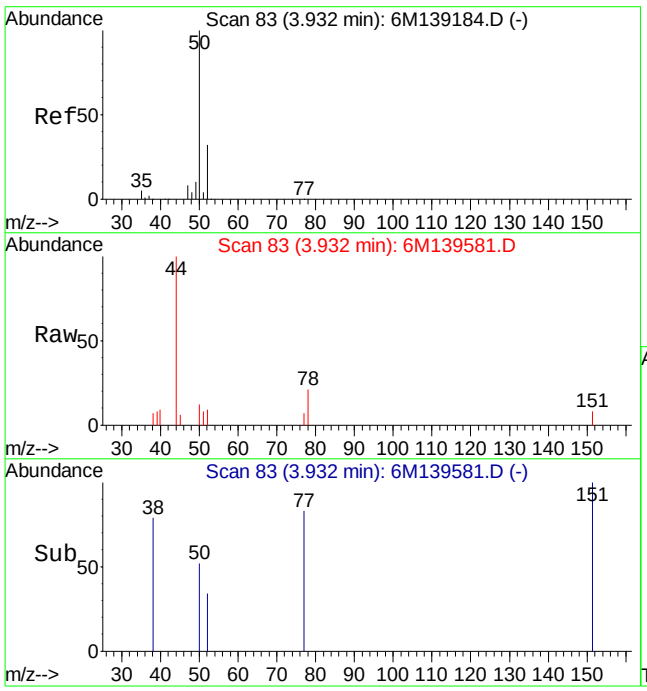
(#) = qualifier out of range (m) = manual integration
6M139581.D 8260WTR.M Wed May 25 08:29:37 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139581.D Vial: 12
Acq On : 24 May 2016 11:57 Operator: TMB
Sample : L16051153-02 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

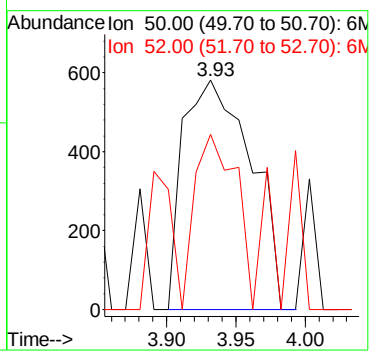


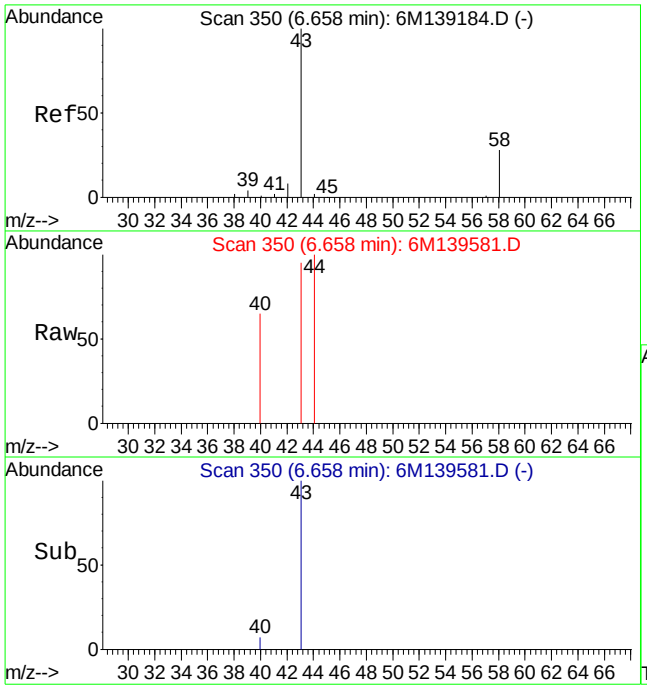


#3
Chloromethane
Concen: 0.13 ug/L
RT: 3.93 min Scan# 83
Delta R.T. -0.00 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 50 Resp: 2003

Ion	Ratio	Lower	Upper
50	100		
52	46.1	19.8	46.2

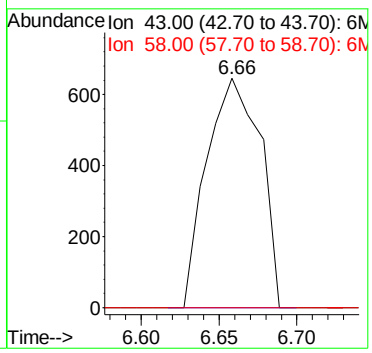


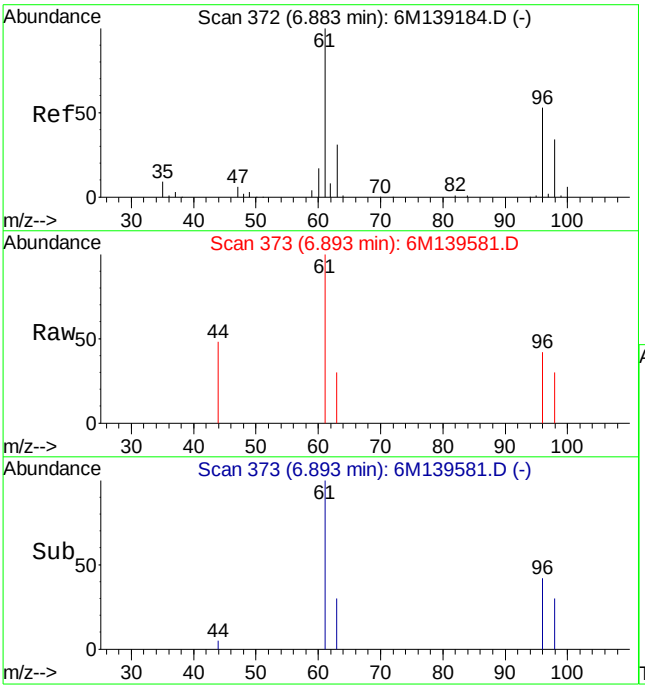


#13
Acetone
Concen: Below Cal
RT: 6.66 min Scan# 350
Delta R.T. 0.00 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 43 Resp: 1546

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

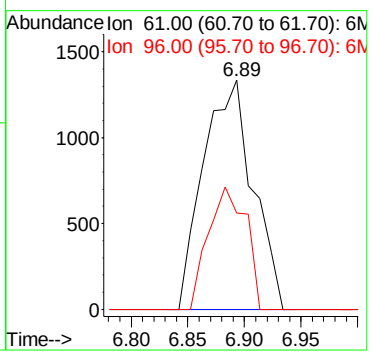


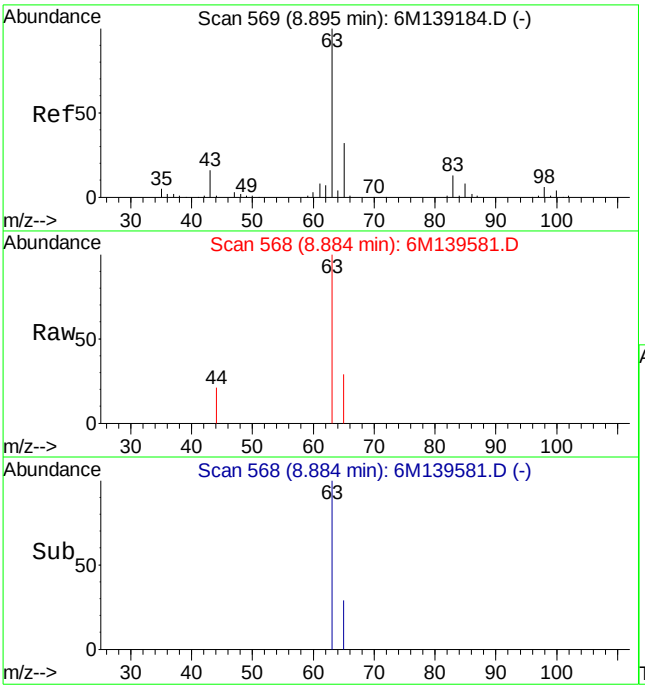


#14
1,1-Dichloroethene
Concen: 0.32 ug/L
RT: 6.89 min Scan# 373
Delta R.T. 0.01 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 61 Resp: 4065

Ion	Ratio	Lower	Upper
61	100		
96	40.6	32.0	74.6

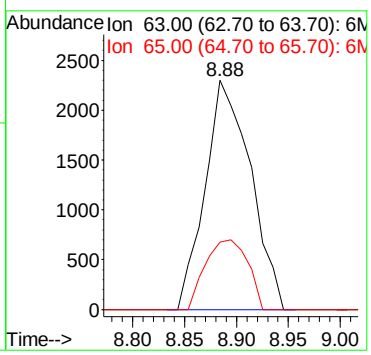


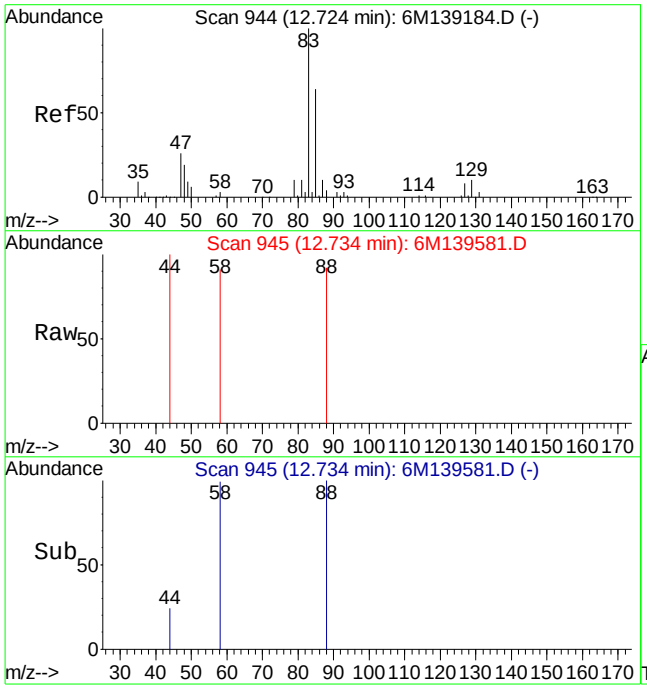


#27
1,1-Dichloroethane
Concen: 0.48 ug/L
RT: 8.88 min Scan# 568
Delta R.T. -0.01 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 63 Resp: 6988

Ion	Ratio	Lower	Upper
63	100		
65	28.4	19.3	44.9

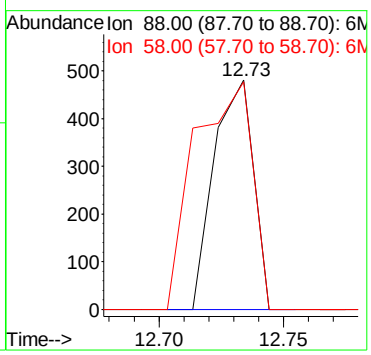


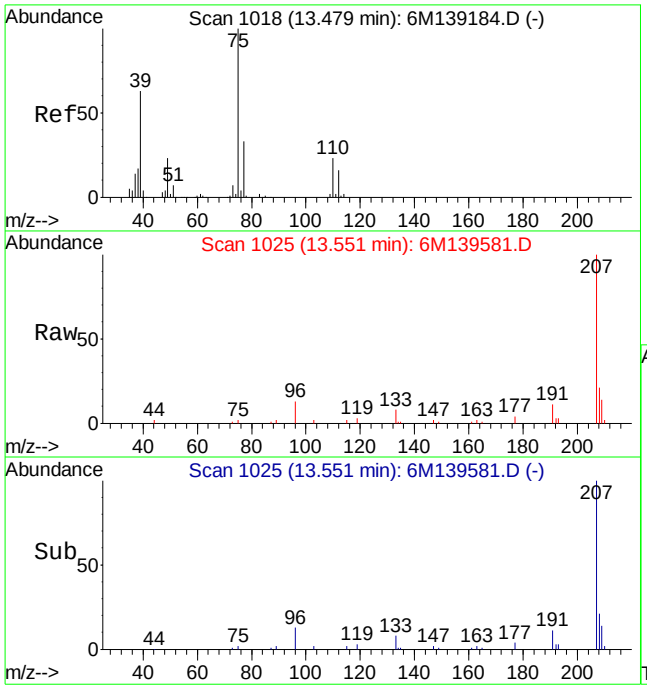


#50
1,4-Dioxane
Concen: 9.22 ug/L
RT: 12.73 min Scan# 945
Delta R.T. 0.01 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 88 Resp: 529

Ion	Ratio	Lower	Upper
88	100		
58	144.4	42.6	99.4#

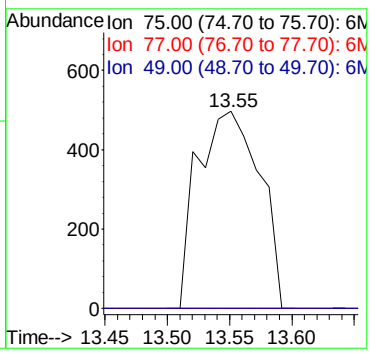


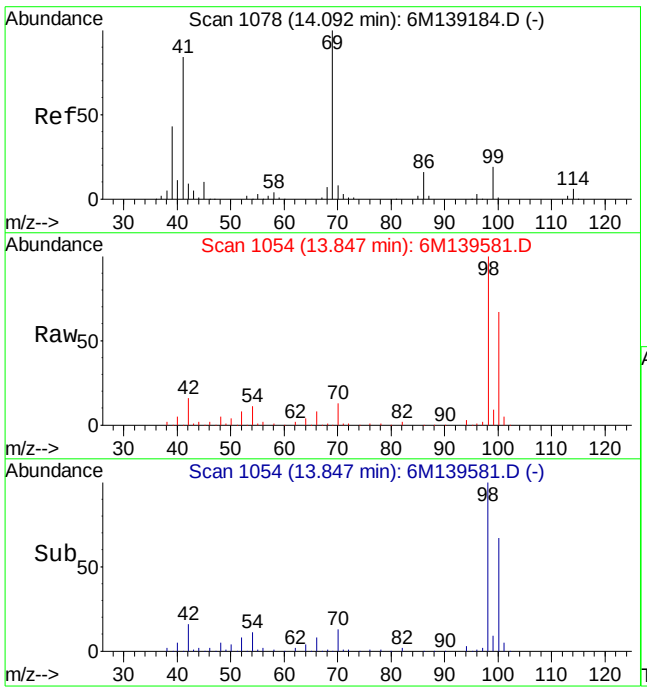


#55
cis-1,3-Dichloropropene
Concen: 0.15 ug/L
RT: 13.55 min Scan# 1025
Delta R.T. 0.07 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 75 Resp: 1724

Ion	Ratio	Lower	Upper
75	100		
77	0.0	19.5	45.5#
49	0.0	14.1	32.9#

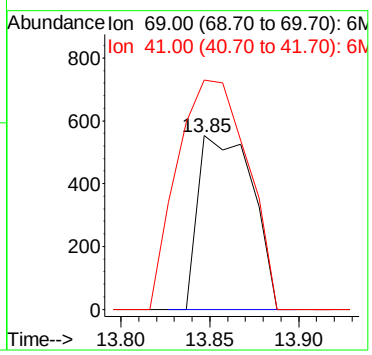




#60
Ethyl Methacrylate
Concen: 0.13 ug/L
RT: 13.85 min Scan# 1054
Delta R.T. -0.25 min
Lab File: 6M139581.D
Acq: 24 May 2016 11:57

Tgt Ion: 69 Resp: 1172

Ion	Ratio	Lower	Upper
69	100		
41	171.4	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139582.D Vial: 13
Acq On : 24 May 2016 12:29 Operator: TMB
Sample : L16051153-03 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:38 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

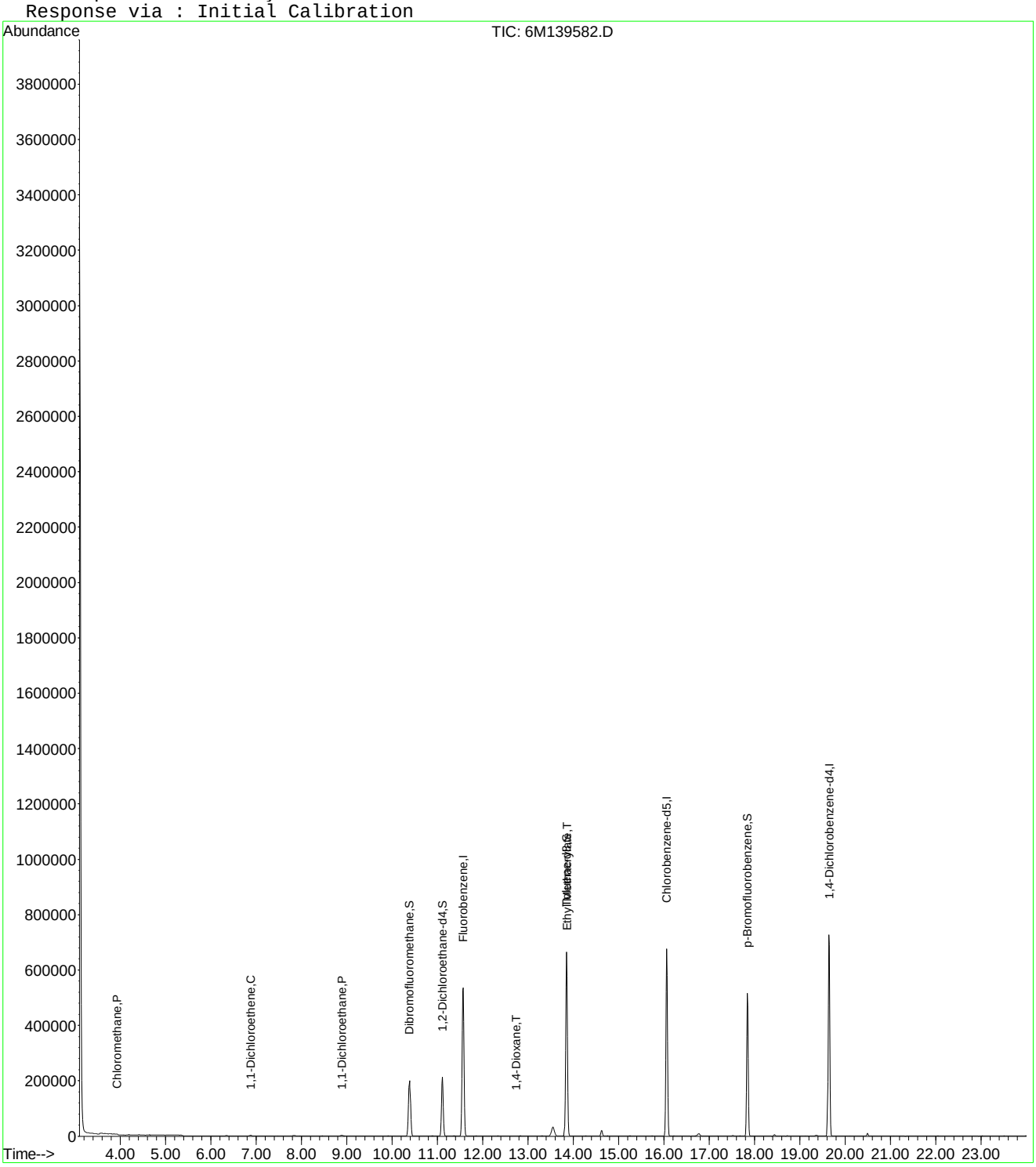
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	694786	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	510162	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	269237	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	184720	25.3266 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.32%		
43) 1,2-Dichloroethane-d4	11.11	65	199065	24.5049 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.00%		
58) Toluene-d8	13.85	98	617310	24.5870 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.36%		
80) p-Bromofluorobenzene	17.84	95	242545	24.3028 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.20%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	1931	0.1287 ug/L	99
13) Acetone	6.66	43	1050	Below Cal	86
14) 1,1-Dichloroethene	6.88	61	4022	0.3174 ug/L	99
27) 1,1-Dichloroethane	8.89	63	7038	0.4872 ug/L	88
50) 1,4-Dioxane	12.74	88	955	16.8926 ug/L	79
60) Ethyl Methacrylate	13.86	69	1418	0.1614 ug/L	71

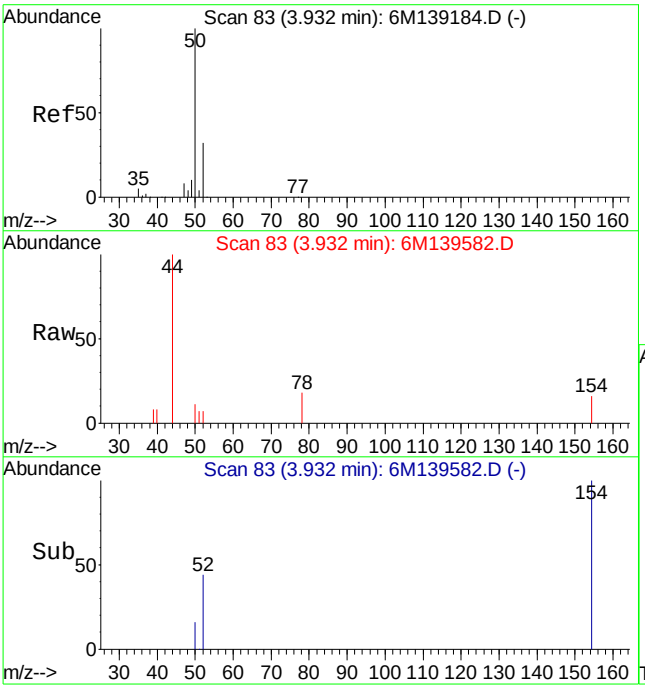
(#) = qualifier out of range (m) = manual integration
6M139582.D 8260WTR.M Wed May 25 08:29:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139582.D Vial: 13
Acq On : 24 May 2016 12:29 Operator: TMB
Sample : L16051153-03 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

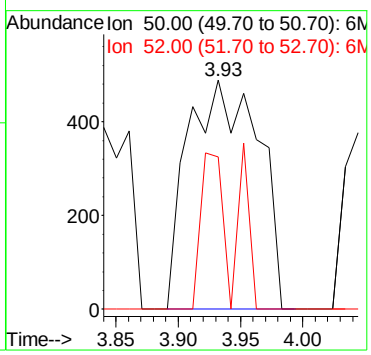


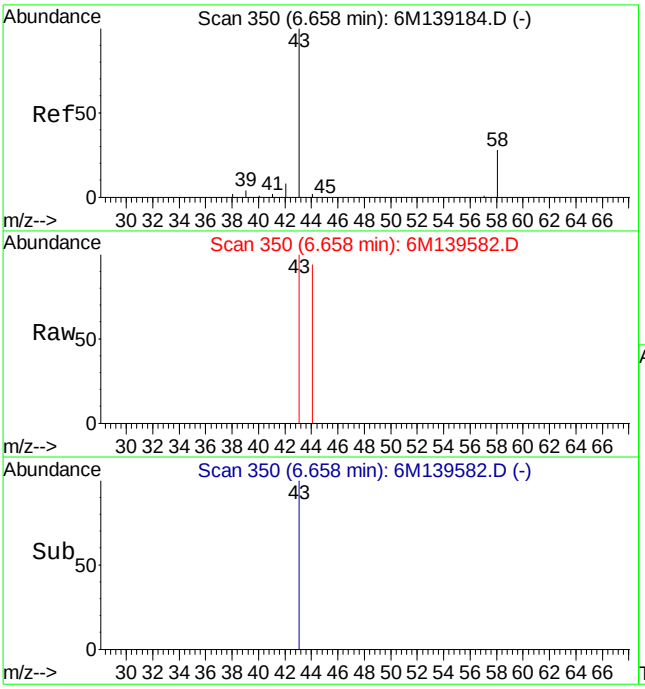


#3
Chloromethane
Concen: 0.13 ug/L
RT: 3.93 min Scan# 83
Delta R.T. 0.00 min
Lab File: 6M139582.D
Acq: 24 May 2016 12:29

Tgt Ion: 50 Resp: 1931

Ion	Ratio	Lower	Upper
50	100		
52	32.2	19.8	46.2

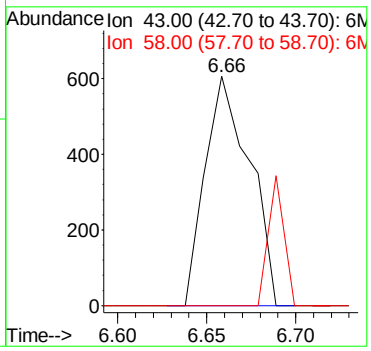


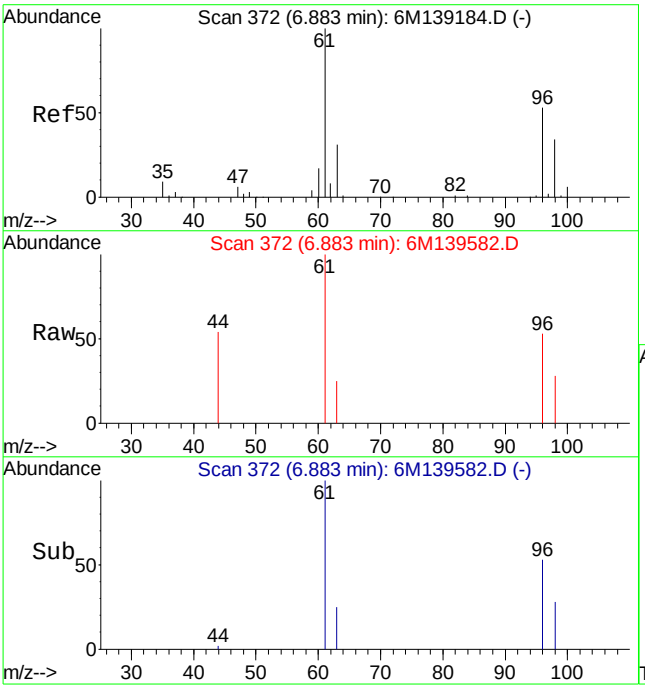


#13
Acetone
Concen: Below Cal
RT: 6.66 min Scan# 350
Delta R.T. 0.00 min
Lab File: 6M139582.D
Acq: 24 May 2016 12:29

Tgt Ion: 43 Resp: 1050

Ion	Ratio	Lower	Upper
43	100		
58	20.1	16.4	38.2

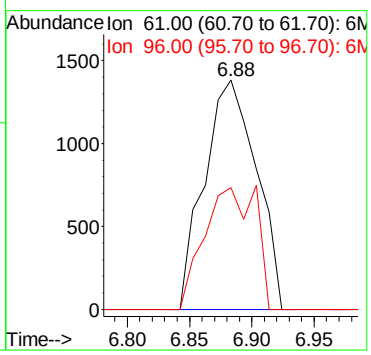


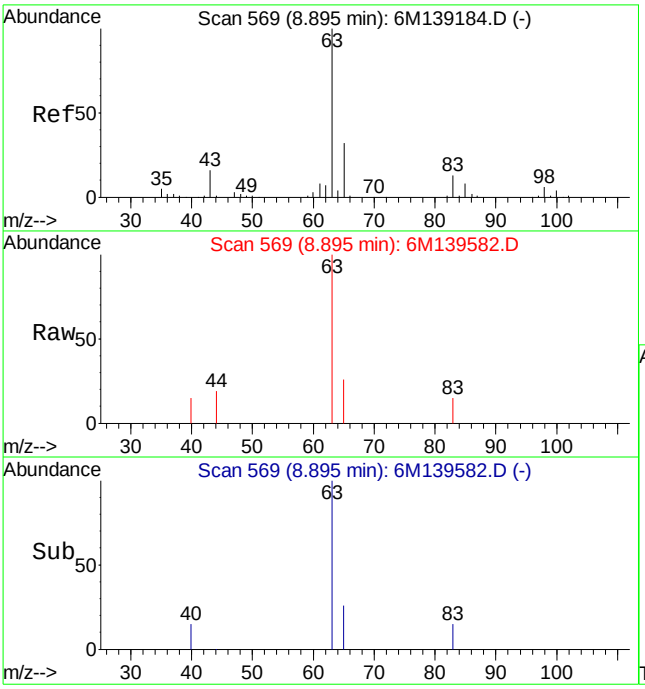


#14
1,1-Dichloroethene
Concen: 0.32 ug/L
RT: 6.88 min Scan# 372
Delta R.T. 0.00 min
Lab File: 6M139582.D
Acq: 24 May 2016 12:29

Tgt Ion: 61 Resp: 4022

Ion	Ratio	Lower	Upper
61	100		
96	52.7	32.0	74.6

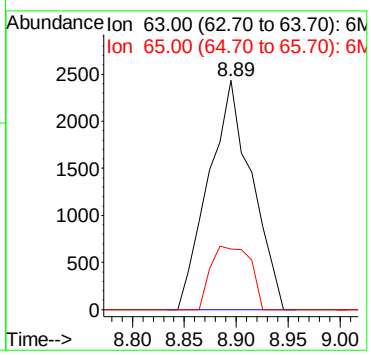


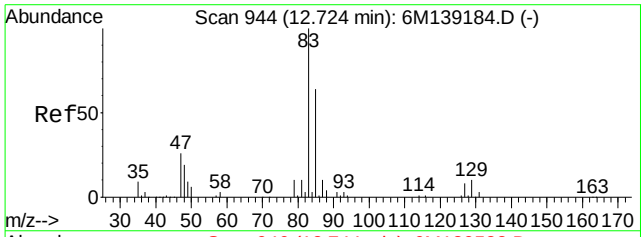


#27
1,1-Dichloroethane
Concen: 0.49 ug/L
RT: 8.89 min Scan# 569
Delta R.T. 0.00 min
Lab File: 6M139582.D
Acq: 24 May 2016 12:29

Tgt Ion: 63 Resp: 7038

Ion	Ratio	Lower	Upper
63	100		
65	25.4	19.3	44.9

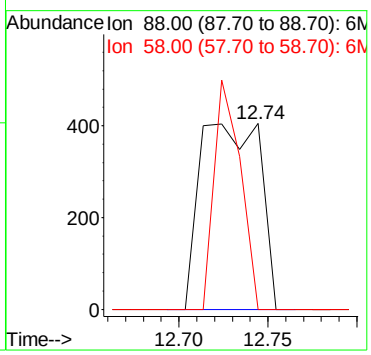


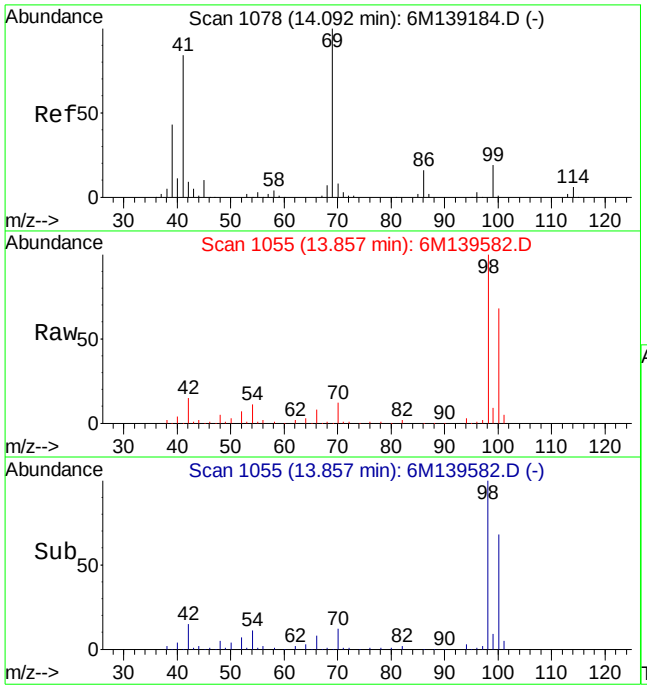


#50
1,4-Dioxane
Concen: 16.89 ug/L
RT: 12.74 min Scan# 946
Delta R.T. 0.02 min
Lab File: 6M139582.D
Acq: 24 May 2016 12:29

Tgt Ion: 88 Resp: 955

Ion	Ratio	Lower	Upper
88	100		
58	53.5	42.6	99.4

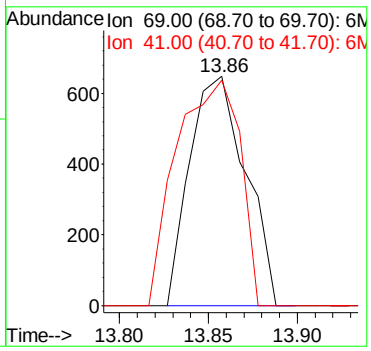




#60
Ethyl Methacrylate
Concen: 0.16 ug/L
RT: 13.86 min Scan# 1055
Delta R.T. -0.23 min
Lab File: 6M139582.D
Acq: 24 May 2016 12:29

Tgt Ion: 69 Resp: 1418

Ion	Ratio	Lower	Upper
69	100		
41	112.1	51.4	120.0



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139589.D Vial: 20
Acq On : 24 May 2016 16:14 Operator: TMB
Sample : L16051153-04 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:45 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

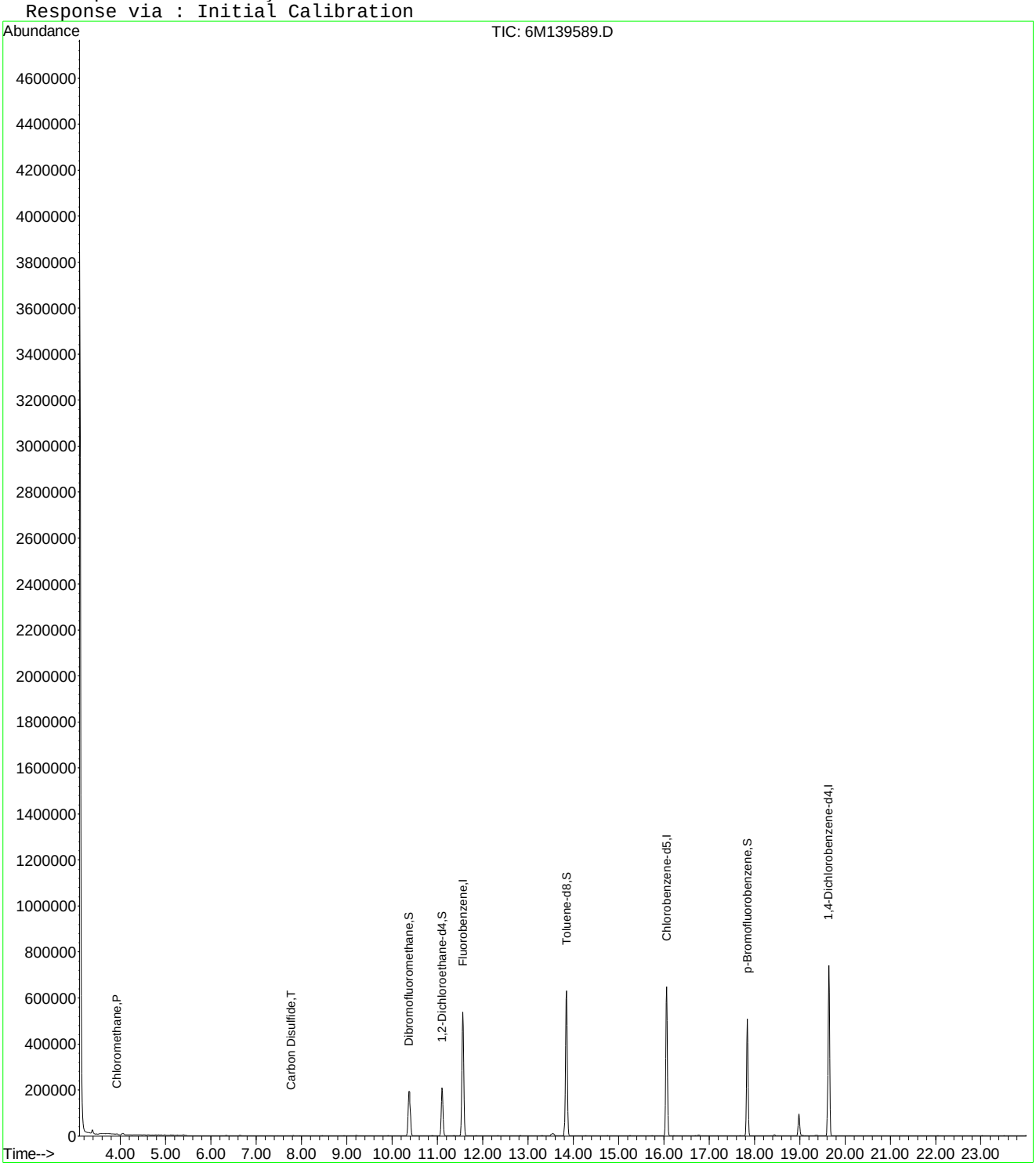
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	677842	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	494352	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	268435	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	180432	25.3571 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.44%		
43) 1,2-Dichloroethane-d4	11.10	65	196262	24.7638 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.04%		
58) Toluene-d8	13.85	98	597142	24.5444 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.16%		
80) p-Bromofluorobenzene	17.84	95	233871	23.5036 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.00%		
Target Compounds					Qvalue
3) Chloromethane	3.92	50	3472	0.2372 ug/L	88
13) Acetone	6.65	43	4583	Below Cal	89
20) Carbon Disulfide	7.77	76	1641	0.1283 ug/L #	74

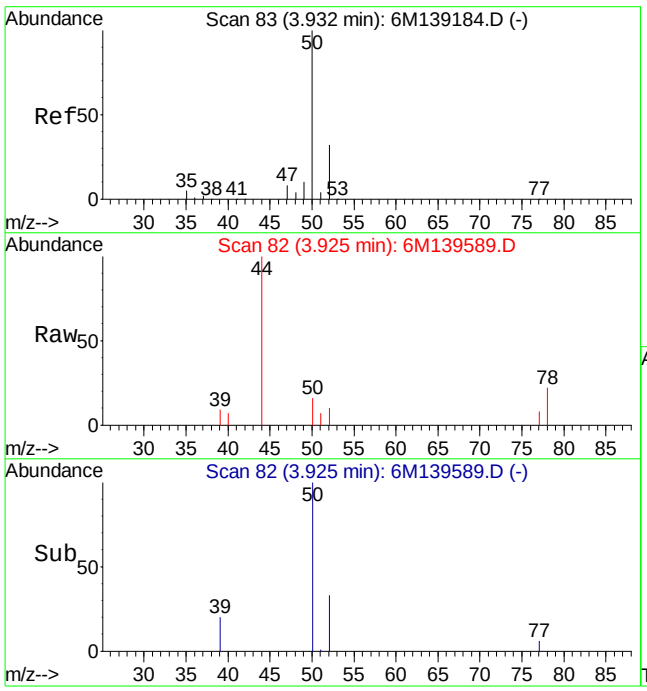
(#) = qualifier out of range (m) = manual integration
6M139589.D 8260WTR.M Wed May 25 08:29:46 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139589.D Vial: 20
Acq On : 24 May 2016 16:14 Operator: TMB
Sample : L16051153-04 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

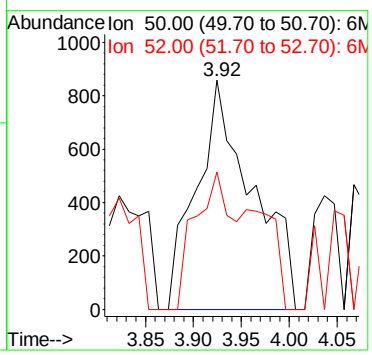


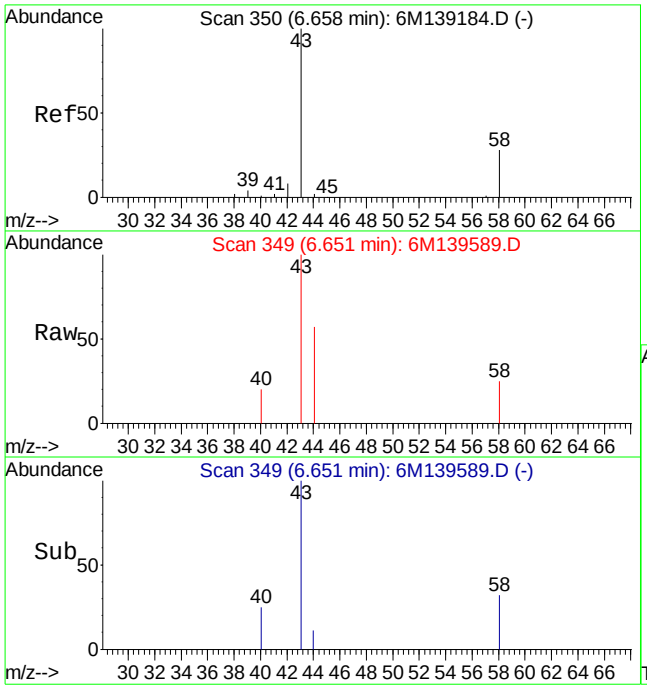


#3
Chloromethane
Concen: 0.24 ug/L
RT: 3.92 min Scan# 82
Delta R.T. -0.01 min
Lab File: 6M139589.D
Acq: 24 May 2016 16:14

Tgt Ion: 50 Resp: 3472

Ion	Ratio	Lower	Upper
50	100		
52	39.8	19.8	46.2

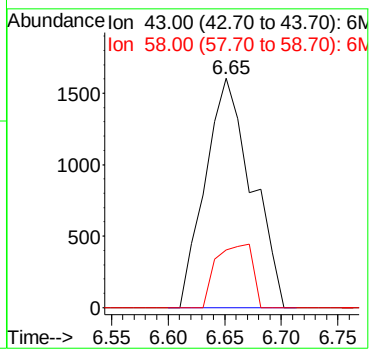


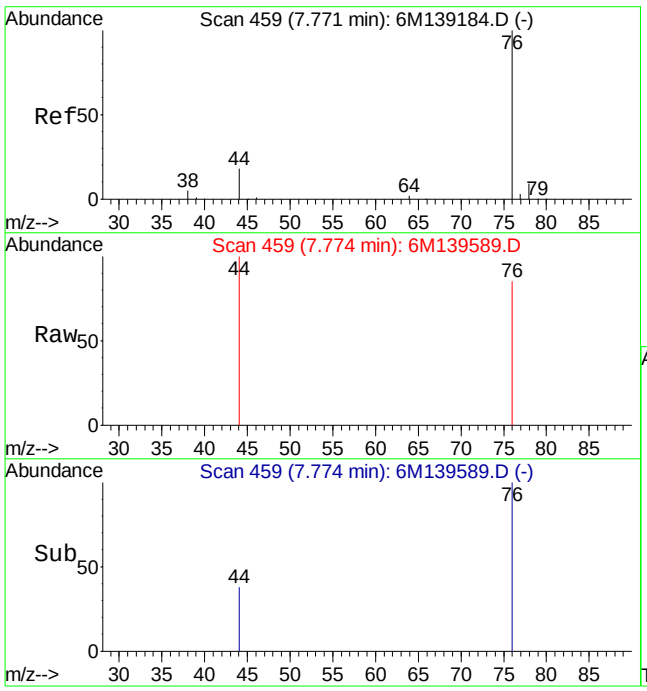


#13
Acetone
Concen: Below Cal
RT: 6.65 min Scan# 349
Delta R.T. -0.01 min
Lab File: 6M139589.D
Acq: 24 May 2016 16:14

Tgt Ion: 43 Resp: 4583

Ion	Ratio	Lower	Upper
43	100		
58	21.6	16.4	38.2

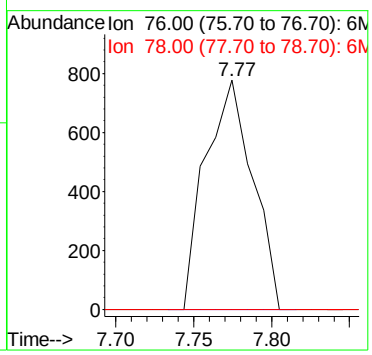




#20
Carbon Disulfide
Concen: 0.13 ug/L
RT: 7.77 min Scan# 459
Delta R.T. 0.00 min
Lab File: 6M139589.D
Acq: 24 May 2016 16:14

Tgt Ion: 76 Resp: 1641

Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.7	13.3#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139583.D Vial: 14
Acq On : 24 May 2016 13:01 Operator: TMB
Sample : L16051153-05 REF A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:39 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

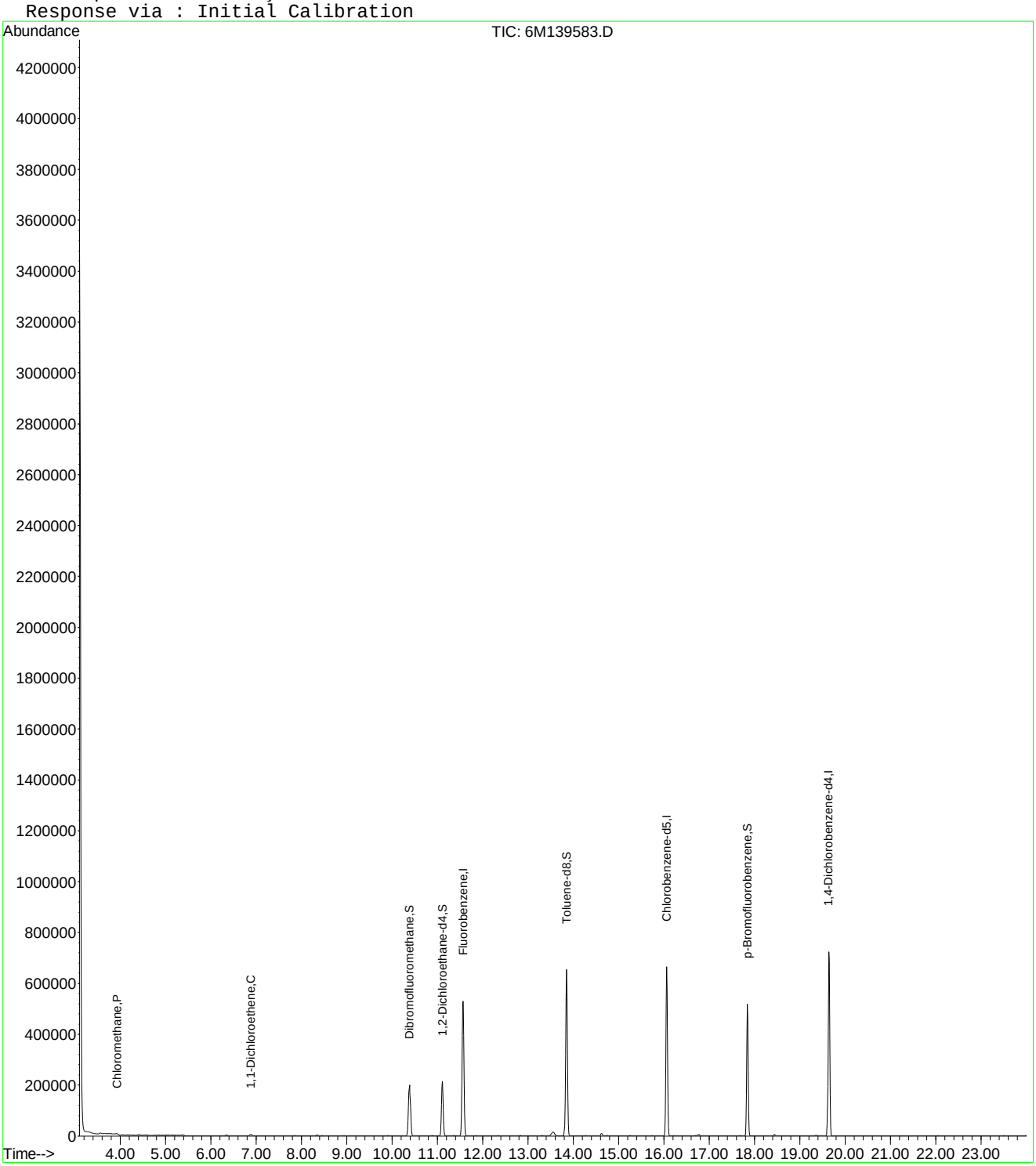
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	688515	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	505388	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	266880	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	181309	25.0853 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.36%		
43) 1,2-Dichloroethane-d4	11.11	65	199218	24.7471 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.00%		
58) Toluene-d8	13.85	98	606907	24.4010 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.60%		
80) p-Bromofluorobenzene	17.84	95	242543	24.5172 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.08%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	2493	0.1677 ug/L	77
13) Acetone	6.65	43	1881	Below Cal #	48
14) 1,1-Dichloroethene	6.88	61	8553	0.6812 ug/L	95

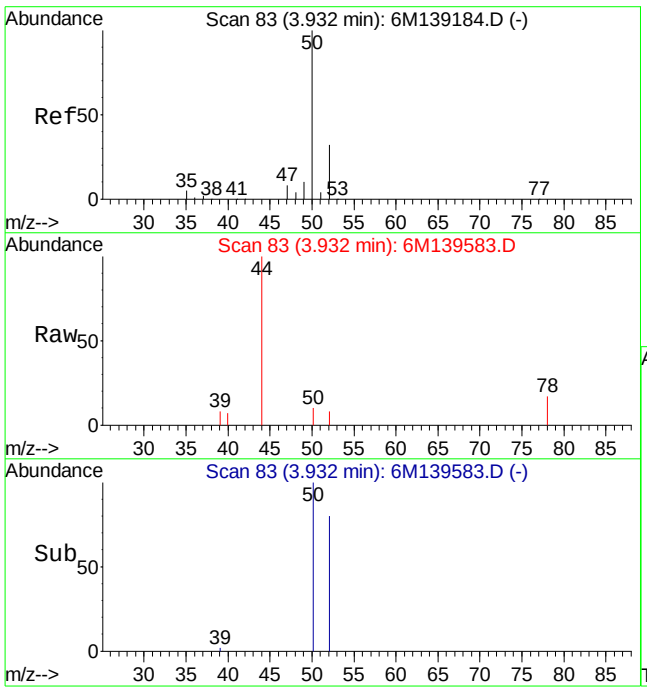
(#) = qualifier out of range (m) = manual integration
6M139583.D 8260WTR.M Wed May 25 08:29:39 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139583.D Vial: 14
Acq On : 24 May 2016 13:01 Operator: TMB
Sample : L16051153-05 REF A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

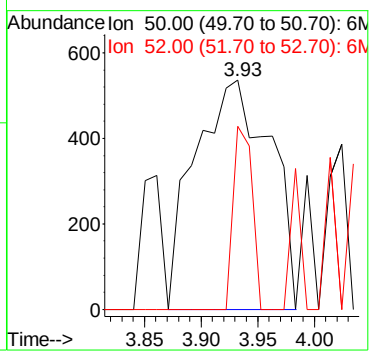


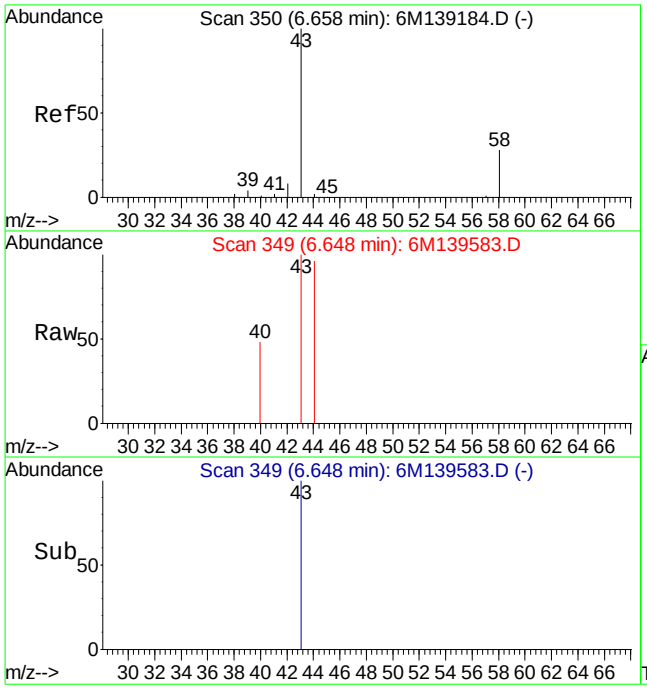


#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.93 min Scan# 83
Delta R.T. 0.00 min
Lab File: 6M139583.D
Acq: 24 May 2016 13:01

Tgt Ion: 50 Resp: 2493

Ion	Ratio	Lower	Upper
50	100		
52	19.9	19.8	46.2

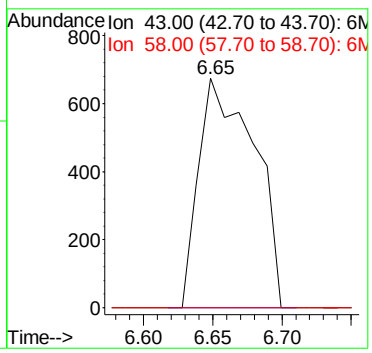


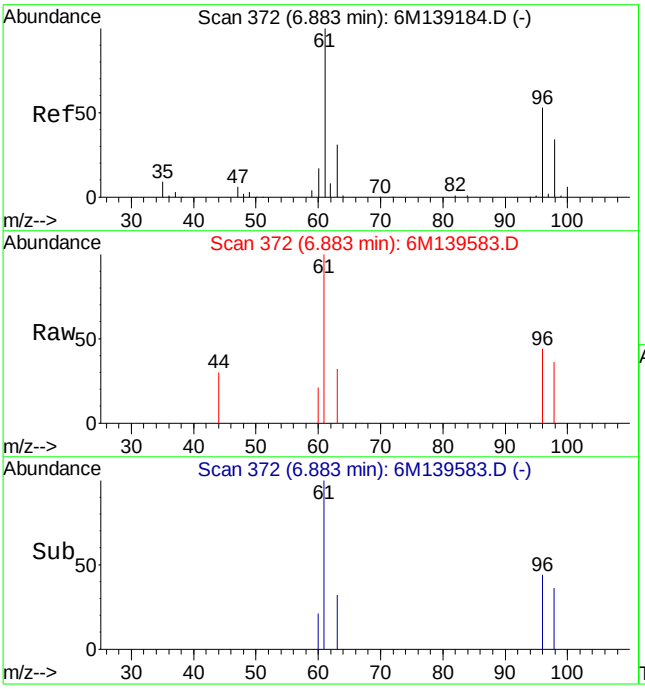


#13
Acetone
Concen: Below Cal
RT: 6.65 min Scan# 349
Delta R.T. -0.01 min
Lab File: 6M139583.D
Acq: 24 May 2016 13:01

Tgt Ion: 43 Resp: 1881

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

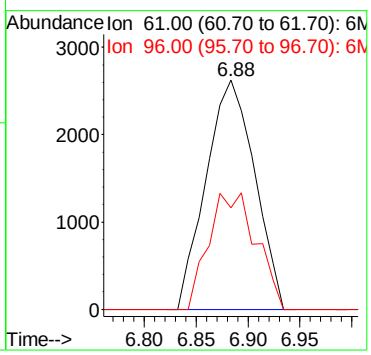




#14
1,1-Dichloroethene
Concen: 0.68 ug/L
RT: 6.88 min Scan# 372
Delta R.T. 0.00 min
Lab File: 6M139583.D
Acq: 24 May 2016 13:01

Tgt Ion: 61 Resp: 8553

Ion	Ratio	Lower	Upper
61	100		
96	49.7	32.0	74.6



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139576.D Vial: 7
Acq On : 24 May 2016 9:16 Operator: TMB
Sample : L16051153-06 A MS 826-LOW Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 09:40:30 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	732331	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	542286	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	306977	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	196033	25.4997 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.00%		
43) 1,2-Dichloroethane-d4	11.11	65	210275	24.5578 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.24%		
58) Toluene-d8	13.85	98	654348	24.5183 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.08%		
80) p-Bromofluorobenzene	17.84	95	270384	23.7615 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.04%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	283965	24.6219 ug/L	100
3) Chloromethane	3.93	50	307989	19.4729 ug/L	99
4) Vinyl Chloride	4.16	62	216099	21.2474 ug/L	99
5) 1,3-Butadiene	4.20	54	81069	78.1087 ug/L	99
6) Bromomethane	5.06	94	94824	16.4921 ug/L	99
7) Chloroethane	5.23	64	134616	20.7153 ug/L	98
8) Trichlorofluoromethane	5.73	101	272878	21.1458 ug/L	99
9) Diethyl ether	6.29	59	3917	0.5734 ug/L #	41
10) Isoprene	6.32	67	238603	37.0297 ug/L	99
11) Acrolein	6.55	56	194	0.1891 ug/L #	15
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	155515	21.0981 ug/L	99
13) Acetone	6.66	43	45902	18.0795 ug/L	98
14) 1,1-Dichloroethene	6.88	61	259226	19.4110 ug/L	100
15) Tert-Butyl Alcohol	7.02	59	3523	5.3178 ug/L #	65
16) Dimethyl Sulfide	7.17	62	232473	53.4240 ug/L	100
17) Iodomethane	7.43	142	166035	43.2376 ug/L	98
18) Methyl acetate	7.45	43	133957	21.4657 ug/L	100
19) Methylene Chloride	7.72	84	163747	20.7592 ug/L	98
20) Carbon Disulfide	7.77	76	495712	35.8742 ug/L	100
21) Acrylonitrile	7.92	53	58974	21.6174 ug/L	97
22) Methyl Tert Butyl Ether	7.95	73	423257	20.8085 ug/L	100
23) trans-1,2-Dichloroethene	8.21	96	157823	20.6676 ug/L	100
24) n-Hexane	8.28	57	238938	29.6546 ug/L	99
26) Vinyl Acetate	8.86	43	297112	27.5404 ug/L	100
27) 1,1-Dichloroethane	8.89	63	300296	19.7238 ug/L	100
29) 2-Butanone	9.52	43	68249	20.5357 ug/L	99
30) Propionitrile	9.63	54	865	0.9482 ug/L #	56
31) 2,2-Dichloropropane	9.75	77	234771	20.9584 ug/L	99
32) cis-1,2-Dichloroethene	9.82	96	175012	20.7467 ug/L	98
33) Chloroform	10.06	83	275347	19.7486 ug/L	99
34) 1-Bromopropane	10.21	122	37194	32.7306 ug/L	98
35) Bromochloromethane	10.32	130	96361	20.8244 ug/L	99
36) Tetrahydrofuran	10.36	42	1367	Below Cal #	41
38) 1,1,1-Trichloroethane	10.65	97	245066	20.0573 ug/L	100
39) Cyclohexane	10.69	56	299793	24.5012 ug/L	100
40) 1,1-Dichloropropene	10.88	75	208087	19.6084 ug/L	97
41) Tert-Amyl-Methyl ether	10.88	73	30582	1.5119 ug/L #	54
42) Carbon Tetrachloride	11.04	117	217532	20.0477 ug/L	100
45) 1,2-Dichloroethane	11.24	62	221785	20.7139 ug/L	100
46) Benzene	11.28	78	618360	20.2240 ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139576.D 8260WTR.M Tue May 24 09:40:30 2016 Page 1

Data File : C:\MSDchem\1\data\052416\6M139576.D Vial: 7
Acq On : 24 May 2016 9:16 Operator: TMB
Sample : L16051153-06 A MS 826-LOW Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 09:40:30 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

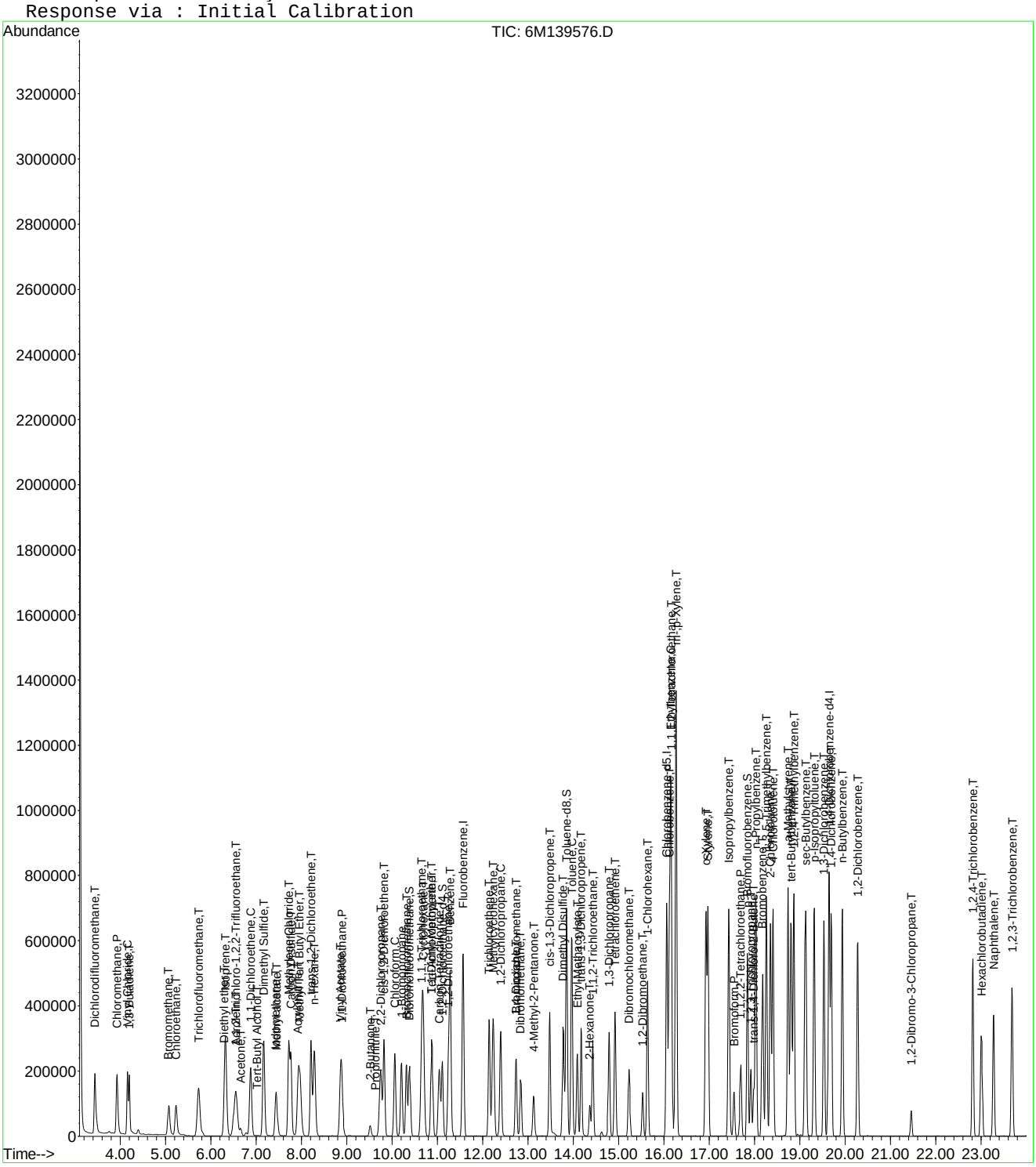
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	Trichloroethene	12.14	130	161000	20.1314	ug/L	100
48)	Methylcyclohexane	12.23	83	233244	22.1494	ug/L	100
49)	1,2-Dichloropropane	12.40	63	179372	20.9038	ug/L	100
50)	1,4-Dioxane	12.73	88	469	7.8706	ug/L	69
51)	Bromodichloromethane	12.74	83	214409	20.5377	ug/L	99
52)	Dibromomethane	12.84	93	89647	20.7350	ug/L	99
54)	4-Methyl-2-Pentanone	13.13	58	50353	19.5761	ug/L	98
55)	cis-1,3-Dichloropropene	13.48	75	270527	22.1015	ug/L	99
56)	Dimethyl Disulfide	13.78	79	134618	19.9869	ug/L	99
59)	Toluene	13.97	91	639592	19.8992	ug/L	100
60)	Ethyl Methacrylate	14.09	69	188177	20.1440	ug/L	98
62)	trans-1,3-Dichloropropene	14.17	75	228244	20.8618	ug/L	100
63)	1,1,2-Trichloroethane	14.43	97	125662	21.0996	ug/L	99
64)	2-Hexanone	14.36	43	101729	19.5018	ug/L	98
65)	1,3-Dichloropropane	14.79	76	232406	21.9463	ug/L	99
66)	Tetrachloroethene	14.92	166	160729	19.2167	ug/L	99
67)	Dibromochloromethane	15.24	129	156829	21.4817	ug/L	99
68)	1,2-Dibromoethane	15.53	107	123939	21.2178	ug/L	98
69)	1-Chlorohexane	15.64	91	209339	18.9138	ug/L	100
70)	Chlorobenzene	16.12	112	435357	20.4423	ug/L	100
71)	1,1,1,2-Tetrachloroethane	16.16	131	159121	20.5076	ug/L	100
72)	Ethylbenzene	16.15	106	227340	19.7308	ug/L	98
73)	m-,p-Xylene	16.27	106	559359	40.3764	ug/L	100
74)	o-Xylene	16.93	106	278708	20.3074	ug/L	99
75)	Styrene	16.97	104	472975	19.9463	ug/L	100
76)	Bromoform	17.55	173	94182	20.1105	ug/L	99
77)	Isopropylbenzene	17.43	105	703195	20.2635	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	160267	21.7259	ug/L	98
81)	1,2,3-Trichloropropane	17.92	110	45579	21.2018	ug/L	83
82)	trans-1,4-Dichloro-2-Buten	17.98	53	47910	18.4005	ug/L	95
83)	n-Propylbenzene	18.03	91	876211	20.6900	ug/L	99
84)	Bromobenzene	18.18	156	190146	19.1996	ug/L	100
85)	1,3,5-Trimethylbenzene	18.26	105	603473	19.7351	ug/L	100
86)	2-Chlorotoluene	18.35	91	563482	20.0421	ug/L	99
87)	4-Chlorotoluene	18.41	91	540045	20.0988	ug/L	100
88)	a-Methylstyrene	18.74	118	338137	19.9166	ug/L	100
89)	tert-Butylbenzene	18.81	134	133061	19.8573	ug/L	81
90)	1,2,4-Trimethylbenzene	18.87	105	621048	19.8276	ug/L	99
91)	sec-Butylbenzene	19.13	105	741790	20.0875	ug/L	99
92)	p-Isopropyltoluene	19.32	119	630178	19.7500	ug/L	99
93)	1,3-Dichlorobenzene	19.53	146	378703	20.1023	ug/L	100
94)	1,4-Dichlorobenzene	19.69	146	385890	20.2003	ug/L	100
95)	n-Butylbenzene	19.94	91	585704	19.2814	ug/L	99
96)	1,2-Dichlorobenzene	20.28	146	360675	20.2215	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	21.46	75	28208	20.3545	ug/L	97
98)	1,2,4-Trichlorobenzene	22.82	180	244388	19.1723	ug/L	100
99)	Hexachlorobutadiene	23.02	225	99112	17.7324	ug/L	99
100)	Naphthalene	23.28	128	446648	17.7436	ug/L	100
101)	1,2,3-Trichlorobenzene	23.69	180	222528	18.5769	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139576.D 8260WTR.M Tue May 24 09:40:30 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139576.D Vial: 7
Acq On : 24 May 2016 9:16 Operator: TMB
Sample : L16051153-06 A MS 826-LOW Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 9:40 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



6M139576.D 8260WTR.M Tue May 24 09:40:31 2016 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139577.D Vial: 8
Acq On : 24 May 2016 9:48 Operator: TMB
Sample : L16051153-07 A MSD 826-LOW Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 10:12:40 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	742774	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	546954	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	307768	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	194869	24.9919 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.96%		
43) 1,2-Dichloroethane-d4	11.11	65	210343	24.2204 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.88%		
58) Toluene-d8	13.85	98	661906	24.5899 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.36%		
80) p-Bromofluorobenzene	17.84	95	270619	23.7210 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.88%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	283029	24.1957 ug/L	99
3) Chloromethane	3.93	50	307726	19.1828 ug/L	100
4) Vinyl Chloride	4.16	62	217799	21.1135 ug/L	99
5) 1,3-Butadiene	4.20	54	80928	76.7513 ug/L	99
6) Bromomethane	5.07	94	93137	15.9709 ug/L	100
7) Chloroethane	5.23	64	135411	20.5447 ug/L	97
8) Trichlorofluoromethane	5.73	101	270889	20.6965 ug/L	100
9) Diethyl ether	6.29	59	3956	0.5710 ug/L #	39
10) Isoprene	6.32	67	240953	36.8687 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.54	101	155617	20.8151 ug/L	98
13) Acetone	6.66	43	46699	18.1494 ug/L	99
14) 1,1-Dichloroethene	6.88	61	261453	19.3025 ug/L	100
15) Tert-Butyl Alcohol	6.88	59	9003	13.3985 ug/L #	57
16) Dimethyl Sulfide	7.17	62	232878	52.7646 ug/L	100
17) Iodomethane	7.43	142	179386	45.9397 ug/L	98
18) Methyl acetate	7.45	43	129987	20.5367 ug/L	99
19) Methylene Chloride	7.72	84	164874	20.6082 ug/L	100
20) Carbon Disulfide	7.77	76	504882	36.0241 ug/L	100
21) Acrylonitrile	7.92	53	57156	20.6565 ug/L	100
22) Methyl Tert Butyl Ether	7.95	73	419807	20.3488 ug/L	99
23) trans-1,2-Dichloroethene	8.21	96	157774	20.3707 ug/L	99
24) n-Hexane	8.29	57	239759	29.3381 ug/L	98
26) Vinyl Acetate	8.86	43	289840	26.4886 ug/L	100
27) 1,1-Dichloroethane	8.89	63	299358	19.3857 ug/L	100
29) 2-Butanone	9.52	43	65387	19.3979 ug/L	96
31) 2,2-Dichloropropane	9.75	77	229556	20.2048 ug/L	99
32) cis-1,2-Dichloroethene	9.82	96	173747	20.3072 ug/L	100
33) Chloroform	10.06	83	279108	19.7369 ug/L	99
34) 1-Bromopropane	10.21	122	37296	32.3589 ug/L	100
35) Bromochloromethane	10.32	130	97456	20.7650 ug/L	99
36) Tetrahydrofuran	10.21	42	34105	12.6635 ug/L #	41
38) 1,1,1-Trichloroethane	10.65	97	246231	19.8693 ug/L	100
39) Cyclohexane	10.69	56	299302	24.1172 ug/L	99
40) 1,1-Dichloropropene	10.87	75	205975	19.1365 ug/L	98
41) Tert-Amyl-Methyl ether	10.87	73	30685	1.4956 ug/L #	54
42) Carbon Tetrachloride	11.04	117	214165	19.4599 ug/L	99
45) 1,2-Dichloroethane	11.24	62	221749	20.4193 ug/L	99
46) Benzene	11.28	78	621928	20.0547 ug/L	99
47) Trichloroethene	12.14	130	161506	19.9108 ug/L	99
48) Methylcyclohexane	12.23	83	234615	21.9664 ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139577.D 8260WTR.M Tue May 24 10:12:40 2016 Page 1

Data File : C:\MSDchem\1\data\052416\6M139577.D Vial: 8
Acq On : 24 May 2016 9:48 Operator: TMB
Sample : L16051153-07 A MSD 826-LOW Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 10:12:40 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

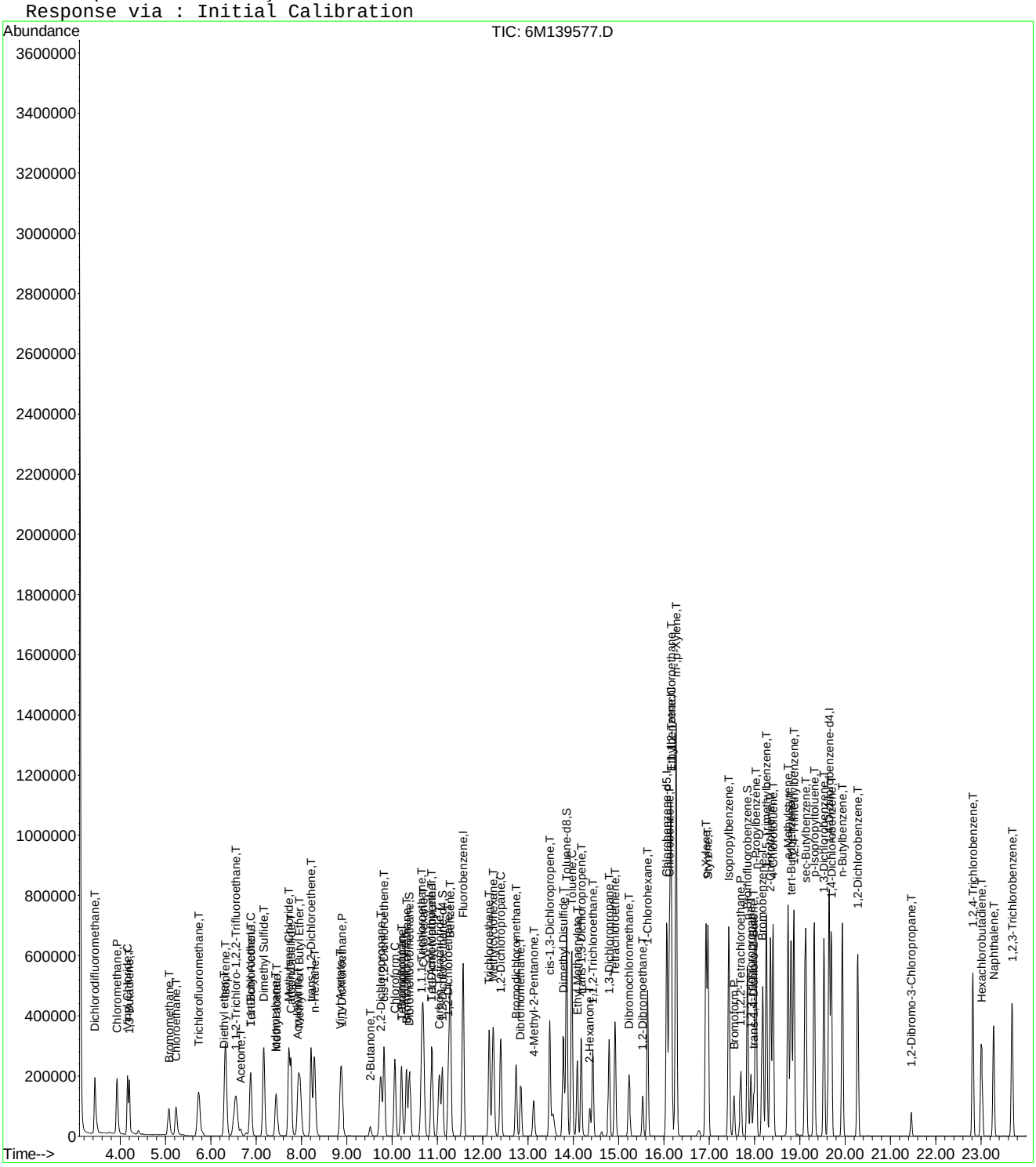
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
49)	1,2-Dichloropropane	12.40	63	178930	20.5591 ug/L	100
51)	Bromodichloromethane	12.74	83	215673	20.3683 ug/L	98
52)	Dibromomethane	12.83	93	86581	19.7443 ug/L	98
54)	4-Methyl-2-Pentanone	13.13	58	48824	18.7148 ug/L	99
55)	cis-1,3-Dichloropropene	13.48	75	275918	22.2251 ug/L	98
56)	Dimethyl Disulfide	13.78	79	135285	19.8035 ug/L	98
59)	Toluene	13.97	91	646565	19.9444 ug/L	100
60)	Ethyl Methacrylate	14.09	69	189012	20.0607 ug/L	97
62)	trans-1,3-Dichloropropene	14.18	75	227106	20.5806 ug/L	99
63)	1,1,2-Trichloroethane	14.43	97	124212	20.6781 ug/L	98
64)	2-Hexanone	14.36	43	98760	18.7710 ug/L	99
65)	1,3-Dichloropropane	14.79	76	230708	21.6000 ug/L	99
66)	Tetrachloroethene	14.92	166	160930	19.0765 ug/L	99
67)	Dibromochloromethane	15.23	129	155666	21.1404 ug/L	100
68)	1,2-Dibromoethane	15.53	107	122262	20.7521 ug/L	99
69)	1-Chlorohexane	15.64	91	211334	18.9311 ug/L	99
70)	Chlorobenzene	16.12	112	436290	20.3113 ug/L	100
71)	1,1,1,2-Tetrachloroethane	16.16	131	161031	20.5767 ug/L	100
72)	Ethylbenzene	16.16	106	225793	19.4293 ug/L	97
73)	m-,p-Xylene	16.27	106	562350	40.2459 ug/L	100
74)	o-Xylene	16.93	106	280674	20.2761 ug/L	99
75)	Styrene	16.97	104	472317	19.7486 ug/L	100
76)	Bromoform	17.55	173	93187	19.7282 ug/L	100
77)	Isopropylbenzene	17.43	105	703723	20.1056 ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	155333	21.0029 ug/L	99
81)	1,2,3-Trichloropropane	17.92	110	44673	20.7269 ug/L	83
82)	trans-1,4-Dichloro-2-Buten	17.98	53	47693	18.2701 ug/L	94
83)	n-Propylbenzene	18.03	91	877155	20.6590 ug/L	100
84)	Bromobenzene	18.18	156	188932	19.0280 ug/L	99
85)	1,3,5-Trimethylbenzene	18.26	105	603089	19.6718 ug/L	100
86)	2-Chlorotoluene	18.35	91	562692	19.9626 ug/L	100
87)	4-Chlorotoluene	18.41	91	545421	20.2467 ug/L	99
88)	a-Methylstyrene	18.74	118	339714	19.9581 ug/L	99
89)	tert-Butylbenzene	18.81	134	133381	19.8539 ug/L	81
90)	1,2,4-Trimethylbenzene	18.87	105	621539	19.7923 ug/L	99
91)	sec-Butylbenzene	19.13	105	738840	19.9562 ug/L	100
92)	p-Isopropyltoluene	19.32	119	628337	19.6417 ug/L	99
93)	1,3-Dichlorobenzene	19.53	146	380105	20.1249 ug/L	100
94)	1,4-Dichlorobenzene	19.70	146	383997	20.0496 ug/L	99
95)	n-Butylbenzene	19.94	91	588176	19.3130 ug/L	99
96)	1,2-Dichlorobenzene	20.28	146	358796	20.0644 ug/L	99
97)	1,2-Dibromo-3-Chloropropan	21.46	75	27324	19.6659 ug/L	99
98)	1,2,4-Trichlorobenzene	22.82	180	243550	19.0575 ug/L	99
99)	Hexachlorobutadiene	23.02	225	97720	17.4384 ug/L	99
100)	Naphthalene	23.28	128	434020	17.1976 ug/L	100
101)	1,2,3-Trichlorobenzene	23.69	180	219436	18.2717 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139577.D Vial: 8
Acq On : 24 May 2016 9:48 Operator: TMB
Sample : L16051153-07 A MSD 826-LOW Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 10:12 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



6M139577.D 8260WTR.M Tue May 24 10:12:40 2016 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139584.D Vial: 15
Acq On : 24 May 2016 13:34 Operator: TMB
Sample : L16051153-08 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:40 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

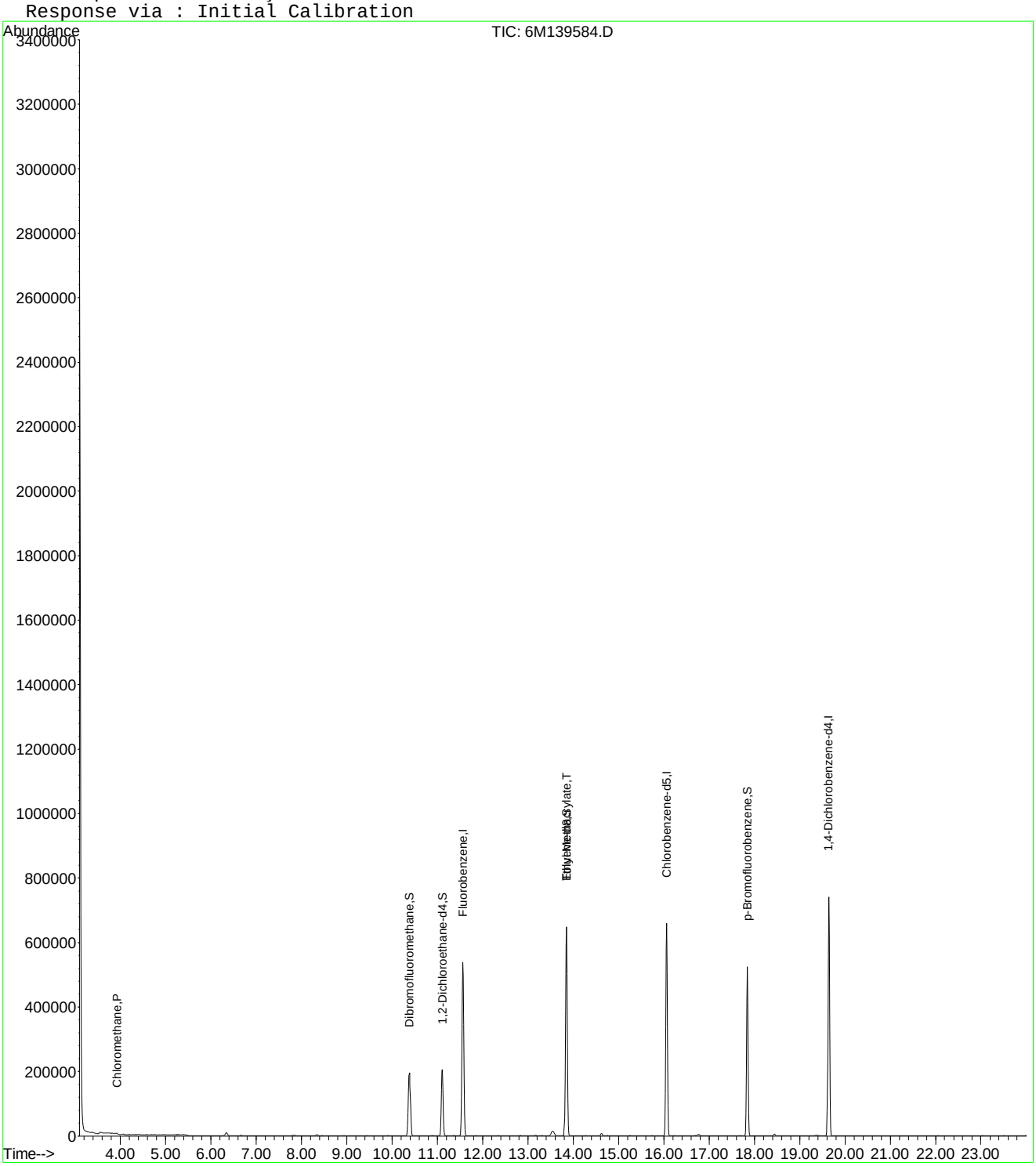
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	686671	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	502205	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	267459	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	182905	25.3741 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.48%		
43) 1,2-Dichloroethane-d4	11.11	65	197882	24.6471 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.60%		
58) Toluene-d8	13.85	98	610392	24.6967 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.80%		
80) p-Bromofluorobenzene	17.84	95	239519	24.1591 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.64%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	2578	0.1738 ug/L	93
13) Acetone	6.66	43	2442	Below Cal #	64
60) Ethyl Methacrylate	13.85	69	1305	0.1508 ug/L #	13

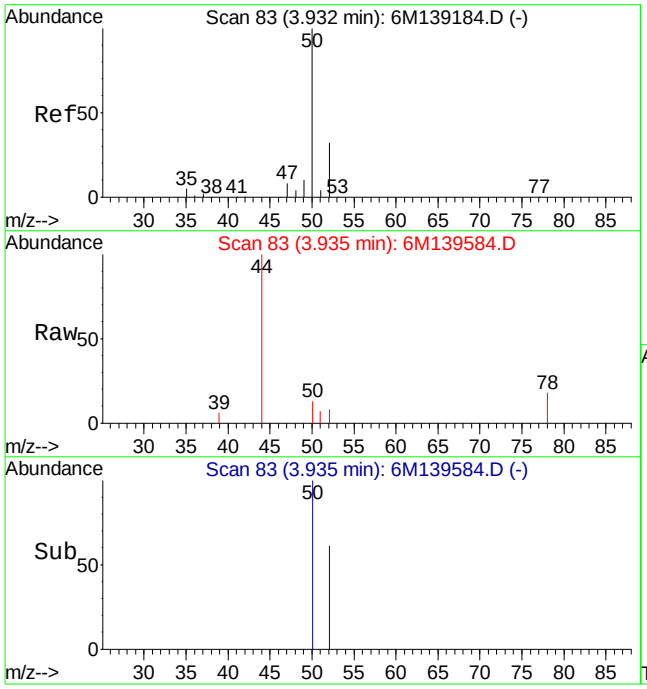
(#) = qualifier out of range (m) = manual integration
6M139584.D 8260WTR.M Wed May 25 08:29:40 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139584.D Vial: 15
Acq On : 24 May 2016 13:34 Operator: TMB
Sample : L16051153-08 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

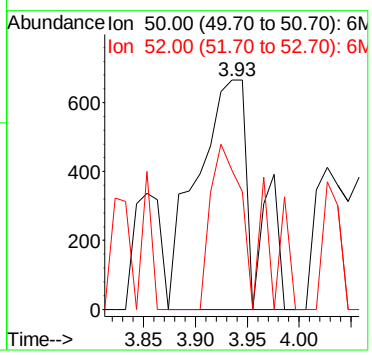


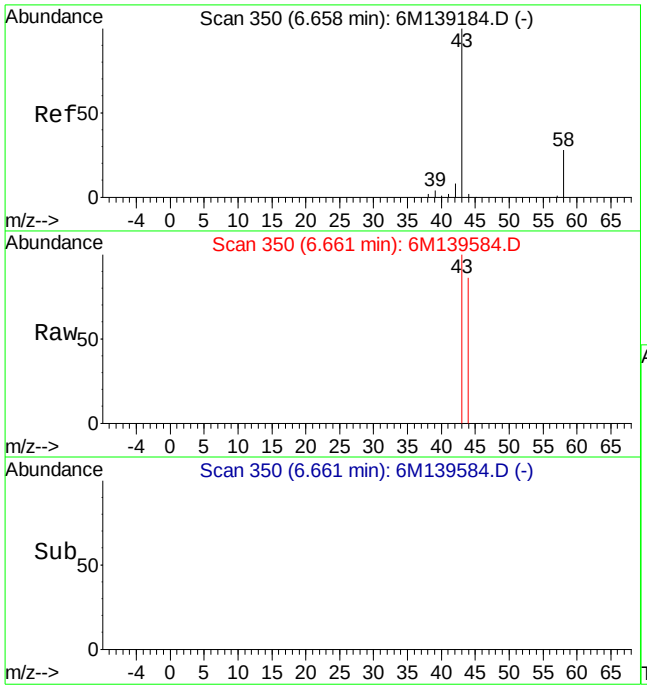


#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.93 min Scan# 83
Delta R.T. 0.00 min
Lab File: 6M139584.D
Acq: 24 May 2016 13:34

Tgt Ion: 50 Resp: 2578

Ion	Ratio	Lower	Upper
50	100		
52	37.2	19.8	46.2

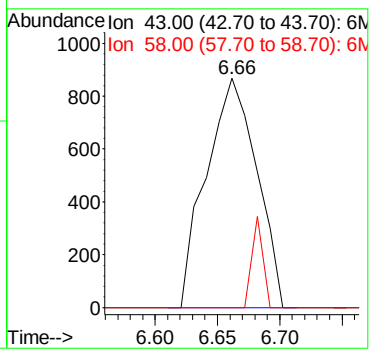


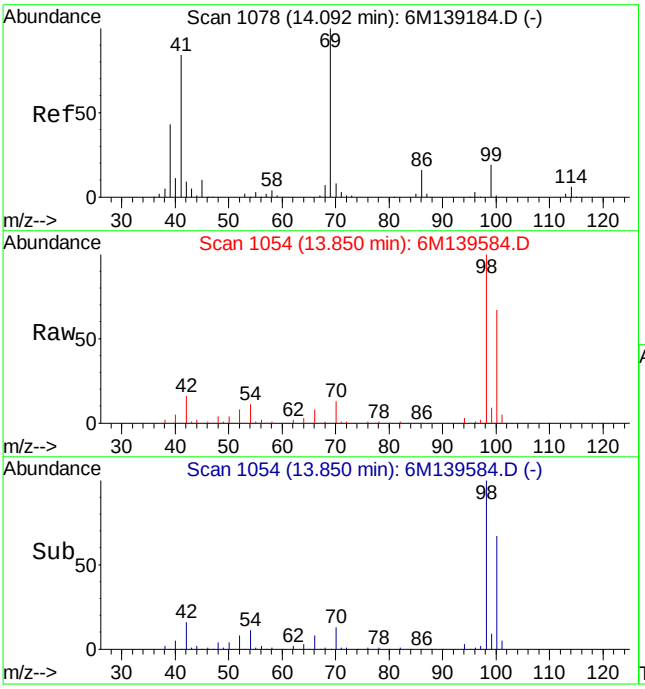


#13
Acetone
Concen: Below Cal
RT: 6.66 min Scan# 350
Delta R.T. 0.00 min
Lab File: 6M139584.D
Acq: 24 May 2016 13:34

Tgt Ion: 43 Resp: 2442

Ion	Ratio	Lower	Upper
43	100		
58	8.6	16.4	38.2#

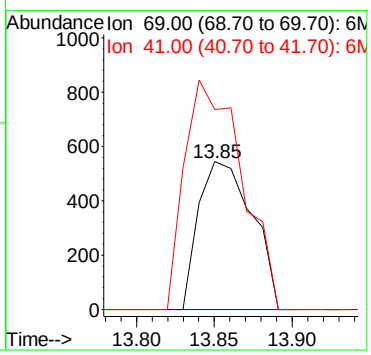




#60
Ethyl Methacrylate
Concen: 0.15 ug/L
RT: 13.85 min Scan# 1054
Delta R.T. -0.24 min
Lab File: 6M139584.D
Acq: 24 May 2016 13:34

Tgt Ion: 69 Resp: 1305

Ion	Ratio	Lower	Upper
69	100		
41	165.7	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139585.D Vial: 16
Acq On : 24 May 2016 14:05 Operator: TMB
Sample : L16051153-09 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:41 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

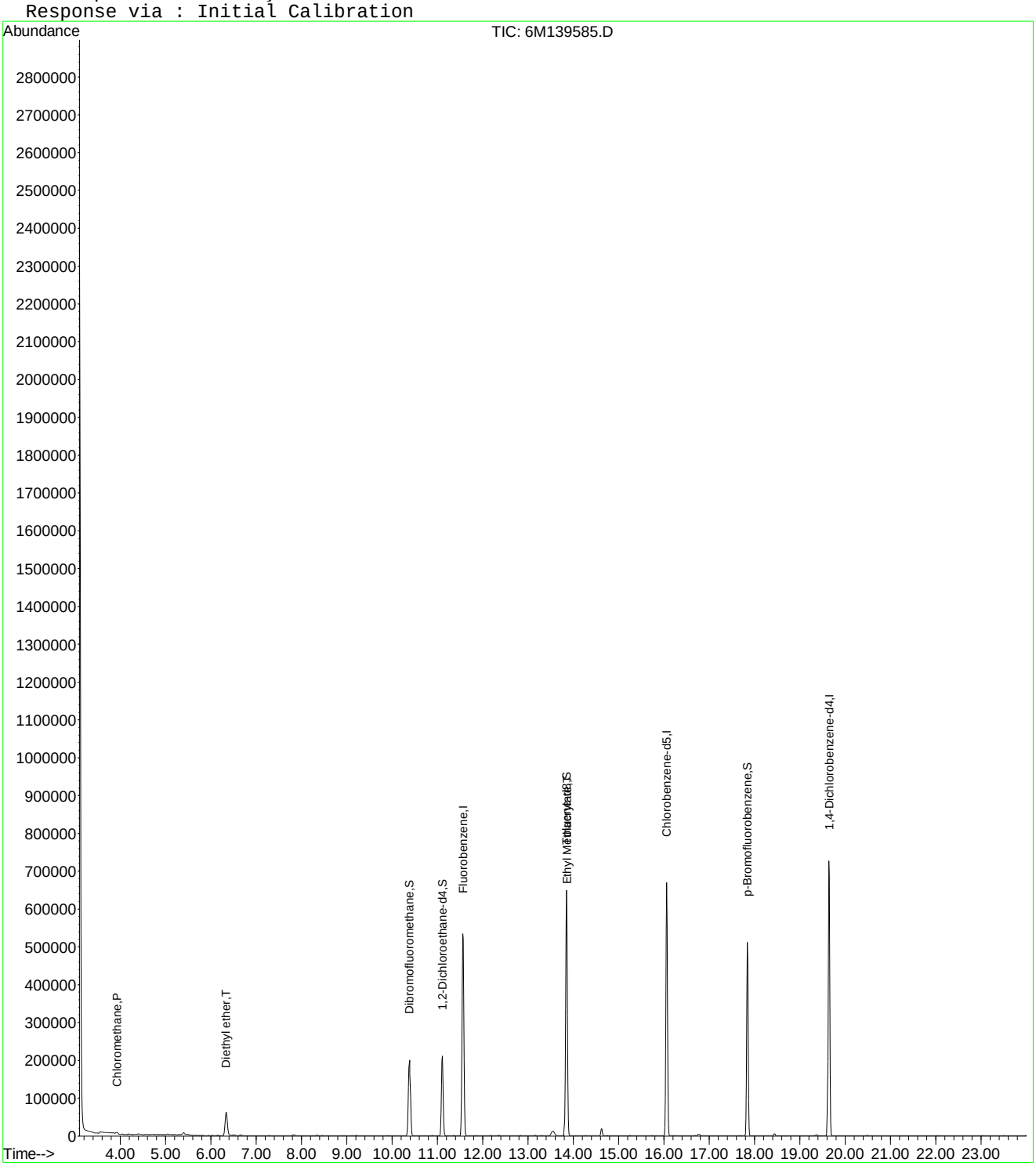
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	688161	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	504575	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	268074	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	182469	25.2588 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.04%		
43) 1,2-Dichloroethane-d4	11.11	65	198222	24.6360 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.56%		
58) Toluene-d8	13.85	98	608291	24.4961 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.00%		
80) p-Bromofluorobenzene	17.84	95	238567	24.0079 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.04%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	4367	0.2938 ug/L #	72
9) Diethyl ether	6.33	59	4734	0.7375 ug/L #	1
13) Acetone	6.65	43	4412	Below Cal	81
60) Ethyl Methacrylate	13.86	69	1303	0.1499 ug/L #	46

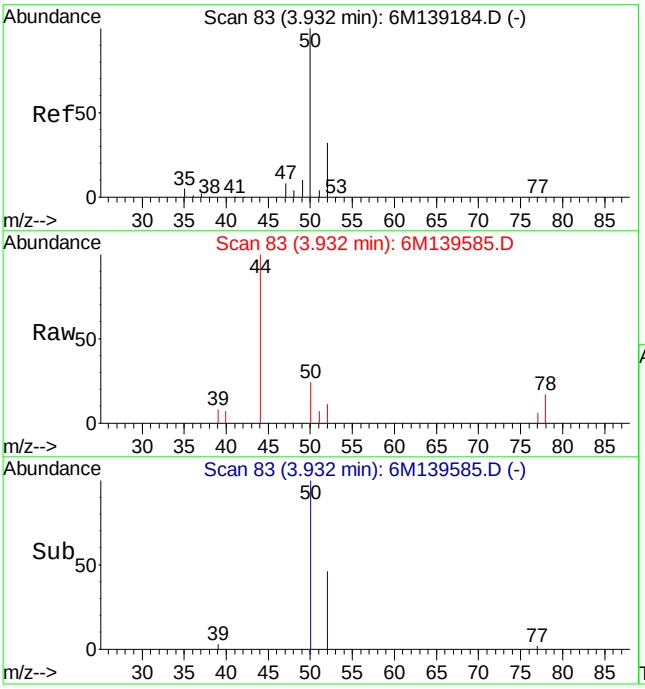
(#) = qualifier out of range (m) = manual integration
6M139585.D 8260WTR.M Wed May 25 08:29:41 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139585.D Vial: 16
Acq On : 24 May 2016 14:05 Operator: TMB
Sample : L16051153-09 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

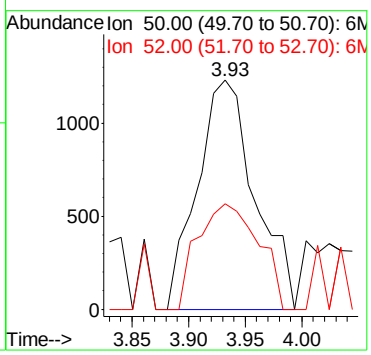


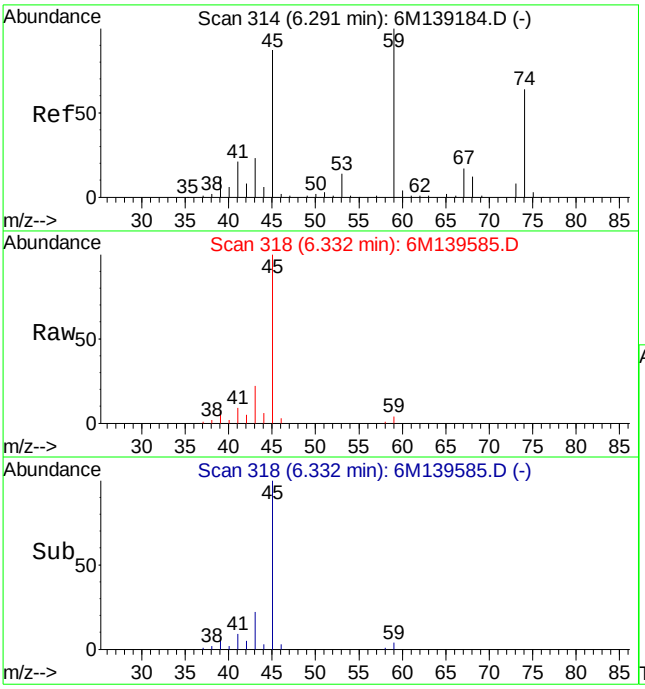


#3
Chloromethane
Concen: 0.29 ug/L
RT: 3.93 min Scan# 83
Delta R.T. 0.00 min
Lab File: 6M139585.D
Acq: 24 May 2016 14:05

Tgt Ion: 50 Resp: 4367

Ion	Ratio	Lower	Upper
50	100		
52	48.7	19.8	46.2#

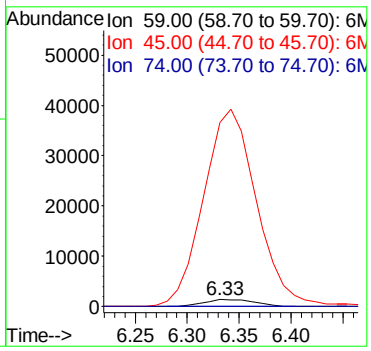


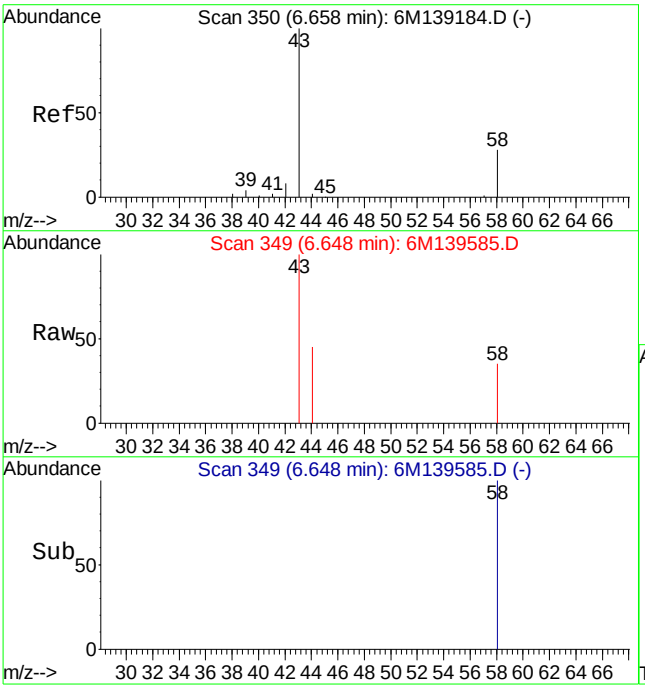


#9
Diethyl ether
Concen: 0.74 ug/L
RT: 6.33 min Scan# 318
Delta R.T. 0.04 min
Lab File: 6M139585.D
Acq: 24 May 2016 14:05

Tgt Ion: 59 Resp: 4734

Ion	Ratio	Lower	Upper
59	100		
45	2972.9	51.5	120.3#
74	0.0	38.5	89.7#

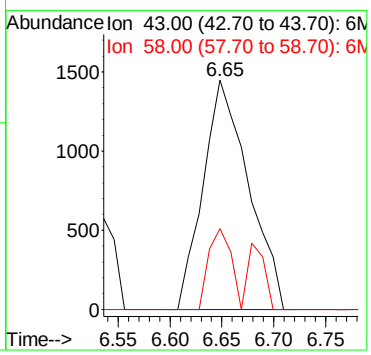


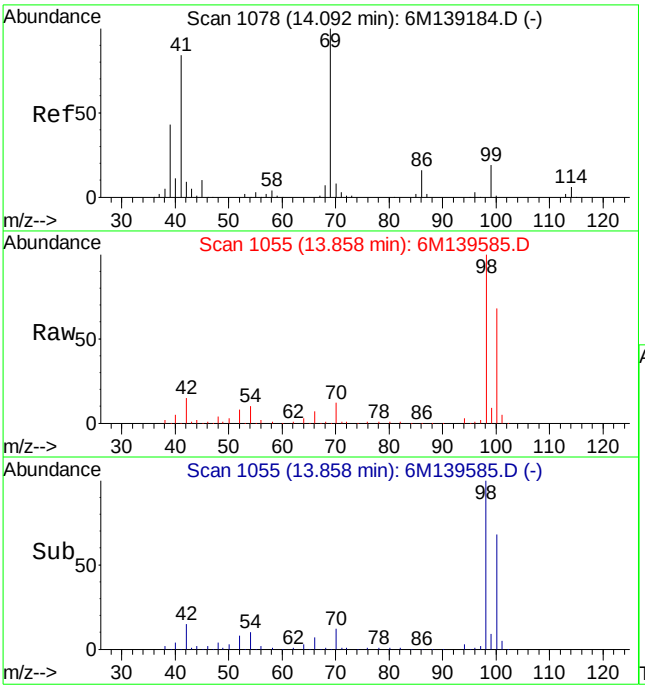


#13
Acetone
Concen: Below Cal
RT: 6.65 min Scan# 349
Delta R.T. -0.01 min
Lab File: 6M139585.D
Acq: 24 May 2016 14:05

Tgt Ion: 43 Resp: 4412

Ion	Ratio	Lower	Upper
43	100		
58	17.5	16.4	38.2

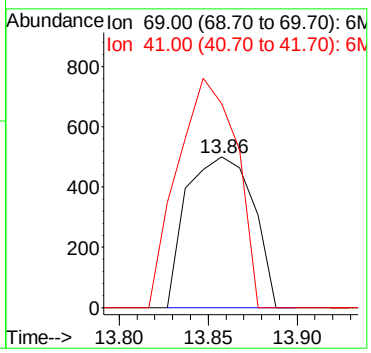




#60
Ethyl Methacrylate
Concen: 0.15 ug/L
RT: 13.86 min Scan# 1055
Delta R.T. -0.23 min
Lab File: 6M139585.D
Acq: 24 May 2016 14:05

Tgt Ion: 69 Resp: 1303

Ion	Ratio	Lower	Upper
69	100		
41	135.0	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139586.D Vial: 17
Acq On : 24 May 2016 14:37 Operator: TMB
Sample : L16051153-10 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:42 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

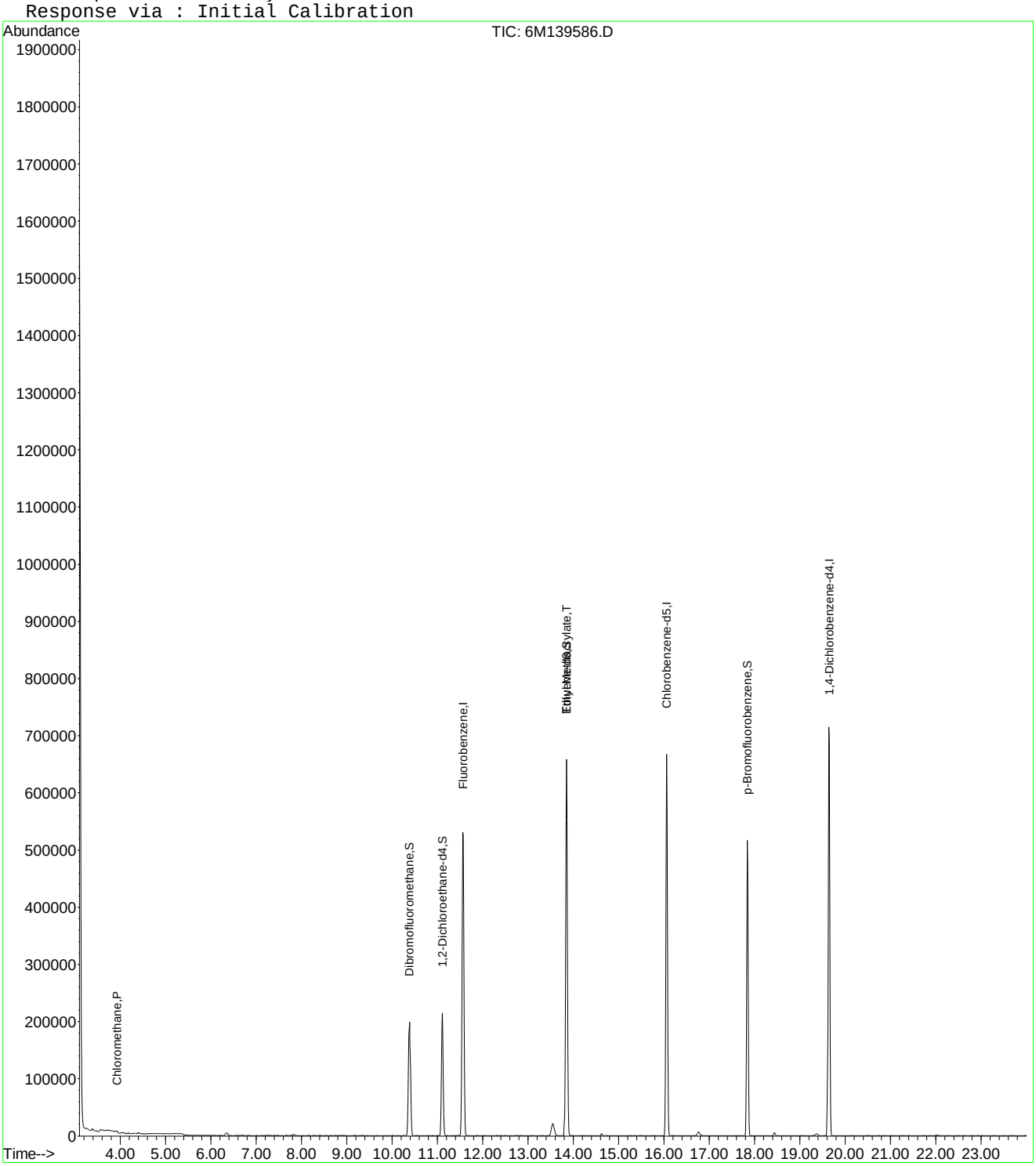
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	692097	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	503913	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	265673	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	182437	25.1108 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.44%		
43) 1,2-Dichloroethane-d4	11.11	65	198170	24.4895 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.96%		
58) Toluene-d8	13.85	98	608976	24.5559 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.24%		
80) p-Bromofluorobenzene	17.84	95	238724	24.2408 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.96%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	3251	0.2175 ug/L	# 46
13) Acetone	6.65	43	1551	Below Cal	# 48
60) Ethyl Methacrylate	13.85	69	1406	0.1620 ug/L	# 43

(#) = qualifier out of range (m) = manual integration
6M139586.D 8260WTR.M Wed May 25 08:29:42 2016 Page 1

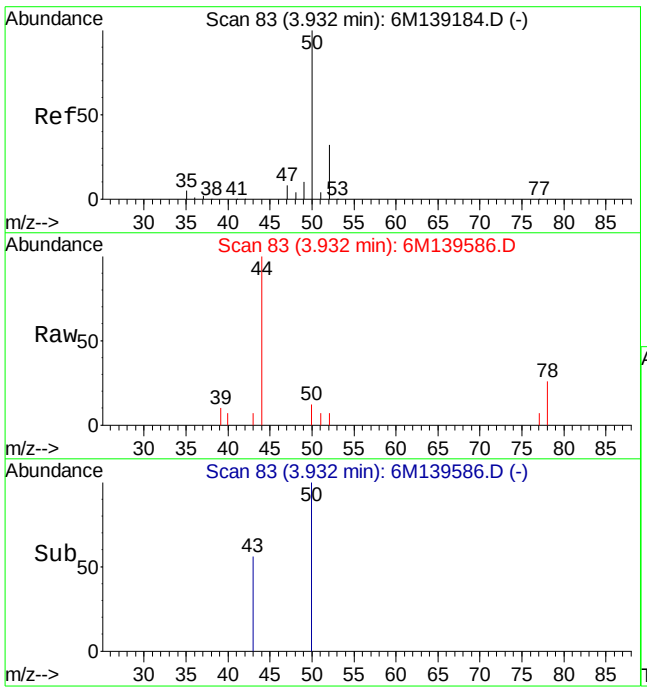
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139586.D Vial: 17
Acq On : 24 May 2016 14:37 Operator: TMB
Sample : L16051153-10 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



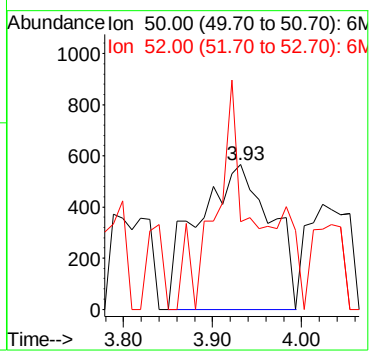
6M139586.D 8260WTR.M Wed May 25 08:29:42 2016 Page 2

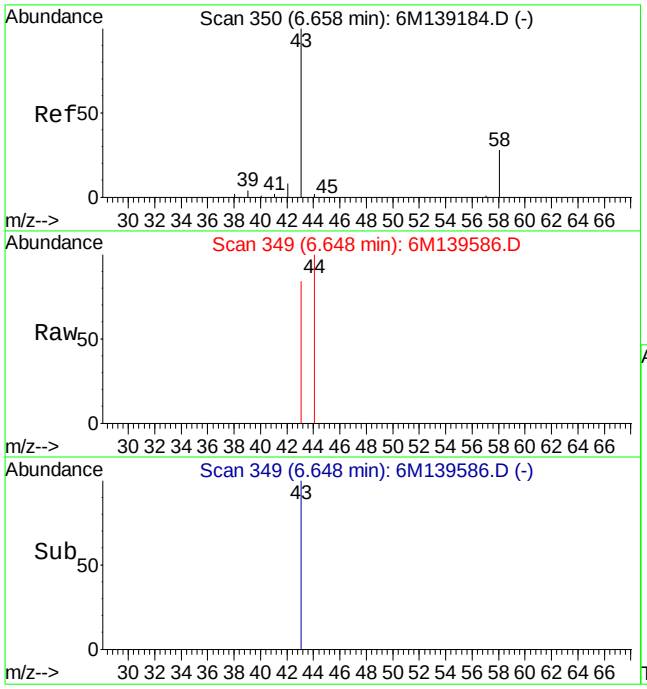


#3
Chloromethane
Concen: 0.22 ug/L
RT: 3.93 min Scan# 83
Delta R.T. 0.00 min
Lab File: 6M139586.D
Acq: 24 May 2016 14:37

Tgt Ion: 50 Resp: 3251

Ion	Ratio	Lower	Upper
50	100		
52	63.3	19.8	46.2#

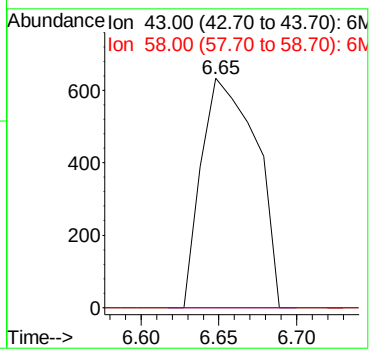


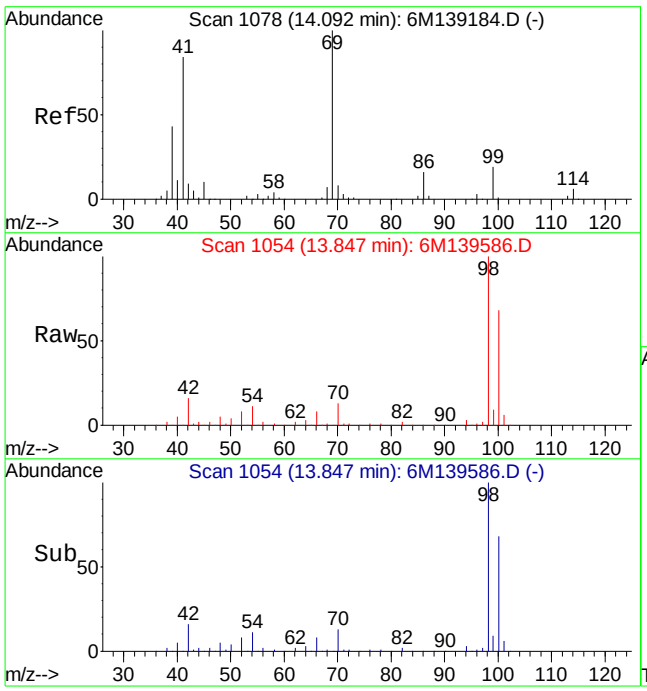


#13
Acetone
Concen: Below Cal
RT: 6.65 min Scan# 349
Delta R.T. -0.01 min
Lab File: 6M139586.D
Acq: 24 May 2016 14:37

Tgt Ion: 43 Resp: 1551

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

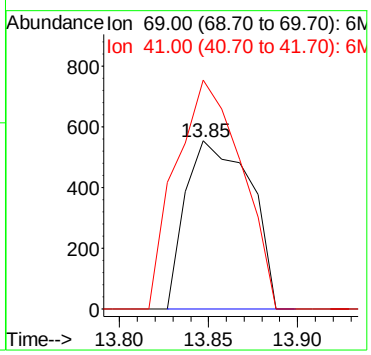




#60
Ethyl Methacrylate
Concen: 0.16 ug/L
RT: 13.85 min Scan# 1054
Delta R.T. -0.25 min
Lab File: 6M139586.D
Acq: 24 May 2016 14:37

Tgt Ion: 69 Resp: 1406

Ion	Ratio	Lower	Upper
69	100		
41	138.3	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139587.D Vial: 18
Acq On : 24 May 2016 15:09 Operator: TMB
Sample : L16051153-11 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:43 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

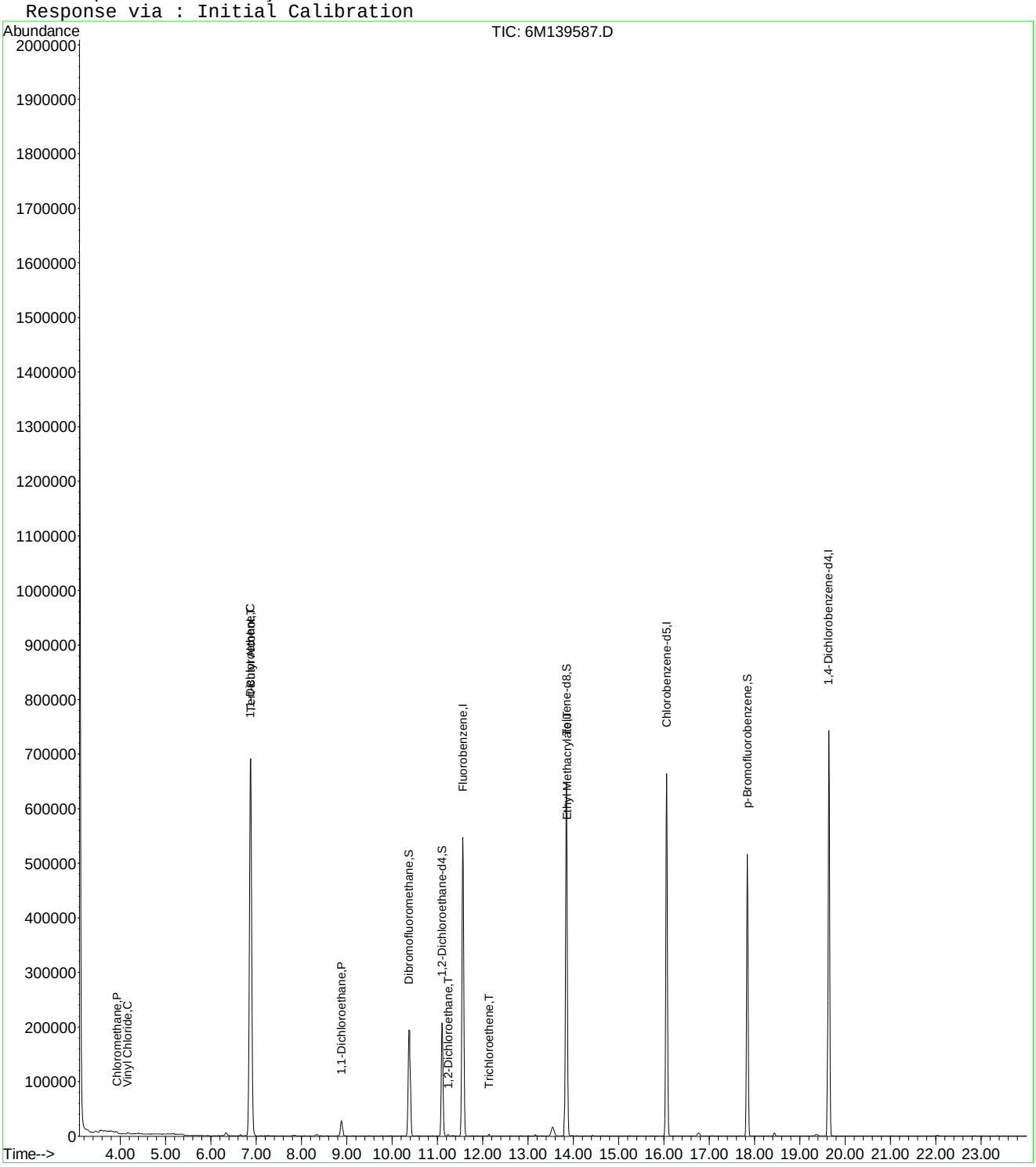
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	688440	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	504124	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	266089	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	181655	25.1359 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.56%		
43) 1,2-Dichloroethane-d4	11.10	65	196849	24.4555 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.84%		
58) Toluene-d8	13.85	98	605929	24.4228 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.68%		
80) p-Bromofluorobenzene	17.84	95	237417	24.0704 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.28%		
Target Compounds					Qvalue
3) Chloromethane	3.93	50	3956	0.2661 ug/L #	61
4) Vinyl Chloride	4.16	62	2724	0.2849 ug/L	93
13) Acetone	6.66	43	4102	Below Cal	84
14) 1,1-Dichloroethene	6.87	61	848974	67.6246 ug/L	99
15) Tert-Butyl Alcohol	6.89	59	29779	47.8155 ug/L #	57
27) 1,1-Dichloroethane	8.89	63	46832	3.2721 ug/L	99
45) 1,2-Dichloroethane	11.25	62	3795	0.3770 ug/L #	74
47) Trichloroethene	12.14	130	1019	0.1355 ug/L	82
60) Ethyl Methacrylate	13.86	69	1309	0.1507 ug/L #	51

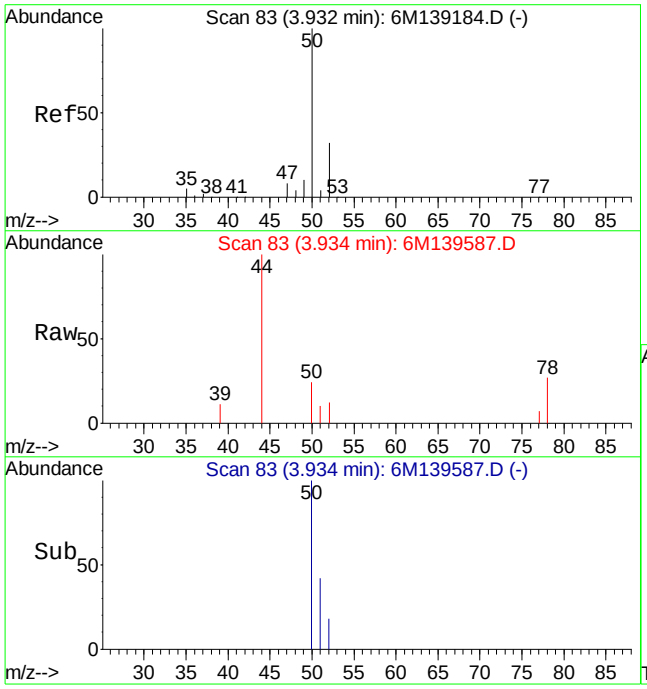
(#) = qualifier out of range (m) = manual integration
6M139587.D 8260WTR.M Wed May 25 08:29:43 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139587.D Vial: 18
Acq On : 24 May 2016 15:09 Operator: TMB
Sample : L16051153-11 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

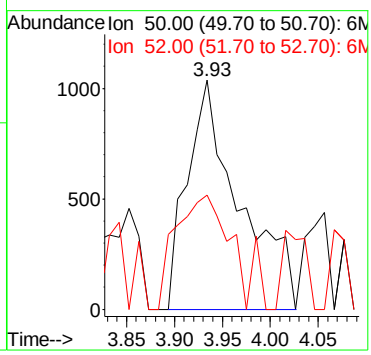


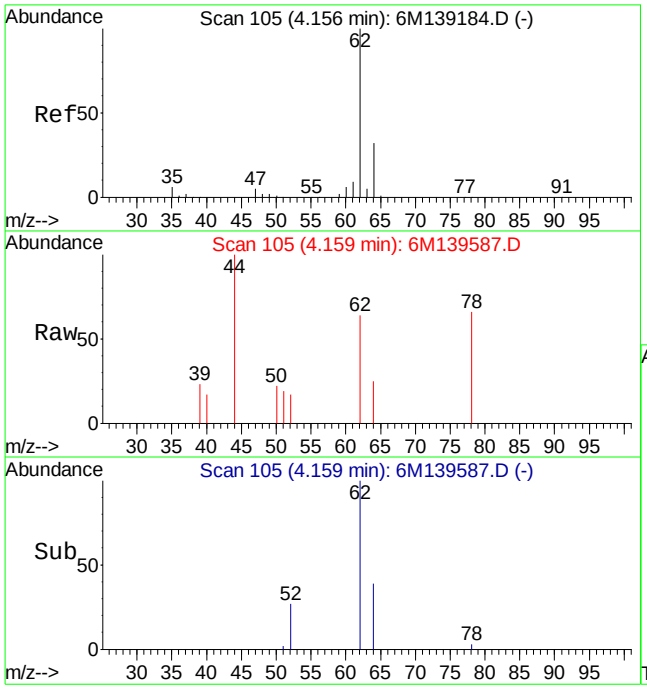


#3
Chloromethane
Concen: 0.27 ug/L
RT: 3.93 min Scan# 83
Delta R.T. 0.00 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 50 Resp: 3956

Ion	Ratio	Lower	Upper
50	100		
52	54.9	19.8	46.2#

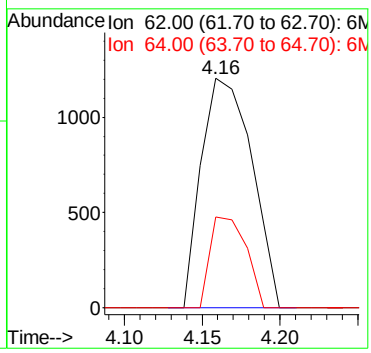


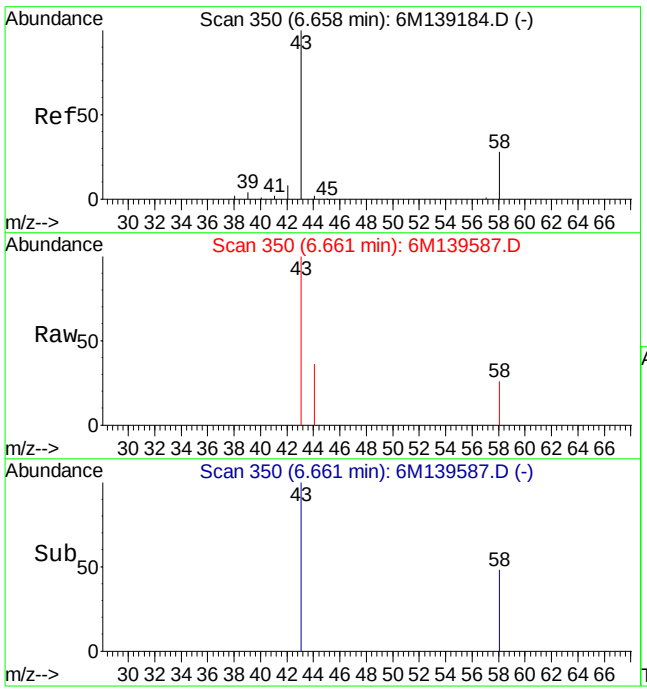


#4
Vinyl Chloride
Concen: 0.28 ug/L
RT: 4.16 min Scan# 105
Delta R.T. 0.00 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 62 Resp: 2724

Ion	Ratio	Lower	Upper
62	100		
64	28.0	19.3	45.1

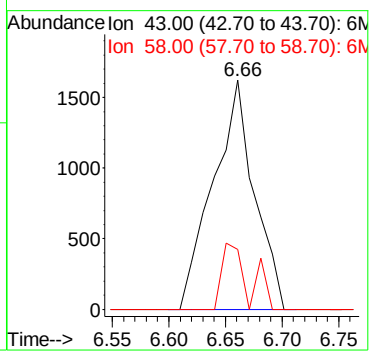


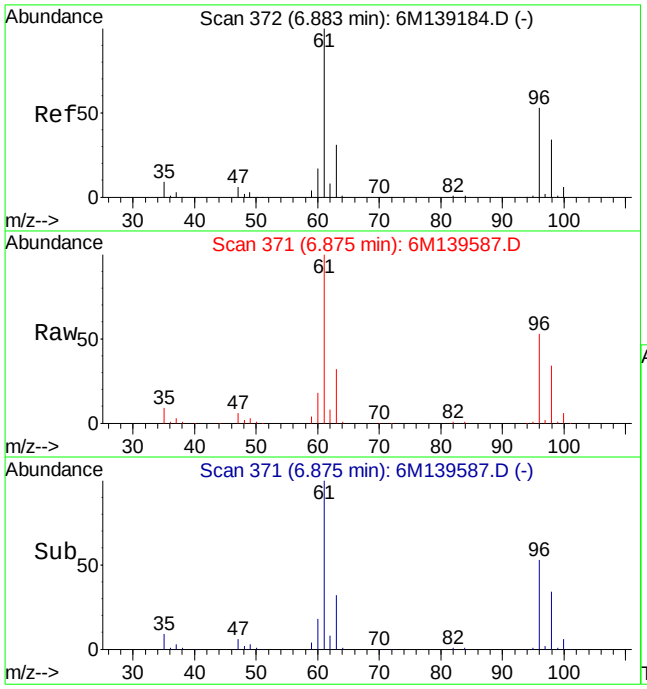


#13
Acetone
Concen: Below Cal
RT: 6.66 min Scan# 350
Delta R.T. 0.00 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 43 Resp: 4102

Ion	Ratio	Lower	Upper
43	100		
58	18.7	16.4	38.2

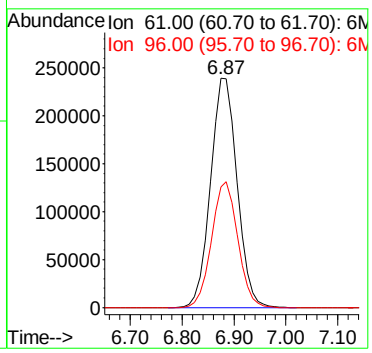


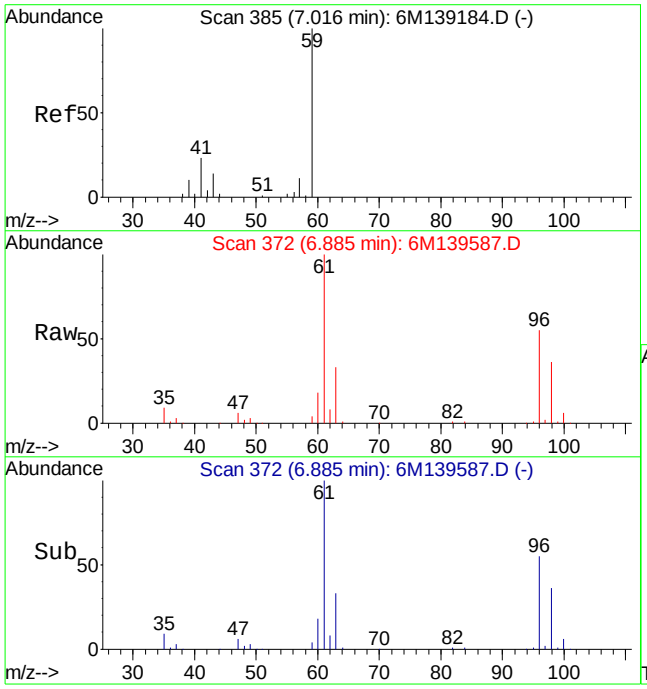


#14
1,1-Dichloroethene
Concen: 67.62 ug/L
RT: 6.87 min Scan# 371
Delta R.T. -0.01 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 61 Resp: 848974

Ion	Ratio	Lower	Upper
61	100		
96	53.9	32.0	74.6

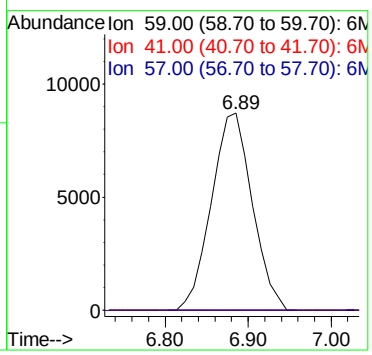


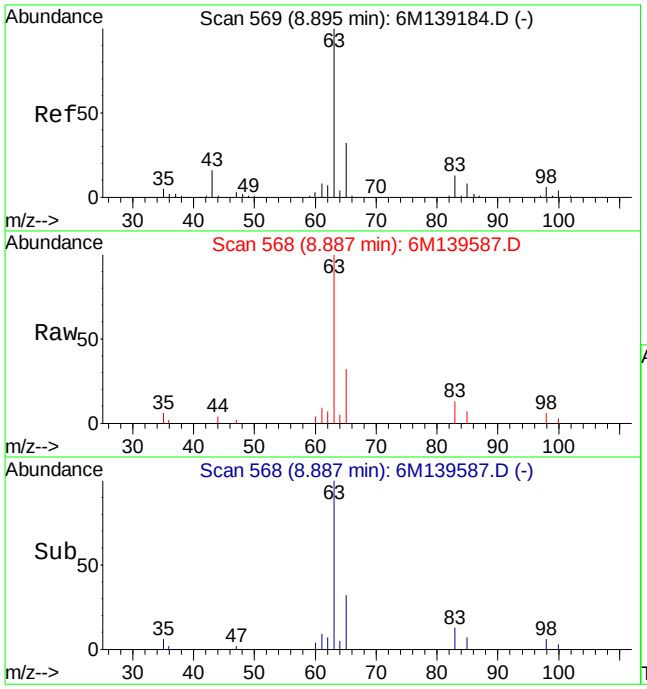


#15
Tert-Butyl Alcohol
Concen: 47.82 ug/L
RT: 6.89 min Scan# 372
Delta R.T. -0.13 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 59 Resp: 29779

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.6	34.0#
57	0.0	6.4	14.8#

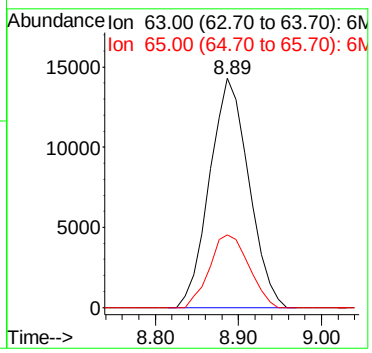


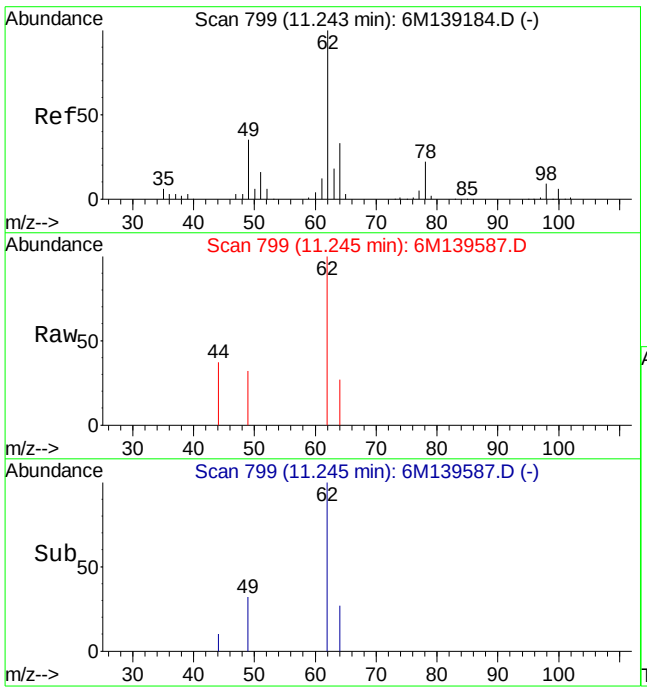


#27
1,1-Dichloroethane
Concen: 3.27 ug/L
RT: 8.89 min Scan# 568
Delta R.T. -0.01 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 63 Resp: 46832

Ion	Ratio	Lower	Upper
63	100		
65	31.7	19.3	44.9

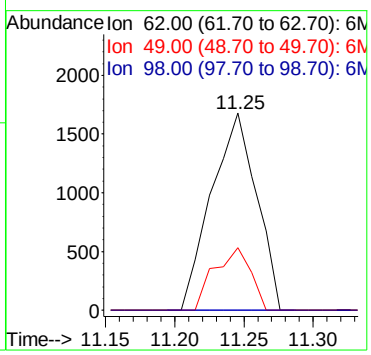


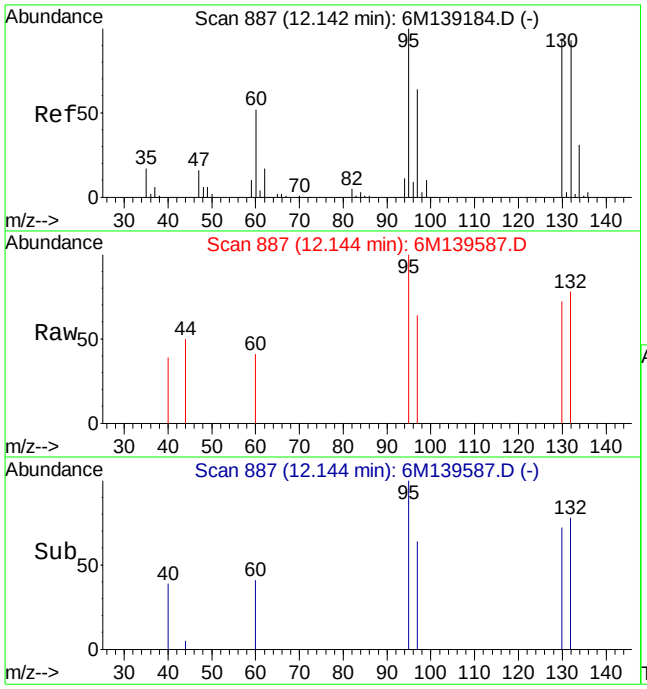


#45
1,2-Dichloroethane
Concen: 0.38 ug/L
RT: 11.25 min Scan# 799
Delta R.T. 0.00 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 62 Resp: 3795

Ion	Ratio	Lower	Upper
62	100		
49	25.5	25.1	58.5
98	0.0	5.2	12.0#

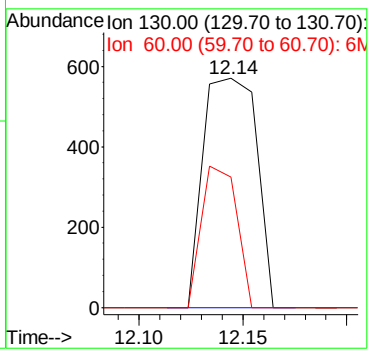


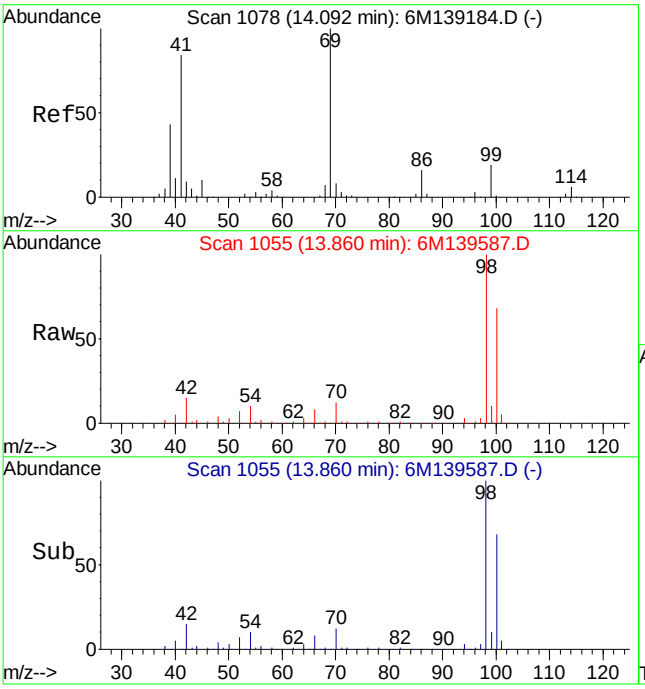


#47
Trichloroethene
Concen: 0.14 ug/L
RT: 12.14 min Scan# 887
Delta R.T. 0.00 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion:130 Resp: 1019

Ion	Ratio	Lower	Upper
130	100		
60	40.7	32.0	74.6

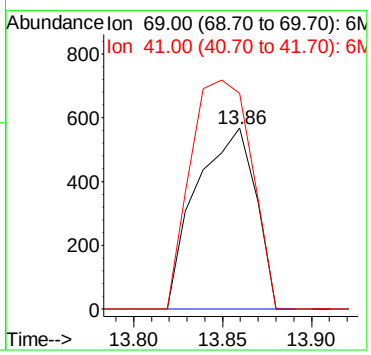




#60
Ethyl Methacrylate
Concen: 0.15 ug/L
RT: 13.86 min Scan# 1055
Delta R.T. -0.23 min
Lab File: 6M139587.D
Acq: 24 May 2016 15:09

Tgt Ion: 69 Resp: 1309

Ion	Ratio	Lower	Upper
69	100		
41	130.8	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139588.D Vial: 19
Acq On : 24 May 2016 15:41 Operator: TMB
Sample : L16051153-12 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:44 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

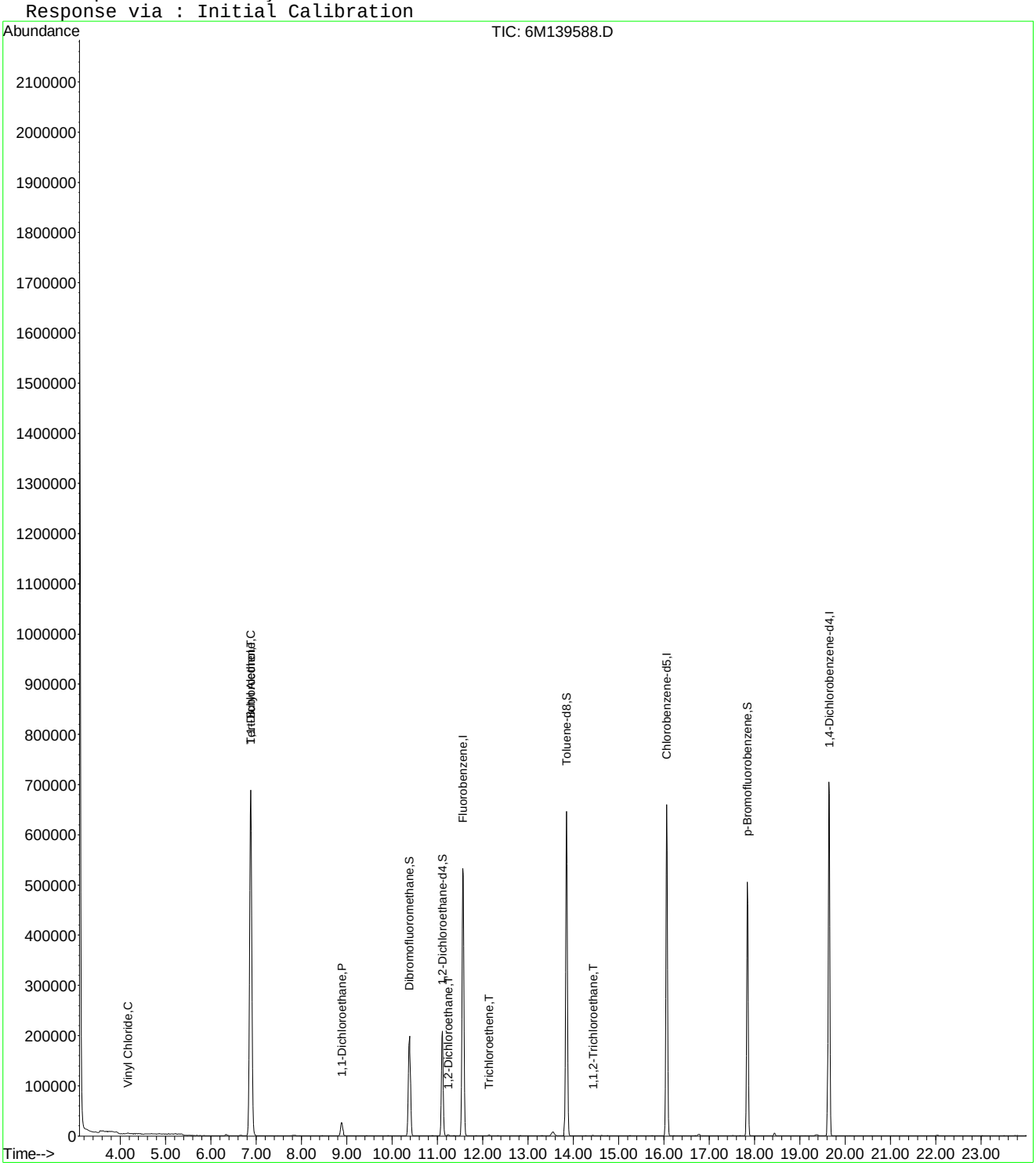
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	689687	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	501053	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	261973	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	181915	25.1264 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.52%		
43) 1,2-Dichloroethane-d4	11.11	65	196063	24.3138 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.24%		
58) Toluene-d8	13.85	98	600653	24.3585 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.44%		
80) p-Bromofluorobenzene	17.84	95	236712	24.3760 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.52%		
Target Compounds					Qvalue
4) Vinyl Chloride	4.17	62	2617	0.2732 ug/L #	59
13) Acetone	6.66	43	1150	Below Cal #	48
14) 1,1-Dichloroethene	6.88	61	834158	66.3244 ug/L	100
15) Tert-Butyl Alcohol	6.88	59	29252	46.8843 ug/L #	57
27) 1,1-Dichloroethane	8.89	63	46599	3.2499 ug/L	98
45) 1,2-Dichloroethane	11.24	62	3238	0.3211 ug/L #	91
47) Trichloroethene	12.14	130	1098	0.1458 ug/L #	49
63) 1,1,2-Trichloroethane	14.44	97	967	0.1757 ug/L #	64

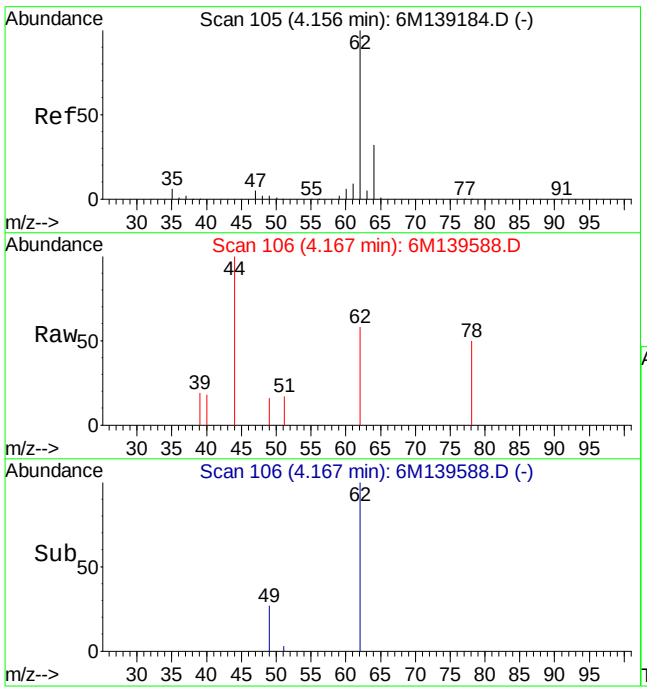
(#) = qualifier out of range (m) = manual integration
6M139588.D 8260WTR.M Wed May 25 08:29:44 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139588.D Vial: 19
Acq On : 24 May 2016 15:41 Operator: TMB
Sample : L16051153-12 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

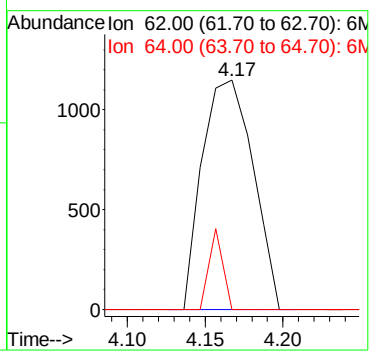


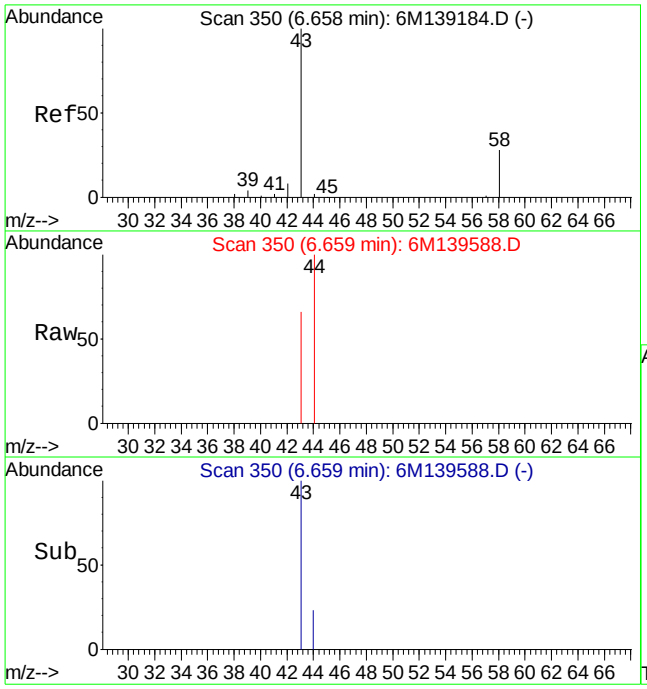


#4
Vinyl Chloride
Concen: 0.27 ug/L
RT: 4.17 min Scan# 106
Delta R.T. 0.01 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 62 Resp: 2617

Ion	Ratio	Lower	Upper
62	100		
64	9.5	19.3	45.1#

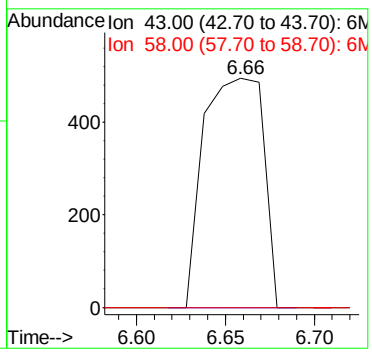


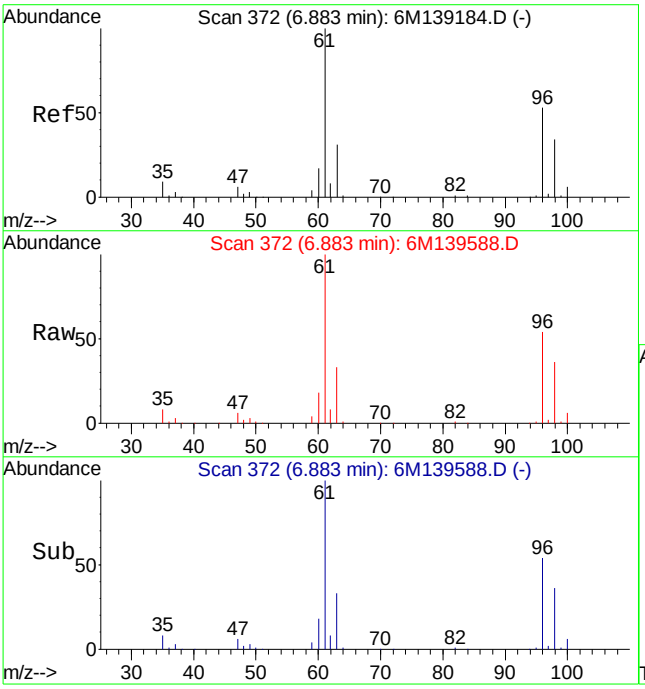


#13
Acetone
Concen: Below Cal
RT: 6.66 min Scan# 350
Delta R.T. 0.00 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 43 Resp: 1150

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

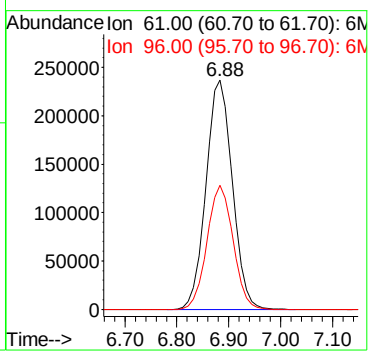


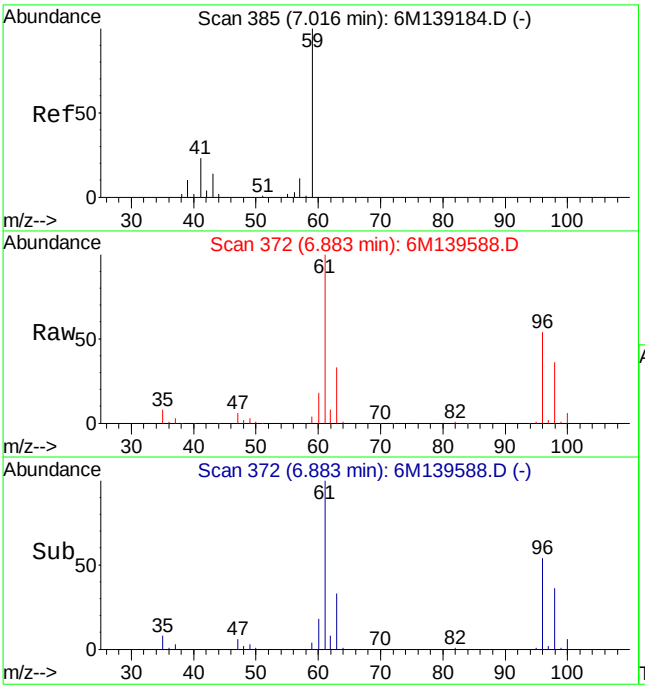


#14
1,1-Dichloroethene
Concen: 66.32 ug/L
RT: 6.88 min Scan# 372
Delta R.T. 0.00 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 61 Resp: 834158

Ion	Ratio	Lower	Upper
61	100		
96	53.4	32.0	74.6

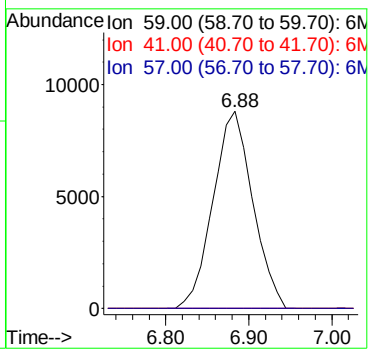


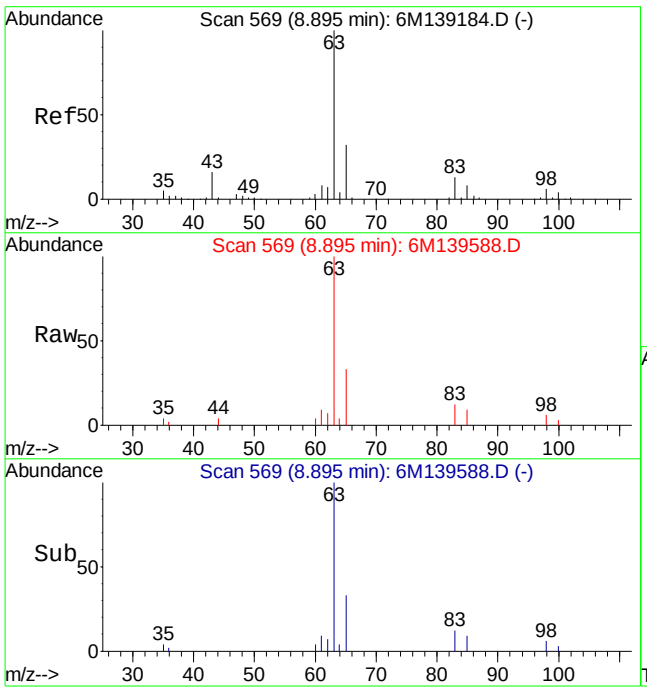


#15
Tert-Butyl Alcohol
Concen: 46.88 ug/L
RT: 6.88 min Scan# 372
Delta R.T. -0.13 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 59 Resp: 29252

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.6	34.0#
57	0.0	6.4	14.8#

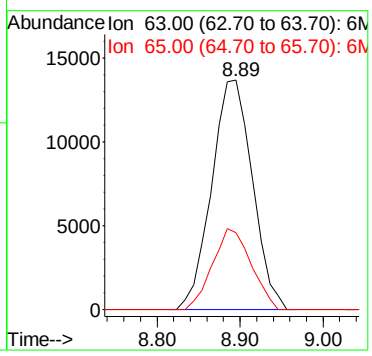


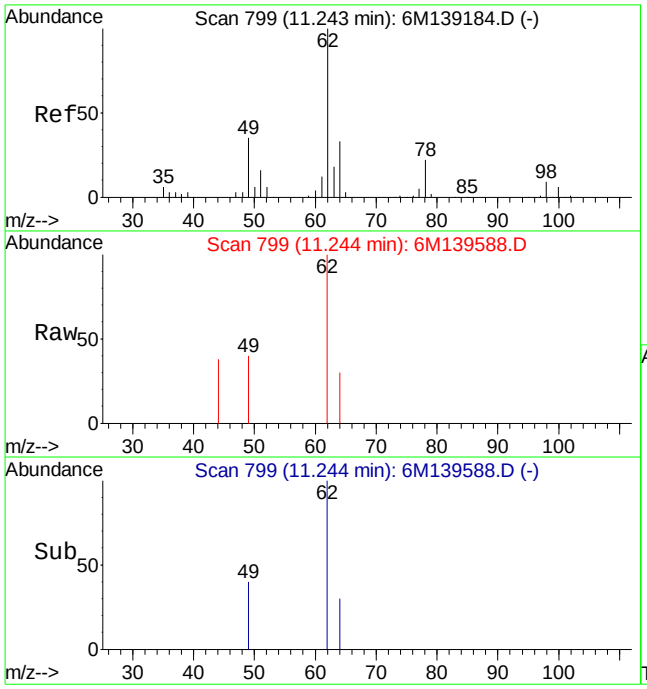


#27
1,1-Dichloroethane
Concen: 3.25 ug/L
RT: 8.89 min Scan# 569
Delta R.T. 0.00 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 63 Resp: 46599

Ion	Ratio	Lower	Upper
63	100		
65	33.1	19.3	44.9

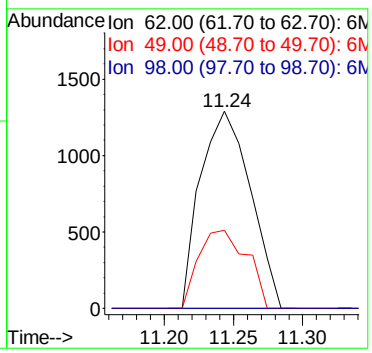


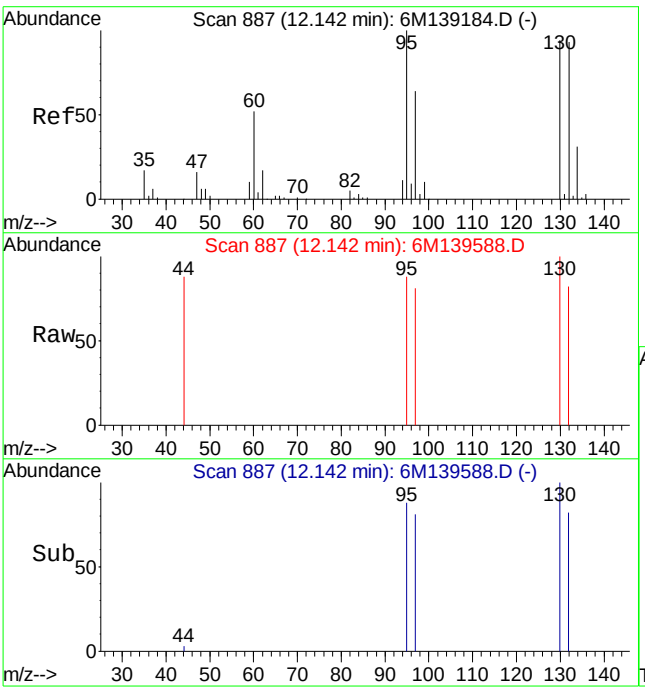


#45
1,2-Dichloroethane
Concen: 0.32 ug/L
RT: 11.24 min Scan# 799
Delta R.T. 0.00 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 62 Resp: 3238

Ion	Ratio	Lower	Upper
62	100		
49	38.1	25.1	58.5
98	0.0	5.2	12.0#

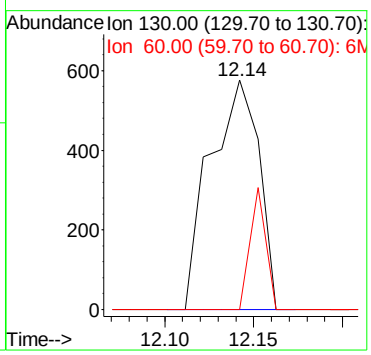


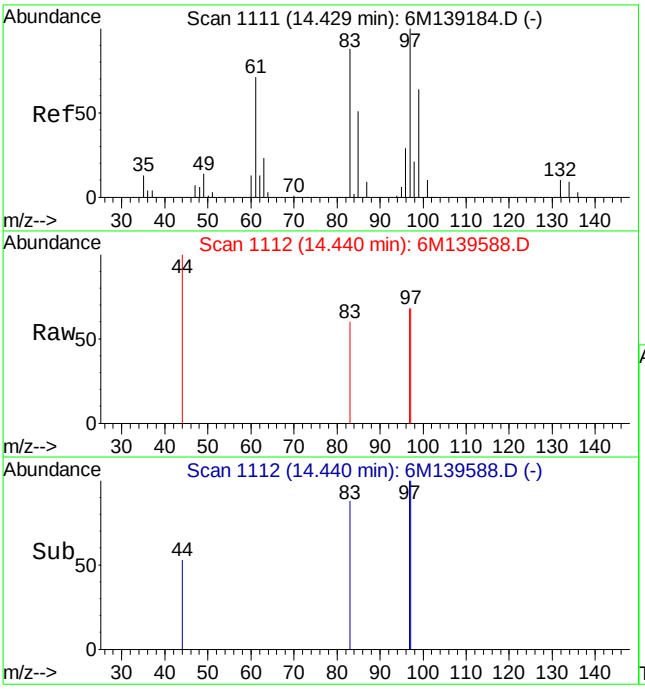


#47
Trichloroethene
Concen: 0.15 ug/L
RT: 12.14 min Scan# 887
Delta R.T. 0.00 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion:130 Resp: 1098

Ion	Ratio	Lower	Upper
130	100		
60	17.1	32.0	74.6#

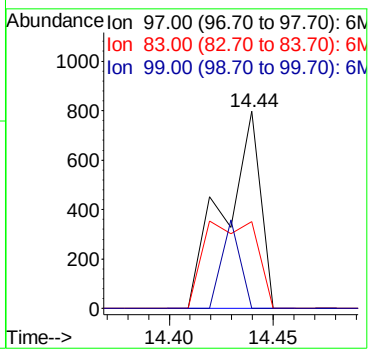




#63
1,1,2-Trichloroethane
Concen: 0.18 ug/L
RT: 14.44 min Scan# 1112
Delta R.T. 0.01 min
Lab File: 6M139588.D
Acq: 24 May 2016 15:41

Tgt Ion: 97 Resp: 967

Ion	Ratio	Lower	Upper
97	100		
83	63.8	51.4	120.0
99	22.8	38.1	88.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12117.D Vial: 17
Acq On : 24 May 2016 23:08 Operator: JDS
Sample : L16051153-13 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:37:13 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

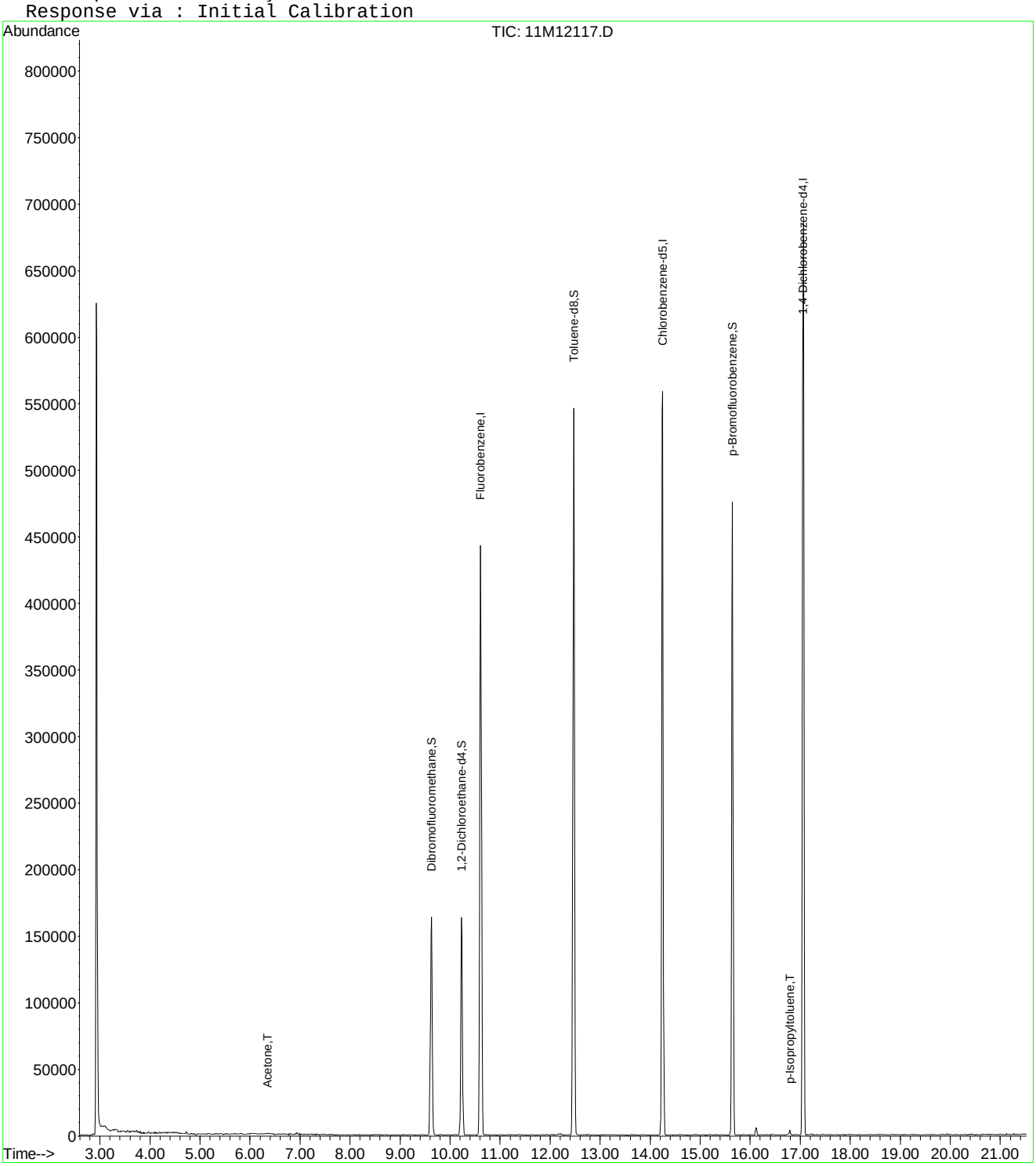
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.61	96	464053	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.25	117	391804	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	225175	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.63	111	132866	26.1616 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 104.64%		
43) 1,2-Dichloroethane-d4	10.23	65	156035	26.9452 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 107.80%		
57) Toluene-d8	12.47	98	433371	25.4566 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.84%		
78) p-Bromofluorobenzene	15.64	95	180426	25.9933 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.96%		
Target Compounds					Qvalue
13) Acetone	6.35	43	731	0.6634 ug/L #	49
18) Methyl acetate	7.01	43	190	Below Cal #	71
90) p-Isopropyltoluene	16.79	119	4777	0.2177 ug/L #	80

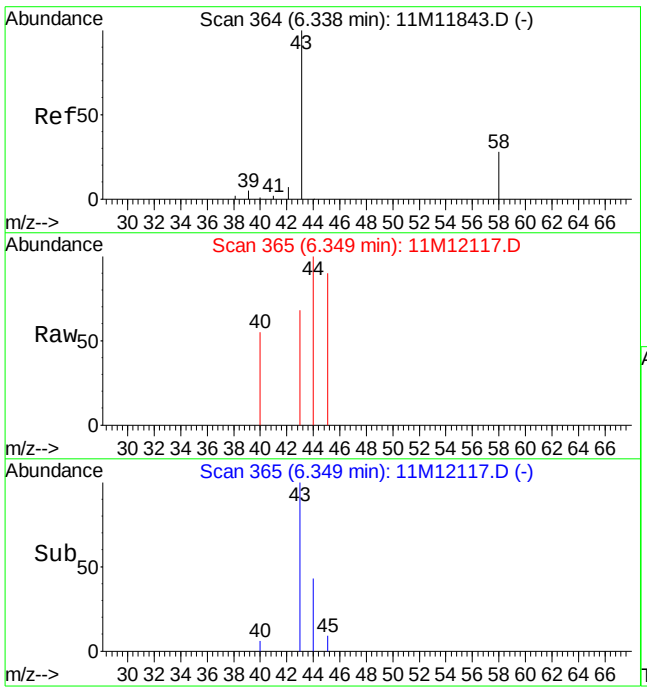
(#) = qualifier out of range (m) = manual integration
11M12117.D 8260WT.M Wed May 25 09:37:14 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12117.D Vial: 17
Acq On : 24 May 2016 23:08 Operator: JDS
Sample : L16051153-13 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:37 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

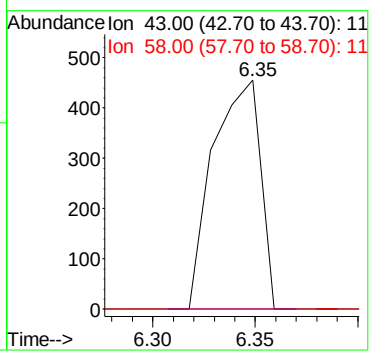


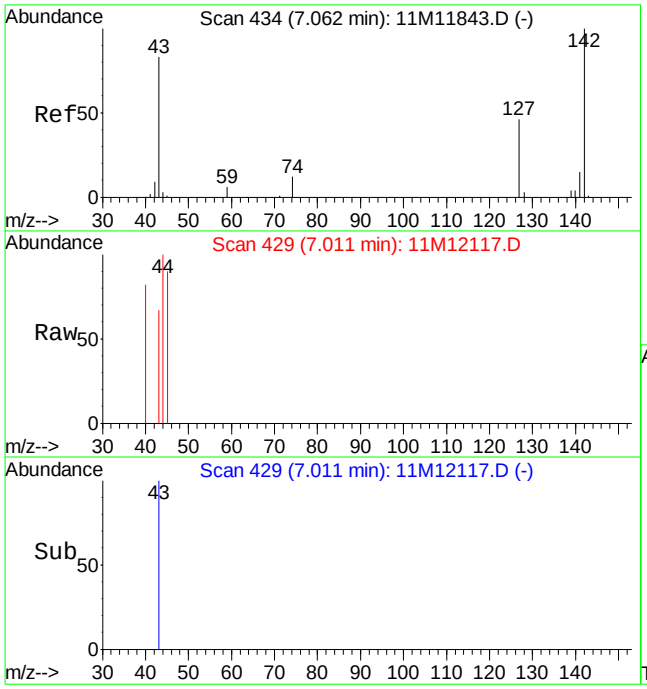


#13
Acetone
Concen: 0.66 ug/L
RT: 6.35 min Scan# 365
Delta R.T. 0.01 min
Lab File: 11M12117.D
Acq: 24 May 2016 23:08

Tgt Ion: 43 Resp: 731

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

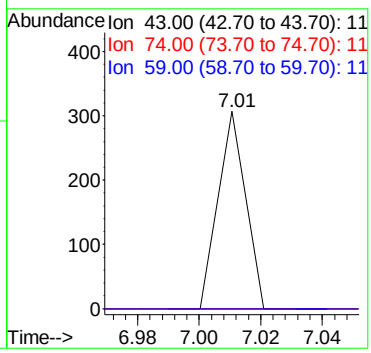


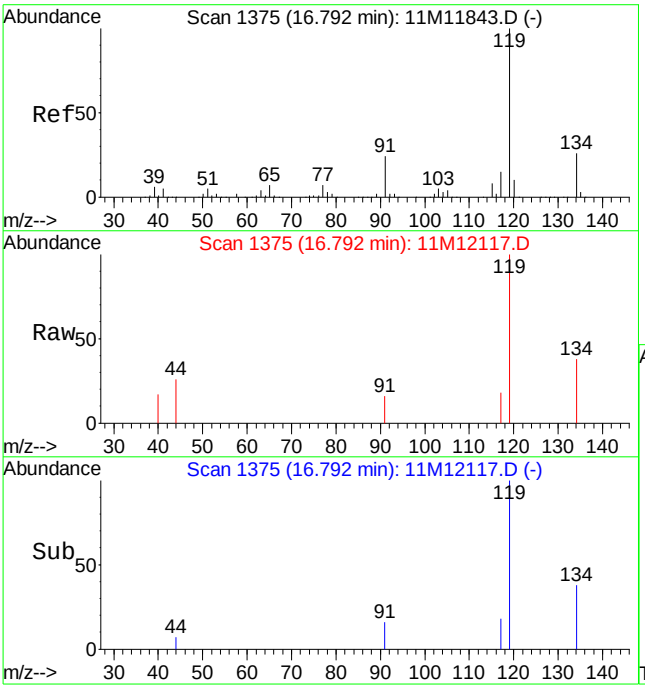


#18
Methyl acetate
Concen: Below Cal
RT: 7.01 min Scan# 429
Delta R.T. -0.05 min
Lab File: 11M12117.D
Acq: 24 May 2016 23:08

Tgt Ion: 43 Resp: 190

Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#

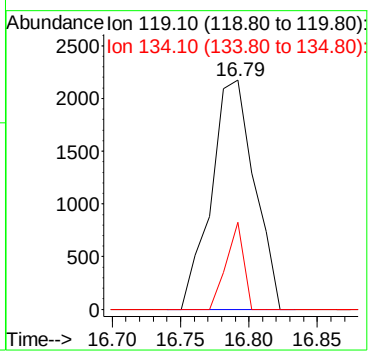




#90
p-Isopropyltoluene
Concen: 0.22 ug/L
RT: 16.79 min Scan# 1375
Delta R.T. 0.00 min
Lab File: 11M12117.D
Acq: 24 May 2016 23:08

Tgt Ion:119 Resp: 4777

Ion	Ratio	Lower	Upper
119	100		
134	15.3	15.4	35.8#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12137.D Vial: 10
Acq On : 25 May 2016 18:02 Operator: JDS
Sample : L16051153-14 B 00 5X 826-LOW Inst : hpms11
Misc : 1,5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09:41 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

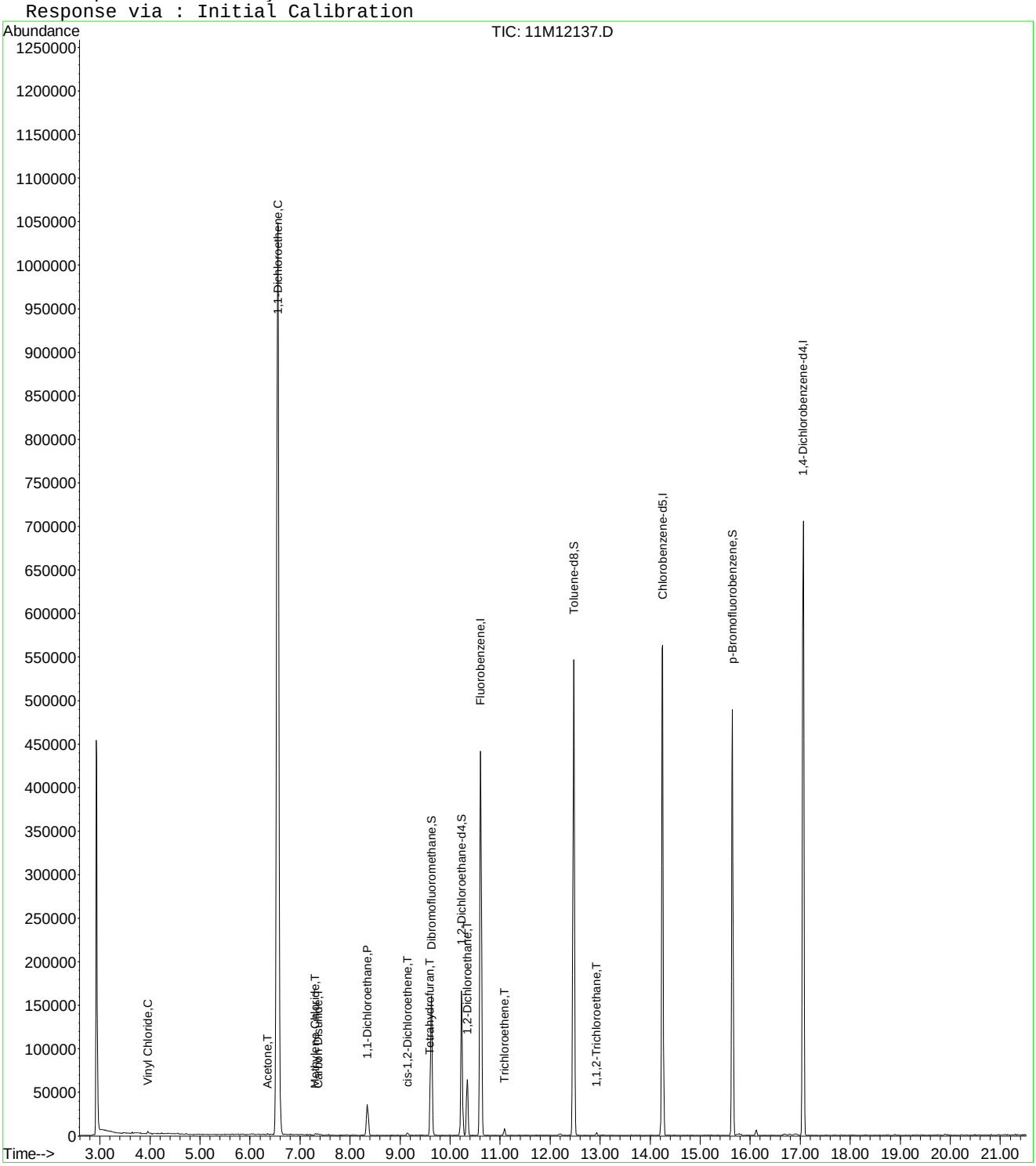
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.61	96	472718	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.25	117	400296	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	232162	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.63	111	132499	25.6111 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.44%		
43) 1,2-Dichloroethane-d4	10.23	65	156565	26.5412 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 106.16%		
57) Toluene-d8	12.47	98	443610	25.5053 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.04%		
78) p-Bromofluorobenzene	15.64	95	189084	26.4208 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.68%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.96	62	2932	0.5952 ug/L #	59
13) Acetone	6.35	43	411	0.3661 ug/L #	49
14) 1,1-Dichloroethene	6.56	61	1236180	142.8460 ug/L	97
19) Methylene Chloride	7.30	84	710	0.1585 ug/L	86
20) Carbon Disulfide	7.36	76	1772	0.1223 ug/L #	75
27) 1,1-Dichloroethane	8.34	63	53127	5.5282 ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	1550	0.2935 ug/L	89
36) Tetrahydrofuran	9.60	42	421	0.3513 ug/L #	47
44) 1,2-Dichloroethane	10.34	62	66344	8.6555 ug/L	90
46) Trichloroethene	11.08	130	3872	0.6562 ug/L	90
61) 1,1,2-Trichloroethane	12.92	97	1166	0.3245 ug/L	75

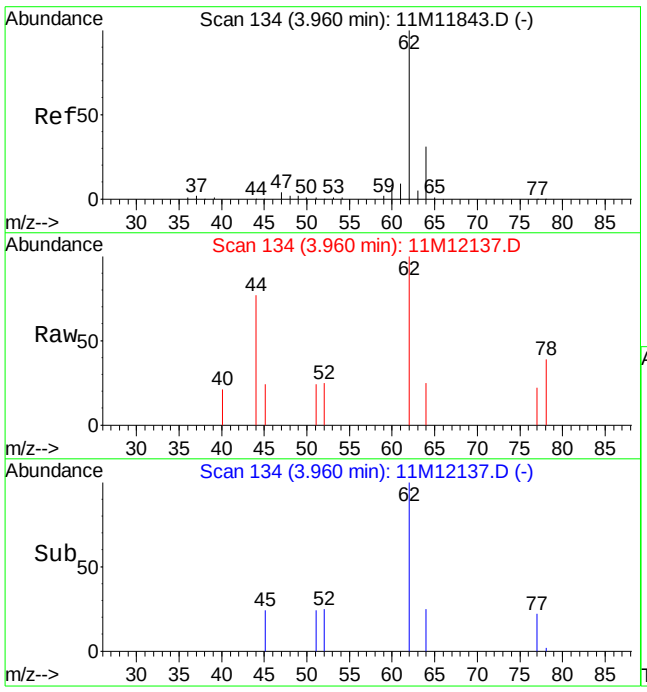
(#) = qualifier out of range (m) = manual integration
11M12137.D 8260WT.M Thu May 26 11:09:42 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12137.D Vial: 10
Acq On : 25 May 2016 18:02 Operator: JDS
Sample : L16051153-14 B 00 5X 826-LOW Inst : hpms11
Misc : 1,5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

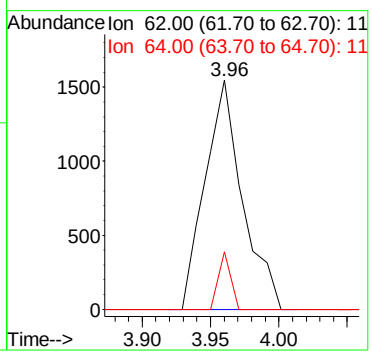


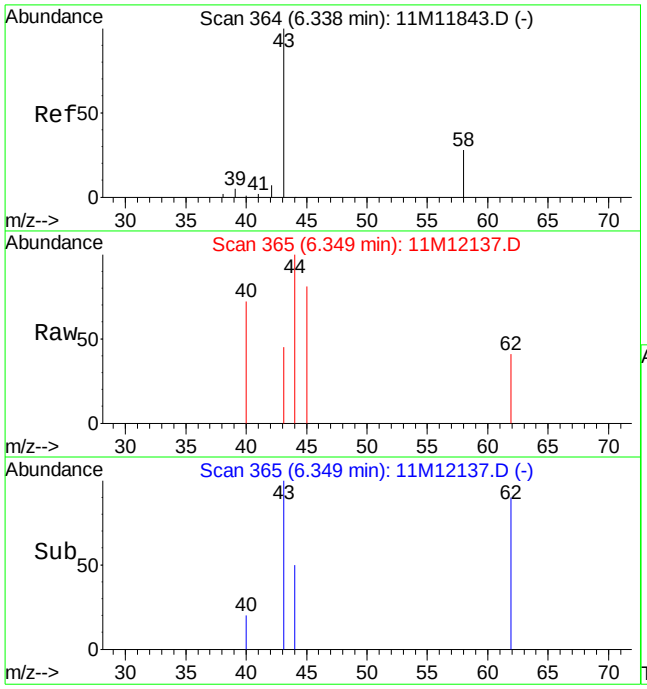


#4
Vinyl Chloride
Concen: 0.60 ug/L
RT: 3.96 min Scan# 134
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 62 Resp: 2932

Ion	Ratio	Lower	Upper
62	100		
64	8.3	18.4	43.0#

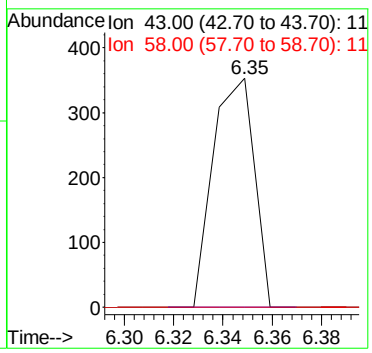


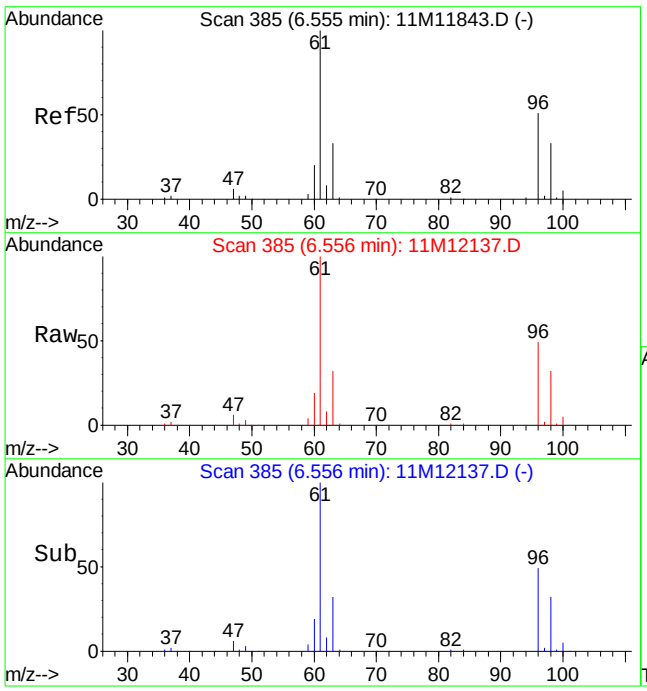


#13
Acetone
Concen: 0.37 ug/L
RT: 6.35 min Scan# 365
Delta R.T. 0.01 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 43 Resp: 411

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

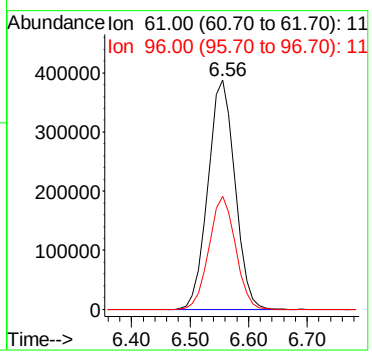


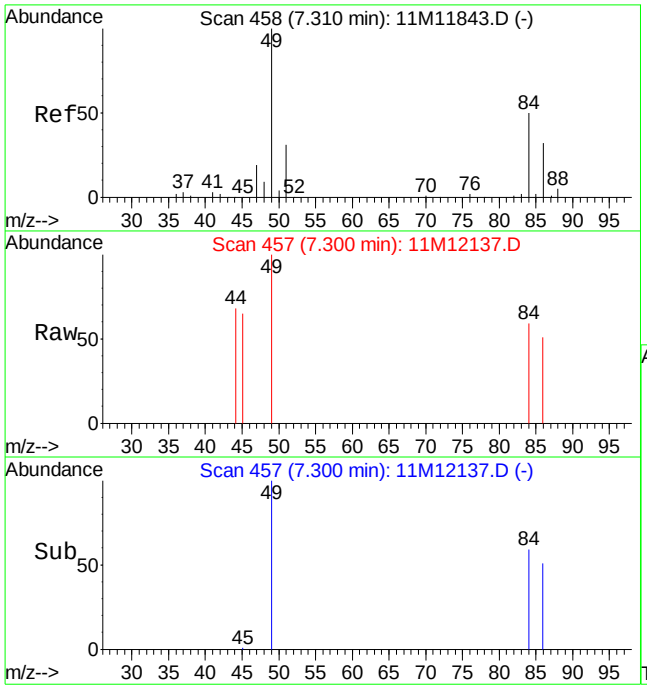


#14
1,1-Dichloroethene
Concen: 142.85 ug/L
RT: 6.56 min Scan# 385
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 61 Resp: 1236180

Ion	Ratio	Lower	Upper
61	100		
96	48.4	30.1	70.3

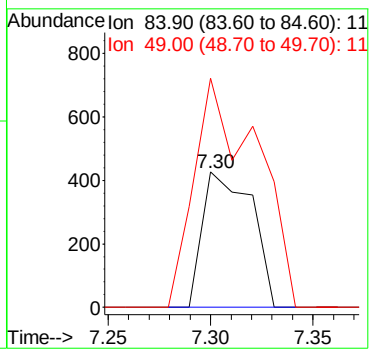


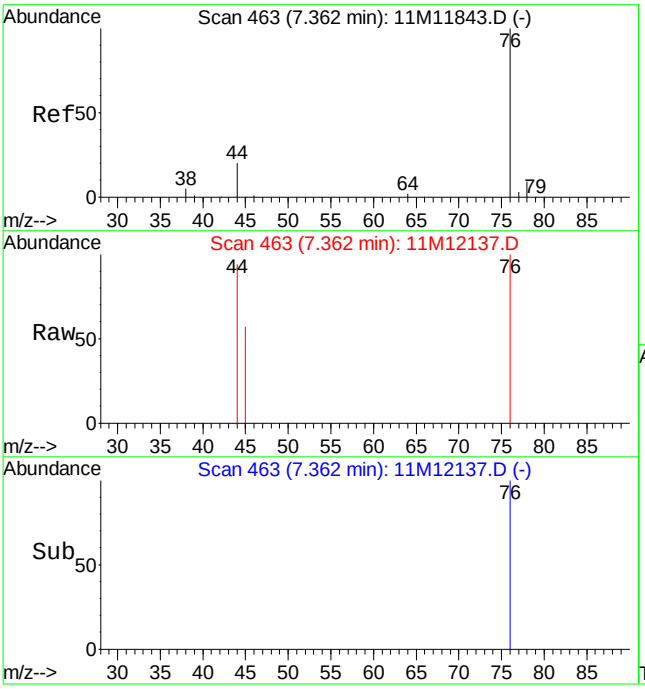


#19
Methylene Chloride
Concen: 0.16 ug/L
RT: 7.30 min Scan# 457
Delta R.T. -0.01 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 84 Resp: 710

Ion	Ratio	Lower	Upper
84	100		
49	215.6	116.9	272.7

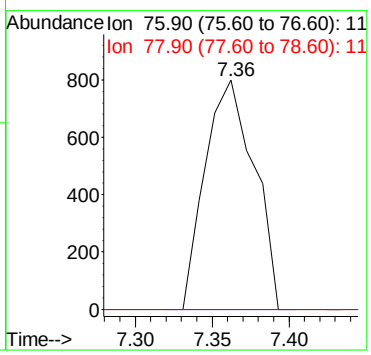


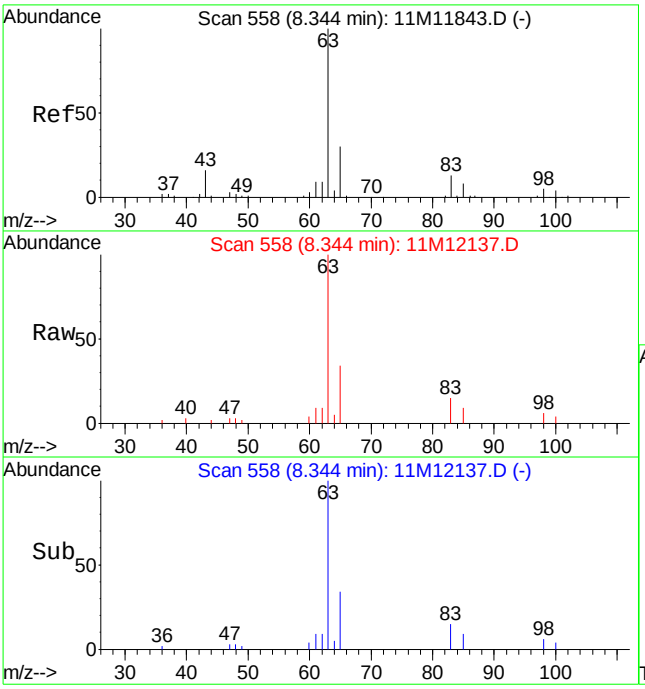


#20
Carbon Disulfide
Concen: 0.12 ug/L
RT: 7.36 min Scan# 463
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 76 Resp: 1772

Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.5	12.9#

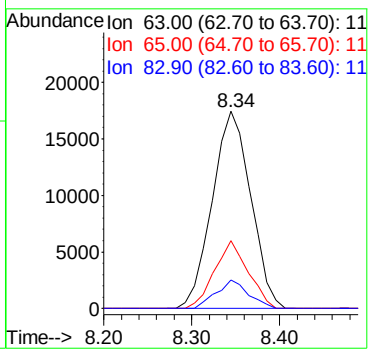


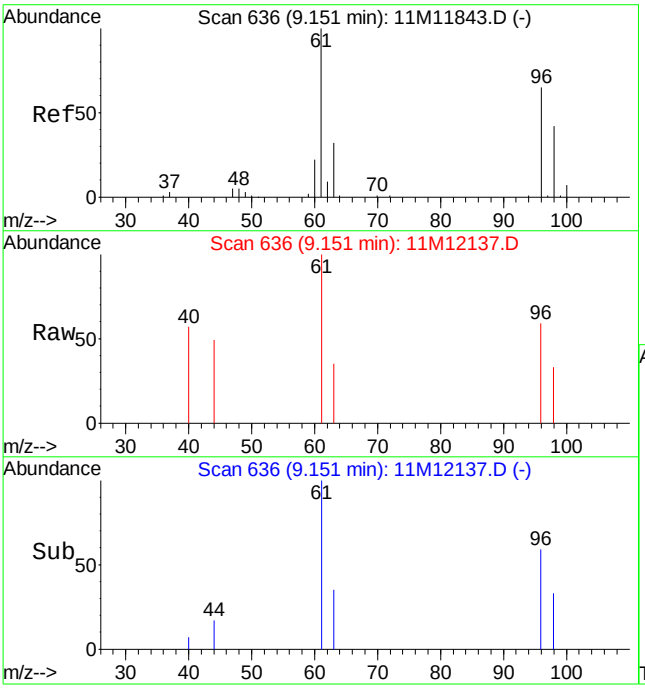


#27
1,1-Dichloroethane
Concen: 5.53 ug/L
RT: 8.34 min Scan# 558
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 63 Resp: 53127

Ion	Ratio	Lower	Upper
63	100		
65	29.9	17.8	41.6
83	12.1	7.4	17.4

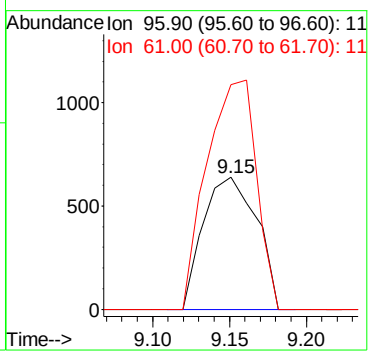


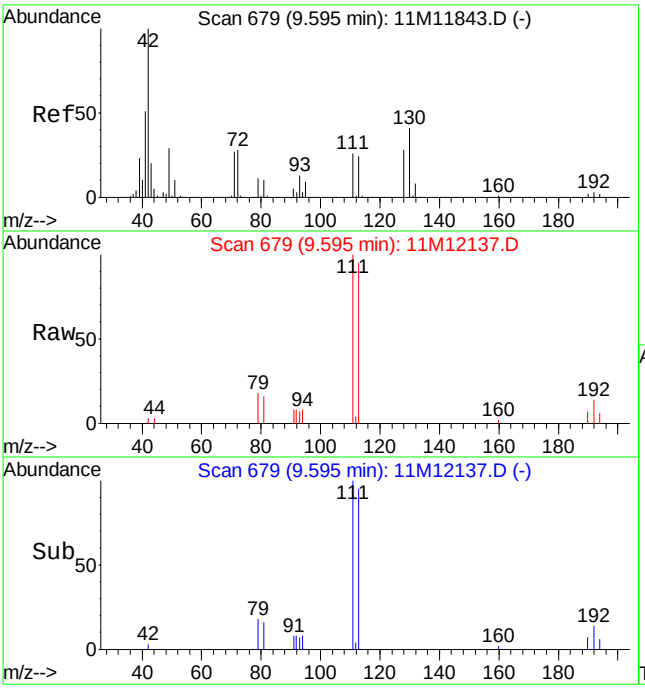


#32
cis-1,2-Dichloroethene
Concen: 0.29 ug/L
RT: 9.15 min Scan# 636
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 96 Resp: 1550

Ion	Ratio	Lower	Upper
96	100		
61	160.2	105.2	245.6

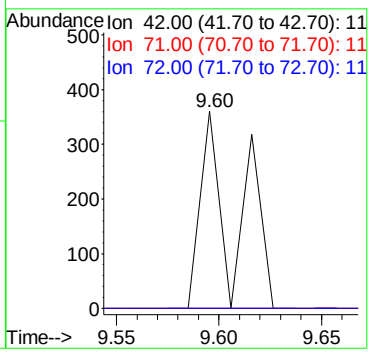


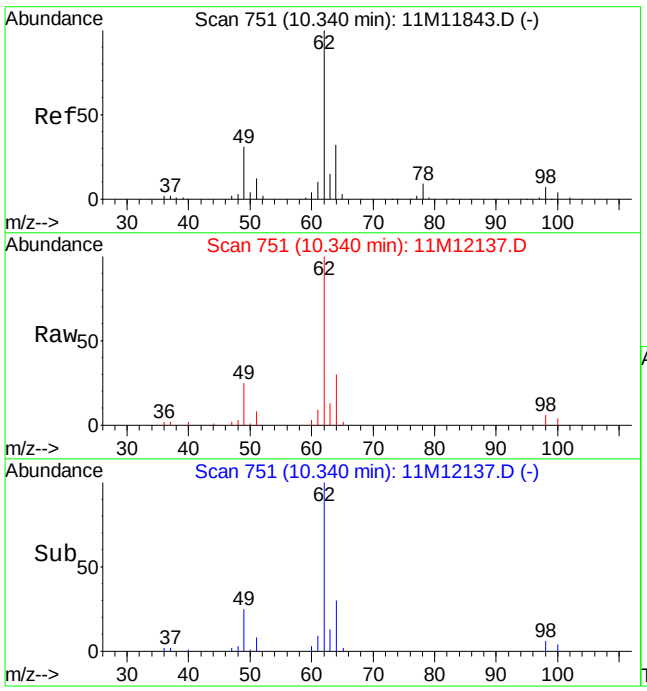


#36
Tetrahydrofuran
Concen: 0.35 ug/L
RT: 9.60 min Scan# 679
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 42 Resp: 421

Ion	Ratio	Lower	Upper
42	100		
71	0.0	16.4	38.2#
72	0.0	16.6	38.8#

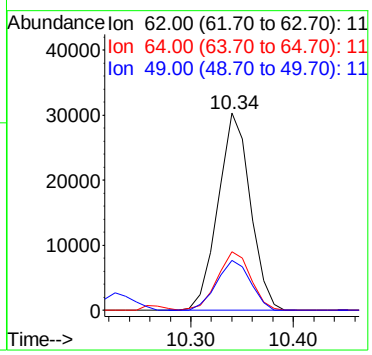


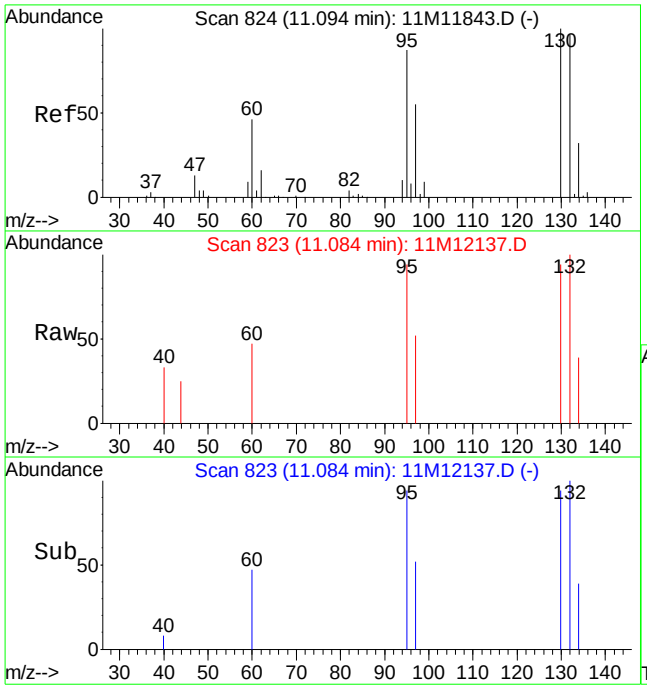


#44
1,2-Dichloroethane
Concen: 8.66 ug/L
RT: 10.34 min Scan# 751
Delta R.T. 0.00 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 62 Resp: 66344

Ion	Ratio	Lower	Upper
62	100		
64	30.7	18.7	43.7
49	26.4	22.3	52.1

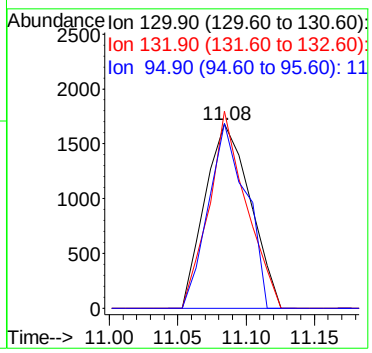


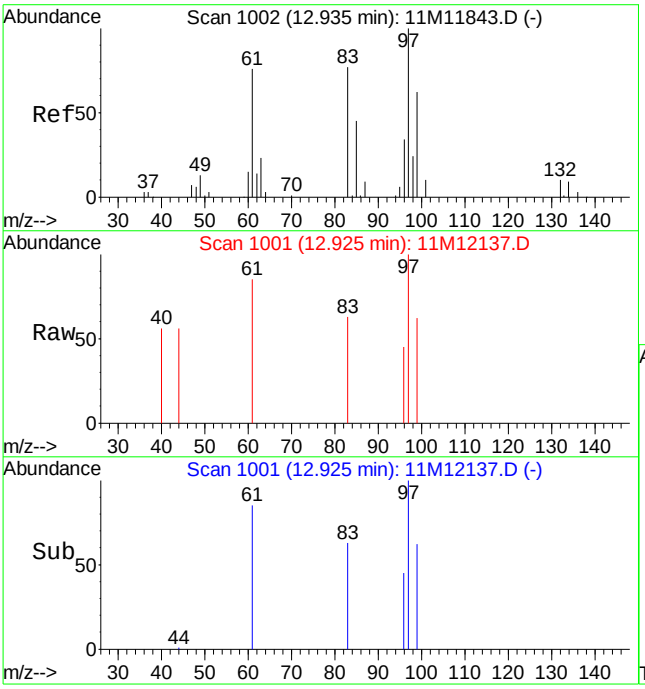


#46
Trichloroethene
Concen: 0.66 ug/L
RT: 11.08 min Scan# 823
Delta R.T. -0.01 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion:130 Resp: 3872

Ion	Ratio	Lower	Upper
130	100		
132	87.8	58.3	136.1
95	83.6	55.6	129.8

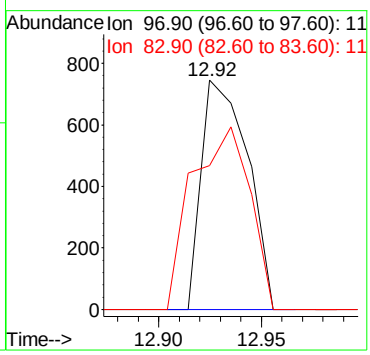




#61
1,1,2-Trichloroethane
Concen: 0.32 ug/L
RT: 12.92 min Scan# 1001
Delta R.T. -0.01 min
Lab File: 11M12137.D
Acq: 25 May 2016 18:02

Tgt Ion: 97 Resp: 1166

Ion	Ratio	Lower	Upper
97	100		
83	99.8	46.9	109.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12118.D Vial: 18
Acq On : 24 May 2016 23:40 Operator: JDS
Sample : L16051153-15 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:37:16 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

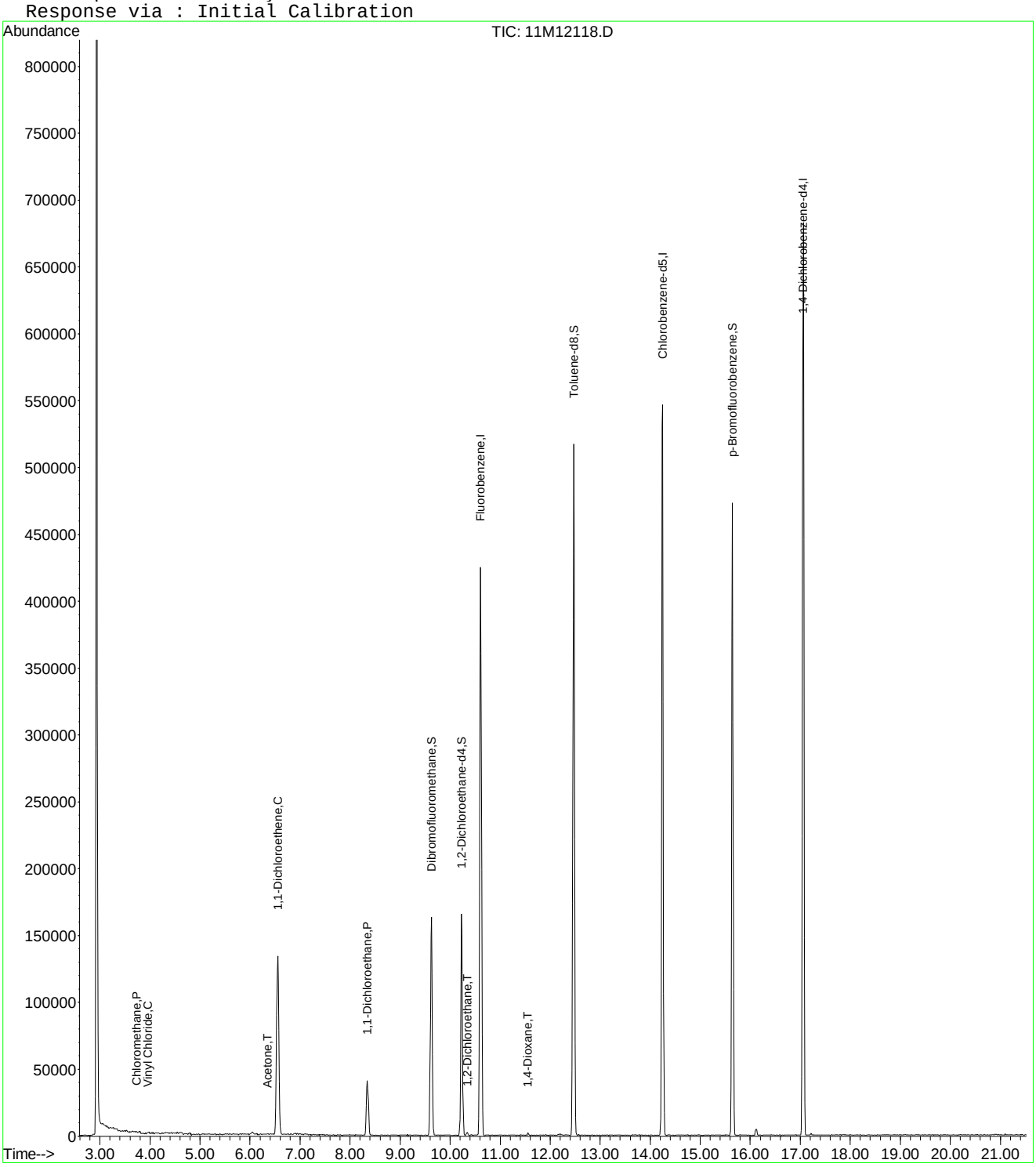
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	451577	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	385741	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	219864	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	131692	26.6468	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.60%			
43) 1,2-Dichloroethane-d4	10.23	65	155402	27.5773	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.32%			
57) Toluene-d8	12.47	98	422012	25.1790	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.72%			
78) p-Bromofluorobenzene	15.64	95	179676	26.5105	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 106.04%			
Target Compounds						Qvalue
3) Chloromethane	3.73	50	1108	0.1955	ug/L #	41
4) Vinyl Chloride	3.96	62	1018	0.2163	ug/L #	44
13) Acetone	6.35	43	945	0.8813	ug/L #	49
14) 1,1-Dichloroethene	6.56	61	159243	19.2627	ug/L	97
27) 1,1-Dichloroethane	8.34	63	60427	6.5822	ug/L	99
44) 1,2-Dichloroethane	10.34	62	2900	0.3961	ug/L #	70
49) 1,4-Dioxane	11.55	88	1092	58.9513	ug/L	94

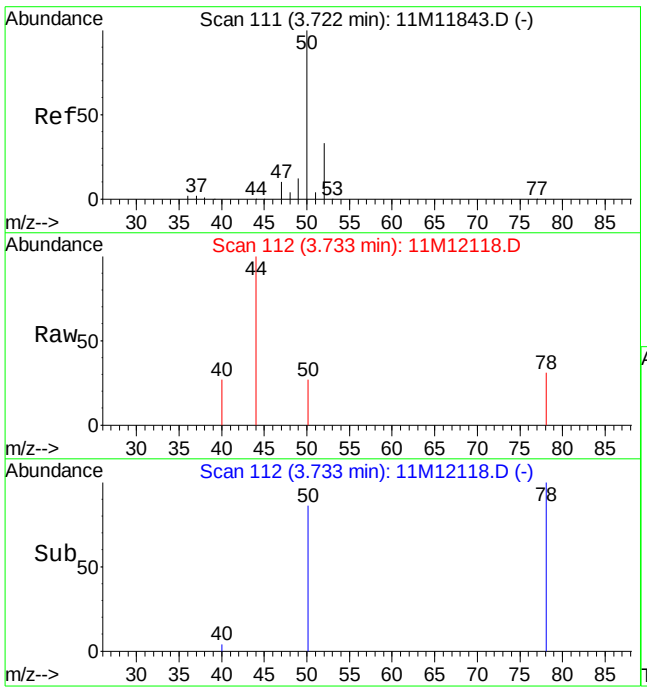
(#) = qualifier out of range (m) = manual integration
11M12118.D 8260WT.M Wed May 25 09:37:16 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12118.D Vial: 18
Acq On : 24 May 2016 23:40 Operator: JDS
Sample : L16051153-15 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:37 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

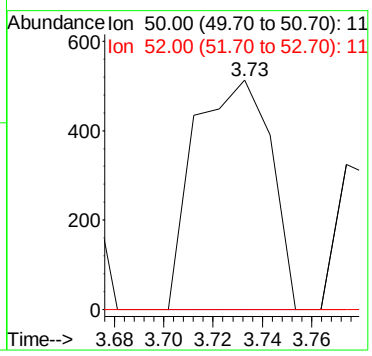


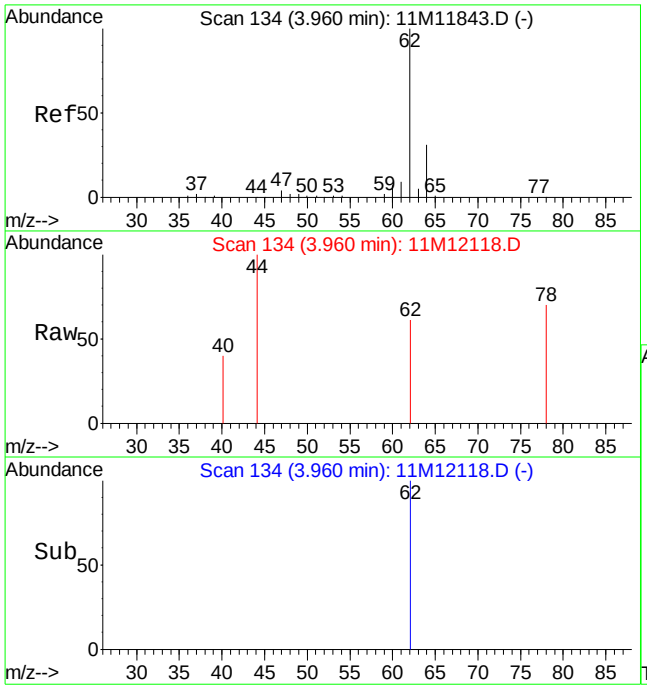


#3
Chloromethane
Concen: 0.20 ug/L
RT: 3.73 min Scan# 112
Delta R.T. 0.01 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 50 Resp: 1108

Ion	Ratio	Lower	Upper
50	100		
52	0.0	20.0	46.6#

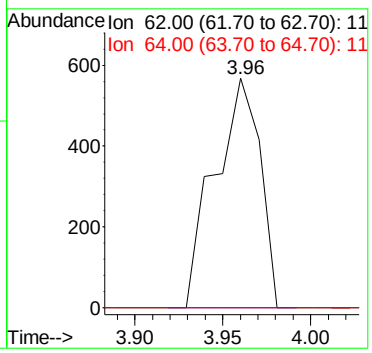


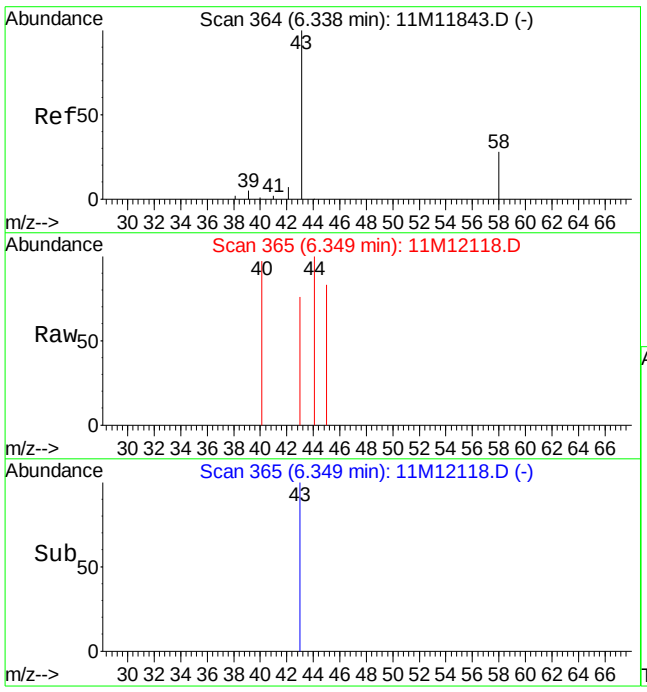


#4
Vinyl Chloride
Concen: 0.22 ug/L
RT: 3.96 min Scan# 134
Delta R.T. 0.00 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 62 Resp: 1018

Ion	Ratio	Lower	Upper
62	100		
64	0.0	18.4	43.0#

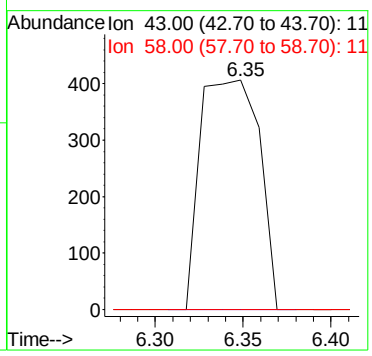


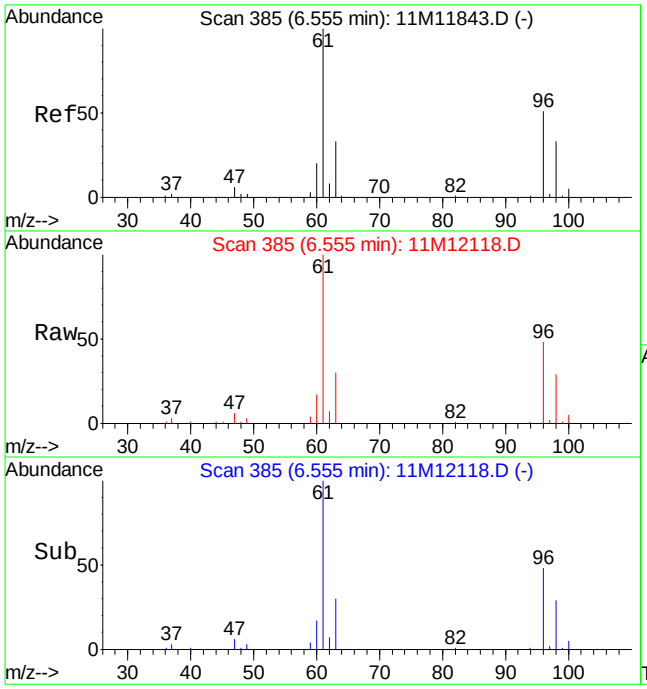


#13
Acetone
Concen: 0.88 ug/L
RT: 6.35 min Scan# 365
Delta R.T. 0.01 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 43 Resp: 945

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

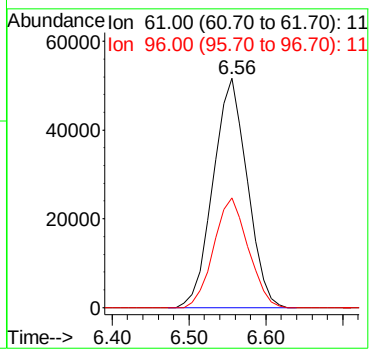


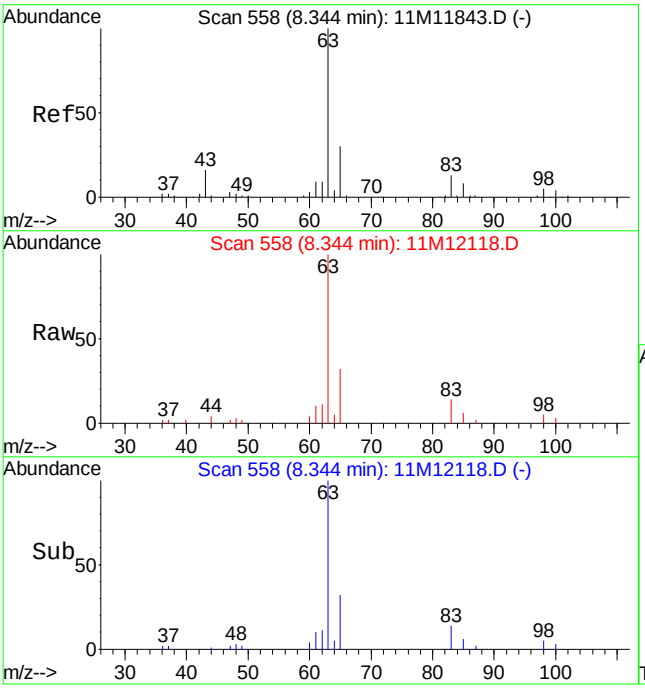


#14
1,1-Dichloroethene
Concen: 19.26 ug/L
RT: 6.56 min Scan# 385
Delta R.T. 0.00 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 61 Resp: 159243

Ion	Ratio	Lower	Upper
61	100		
96	48.1	30.1	70.3

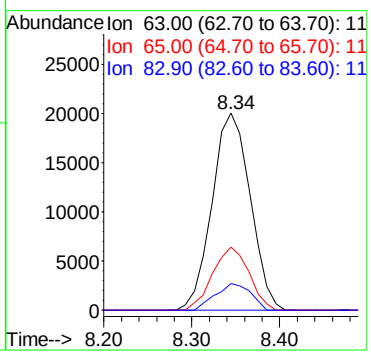


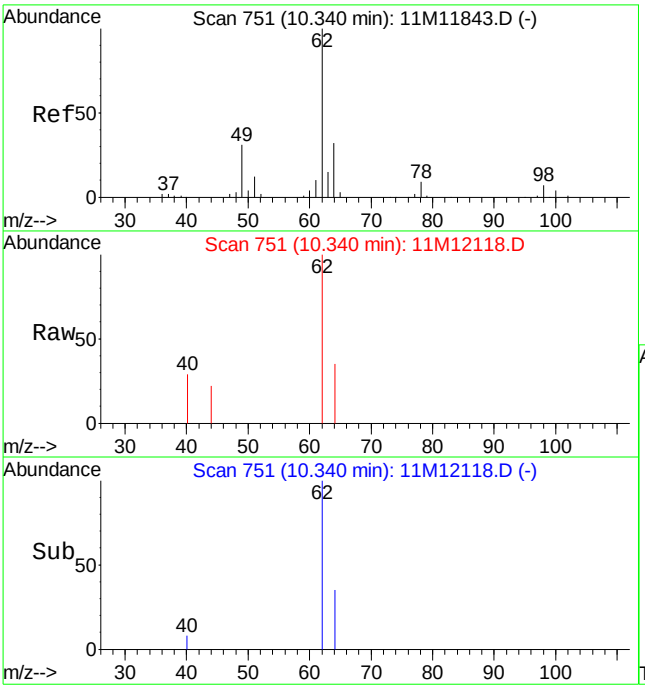


#27
1,1-Dichloroethane
Concen: 6.58 ug/L
RT: 8.34 min Scan# 558
Delta R.T. 0.00 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 63 Resp: 60427

Ion	Ratio	Lower	Upper
63	100		
65	30.5	17.8	41.6
83	12.6	7.4	17.4

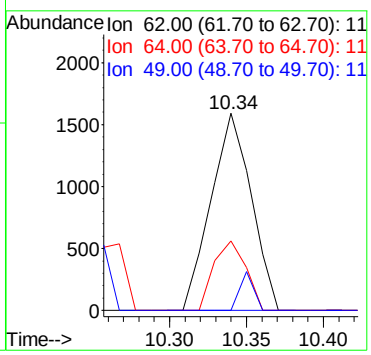


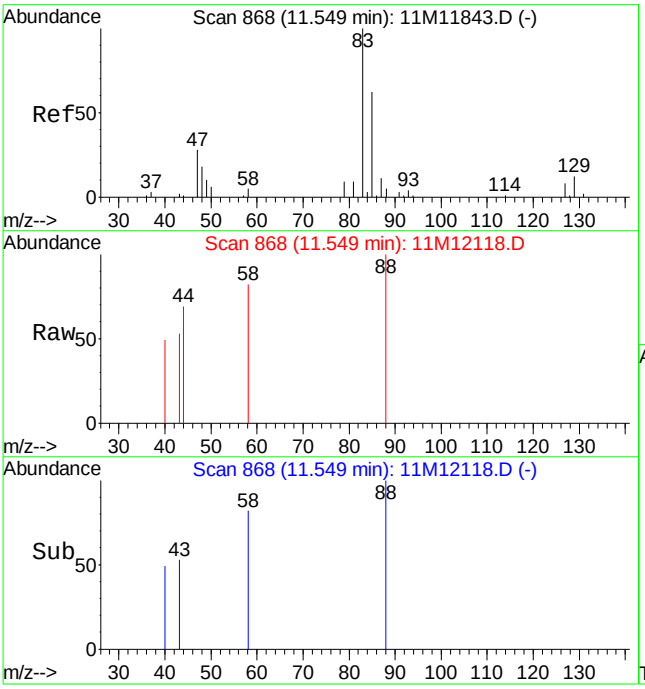


#44
1,2-Dichloroethane
Concen: 0.40 ug/L
RT: 10.34 min Scan# 751
Delta R.T. 0.00 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 62 Resp: 2900

Ion	Ratio	Lower	Upper
62	100		
64	28.1	18.7	43.7
49	6.7	22.3	52.1#

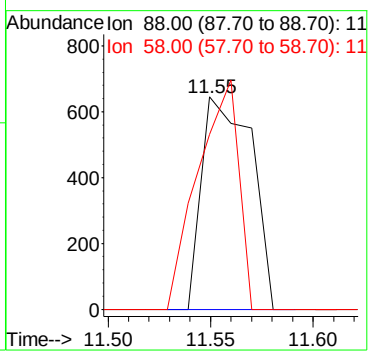




#49
1,4-Dioxane
Concen: 58.95 ug/L
RT: 11.55 min Scan# 868
Delta R.T. 0.00 min
Lab File: 11M12118.D
Acq: 24 May 2016 23:40

Tgt Ion: 88 Resp: 1092

Ion	Ratio	Lower	Upper
88	100		
58	88.1	49.7	116.1



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12121.D Vial: 21
Acq On : 25 May 2016 1:15 Operator: JDS
Sample : L16051153-16 A 10X 826-LOW Inst : hpms11
Misc : 1,10 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:37:23 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

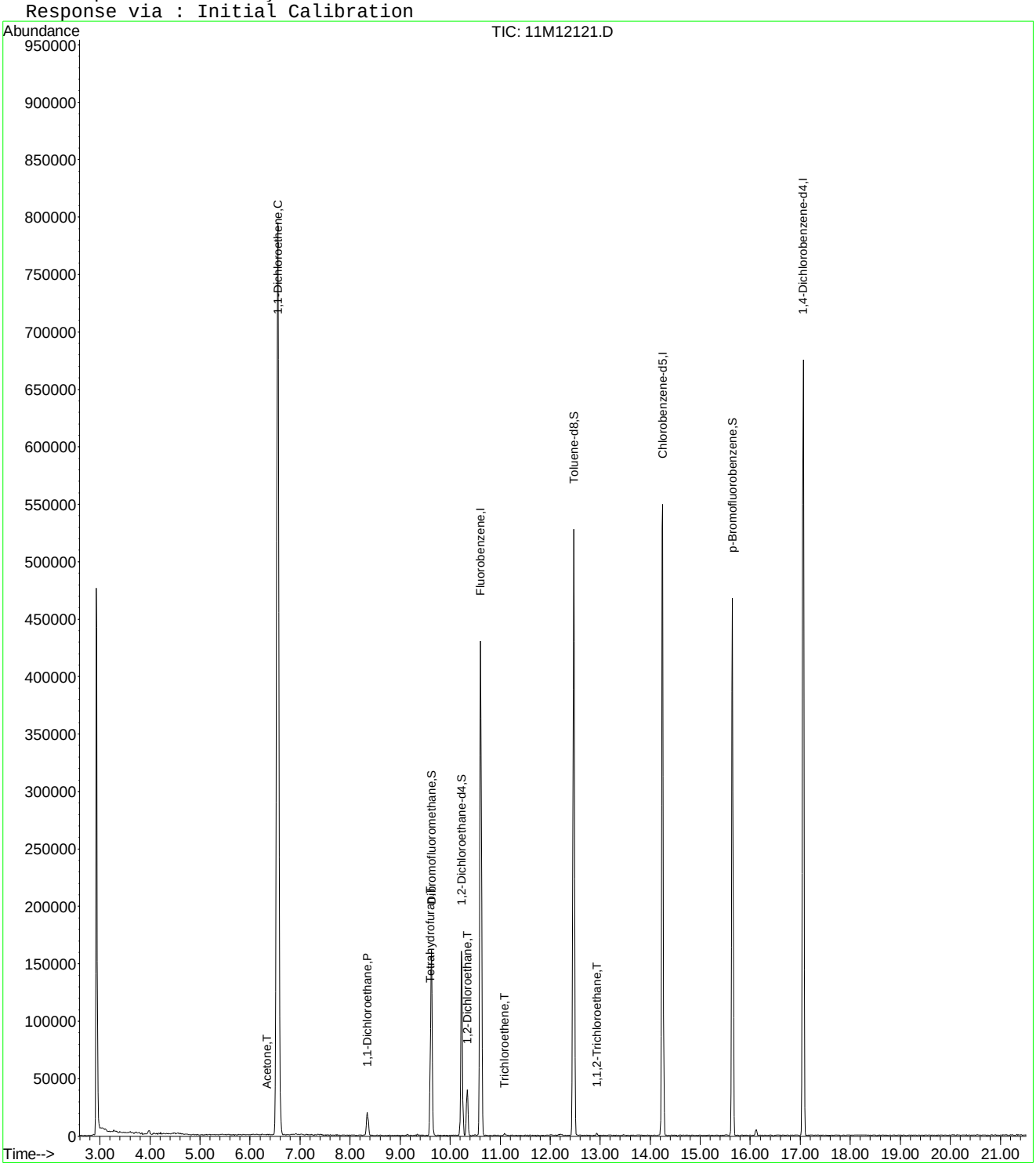
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.61	96	451594	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.25	117	382562	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	217586	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.63	111	131580	26.6231 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.48%		
43) 1,2-Dichloroethane-d4	10.23	65	154378	27.3946 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 109.56%		
57) Toluene-d8	12.47	98	421585	25.3626 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.44%		
78) p-Bromofluorobenzene	15.64	95	177007	26.3902 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.56%		
Target Compounds					Qvalue
13) Acetone	6.34	43	207	0.1930 ug/L #	49
14) 1,1-Dichloroethene	6.56	61	937534	113.4037 ug/L	96
18) Methyl acetate	7.02	43	187	Below Cal #	71
27) 1,1-Dichloroethane	8.34	63	29289	3.1903 ug/L	97
36) Tetrahydrofuran	9.61	42	220	0.1922 ug/L #	47
44) 1,2-Dichloroethane	10.34	62	41089	5.6114 ug/L	90
46) Trichloroethene	11.08	130	733	0.1300 ug/L	91
61) 1,1,2-Trichloroethane	12.93	97	948	0.2760 ug/L	97

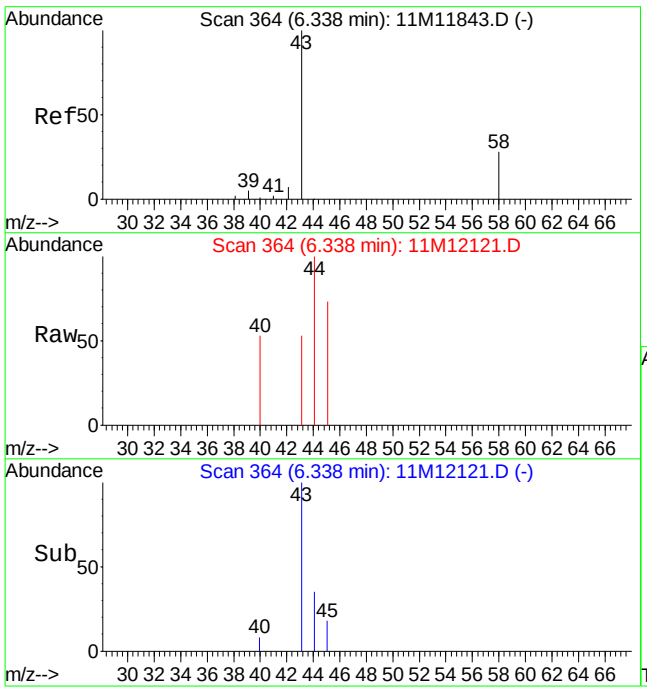
(#) = qualifier out of range (m) = manual integration
11M12121.D 8260WT.M Wed May 25 09:37:24 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12121.D Vial: 21
Acq On : 25 May 2016 1:15 Operator: JDS
Sample : L16051153-16 A 10X 826-LOW Inst : hpms11
Misc : 1,10 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:37 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

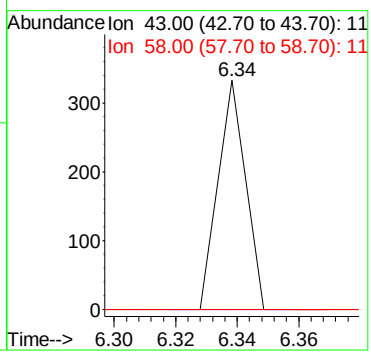


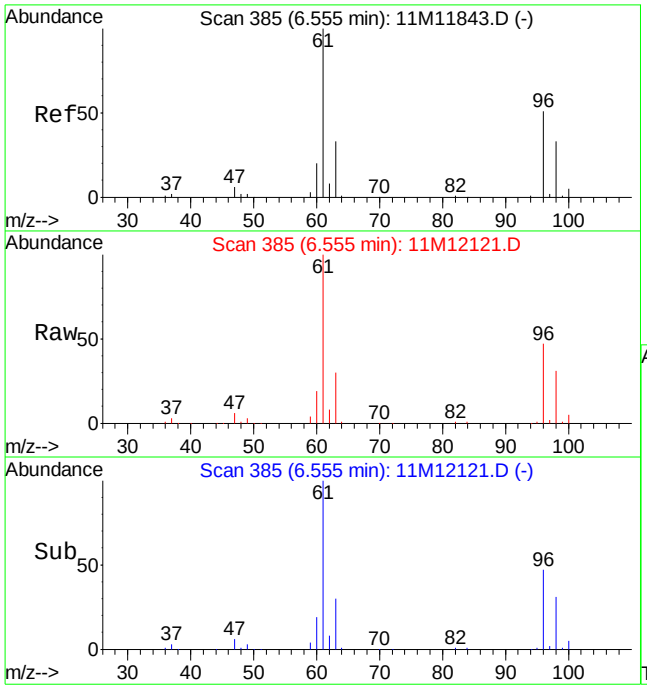


#13
Acetone
Concen: 0.19 ug/L
RT: 6.34 min Scan# 364
Delta R.T. -0.00 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 43 Resp: 207

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

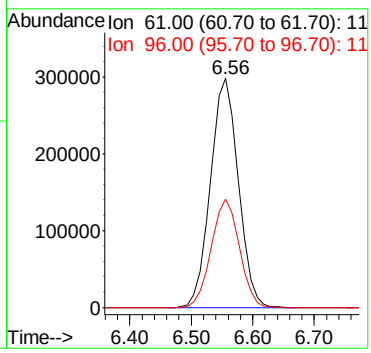


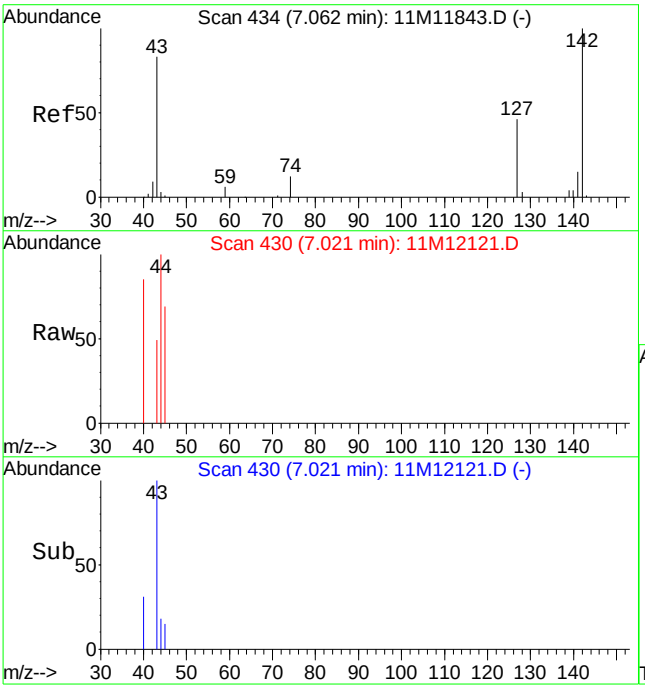


#14
1,1-Dichloroethene
Concen: 113.40 ug/L
RT: 6.56 min Scan# 385
Delta R.T. -0.00 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 61 Resp: 937534

Ion	Ratio	Lower	Upper
61	100		
96	47.6	30.1	70.3

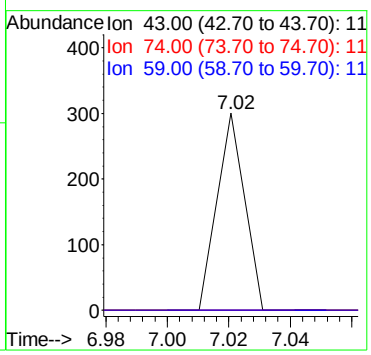


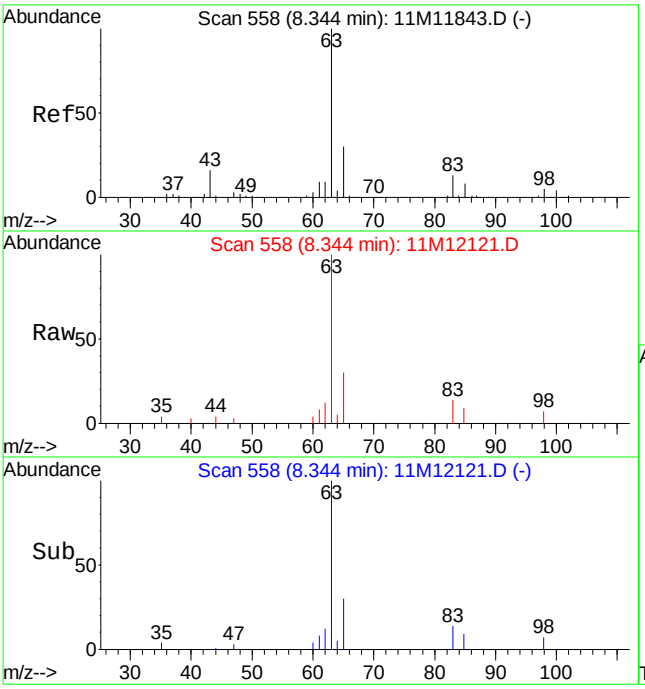


#18
Methyl acetate
Concen: Below Cal
RT: 7.02 min Scan# 430
Delta R.T. -0.04 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 43 Resp: 187

Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#

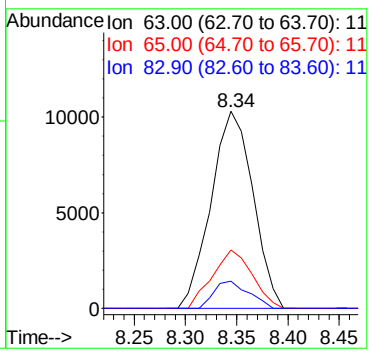


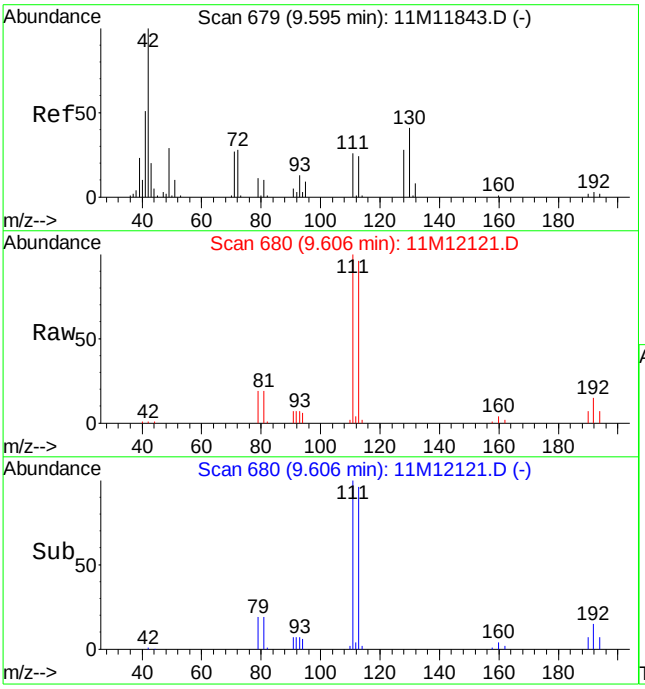


#27
1,1-Dichloroethane
Concen: 3.19 ug/L
RT: 8.34 min Scan# 558
Delta R.T. -0.00 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 63 Resp: 29289

Ion	Ratio	Lower	Upper
63	100		
65	28.2	17.8	41.6
83	11.6	7.4	17.4

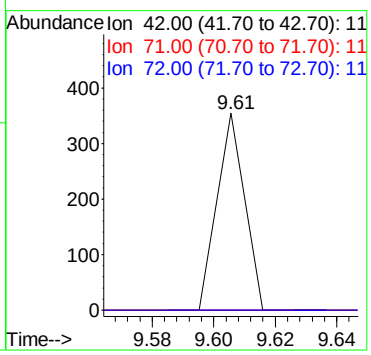


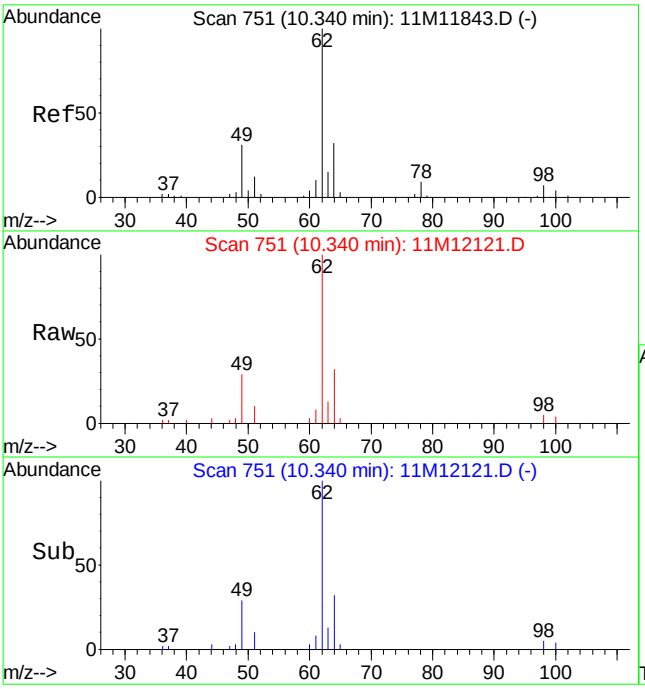


#36
Tetrahydrofuran
Concen: 0.19 ug/L
RT: 9.61 min Scan# 680
Delta R.T. 0.01 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 42 Resp: 220

Ion	Ratio	Lower	Upper
42	100		
71	0.0	16.4	38.2#
72	0.0	16.6	38.8#

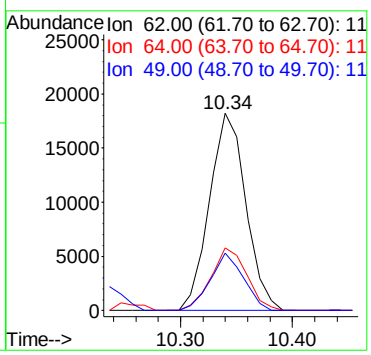


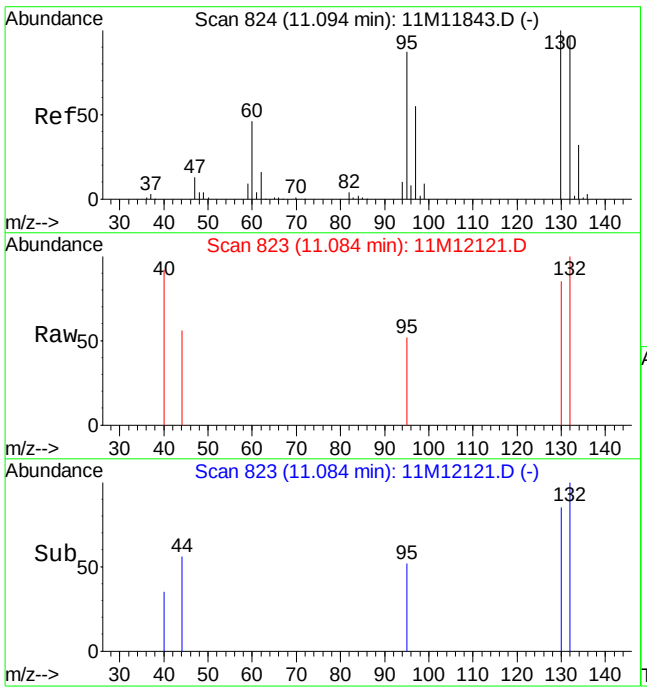


#44
1,2-Dichloroethane
Concen: 5.61 ug/L
RT: 10.34 min Scan# 751
Delta R.T. -0.00 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 62 Resp: 41089

Ion	Ratio	Lower	Upper
62	100		
64	31.4	18.7	43.7
49	26.7	22.3	52.1

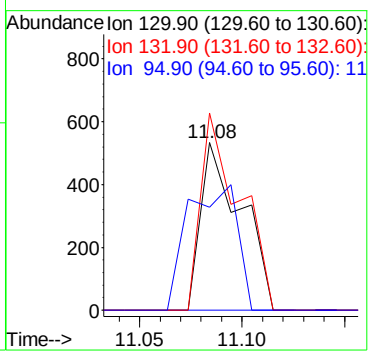


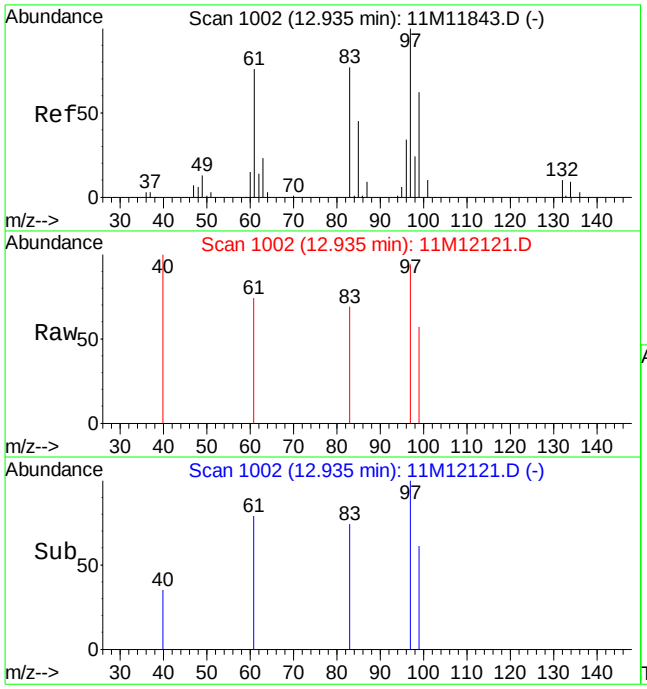


#46
Trichloroethene
Concen: 0.13 ug/L
RT: 11.08 min Scan# 823
Delta R.T. -0.01 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion:130 Resp: 733

Ion	Ratio	Lower	Upper
130	100		
132	112.6	58.3	136.1
95	91.5	55.6	129.8

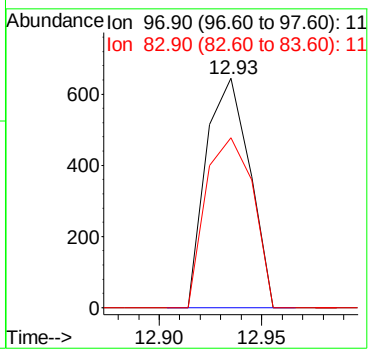




#61
1,1,2-Trichloroethane
Concen: 0.28 ug/L
RT: 12.93 min Scan# 1002
Delta R.T. -0.00 min
Lab File: 11M12121.D
Acq: 25 May 2016 1:15

Tgt Ion: 97 Resp: 948

Ion	Ratio	Lower	Upper
97	100		
83	80.9	46.9	109.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12138.D Vial: 11
Acq On : 25 May 2016 18:34 Operator: JDS
Sample : L16051153-17 B 00 2X 826-LOW Inst : hpms11
Misc : 1,2 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09:45 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

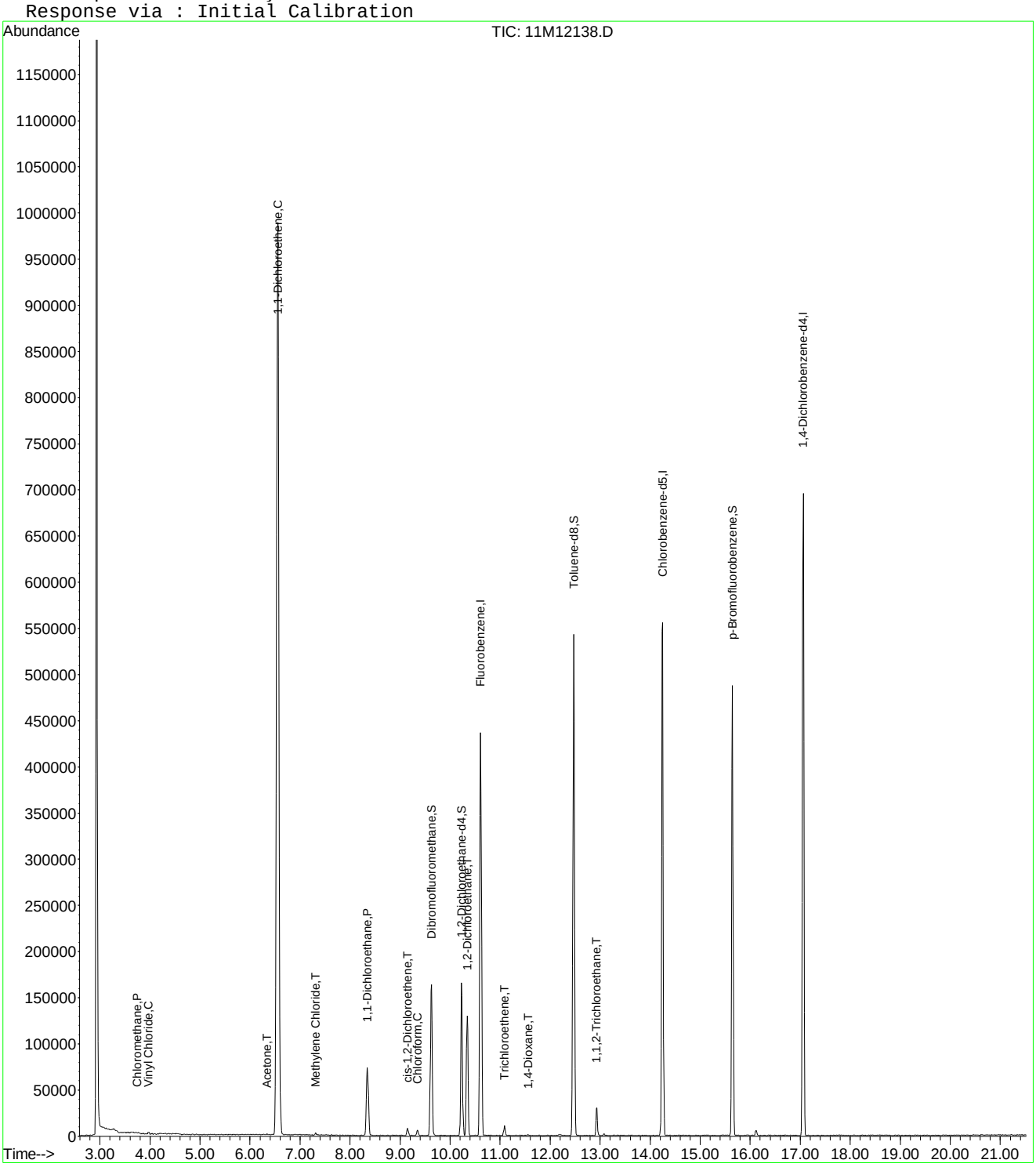
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	468731	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	393487	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	225719	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	135033	26.3229	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 105.28%			
43) 1,2-Dichloroethane-d4	10.23	65	156305	26.7225	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 106.88%			
57) Toluene-d8	12.47	98	440548	25.7675	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.08%			
78) p-Bromofluorobenzene	15.64	95	183599	26.3867	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.56%			
Target Compounds						Qvalue
3) Chloromethane	3.74	50	1101	0.1872	ug/L #	75
4) Vinyl Chloride	3.97	62	1185	0.2426	ug/L #	44
13) Acetone	6.34	43	200	0.1797	ug/L #	49
14) 1,1-Dichloroethene	6.56	61	1174787	136.9064	ug/L	97
18) Methyl acetate	7.00	43	201	Below Cal	#	71
19) Methylene Chloride	7.31	84	624	0.1405	ug/L #	11
27) 1,1-Dichloroethane	8.34	63	107419	11.2727	ug/L	98
32) cis-1,2-Dichloroethene	9.15	96	4050	0.7734	ug/L	98
33) Chloroform	9.35	83	6346	0.6782	ug/L	95
44) 1,2-Dichloroethane	10.34	62	135479	17.8256	ug/L	90
46) Trichloroethene	11.08	130	4891	0.8360	ug/L	97
49) 1,4-Dioxane	11.56	88	567	41.1256	ug/L #	53
61) 1,1,2-Trichloroethane	12.92	97	12355	3.4978	ug/L	87

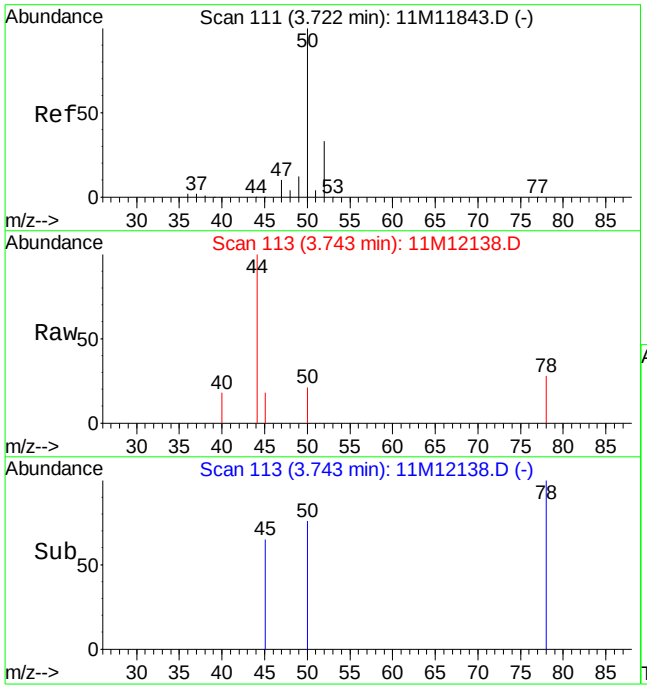
(#) = qualifier out of range (m) = manual integration
11M12138.D 8260WT.M Thu May 26 11:09:46 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12138.D Vial: 11
Acq On : 25 May 2016 18:34 Operator: JDS
Sample : L16051153-17 B 00 2X 826-LOW Inst : hpms11
Misc : 1,2 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

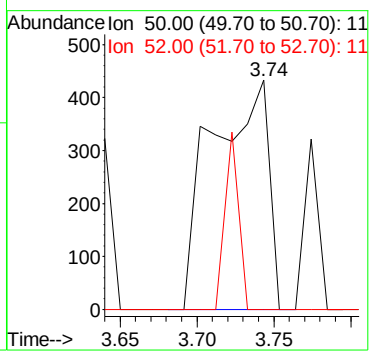


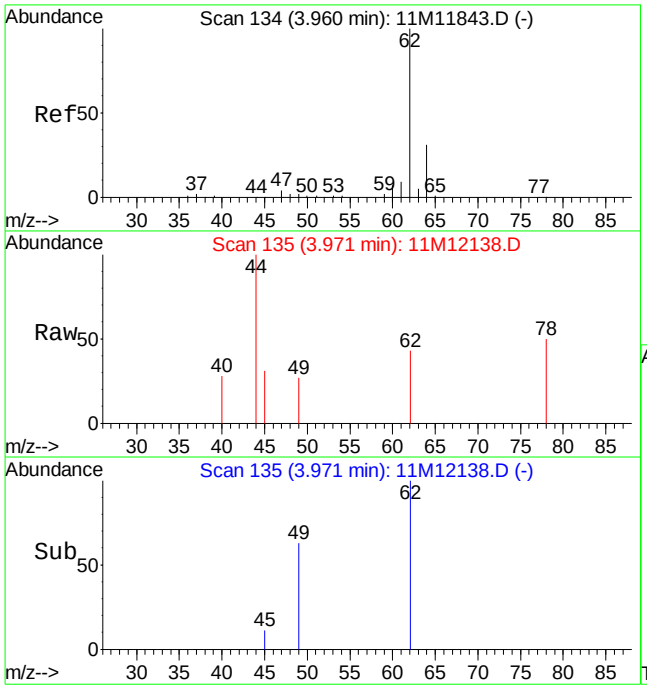


#3
Chloromethane
Concen: 0.19 ug/L
RT: 3.74 min Scan# 113
Delta R.T. 0.02 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 50 Resp: 1101

Ion	Ratio	Lower	Upper
50	100		
52	18.9	20.0	46.6#

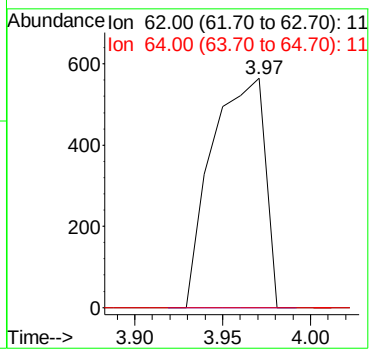


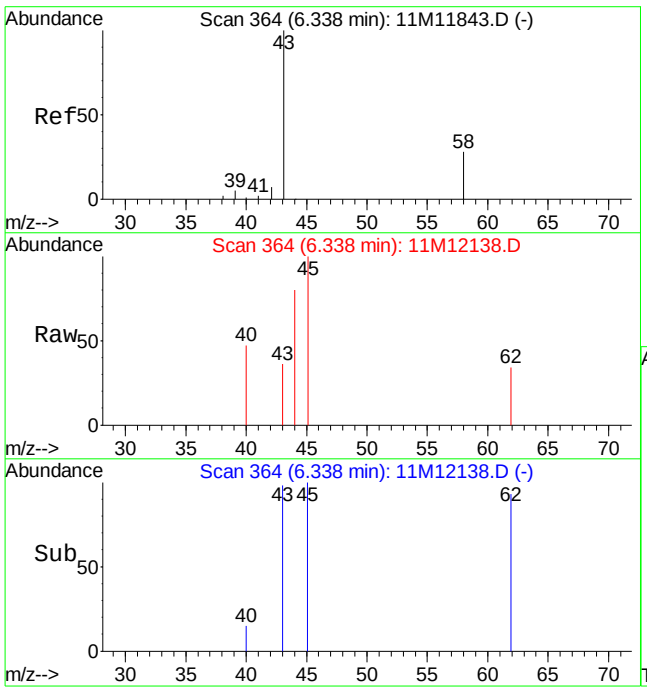


#4
Vinyl Chloride
Concen: 0.24 ug/L
RT: 3.97 min Scan# 135
Delta R.T. 0.01 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 62 Resp: 1185

Ion	Ratio	Lower	Upper
62	100		
64	0.0	18.4	43.0#

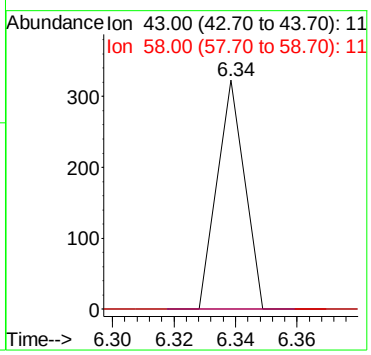


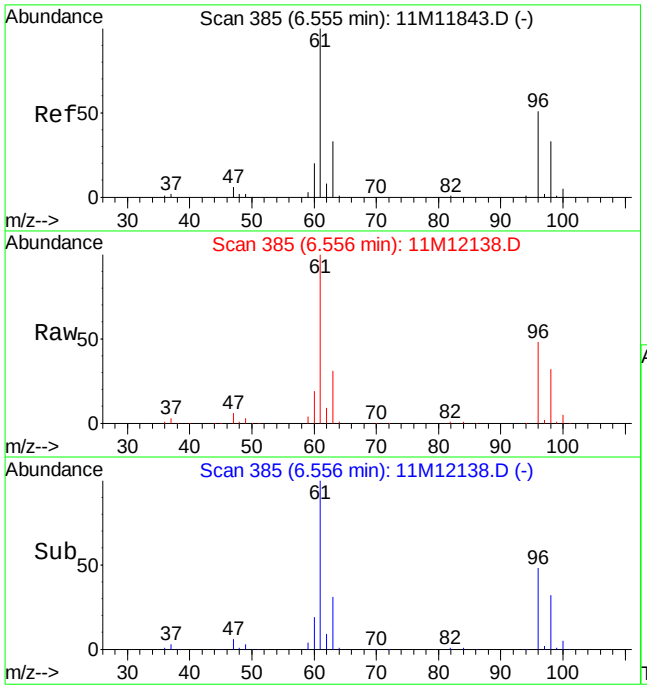


#13
Acetone
Concen: 0.18 ug/L
RT: 6.34 min Scan# 364
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 43 Resp: 200

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

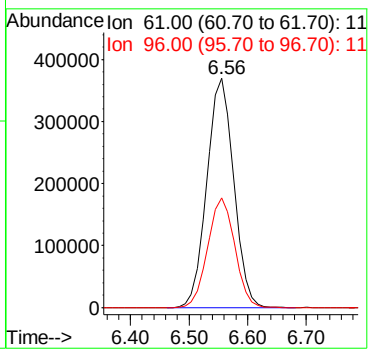


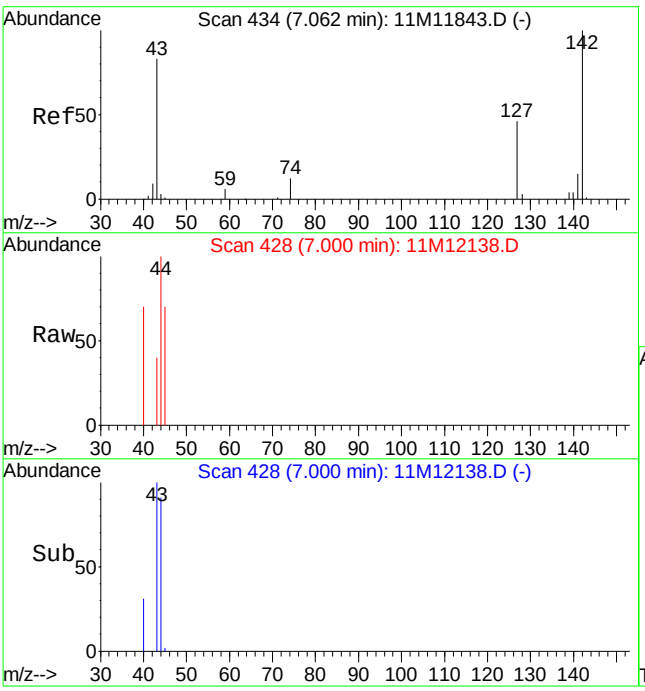


#14
1,1-Dichloroethene
Concen: 136.91 ug/L
RT: 6.56 min Scan# 385
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 61 Resp: 1174787

Ion	Ratio	Lower	Upper
61	100		
96	47.9	30.1	70.3

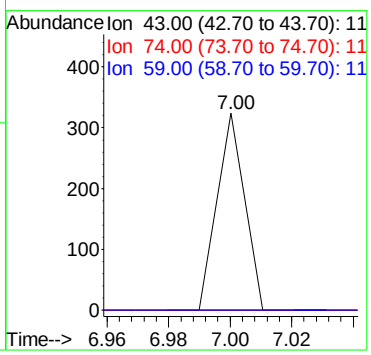


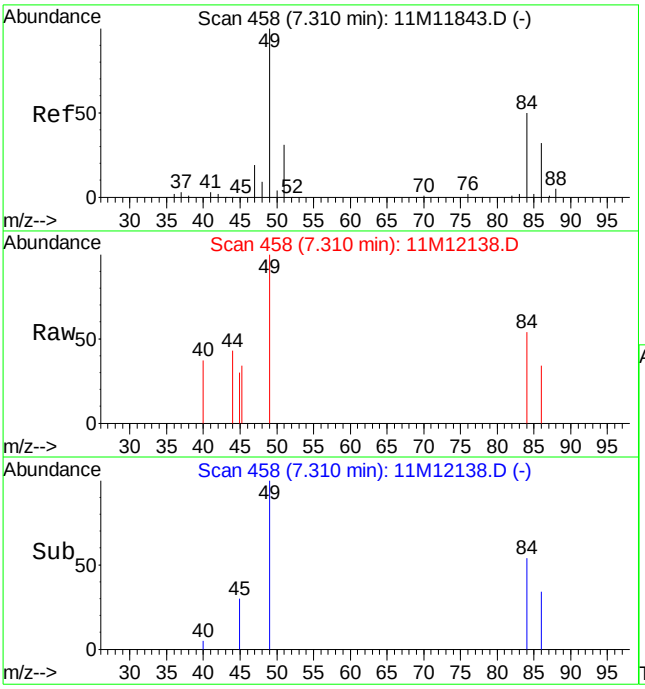


#18
Methyl acetate
Concen: Below Cal
RT: 7.00 min Scan# 428
Delta R.T. -0.06 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 43 Resp: 201

Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#

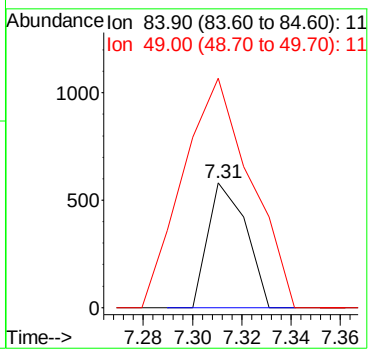


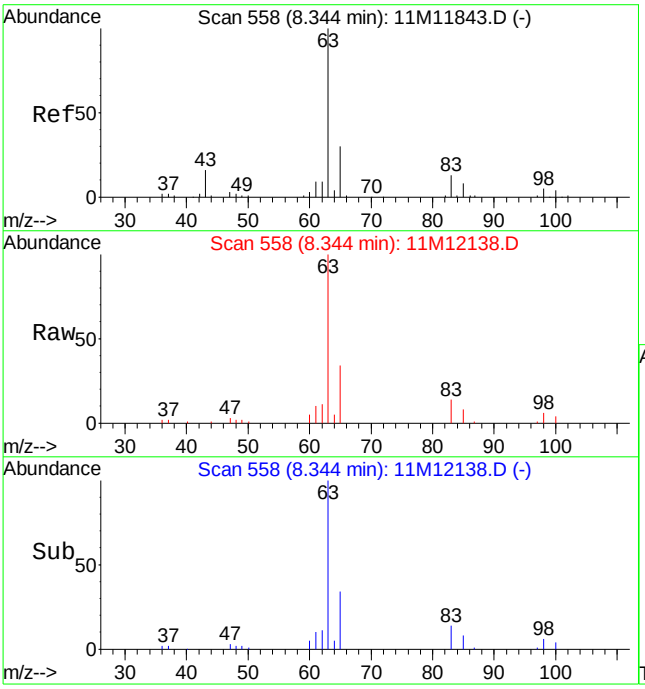


#19
Methylene Chloride
Concen: 0.14 ug/L
RT: 7.31 min Scan# 458
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 84 Resp: 624

Ion	Ratio	Lower	Upper
84	100		
49	328.0	116.9	272.7#

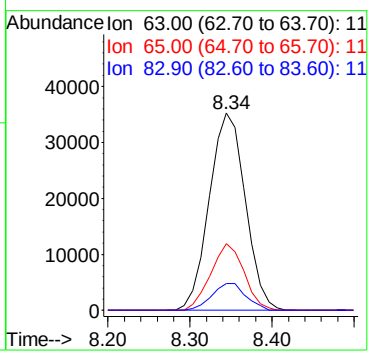


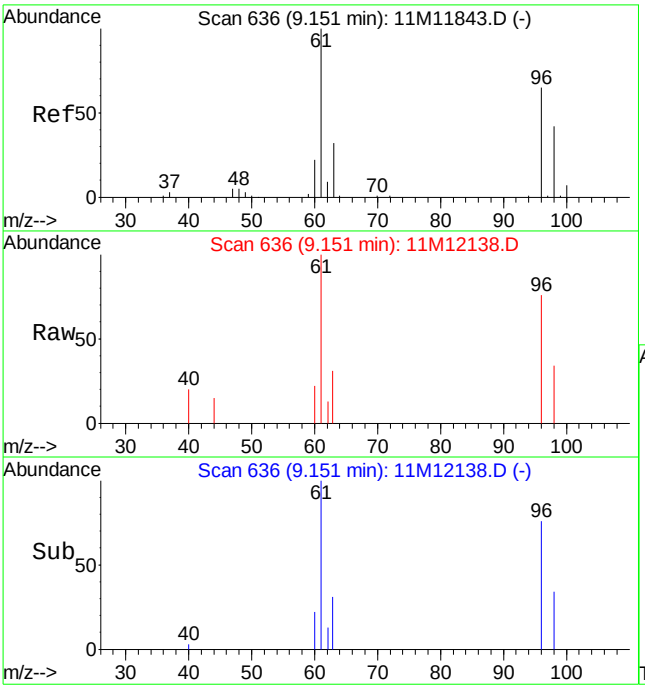


#27
1,1-Dichloroethane
Concen: 11.27 ug/L
RT: 8.34 min Scan# 558
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 63 Resp: 107419

Ion	Ratio	Lower	Upper
63	100		
65	31.3	17.8	41.6
83	12.8	7.4	17.4

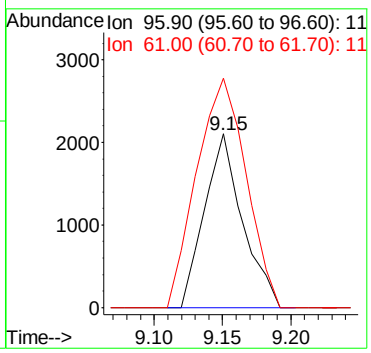


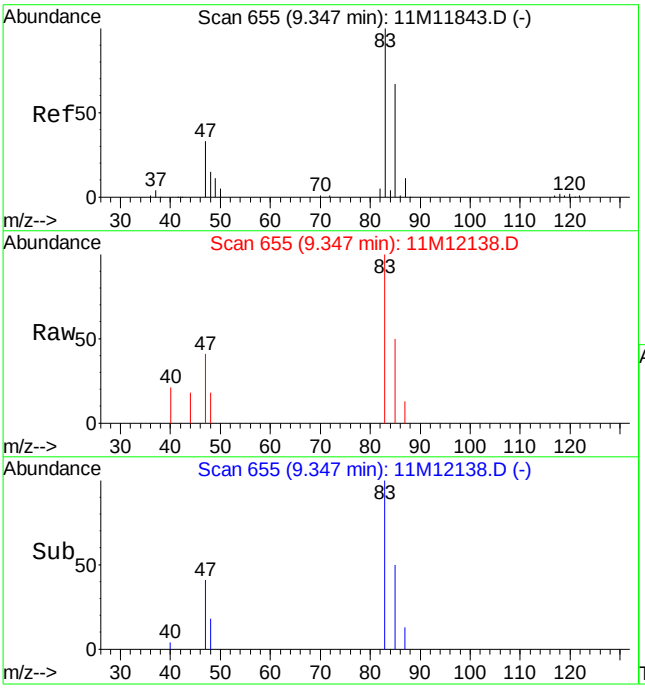


#32
cis-1,2-Dichloroethene
Concen: 0.77 ug/L
RT: 9.15 min Scan# 636
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 96 Resp: 4050

Ion	Ratio	Lower	Upper
96	100		
61	172.3	105.2	245.6

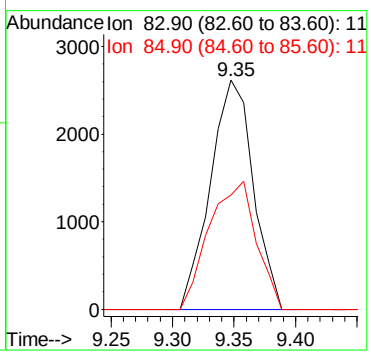


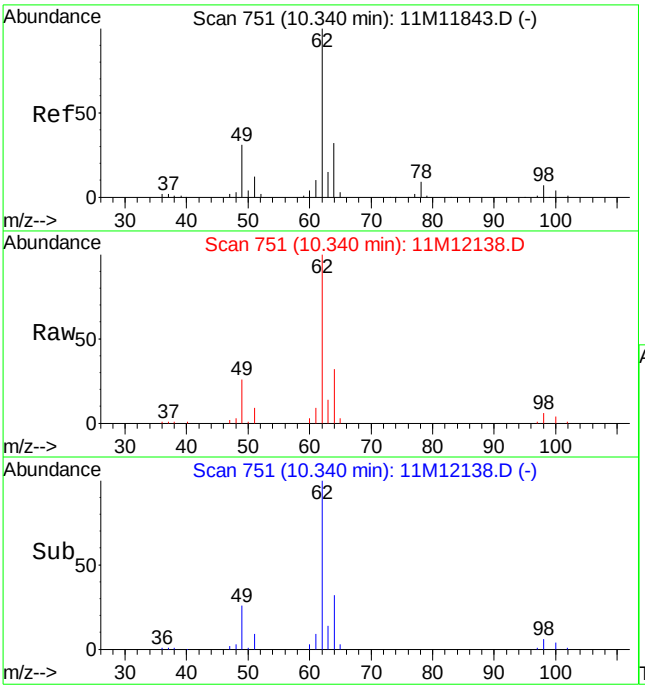


#33
Chloroform
Concen: 0.68 ug/L
RT: 9.35 min Scan# 655
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 83 Resp: 6346

Ion	Ratio	Lower	Upper
83	100		
85	61.3	39.2	91.4

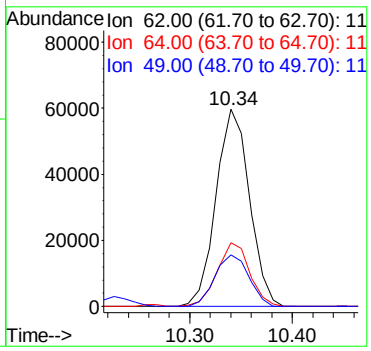


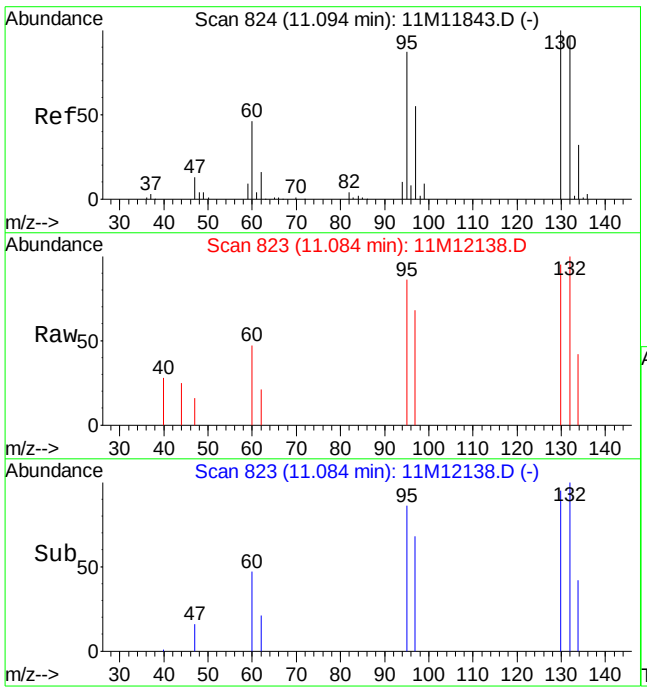


#44
1,2-Dichloroethane
Concen: 17.83 ug/L
RT: 10.34 min Scan# 751
Delta R.T. 0.00 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 62 Resp: 135479

Ion	Ratio	Lower	Upper
62	100		
64	31.4	18.7	43.7
49	26.6	22.3	52.1

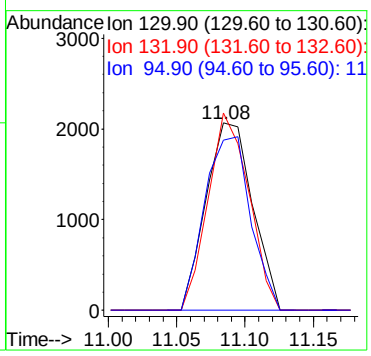


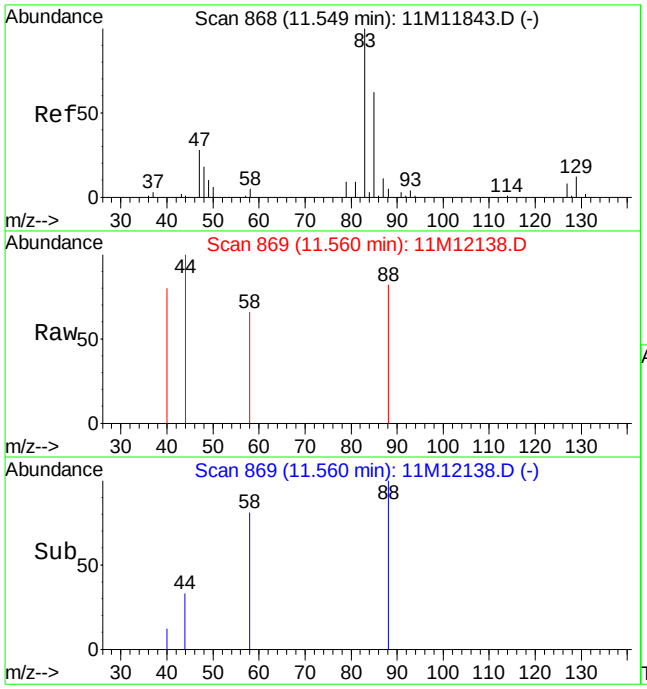


#46
Trichloroethene
Concen: 0.84 ug/L
RT: 11.08 min Scan# 823
Delta R.T. -0.01 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion:130 Resp: 4891

Ion	Ratio	Lower	Upper
130	100		
132	92.1	58.3	136.1
95	91.4	55.6	129.8

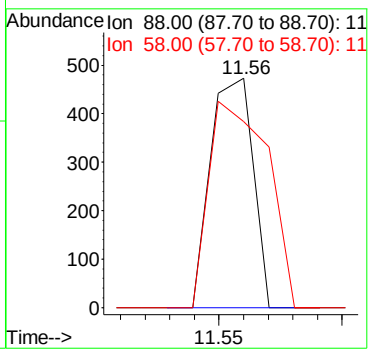


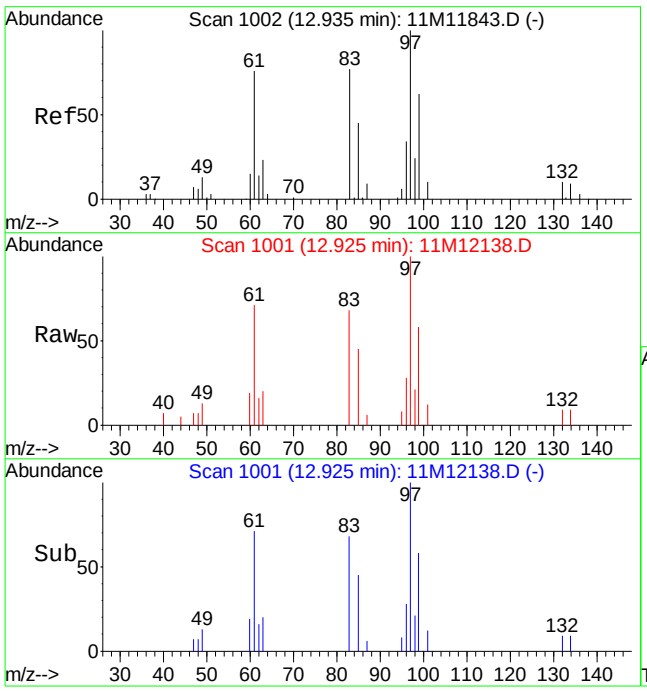


#49
1,4-Dioxane
Concen: 41.13 ug/L
RT: 11.56 min Scan# 869
Delta R.T. 0.01 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 88 Resp: 567

Ion	Ratio	Lower	Upper
88	100		
58	124.9	49.7	116.1#

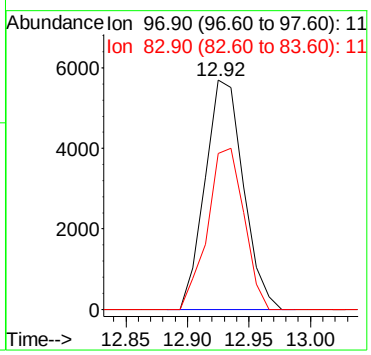




#61
1,1,2-Trichloroethane
Concen: 3.50 ug/L
RT: 12.92 min Scan# 1001
Delta R.T. -0.01 min
Lab File: 11M12138.D
Acq: 25 May 2016 18:34

Tgt Ion: 97 Resp: 12355

Ion	Ratio	Lower	Upper
97	100		
83	66.8	46.9	109.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12123.D Vial: 23
Acq On : 25 May 2016 2:19 Operator: JDS
Sample : L16051153-18 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:37:29 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

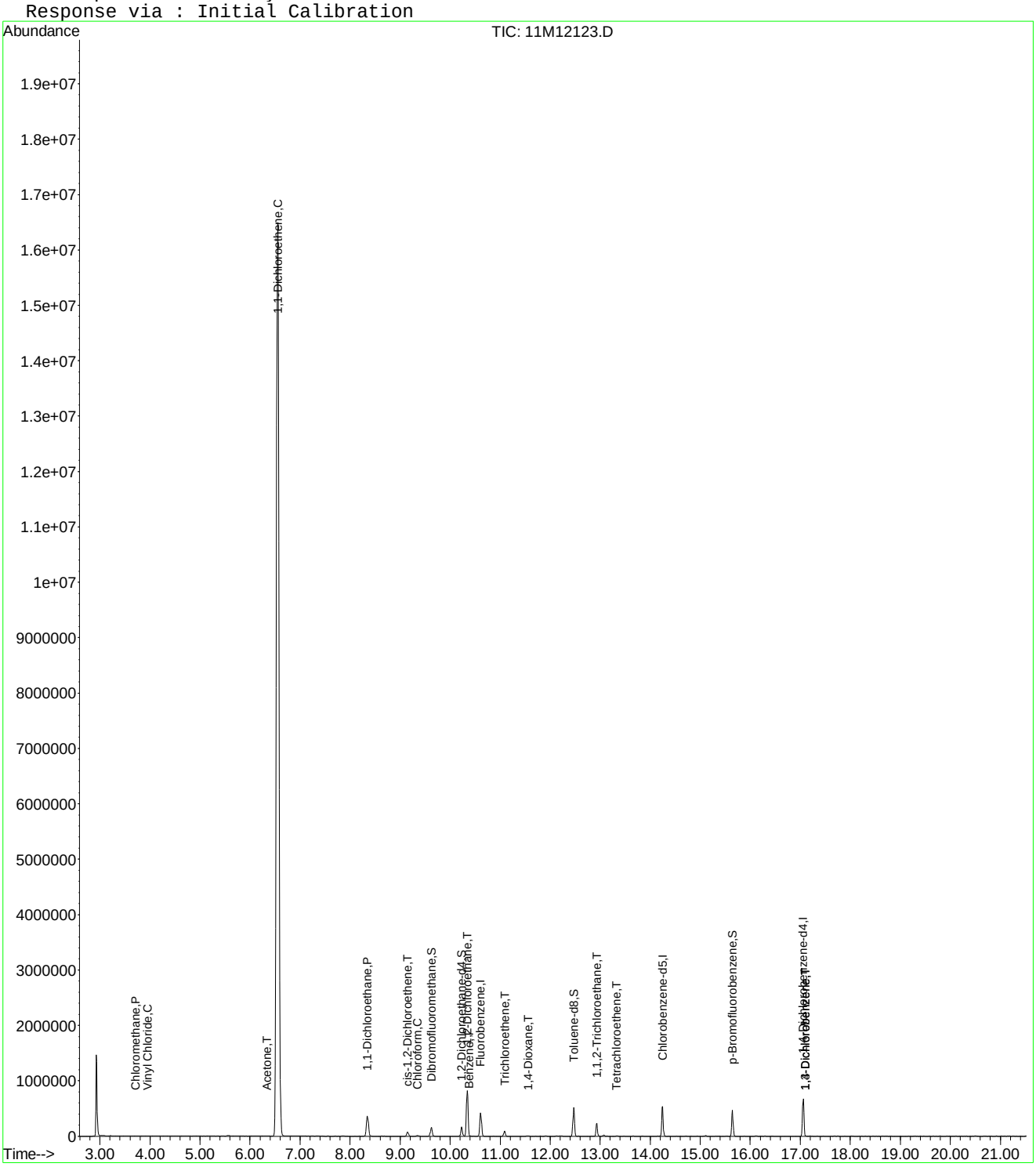
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.61	96	449441	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.25	117	380506	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	217769	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.63	111	130792	26.5905 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.36%		
43) 1,2-Dichloroethane-d4	10.23	65	160585	28.6325 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 114.52%		
57) Toluene-d8	12.47	98	420053	25.4070 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.64%		
78) p-Bromofluorobenzene	15.64	95	172350	25.6743 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.68%		
Target Compounds					Qvalue
3) Chloromethane	3.71	50	1035	0.1835 ug/L #	41
4) Vinyl Chloride	3.95	62	5023	1.0725 ug/L	80
13) Acetone	6.34	43	2014	1.8871 ug/L #	49
14) 1,1-Dichloroethene	6.56	61	16775176	2038.8382 ug/L	79
27) 1,1-Dichloroethane	8.34	63	523368	57.2805 ug/L	98
32) cis-1,2-Dichloroethene	9.15	96	37596	7.4880 ug/L	89
33) Chloroform	9.35	83	12354	1.3768 ug/L	97
44) 1,2-Dichloroethane	10.34	62	855389	117.3778 ug/L	91
45) Benzene	10.38	78	2495	0.1446 ug/L #	73
46) Trichloroethene	11.09	130	38649	6.8896 ug/L	98
49) 1,4-Dioxane	11.56	88	3522	138.8682 ug/L	98
61) 1,1,2-Trichloroethane	12.93	97	87655	25.6622 ug/L	98
64) Tetrachloroethene	13.33	164	1374	0.3067 ug/L	86
91) 1,3-Dichlorobenzene	17.10	146	2237	0.1750 ug/L #	1
92) 1,4-Dichlorobenzene	17.10	146	2237	0.1727 ug/L #	1

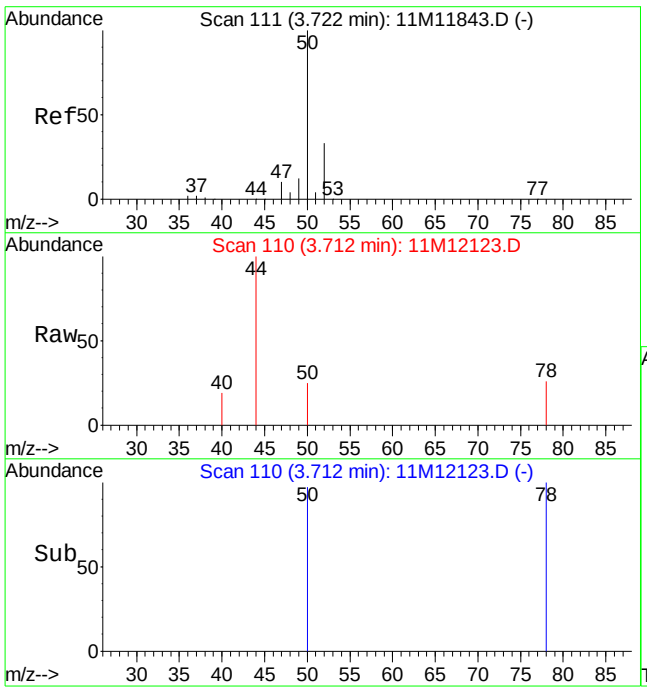
(#) = qualifier out of range (m) = manual integration
11M12123.D 8260WT.M Wed May 25 09:37:30 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12123.D Vial: 23
Acq On : 25 May 2016 2:19 Operator: JDS
Sample : L16051153-18 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:37 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

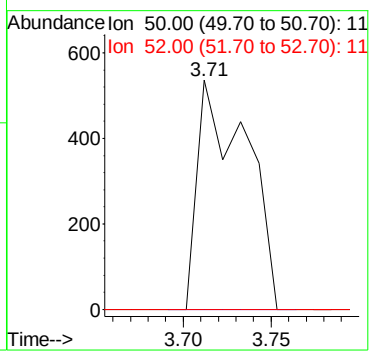


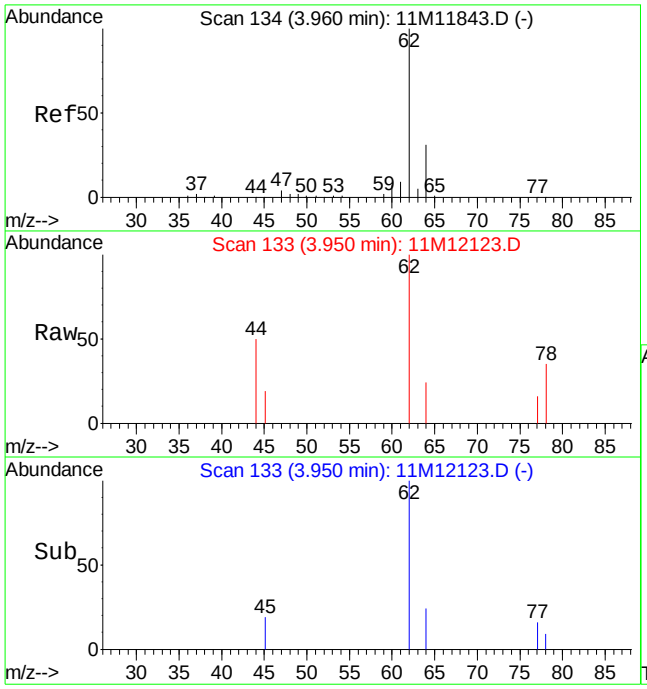


#3
Chloromethane
Concen: 0.18 ug/L
RT: 3.71 min Scan# 110
Delta R.T. -0.01 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 50 Resp: 1035

Ion	Ratio	Lower	Upper
50	100		
52	0.0	20.0	46.6#

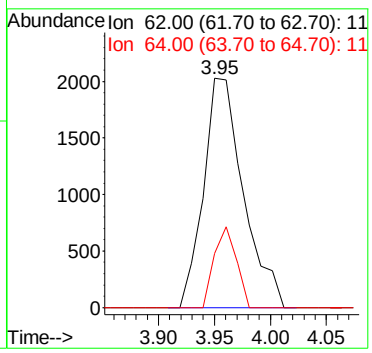


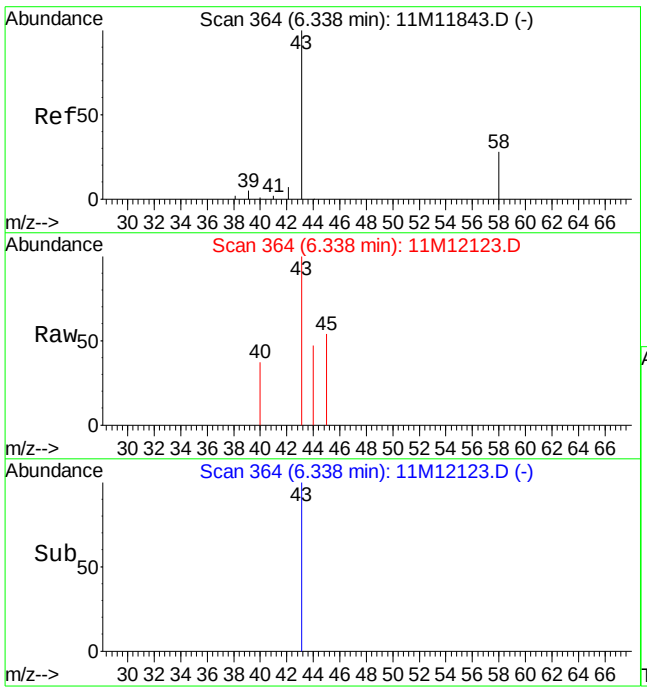


#4
Vinyl Chloride
Concen: 1.07 ug/L
RT: 3.95 min Scan# 133
Delta R.T. -0.01 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 62 Resp: 5023

Ion	Ratio	Lower	Upper
62	100		
64	19.6	18.4	43.0

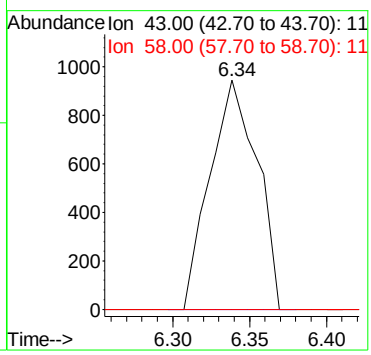


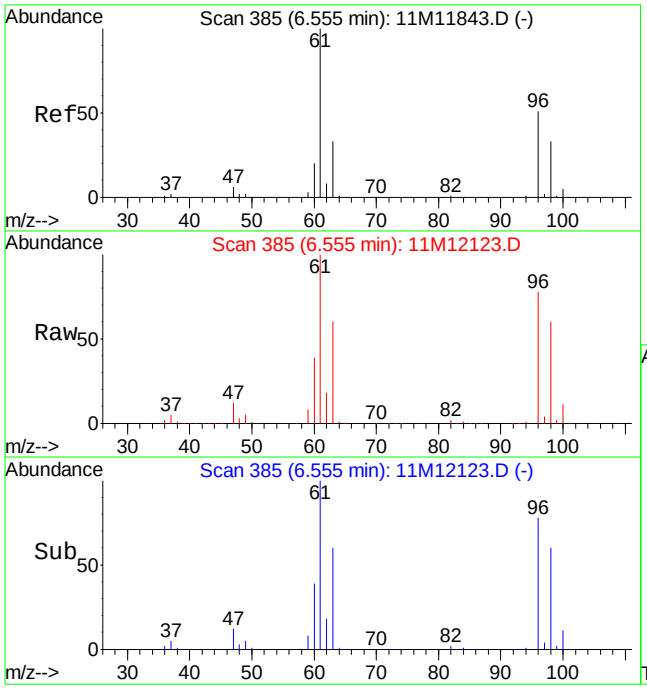


#13
Acetone
Concen: 1.89 ug/L
RT: 6.34 min Scan# 364
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 43 Resp: 2014

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

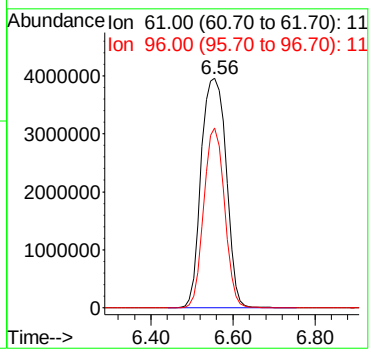


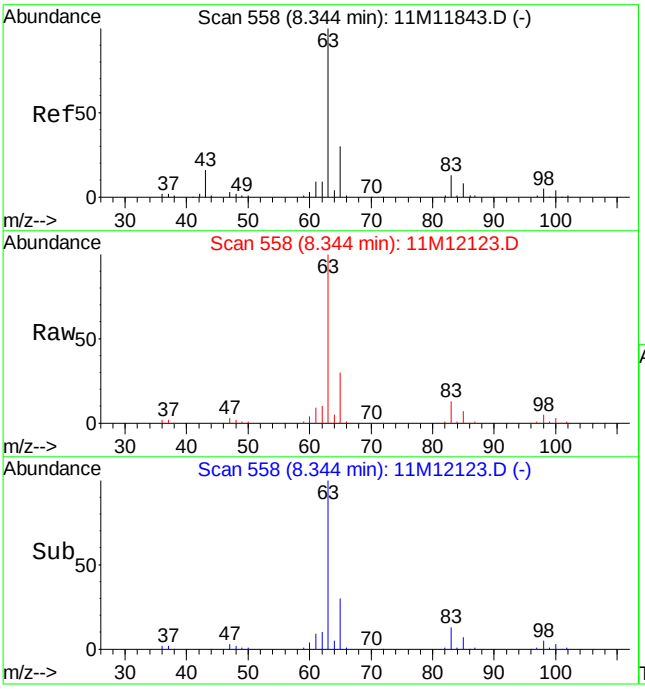


#14
1,1-Dichloroethene
Concen: 2038.84 ug/L
RT: 6.56 min Scan# 385
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 61 Resp:16775176

Ion	Ratio	Lower	Upper
61	100		
96	65.0	30.1	70.3

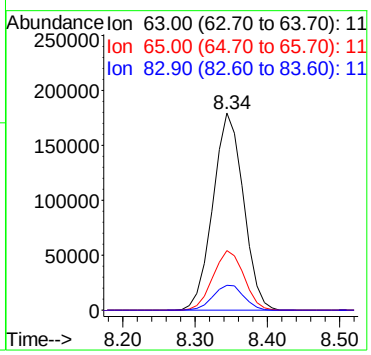


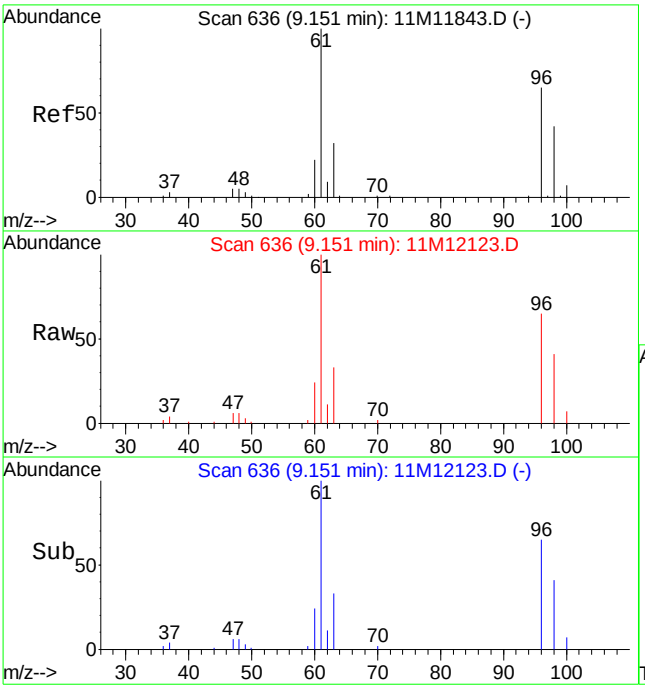


#27
1,1-Dichloroethane
Concen: 57.28 ug/L
RT: 8.34 min Scan# 558
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 63 Resp: 523368

Ion	Ratio	Lower	Upper
63	100		
65	30.6	17.8	41.6
83	12.9	7.4	17.4

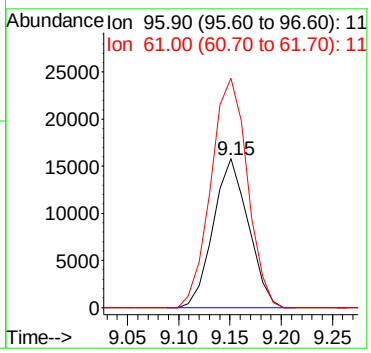


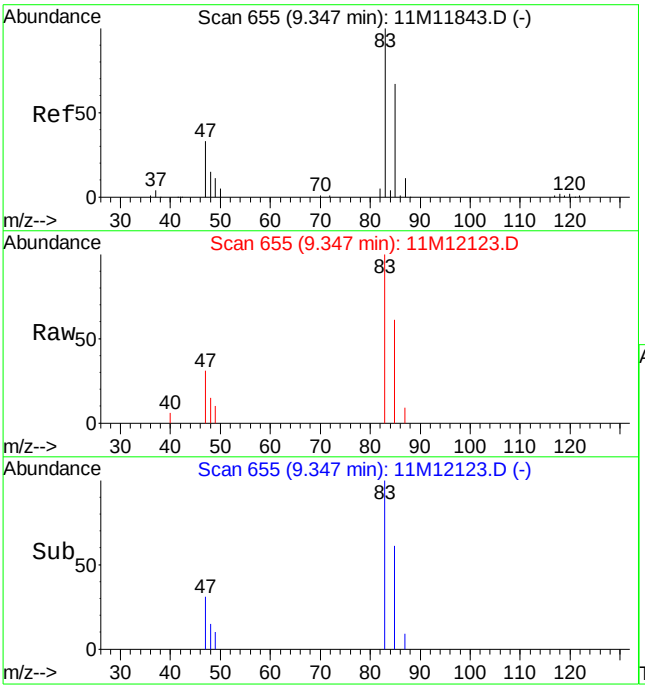


#32
cis-1,2-Dichloroethene
Concen: 7.49 ug/L
RT: 9.15 min Scan# 636
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 96 Resp: 37596

Ion	Ratio	Lower	Upper
96	100		
61	160.2	105.2	245.6

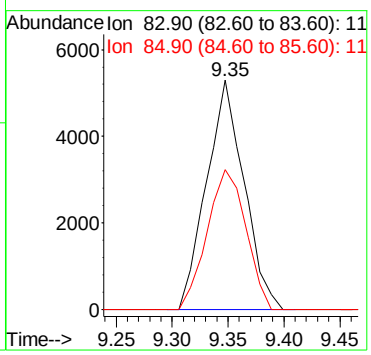


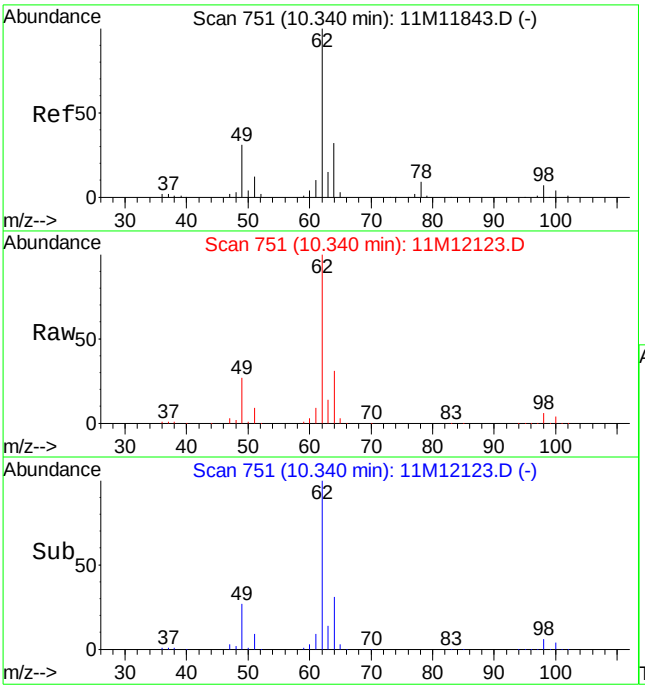


#33
Chloroform
Concen: 1.38 ug/L
RT: 9.35 min Scan# 655
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 83 Resp: 12354

Ion	Ratio	Lower	Upper
83	100		
85	62.9	39.2	91.4

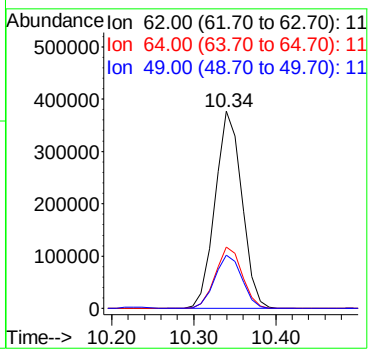


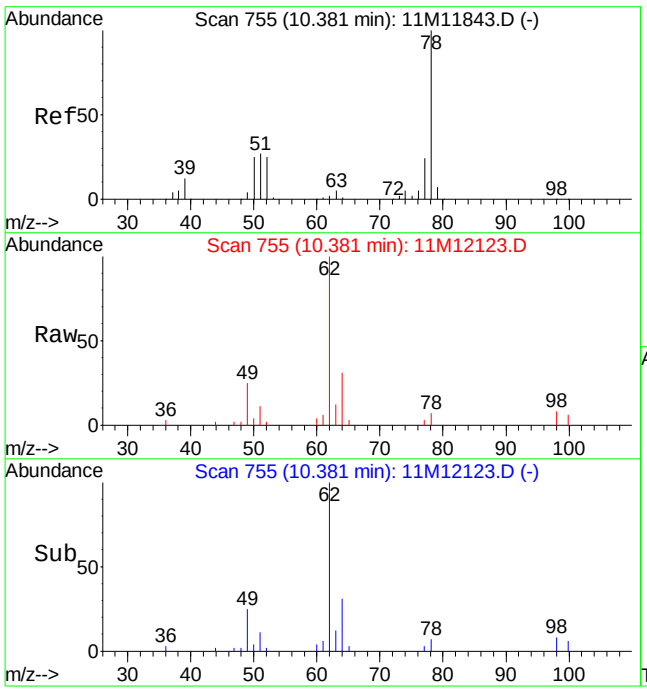


#44
1,2-Dichloroethane
Concen: 117.38 ug/L
RT: 10.34 min Scan# 751
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 62 Resp: 855389

Ion	Ratio	Lower	Upper
62	100		
64	31.4	18.7	43.7
49	27.6	22.3	52.1

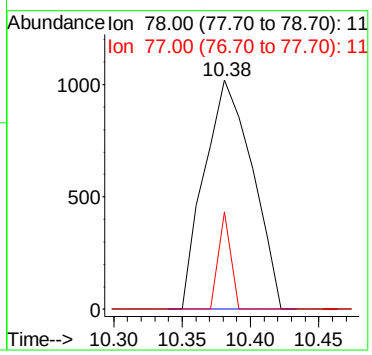


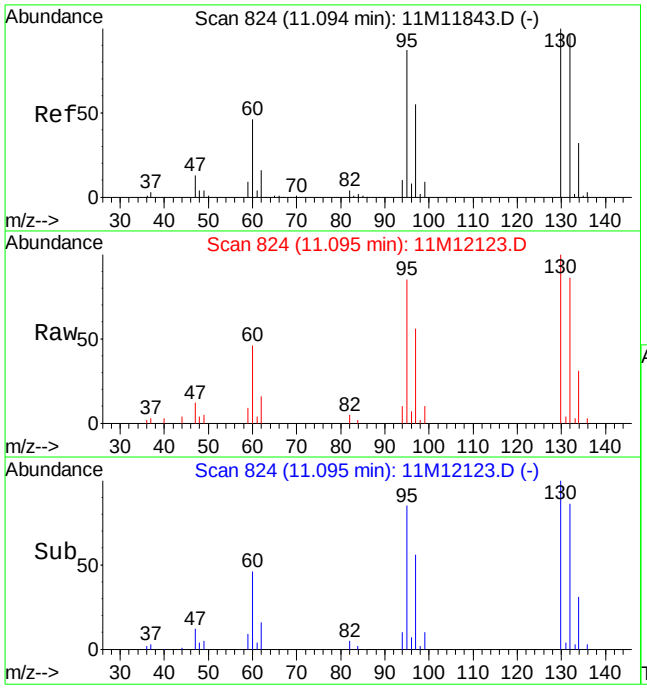


#45
Benzene
Concen: 0.14 ug/L
RT: 10.38 min Scan# 755
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 78 Resp: 2495

Ion	Ratio	Lower	Upper
78	100		
77	10.8	14.3	33.5#

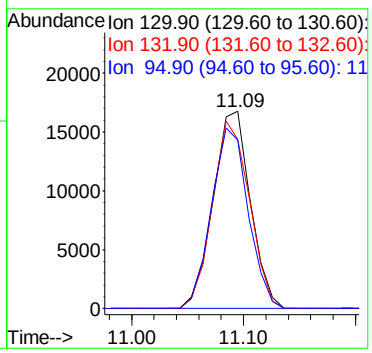


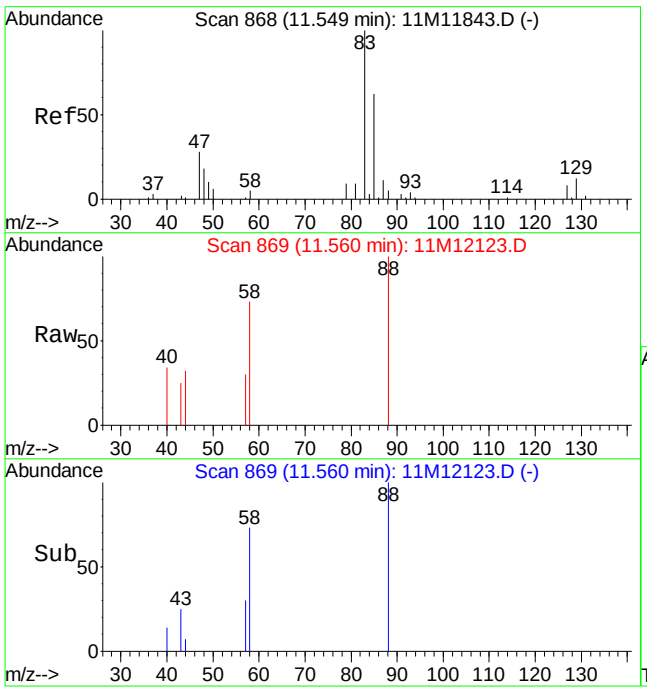


#46
Trichloroethene
Concen: 6.89 ug/L
RT: 11.09 min Scan# 824
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion:130 Resp: 38649

Ion	Ratio	Lower	Upper
130	100		
132	94.9	58.3	136.1
95	90.6	55.6	129.8

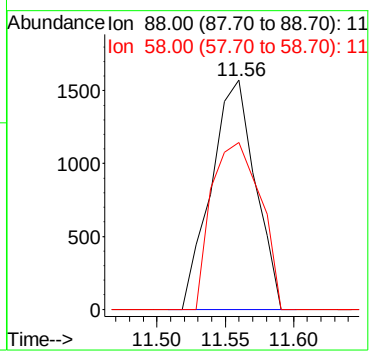


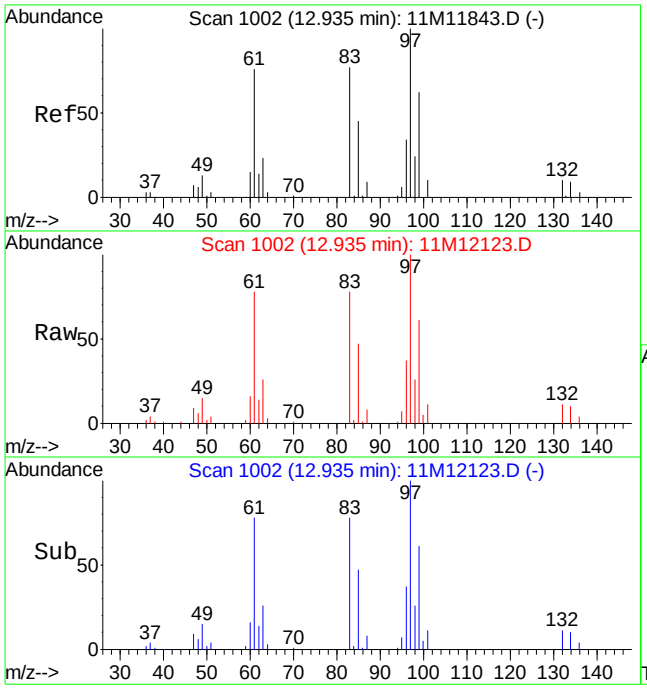


#49
1,4-Dioxane
Concen: 138.87 ug/L
RT: 11.56 min Scan# 869
Delta R.T. 0.01 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 88 Resp: 3522

Ion	Ratio	Lower	Upper
88	100		
58	81.1	49.7	116.1

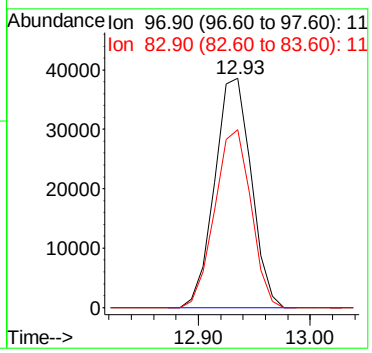


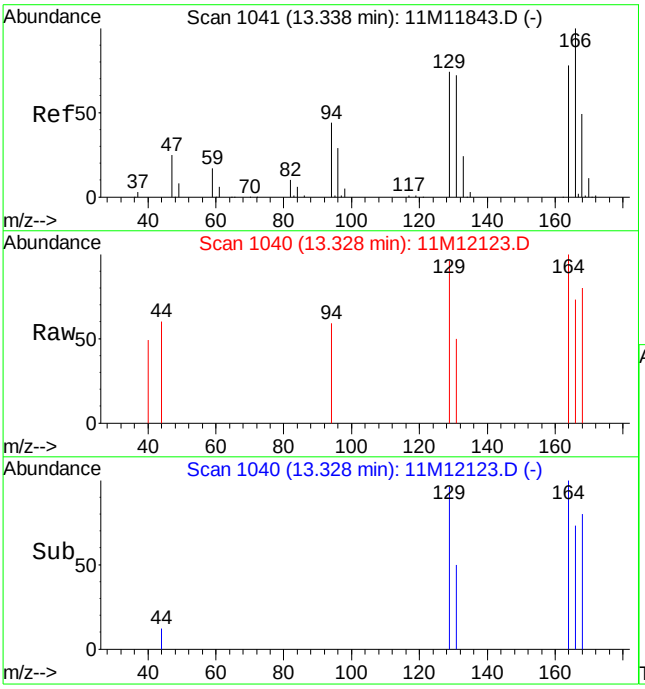


#61
1,1,2-Trichloroethane
Concen: 25.66 ug/L
RT: 12.93 min Scan# 1002
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion: 97 Resp: 87655

Ion	Ratio	Lower	Upper
97	100		
83	76.7	46.9	109.3

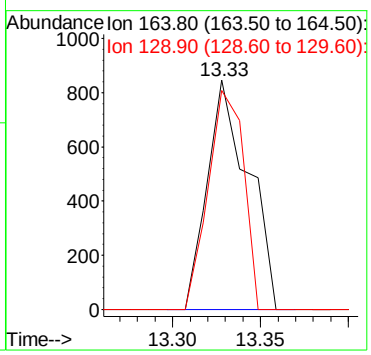


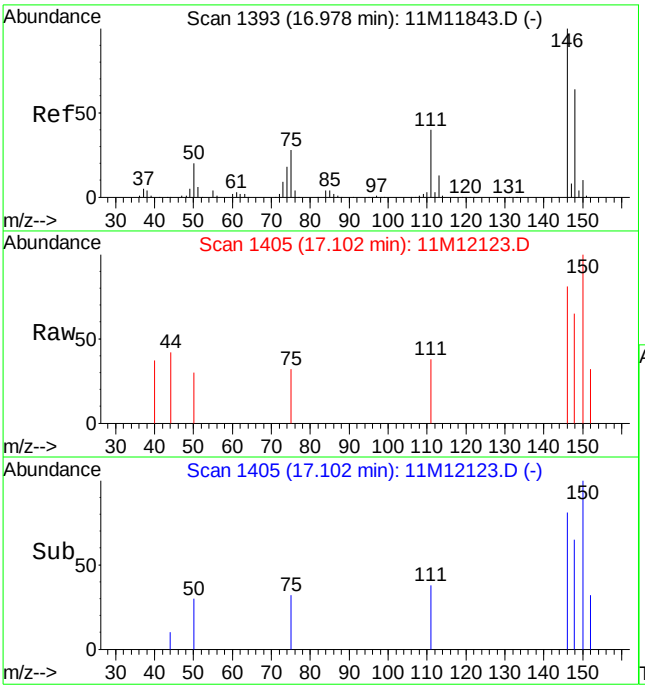


#64
Tetrachloroethene
Concen: 0.31 ug/L
RT: 13.33 min Scan# 1040
Delta R.T. -0.01 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion:164 Resp: 1374

Ion	Ratio	Lower	Upper
164	100		
129	82.5	57.9	135.1

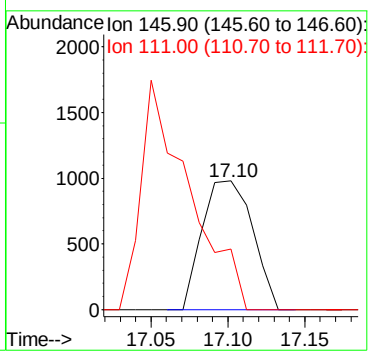


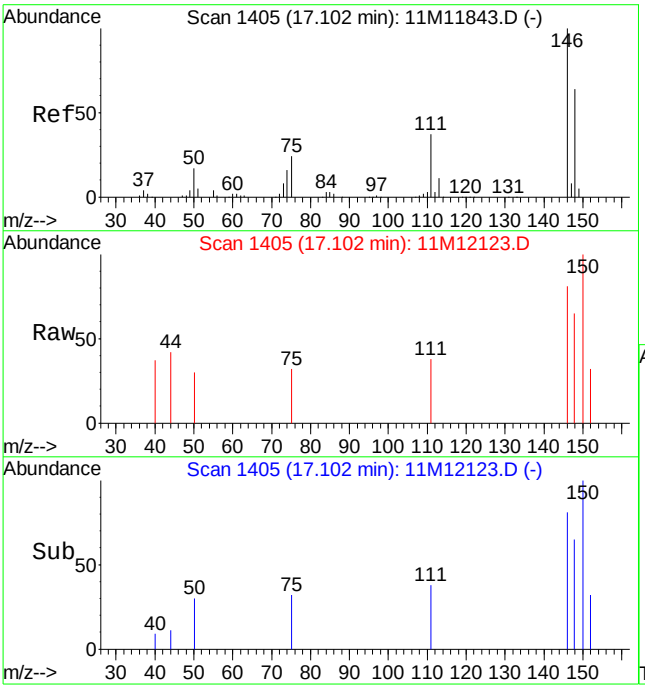


#91
1,3-Dichlorobenzene
Concen: 0.18 ug/L
RT: 17.10 min Scan# 1405
Delta R.T. 0.12 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion:146 Resp: 2237

Ion	Ratio	Lower	Upper
146	100		
111	170.7	23.8	55.4#

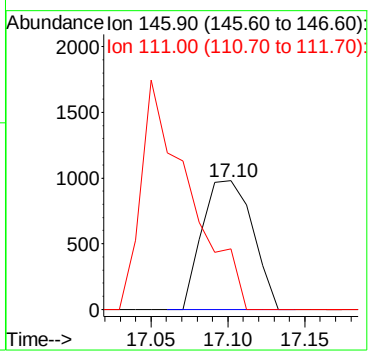




#92
1,4-Dichlorobenzene
Concen: 0.17 ug/L
RT: 17.10 min Scan# 1405
Delta R.T. 0.00 min
Lab File: 11M12123.D
Acq: 25 May 2016 2:19

Tgt Ion:146 Resp: 2237

Ion	Ratio	Lower	Upper
146	100		
111	170.7	22.9	53.3#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12140.D Vial: 13
Acq On : 25 May 2016 19:38 Operator: JDS
Sample : L16051153-18 B D1 20X 826-LOW Inst : hpms11
Misc : 1,20 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09:55 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

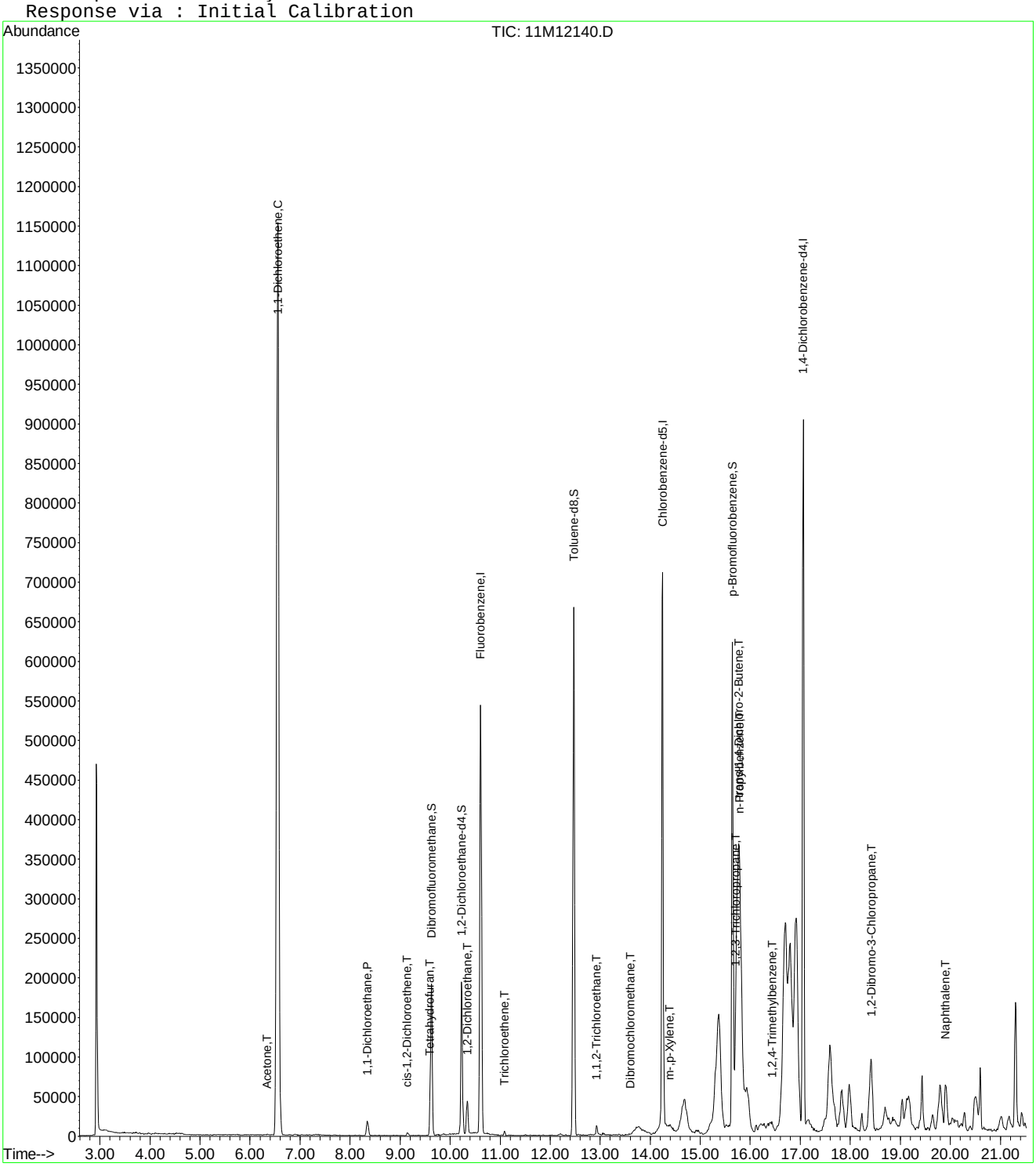
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.61	96	601079	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.25	117	514094	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	297399	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.63	111	157687	23.9707 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.88%		
43) 1,2-Dichloroethane-d4	10.23	65	177362	23.6459 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.60%		
57) Toluene-d8	12.47	98	551585	24.6934 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.76%		
78) p-Bromofluorobenzene	15.64	95	233519	25.4721 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.88%		
Target Compounds					Qvalue
13) Acetone	6.34	43	1685	1.1806 ug/L #	49
14) 1,1-Dichloroethene	6.56	61	1353261	122.9811 ug/L	99
18) Methyl acetate	7.03	43	209	Below Cal #	71
27) 1,1-Dichloroethane	8.34	63	28077	2.2977 ug/L	97
32) cis-1,2-Dichloroethene	9.14	96	2048	0.3050 ug/L	74
36) Tetrahydrofuran	9.60	42	884	0.5802 ug/L #	47
44) 1,2-Dichloroethane	10.34	62	42133	4.3230 ug/L	90
46) Trichloroethene	11.08	130	2056	0.2740 ug/L	94
61) 1,1,2-Trichloroethane	12.92	97	5235	1.1344 ug/L	99
65) Dibromochloromethane	13.61	129	890	0.1264 ug/L #	11
71) m-,p-Xylene	14.38	106	2299	0.1934 ug/L	90
79) 1,2,3-Trichloropropane	15.71	110	221	0.4909 ug/L #	1
80) trans-1,4-Dichloro-2-Buten	15.77	53	3804	2.4220 ug/L #	1
81) n-Propylbenzene	15.79	91	8970	0.2604 ug/L #	51
88) 1,2,4-Trimethylbenzene	16.44	105	4815	0.1799 ug/L	81
95) 1,2-Dibromo-3-Chloropropan	18.42	75	2101	2.6282 ug/L #	1
98) Naphthalene	19.90	128	39625	1.8348 ug/L #	94

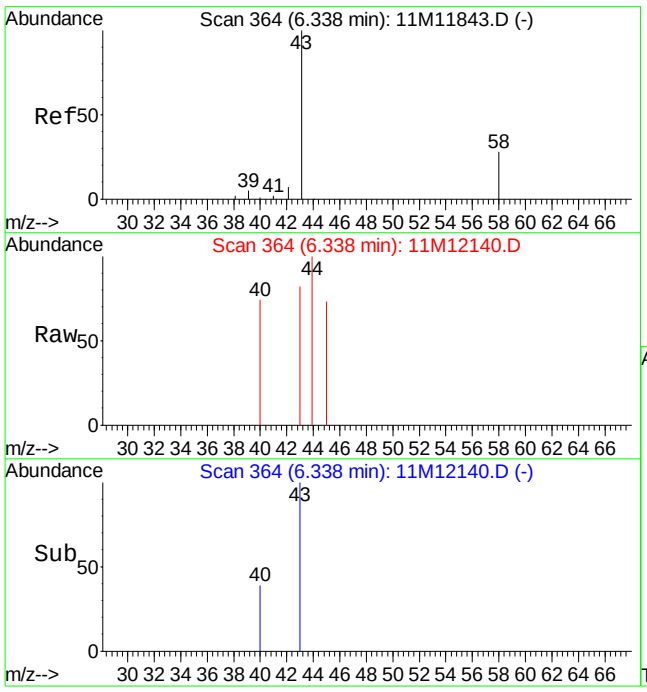
(#) = qualifier out of range (m) = manual integration
11M12140.D 8260WT.M Thu May 26 11:09:56 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12140.D Vial: 13
Acq On : 25 May 2016 19:38 Operator: JDS
Sample : L16051153-18 B D1 20X 826-LOW Inst : hpms11
Misc : 1,20 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

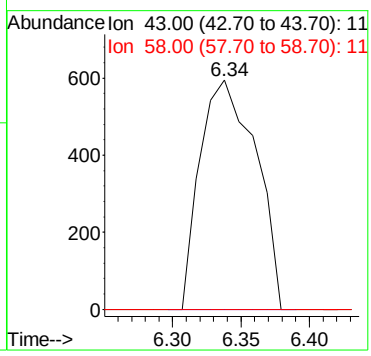


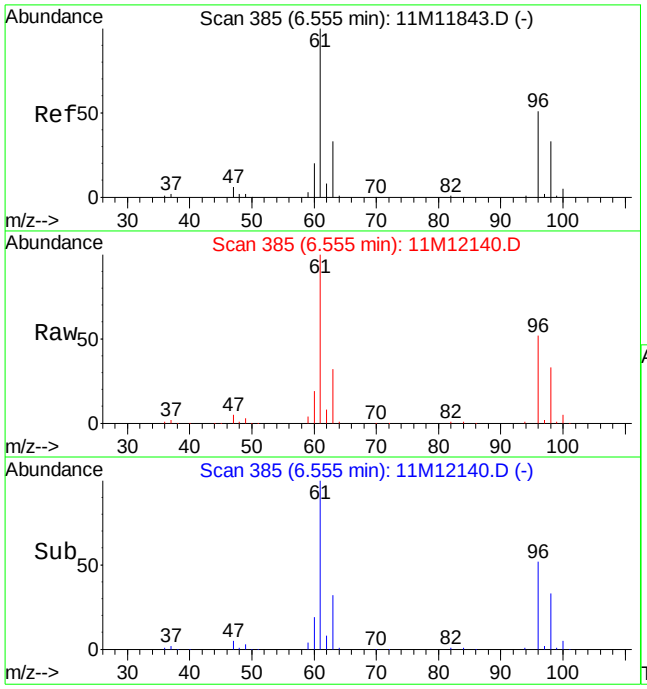


#13
Acetone
Concen: 1.18 ug/L
RT: 6.34 min Scan# 364
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 43 Resp: 1685

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

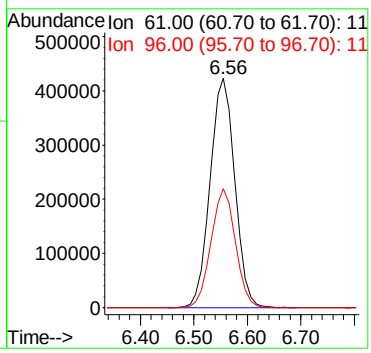


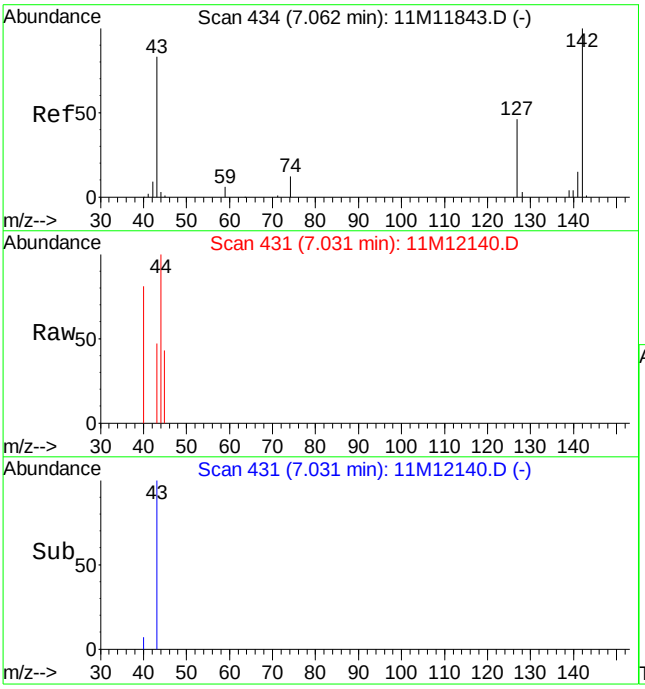


#14
1,1-Dichloroethene
Concen: 122.98 ug/L
RT: 6.56 min Scan# 385
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 61 Resp: 1353261

Ion	Ratio	Lower	Upper
61	100		
96	51.2	30.1	70.3

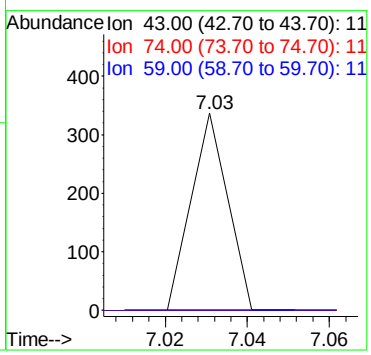


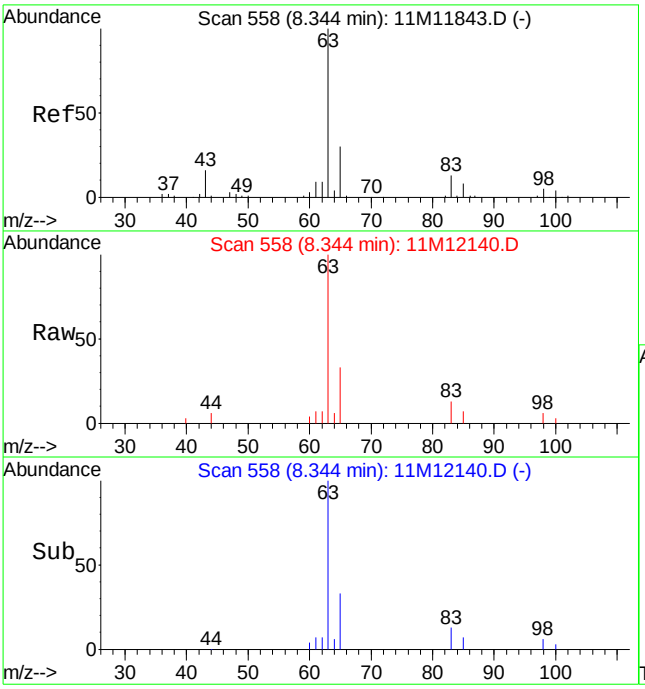


#18
Methyl acetate
Concen: Below Cal
RT: 7.03 min Scan# 431
Delta R.T. -0.03 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 43 Resp: 209

Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#

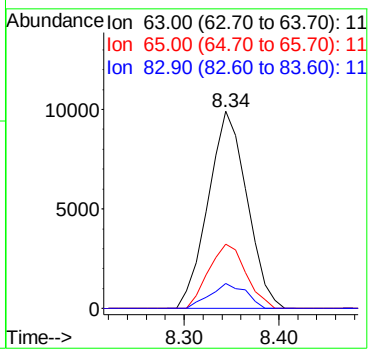


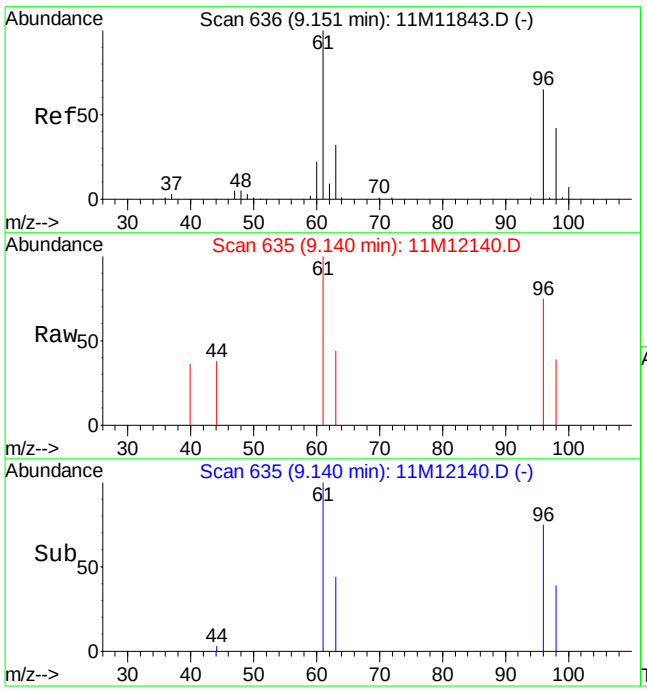


#27
1,1-Dichloroethane
Concen: 2.30 ug/L
RT: 8.34 min Scan# 558
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 63 Resp: 28077

Ion	Ratio	Lower	Upper
63	100		
65	31.3	17.8	41.6
83	11.7	7.4	17.4

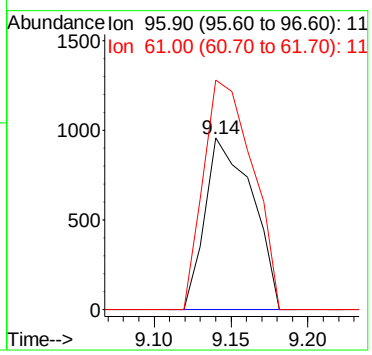


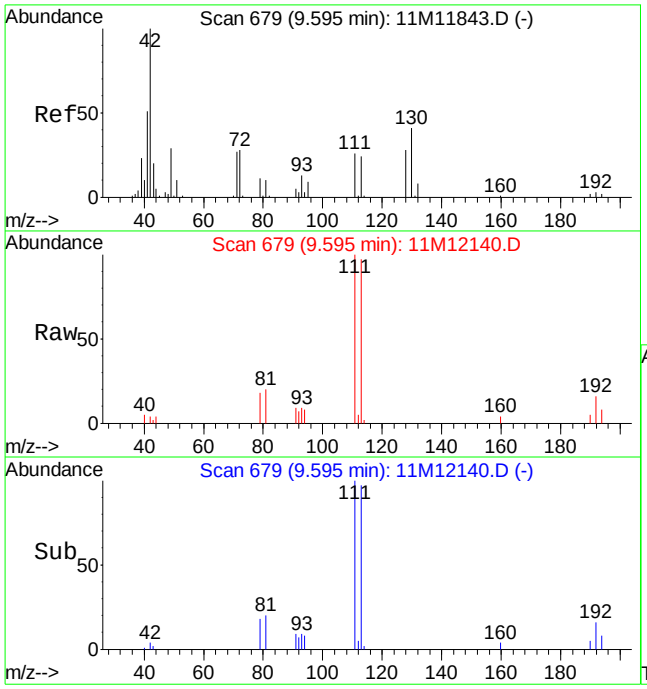


#32
cis-1,2-Dichloroethene
Concen: 0.30 ug/L
RT: 9.14 min Scan# 635
Delta R.T. -0.01 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 96 Resp: 2048

Ion	Ratio	Lower	Upper
96	100		
61	139.4	105.2	245.6

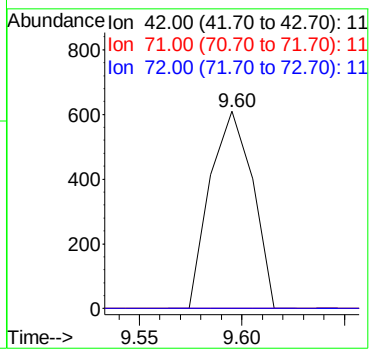


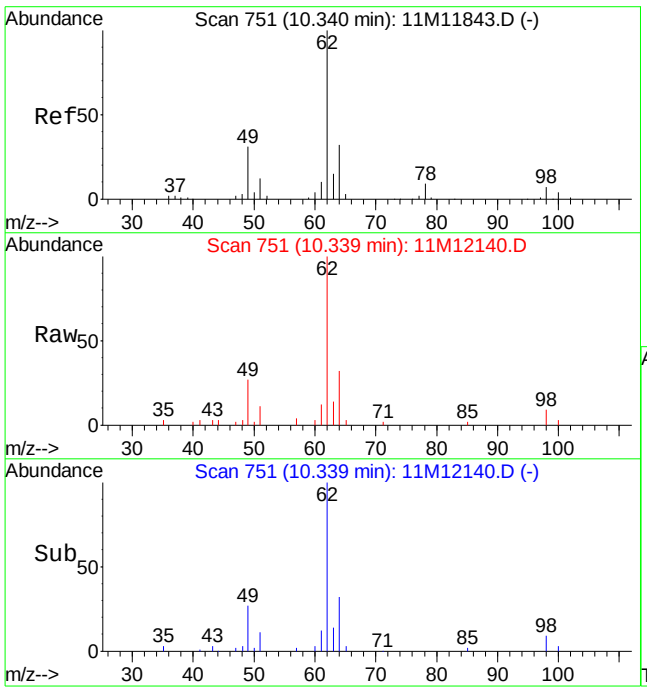


#36
Tetrahydrofuran
Concen: 0.58 ug/L
RT: 9.60 min Scan# 679
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 42 Resp: 884

Ion	Ratio	Lower	Upper
42	100		
71	0.0	16.4	38.2#
72	0.0	16.6	38.8#

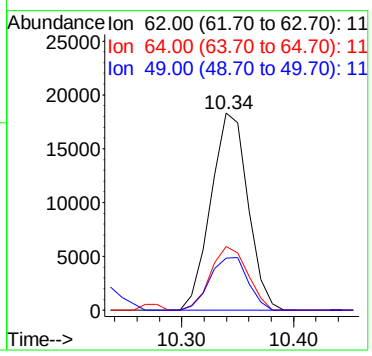


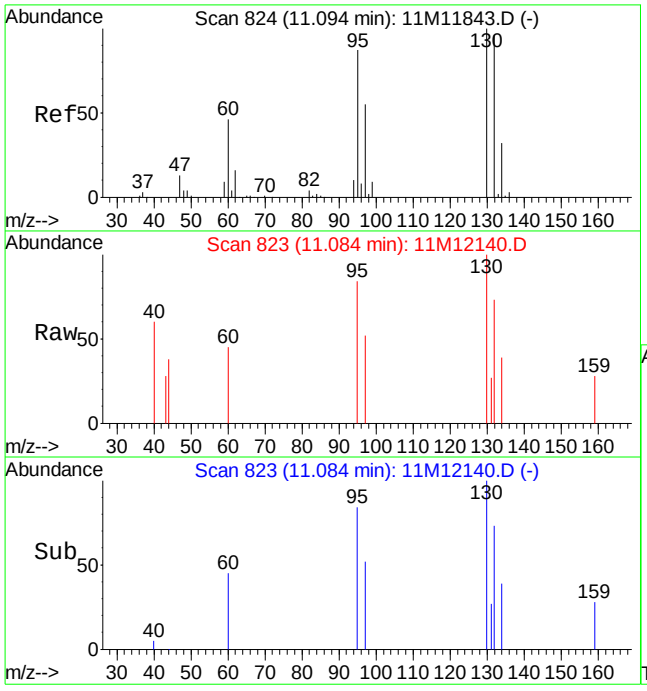


#44
1,2-Dichloroethane
Concen: 4.32 ug/L
RT: 10.34 min Scan# 751
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 62 Resp: 42133

Ion	Ratio	Lower	Upper
62	100		
64	32.4	18.7	43.7
49	27.6	22.3	52.1

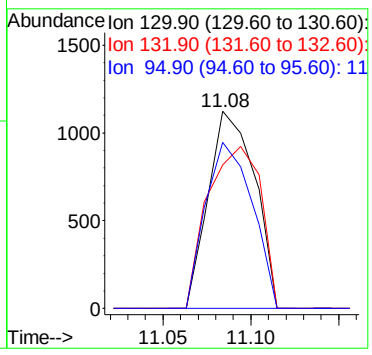


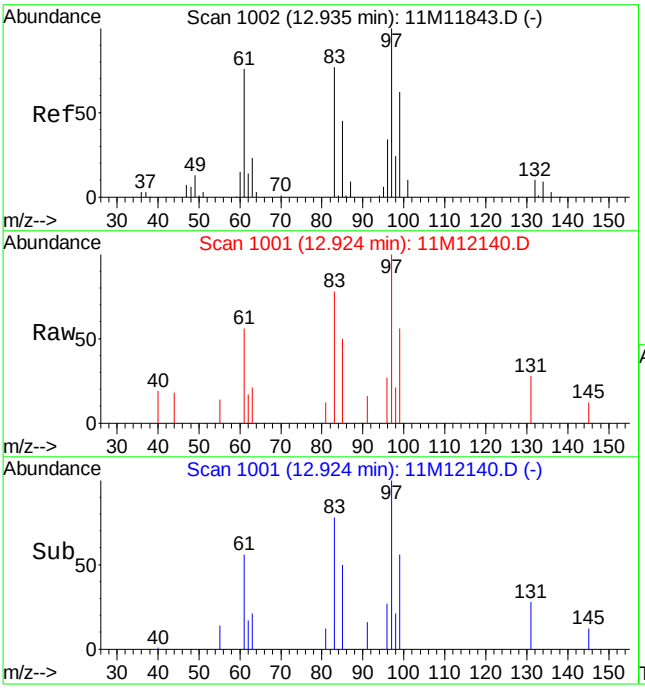


#46
Trichloroethene
Concen: 0.27 ug/L
RT: 11.08 min Scan# 823
Delta R.T. -0.01 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion:130 Resp: 2056

Ion	Ratio	Lower	Upper
130	100		
132	93.9	58.3	136.1
95	84.8	55.6	129.8

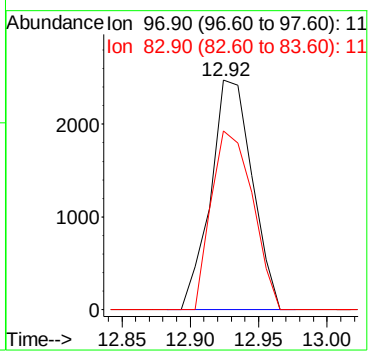


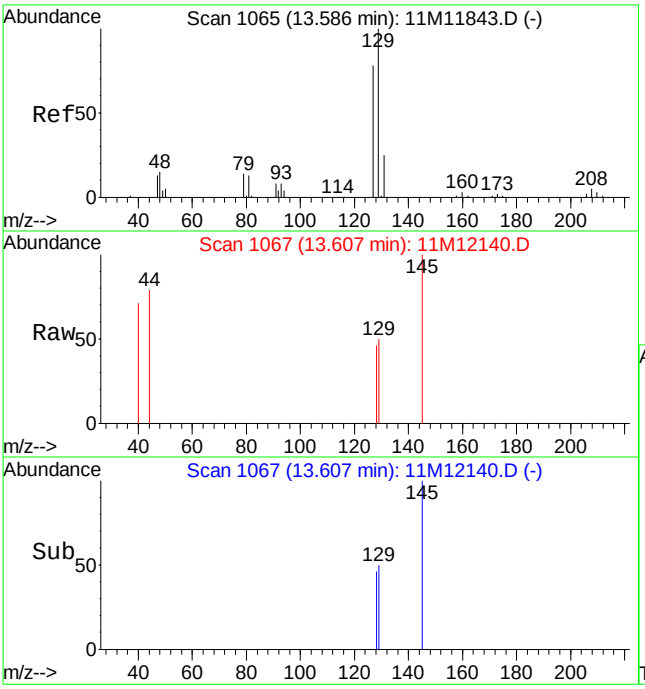


#61
1,1,2-Trichloroethane
Concen: 1.13 ug/L
RT: 12.92 min Scan# 1001
Delta R.T. -0.01 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 97 Resp: 5235

Ion	Ratio	Lower	Upper
97	100		
83	77.2	46.9	109.3

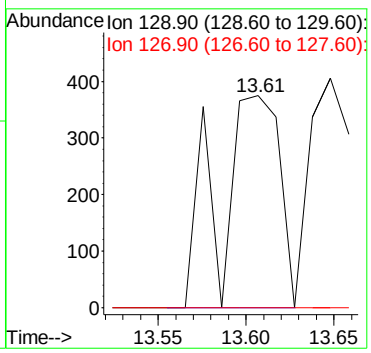


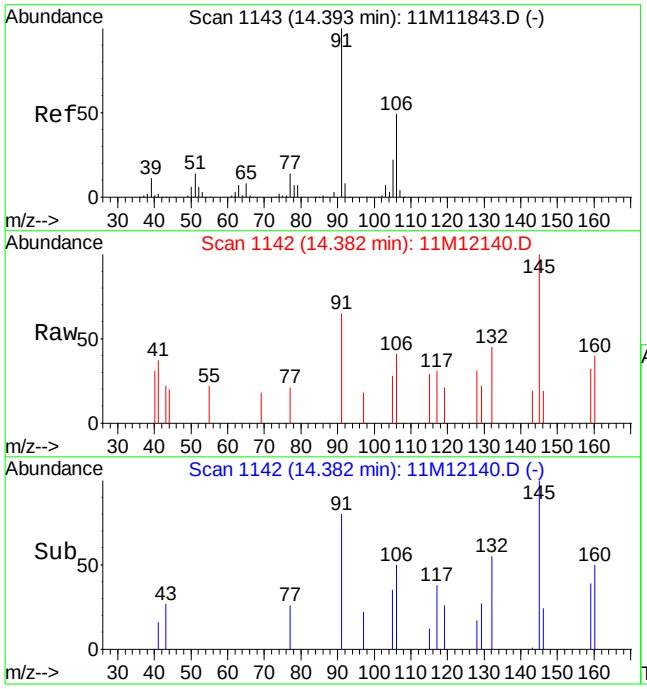


#65
Dibromochloromethane
Concen: 0.13 ug/L
RT: 13.61 min Scan# 1067
Delta R.T. 0.02 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion:129 Resp: 890

Ion	Ratio	Lower	Upper
129	100		
127	0.0	46.4	108.4#

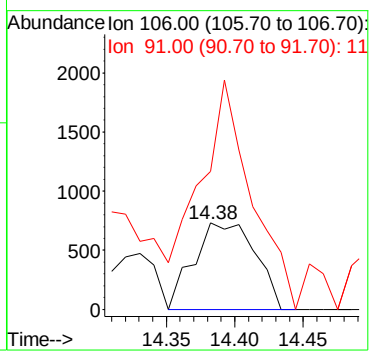


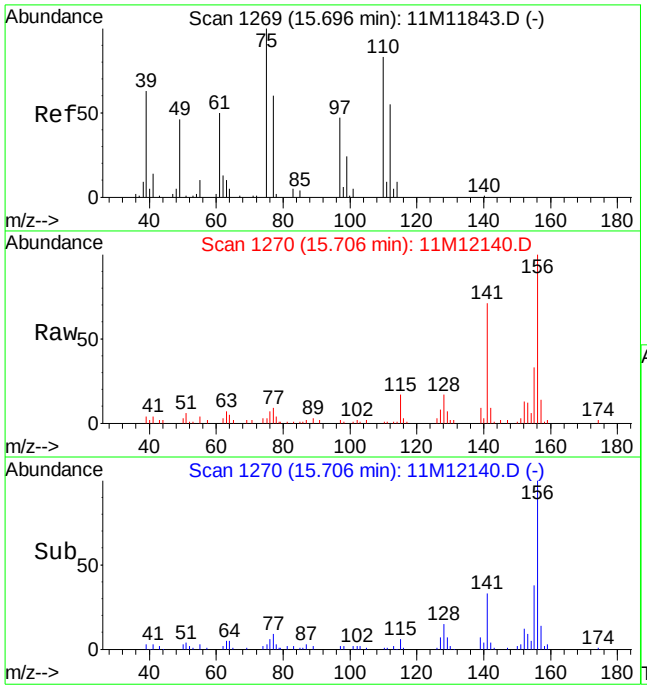


#71
m-,p-Xylene
Concen: 0.19 ug/L
RT: 14.38 min Scan# 1142
Delta R.T. -0.01 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion:106 Resp: 2299

Ion	Ratio	Lower	Upper
106	100		
91	223.4	124.8	291.2

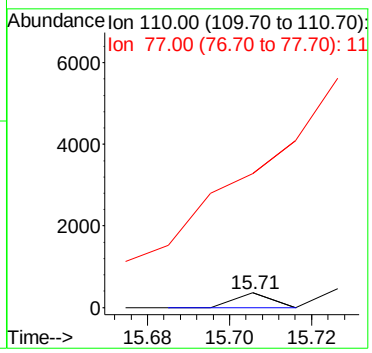


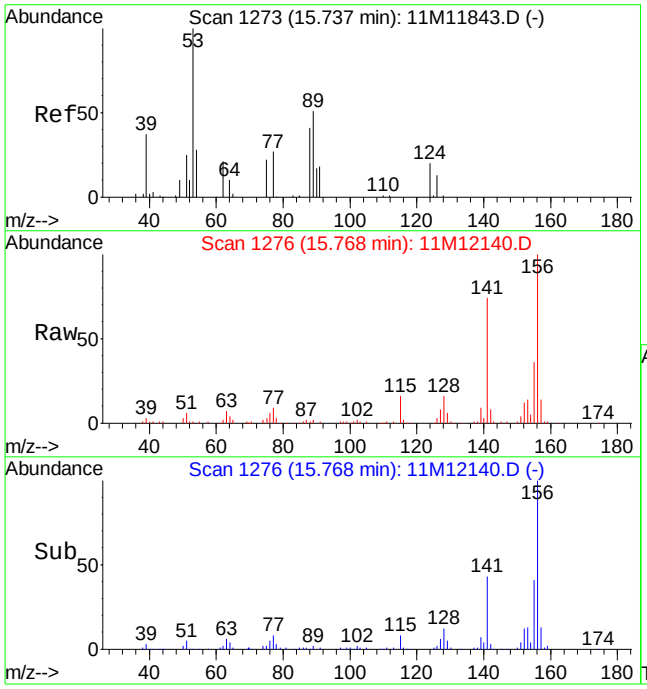


#79
1,2,3-Trichloropropane
Concen: 0.49 ug/L
RT: 15.71 min Scan# 1270
Delta R.T. 0.01 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion:110 Resp: 221

Ion	Ratio	Lower	Upper
110	100		
77	0.0	68.2	159.0#

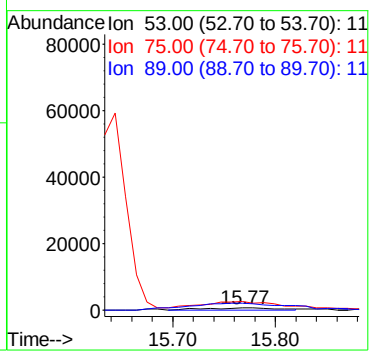


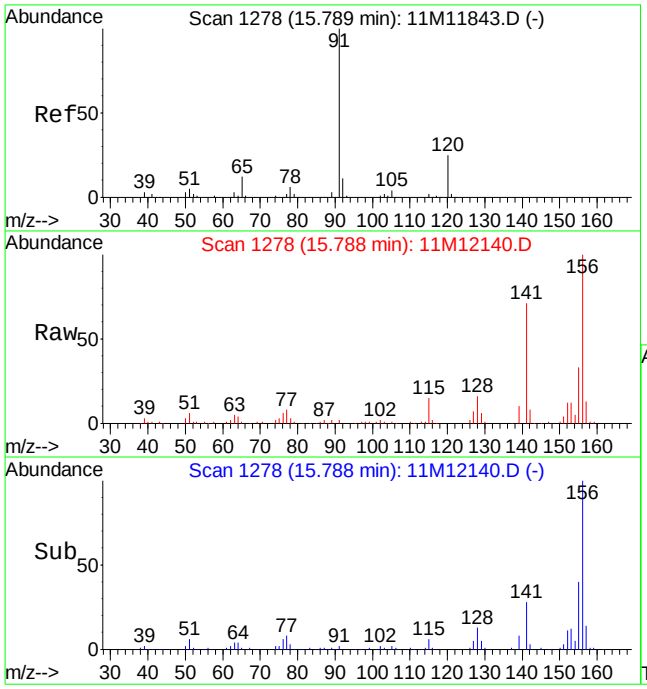


#80
trans-1,4-Dichloro-2-Butene
Concen: 2.42 ug/L
RT: 15.77 min Scan# 1276
Delta R.T. 0.03 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 53 Resp: 3804

Ion	Ratio	Lower	Upper
53	100		
75	366.9	157.5	367.5
89	409.7	28.0	65.2#

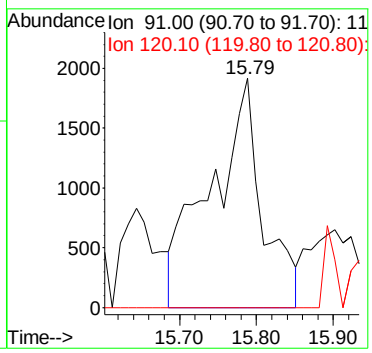


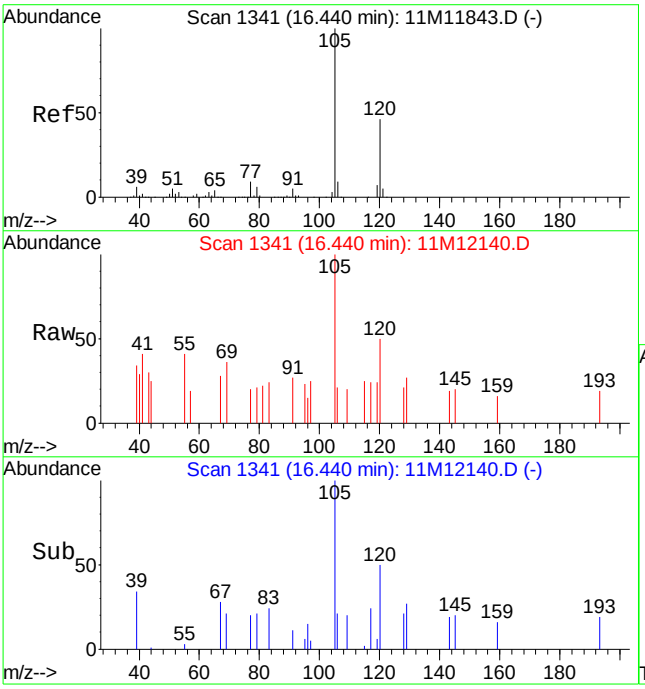


#81
n-Propylbenzene
Concen: 0.26 ug/L
RT: 15.79 min Scan# 1278
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 91 Resp: 8970

Ion	Ratio	Lower	Upper
91	100		
120	0.0	14.6	34.0#

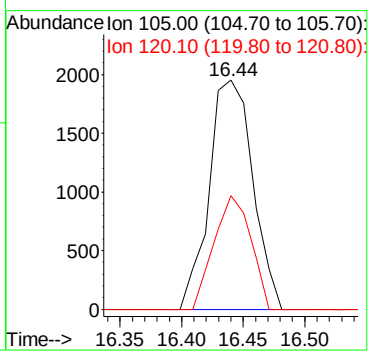


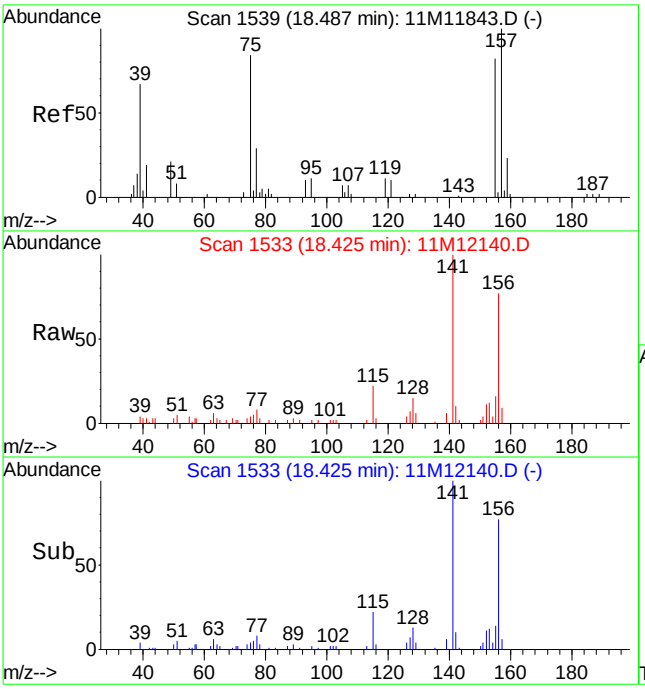


#88
1,2,4-Trimethylbenzene
Concen: 0.18 ug/L
RT: 16.44 min Scan# 1341
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion:105 Resp: 4815

Ion	Ratio	Lower	Upper
105	100		
120	41.8	33.6	78.4

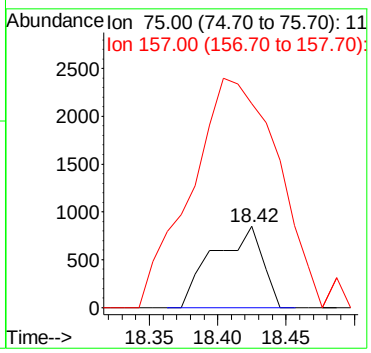


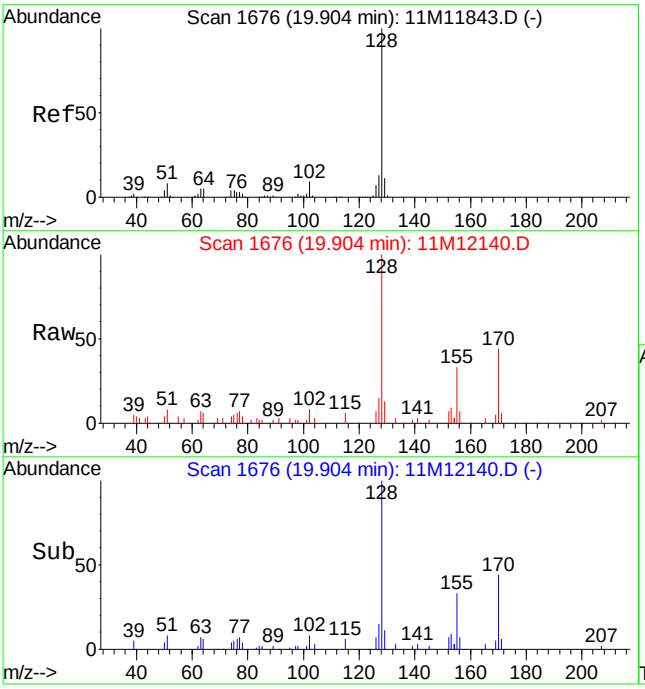


#95
1,2-Dibromo-3-Chloropropane
Concen: 2.63 ug/L
RT: 18.42 min Scan# 1533
Delta R.T. -0.06 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion: 75 Resp: 2101

Ion	Ratio	Lower	Upper
75	100		
157	512.6	75.4	175.8#

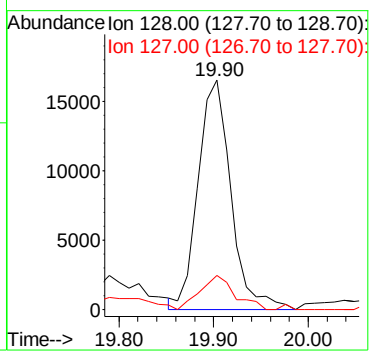




#98
Naphthalene
Concen: 1.83 ug/L
RT: 19.90 min Scan# 1676
Delta R.T. -0.00 min
Lab File: 11M12140.D
Acq: 25 May 2016 19:38

Tgt Ion:128 Resp: 39625

Ion	Ratio	Lower	Upper
128	100		
127	15.4	11.7	14.3#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12108.D Vial: 8
Acq On : 24 May 2016 18:20 Operator: JDS
Sample : L16051153-19 A TB 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:36:52 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

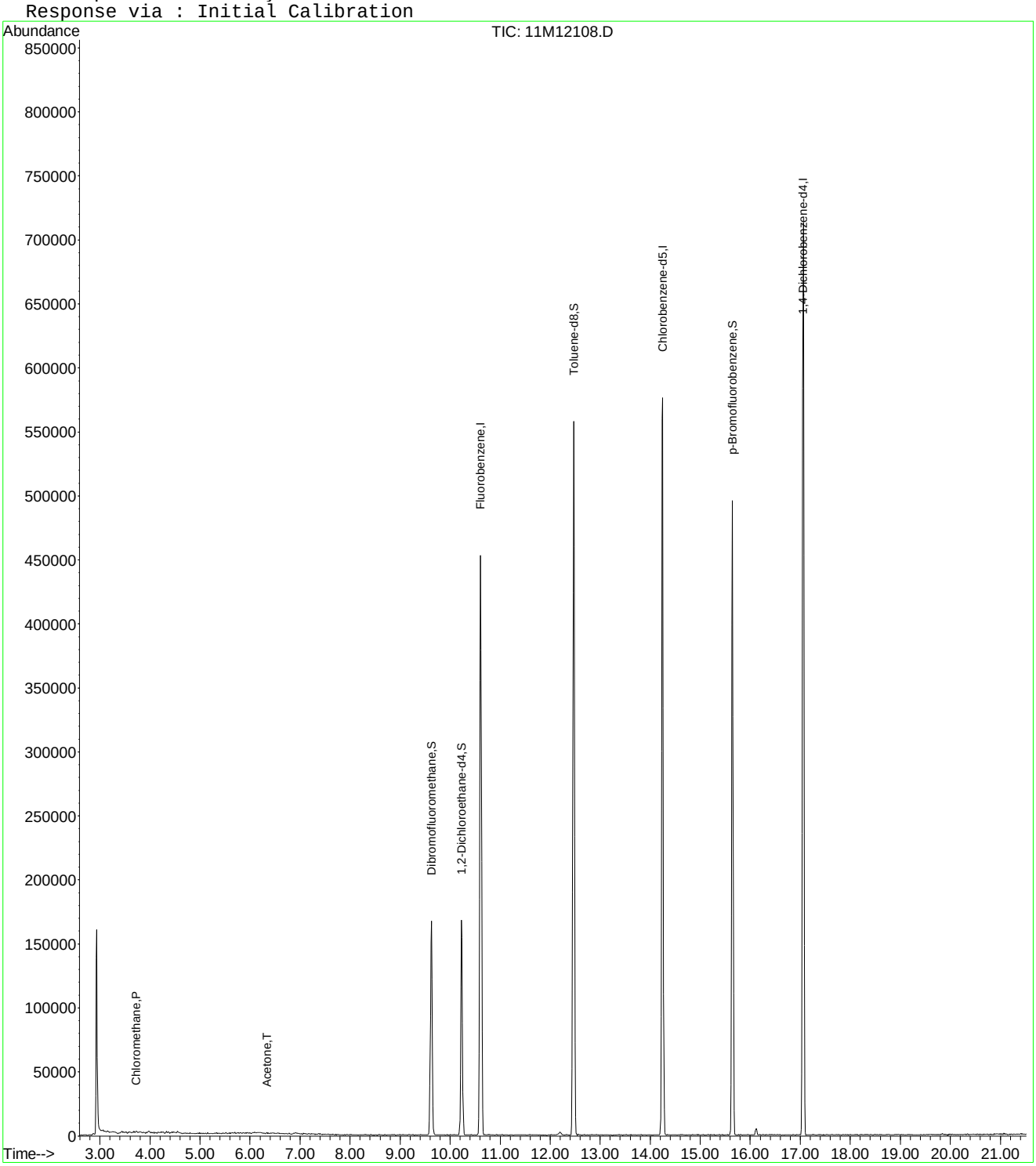
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	479395	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	408433	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	232113	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	135869	25.8967	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 103.60%			
43) 1,2-Dichloroethane-d4	10.23	65	159050	26.5869	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 106.36%			
57) Toluene-d8	12.47	98	451664	25.4510	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.80%			
78) p-Bromofluorobenzene	15.64	95	188288	26.3152	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.28%			
Target Compounds						Qvalue
3) Chloromethane	3.72	50	1408	0.2341	ug/L #	68
13) Acetone	6.34	43	215	0.1889	ug/L #	49

(#) = qualifier out of range (m) = manual integration
11M12108.D 8260WT.M Wed May 25 09:36:53 2016 Page 1

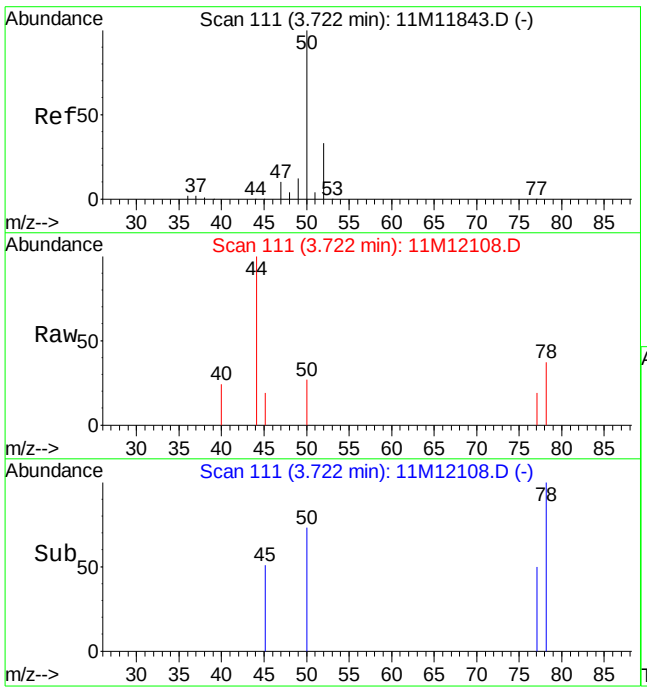
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12108.D Vial: 8
Acq On : 24 May 2016 18:20 Operator: JDS
Sample : L16051153-19 A TB 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:36 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



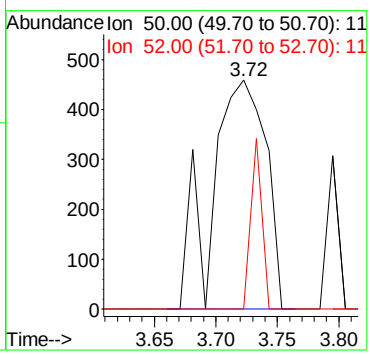
11M12108.D 8260WT.M Wed May 25 09:36:53 2016 Page 2

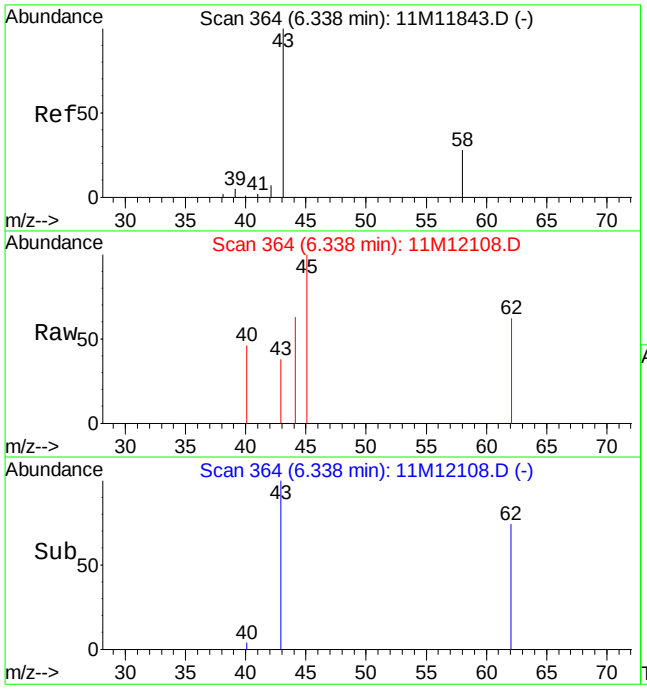


#3
Chloromethane
Concen: 0.23 ug/L
RT: 3.72 min Scan# 111
Delta R.T. 0.00 min
Lab File: 11M12108.D
Acq: 24 May 2016 18:20

Tgt Ion: 50 Resp: 1408

Ion	Ratio	Lower	Upper
50	100		
52	15.1	20.0	46.6#

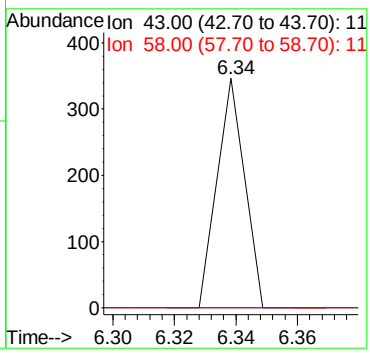




#13
Acetone
Concen: 0.19 ug/L
RT: 6.34 min Scan# 364
Delta R.T. 0.00 min
Lab File: 11M12108.D
Acq: 24 May 2016 18:20

Tgt Ion: 43 Resp: 215

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12119.D Vial: 19
Acq On : 25 May 2016 00:11 Operator: JDS
Sample : L16051153-20 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:37:18 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

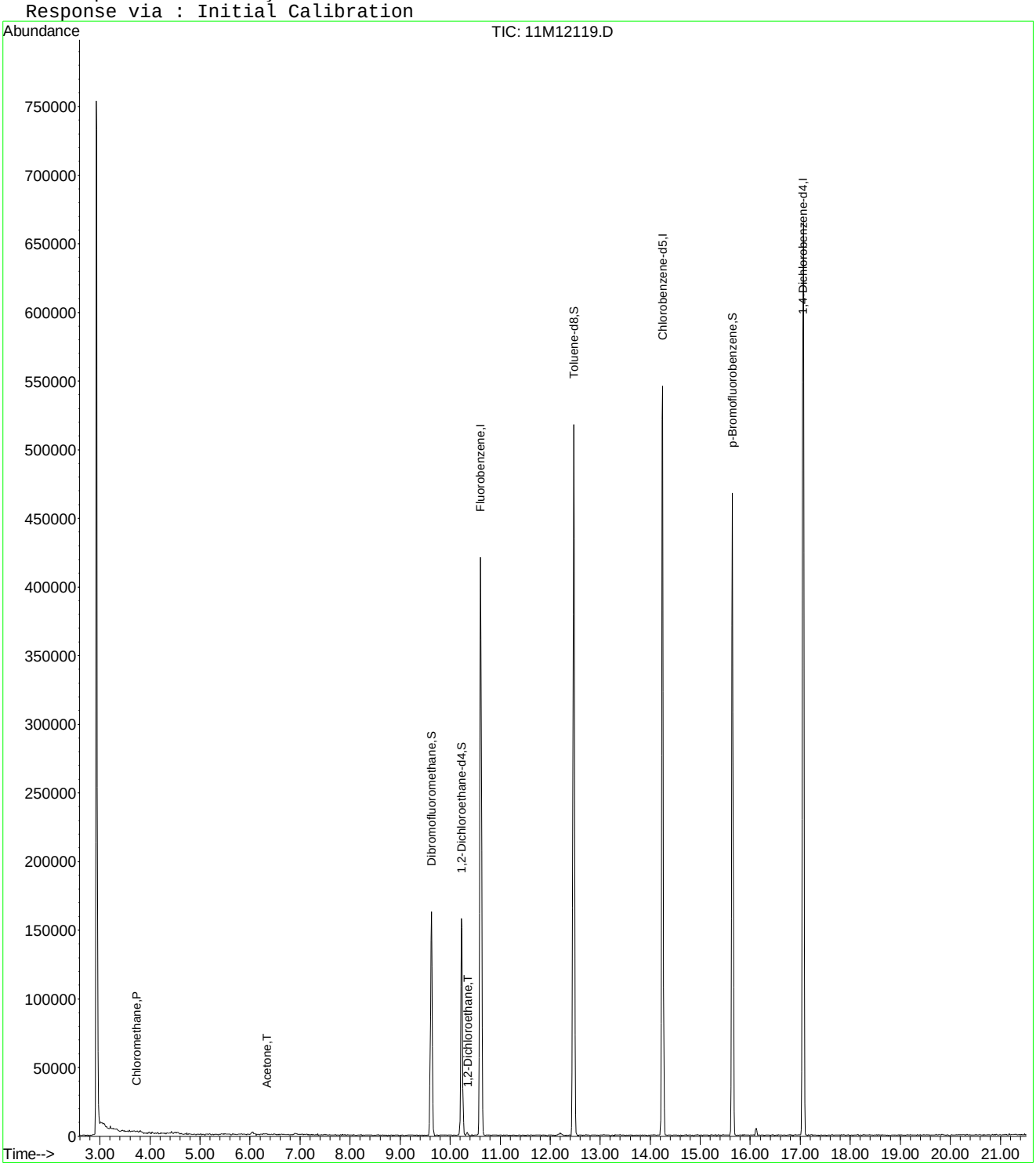
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	445002	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	375788	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	216790	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	128902	26.4676	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 105.88%			
43) 1,2-Dichloroethane-d4	10.23	65	153751	27.6875	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.76%			
57) Toluene-d8	12.47	98	417976	25.5987	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.40%			
78) p-Bromofluorobenzene	15.64	95	176547	26.4182	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.68%			
Target Compounds						Qvalue
3) Chloromethane	3.73	50	935	0.1674	ug/L	79
13) Acetone	6.34	43	558	0.5281	ug/L #	49
44) 1,2-Dichloroethane	10.35	62	2383	0.3303	ug/L #	75

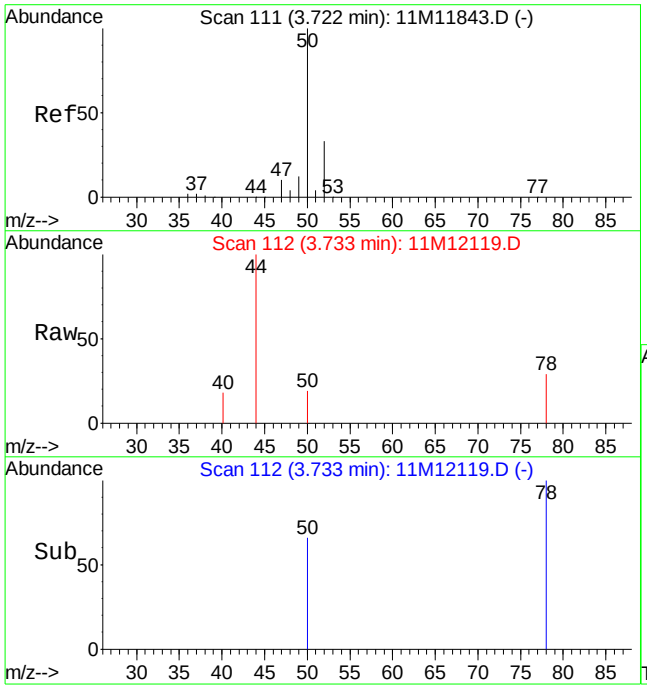
(#) = qualifier out of range (m) = manual integration
11M12119.D 8260WT.M Wed May 25 09:37:19 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12119.D Vial: 19
Acq On : 25 May 2016 00:11 Operator: JDS
Sample : L16051153-20 A 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:37 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

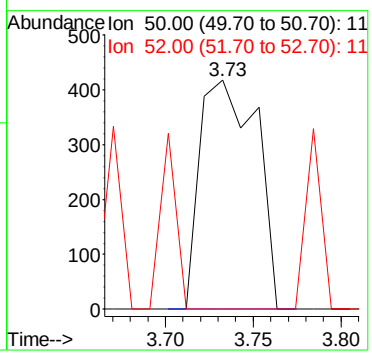


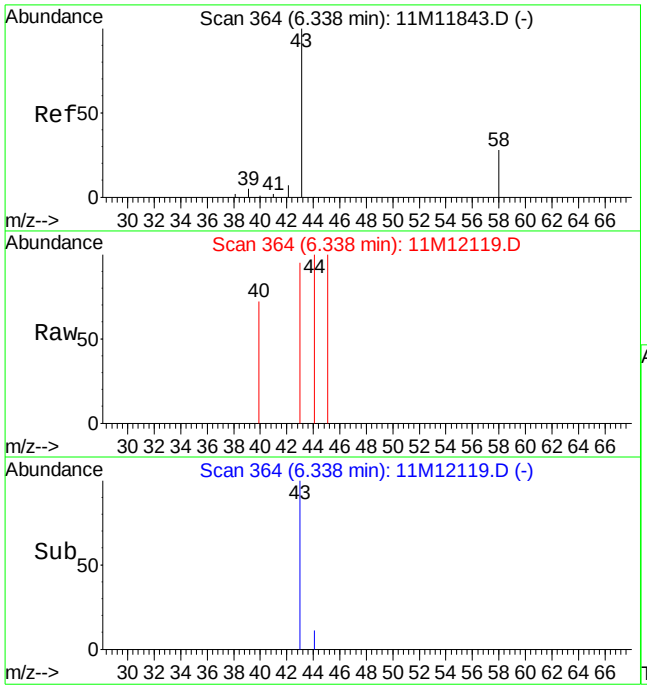


#3
Chloromethane
Concen: 0.17 ug/L
RT: 3.73 min Scan# 112
Delta R.T. 0.01 min
Lab File: 11M12119.D
Acq: 25 May 2016 00:11

Tgt Ion: 50 Resp: 935

Ion	Ratio	Lower	Upper
50	100		
52	21.3	20.0	46.6

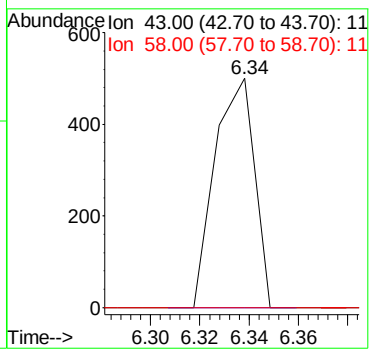


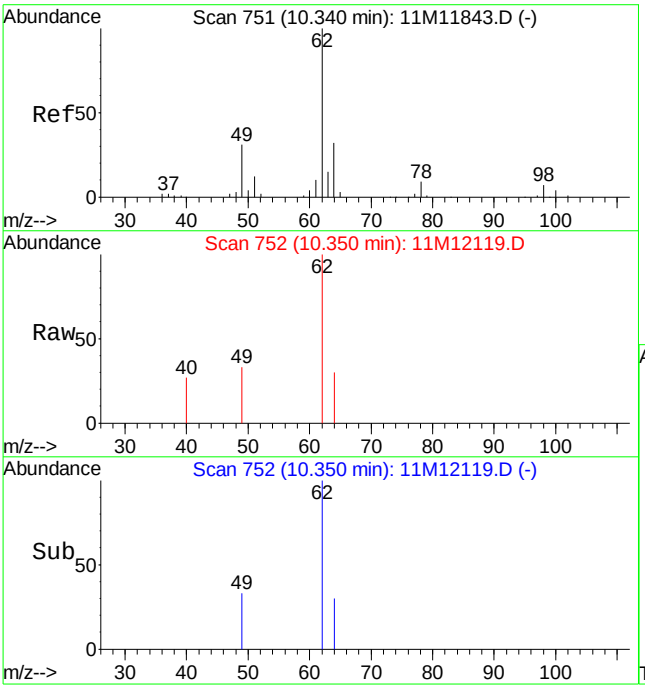


#13
Acetone
Concen: 0.53 ug/L
RT: 6.34 min Scan# 364
Delta R.T. -0.00 min
Lab File: 11M12119.D
Acq: 25 May 2016 00:11

Tgt Ion: 43 Resp: 558

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

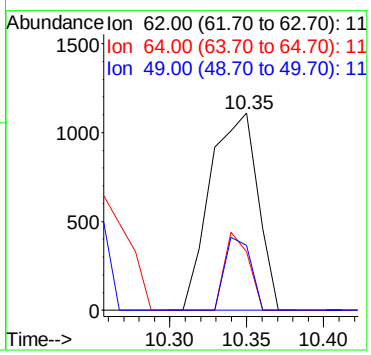




#44
1,2-Dichloroethane
Concen: 0.33 ug/L
RT: 10.35 min Scan# 752
Delta R.T. 0.01 min
Lab File: 11M12119.D
Acq: 25 May 2016 00:11

Tgt Ion: 62 Resp: 2383

Ion	Ratio	Lower	Upper
62	100		
64	20.0	18.7	43.7
49	20.2	22.3	52.1#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12109.D Vial: 9
Acq On : 24 May 2016 18:52 Operator: JDS
Sample : L16051153-21 A TB 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:36:54 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

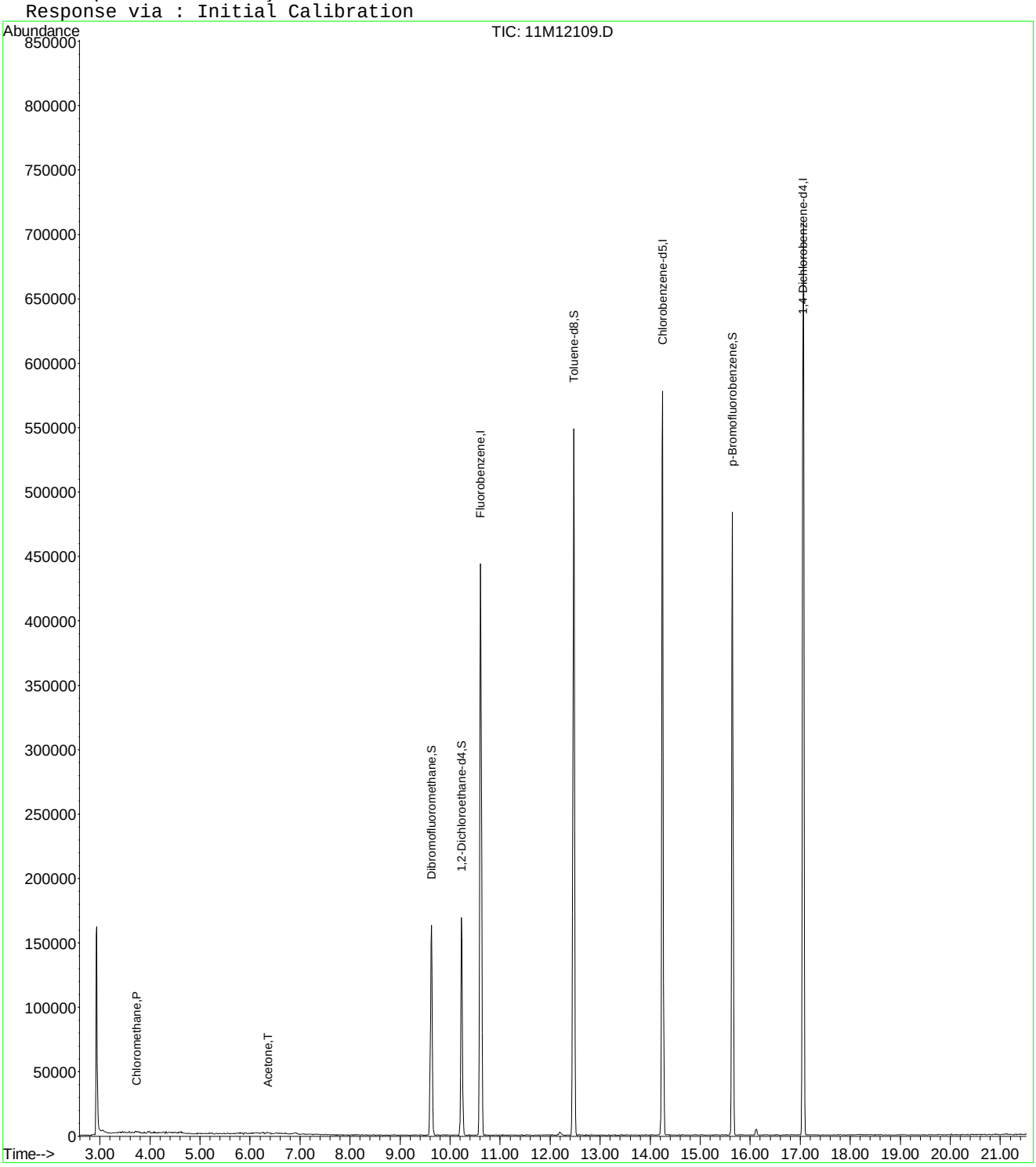
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	472818	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	400317	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	229981	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	132046	25.5181	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.08%			
43) 1,2-Dichloroethane-d4	10.23	65	155885	26.4203	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.68%			
57) Toluene-d8	12.47	98	443320	25.4873	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.96%			
78) p-Bromofluorobenzene	15.64	95	185271	26.1335	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.52%			
Target Compounds						Qvalue
3) Chloromethane	3.73	50	1080	0.1820	ug/L #	41
13) Acetone	6.36	43	617	0.5496	ug/L #	49

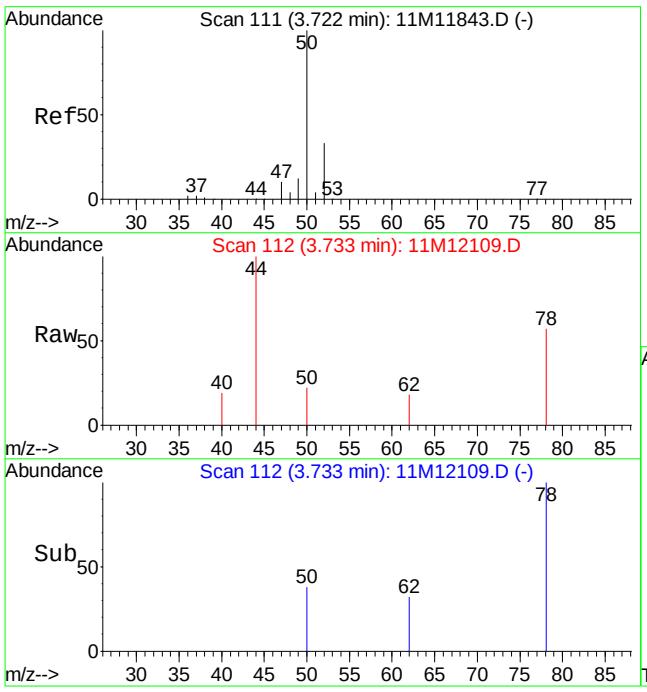
(#) = qualifier out of range (m) = manual integration
11M12109.D 8260WT.M Wed May 25 09:36:55 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12109.D Vial: 9
Acq On : 24 May 2016 18:52 Operator: JDS
Sample : L16051153-21 A TB 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:36 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

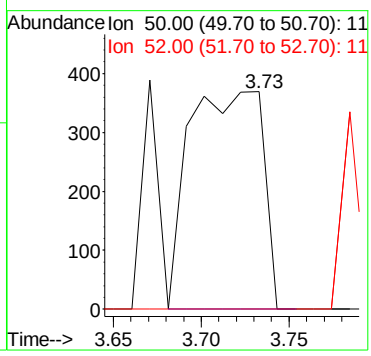


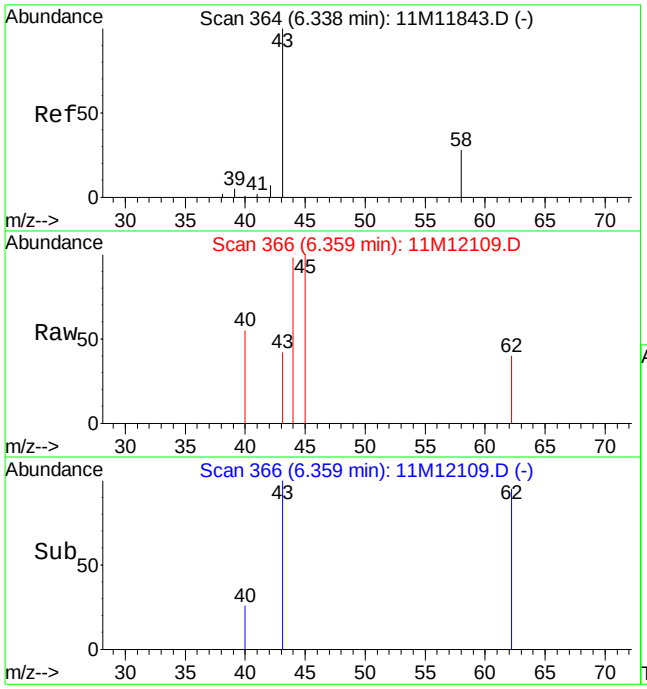


#3
Chloromethane
Concen: 0.18 ug/L
RT: 3.73 min Scan# 112
Delta R.T. 0.01 min
Lab File: 11M12109.D
Acq: 24 May 2016 18:52

Tgt Ion: 50 Resp: 1080

Ion	Ratio	Lower	Upper
50	100		
52	0.0	20.0	46.6#

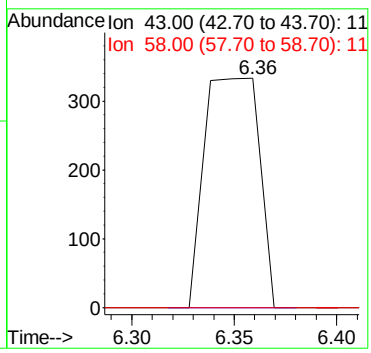




#13
Acetone
Concen: 0.55 ug/L
RT: 6.36 min Scan# 366
Delta R.T. 0.02 min
Lab File: 11M12109.D
Acq: 24 May 2016 18:52

Tgt Ion: 43 Resp: 617

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 10:20:26 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00 ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	486224	25.00 ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	169215	22.8906 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 91.56%		
43) 1,2-Dichloroethane-d4	10.17	65	154962	19.2999 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 77.20%#		
57) Toluene-d8	12.42	98	584744	28.4742 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 113.88%#		
78) p-Bromofluorobenzene	15.58	95	202664	25.0472 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.20%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.23	85	8067	0.8041 ug/L #	81
3) Chloromethane	3.68	50	5797	0.5011 ug/L	91
4) Vinyl Chloride	3.91	62	15554	1.9132 ug/L	97
5) 1,3-Butadiene	3.96	54	11402	1.8745 ug/L	83
6) Bromomethane	4.80	94	1566	0.4085 ug/L	98
7) Chloroethane	4.96	64	1797	0.3015 ug/L #	43
8) Trichlorofluoromethane	5.43	101	4457	0.3306 ug/L	92
10) Isoprene	5.99	67	2109	0.2044 ug/L #	51
12) 1,1,2-Trichloro-1,2,2-Trif	6.23	101	1597	0.2057 ug/L	98
13) Acetone	6.30	43	3590	1.8309 ug/L #	60
14) 1,1-Dichloroethene	6.50	61	4933	0.3633 ug/L	96
19) Methylene Chloride	7.28	84	2287	0.2902 ug/L	89
20) Carbon Disulfide	7.31	76	24059	1.0619 ug/L	98
23) trans-1,2-Dichloroethene	7.69	96	3973	0.5072 ug/L	81
24) n-Hexane	7.78	57	5925	0.4871 ug/L #	85
32) cis-1,2-Dichloroethene	9.10	96	2970	0.3509 ug/L	71
33) Chloroform	9.30	83	1689	0.1200 ug/L	78
35) Bromochloromethane	9.51	130	597	0.1244 ug/L #	66
36) Tetrahydrofuran	9.56	42	405	0.1826 ug/L #	44
39) Cyclohexane	9.83	56	2167	0.1307 ug/L	90
40) 1,1-Dichloropropene	9.99	75	3207	0.2986 ug/L	86
45) Benzene	10.32	78	3922	0.1286 ug/L	88
46) Trichloroethene	11.03	130	3473	0.3872 ug/L	90
47) Methylcyclohexane	11.10	83	2708	0.2333 ug/L #	77
51) Dibromomethane	11.60	93	782	0.1870 ug/L	62
54) cis-1,3-Dichloropropene	12.11	75	1452	0.1277 ug/L #	41
58) Toluene	12.51	91	4350	0.1662 ug/L	83
60) trans-1,3-Dichloropropene	12.68	75	1450	0.1811 ug/L #	47
64) Tetrachloroethene	13.28	164	1514	0.2507 ug/L	75
66) 1,2-Dibromoethane	13.77	107	783	0.1520 ug/L	82
67) 1-Chlorohexane	13.83	91	2267	0.2766 ug/L	67
68) Chlorobenzene	14.24	112	4044	0.2287 ug/L	88
70) Ethylbenzene	14.25	106	1461	0.1464 ug/L	62
71) m-,p-Xylene	14.34	106	3596	0.3050 ug/L #	47
73) Styrene	14.90	104	2784	0.1479 ug/L	80
75) Isopropylbenzene	15.25	105	4163	0.1408 ug/L #	74
81) n-Propylbenzene	15.73	91	6395	0.2079 ug/L #	73
82) Bromobenzene	15.86	156	1681	0.2112 ug/L	100
83) 1,3,5-Trimethylbenzene	15.90	105	3253	0.1356 ug/L	100
84) 2-Chlorotoluene	16.00	91	3395	0.1597 ug/L	86

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDchem\1\data\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 10:20:26 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

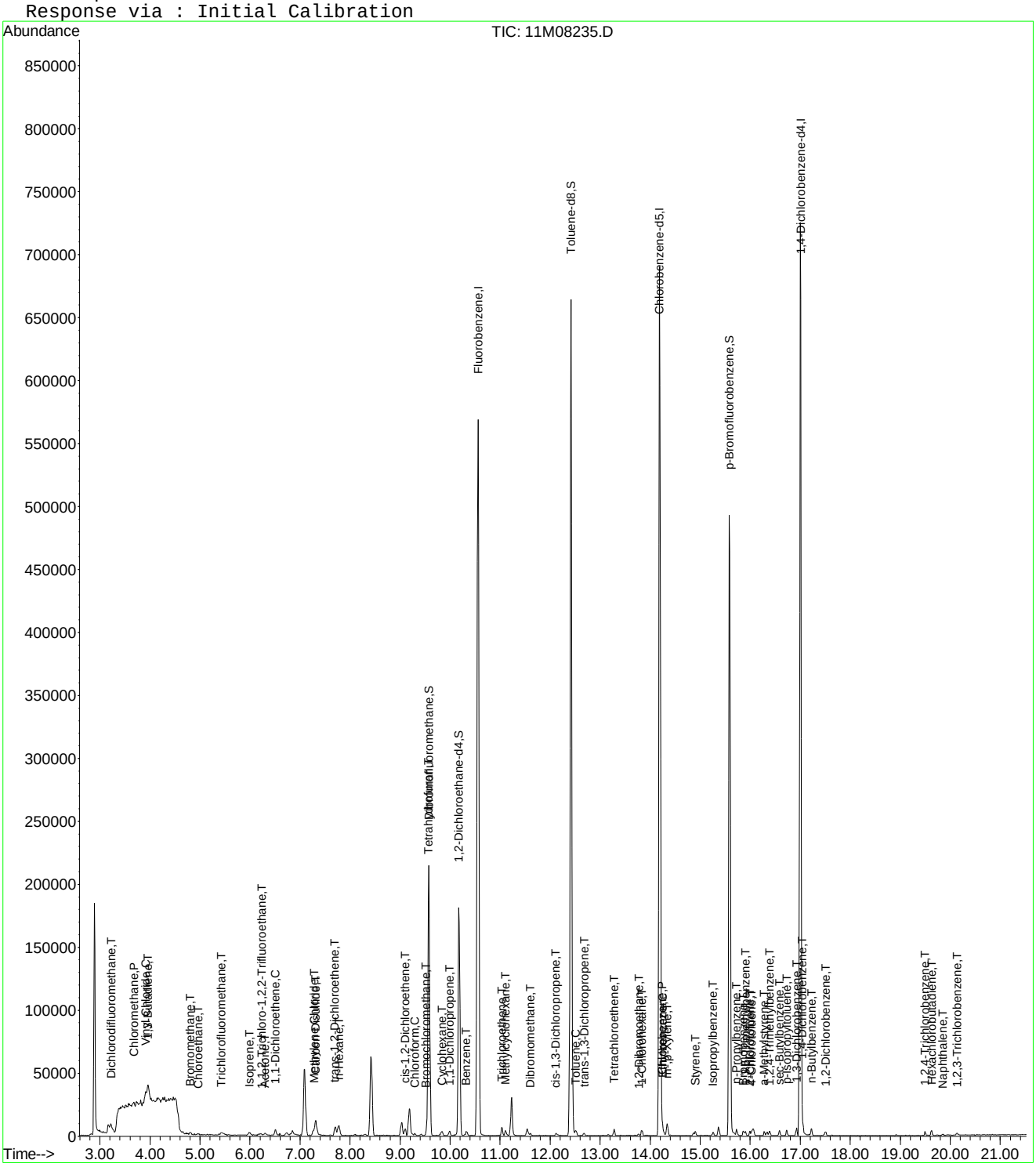
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
85) 4-Chlorotoluene	16.03	91	4746	0.2598 ug/L		84
86) a-Methylstyrene	16.27	118	1776	0.1452 ug/L		76
88) 1,2,4-Trimethylbenzene	16.39	105	3776	0.1571 ug/L		77
89) sec-Butylbenzene	16.58	105	5834	0.2044 ug/L	#	77
90) p-Isopropyltoluene	16.73	119	5149	0.2137 ug/L		87
91) 1,3-Dichlorobenzene	16.93	146	3649	0.2531 ug/L		97
92) 1,4-Dichlorobenzene	17.04	146	5213	0.3507 ug/L	#	7
93) n-Butylbenzene	17.23	91	5778	0.3036 ug/L	#	78
94) 1,2-Dichlorobenzene	17.51	146	2232	0.1581 ug/L		92
96) 1,2,4-Trichlorobenzene	19.49	180	1750	0.2281 ug/L	#	64
97) Hexachlorobutadiene	19.62	225	1771	0.4493 ug/L		86
98) Naphthalene	19.84	128	2058	0.1572 ug/L	#	63
99) 1,2,3-Trichlorobenzene	20.13	180	1072	0.1483 ug/L	#	40

(#) = qualifier out of range (m) = manual integration
11M08235.D 8260WTR.M Sun Jun 14 10:20:27 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 10:20 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:43:53 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

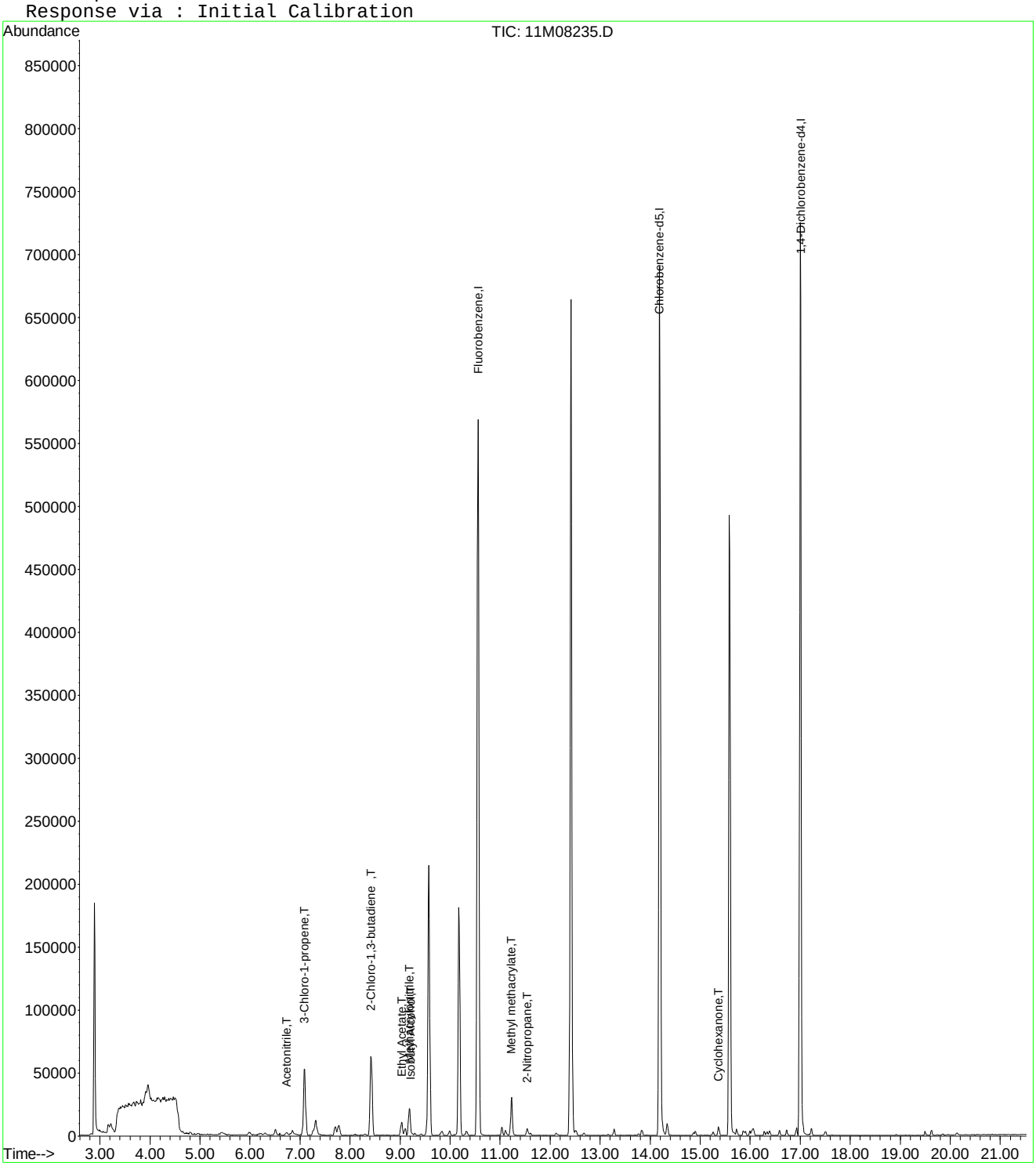
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.73	41	3211	6.0366	ug/L	70
3) 3-Chloro-1-propene	7.08	41	50601	4.3748	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	56035	4.7289	ug/L	97
5) Methacrylonitrile	9.18	41	16495	5.1749	ug/L	91
6) Isobutyl Alcohol	9.21	43	2014	16.4797	ug/L #	1
8) Cyclohexanone	15.36	55	3979	4.5232	ug/L	98
9) 2-Nitropropane	11.54	43	3915	3.2057	ug/L #	72
10) Ethyl Acetate	9.03	43	17657	4.5044	ug/L	95
11) Methyl methacrylate	11.22	41	20122	4.7597	ug/L	95

(#) = qualifier out of range (m) = manual integration
11M08235.D A9FOOWT.M Tue Jun 16 09:43:53 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:04 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L	-0.02

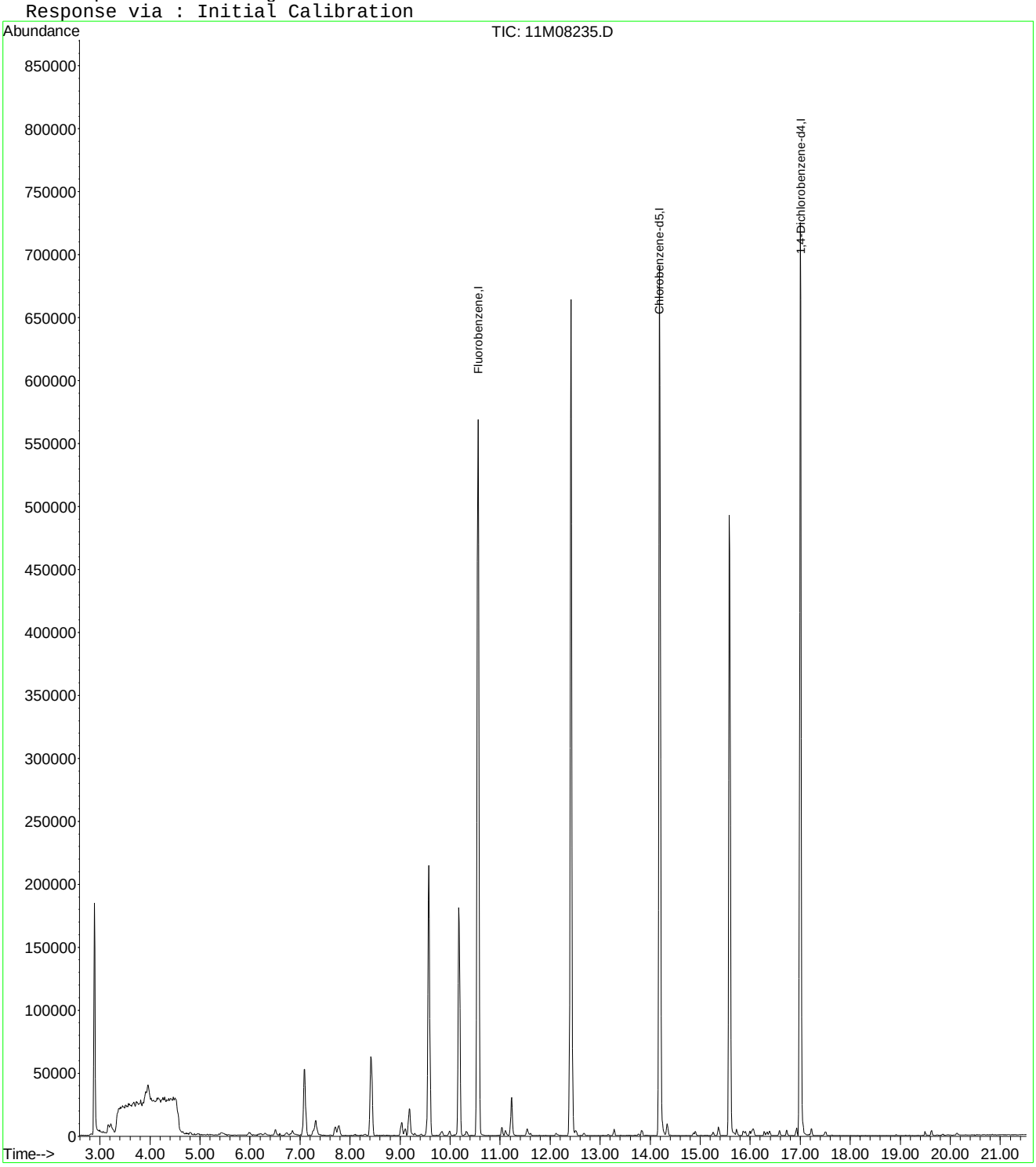
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08235.D A9FOOWT.M Thu Aug 20 11:28:04 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:46 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

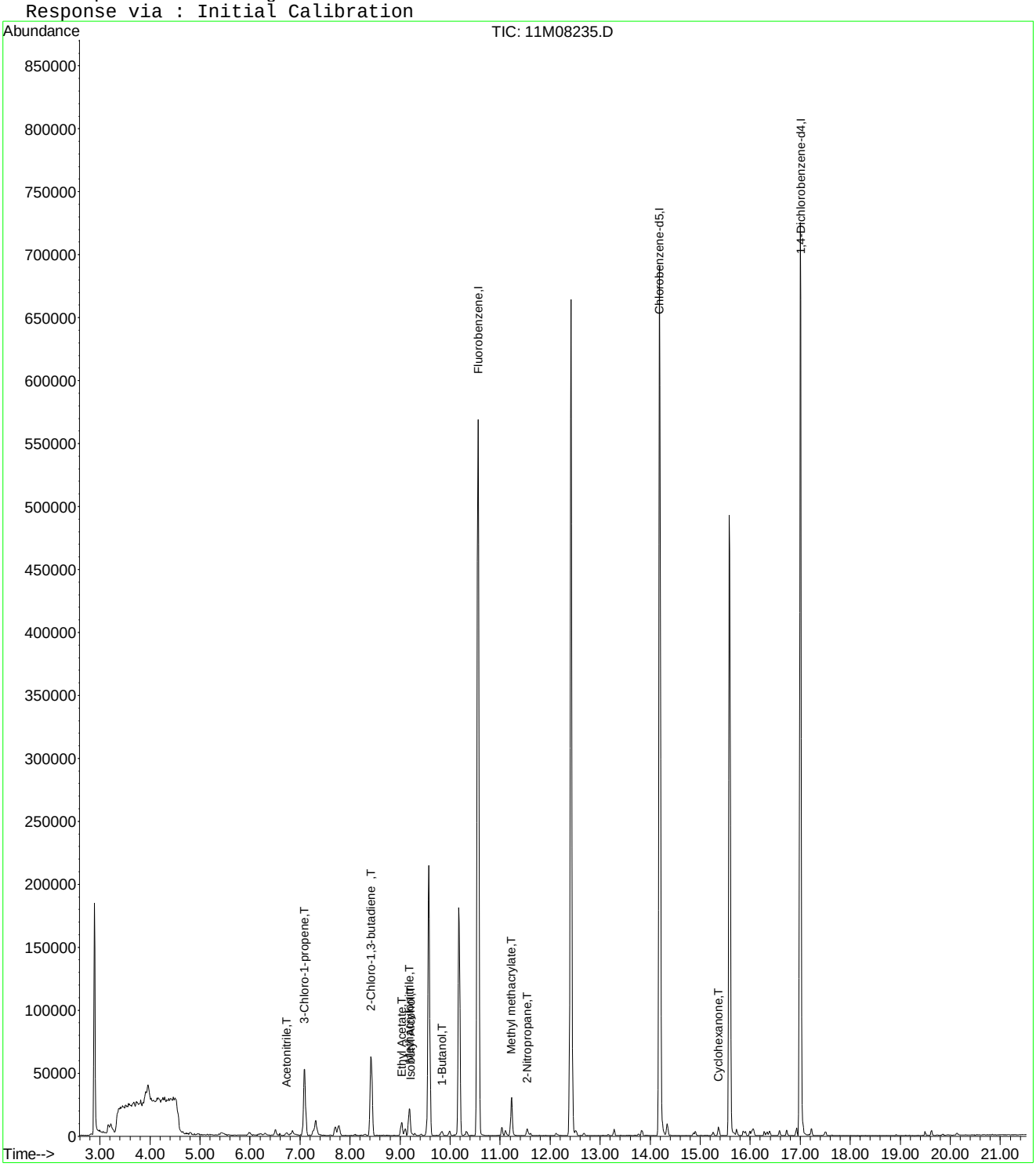
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.73	41	3211	6.2865	ug/L		70
3) 3-Chloro-1-propene	7.08	41	50601	5.0485	ug/L		86
4) 2-Chloro-1,3-butadiene	8.42	53	56035	4.6571	ug/L		97
5) Methacrylonitrile	9.18	41	16495	5.3246	ug/L		91
6) Isobutyl Alcohol	9.21	43	2014	12.6338	ug/L	#	1
7) 1-Butanol	9.83	56	2167	25.6978	ug/L	#	47
8) Cyclohexanone	15.36	55	3979	5.1947	ug/L		98
9) 2-Nitropropane	11.54	43	3915	35.7530	ug/L	#	72
10) Ethyl Acetate	9.03	43	17657	4.8057	ug/L		95
11) Methyl methacrylate	11.22	41	20122	4.7099	ug/L		95

(#) = qualifier out of range (m) = manual integration
11M08235.D A9FOOWT.M Thu Aug 20 11:43:47 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	5.0000	6.2866	-25.7	100	0.01
3	T	3-Chloro-1-propene	5.0000	5.0485	-1.0	100	-0.01
4	T	2-Chloro-1,3-butadiene	5.0000	4.6571	6.9	100	0.00
5	T	Methacrylonitrile	5.0000	5.3246	-6.5	100	0.00
6	T	Isobutyl Alcohol	-1.0000	12.6338	0.0	100	0.02
7	T	1-Butanol	-1.0000	25.6978	0.0	0	-0.24
8	T	Cyclohexanone	-1.0000	5.1947	0.0	100	0.00
9	T	2-Nitropropane	-1.0000	35.7530	0.0	0	0.00
10	T	Ethyl Acetate	5.0000	4.8057	3.9	100	0.00
11	T	Methyl methacrylate	5.0000	4.7099	5.8	100	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M08235.D A9FOOWT.M Thu Aug 20 11:44:19 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 10:52:27 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

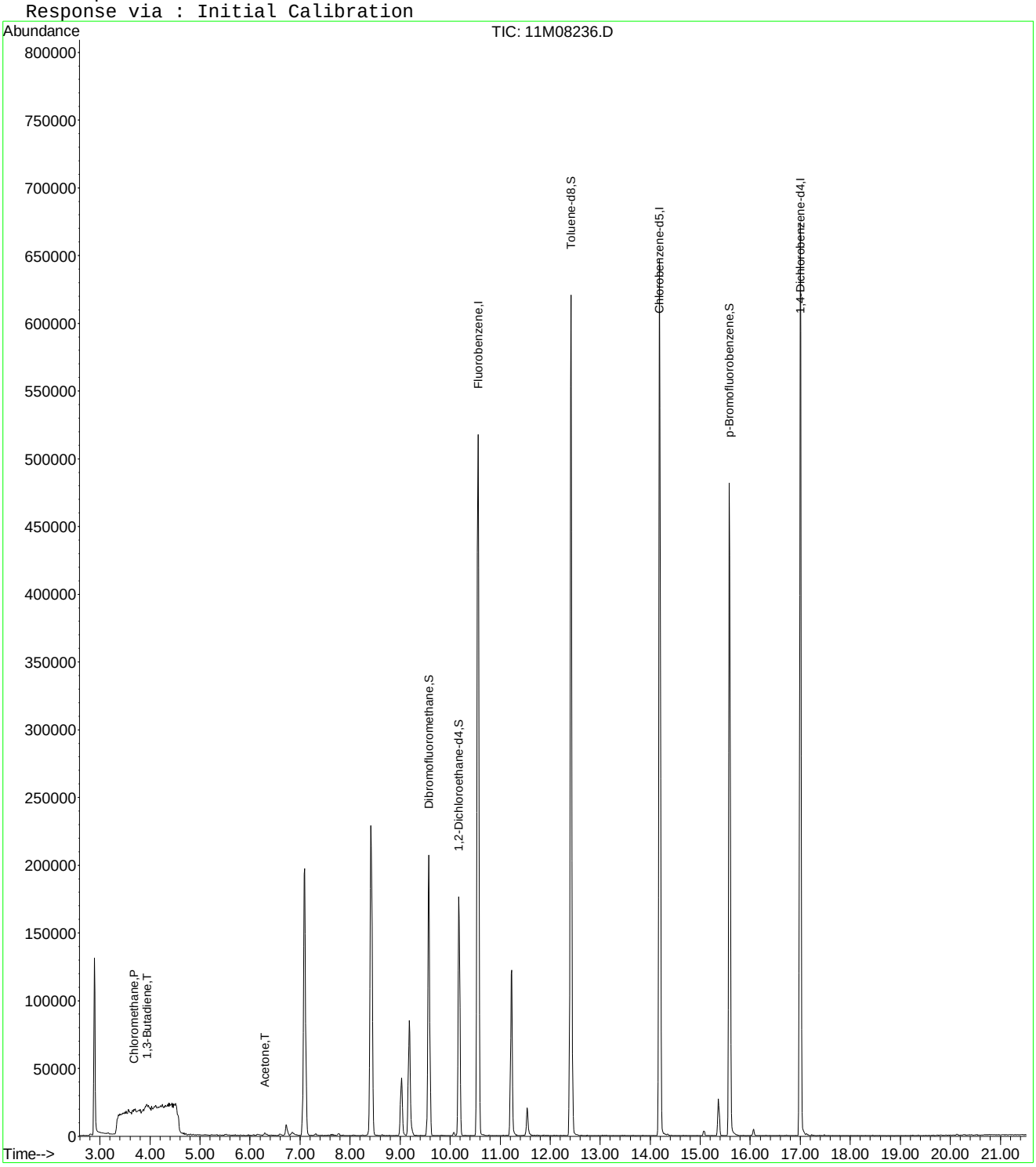
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	159209	23.4852	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.96%			
43) 1,2-Dichloroethane-d4	10.17	65	149549	20.3105	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 81.24%			
57) Toluene-d8	12.42	98	551790	28.9575	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 115.84%#			
78) p-Bromofluorobenzene	15.58	95	193663	26.0609	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.24%			
Target Compounds						Qvalue
3) Chloromethane	3.68	50	2560	0.2413	ug/L	85
5) 1,3-Butadiene	3.94	54	1485	0.2662	ug/L #	60
13) Acetone	6.30	43	3499	1.9459	ug/L #	49

(#) = qualifier out of range (m) = manual integration
11M08236.D 8260WTR.M Sun Jun 14 10:52:28 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 10:52 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:43:55 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

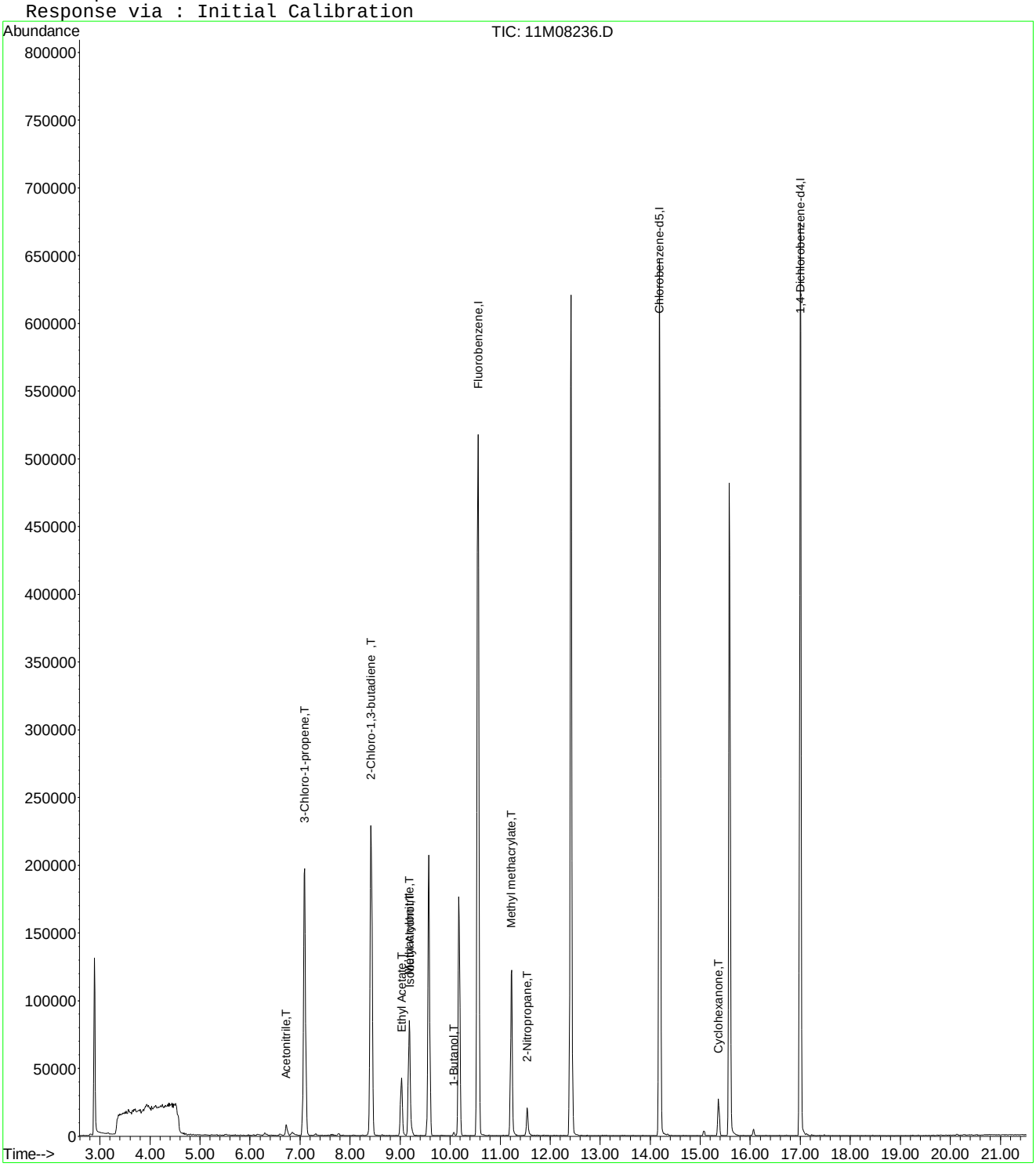
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	-0.03
Target Compounds						Qvalue
2) Acetonitrile	6.72	41	10965	22.4787	ug/L	99
3) 3-Chloro-1-propene	7.09	41	181745	17.1344	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	204133	18.7856	ug/L	96
5) Methacrylonitrile	9.18	41	56411	19.2984	ug/L	84
6) Isobutyl Alcohol	9.19	43	6275	55.9901	ug/L	85
7) 1-Butanol	10.07	56	1474	31.3751	ug/L	93
8) Cyclohexanone	15.36	55	15226	18.8740	ug/L	98
9) 2-Nitropropane	11.54	43	14015	12.5138	ug/L #	72
10) Ethyl Acetate	9.03	43	70834	19.7046	ug/L	96
11) Methyl methacrylate	11.22	41	78843	20.3367	ug/L	93

(#) = qualifier out of range (m) = manual integration
11M08236.D A9FOOWT.M Tue Jun 16 09:43:55 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:06 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	-0.03

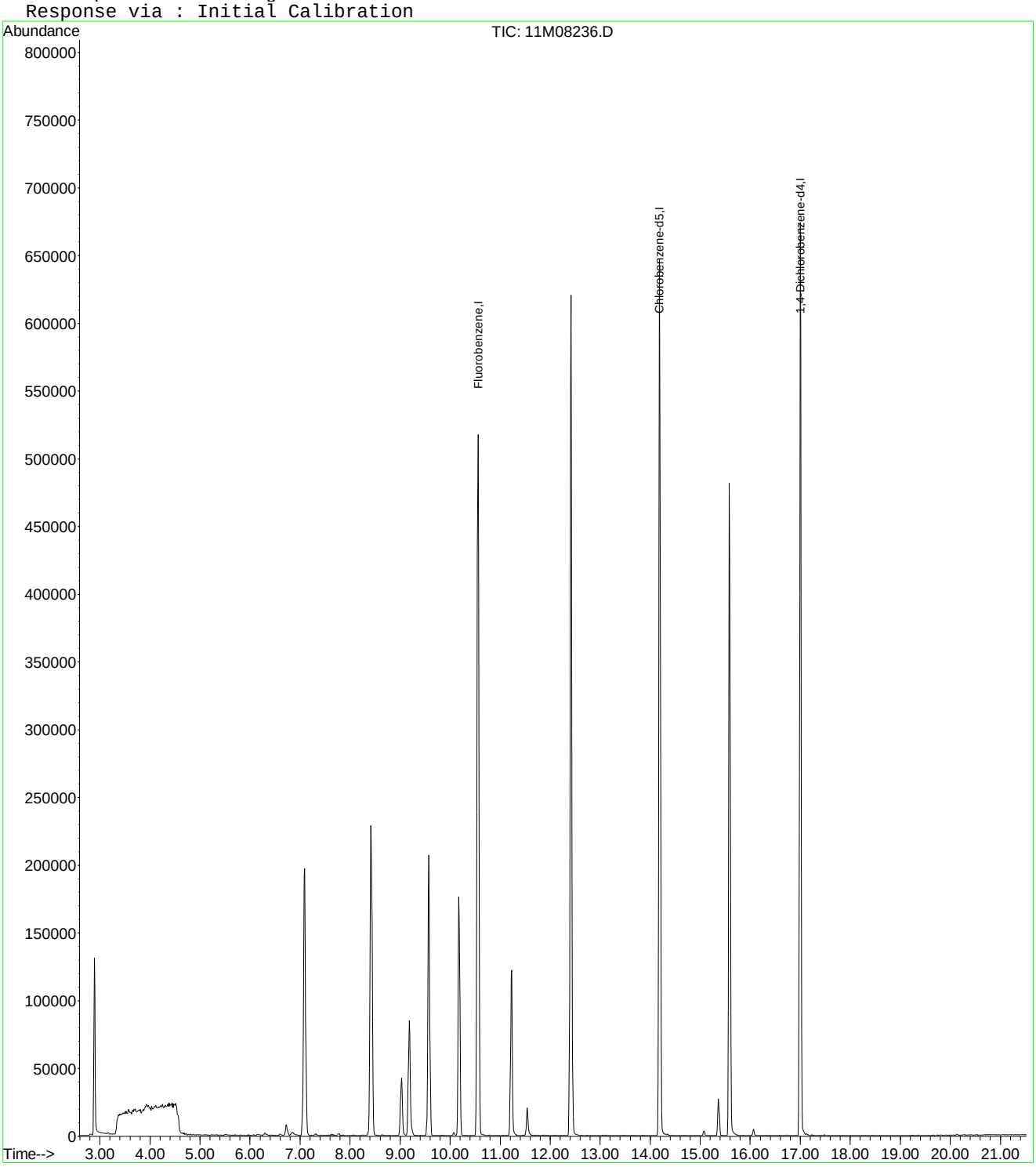
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08236.D A9FOOWT.M Thu Aug 20 11:28:07 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:48 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

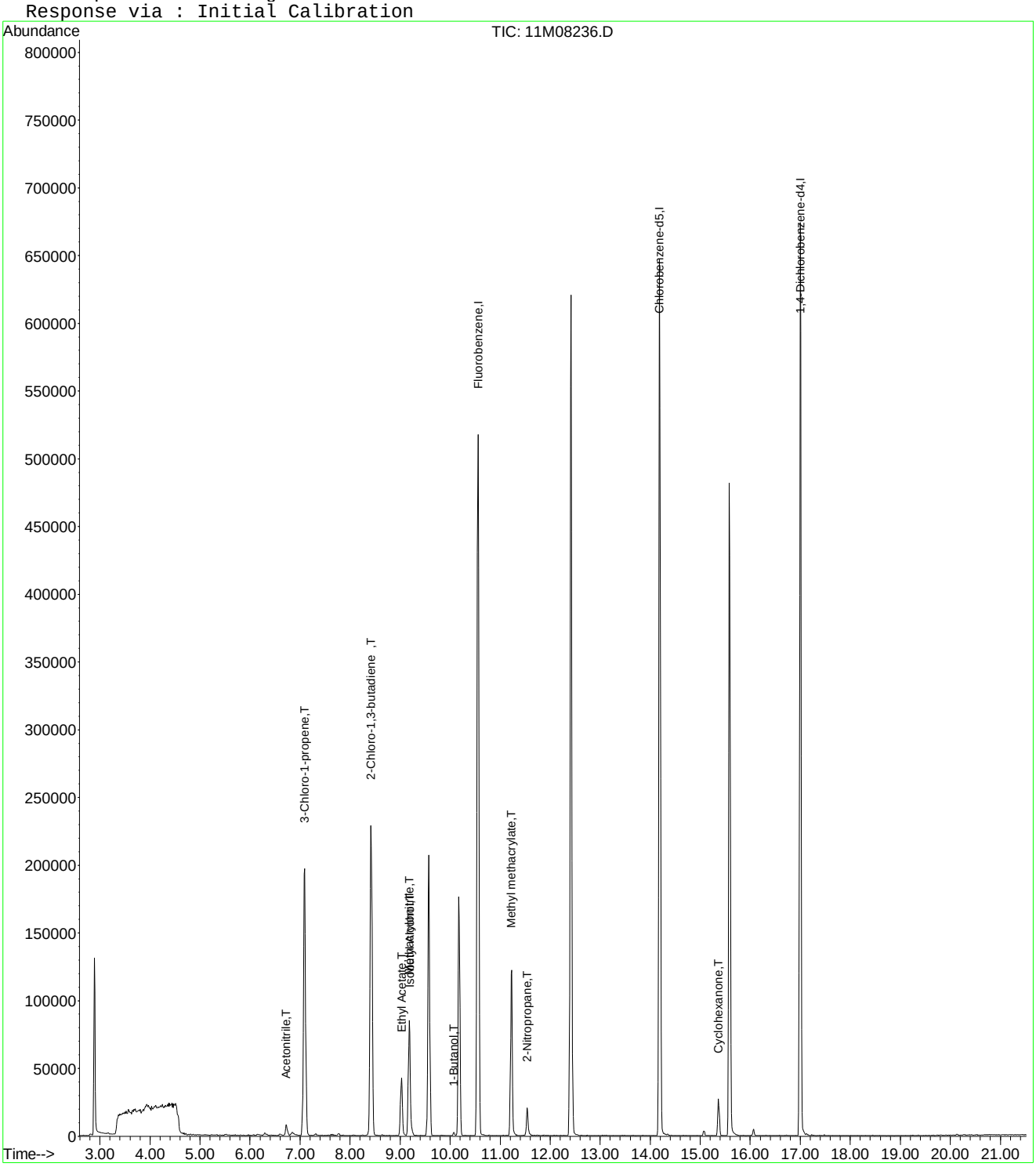
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.72	41	10965	23.4093	ug/L	99
3) 3-Chloro-1-propene	7.09	41	181745	19.7730	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	204133	18.5003	ug/L	96
5) Methacrylonitrile	9.18	41	56411	19.8567	ug/L	84
6) Isobutyl Alcohol	9.19	43	6275	42.9238	ug/L	85
7) 1-Butanol	10.07	56	1474	19.0608	ug/L	93
8) Cyclohexanone	15.36	55	15226	21.6762	ug/L	98
9) 2-Nitropropane	11.54	43	14015	45.0214	ug/L #	72
10) Ethyl Acetate	9.03	43	70834	21.0227	ug/L	96
11) Methyl methacrylate	11.22	41	78843	20.1239	ug/L	93

(#) = qualifier out of range (m) = manual integration
11M08236.D A9FOOWT.M Thu Aug 20 11:43:48 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	23.4093	-17.0	100	0.00
3	T	3-Chloro-1-propene	20.0000	19.7730	1.1	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	18.5003	7.5	100	0.00
5	T	Methacrylonitrile	20.0000	19.8567	0.7	100	0.00
6	T	Isobutyl Alcohol	40.0000	42.9238	-7.3	100	0.00
7	T	1-Butanol	-1.0000	19.0608	0.0	100	0.00
8	T	Cyclohexanone	20.0000	21.6762	-8.4	100	0.00
9	T	2-Nitropropane	-1.0000	45.0214	0.0	0	0.00
10	T	Ethyl Acetate	20.0000	21.0227	-5.1	100	0.00
11	T	Methyl methacrylate	20.0000	20.1239	-0.6	100	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M08236.D A9FOOWT.M Thu Aug 20 11:44:30 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 11:24:26 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

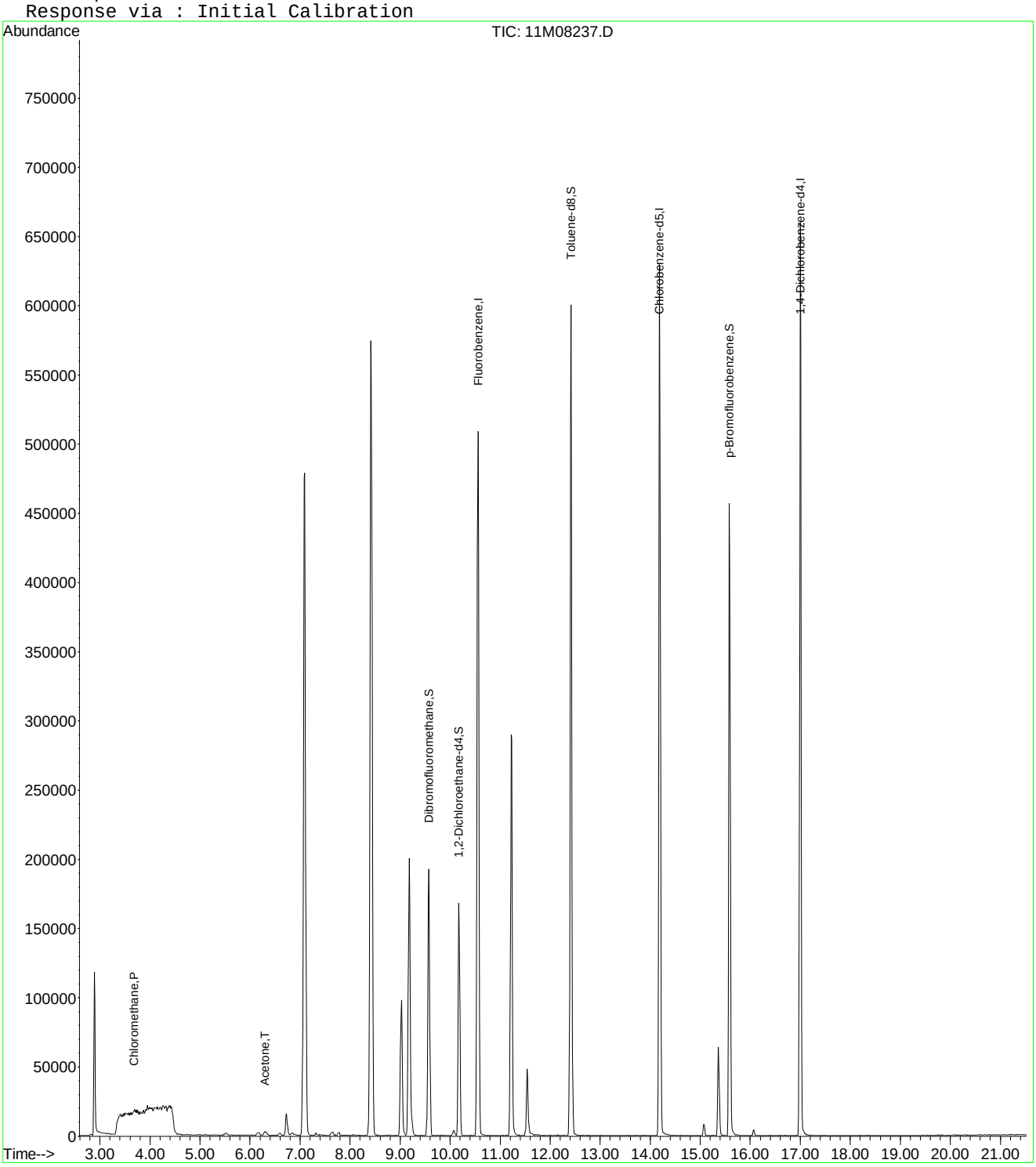
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00 ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	439398	25.00 ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	153812	23.3311 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.32%		
43) 1,2-Dichloroethane-d4	10.17	65	141347	19.7397 ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 78.96%#		
57) Toluene-d8	12.42	98	530398	28.5803 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 114.32%#		
78) p-Bromofluorobenzene	15.58	95	184116	25.2799 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.12%		
Target Compounds					Qvalue
3) Chloromethane	3.68	50	1722	0.1669 ug/L #	66
13) Acetone	6.30	43	6340	3.6256 ug/L	95

(#) = qualifier out of range (m) = manual integration
11M08237.D 8260WTR.M Sun Jun 14 11:24:27 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 11:24 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:43:56 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

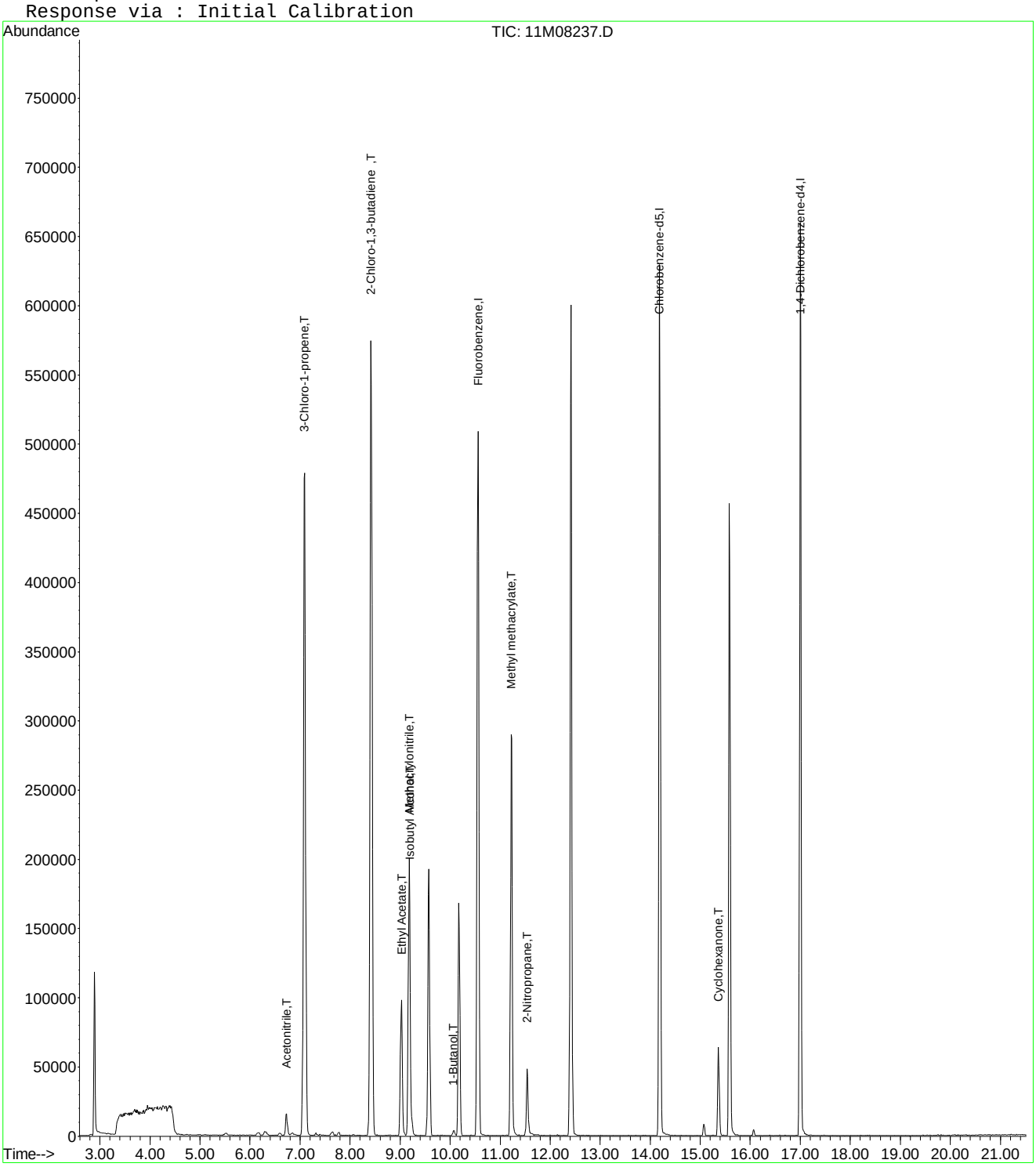
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L		-0.03
12) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L		-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	6.73	41	21370	45.0489	ug/L		93
3) 3-Chloro-1-propene	7.08	41	441208	42.7727	ug/L		85
4) 2-Chloro-1,3-butadiene	8.42	53	506427	47.9232	ug/L		96
5) Methacrylonitrile	9.18	41	133439	46.9416	ug/L		86
6) Isobutyl Alcohol	9.19	43	13722	125.9019	ug/L		88
7) 1-Butanol	10.06	56	3449	75.4914	ug/L	#	8
8) Cyclohexanone	15.36	55	33575	42.7968	ug/L		96
9) 2-Nitropropane	11.54	43	32837	30.1492	ug/L	#	75
10) Ethyl Acetate	9.03	43	158260	45.2705	ug/L		95
11) Methyl methacrylate	11.22	41	179947	47.7287	ug/L		89

(#) = qualifier out of range (m) = manual integration
11M08237.D A9FOOWT.M Tue Jun 16 09:43:57 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:07 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L	-0.03

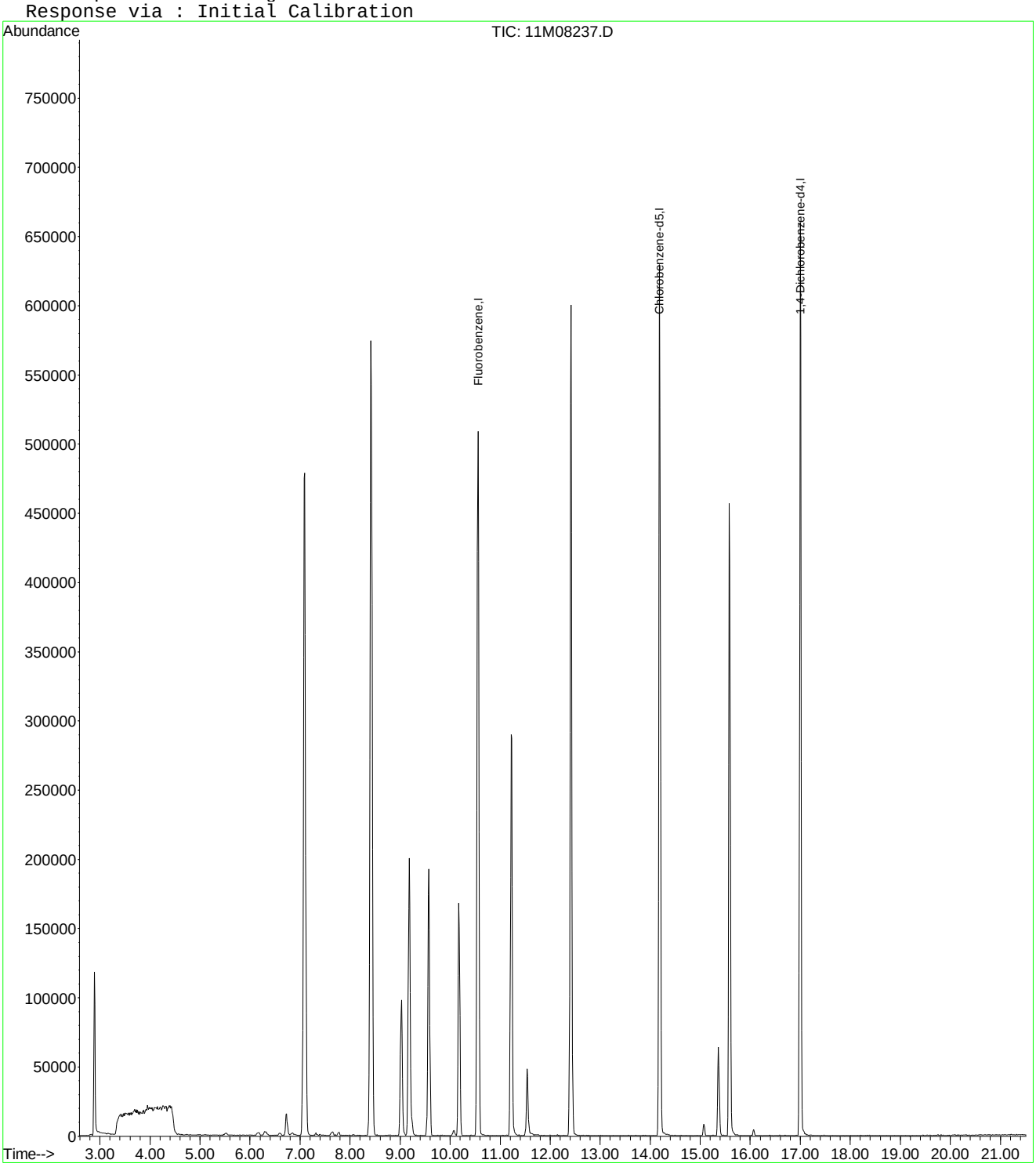
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08237.D A9FOOWT.M Thu Aug 20 11:28:08 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:49 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

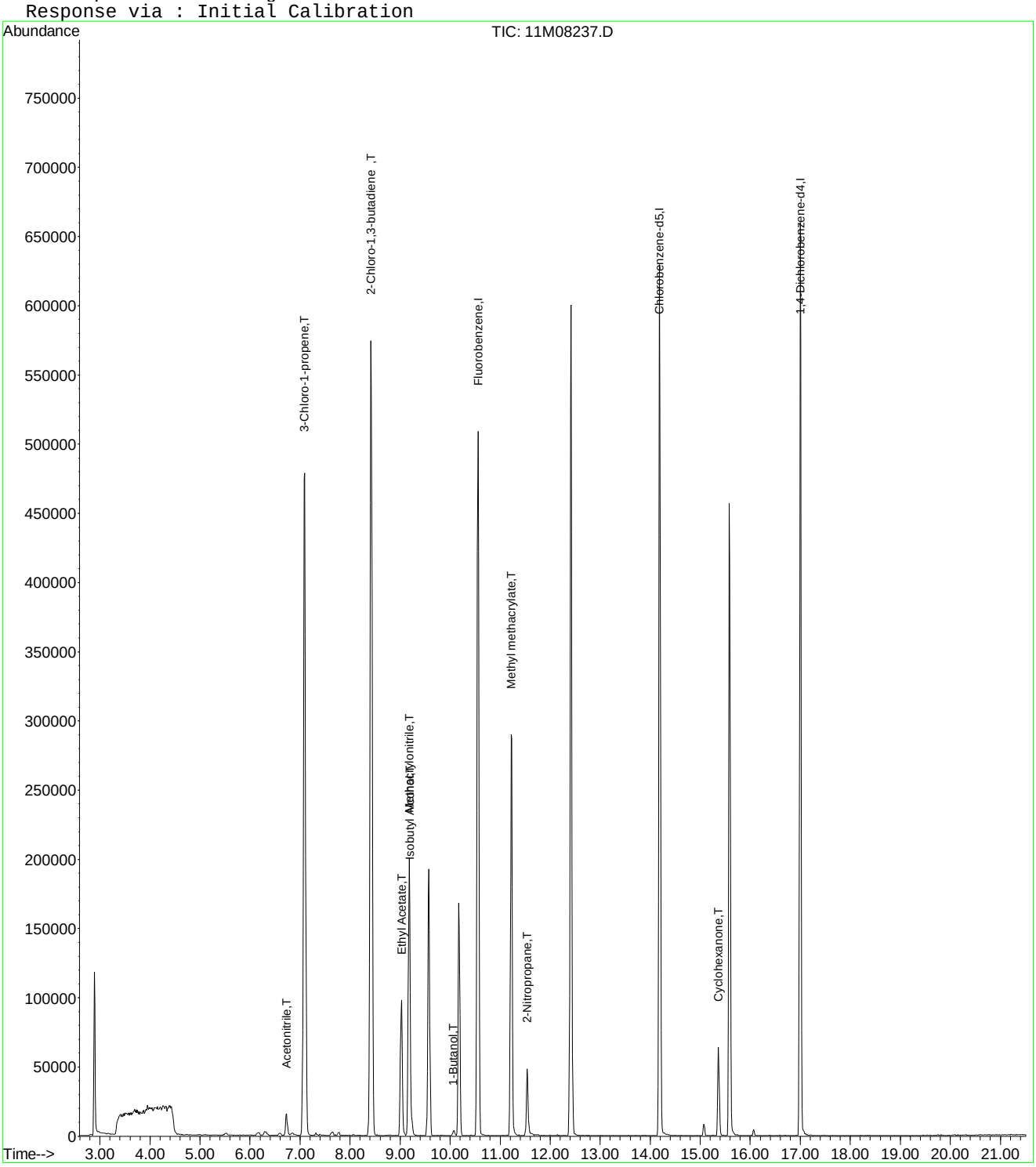
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.73	41	21370	46.9139	ug/L		93
3) 3-Chloro-1-propene	7.08	41	441208	49.3594	ug/L		85
4) 2-Chloro-1,3-butadiene	8.42	53	506427	47.1955	ug/L		96
5) Methacrylonitrile	9.18	41	133439	48.2996	ug/L		86
6) Isobutyl Alcohol	9.19	43	13722	96.5203	ug/L		88
7) 1-Butanol	10.06	56	3449	45.8622	ug/L	#	8
8) Cyclohexanone	15.36	55	33575	49.1507	ug/L		96
9) 2-Nitropropane	11.54	43	32837	62.5818	ug/L	#	75
10) Ethyl Acetate	9.03	43	158260	48.2986	ug/L		95
11) Methyl methacrylate	11.22	41	179947	47.2293	ug/L		89

(#) = qualifier out of range (m) = manual integration
11M08237.D A9FOOWT.M Thu Aug 20 11:43:49 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	46.9140	6.2	100	0.01
3	T	3-Chloro-1-propene	50.0000	49.3594	1.3	100	-0.01
4	T	2-Chloro-1,3-butadiene	50.0000	47.1955	5.6	100	0.00
5	T	Methacrylonitrile	50.0000	48.2996	3.4	100	0.00
6	T	Isobutyl Alcohol	100.0000	96.5203	3.5	100	0.00
7	T	1-Butanol	50.0000	45.8622	8.3	100	-0.01
8	T	Cyclohexanone	50.0000	49.1508	1.7	100	0.00
9	T	2-Nitropropane	50.0000	62.5818	-25.2	100	0.00
10	T	Ethyl Acetate	50.0000	48.2986	3.4	100	0.00
11	T	Methyl methacrylate	50.0000	47.2293	5.5	100	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M08237.D A9FOOWT.M Thu Aug 20 11:44:41 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 11:56:24 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

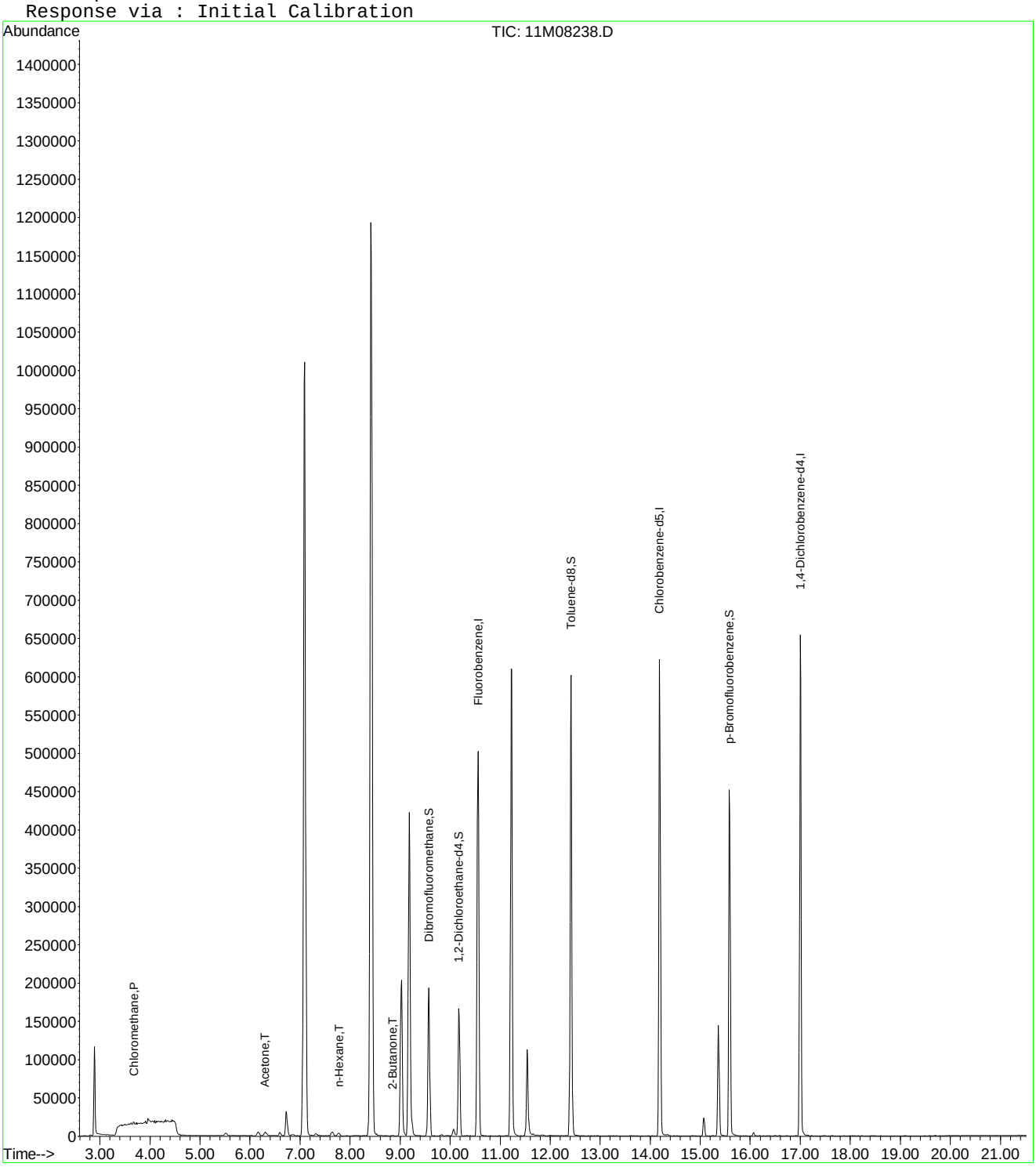
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	154015	23.3717	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.48%			
43) 1,2-Dichloroethane-d4	10.17	65	141727	19.8012	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 79.20%#			
57) Toluene-d8	12.42	98	525710	28.5517	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 114.20%#			
78) p-Bromofluorobenzene	15.58	95	182017	25.2926	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.16%			
Target Compounds						Qvalue
3) Chloromethane	3.68	50	2521	0.2445	ug/L	100
13) Acetone	6.30	43	8631	4.9378	ug/L	80
24) n-Hexane	7.78	57	2688	0.2479	ug/L #	72
29) 2-Butanone	8.85	43	412	0.1450	ug/L #	77

(#) = qualifier out of range (m) = manual integration
11M08238.D 8260WTR.M Sun Jun 14 11:56:26 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 11:56 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:43:58 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	-0.03

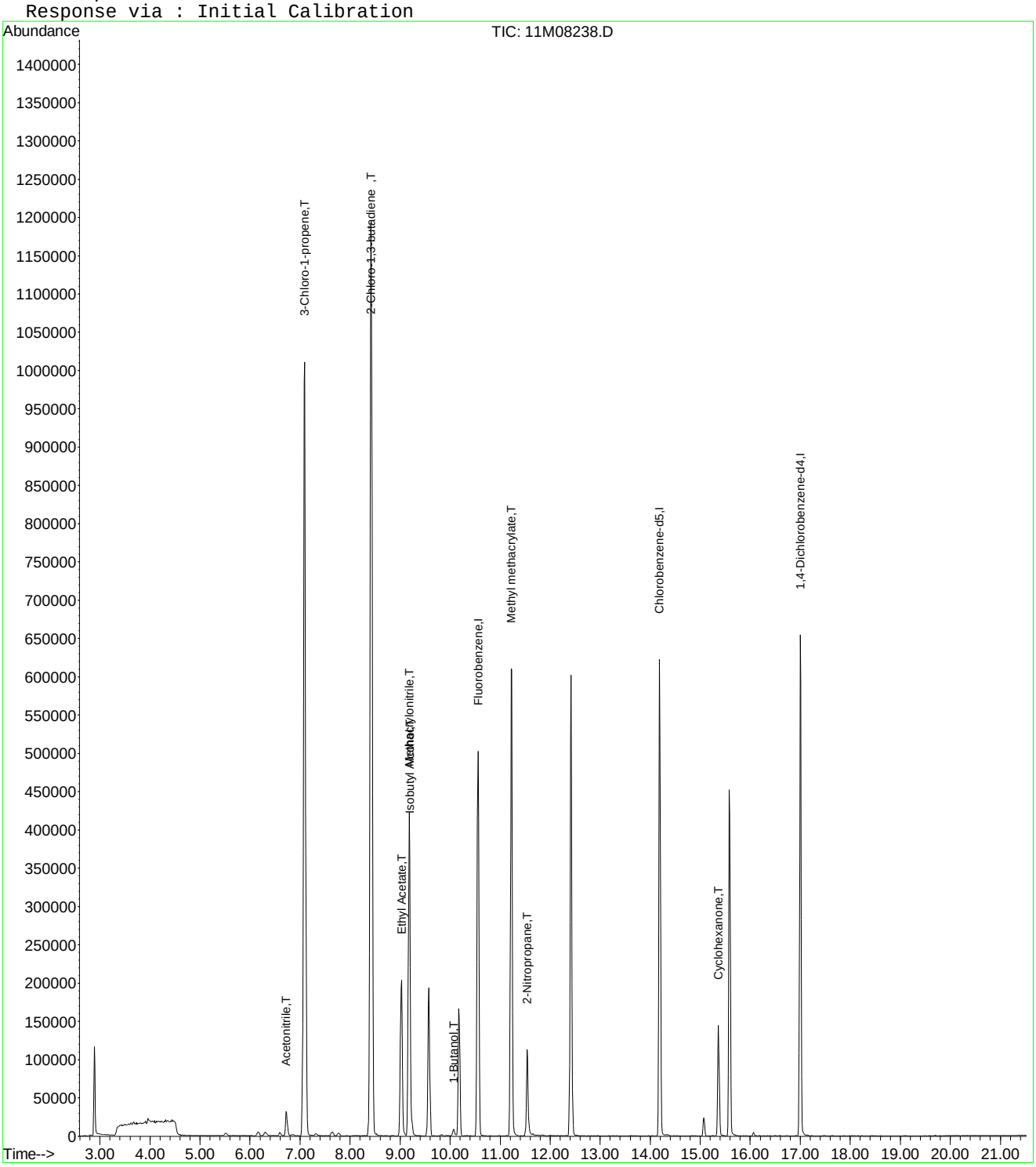
Target Compounds						Qvalue
2) Acetonitrile	6.72	41	41783	88.1177	ug/L	97
3) 3-Chloro-1-propene	7.09	41	901667	87.4486	ug/L	84
4) 2-Chloro-1,3-butadiene	8.42	53	1055196	99.8955	ug/L	96
5) Methacrylonitrile	9.18	41	269812	94.9555	ug/L	83
6) Isobutyl Alcohol	9.19	43	28965	265.8717	ug/L	87
7) 1-Butanol	10.07	56	7719	169.0243	ug/L	87
8) Cyclohexanone	15.36	55	72878	92.9342	ug/L	95
9) 2-Nitropropane	11.54	43	76568	70.3304	ug/L	82
10) Ethyl Acetate	9.03	43	331707	94.9253	ug/L	95
11) Methyl methacrylate	11.22	41	375863	99.7350	ug/L	89

(#) = qualifier out of range (m) = manual integration
11M08238.D A9FOOWT.M Tue Jun 16 09:43:58 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:09 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	-0.03

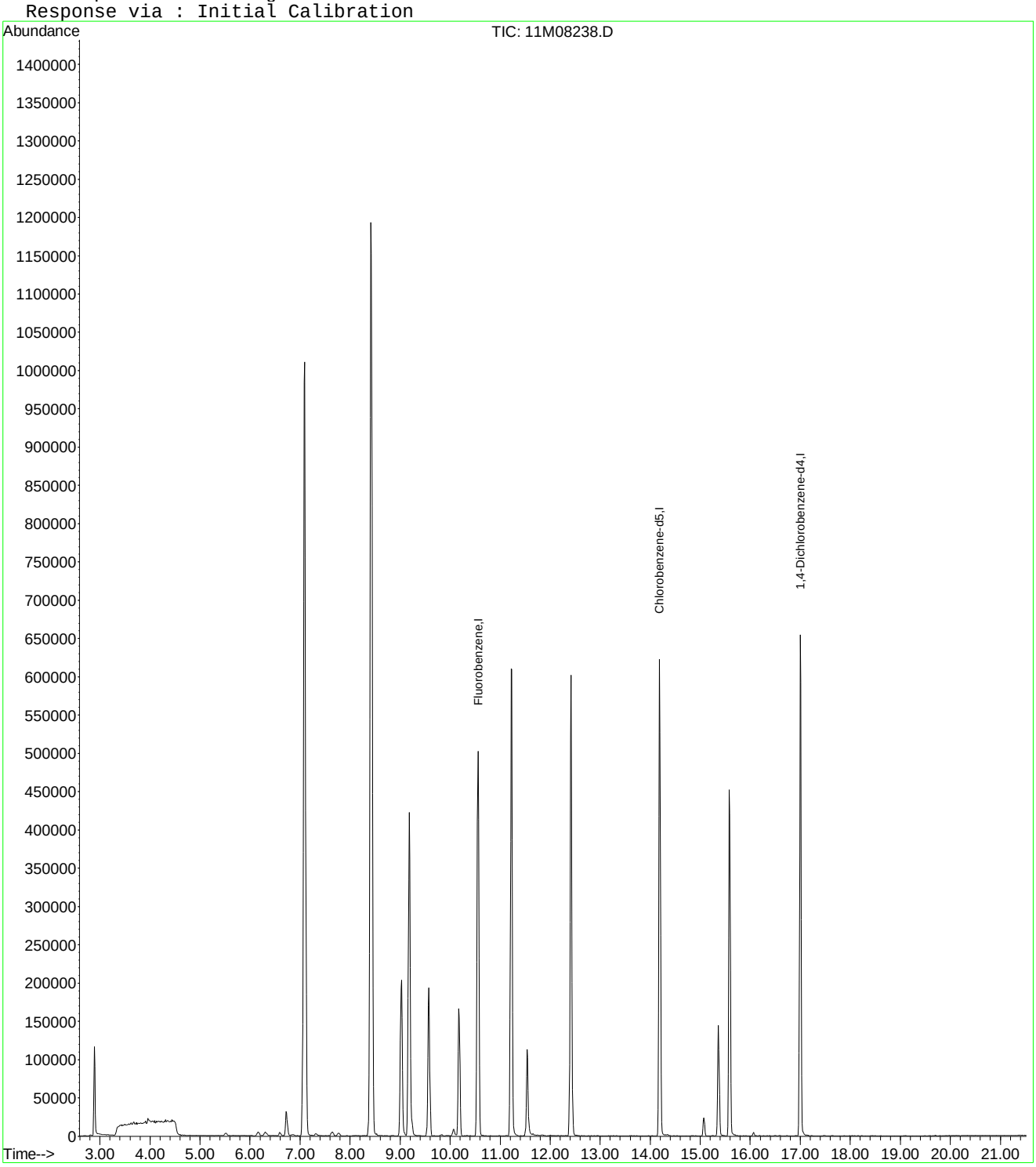
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08238.D A9FOOWT.M Thu Aug 20 11:28:10 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:50 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

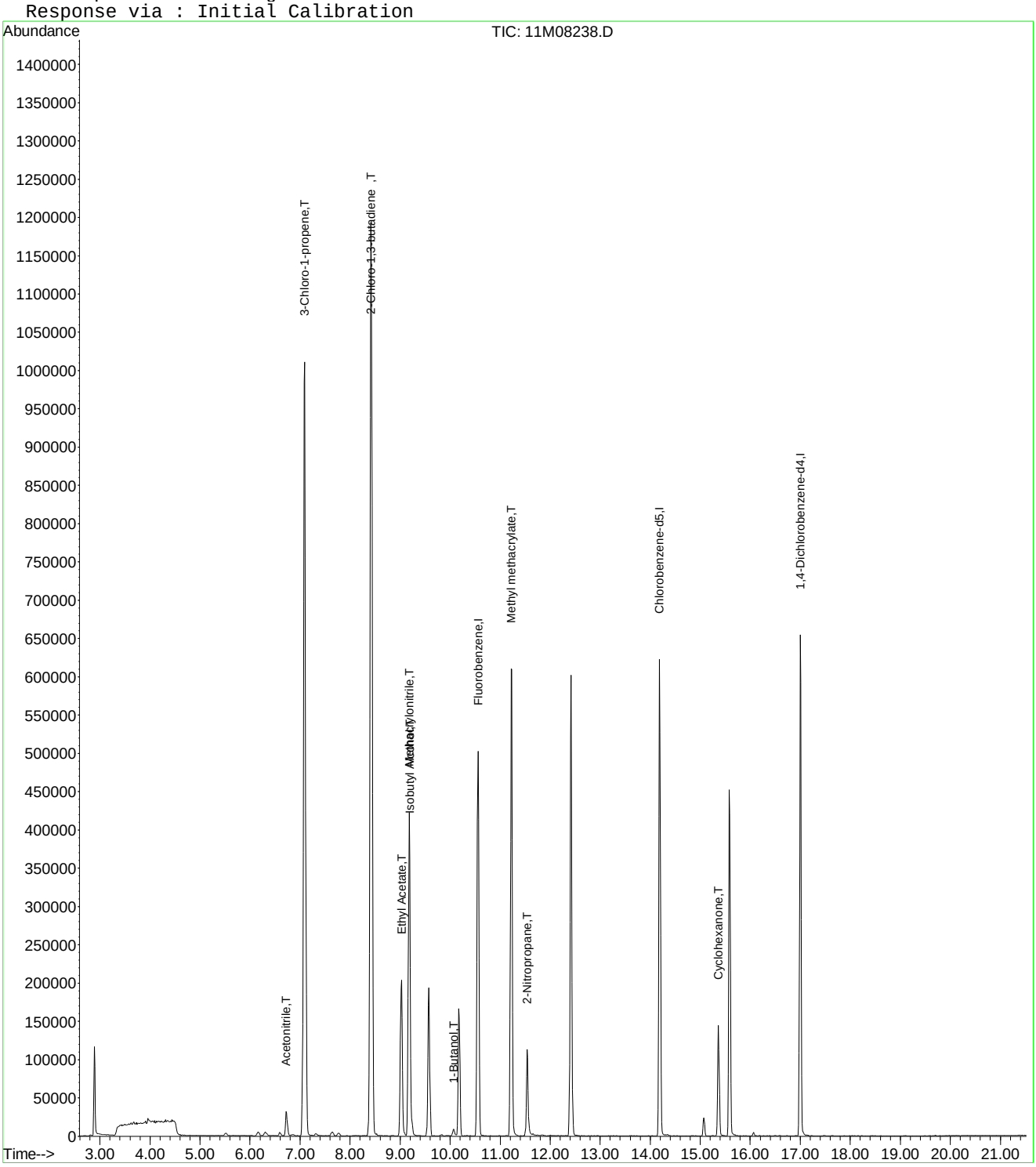
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.72	41	41783	91.7658	ug/L	97
3) 3-Chloro-1-propene	7.09	41	901667	100.9151	ug/L	84
4) 2-Chloro-1,3-butadiene	8.42	53	1055196	98.3785	ug/L	96
5) Methacrylonitrile	9.18	41	269812	97.7026	ug/L	83
6) Isobutyl Alcohol	9.19	43	28965	203.8255	ug/L	87
7) 1-Butanol	10.07	56	7719	102.6849	ug/L	87
8) Cyclohexanone	15.36	55	72878	106.7319	ug/L	95
9) 2-Nitropropane	11.54	43	76568	102.5921	ug/L	82
10) Ethyl Acetate	9.03	43	331707	101.2749	ug/L	95
11) Methyl methacrylate	11.22	41	375863	98.6916	ug/L	89

(#) = qualifier out of range (m) = manual integration
11M08238.D A9FOOWT.M Thu Aug 20 11:43:50 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	100.0000	91.7658	8.2	100	0.00
3	T	3-Chloro-1-propene	100.0000	100.9152	-0.9	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	98.3785	1.6	100	0.00
5	T	Methacrylonitrile	100.0000	97.7026	2.3	100	0.00
6	T	Isobutyl Alcohol	200.0000	203.8255	-1.9	100	0.00
7	T	1-Butanol	100.0000	102.6849	-2.7	100	0.00
8	T	Cyclohexanone	100.0000	106.7319	-6.7	100	0.00
9	T	2-Nitropropane	100.0000	102.5921	-2.6	100	0.00
10	T	Ethyl Acetate	100.0000	101.2749	-1.3	100	0.00
11	T	Methyl methacrylate	100.0000	98.6916	1.3	100	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M08238.D A9FOOWT.M Thu Aug 20 11:44:51 2015 Page 1

Data File : C:\MSDchem\1\data\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 12:28:24 2015 Quant Results File: 8260WTR.RES

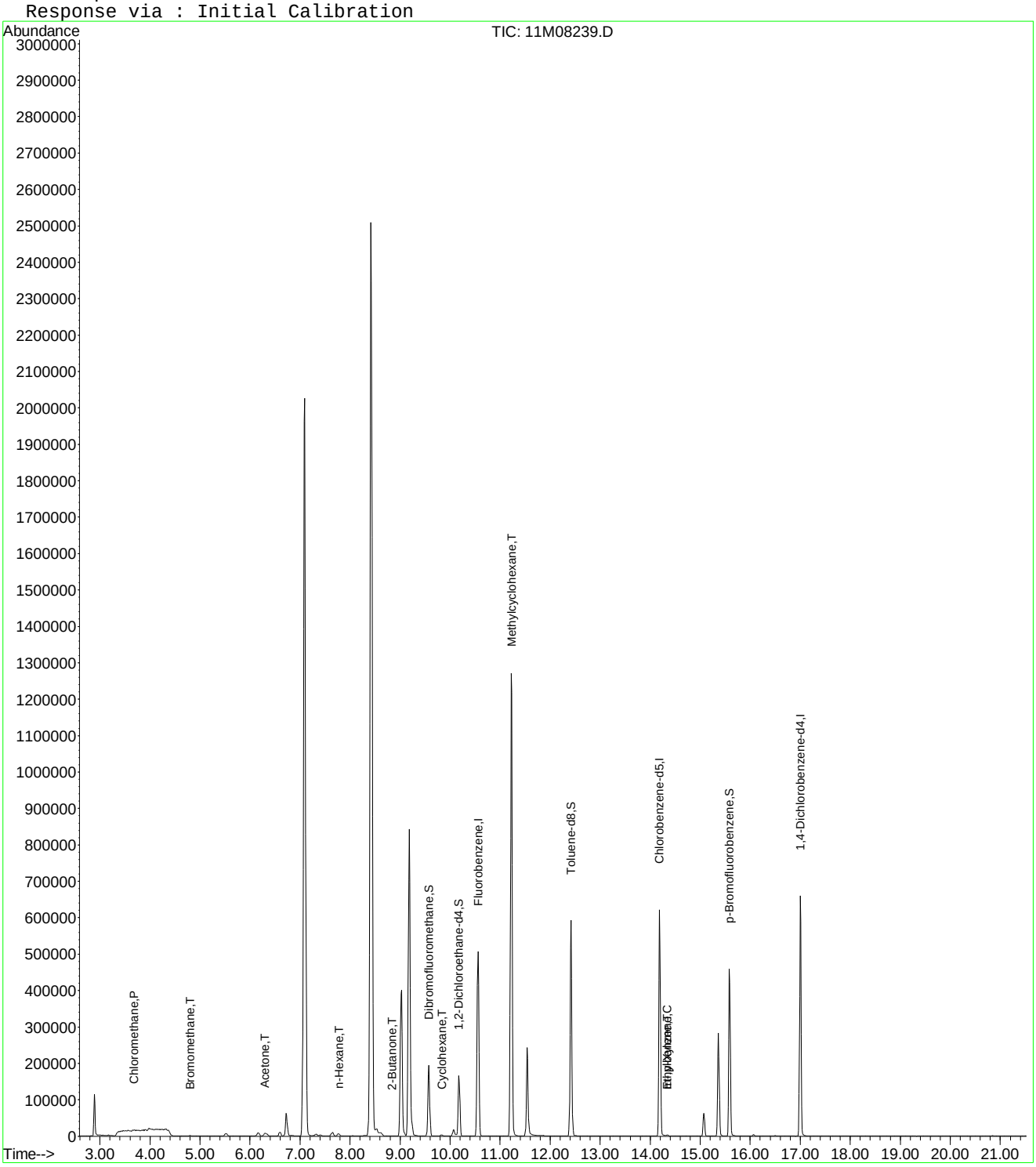
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	154998	23.4820	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.92%			
43) 1,2-Dichloroethane-d4	10.17	65	140981	19.6644	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 78.64%#			
57) Toluene-d8	12.42	98	523704	28.4412	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 113.76%#			
78) p-Bromofluorobenzene	15.58	95	185106	25.2547	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.00%			
Target Compounds						Qvalue
3) Chloromethane	3.68	50	2432	0.2354	ug/L #	41
6) Bromomethane	4.80	94	741	0.2165	ug/L	88
13) Acetone	6.30	43	14437	8.2458	ug/L	88
24) n-Hexane	7.78	57	4836	0.4453	ug/L #	80
29) 2-Butanone	8.84	43	1521	0.5342	ug/L #	77
39) Cyclohexane	9.83	56	2702	0.1826	ug/L #	90
47) Methylcyclohexane	11.23	83	2411	0.2326	ug/L #	1
70) Ethylbenzene	14.34	106	1287	0.1439	ug/L	84
71) m-,p-Xylene	14.34	106	1287	0.1218	ug/L #	4

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDchem\1\data\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 12:28 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:43:59 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

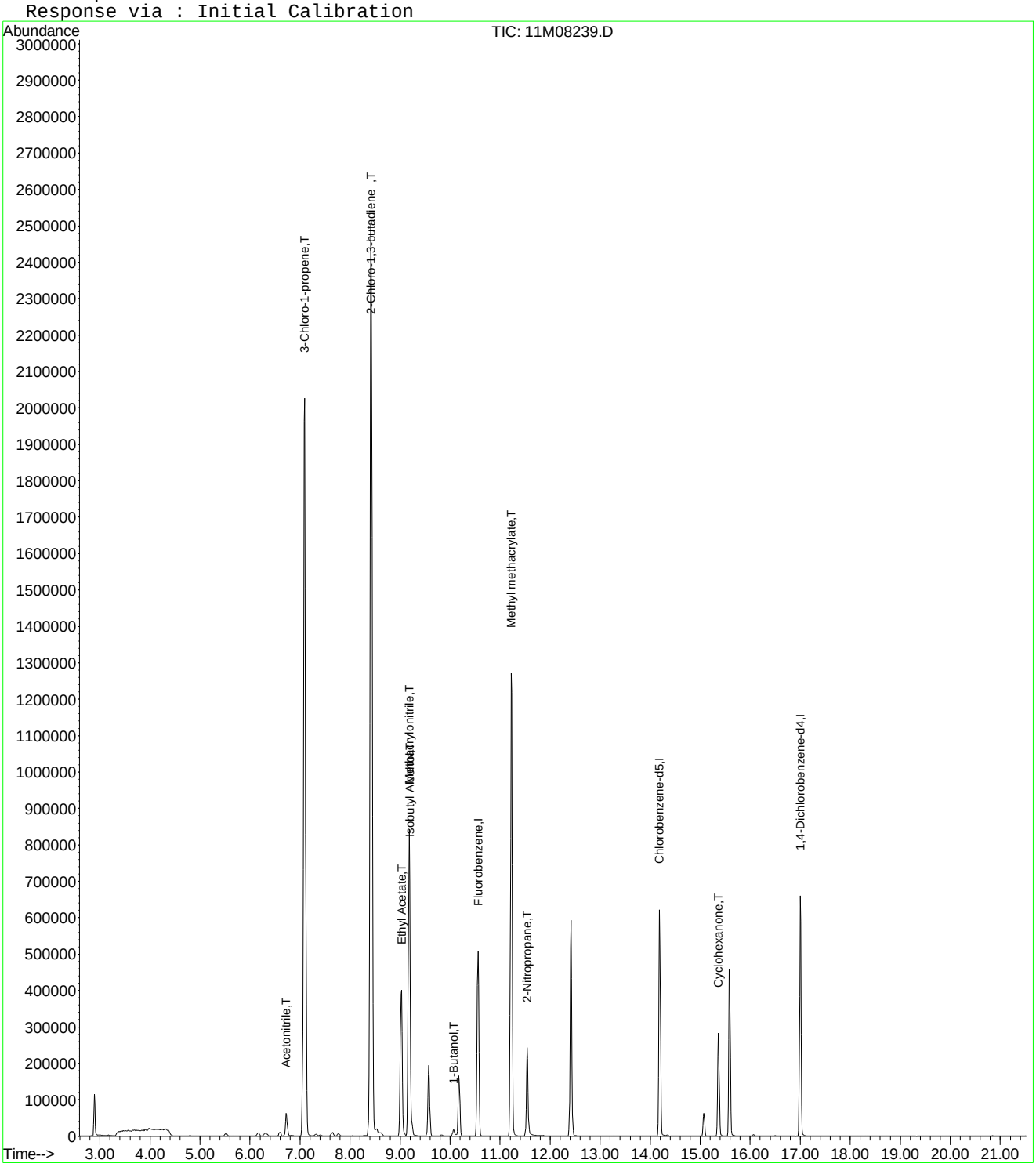
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L		-0.03
12) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L		-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	84573	178.0639	ug/L		99
3) 3-Chloro-1-propene	7.09	41	1784664	172.8000	ug/L		83
4) 2-Chloro-1,3-butadiene	8.42	53	2139008	202.1651	ug/L		95
5) Methacrylonitrile	9.18	41	534300	187.7261	ug/L		82
6) Isobutyl Alcohol	9.19	43	51366	470.7117	ug/L		98
7) 1-Butanol	10.07	56	15596	340.9432	ug/L	#	87
8) Cyclohexanone	15.36	55	142194	181.0260	ug/L		95
9) 2-Nitropropane	11.54	43	168554	154.5666	ug/L		84
10) Ethyl Acetate	9.03	43	649446	185.5458	ug/L		94
11) Methyl methacrylate	11.22	41	751654	199.1209	ug/L		88

(#) = qualifier out of range (m) = manual integration
11M08239.D A9FOOWT.M Tue Jun 16 09:43:59 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:11 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L	-0.03

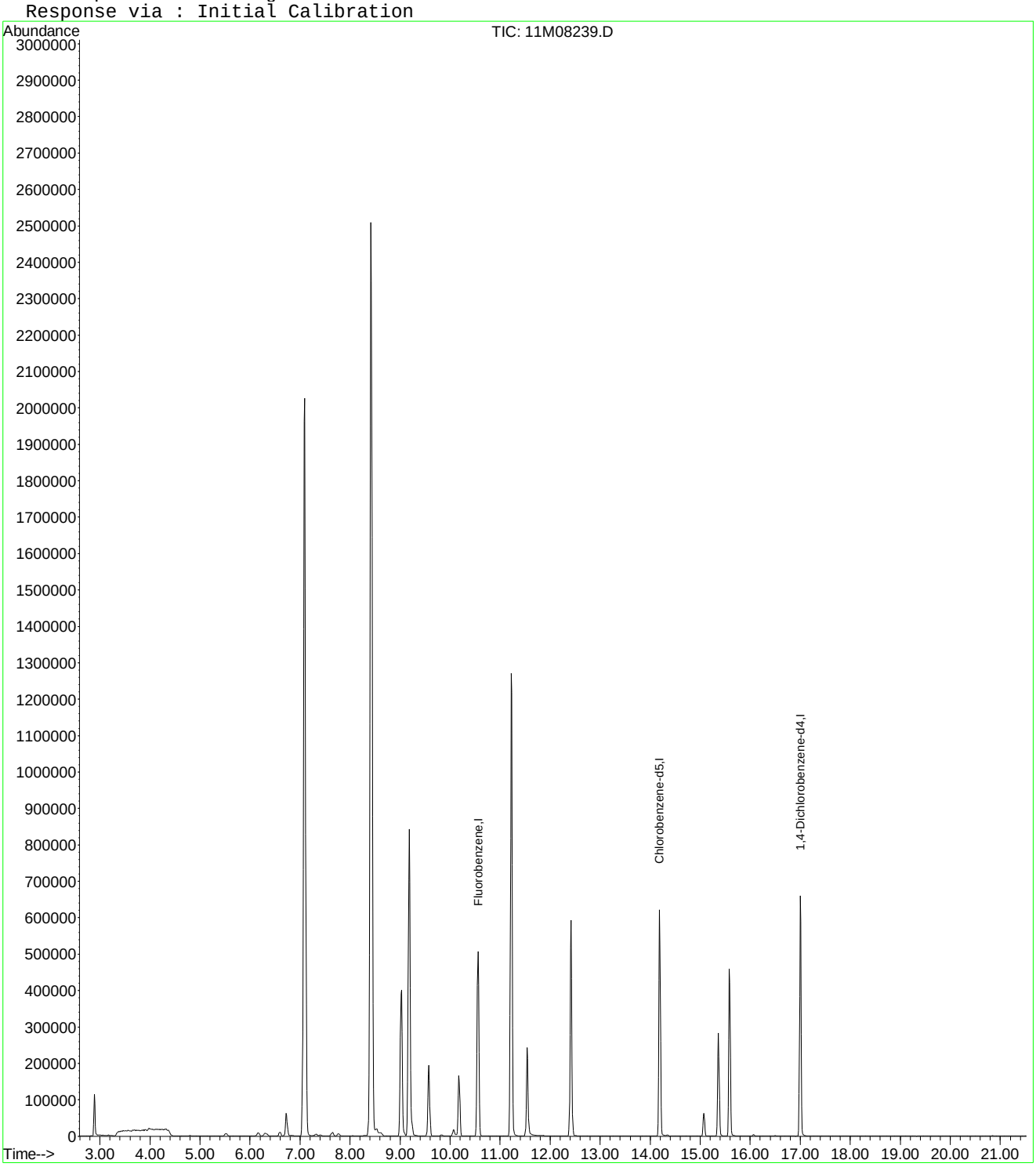
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08239.D A9FOOWT.M Thu Aug 20 11:28:11 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:51 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

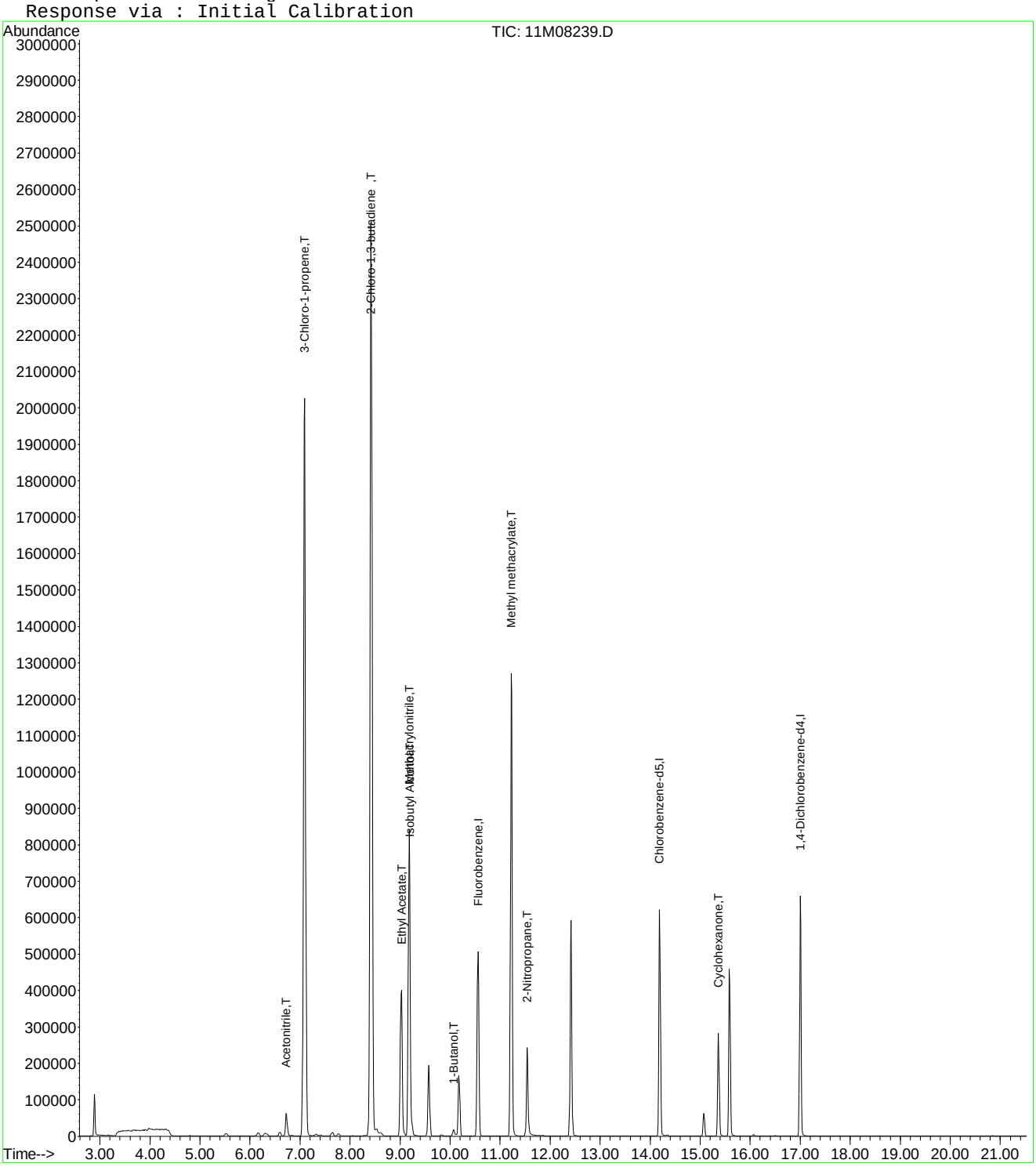
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	84573	185.4358	ug/L		99
3) 3-Chloro-1-propene	7.09	41	1784664	199.4102	ug/L		83
4) 2-Chloro-1,3-butadiene	8.42	53	2139008	199.0949	ug/L		95
5) Methacrylonitrile	9.18	41	534300	193.1571	ug/L		82
6) Isobutyl Alcohol	9.19	43	51337	360.6585	ug/L		98
7) 1-Butanol	10.07	56	15596	207.1283	ug/L	#	87
8) Cyclohexanone	15.36	55	142194	207.9025	ug/L		95
9) 2-Nitropropane	11.54	43	168554	186.4698	ug/L		84
10) Ethyl Acetate	9.03	43	649446	197.9570	ug/L		94
11) Methyl methacrylate	11.22	41	751654	197.0377	ug/L		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 13:00:23 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

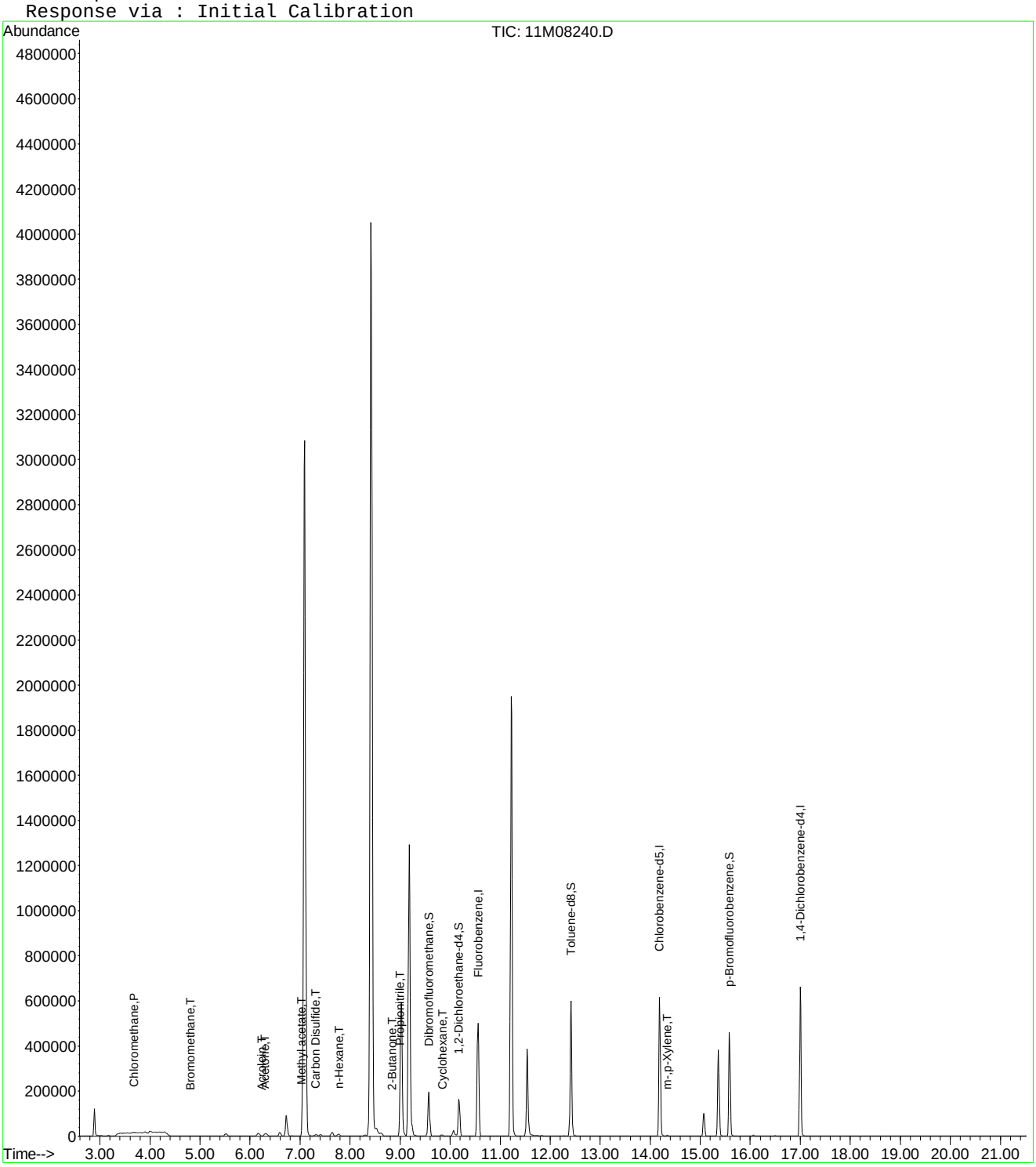
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	154989	23.6646	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.64%			
43) 1,2-Dichloroethane-d4	10.17	65	137616	19.3454	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 77.40%#			
57) Toluene-d8	12.42	98	526940	29.1815	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 116.72%#			
78) p-Bromofluorobenzene	15.58	95	183651	25.3670	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.48%			
Target Compounds						Qvalue
3) Chloromethane	3.68	50	4067	0.3968	ug/L	98
6) Bromomethane	4.81	94	1456	0.4286	ug/L	94
11) Acrolein	6.23	56	2665	2.6647	ug/L #	63
13) Acetone	6.30	43	17405	10.0188	ug/L	87
18) Methyl acetate	7.03	43	1109	0.1829	ug/L #	67
20) Carbon Disulfide	7.31	76	3126	0.1557	ug/L #	88
24) n-Hexane	7.78	57	7639	0.7089	ug/L #	89
29) 2-Butanone	8.84	43	1699	0.6014	ug/L #	77
30) Propionitrile	9.00	54	221	0.2481	ug/L #	1
39) Cyclohexane	9.84	56	3351	0.2282	ug/L #	68
71) m-,p-Xylene	14.34	106	1591	0.1535	ug/L #	17

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 13:00 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:44:00 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

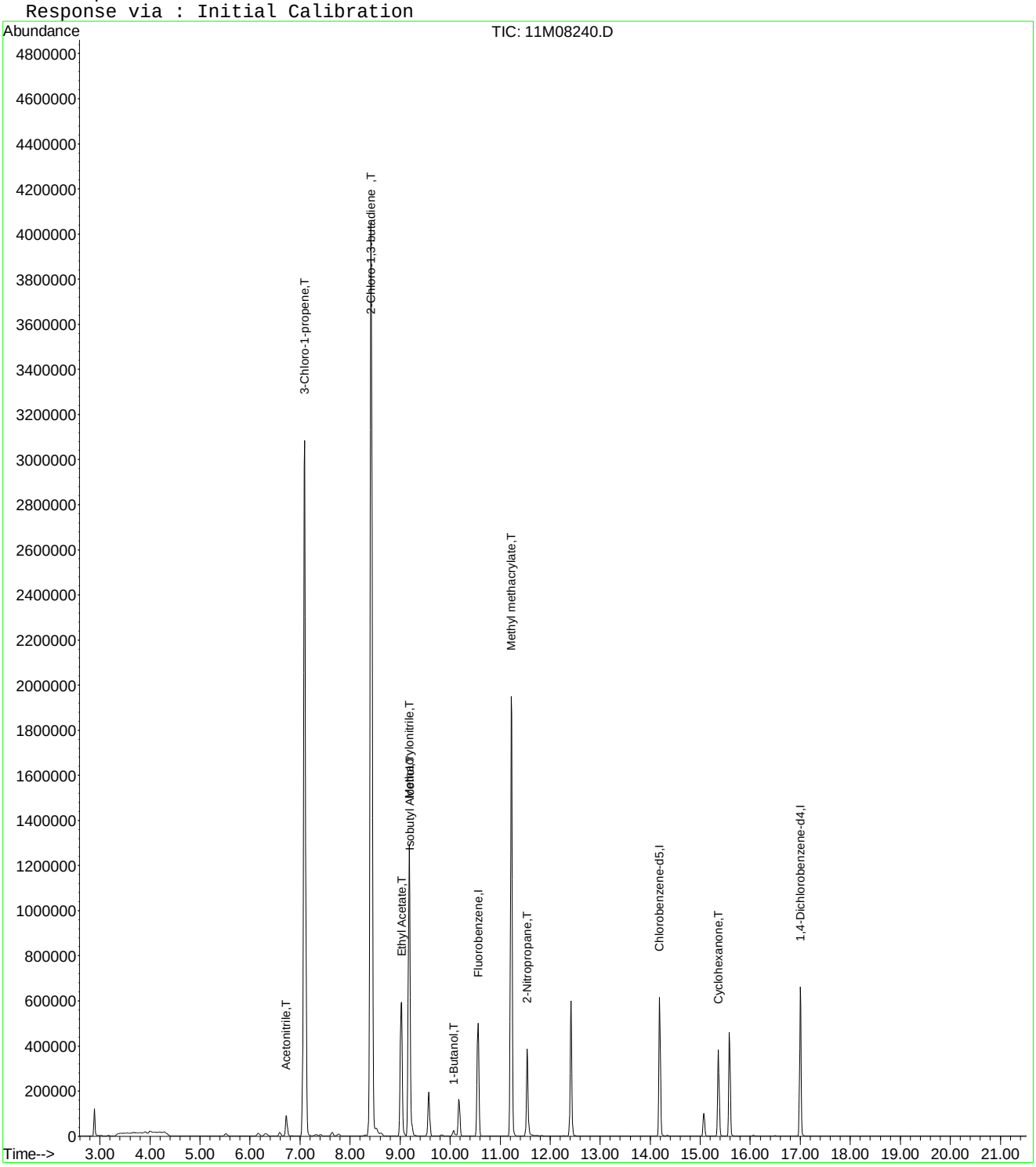
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L		-0.03
12) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L		-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	124797	264.8121	ug/L		99
3) 3-Chloro-1-propene	7.09	41	2683921	261.9067	ug/L		83
4) 2-Chloro-1,3-butadiene	8.42	53	3409409	324.7599	ug/L		95
5) Methacrylonitrile	9.18	41	809195	286.5380	ug/L		82
6) Isobutyl Alcohol	9.19	43	83440	770.6251	ug/L		88
7) 1-Butanol	10.07	56	21640	476.7773	ug/L		91
8) Cyclohexanone	15.36	55	191378	245.5507	ug/L		95
9) 2-Nitropropane	11.54	43	277273	256.2558	ug/L		85
10) Ethyl Acetate	9.03	43	962378	277.1043	ug/L	#	93
11) Methyl methacrylate	11.22	41	1142167	304.9426	ug/L		88

(#) = qualifier out of range (m) = manual integration
11M08240.D A9FOOWT.M Tue Jun 16 09:44:01 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:44 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:12 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L	-0.03

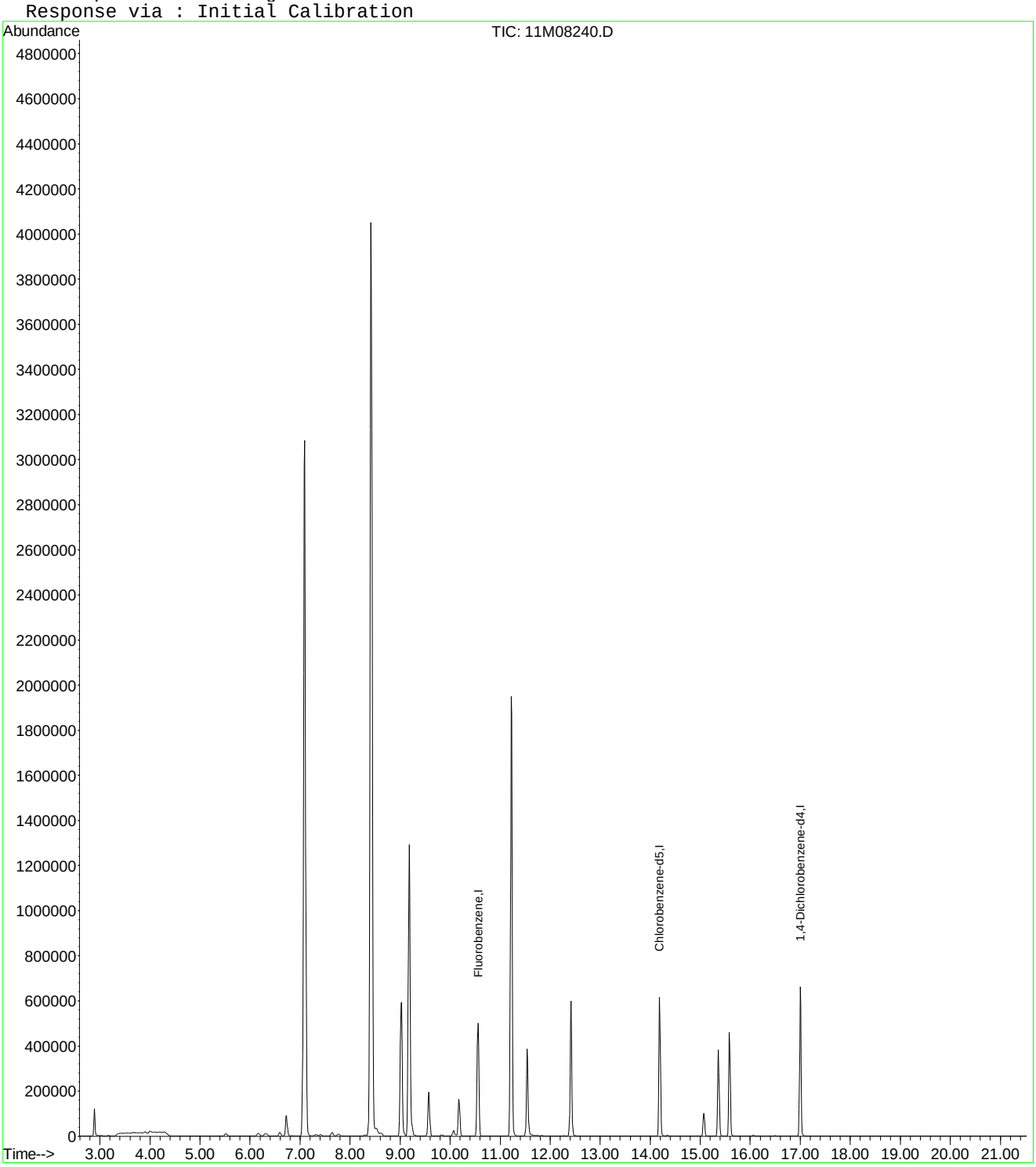
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08240.D A9FOOWT.M Thu Aug 20 11:28:12 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:52 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

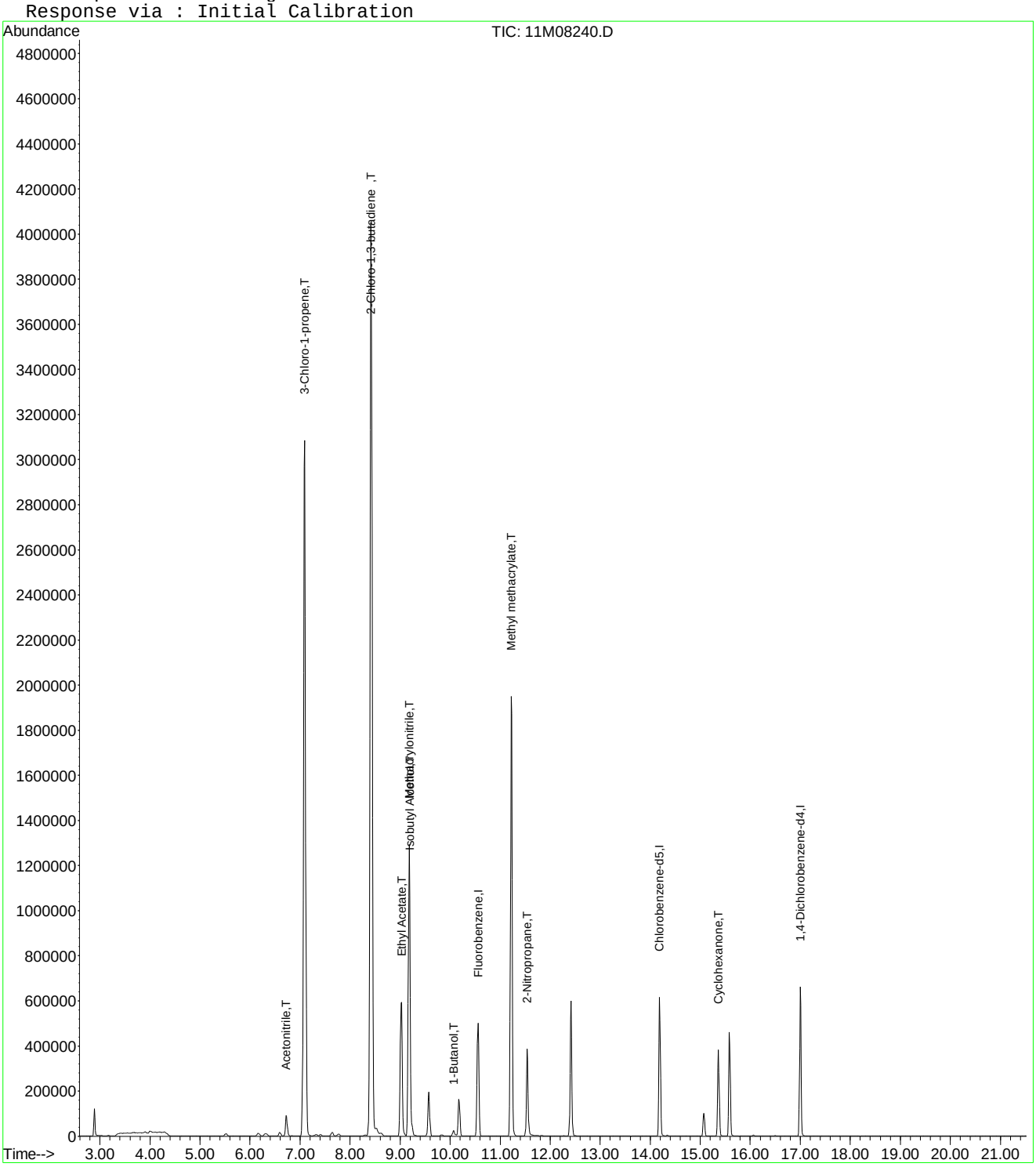
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	124797	275.7754	ug/L		99
3) 3-Chloro-1-propene	7.09	41	2683921	302.2388	ug/L		83
4) 2-Chloro-1,3-butadiene	8.42	53	3409409	319.8280	ug/L		95
5) Methacrylonitrile	9.18	41	809195	294.8276	ug/L		82
6) Isobutyl Alcohol	9.19	43	83440	590.7851	ug/L		88
7) 1-Butanol	10.07	56	21640	289.6496	ug/L		91
8) Cyclohexanone	15.36	55	191378	282.0071	ug/L		95
9) 2-Nitropropane	11.54	43	277273	287.7263	ug/L		85
10) Ethyl Acetate	9.03	43	962378	295.6400	ug/L	#	93
11) Methyl methacrylate	11.22	41	1142167	301.7522	ug/L		88

(#) = qualifier out of range (m) = manual integration
11M08240.D A9FOOWT.M Thu Aug 20 11:43:53 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 13:32:12 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

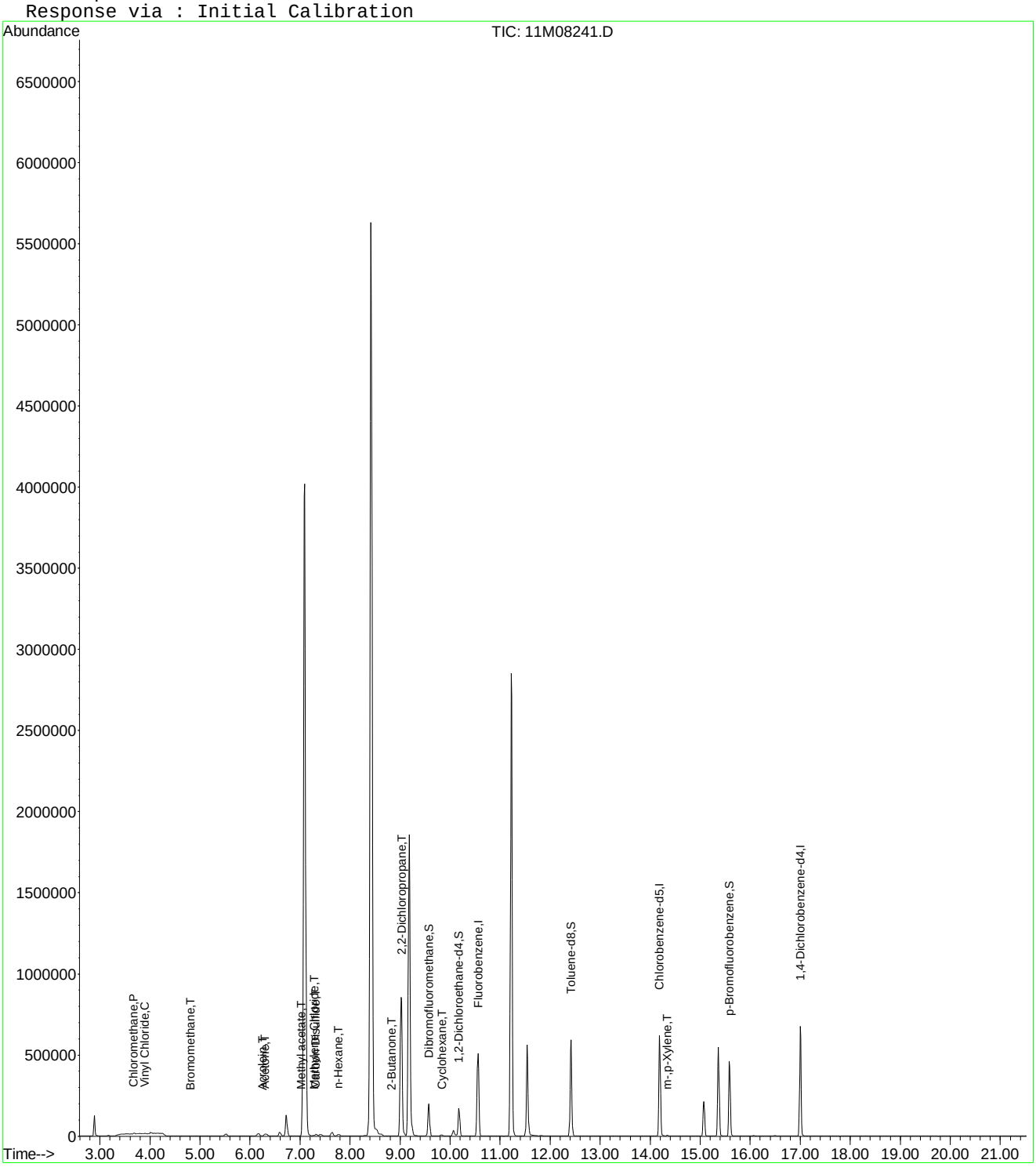
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	157490	23.5320	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.12%			
43) 1,2-Dichloroethane-d4	10.17	65	142445	19.5958	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 78.40%#			
57) Toluene-d8	12.42	98	529319	28.5630	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 114.24%#			
78) p-Bromofluorobenzene	15.58	95	184124	24.5264	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.12%			
Target Compounds						Qvalue
3) Chloromethane	3.67	50	5951	0.5682	ug/L	86
4) Vinyl Chloride	3.90	62	1145	0.1556	ug/L #	42
6) Bromomethane	4.81	94	1631	0.4699	ug/L #	56
11) Acrolein	6.25	56	3616	3.5382	ug/L #	49
13) Acetone	6.30	43	20681	11.6499	ug/L	94
18) Methyl acetate	7.02	43	2450	0.3954	ug/L #	67
19) Methylene Chloride	7.28	84	869	0.1218	ug/L #	49
20) Carbon Disulfide	7.31	76	4210	0.2052	ug/L	97
24) n-Hexane	7.77	57	9223	0.8376	ug/L #	93
29) 2-Butanone	8.83	43	2572	0.8910	ug/L #	77
31) 2,2-Dichloropropane	9.03	77	1535	0.1632	ug/L #	41
39) Cyclohexane	9.83	56	5053	0.3367	ug/L	91
71) m-,p-Xylene	14.34	106	2254	0.2119	ug/L #	36

(#) = qualifier out of range (m) = manual integration
11M08241.D 8260WTR.M Sun Jun 14 13:32:14 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 13:32 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:44:01 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

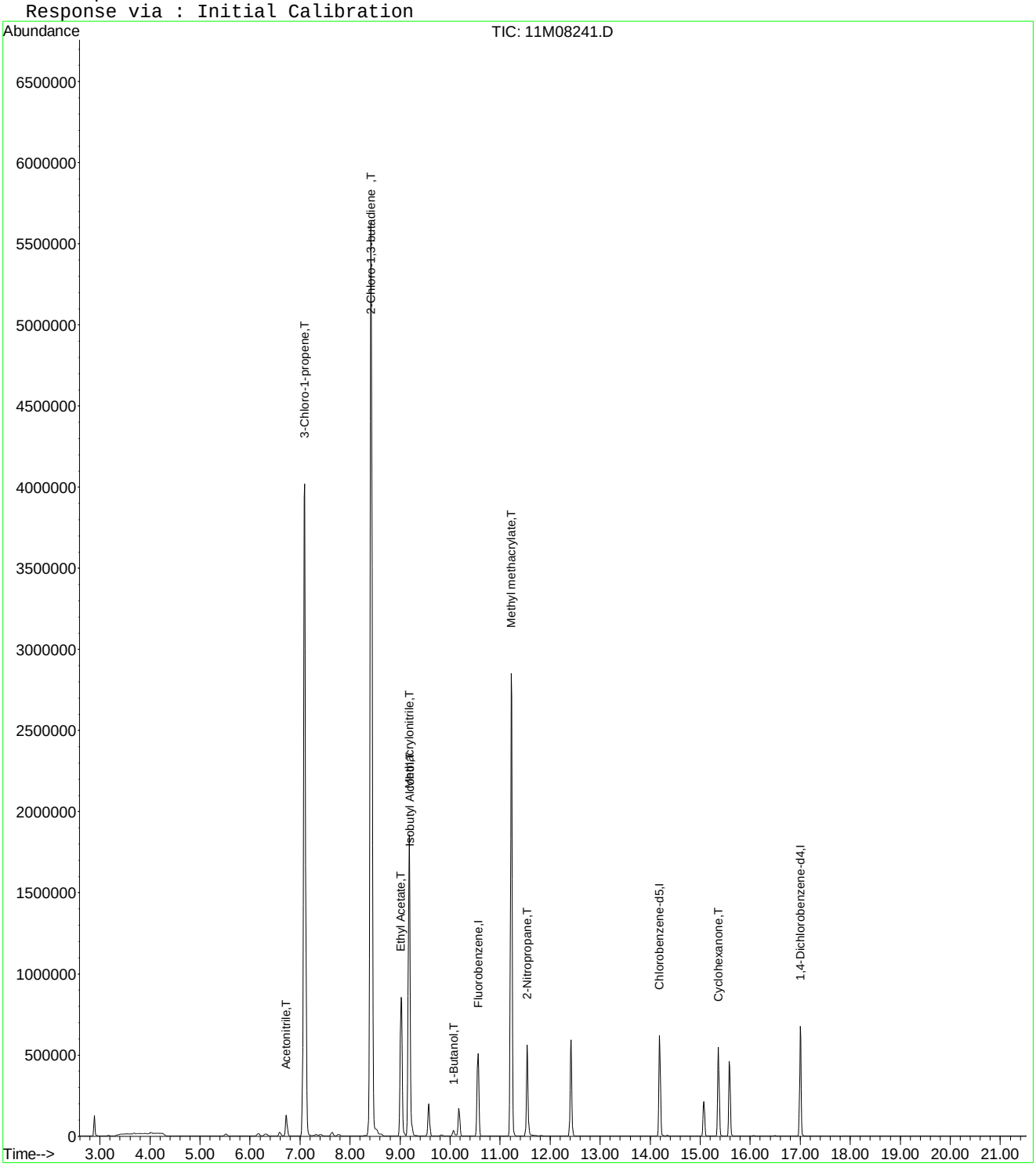
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L		-0.03
12) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L		-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	173440	360.1555	ug/L		100
3) 3-Chloro-1-propene	7.09	41	3550959	339.1014	ug/L		82
4) 2-Chloro-1,3-butadiene	8.42	53	4600620	428.8513	ug/L		94
5) Methacrylonitrile	9.18	41	1153886	399.8518	ug/L		82
6) Isobutyl Alcohol	9.19	43	123004	1111.7192	ug/L		89
7) 1-Butanol	10.07	56	32355	697.6005	ug/L	#	86
8) Cyclohexanone	15.36	55	274055	344.1074	ug/L		95
9) 2-Nitropropane	11.54	43	405951	367.1528	ug/L		87
10) Ethyl Acetate	9.02	43	1363919	384.3202	ug/L	#	93
11) Methyl methacrylate	11.22	41	1637406	427.8110	ug/L		87

(#) = qualifier out of range (m) = manual integration
11M08241.D A9FOOWT.M Tue Jun 16 09:44:02 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:44 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:13 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L	-0.03

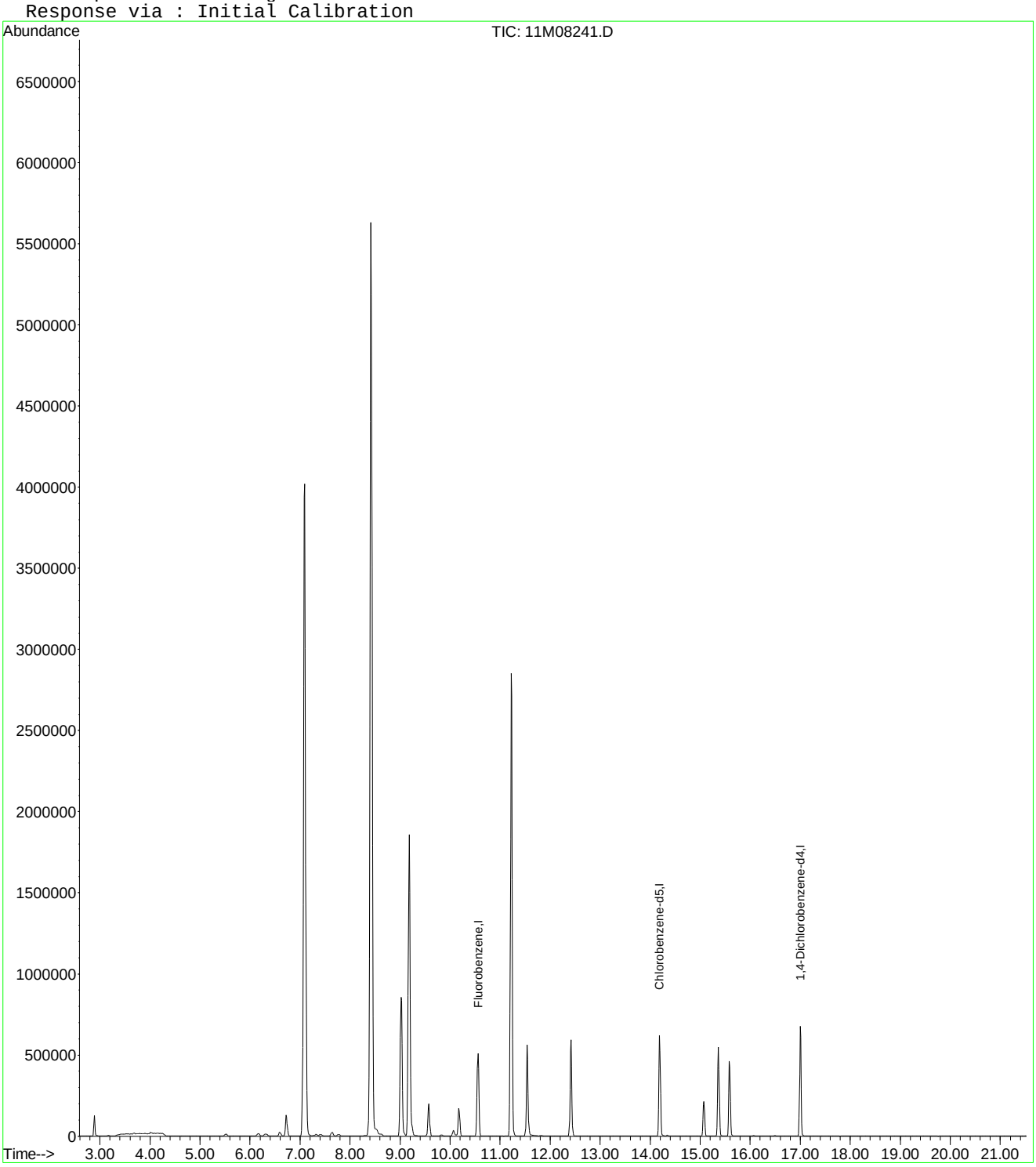
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08241.D A9FOOWT.M Thu Aug 20 11:28:14 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:53 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

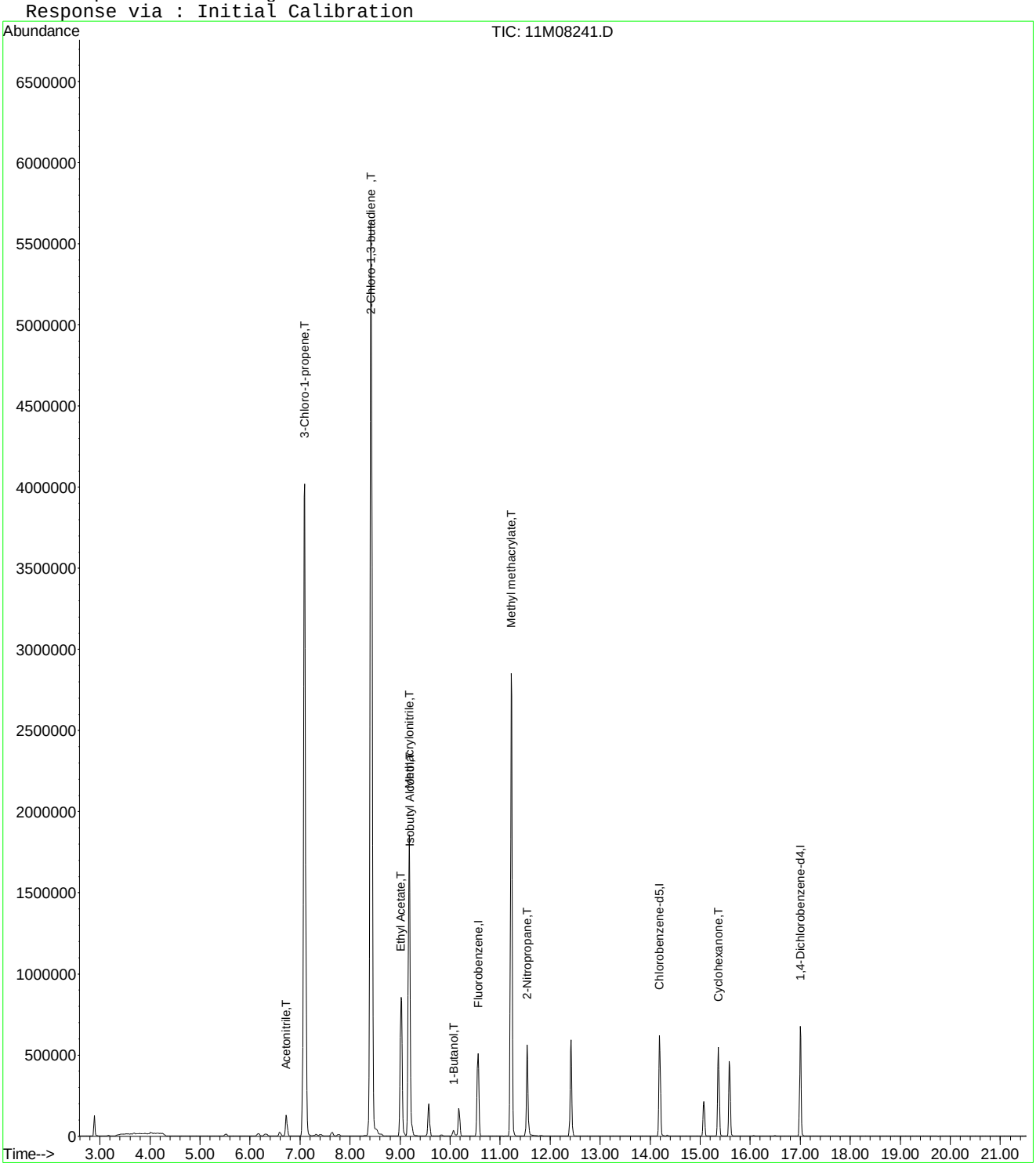
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	173440	375.0660	ug/L		100
3) 3-Chloro-1-propene	7.09	41	3550959	391.3211	ug/L		82
4) 2-Chloro-1,3-butadiene	8.42	53	4600620	422.3386	ug/L		94
5) Methacrylonitrile	9.18	41	1153886	411.4196	ug/L		82
6) Isobutyl Alcohol	9.19	43	123004	852.2785	ug/L		89
7) 1-Butanol	10.07	56	32355	423.8032	ug/L	#	86
8) Cyclohexanone	15.36	55	274055	395.1962	ug/L		95
9) 2-Nitropropane	11.54	43	405951	398.1514	ug/L		87
10) Ethyl Acetate	9.02	43	1363919	410.0276	ug/L	#	93
11) Methyl methacrylate	11.22	41	1637406	423.3352	ug/L		87

(#) = qualifier out of range (m) = manual integration
11M08241.D A9FOOWT.M Thu Aug 20 11:43:54 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 14:04:11 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

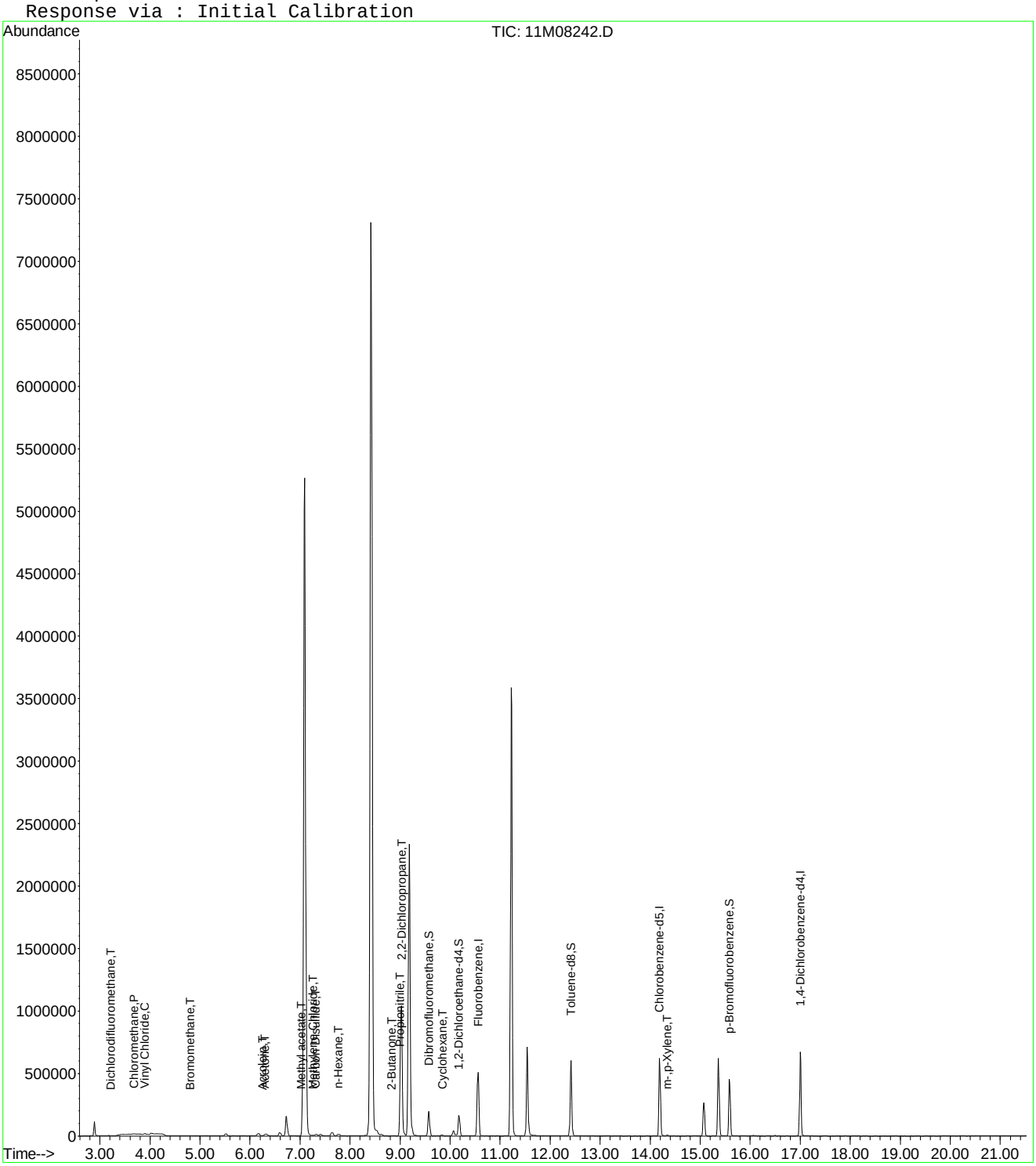
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	155779	23.4935	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.96%			
43) 1,2-Dichloroethane-d4	10.17	65	141894	19.7022	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 78.80%#			
57) Toluene-d8	12.42	98	528602	28.6412	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 114.56%#			
78) p-Bromofluorobenzene	15.58	95	185769	24.9315	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.22	85	1211	0.1346	ug/L #	65
3) Chloromethane	3.68	50	8612	0.8299	ug/L	97
4) Vinyl Chloride	3.90	62	1110	0.1522	ug/L #	42
6) Bromomethane	4.80	94	872	0.2536	ug/L	68
11) Acrolein	6.25	56	4513	4.4571	ug/L	75
13) Acetone	6.30	43	20816	11.8354	ug/L	98
18) Methyl acetate	7.02	43	2826	0.4604	ug/L #	67
19) Methylene Chloride	7.26	84	1446	0.2045	ug/L	95
20) Carbon Disulfide	7.31	76	5502	0.2707	ug/L #	81
24) n-Hexane	7.77	57	12135	1.1123	ug/L #	96
29) 2-Butanone	8.83	43	2711	0.9479	ug/L #	77
30) Propionitrile	9.00	54	625	0.6931	ug/L #	1
31) 2,2-Dichloropropane	9.03	77	1917	0.2057	ug/L #	41
39) Cyclohexane	9.84	56	6427	0.4323	ug/L	96
71) m-,p-Xylene	14.34	106	3239	0.3057	ug/L	58

(#) = qualifier out of range (m) = manual integration
11M08242.D 8260WTR.M Sun Jun 14 14:04:12 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 14:04 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 09:44:02 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

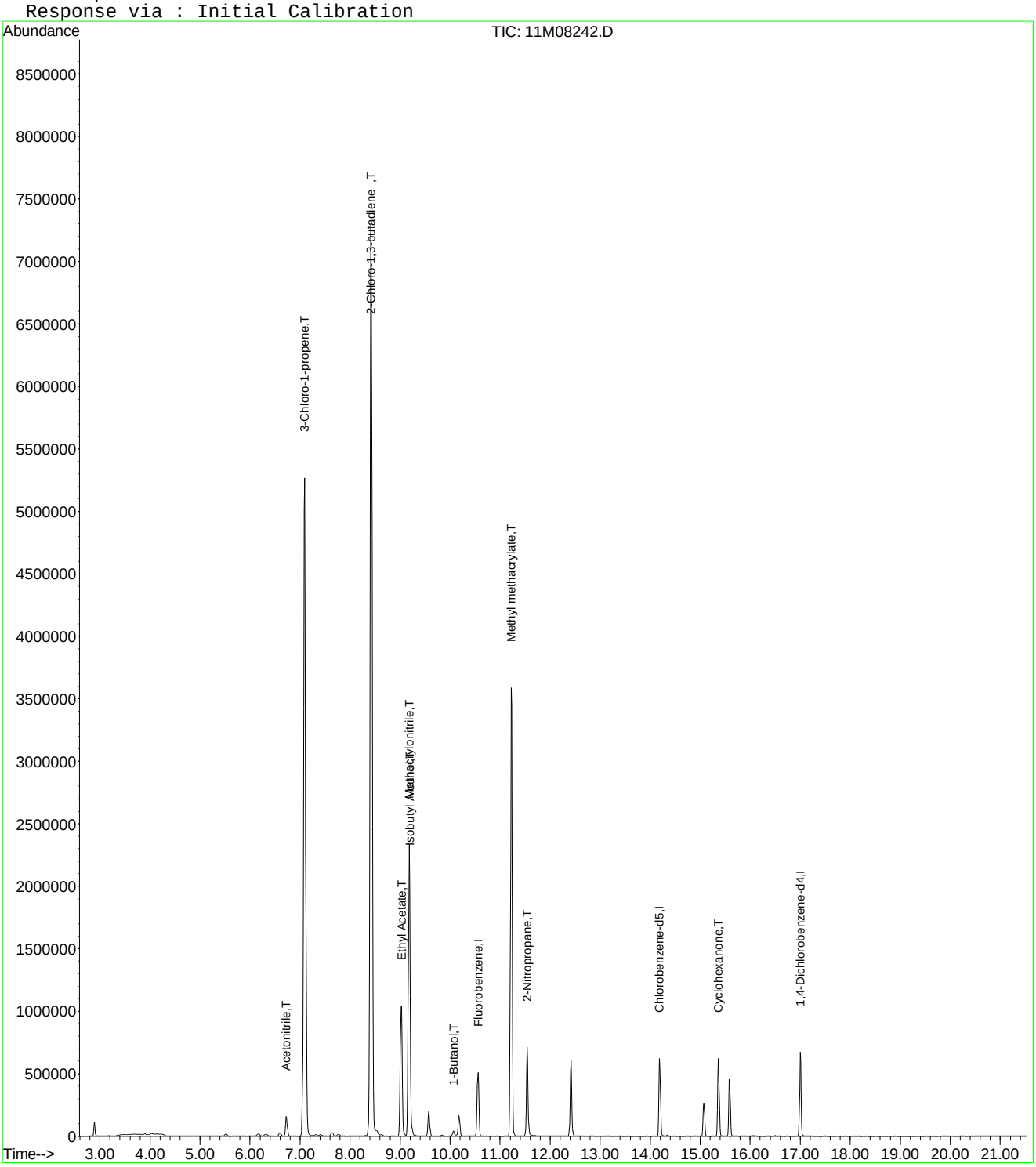
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L		-0.03
12) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L		-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	213542	447.5667	ug/L		100
3) 3-Chloro-1-propene	7.09	41	4596340	443.0265	ug/L		80
4) 2-Chloro-1,3-butadiene	8.42	53	5927514	557.6949	ug/L		92
5) Methacrylonitrile	9.18	41	1420105	496.6956	ug/L		79
6) Isobutyl Alcohol	9.19	43	141621	1291.9249	ug/L		95
7) 1-Butanol	10.07	56	37640	819.1222	ug/L		86
8) Cyclohexanone	15.36	55	308601	391.0996	ug/L		95
9) 2-Nitropropane	11.54	43	527973	481.9685	ug/L		88
10) Ethyl Acetate	9.03	43	1662142	472.7227	ug/L	#	93
11) Methyl methacrylate	11.22	41	2052004	541.1374	ug/L		86

(#) = qualifier out of range (m) = manual integration
11M08242.D A9FOOWT.M Tue Jun 16 09:44:03 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 16 9:44 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Fri Jun 05 12:09:09 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:15 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L	-0.03

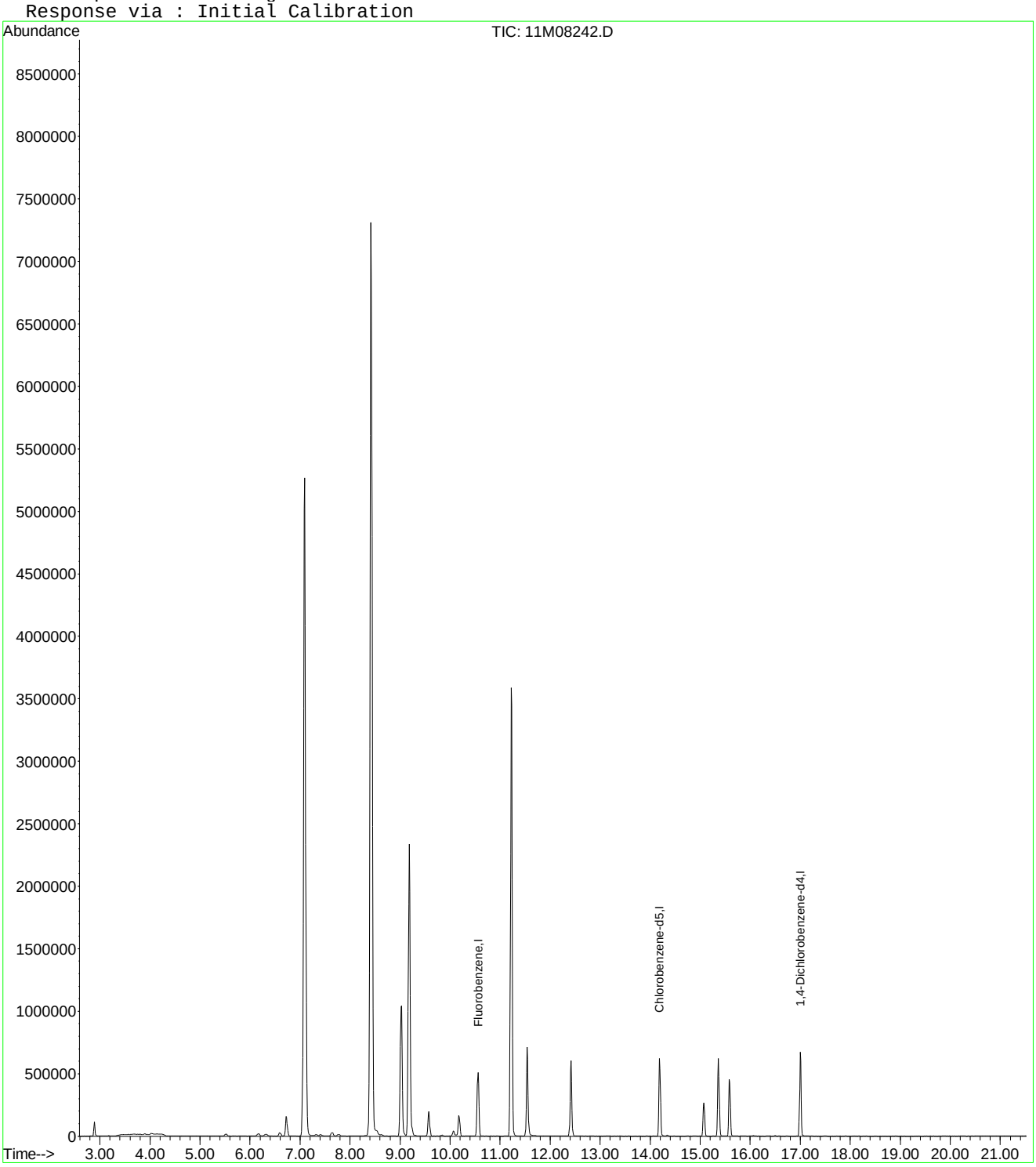
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08242.D A9FOOWT.M Thu Aug 20 11:28:15 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:54 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

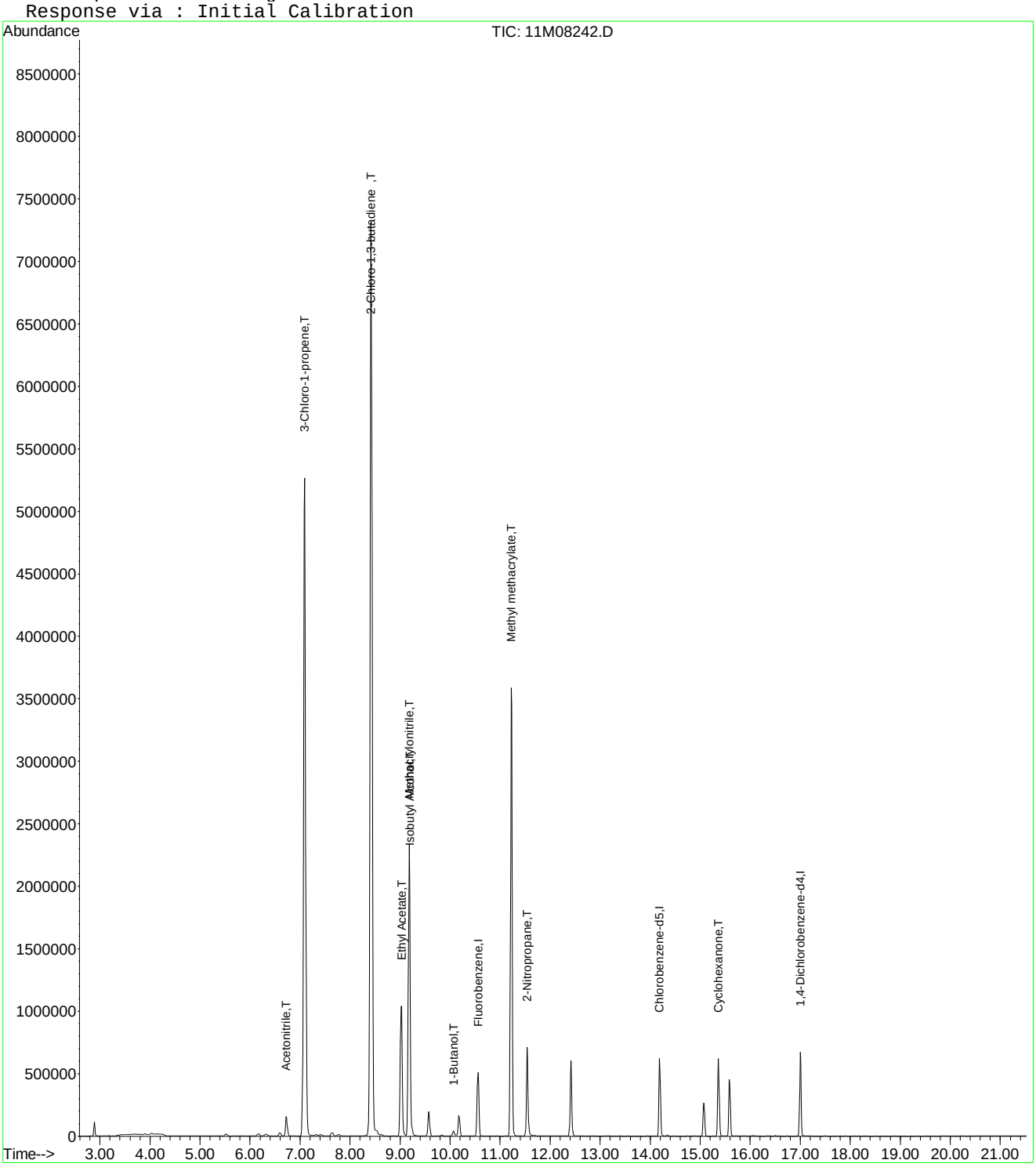
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	213542	466.0961	ug/L		100
3) 3-Chloro-1-propene	7.09	41	4596340	511.2501	ug/L		80
4) 2-Chloro-1,3-butadiene	8.42	53	5927514	549.2255	ug/L		92
5) Methacrylonitrile	9.18	41	1420105	511.0651	ug/L		79
6) Isobutyl Alcohol	9.19	43	141574	990.1011	ug/L		95
7) 1-Butanol	10.07	56	37640	497.6295	ug/L		86
8) Cyclohexanone	15.36	55	308601	449.1652	ug/L		95
9) 2-Nitropropane	11.54	43	527973	512.4786	ug/L		88
10) Ethyl Acetate	9.03	43	1662142	504.3435	ug/L	#	93
11) Methyl methacrylate	11.22	41	2052004	535.4759	ug/L		86

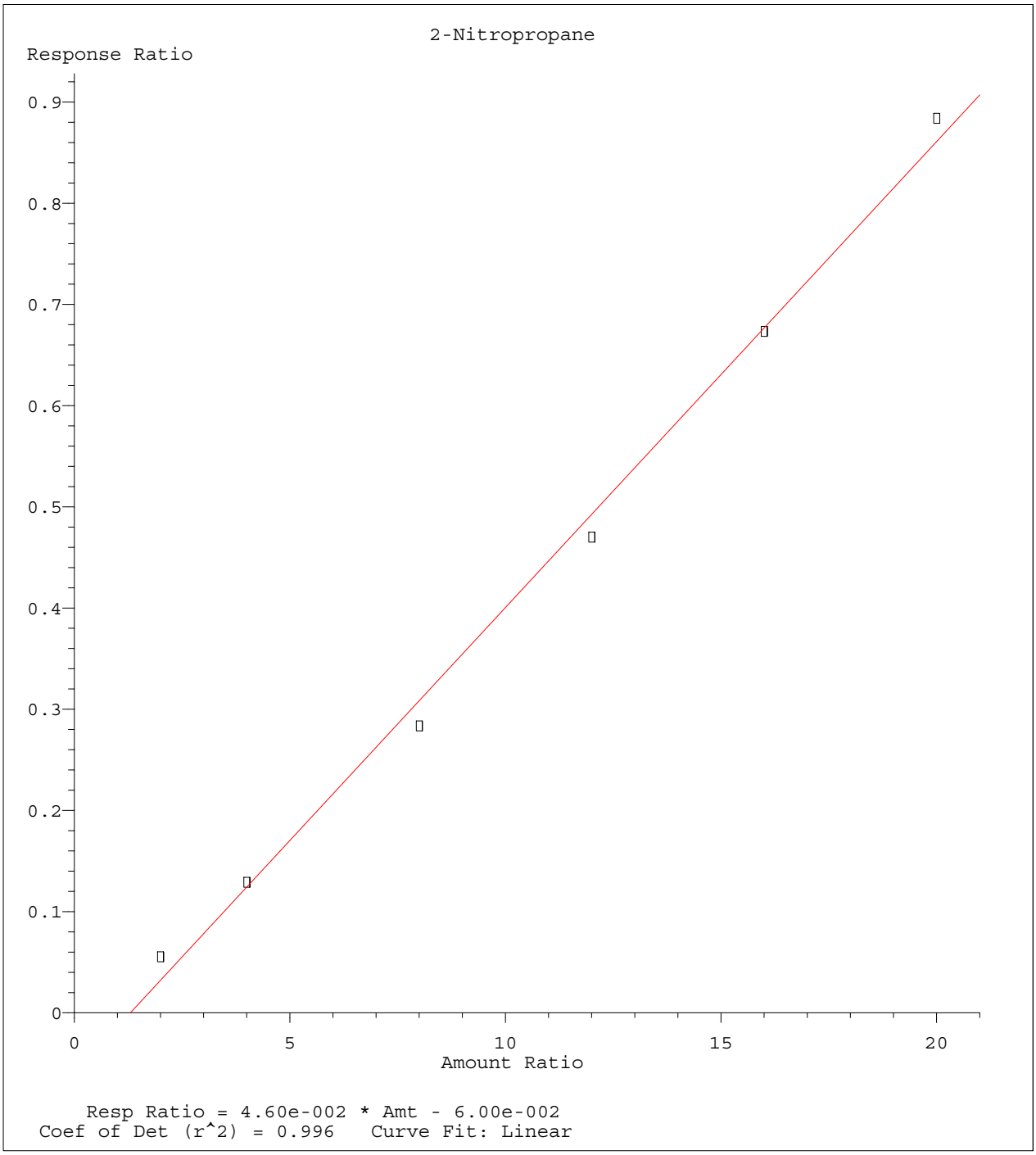
(#) = qualifier out of range (m) = manual integration
11M08242.D A9FOOWT.M Thu Aug 20 11:43:55 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
Misc : 1,1 STD70883 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration





Method Name: C:\MSDCHEM\1\METHODS\A9FOOWT.M
Calibration Table Last Updated: Thu Aug 20 11:44:55 2015

Data File : C:\MSDchem\1\data\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 15:40:10 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

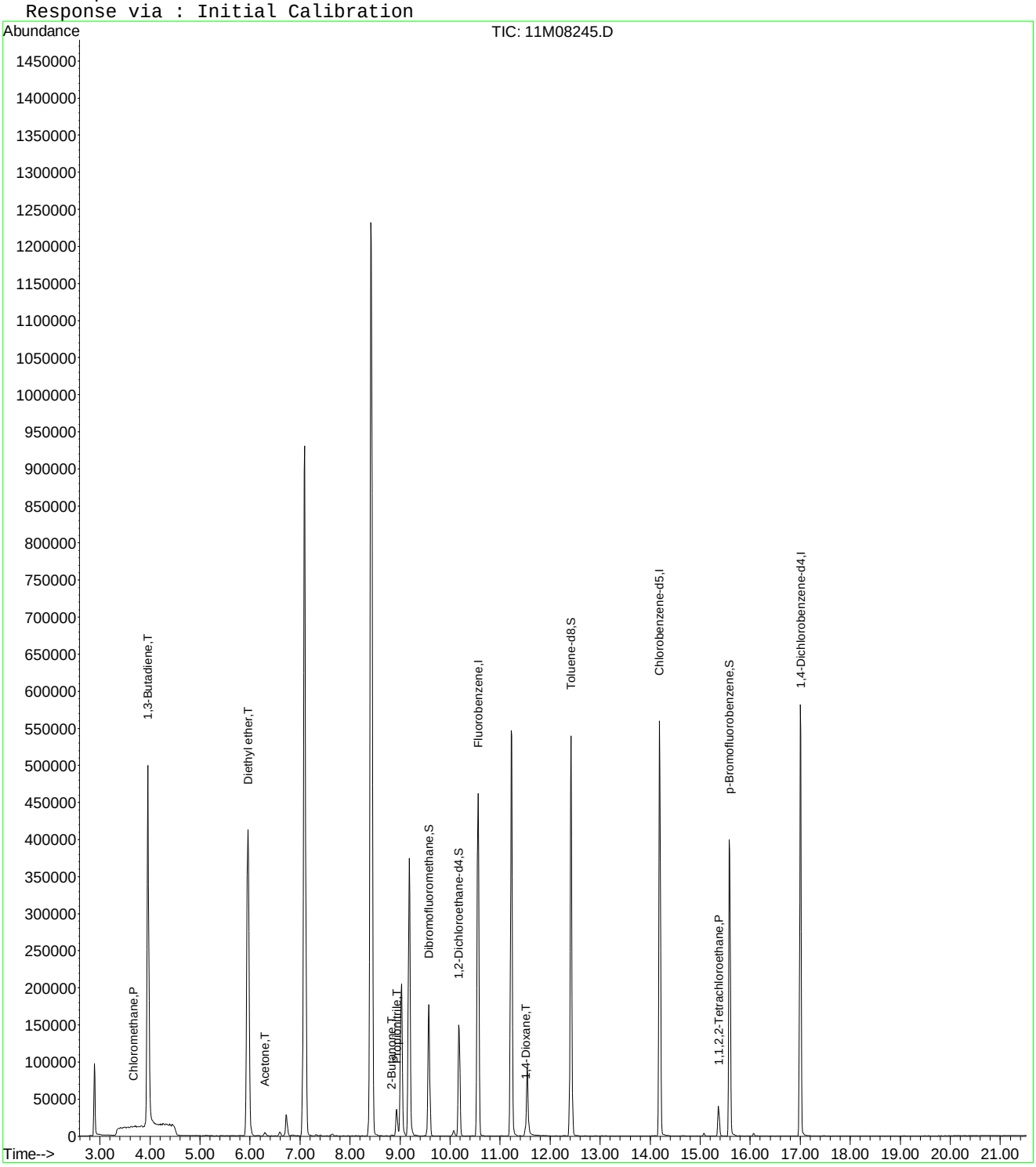
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	543635	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	396503	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	206025	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	140300	23.2496	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.00%			
43) 1,2-Dichloroethane-d4	10.17	65	129308	19.7285	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 78.92%#			
57) Toluene-d8	12.42	98	479748	28.6477	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 114.60%#			
78) p-Bromofluorobenzene	15.58	95	164471	24.9480	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.80%			
Target Compounds						Qvalue
3) Chloromethane	3.67	50	1708	0.1809	ug/L #	64
5) 1,3-Butadiene	3.96	54	337713	68.0129	ug/L	95
9) Diethyl ether	5.96	59	421860	68.0021	ug/L	82
13) Acetone	6.30	43	8473	5.2935	ug/L	79
29) 2-Butanone	8.83	43	2399	0.9217	ug/L #	77
30) Propionitrile	8.93	54	45537	55.4849	ug/L	96
49) 1,4-Dioxane	11.51	88	6417	143.4316	ug/L	93
77) 1,1,2,2-Tetrachloroethane	15.38	83	1792	0.4132	ug/L #	17

(#) = qualifier out of range (m) = manual integration
11M08245.D 8260WTR.M Sun Jun 14 15:40:11 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jun 14 15:40 2015 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
Last Update : Sat Jun 13 12:38:34 2015
Response via : Initial Calibration



11M08245.D 8260WTR.M Sun Jun 14 15:40:11 2015 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28:16 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	543635	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	396503	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.01	152	206025	25.00	ug/L	-0.02

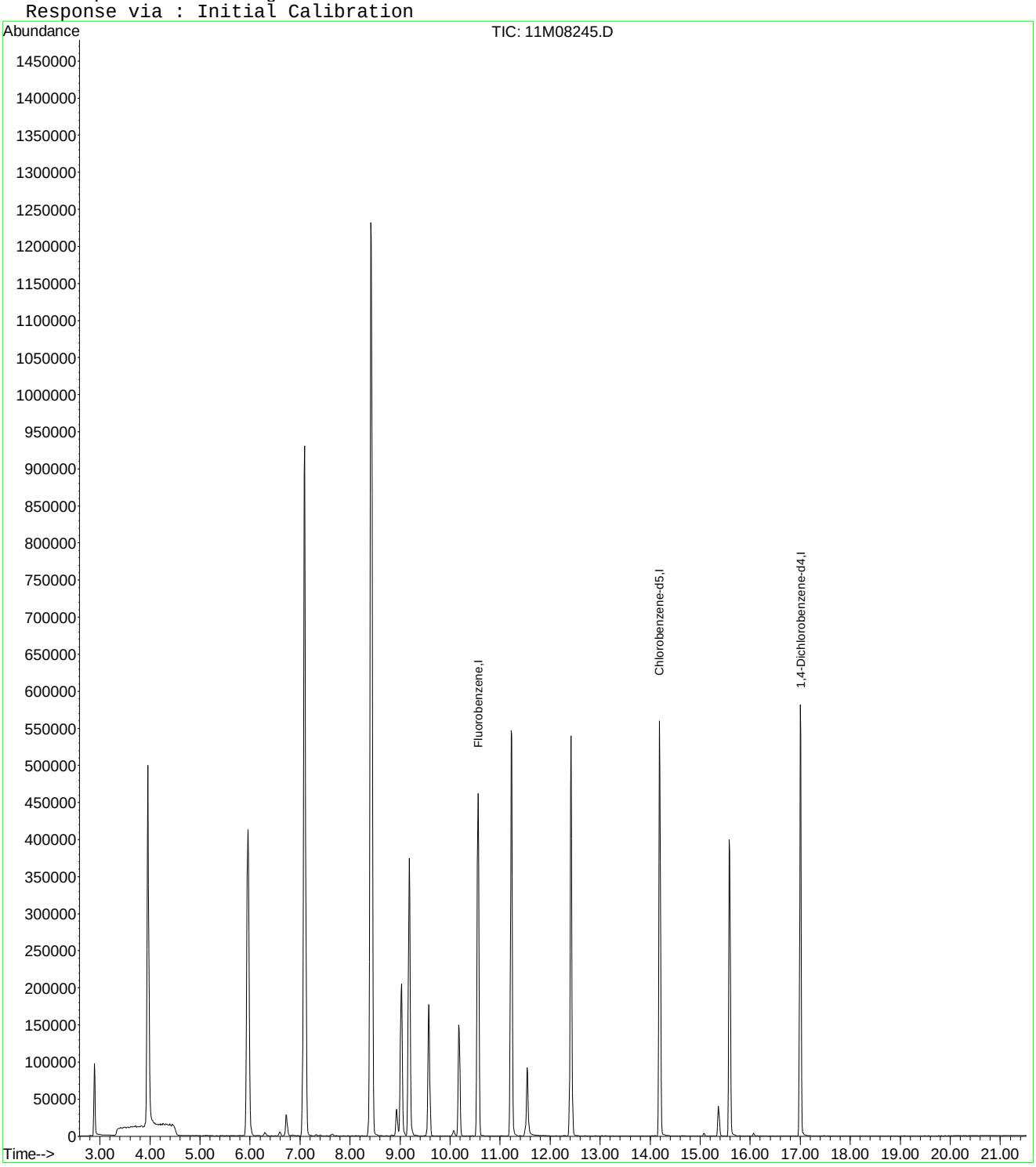
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M08245.D A9FOOWT.M Thu Aug 20 11:28:17 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:28 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:27:18 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43:56 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

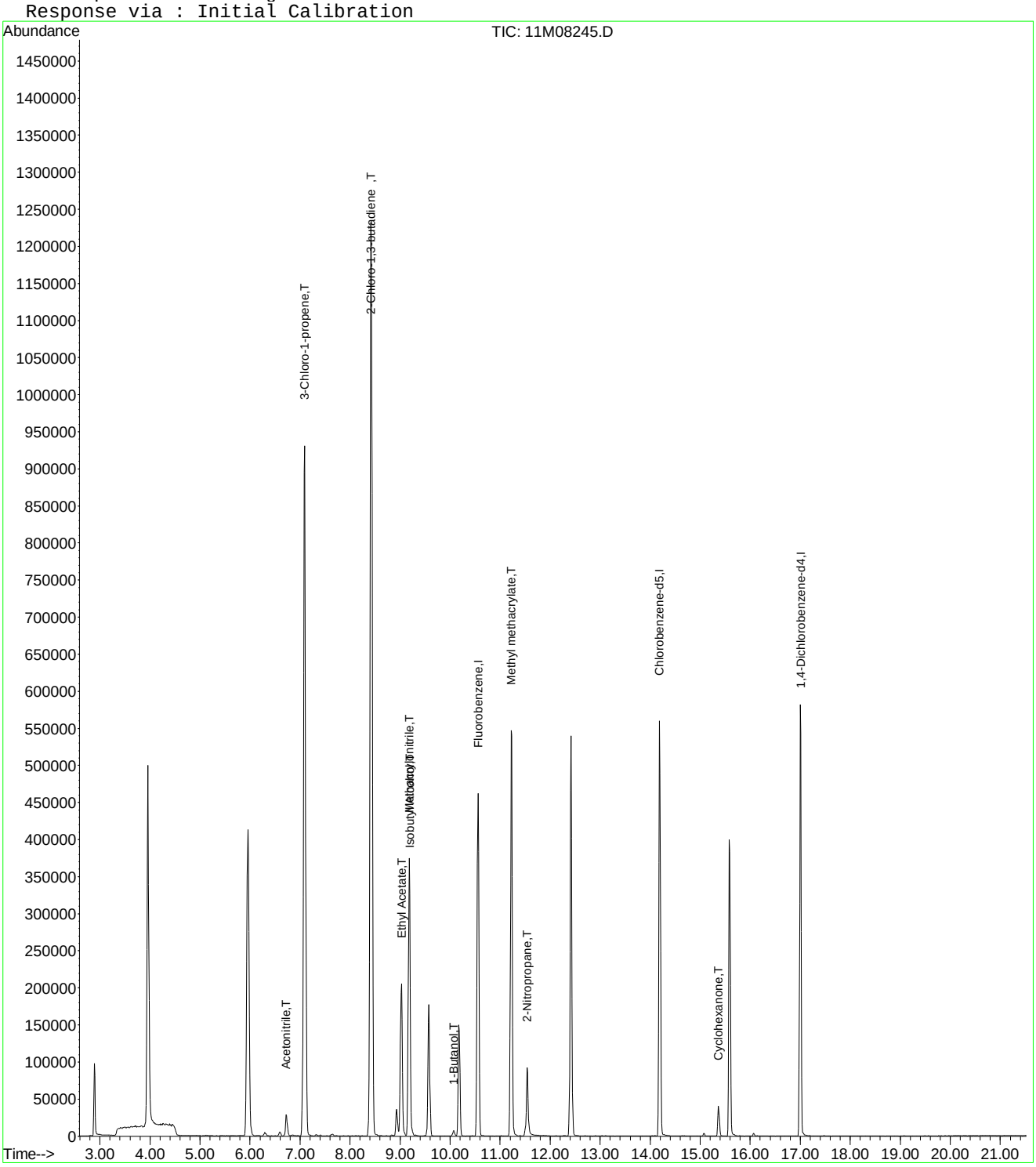
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	543635	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.19	117	396503	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.01	152	206025	25.00	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	38243	91.7199	ug/L		100
3) 3-Chloro-1-propene	7.09	41	808581	98.8244	ug/L		82
4) 2-Chloro-1,3-butadiene	8.42	53	1078924	109.8470	ug/L		94
5) Methacrylonitrile	9.18	41	233249	92.2348	ug/L		79
6) Isobutyl Alcohol	9.19	43	24110	185.2732	ug/L		90
7) 1-Butanol	10.07	56	6038	87.7140	ug/L	#	79
8) Cyclohexanone	15.36	55	22693	36.2928	ug/L		98
9) 2-Nitropropane	11.54	43	62961	95.4458	ug/L		82
10) Ethyl Acetate	9.03	43	328836	109.6369	ug/L	#	93
11) Methyl methacrylate	11.22	41	327033	93.7719	ug/L		87

(#) = qualifier out of range (m) = manual integration
11M08245.D A9FOOWT.M Thu Aug 20 11:43:56 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
Misc : 1,1 STD70514 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	92	0.00
2	T	Acetonitrile	100.0000	91.7199	8.3	92	0.00
3	T	3-Chloro-1-propene	100.0000	98.8244	1.2	90	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	109.8470	-9.8	102	0.00
5	T	Methacrylonitrile	100.0000	92.2348	7.8	86	0.00
6	T	Isobutyl Alcohol	200.0000	185.2732	7.4	83	0.00
7	T	1-Butanol	100.0000	87.7140	12.3	78	0.00
8	T	Cyclohexanone	100.0000	36.2928	63.7	31	0.00
9	T	2-Nitropropane	100.0000	95.4458	4.6	82	0.00
10	T	Ethyl Acetate	100.0000	109.6369	-9.6	99	0.00
11	T	Methyl methacrylate	100.0000	93.7719	6.2	87	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	91	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	92	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M08245.D A9FOOWT.M Thu Aug 20 11:45:26 2015 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
Acq On : 13 May 2016 14:40 Operator: JDS
Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	538041	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	450050	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	251600	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
57) Toluene-d8	12.47	98	210	0.0099	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.04%#		
78) p-Bromofluorobenzene	15.64	95	566	0.0689	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.28%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	2475	0.3135	ug/L #	66
3) Chloromethane	3.72	50	4639	0.6471	ug/L	91
4) Vinyl Chloride	3.96	62	1882	0.3288	ug/L #	44
5) 1,3-Butadiene	4.01	54	1564	0.2900	ug/L #	19
6) Bromomethane	4.84	94	1717	0.4723	ug/L	83
7) Chloroethane	5.00	64	616	0.1589	ug/L #	45
8) Trichlorofluoromethane	5.49	101	3531	0.3330	ug/L	97
10) Isoprene	6.04	67	1746	0.2381	ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	1344	0.2515	ug/L	96
13) Acetone	6.34	43	2389	1.4850	ug/L #	45
14) 1,1-Dichloroethene	6.56	61	3780	0.3817	ug/L	78
16) Dimethyl Sulfide	6.80	62	762	0.1697	ug/L	78
18) Methyl acetate	7.02	43	24685	4.4975	ug/L #	70
19) Methylene Chloride	7.31	84	1766	0.3184	ug/L	74
20) Carbon Disulfide	7.36	76	5848	0.3373	ug/L	92
22) Methyl Tert Butyl Ether	7.54	73	3068	0.2131	ug/L #	48
23) trans-1,2-Dichloroethene	7.75	96	1449	0.2556	ug/L	91
24) n-Hexane	7.82	57	3745	0.4031	ug/L #	73
26) Vinyl Acetate	8.30	43	2410	0.6995	ug/L #	78
27) 1,1-Dichloroethane	8.35	63	3312	0.2969	ug/L #	76
31) 2,2-Dichloropropane	9.10	77	2449	0.3040	ug/L #	42
32) cis-1,2-Dichloroethene	9.15	96	1729	0.2748	ug/L	96
33) Chloroform	9.35	83	3792	0.3639	ug/L	92
35) Bromochloromethane	9.56	130	948	0.2355	ug/L #	68
38) 1,1,1-Trichloroethane	9.85	97	3449	0.3423	ug/L #	79
39) Cyclohexane	9.88	56	3639	0.2986	ug/L #	84
40) 1,1-Dichloropropene	10.04	75	2365	0.3106	ug/L #	53
41) Carbon Tetrachloride	10.17	117	2613	0.2748	ug/L	87
44) 1,2-Dichloroethane	10.35	62	2493	0.2788	ug/L #	73
45) Benzene	10.38	78	7133	0.3275	ug/L	99
46) Trichloroethene	11.09	130	1973	0.2780	ug/L	93
47) Methylcyclohexane	11.17	83	2570	0.2986	ug/L	84
48) 1,2-Dichloropropane	11.29	63	1665	0.2692	ug/L	87
50) Bromodichloromethane	11.57	83	2418	0.2950	ug/L #	82
51) Dibromomethane	11.65	93	756	0.2331	ug/L	88
54) cis-1,3-Dichloropropene	12.17	75	1869	0.2166	ug/L #	82
55) Dimethyl Disulfide	12.42	79	1028	0.1910	ug/L	95
58) Toluene	12.57	91	7355	0.3156	ug/L	91
59) Ethyl Methacrylate	12.64	69	1041	0.1887	ug/L	88
60) trans-1,3-Dichloropropene	12.72	75	1951	0.2556	ug/L #	51

(#) = qualifier out of range (m) = manual integration
11M11837.D 8260WT.M Fri May 13 17:04:21 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
Acq On : 13 May 2016 14:40 Operator: JDS
Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

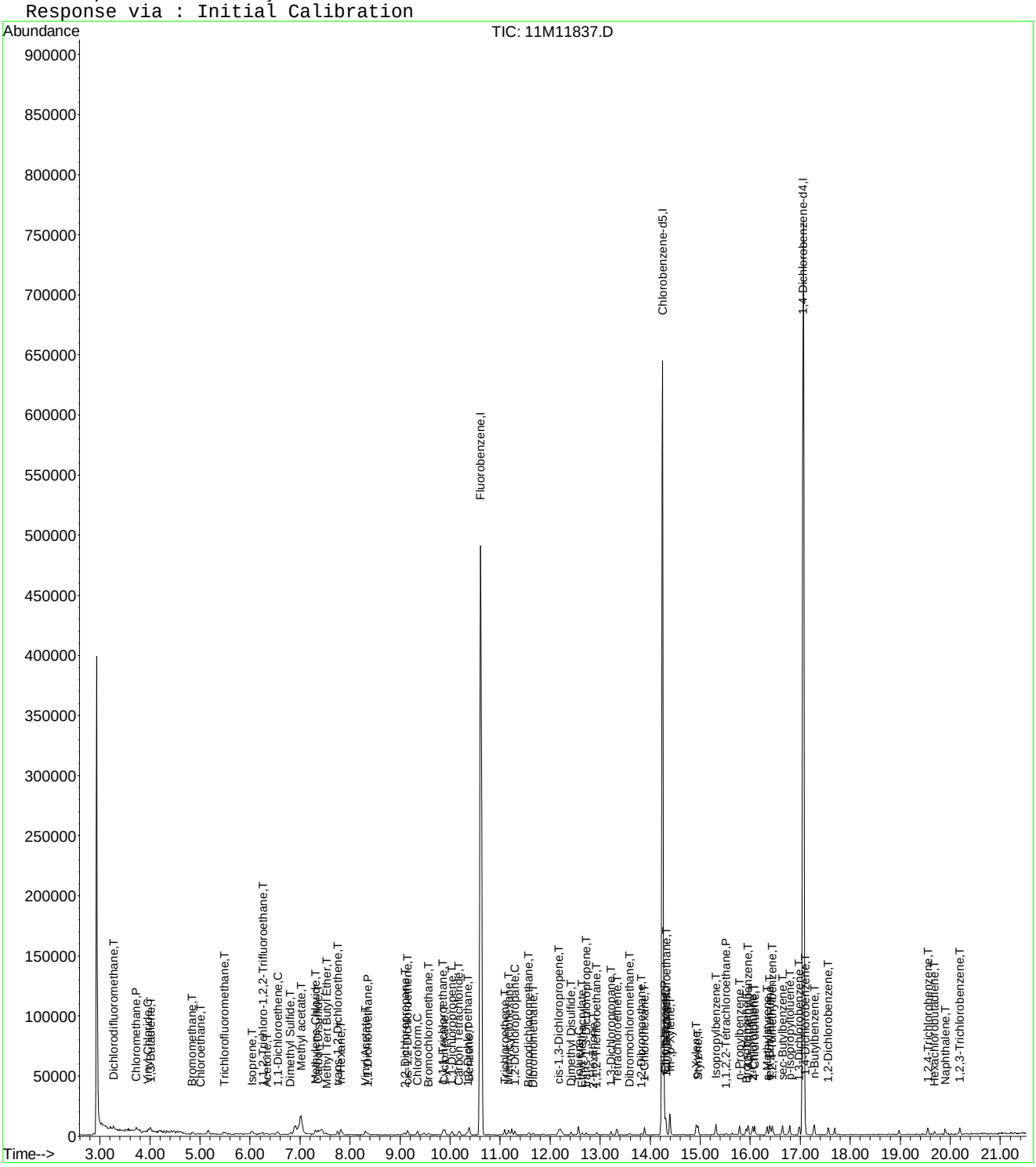
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
61)	1,1,2-Trichloroethane	12.92	97	1087	0.2492	ug/L		87
62)	2-Hexanone	12.86	43	687	0.1910	ug/L	#	29
63)	1,3-Dichloropropane	13.21	76	1673	0.2309	ug/L		94
64)	Tetrachloroethene	13.34	164	1703	0.3238	ug/L		94
65)	Dibromochloromethane	13.59	129	1515	0.2406	ug/L		92
66)	1,2-Dibromoethane	13.82	107	966	0.2181	ug/L		98
67)	1-Chlorohexane	13.89	91	2128	0.2784	ug/L		97
68)	Chlorobenzene	14.29	112	5248	0.3062	ug/L		99
69)	1,1,1,2-Tetrachloroethane	14.32	131	2025	0.3082	ug/L		98
70)	Ethylbenzene	14.31	106	2602	0.2992	ug/L		88
71)	m-,p-Xylene	14.40	106	6296	0.6083	ug/L		82
72)	o-Xylene	14.92	106	3032	0.2937	ug/L		95
73)	Styrene	14.95	104	4953	0.2828	ug/L		95
75)	Isopropylbenzene	15.31	105	7848	0.3006	ug/L		93
77)	1,1,2,2-Tetrachloroethane	15.52	83	1145	0.2759	ug/L		68
81)	n-Propylbenzene	15.79	91	9421	0.3332	ug/L		94
82)	Bromobenzene	15.92	156	2002	0.2551	ug/L		66
83)	1,3,5-Trimethylbenzene	15.95	105	6742	0.3138	ug/L		91
84)	2-Chlorotoluene	16.05	91	6735	0.3228	ug/L		96
85)	4-Chlorotoluene	16.09	91	6023	0.3518	ug/L		99
86)	a-Methylstyrene	16.34	118	2850	0.2387	ug/L		95
87)	tert-Butylbenzene	16.39	134	1197	0.2539	ug/L		64
88)	1,2,4-Trimethylbenzene	16.44	105	6992	0.3180	ug/L		88
89)	sec-Butylbenzene	16.65	105	8335	0.3278	ug/L		97
90)	p-Isopropyltoluene	16.79	119	7094	0.3065	ug/L		96
91)	1,3-Dichlorobenzene	16.98	146	4505	0.3090	ug/L		96
92)	1,4-Dichlorobenzene	17.10	146	4475	0.3006	ug/L	#	1
93)	n-Butylbenzene	17.28	91	7076	0.3396	ug/L	#	93
94)	1,2-Dichlorobenzene	17.56	146	4016	0.2922	ug/L		100
96)	1,2,4-Trichlorobenzene	19.55	180	2964	0.2902	ug/L		99
97)	Hexachlorobutadiene	19.69	225	1160	0.2796	ug/L	#	71
98)	Naphthalene	19.90	128	4679	0.2394	ug/L	#	93
99)	1,2,3-Trichlorobenzene	20.19	180	2578	0.2696	ug/L		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
Acq On : 13 May 2016 14:40 Operator: JDS
Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
Acq On : 13 May 2016 14:40 Operator: JDS
Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:40:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2936	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.6871	0.0	0	0.00
4	C	Vinyl Chloride	-1.0000	0.3357	0.0	0	0.00
5	T	1,3-Butadiene	-1.0000	0.2805	0.0	0	0.01
6	T	Bromomethane	-1.0000	0.4454	0.0	0	-0.01
7	T	Chloroethane	-1.0000	0.1710	0.0	0	0.00
8	T	Trichlorofluoromethane	-1.0000	0.3160	0.0	0	0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.01#
10	T	Isoprene	-1.0000	0.2535	0.0	0	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.23#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2478	0.0	0	0.01
13	T	Acetone	-1.0000	1.8699	0.0	0	0.00
14	C	1,1-Dichloroethene	-1.0000	0.3838	0.0	0	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.66#
16	T	Dimethyl Sulfide	-1.0000	0.1937	0.0	0	-0.01
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-7.06#
18	T	Methyl acetate	-1.0000	5.1442	0.0	0	-0.04
19	T	Methylene Chloride	-1.0000	0.3464	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.3546	0.0	0	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.49#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2413	0.0	0	0.02
23	T	trans-1,2-Dichloroethene	-1.0000	0.2658	0.0	0	0.01
24	T	n-Hexane	-1.0000	0.4125	0.0	0	0.00
25	T	Diisopropyl ether	-1.0000	0.0083	0.0	0	0.08
26	T	Vinyl Acetate	-1.0000	2.6933	0.0	0	-0.01
27	P	1,1-Dichloroethane	-1.0000	0.3028	0.0	0	0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.70#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-8.87#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.97#
31	T	2,2-Dichloropropane	-1.0000	0.2862	0.0	0	0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.2877	0.0	0	0.00
33	C	Chloroform	0.3000	0.3530	-17.7	100	0.00
34	T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.48#
35	T	Bromochloromethane	-1.0000	0.2656	0.0	0	-0.01
36	T	Tetrahydrofuran	-1.0000	0.0000	0.0	0	-9.60#
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.63#
38	T	1,1,1-Trichloroethane	-1.0000	0.3263	0.0	0	0.00
39	T	Cyclohexane	-1.0000	0.3159	0.0	0	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3134	0.0	0	0.00
41	T	Carbon Tetrachloride	-1.0000	0.2532	0.0	0	-0.01
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0152	0.0	0	-0.09
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.23#
44	T	1,2-Dichloroethane	-1.0000	0.2858	0.0	0	0.01
45	T	Benzene	-1.0000	0.3452	0.0	0	0.00
46	T	Trichloroethene	-1.0000	0.2938	0.0	0	0.00
47	T	Methylcyclohexane	-1.0000	0.3101	0.0	0	0.00
48	C	1,2-Dichloropropane	-1.0000	0.2911	0.0	0	0.00
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.55#
50	T	Bromodichloromethane	-1.0000	0.3012	0.0	0	0.00
51	T	Dibromomethane	-1.0000	0.2537	0.0	0	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.0000	0.0	0	-11.84#
53	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-11.87#
54	T	cis-1,3-Dichloropropene	-1.0000	0.2327	0.0	0	0.00

(#) = Out of Range
11M11837.D 8260WT.M Sat May 14 18:41:07 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
Acq On : 13 May 2016 14:40 Operator: JDS
Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:40:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	-1.0000	0.2127	0.0	0	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0107	0.0	0	0.00
58	C	Toluene	-1.0000	0.3228	0.0	0	0.01
59	T	Ethyl Methacrylate	-1.0000	0.2140	0.0	0	-0.01
60	T	trans-1,3-Dichloropropene	-1.0000	0.2668	0.0	0	-0.01
61	T	1,1,2-Trichloroethane	-1.0000	0.2691	0.0	0	-0.01
62	T	2-Hexanone	-1.0000	0.2315	0.0	0	0.00
63	T	1,3-Dichloropropane	-1.0000	0.2579	0.0	0	0.00
64	T	Tetrachloroethene	-1.0000	0.3214	0.0	0	0.00
65	T	Dibromochloromethane	-1.0000	0.2459	0.0	0	0.00
66	T	1,2-Dibromoethane	-1.0000	0.2387	0.0	0	0.00
67	T	1-Chlorohexane	-1.0000	0.2833	0.0	0	0.00
68	P	Chlorobenzene	-1.0000	0.3144	0.0	0	0.00
69	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2998	0.0	0	0.00
70	C	Ethylbenzene	-1.0000	0.3040	0.0	0	0.00
71	T	m-,p-Xylene	-1.0000	0.6051	0.0	0	0.01
72	T	o-Xylene	-1.0000	0.2994	0.0	0	0.00
73	T	Styrene	-1.0000	0.2961	0.0	0	0.00
74	P	Bromoform	-1.0000	0.0798	0.0	0	-0.01
75	T	Isopropylbenzene	-1.0000	0.2931	0.0	0	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2922	0.0	0	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.0730	0.0	0	0.00
79	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-15.70#
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-15.74#
81	T	n-Propylbenzene	-1.0000	0.3233	0.0	0	0.00
82	T	Bromobenzene	0.3000	0.2618	12.7	100	0.00
83	T	1,3,5-Trimethylbenzene	-1.0000	0.3032	0.0	0	-0.01
84	T	2-Chlorotoluene	-1.0000	0.3300	0.0	0	0.00
85	T	4-Chlorotoluene	-1.0000	0.3295	0.0	0	0.00
86	T	a-Methylstyrene	-1.0000	0.2430	0.0	0	0.00
87	T	tert-Butylbenzene	-1.0000	0.2541	0.0	0	-0.01
88	T	1,2,4-Trimethylbenzene	-1.0000	0.3088	0.0	0	0.00
89	T	sec-Butylbenzene	-1.0000	0.3122	0.0	0	0.00
90	T	p-Isopropyltoluene	-1.0000	0.2893	0.0	0	0.00
91	T	1,3-Dichlorobenzene	-1.0000	0.3051	0.0	0	0.00
92	T	1,4-Dichlorobenzene	0.3000	0.2990	0.3	100	0.00
93	T	n-Butylbenzene	-1.0000	0.3274	0.0	0	0.00
94	T	1,2-Dichlorobenzene	0.3000	0.2985	0.5	100	-0.01
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-18.49#
96	T	1,2,4-Trichlorobenzene	-1.0000	0.3011	0.0	0	0.00
97	T	Hexachlorobutadiene	-1.0000	0.2675	0.0	0	0.00
98	T	Naphthalene	-1.0000	0.2561	0.0	0	0.00
99	T	1,2,3-Trichlorobenzene	0.3000	0.2854	4.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11838.D Vial: 4
Acq On : 13 May 2016 15:12 Operator: JDS
Sample : WG568769-03 0.4ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:23 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	515473	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	435266	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	244818	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
57) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.00%#		
78) p-Bromofluorobenzene	15.64	95	236	0.0295	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.12%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	2765	0.3656	ug/L #	66
3) Chloromethane	3.72	50	4021	0.5854	ug/L #	77
4) Vinyl Chloride	3.96	62	2267	0.4134	ug/L #	64
5) 1,3-Butadiene	4.01	54	2044	0.3956	ug/L #	18
6) Bromomethane	4.85	94	1571	0.4511	ug/L	89
7) Chloroethane	5.01	64	1496	0.4029	ug/L #	45
8) Trichlorofluoromethane	5.49	101	4241	0.4175	ug/L	96
10) Isoprene	6.03	67	2394	0.3408	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	1439	0.2811	ug/L #	23
13) Acetone	6.33	43	1125	0.7299	ug/L #	45
14) 1,1-Dichloroethene	6.56	61	3786	0.3990	ug/L	77
16) Dimethyl Sulfide	6.80	62	1622	0.3769	ug/L	59
18) Methyl acetate	7.01	43	21364	4.0629	ug/L #	70
19) Methylene Chloride	7.32	84	2266	0.4265	ug/L	97
20) Carbon Disulfide	7.35	76	6628	0.3991	ug/L #	82
22) Methyl Tert Butyl Ether	7.52	73	4808	0.3486	ug/L #	74
23) trans-1,2-Dichloroethene	7.74	96	2372	0.4368	ug/L	93
24) n-Hexane	7.83	57	4212	0.4732	ug/L #	73
26) Vinyl Acetate	8.34	43	434	0.1315	ug/L #	78
27) 1,1-Dichloroethane	8.34	63	3822	0.3576	ug/L #	89
29) 2-Butanone	8.88	43	484	0.2099	ug/L #	60
31) 2,2-Dichloropropane	9.09	77	2680	0.3472	ug/L #	55
32) cis-1,2-Dichloroethene	9.15	96	2277	0.3777	ug/L	91
33) Chloroform	9.35	83	3981	0.3988	ug/L	89
35) Bromochloromethane	9.57	130	952	0.2468	ug/L	57
36) Tetrahydrofuran	9.59	42	212	0.1340	ug/L #	46
38) 1,1,1-Trichloroethane	9.85	97	3917	0.4058	ug/L #	84
39) Cyclohexane	9.88	56	3935	0.3371	ug/L #	80
40) 1,1-Dichloropropene	10.04	75	2817	0.3862	ug/L	82
41) Carbon Tetrachloride	10.18	117	3373	0.3702	ug/L #	88
44) 1,2-Dichloroethane	10.35	62	3201	0.3737	ug/L #	78
45) Benzene	10.39	78	8729	0.4184	ug/L	90
46) Trichloroethene	11.08	130	2537	0.3731	ug/L	93
47) Methylcyclohexane	11.17	83	2742	0.3325	ug/L	90
48) 1,2-Dichloropropane	11.29	63	2133	0.3600	ug/L	84
50) Bromodichloromethane	11.58	83	2857	0.3638	ug/L #	84
51) Dibromomethane	11.65	93	972	0.3128	ug/L	81
52) 2-Chloroethyl Vinyl Ether	11.85	63	791	0.2560	ug/L #	50
54) cis-1,3-Dichloropropene	12.17	75	2689	0.3253	ug/L	99
55) Dimethyl Disulfide	12.42	79	1113	0.2158	ug/L	74

(#) = qualifier out of range (m) = manual integration
11M11838.D 8260WT.M Fri May 13 17:04:23 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11838.D Vial: 4
Acq On : 13 May 2016 15:12 Operator: JDS
Sample : WG568769-03 0.4ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:23 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

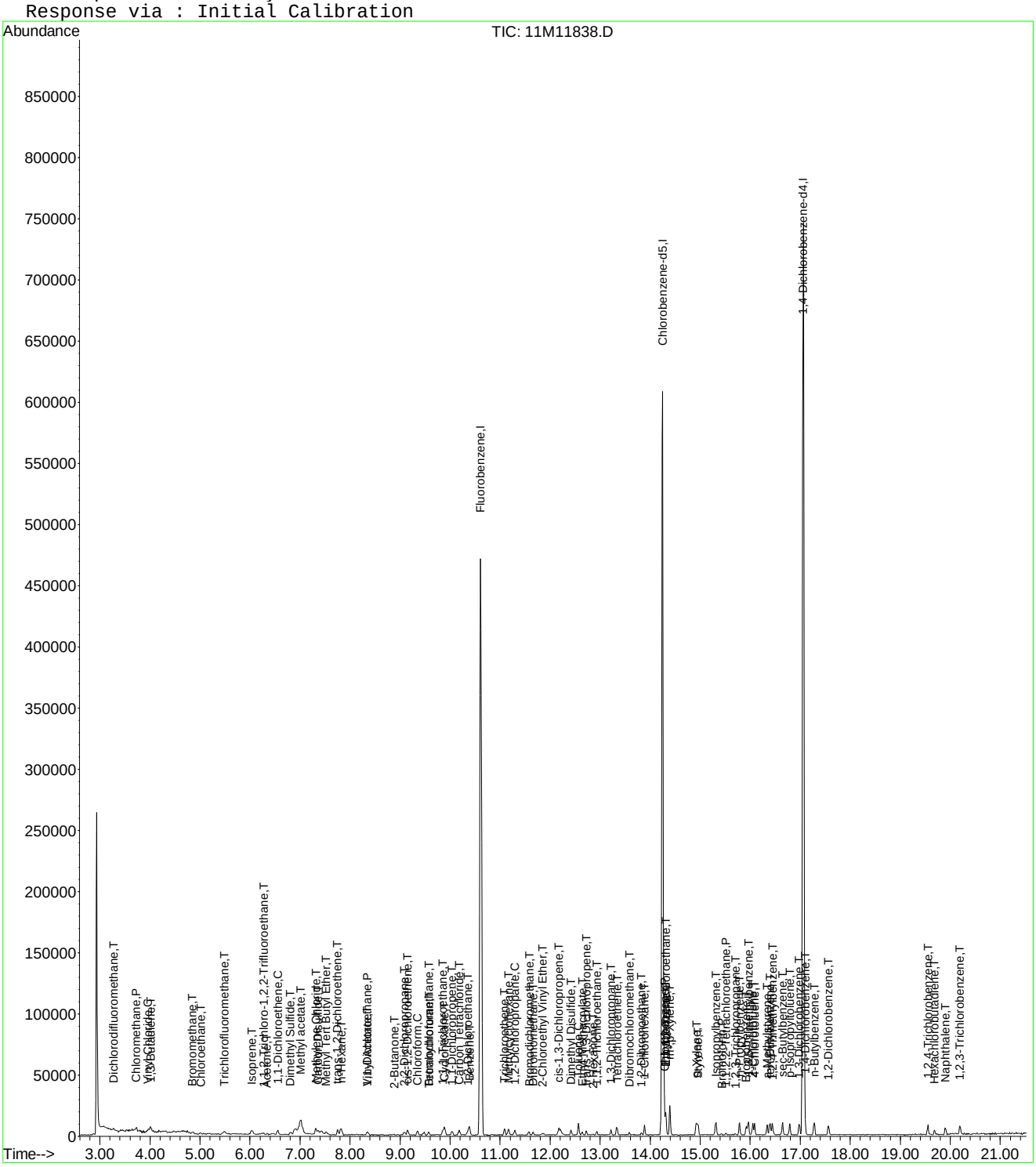
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58)	Toluene	12.56	91	9113	0.4043	ug/L		99
59)	Ethyl Methacrylate	12.65	69	1556	0.2916	ug/L		96
60)	trans-1,3-Dichloropropene	12.73	75	2303	0.3119	ug/L		86
61)	1,1,2-Trichloroethane	12.94	97	1549	0.3672	ug/L		85
62)	2-Hexanone	12.86	43	840	0.2415	ug/L	#	11
63)	1,3-Dichloropropane	13.21	76	2345	0.3346	ug/L		82
64)	Tetrachloroethene	13.34	164	1905	0.3745	ug/L		88
65)	Dibromochloromethane	13.59	129	1972	0.3238	ug/L		89
66)	1,2-Dibromoethane	13.82	107	1617	0.3776	ug/L		69
67)	1-Chlorohexane	13.89	91	2578	0.3487	ug/L		77
68)	Chlorobenzene	14.29	112	6458	0.3896	ug/L		93
69)	1,1,1,2-Tetrachloroethane	14.31	131	2374	0.3736	ug/L		98
70)	Ethylbenzene	14.31	106	3158	0.3754	ug/L		79
71)	m-,p-Xylene	14.39	106	8621	0.8613	ug/L		93
72)	o-Xylene	14.93	106	3752	0.3758	ug/L		96
73)	Styrene	14.95	104	6027	0.3558	ug/L		90
74)	Bromoform	15.44	173	931	0.2454	ug/L		87
75)	Isopropylbenzene	15.31	105	10551	0.4179	ug/L		95
77)	1,1,2,2-Tetrachloroethane	15.52	83	1129	0.2796	ug/L		84
79)	1,2,3-Trichloropropane	15.71	110	200	0.1341	ug/L	#	28
81)	n-Propylbenzene	15.79	91	11244	0.4087	ug/L		98
82)	Bromobenzene	15.91	156	3048	0.3991	ug/L		95
83)	1,3,5-Trimethylbenzene	15.96	105	9158	0.4381	ug/L		92
84)	2-Chlorotoluene	16.05	91	8455	0.4164	ug/L		96
85)	4-Chlorotoluene	16.09	91	6979	0.4189	ug/L		92
86)	a-Methylstyrene	16.34	118	4052	0.3488	ug/L		74
87)	tert-Butylbenzene	16.40	134	1479	0.3224	ug/L		63
88)	1,2,4-Trimethylbenzene	16.45	105	8457	0.3953	ug/L		95
89)	sec-Butylbenzene	16.65	105	10479	0.4236	ug/L		93
90)	p-Isopropyltoluene	16.79	119	9613	0.4269	ug/L		93
91)	1,3-Dichlorobenzene	16.98	146	5826	0.4107	ug/L		93
92)	1,4-Dichlorobenzene	17.10	146	6273	0.4331	ug/L	#	74
93)	n-Butylbenzene	17.28	91	8021	0.3956	ug/L	#	91
94)	1,2-Dichlorobenzene	17.57	146	4937	0.3691	ug/L		97
96)	1,2,4-Trichlorobenzene	19.55	180	3632	0.3655	ug/L		95
97)	Hexachlorobutadiene	19.69	225	1539	0.3812	ug/L		96
98)	Naphthalene	19.90	128	7383	0.3882	ug/L		97
99)	1,2,3-Trichlorobenzene	20.19	180	3748	0.4028	ug/L		84

(#) = qualifier out of range (m) = manual integration
11M11838.D 8260WT.M Fri May 13 17:04:24 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11838.D Vial: 4
Acq On : 13 May 2016 15:12 Operator: JDS
Sample : WG568769-03 0.4ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
Acq On : 13 May 2016 15:43 Operator: JDS
Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:25 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	523425	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	440574	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	249989	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	1729	0.2910	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.16%#		
43) 1,2-Dichloroethane-d4	10.23	65	3301	0.4585	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.84%#		
57) Toluene-d8	12.47	98	9307	0.4494	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	1.80%#		
78) p-Bromofluorobenzene	15.64	95	4047	0.4956	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	7215	0.9394	ug/L	98
3) Chloromethane	3.72	50	7292	1.0455	ug/L	80
4) Vinyl Chloride	3.96	62	5040	0.9051	ug/L	92
5) 1,3-Butadiene	4.02	54	5876	1.1198	ug/L #	76
6) Bromomethane	4.85	94	3488	0.9862	ug/L	94
7) Chloroethane	4.99	64	3425	0.9083	ug/L #	57
8) Trichlorofluoromethane	5.49	101	10960	1.0625	ug/L	95
9) Diethyl ether	6.01	59	19830	4.2253	ug/L	90
10) Isoprene	6.04	67	6121	0.8582	ug/L	94
11) Acrolein	6.25	56	697	1.2730	ug/L	65
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	5456	1.0497	ug/L	90
13) Acetone	6.34	43	1782	1.1386	ug/L #	45
14) 1,1-Dichloroethene	6.55	61	9456	0.9814	ug/L	91
15) Tert-Butyl Alcohol	6.67	59	2848	6.8484	ug/L #	67
16) Dimethyl Sulfide	6.80	62	3631	0.8310	ug/L	93
18) Methyl acetate	7.01	43	20953	3.9242	ug/L #	70
19) Methylene Chloride	7.31	84	5001	0.9270	ug/L	97
20) Carbon Disulfide	7.36	76	15438	0.9154	ug/L	99
21) Acrylonitrile	7.50	53	3780	1.8795	ug/L	89
22) Methyl Tert Butyl Ether	7.53	73	11891	0.8490	ug/L	90
23) trans-1,2-Dichloroethene	7.75	96	4815	0.8732	ug/L	95
24) n-Hexane	7.82	57	9213	1.0194	ug/L #	81
25) Diisopropyl ether	8.15	45	108233	4.5267	ug/L	99
26) Vinyl Acetate	8.31	43	1723	0.5141	ug/L #	78
27) 1,1-Dichloroethane	8.34	63	10818	0.9968	ug/L	95
28) Ethyl-Tert-Butyl ether	8.70	59	85288	4.3548	ug/L	99
29) 2-Butanone	8.88	43	1368	0.5844	ug/L #	60
30) Propionitrile	8.99	54	2406	3.5185	ug/L #	60
31) 2,2-Dichloropropane	9.09	77	7787	0.9935	ug/L	90
32) cis-1,2-Dichloroethene	9.15	96	5567	0.9095	ug/L	94
33) Chloroform	9.35	83	10278	1.0139	ug/L	96
34) 1-Bromopropane	9.48	122	295	0.2934	ug/L	49
35) Bromochloromethane	9.57	130	2941	0.7509	ug/L	88
36) Tetrahydrofuran	9.60	42	7790	4.8493	ug/L	92
38) 1,1,1-Trichloroethane	9.85	97	10000	1.0202	ug/L #	90
39) Cyclohexane	9.88	56	10164	0.8574	ug/L	98
40) 1,1-Dichloropropene	10.04	75	7321	0.9884	ug/L	92
41) Carbon Tetrachloride	10.18	117	9558	1.0331	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	59107	4.2417	ug/L	97
44) 1,2-Dichloroethane	10.34	62	8181	0.9406	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M11839.D 8260WT.M Fri May 13 17:04:25 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
Acq On : 13 May 2016 15:43 Operator: JDS
Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:25 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

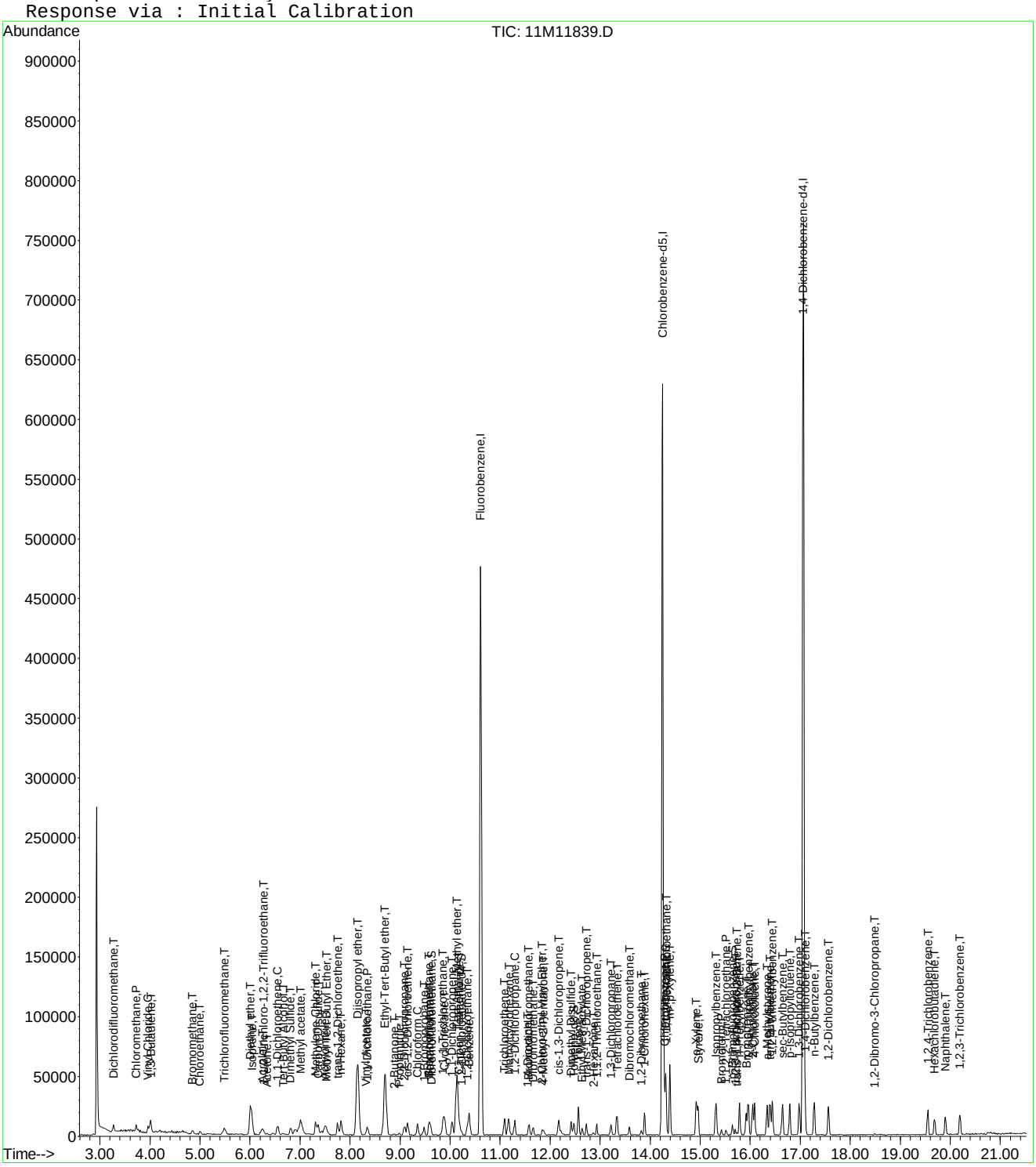
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	Benzene	10.38	78	19924	0.9404 ug/L		95
46)	Trichloroethene	11.08	130	6636	0.9611 ug/L		92
47)	Methylcyclohexane	11.18	83	7740	0.9243 ug/L		94
48)	1,2-Dichloropropane	11.29	63	5477	0.9103 ug/L		99
49)	1,4-Dioxane	11.55	88	187	5.1264 ug/L	#	10
50)	Bromodichloromethane	11.57	83	7238	0.9076 ug/L		94
51)	Dibromomethane	11.65	93	2839	0.8997 ug/L		97
52)	2-Chloroethyl Vinyl Ether	11.84	63	1934	0.6164 ug/L	#	72
53)	4-Methyl-2-Pentanone	11.87	58	1016	0.5282 ug/L	#	42
54)	cis-1,3-Dichloropropene	12.17	75	7078	0.8432 ug/L		99
55)	Dimethyl Disulfide	12.42	79	3514	0.6710 ug/L		93
58)	Toluene	12.56	91	22074	0.9676 ug/L		96
59)	Ethyl Methacrylate	12.64	69	4130	0.7646 ug/L		88
60)	trans-1,3-Dichloropropene	12.73	75	5897	0.7891 ug/L		90
61)	1,1,2-Trichloroethane	12.94	97	3547	0.8307 ug/L		96
62)	2-Hexanone	12.87	43	2461	0.6990 ug/L	#	63
63)	1,3-Dichloropropane	13.21	76	5965	0.8410 ug/L		87
64)	Tetrachloroethene	13.34	164	5050	0.9809 ug/L		94
65)	Dibromochloromethane	13.59	129	5237	0.8497 ug/L		90
66)	1,2-Dibromoethane	13.82	107	3214	0.7414 ug/L		91
67)	1-Chlorohexane	13.89	91	7025	0.9387 ug/L		91
68)	Chlorobenzene	14.29	112	16160	0.9630 ug/L		95
69)	1,1,1,2-Tetrachloroethane	14.32	131	6361	0.9889 ug/L		97
70)	Ethylbenzene	14.31	106	8050	0.9455 ug/L		93
71)	m-,p-Xylene	14.39	106	20545	2.0278 ug/L		95
72)	o-Xylene	14.92	106	9683	0.9581 ug/L		96
73)	Styrene	14.96	104	14946	0.8716 ug/L		98
74)	Bromoform	15.43	173	3024	0.7876 ug/L		97
75)	Isopropylbenzene	15.31	105	25656	1.0039 ug/L		92
77)	1,1,2,2-Tetrachloroethane	15.52	83	3569	0.8655 ug/L		89
79)	1,2,3-Trichloropropane	15.71	110	872	0.5724 ug/L		84
80)	trans-1,4-Dichloro-2-Buten	15.74	53	1048	0.6163 ug/L	#	44
81)	n-Propylbenzene	15.79	91	27998	0.9967 ug/L		98
82)	Bromobenzene	15.92	156	8101	1.0388 ug/L		89
83)	1,3,5-Trimethylbenzene	15.96	105	20563	0.9633 ug/L		98
84)	2-Chlorotoluene	16.05	91	20962	1.0111 ug/L		96
85)	4-Chlorotoluene	16.09	91	17553	1.0318 ug/L		100
86)	a-Methylstyrene	16.34	118	10002	0.8431 ug/L		97
87)	tert-Butylbenzene	16.40	134	4396	0.9384 ug/L		84
88)	1,2,4-Trimethylbenzene	16.44	105	21945	1.0045 ug/L		96
89)	sec-Butylbenzene	16.65	105	25927	1.0263 ug/L		100
90)	p-Isopropyltoluene	16.79	119	22467	0.9771 ug/L		96
91)	1,3-Dichlorobenzene	16.98	146	14883	1.0274 ug/L		96
92)	1,4-Dichlorobenzene	17.10	146	15106	1.0213 ug/L	#	67
93)	n-Butylbenzene	17.28	91	20991	1.0139 ug/L		98
94)	1,2-Dichlorobenzene	17.57	146	13331	0.9762 ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.49	75	493	0.5750 ug/L		75
96)	1,2,4-Trichlorobenzene	19.55	180	9030	0.8899 ug/L		96
97)	Hexachlorobutadiene	19.69	225	3810	0.9242 ug/L		95
98)	Naphthalene	19.90	128	16333	0.8410 ug/L		99
99)	1,2,3-Trichlorobenzene	20.19	180	8645	0.9098 ug/L		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
Acq On : 13 May 2016 15:43 Operator: JDS
Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
Acq On : 13 May 2016 15:43 Operator: JDS
Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:40:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	0.8798	12.0	100	0.00
3	P	Chloromethane	1.0000	1.1102	-11.0	100	0.00
4	C	Vinyl Chloride	1.0000	0.9240	7.6	100	0.00
5	T	1,3-Butadiene	-1.0000	1.0834	0.0	100	0.02
6	T	Bromomethane	1.0000	0.9301	7.0	100	0.00
7	T	Chloroethane	1.0000	0.9773	2.3	100	-0.01
8	T	Trichlorofluoromethane	1.0000	1.0081	-0.8	100	0.01
9	T	Diethyl ether	5.0000	4.9318	1.4	100	0.00
10	T	Isoprene	-1.0000	0.9134	0.0	100	0.00
11	T	Acrolein	2.5000	2.7854	-11.4	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	1.0342	-3.4	100	0.02
13	T	Acetone	-1.0000	1.4337	0.0	0	0.00
14	C	1,1-Dichloroethene	1.0000	0.9868	1.3	100	-0.01
15	T	Tert-Butyl Alcohol	10.0000	8.2841	17.2	100	0.01
16	T	Dimethyl Sulfide	-1.0000	0.9488	0.0	100	-0.01
17	T	Iodomethane	-1.0000	2.2962	0.0	0	0.01
18	T	Methyl acetate	-1.0000	4.2835	0.0	0	-0.05
19	T	Methylene Chloride	1.0000	1.0084	-0.8	100	0.00
20	T	Carbon Disulfide	1.0000	0.9624	3.8	100	0.00
21	T	Acrylonitrile	2.5000	2.2683	9.3	100	0.01
22	T	Methyl Tert Butyl Ether	1.0000	0.9614	3.9	100	0.01
23	T	trans-1,2-Dichloroethene	1.0000	0.9079	9.2	100	0.01
24	T	n-Hexane	-1.0000	1.0430	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	4.9106	1.8	100	0.00
26	T	Vinyl Acetate	-1.0000	2.6242	0.0	0	0.00
27	P	1,1-Dichloroethane	1.0000	1.0166	-1.7	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.7543	4.9	100	0.00
29	T	2-Butanone	-1.0000	0.7280	0.0	0	0.01
30	T	Propionitrile	5.0000	4.3718	12.6	100	0.01
31	T	2,2-Dichloropropane	1.0000	0.9353	6.5	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.9520	4.8	100	0.00
33	C	Chloroform	1.0000	0.9836	1.6	100	0.00
34	T	1-Bromopropane	1.0000	0.9106	8.9	100	0.00
35	T	Bromochloromethane	1.0000	0.8469	15.3	100	0.00
36	T	Tetrahydrofuran	5.0000	5.8710	-17.4	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.3018	0.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9725	2.8	100	0.00
39	T	Cyclohexane	1.0000	0.9069	9.3	100	0.00
40	T	1,1-Dichloropropene	1.0000	0.9971	0.3	100	0.00
41	T	Carbon Tetrachloride	1.0000	0.9518	4.8	100	0.00
42	T	Tert-Amyl-Methyl ether	5.0000	4.7417	5.2	100	0.00
43	S	1,2-Dichloroethane-d4	0.5000	0.5054	-1.1	100	0.00
44	T	1,2-Dichloroethane	1.0000	0.9639	3.6	100	0.00
45	T	Benzene	1.0000	0.9912	0.9	100	0.00
46	T	Trichloroethene	1.0000	1.0157	-1.6	100	-0.01
47	T	Methylcyclohexane	1.0000	0.9600	4.0	100	0.01
48	C	1,2-Dichloropropane	1.0000	0.9844	1.6	100	0.00
49	T	1,4-Dioxane	-1.0000	28.5532	0.0	0	0.00
50	T	Bromodichloromethane	1.0000	0.9266	7.3	100	0.00
51	T	Dibromomethane	1.0000	0.9792	2.1	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.7053	0.0	100	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	0.6569	0.0	0	0.00
54	T	cis-1,3-Dichloropropene	1.0000	0.9060	9.4	100	0.00

(#) = Out of Range
11M11839.D 8260WT.M Sat May 14 18:41:49 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
Acq On : 13 May 2016 15:43 Operator: JDS
Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:40:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	-1.0000	0.7475	0.0	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.4862	0.0	100	0.00
58	C	Toluene	1.0000	0.9897	1.0	100	0.00
59	T	Ethyl Methacrylate	1.0000	0.8672	13.3	100	-0.01
60	T	trans-1,3-Dichloropropene	1.0000	0.8237	17.6	100	0.00
61	T	1,1,2-Trichloroethane	1.0000	0.8969	10.3	100	0.00
62	T	2-Hexanone	-1.0000	0.8473	0.0	100	0.01
63	T	1,3-Dichloropropane	1.0000	0.9392	6.1	100	0.00
64	T	Tetrachloroethene	1.0000	0.9737	2.6	100	0.00
65	T	Dibromochloromethane	1.0000	0.8681	13.2	100	0.00
66	T	1,2-Dibromoethane	1.0000	0.8111	18.9	100	0.00
67	T	1-Chlorohexane	1.0000	0.9554	4.5	100	0.00
68	P	Chlorobenzene	1.0000	0.9890	1.1	100	0.00
69	T	1,1,1,2-Tetrachloroethane	1.0000	0.9621	3.8	100	0.00
70	C	Ethylbenzene	1.0000	0.9608	3.9	100	0.00
71	T	m-,p-Xylene	2.0000	2.0170	-0.9	100	0.00
72	T	o-Xylene	1.0000	0.9768	2.3	100	0.00
73	T	Styrene	1.0000	0.9126	8.7	100	0.01
74	P	Bromoform	1.0000	0.8271	17.3	100	0.00
75	T	Isopropylbenzene	1.0000	0.9787	2.1	100	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	1.0000	0.9168	8.3	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.5252	0.0	100	0.00
79	T	1,2,3-Trichloropropane	1.0000	0.9573	4.3	100	0.01
80	T	trans-1,4-Dichloro-2-Butene	1.0000	1.2934	-29.3#	100	0.00
81	T	n-Propylbenzene	1.0000	0.9671	3.3	100	0.00
82	T	Bromobenzene	1.0000	1.0663	-6.6	100	0.00
83	T	1,3,5-Trimethylbenzene	1.0000	0.9307	6.9	100	0.00
84	T	2-Chlorotoluene	1.0000	1.0337	-3.4	100	0.00
85	T	4-Chlorotoluene	1.0000	0.9664	3.4	100	0.00
86	T	a-Methylstyrene	1.0000	0.8582	14.2	100	0.00
87	T	tert-Butylbenzene	1.0000	0.9392	6.1	100	0.00
88	T	1,2,4-Trimethylbenzene	1.0000	0.9755	2.5	100	0.00
89	T	sec-Butylbenzene	1.0000	0.9774	2.3	100	0.00
90	T	p-Isopropyltoluene	1.0000	0.9221	7.8	100	0.00
91	T	1,3-Dichlorobenzene	1.0000	1.0144	-1.4	100	0.00
92	T	1,4-Dichlorobenzene	1.0000	1.0157	-1.6	100	0.00
93	T	n-Butylbenzene	1.0000	0.9776	2.2	100	0.00
94	T	1,2-Dichlorobenzene	1.0000	0.9974	0.3	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	1.1961	0.0	100	0.00
96	T	1,2,4-Trichlorobenzene	1.0000	0.9233	7.7	100	0.00
97	T	Hexachlorobutadiene	1.0000	0.8843	11.6	100	0.00
98	T	Naphthalene	1.0000	0.8997	10.0	100	0.00
99	T	1,2,3-Trichlorobenzene	1.0000	0.9631	3.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M11839.D 8260WT.M Sat May 14 18:41:49 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:26 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	504626	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	418265	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	241104	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	5067	0.8846	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.52%#		
43) 1,2-Dichloroethane-d4	10.23	65	6143	0.8851	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.56%#		
57) Toluene-d8	12.47	98	18425	0.9371	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.76%#		
78) p-Bromofluorobenzene	15.64	95	7442	0.9449	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	3.76%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	14866	2.0077	ug/L	98
3) Chloromethane	3.72	50	14641	2.1775	ug/L	94
4) Vinyl Chloride	3.96	62	10045	1.8711	ug/L	99
5) 1,3-Butadiene	4.01	54	10590	2.0934	ug/L	82
6) Bromomethane	4.85	94	7024	2.0600	ug/L	94
7) Chloroethane	4.99	64	6661	1.8324	ug/L	97
8) Trichlorofluoromethane	5.49	101	21690	2.1811	ug/L	99
9) Diethyl ether	6.01	59	96350	21.2945	ug/L	97
10) Isoprene	6.04	67	12682	1.8443	ug/L	94
11) Acrolein	6.23	56	5531	10.4784	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.23	101	9909	1.9774	ug/L	96
13) Acetone	6.35	43	3346	2.2176	ug/L #	68
14) 1,1-Dichloroethene	6.56	61	18584	2.0007	ug/L	98
15) Tert-Butyl Alcohol	6.66	59	15203	37.9194	ug/L #	93
16) Dimethyl Sulfide	6.81	62	7308	1.7348	ug/L	98
17) Iodomethane	7.06	142	1747	0.4335	ug/L #	49
18) Methyl acetate	7.01	43	17794	3.4567	ug/L #	75
19) Methylene Chloride	7.31	84	10330	1.9861	ug/L	99
20) Carbon Disulfide	7.36	76	30745	1.8910	ug/L	99
21) Acrylonitrile	7.49	53	17499	9.0252	ug/L	91
22) Methyl Tert Butyl Ether	7.52	73	22031	1.6315	ug/L	97
23) trans-1,2-Dichloroethene	7.74	96	10660	2.0051	ug/L	95
24) n-Hexane	7.82	57	17125	1.9654	ug/L #	94
25) Diisopropyl ether	8.15	45	542272	23.5246	ug/L	99
26) Vinyl Acetate	8.31	43	6813	2.1084	ug/L #	84
27) 1,1-Dichloroethane	8.34	63	21278	2.0336	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	431080	22.8311	ug/L	100
29) 2-Butanone	8.87	43	3175	1.4068	ug/L #	60
30) Propionitrile	8.99	54	12529	19.0049	ug/L	98
31) 2,2-Dichloropropane	9.09	77	17576	2.3259	ug/L	94
32) cis-1,2-Dichloroethene	9.15	96	11652	1.9746	ug/L	96
33) Chloroform	9.35	83	20769	2.1252	ug/L	96
34) 1-Bromopropane	9.48	122	1648	1.7003	ug/L	70
35) Bromochloromethane	9.57	130	6812	1.8040	ug/L	100
36) Tetrahydrofuran	9.60	42	30834	19.9093	ug/L	96
38) 1,1,1-Trichloroethane	9.84	97	20518	2.1713	ug/L #	94
39) Cyclohexane	9.88	56	22087	1.9325	ug/L	98
40) 1,1-Dichloropropene	10.04	75	13954	1.9542	ug/L	98
41) Carbon Tetrachloride	10.18	117	21054	2.3604	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	300593	22.3753	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M11840.D 8260WT.M Fri May 13 17:04:27 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04:26 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

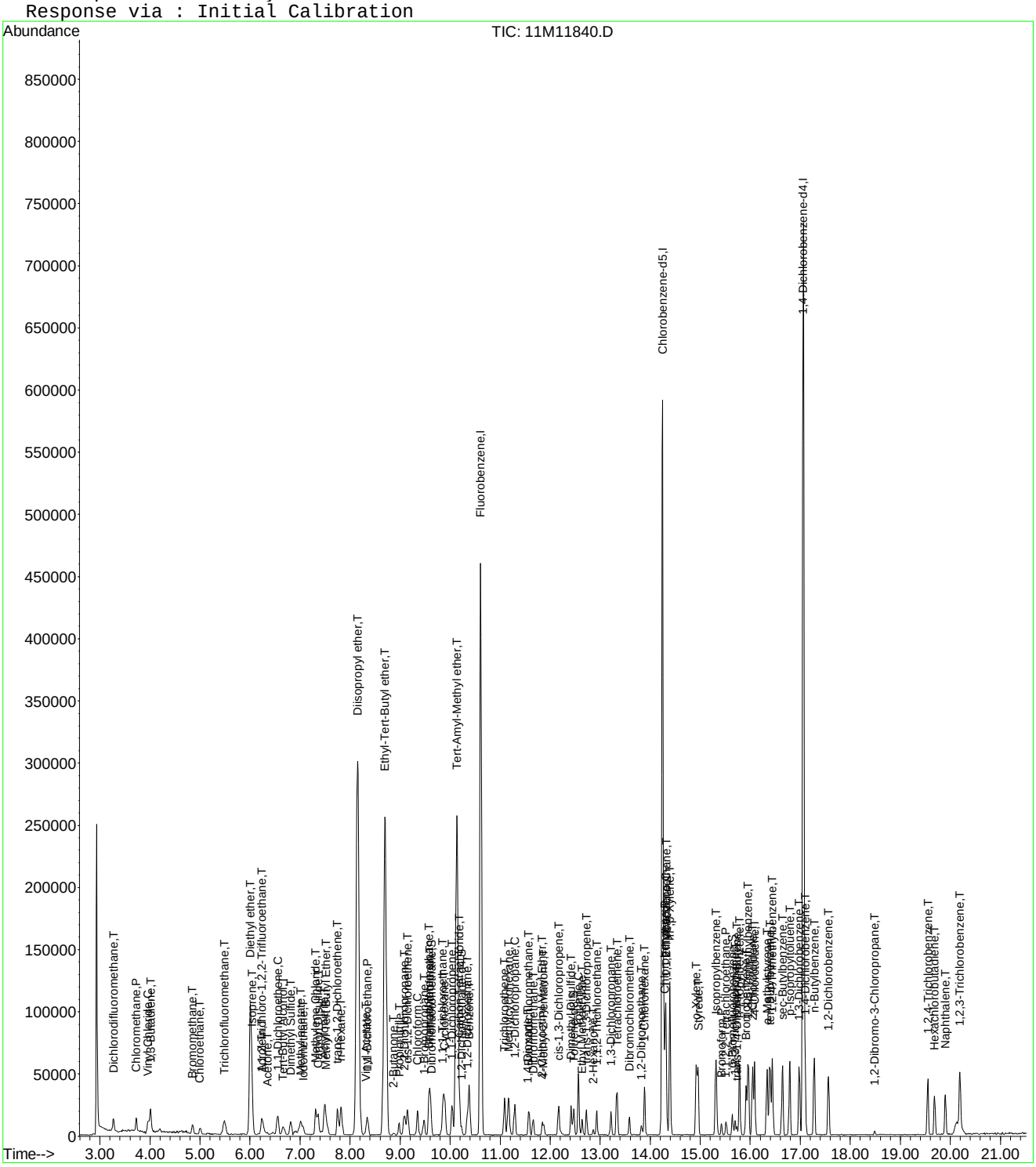
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.34	62	16928	2.0188 ug/L		98
45)	Benzene	10.38	78	41004	2.0075 ug/L		97
46)	Trichloroethene	11.08	130	13283	1.9954 ug/L		96
47)	Methylcyclohexane	11.17	83	15711	1.9461 ug/L		95
48)	1,2-Dichloropropane	11.29	63	11010	1.8980 ug/L		91
49)	1,4-Dioxane	11.55	88	898	25.5347 ug/L		88
50)	Bromodichloromethane	11.57	83	15058	1.9584 ug/L		100
51)	Dibromomethane	11.66	93	5461	1.7952 ug/L		97
52)	2-Chloroethyl Vinyl Ether	11.84	63	4894	1.6180 ug/L		83
53)	4-Methyl-2-Pentanone	11.87	58	2173	1.1717 ug/L	#	65
54)	cis-1,3-Dichloropropene	12.17	75	14440	1.7842 ug/L		91
55)	Dimethyl Disulfide	12.42	79	7378	1.4613 ug/L		97
58)	Toluene	12.56	91	43051	1.9877 ug/L		98
59)	Ethyl Methacrylate	12.64	69	7792	1.5195 ug/L		95
60)	trans-1,3-Dichloropropene	12.73	75	12991	1.8310 ug/L		98
61)	1,1,2-Trichloroethane	12.93	97	8138	2.0075 ug/L		91
62)	2-Hexanone	12.86	43	4715	1.4106 ug/L	#	61
63)	1,3-Dichloropropane	13.21	76	11740	1.7434 ug/L		95
64)	Tetrachloroethene	13.34	164	10610	2.1708 ug/L		90
65)	Dibromochloromethane	13.59	129	11236	1.9202 ug/L		96
66)	1,2-Dibromoethane	13.82	107	7613	1.8499 ug/L		99
67)	1-Chlorohexane	13.89	91	13853	1.9499 ug/L		96
68)	Chlorobenzene	14.29	112	33381	2.0954 ug/L		99
69)	1,1,1,2-Tetrachloroethane	14.32	131	13541	2.2175 ug/L		97
70)	Ethylbenzene	14.31	106	17116	2.1175 ug/L		98
71)	m-,p-Xylene	14.39	106	40469	4.2073 ug/L		95
72)	o-Xylene	14.92	106	19196	2.0006 ug/L		99
73)	Styrene	14.96	104	30019	1.8440 ug/L		92
74)	Bromoform	15.43	173	6309	1.7308 ug/L		96
75)	Isopropylbenzene	15.31	105	52419	2.1605 ug/L		98
77)	1,1,2,2-Tetrachloroethane	15.51	83	7118	1.7898 ug/L		100
79)	1,2,3-Trichloropropane	15.70	110	2487	1.6927 ug/L		98
80)	trans-1,4-Dichloro-2-Buten	15.74	53	2265	1.3810 ug/L		68
81)	n-Propylbenzene	15.79	91	59353	2.1908 ug/L		100
82)	Bromobenzene	15.91	156	15393	2.0465 ug/L		97
83)	1,3,5-Trimethylbenzene	15.95	105	43641	2.1197 ug/L		98
84)	2-Chlorotoluene	16.05	91	40923	2.0467 ug/L		96
85)	4-Chlorotoluene	16.09	91	37360	2.2771 ug/L		97
86)	a-Methylstyrene	16.34	118	20567	1.7976 ug/L		92
87)	tert-Butylbenzene	16.40	134	9253	2.0481 ug/L		89
88)	1,2,4-Trimethylbenzene	16.44	105	43857	2.0815 ug/L		99
89)	sec-Butylbenzene	16.65	105	52733	2.1643 ug/L		99
90)	p-Isopropyltoluene	16.79	119	49990	2.2541 ug/L		98
91)	1,3-Dichlorobenzene	16.98	146	29674	2.1240 ug/L		99
92)	1,4-Dichlorobenzene	17.10	146	30258	2.1211 ug/L		87
93)	n-Butylbenzene	17.28	91	44260	2.2167 ug/L		98
94)	1,2-Dichlorobenzene	17.57	146	27619	2.0969 ug/L		95
95)	1,2-Dibromo-3-Chloropropan	18.49	75	1094	1.3229 ug/L		60
96)	1,2,4-Trichlorobenzene	19.55	180	18455	1.8857 ug/L		98
97)	Hexachlorobutadiene	19.69	225	8691	2.1858 ug/L		89
98)	Naphthalene	19.90	128	34041	1.8174 ug/L	#	95
99)	1,2,3-Trichlorobenzene	20.19	180	17703	1.9318 ug/L		99

(#) = qualifier out of range (m) = manual integration
11M11840.D 8260WT.M Fri May 13 17:04:27 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:04 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.8802	6.0	100	0.00
3	P	Chloromethane	2.0000	2.3121	-15.6	100	0.00
4	C	Vinyl Chloride	2.0000	1.9102	4.5	100	0.00
5	T	1,3-Butadiene	-1.0000	2.0253	0.0	100	0.01
6	T	Bromomethane	2.0000	1.9427	2.9	100	0.00
7	T	Chloroethane	2.0000	1.9714	1.4	100	-0.01
8	T	Trichlorofluoromethane	2.0000	2.0694	-3.5	100	0.01
9	T	Diethyl ether	25.0000	24.8555	0.6	100	0.00
10	T	Isoprene	-1.0000	1.9630	0.0	100	0.00
11	T	Acrolein	12.5000	12.0322	3.7	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.9483	2.6	100	-0.01
13	T	Acetone	-1.0000	2.7924	0.0	100	0.01
14	C	1,1-Dichloroethene	2.0000	2.0117	-0.6	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	45.8688	8.3	100	0.00
16	T	Dimethyl Sulfide	-1.0000	1.9809	0.0	100	0.00
17	T	Iodomethane	2.0000	2.6580	-32.9#	100	0.00
18	T	Methyl acetate	2.0000	0.8555	57.2#	100	0.00
19	T	Methylene Chloride	2.0000	2.1606	-8.0	100	0.00
20	T	Carbon Disulfide	2.0000	1.9879	0.6	100	0.00
21	T	Acrylonitrile	12.5000	10.8919	12.9	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8475	7.6	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	2.0850	-4.2	100	0.00
24	T	n-Hexane	2.0000	2.0110	-0.6	100	0.00
25	T	Diisopropyl ether	25.0000	25.5200	-2.1	100	0.00
26	T	Vinyl Acetate	-1.0000	3.2184	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	2.0741	-3.7	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	24.9254	0.3	100	0.00
29	T	2-Butanone	-1.0000	1.7527	0.0	0	0.00
30	T	Propionitrile	25.0000	23.6140	5.5	100	0.01
31	T	2,2-Dichloropropane	2.0000	2.1897	-9.5	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	2.0669	-3.3	100	0.00
33	C	Chloroform	2.0000	2.0616	-3.1	100	0.00
34	T	1-Bromopropane	2.0000	2.2551	-12.8	100	0.00
35	T	Bromochloromethane	2.0000	2.0347	-1.7	100	0.00
36	T	Tetrahydrofuran	25.0000	24.1040	3.6	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9175	8.3	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	2.0696	-3.5	100	-0.01
39	T	Cyclohexane	2.0000	2.0442	-2.2	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.9713	1.4	100	0.00
41	T	Carbon Tetrachloride	2.0000	2.1748	-8.7	100	0.00
42	T	Tert-Amyl-Methyl ether	25.0000	25.0128	-0.1	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	0.9755	2.4	100	0.00
44	T	1,2-Dichloroethane	2.0000	2.0689	-3.4	100	0.00
45	T	Benzene	2.0000	2.1160	-5.8	100	0.00
46	T	Trichloroethene	2.0000	2.1089	-5.4	100	-0.01
47	T	Methylcyclohexane	2.0000	2.0212	-1.1	100	0.00
48	C	1,2-Dichloropropane	2.0000	2.0525	-2.6	100	0.00
49	T	1,4-Dioxane	50.0000	49.5313	0.9	100	0.00
50	T	Bromodichloromethane	2.0000	1.9996	0.0	100	0.00
51	T	Dibromomethane	2.0000	1.9537	2.3	100	0.01
52	T	2-Chloroethyl Vinyl Ether	-1.0000	1.8512	0.0	100	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	1.4573	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	2.0000	1.9172	4.1	100	0.00

(#) = Out of Range
11M11840.D 8260WT.M Sat May 14 18:46:53 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

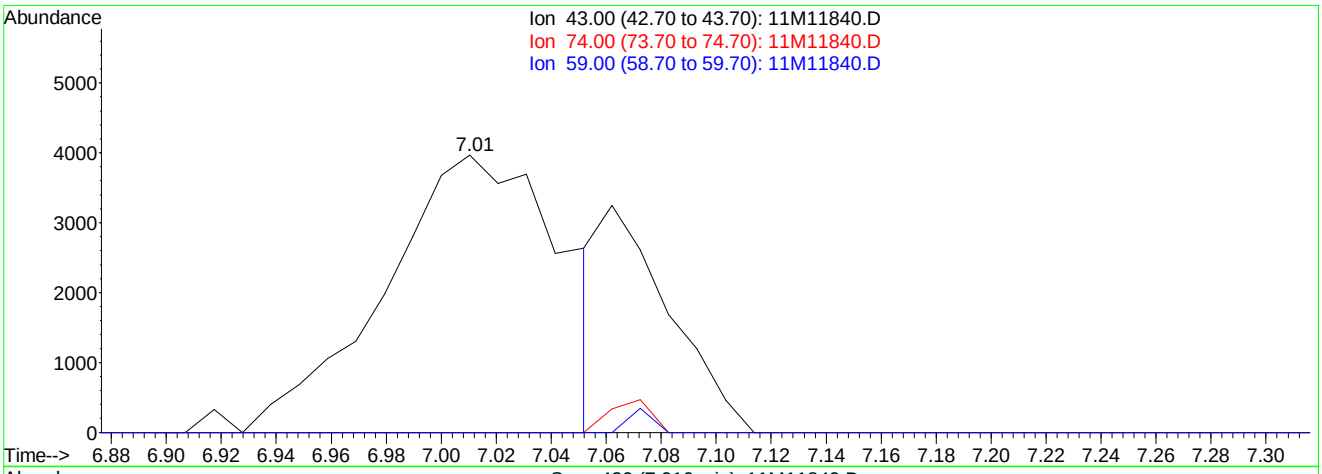
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	-1.0000	1.6278	0.0	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	1.0000	1.0138	-1.4	100	0.00
58	C	Toluene	2.0000	2.0332	-1.7	100	0.00
59	T	Ethyl Methacrylate	2.0000	1.7234	13.8	100	-0.01
60	T	trans-1,3-Dichloropropene	2.0000	1.9114	4.4	100	0.00
61	T	1,1,2-Trichloroethane	2.0000	2.1674	-8.4	100	0.00
62	T	2-Hexanone	-1.0000	1.7098	0.0	100	0.00
63	T	1,3-Dichloropropane	2.0000	1.9471	2.6	100	0.00
64	T	Tetrachloroethene	2.0000	2.1547	-7.7	100	0.00
65	T	Dibromochloromethane	2.0000	1.9620	1.9	100	0.00
66	T	1,2-Dibromoethane	2.0000	2.0238	-1.2	100	0.00
67	T	1-Chlorohexane	2.0000	1.9844	0.8	100	0.00
68	P	Chlorobenzene	2.0000	2.1520	-7.6	100	0.00
69	T	1,1,1,2-Tetrachloroethane	2.0000	2.1574	-7.9	100	0.00
70	C	Ethylbenzene	2.0000	2.1518	-7.6	100	0.00
71	T	m-,p-Xylene	4.0000	4.1851	-4.6	100	0.00
72	T	o-Xylene	2.0000	2.0398	-2.0	100	0.00
73	T	Styrene	2.0000	1.9307	3.5	100	0.01
74	P	Bromoform	2.0000	1.8176	9.1	100	0.00
75	T	Isopropylbenzene	2.0000	2.1063	-5.3	100	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	2.0000	1.8958	5.2	100	-0.01
78	S	p-Bromofluorobenzene	1.0000	1.0013	-0.1	100	0.00
79	T	1,2,3-Trichloropropane	2.0000	2.1172	-5.9	100	0.00
80	T	trans-1,4-Dichloro-2-Butene	2.0000	1.9762	1.2	100	0.00
81	T	n-Propylbenzene	2.0000	2.1256	-6.3	100	0.00
82	T	Bromobenzene	2.0000	2.1009	-5.0	100	-0.01
83	T	1,3,5-Trimethylbenzene	2.0000	2.0481	-2.4	100	-0.01
84	T	2-Chlorotoluene	2.0000	2.0925	-4.6	100	0.00
85	T	4-Chlorotoluene	2.0000	2.1326	-6.6	100	0.00
86	T	a-Methylstyrene	2.0000	1.8297	8.5	100	0.00
87	T	tert-Butylbenzene	2.0000	2.0497	-2.5	100	0.00
88	T	1,2,4-Trimethylbenzene	2.0000	2.0213	-1.1	100	0.00
89	T	sec-Butylbenzene	2.0000	2.0611	-3.1	100	0.00
90	T	p-Isopropyltoluene	2.0000	2.1272	-6.4	100	0.00
91	T	1,3-Dichlorobenzene	2.0000	2.0970	-4.8	100	0.00
92	T	1,4-Dichlorobenzene	2.0000	2.1095	-5.5	100	0.00
93	T	n-Butylbenzene	2.0000	2.1373	-6.9	100	0.00
94	T	1,2-Dichlorobenzene	2.0000	2.1425	-7.1	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	2.0000	1.9175	4.1	100	0.00
96	T	1,2,4-Trichlorobenzene	2.0000	1.9565	2.2	100	0.00
97	T	Hexachlorobutadiene	2.0000	2.0914	-4.6	100	0.00
98	T	Naphthalene	2.0000	1.9443	2.8	100	0.00
99	T	1,2,3-Trichlorobenzene	2.0000	2.0449	-2.2	100	0.00

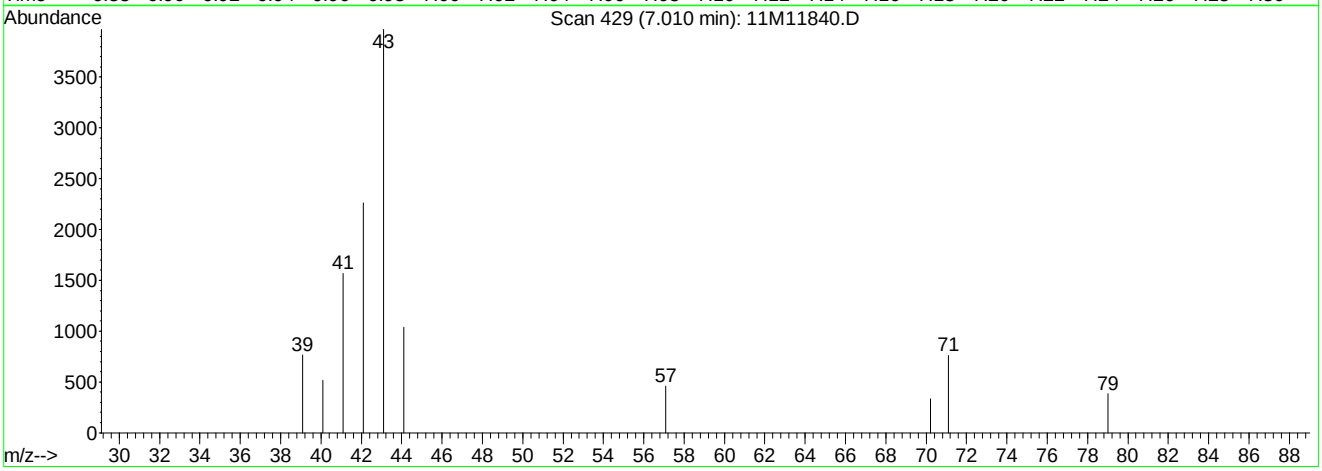
(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M11840.D 8260WT.M Sat May 14 18:46:53 2016 Page 2

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:46 2016 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Single Level Calibration





TIC: 11M11840.D

(18) Methyl acetate (T)

7.01min 3.69ug/L

response 17794

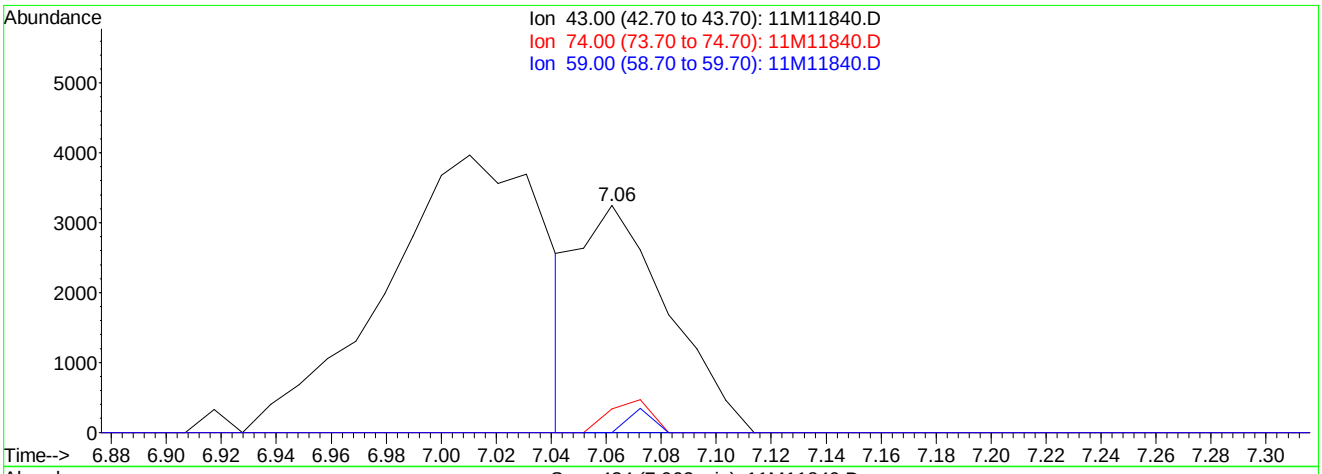
Ion	Exp%	Act%
43.00	100	100
74.00	13.60	2.82#
59.00	6.50	1.21#
0.00	0.00	0.00

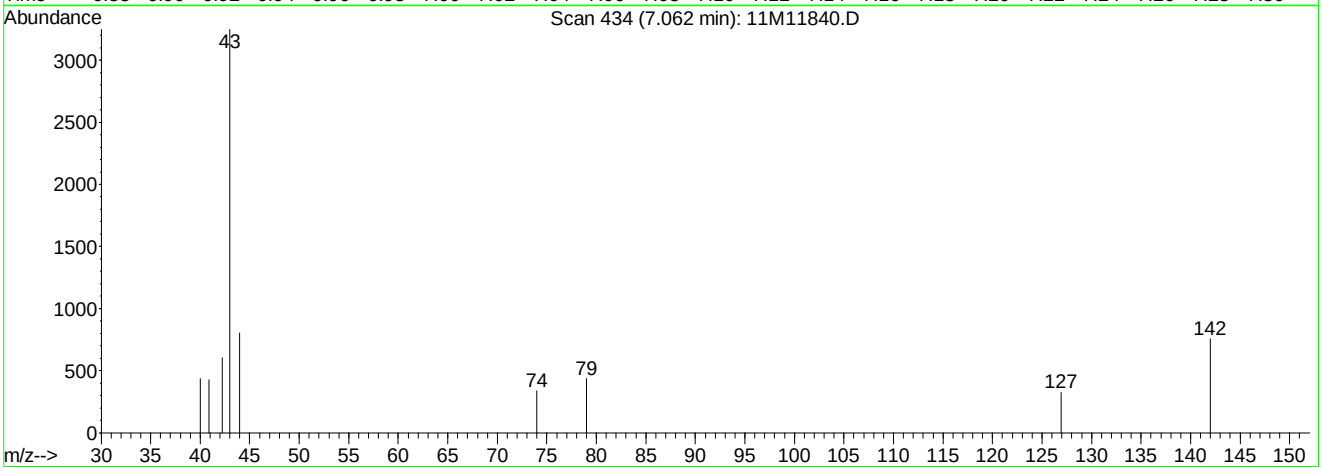
11M11840.D 8260WT.M Sat May 14 18:46:34 2016

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
Acq On : 13 May 2016 16:15 Operator: JDS
Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:46 2016 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Single Level Calibration





TIC: 11M11840.D

(18) Methyl acetate (T)

7.06min 0.86ug/L mint

response 7344

Ion	Exp%	Act%
43.00	100	100
74.00	13.60	6.84#
59.00	6.50	2.93#
0.00	0.00	0.00

11M11840.D 8260WT.M Sat May 14 18:46:39 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
Acq On : 13 May 2016 16:47 Operator: JDS
Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:12:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 17:07:56 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	510485	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	424113	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	244127	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	13577	2.3093	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.24%#		
43) 1,2-Dichloroethane-d4	10.23	65	16340	2.3640	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.44%#		
57) Toluene-d8	12.47	98	46369	2.3570	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	9.44%#		
78) p-Bromofluorobenzene	15.64	95	19139	2.4218	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	9.68%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	33260	4.2909	ug/L	97
3) Chloromethane	3.72	50	29484	4.2588	ug/L	100
4) Vinyl Chloride	3.96	62	24947	4.6446	ug/L	98
5) 1,3-Butadiene	4.00	54	24704	4.8274	ug/L	87
6) Bromomethane	4.85	94	16794	4.7876	ug/L	96
7) Chloroethane	5.00	64	15417	4.1982	ug/L	96
8) Trichlorofluoromethane	5.48	101	50663	4.8750	ug/L	98
9) Diethyl ether	6.01	59	199353	45.0064	ug/L	100
10) Isoprene	6.04	67	30513	4.3864	ug/L	99
11) Acrolein	6.25	56	12345	23.3877	ug/L	87
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	23865	4.5585	ug/L	97
13) Acetone	6.35	43	6439	4.2186	ug/L	86
14) 1,1-Dichloroethene	6.56	61	43769	4.6158	ug/L	96
15) Tert-Butyl Alcohol	6.66	59	34212	87.4805	ug/L	100
16) Dimethyl Sulfide	6.81	62	17251	4.0482	ug/L	99
17) Iodomethane	7.06	142	7385	2.0684	ug/L	94
18) Methyl acetate	7.06	43	32363	5.4250	ug/L #	83
19) Methylene Chloride	7.31	84	23476	4.4707	ug/L	98
20) Carbon Disulfide	7.36	76	72931	4.4715	ug/L	98
21) Acrylonitrile	7.49	53	38039	20.0847	ug/L	96
22) Methyl Tert Butyl Ether	7.52	73	57597	4.3071	ug/L	98
23) trans-1,2-Dichloroethene	7.74	96	23369	4.3390	ug/L	99
24) n-Hexane	7.82	57	38507	4.3615	ug/L	99
25) Diisopropyl ether	8.15	45	1105208	48.2180	ug/L	99
26) Vinyl Acetate	8.31	43	24007	7.3442	ug/L	97
27) 1,1-Dichloroethane	8.34	63	51535	4.8316	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	899266	48.1312	ug/L	99
29) 2-Butanone	8.88	43	8098	3.5469	ug/L	98
30) Propionitrile	8.98	54	26204	41.2561	ug/L	97
31) 2,2-Dichloropropane	9.09	77	40285	5.2526	ug/L	97
32) cis-1,2-Dichloroethene	9.15	96	27456	4.6081	ug/L	91
33) Chloroform	9.35	83	48958	4.7306	ug/L	97
34) 1-Bromopropane	9.47	122	4632	4.9482	ug/L	88
35) Bromochloromethane	9.57	130	17073	4.6807	ug/L	99
36) Tetrahydrofuran	9.60	42	59638	39.6839	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	48123	4.8983	ug/L	100
39) Cyclohexane	9.88	56	51945	4.5931	ug/L	98
40) 1,1-Dichloropropene	10.04	75	33867	4.6344	ug/L	99
41) Carbon Tetrachloride	10.17	117	47434	5.0851	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	615710	46.3601	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
Acq On : 13 May 2016 16:47 Operator: JDS
Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:12:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 17:07:56 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

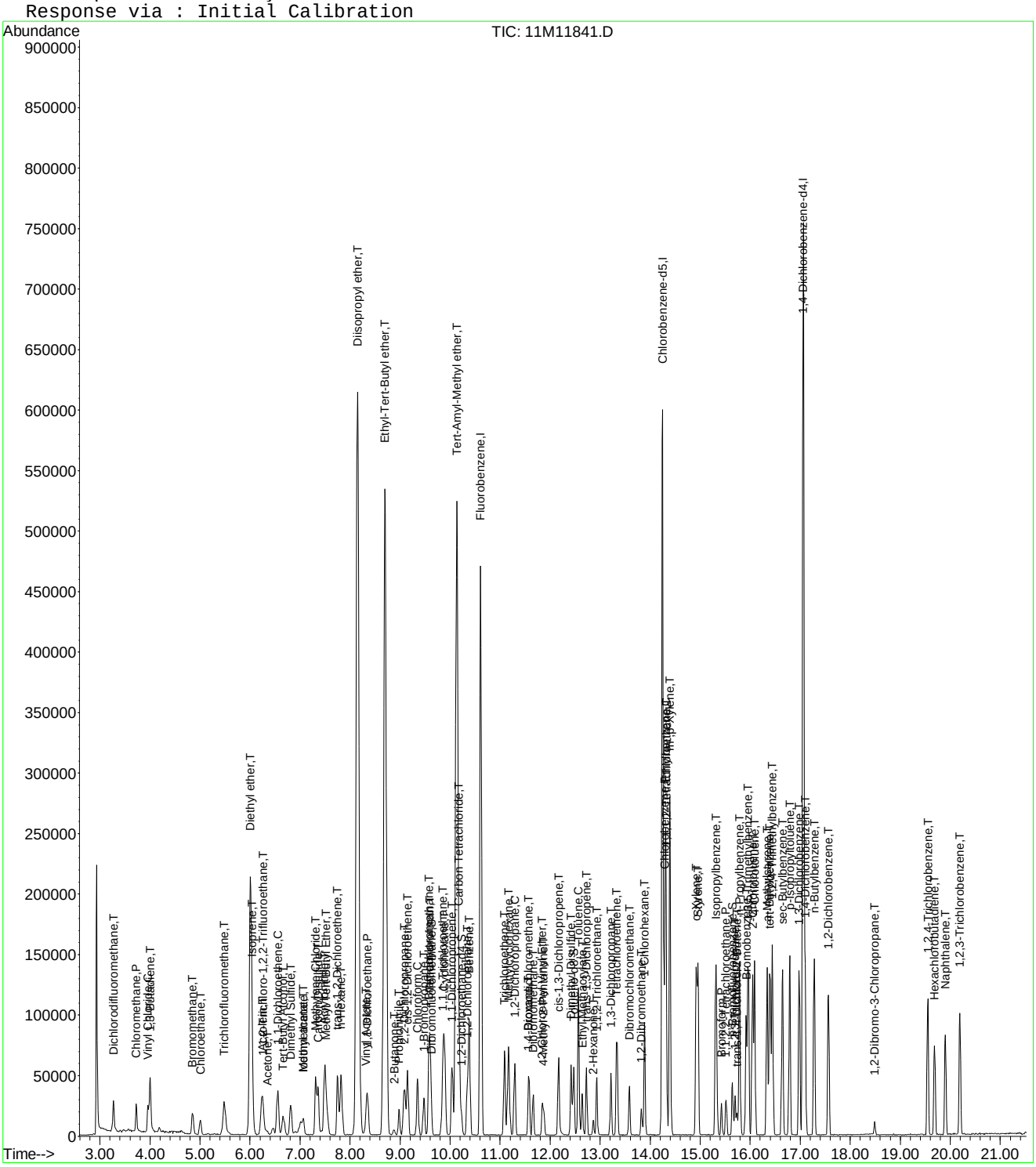
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	40281	4.6727	ug/L	99
45)	Benzene	10.38	78	94223	4.6151	ug/L	99
46)	Trichloroethene	11.08	130	31195	4.7740	ug/L	96
47)	Methylcyclohexane	11.17	83	35731	4.4100	ug/L	96
48)	1,2-Dichloropropane	11.29	63	25973	4.4921	ug/L	93
49)	1,4-Dioxane	11.56	88	2747	80.2363	ug/L	93
50)	Bromodichloromethane	11.57	83	36997	4.7467	ug/L	99
51)	Dibromomethane	11.65	93	13963	4.5774	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.84	63	11417	3.7313	ug/L	95
53)	4-Methyl-2-Pentanone	11.87	58	6133	3.2690	ug/L	90
54)	cis-1,3-Dichloropropene	12.17	75	36461	4.5343	ug/L	100
55)	Dimethyl Disulfide	12.42	79	18914	3.7032	ug/L	99
58)	Toluene	12.56	91	107617	4.9467	ug/L	100
59)	Ethyl Methacrylate	12.65	69	21187	4.1021	ug/L	99
60)	trans-1,3-Dichloropropene	12.73	75	32824	4.5778	ug/L	99
61)	1,1,2-Trichloroethane	12.94	97	17791	4.3060	ug/L	98
62)	2-Hexanone	12.86	43	11606	3.4244	ug/L	99
63)	1,3-Dichloropropane	13.21	76	30121	4.5460	ug/L	97
64)	Tetrachloroethene	13.33	164	24241	4.8819	ug/L	95
65)	Dibromochloromethane	13.59	129	27989	4.7024	ug/L	95
66)	1,2-Dibromoethane	13.82	107	18147	4.4382	ug/L	96
67)	1-Chlorohexane	13.89	91	33195	4.6591	ug/L	97
68)	Chlorobenzene	14.29	112	79059	4.9583	ug/L	98
69)	1,1,1,2-Tetrachloroethane	14.32	131	31047	4.8956	ug/L	97
70)	Ethylbenzene	14.31	106	39304	4.8168	ug/L	95
71)	m-,p-Xylene	14.39	106	95751	9.7273	ug/L	95
72)	o-Xylene	14.92	106	45759	4.7228	ug/L	96
73)	Styrene	14.95	104	77900	4.8227	ug/L	98
74)	Bromoform	15.43	173	15663	4.1856	ug/L	97
75)	Isopropylbenzene	15.31	105	123883	4.9827	ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.51	83	18105	4.4049	ug/L	100
79)	1,2,3-Trichloropropane	15.70	110	6717	4.7266	ug/L	85
80)	trans-1,4-Dichloro-2-Buten	15.74	53	6067	3.6507	ug/L	69
81)	n-Propylbenzene	15.79	91	143972	5.2435	ug/L	99
82)	Bromobenzene	15.92	156	37345	4.9800	ug/L	93
83)	1,3,5-Trimethylbenzene	15.95	105	106030	5.0309	ug/L	100
84)	2-Chlorotoluene	16.05	91	99279	4.9734	ug/L	100
85)	4-Chlorotoluene	16.09	91	88275	5.1992	ug/L	98
86)	a-Methylstyrene	16.34	118	53766	4.7153	ug/L	98
87)	tert-Butylbenzene	16.39	134	23868	5.2956	ug/L	97
88)	1,2,4-Trimethylbenzene	16.44	105	112072	5.2401	ug/L	99
89)	sec-Butylbenzene	16.65	105	129249	5.1810	ug/L	99
90)	p-Isopropyltoluene	16.79	119	119605	5.2524	ug/L	98
91)	1,3-Dichlorobenzene	16.98	146	71265	5.0271	ug/L	99
92)	1,4-Dichlorobenzene	17.10	146	72437	5.0122	ug/L	96
93)	n-Butylbenzene	17.28	91	100062	4.9277	ug/L	99
94)	1,2-Dichlorobenzene	17.57	146	64925	4.9520	ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.49	75	3875	4.6567	ug/L	87
96)	1,2,4-Trichlorobenzene	19.55	180	46664	4.8629	ug/L	97
97)	Hexachlorobutadiene	19.69	225	20419	5.1319	ug/L	96
98)	Naphthalene	19.90	128	83612	4.4869	ug/L	99
99)	1,2,3-Trichlorobenzene	20.19	180	40714	4.5323	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
Acq On : 13 May 2016 16:47 Operator: JDS
Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 13 17:12 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 17:07:56 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
Acq On : 13 May 2016 16:47 Operator: JDS
Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.1584	16.8	100	0.00
3	P	Chloromethane	5.0000	4.6027	7.9	100	0.00
4	C	Vinyl Chloride	5.0000	4.6895	6.2	100	0.00
5	T	1,3-Butadiene	5.0000	4.6702	6.6	100	0.00
6	T	Bromomethane	5.0000	4.5915	8.2	100	0.00
7	T	Chloroethane	5.0000	4.5105	9.8	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.7781	4.4	100	0.00
9	T	Diethyl ether	50.0000	50.8371	-1.7	100	0.00
10	T	Isoprene	5.0000	4.6688	6.6	100	0.00
11	T	Acrolein	25.0000	24.7297	1.1	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.6385	7.2	100	0.01
13	T	Acetone	5.0000	5.3120	-6.2	100	0.01
14	C	1,1-Dichloroethene	5.0000	4.6835	6.3	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	102.0360	-2.0	100	0.00
16	T	Dimethyl Sulfide	5.0000	4.6223	7.6	100	0.00
17	T	Iodomethane	5.0000	3.9124	21.8	100	0.00
18	T	Methyl acetate	5.0000	7.5474	-50.9#	100	0.00
19	T	Methylene Chloride	5.0000	4.8539	2.9	100	0.00
20	T	Carbon Disulfide	5.0000	4.6615	6.8	100	0.00
21	T	Acrylonitrile	25.0000	23.4049	6.4	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.7747	4.5	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.5182	9.6	100	0.00
24	T	n-Hexane	5.0000	4.4700	10.6	100	0.00
25	T	Diisopropyl ether	50.0000	51.4154	-2.8	100	0.00
26	T	Vinyl Acetate	5.0000	5.1698	-3.4	100	0.00
27	P	1,1-Dichloroethane	5.0000	4.9658	0.7	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	51.3996	-2.8	100	0.00
29	T	2-Butanone	5.0000	4.4190	11.6	100	0.01
30	T	Propionitrile	50.0000	48.8210	2.4	100	0.00
31	T	2,2-Dichloropropane	5.0000	4.9614	0.8	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.8145	3.7	100	0.00
33	C	Chloroform	5.0000	4.8039	3.9	100	0.00
34	T	1-Bromopropane	5.0000	5.1449	-2.9	100	0.00
35	T	Bromochloromethane	5.0000	5.0410	-0.8	100	0.00
36	T	Tetrahydrofuran	50.0000	46.0861	7.8	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4302	2.8	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.7984	4.0	100	0.00
39	T	Cyclohexane	5.0000	4.7526	4.9	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.7295	5.4	100	0.00
41	T	Carbon Tetrachloride	5.0000	4.8435	3.1	100	-0.01
42	T	Tert-Amyl-Methyl ether	50.0000	50.6462	-1.3	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.5650	-2.6	100	0.00
44	T	1,2-Dichloroethane	5.0000	4.8665	2.7	100	0.00
45	T	Benzene	5.0000	4.8065	3.9	100	0.00
46	T	Trichloroethene	5.0000	4.8959	2.1	100	-0.01
47	T	Methylcyclohexane	5.0000	4.5439	9.1	100	0.00
48	C	1,2-Dichloropropane	5.0000	4.7864	4.3	100	0.00
49	T	1,4-Dioxane	100.0000	102.6541	-2.7	100	0.01
50	T	Bromodichloromethane	5.0000	4.8566	2.9	100	0.00
51	T	Dibromomethane	5.0000	4.9379	1.2	100	0.00
52	T	2-Chloroethyl Vinyl Ether	5.0000	4.2689	14.6	100	0.00
53	T	4-Methyl-2-Pentanone	5.0000	4.0658	18.7	100	0.00
54	T	cis-1,3-Dichloropropene	5.0000	4.7853	4.3	100	0.00

(#) = Out of Range
11M11841.D 8260WT.M Sat May 14 18:48:20 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
Acq On : 13 May 2016 16:47 Operator: JDS
Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	5.0000	4.1252	17.5	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	2.5000	2.5163	-0.7	100	0.00
58	C	Toluene	5.0000	5.0124	-0.2	100	0.00
59	T	Ethyl Methacrylate	5.0000	4.6214	7.6	100	0.00
60	T	trans-1,3-Dichloropropene	5.0000	4.7629	4.7	100	0.00
61	T	1,1,2-Trichloroethane	5.0000	4.6730	6.5	100	0.00
62	T	2-Hexanone	5.0000	4.1507	17.0	100	0.00
63	T	1,3-Dichloropropane	5.0000	4.9267	1.5	100	0.00
64	T	Tetrachloroethene	5.0000	4.8551	2.9	100	-0.01
65	T	Dibromochloromethane	5.0000	4.8199	3.6	100	0.00
66	T	1,2-Dibromoethane	5.0000	4.7575	4.8	100	0.00
67	T	1-Chlorohexane	5.0000	4.6895	6.2	100	0.00
68	P	Chlorobenzene	5.0000	5.0264	-0.5	100	0.00
69	T	1,1,1,2-Tetrachloroethane	5.0000	4.8783	2.4	100	0.00
70	C	Ethylbenzene	5.0000	4.8732	2.5	100	0.00
71	T	m-,p-Xylene	10.0000	9.7654	2.3	100	0.00
72	T	o-Xylene	5.0000	4.7954	4.1	100	0.00
73	T	Styrene	5.0000	4.9411	1.2	100	0.00
74	P	Bromoform	5.0000	4.4503	11.0	100	0.00
75	T	Isopropylbenzene	5.0000	4.9091	1.8	100	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	5.0000	4.7624	4.8	100	-0.01
78	S	p-Bromofluorobenzene	2.5000	2.5432	-1.7	100	0.00
79	T	1,2,3-Trichloropropane	5.0000	5.0393	-0.8	100	0.00
80	T	trans-1,4-Dichloro-2-Butene	5.0000	4.0050	19.9	100	0.00
81	T	n-Propylbenzene	5.0000	5.0923	-1.8	100	0.00
82	T	Bromobenzene	5.0000	5.0338	-0.7	100	0.00
83	T	1,3,5-Trimethylbenzene	5.0000	4.9145	1.7	100	-0.01
84	T	2-Chlorotoluene	5.0000	5.0134	-0.3	100	0.00
85	T	4-Chlorotoluene	5.0000	4.9765	0.5	100	0.00
86	T	a-Methylstyrene	5.0000	4.7239	5.5	100	0.00
87	T	tert-Butylbenzene	5.0000	5.2217	-4.4	100	-0.01
88	T	1,2,4-Trimethylbenzene	5.0000	5.1012	-2.0	100	0.00
89	T	sec-Butylbenzene	5.0000	4.9892	0.2	100	0.00
90	T	p-Isopropyltoluene	5.0000	5.0265	-0.5	100	0.00
91	T	1,3-Dichlorobenzene	5.0000	4.9737	0.5	100	0.00
92	T	1,4-Dichlorobenzene	5.0000	4.9875	0.2	100	0.00
93	T	n-Butylbenzene	5.0000	4.7722	4.6	100	0.00
94	T	1,2-Dichlorobenzene	5.0000	4.9741	0.5	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	5.0000	5.1051	-2.1	100	0.00
96	T	1,2,4-Trichlorobenzene	5.0000	4.8858	2.3	100	0.00
97	T	Hexachlorobutadiene	5.0000	4.8528	2.9	100	0.00
98	T	Naphthalene	5.0000	4.7164	5.7	100	0.00
99	T	1,2,3-Trichlorobenzene	5.0000	4.6448	7.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M11841.D 8260WT.M Sat May 14 18:48:20 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11842.D Vial: 7
Acq On : 13 May 2016 17:19 Operator: JDS
Sample : WG568769-07 20ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:53 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	512017	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	433937	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	255524	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	58089	10.3664	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 41.48%#			
43) 1,2-Dichloroethane-d4	10.23	65	66804	10.4555	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.84%#			
57) Toluene-d8	12.47	98	193532	10.2645	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 41.04%#			
78) p-Bromofluorobenzene	15.64	95	81186	10.3070	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.24%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	176636	22.0179	ug/L	99
3) Chloromethane	3.72	50	126901	19.7510	ug/L	98
4) Vinyl Chloride	3.96	62	109592	20.5394	ug/L	98
5) 1,3-Butadiene	4.00	54	116317	21.9237	ug/L	96
6) Bromomethane	4.85	94	73878	20.1380	ug/L	93
7) Chloroethane	5.00	64	71103	20.7401	ug/L	100
8) Trichlorofluoromethane	5.49	101	225913	21.2425	ug/L	99
9) Diethyl ether	6.01	59	321203	81.6650	ug/L	99
10) Isoprene	6.04	67	135641	20.6925	ug/L	98
11) Acrolein	6.24	56	19366	37.8284	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	109792	21.2757	ug/L	99
13) Acetone	6.34	43	27399	22.5356	ug/L	96
14) 1,1-Dichloroethene	6.56	61	201658	21.5139	ug/L	98
15) Tert-Butyl Alcohol	6.67	59	60081	178.6532	ug/L	99
16) Dimethyl Sulfide	6.81	62	75759	20.2383	ug/L	97
17) Iodomethane	7.06	142	67280	17.2594	ug/L	97
18) Methyl acetate	7.07	43	87945	22.4983	ug/L	96
19) Methylene Chloride	7.31	84	99453	20.5013	ug/L	100
20) Carbon Disulfide	7.36	76	327043	20.8410	ug/L	100
21) Acrylonitrile	7.49	53	69618	42.7070	ug/L	95
22) Methyl Tert Butyl Ether	7.52	73	266288	22.0086	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	107858	20.7912	ug/L	99
24) n-Hexane	7.82	57	184135	21.3111	ug/L	99
25) Diisopropyl ether	8.15	45	1729257	80.2062	ug/L	99
26) Vinyl Acetate	8.31	43	160029	20.6235	ug/L	99
27) 1,1-Dichloroethane	8.34	63	218994	21.0387	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1435318	81.7933	ug/L	100
29) 2-Butanone	8.87	43	39878	21.6958	ug/L	99
30) Propionitrile	8.97	54	47221	87.7149	ug/L	99
31) 2,2-Dichloropropane	9.09	77	166427	20.4352	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	120620	21.0877	ug/L	99
33) Chloroform	9.35	83	208615	20.4085	ug/L	99
34) 1-Bromopropane	9.48	122	19153	19.2424	ug/L	96
35) Bromochloromethane	9.57	130	77189	22.7226	ug/L	99
36) Tetrahydrofuran	9.60	42	109362	84.2581	ug/L	100
38) 1,1,1-Trichloroethane	9.85	97	210871	20.9631	ug/L	98
39) Cyclohexane	9.88	56	235071	21.4428	ug/L	99
40) 1,1-Dichloropropene	10.04	75	151682	21.1188	ug/L	99
41) Carbon Tetrachloride	10.17	117	212111	21.5941	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1001790	82.1572	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M11842.D 8260WT.M Sat May 14 18:50:54 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11842.D Vial: 7
Acq On : 13 May 2016 17:19 Operator: JDS
Sample : WG568769-07 20ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:53 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

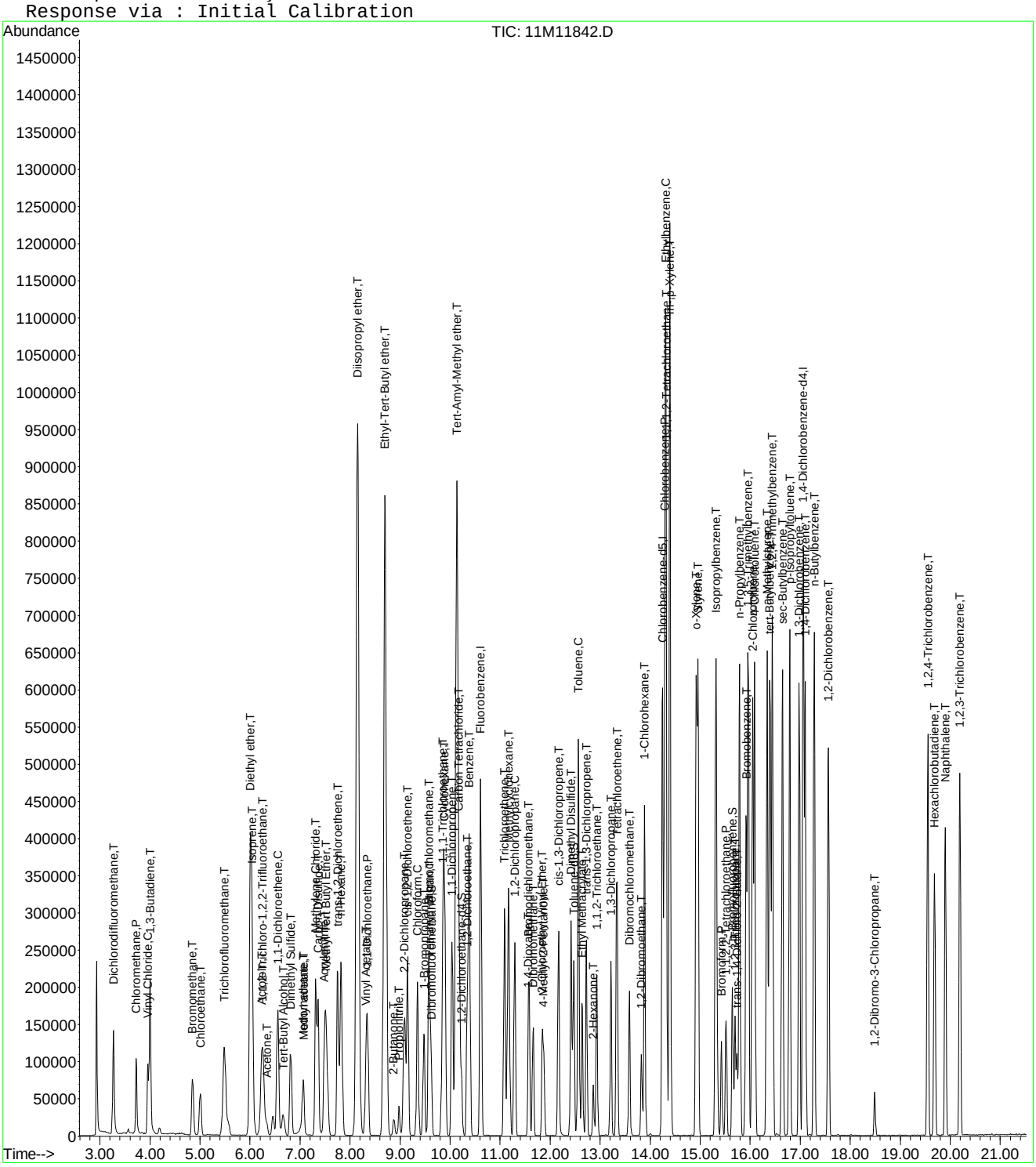
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	180438	21.7339	ug/L	99
45)	Benzene	10.38	78	407777	20.7394	ug/L	100
46)	Trichloroethene	11.08	130	132094	20.6692	ug/L	99
47)	Methylcyclohexane	11.17	83	168355	21.3455	ug/L	98
48)	1,2-Dichloropropane	11.29	63	112875	20.7388	ug/L	99
49)	1,4-Dioxane	11.56	88	4948	165.8209	ug/L	99
50)	Bromodichloromethane	11.57	83	163762	21.4329	ug/L	98
51)	Dibromomethane	11.65	93	61028	21.5174	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.84	63	56664	21.1238	ug/L	99
53)	4-Methyl-2-Pentanone	11.87	58	32621	21.5609	ug/L	99
54)	cis-1,3-Dichloropropene	12.17	75	166399	21.7735	ug/L	100
55)	Dimethyl Disulfide	12.42	79	93808	20.3984	ug/L	99
58)	Toluene	12.56	91	467769	21.2936	ug/L	99
59)	Ethyl Methacrylate	12.64	69	103892	22.1484	ug/L	98
60)	trans-1,3-Dichloropropene	12.73	75	155661	22.0759	ug/L	100
61)	1,1,2-Trichloroethane	12.94	97	85297	21.8971	ug/L	100
62)	2-Hexanone	12.86	43	62113	21.7109	ug/L	99
63)	1,3-Dichloropropane	13.21	76	137448	21.9726	ug/L	98
64)	Tetrachloroethene	13.34	164	106368	20.8217	ug/L	99
65)	Dibromochloromethane	13.59	129	131143	22.0723	ug/L	99
66)	1,2-Dibromoethane	13.82	107	84381	21.6209	ug/L	99
67)	1-Chlorohexane	13.89	91	153420	21.1830	ug/L	100
68)	Chlorobenzene	14.29	112	338669	21.0446	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.32	131	134571	20.6660	ug/L	98
70)	Ethylbenzene	14.31	106	171752	20.8130	ug/L	97
71)	m-,p-Xylene	14.39	106	419228	41.7882	ug/L	99
72)	o-Xylene	14.92	106	208125	21.3170	ug/L	99
73)	Styrene	14.95	104	353452	21.9116	ug/L	98
74)	Bromoform	15.43	173	78592	21.8247	ug/L	100
75)	Isopropylbenzene	15.31	105	552747	21.4078	ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.52	83	90122	22.6486	ug/L	98
79)	1,2,3-Trichloropropane	15.70	110	30969	20.9562	ug/L	97
80)	trans-1,4-Dichloro-2-Buten	15.74	53	36190	19.3325	ug/L	86
81)	n-Propylbenzene	15.79	91	640711	21.6512	ug/L	100
82)	Bromobenzene	15.92	156	160227	20.6340	ug/L	100
83)	1,3,5-Trimethylbenzene	15.95	105	481759	21.3337	ug/L	100
84)	2-Chlorotoluene	16.05	91	435100	20.9919	ug/L	99
85)	4-Chlorotoluene	16.09	91	391759	21.1004	ug/L	100
86)	a-Methylstyrene	16.34	118	253642	21.2911	ug/L	99
87)	tert-Butylbenzene	16.39	134	101859	21.2903	ug/L	99
88)	1,2,4-Trimethylbenzene	16.44	105	505239	21.9714	ug/L	98
89)	sec-Butylbenzene	16.65	105	586770	21.6398	ug/L	100
90)	p-Isopropyltoluene	16.79	119	539795	21.6735	ug/L	100
91)	1,3-Dichlorobenzene	16.98	146	312832	20.8591	ug/L	99
92)	1,4-Dichlorobenzene	17.10	146	314339	20.6779	ug/L	99
93)	n-Butylbenzene	17.28	91	474312	21.6121	ug/L	99
94)	1,2-Dichlorobenzene	17.57	146	287316	21.0305	ug/L	100
95)	1,2-Dibromo-3-Chloropropan	18.49	75	19607	22.2193	ug/L	89
96)	1,2,4-Trichlorobenzene	19.55	180	212916	21.2982	ug/L	100
97)	Hexachlorobutadiene	19.69	225	91388	20.7507	ug/L	99
98)	Naphthalene	19.90	128	414073	22.3154	ug/L	99
99)	1,2,3-Trichlorobenzene	20.19	180	193437	21.0836	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11842.D Vial: 7
Acq On : 13 May 2016 17:19 Operator: JDS
Sample : WG568769-07 20ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11843.D Vial: 8
Acq On : 13 May 2016 17:51 Operator: JDS
Sample : WG568769-08 50ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	521583	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	438582	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	263885	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	139784	24.4879	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.96%			
43) 1,2-Dichloroethane-d4	10.23	65	158200	24.3058	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.24%			
57) Toluene-d8	12.47	98	462969	24.2947	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.16%			
78) p-Bromofluorobenzene	15.64	95	188875	23.2189	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 92.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	416971	51.0228	ug/L	100
3) Chloromethane	3.72	50	287508	43.9273	ug/L	100
4) Vinyl Chloride	3.96	62	261024	48.0232	ug/L	100
5) 1,3-Butadiene	4.00	54	280913	51.9760	ug/L	100
6) Bromomethane	4.85	94	172294	46.1032	ug/L	100
7) Chloroethane	5.00	64	167978	48.0991	ug/L	100
8) Trichlorofluoromethane	5.48	101	519806	47.9806	ug/L	100
9) Diethyl ether	6.01	59	391891	97.8098	ug/L	100
10) Isoprene	6.04	67	331169	49.5943	ug/L	100
11) Acrolein	6.23	56	25228	47.9550	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	255341	48.5730	ug/L	100
13) Acetone	6.34	43	57896	46.7459	ug/L	98
14) 1,1-Dichloroethene	6.56	61	459793	48.1534	ug/L	100
15) Tert-Butyl Alcohol	6.66	59	69395	202.5643	ug/L	100
16) Dimethyl Sulfide	6.81	62	193959	50.8640	ug/L	100
17) Iodomethane	7.06	142	214554	49.3519	ug/L	100
18) Methyl acetate	7.06	43	185465	48.1983	ug/L	100
19) Methylene Chloride	7.31	84	233601	47.2715	ug/L	100
20) Carbon Disulfide	7.36	76	816514	51.0786	ug/L	100
21) Acrylonitrile	7.49	53	84821	51.0789	ug/L	100
22) Methyl Tert Butyl Ether	7.52	73	610666	49.5457	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	252405	47.7624	ug/L	100
24) n-Hexane	7.82	57	449694	51.0913	ug/L	100
25) Diisopropyl ether	8.15	45	2181723	99.3365	ug/L	100
26) Vinyl Acetate	8.31	43	410275	48.2141	ug/L	100
27) 1,1-Dichloroethane	8.34	63	516691	48.7281	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	1783350	99.7625	ug/L	100
29) 2-Butanone	8.87	43	91238	48.7281	ug/L	100
30) Propionitrile	8.97	54	56538	103.0954	ug/L	100
31) 2,2-Dichloropropane	9.09	77	402511	48.5170	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	282222	48.4353	ug/L	100
33) Chloroform	9.35	83	489993	47.0562	ug/L	100
34) 1-Bromopropane	9.48	122	50180	48.4991	ug/L	100
35) Bromochloromethane	9.57	130	179921	51.9932	ug/L	100
36) Tetrahydrofuran	9.60	42	127999	96.8083	ug/L	100
38) 1,1,1-Trichloroethane	9.85	97	497667	48.5667	ug/L	100
39) Cyclohexane	9.88	56	575045	51.4928	ug/L	100
40) 1,1-Dichloropropene	10.04	75	353148	48.2674	ug/L	100
41) Carbon Tetrachloride	10.18	117	493225	49.2921	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1227500	98.8215	ug/L	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\051316\11M11843.D Vial: 8
Acq On : 13 May 2016 17:51 Operator: JDS
Sample : WG568769-08 50ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

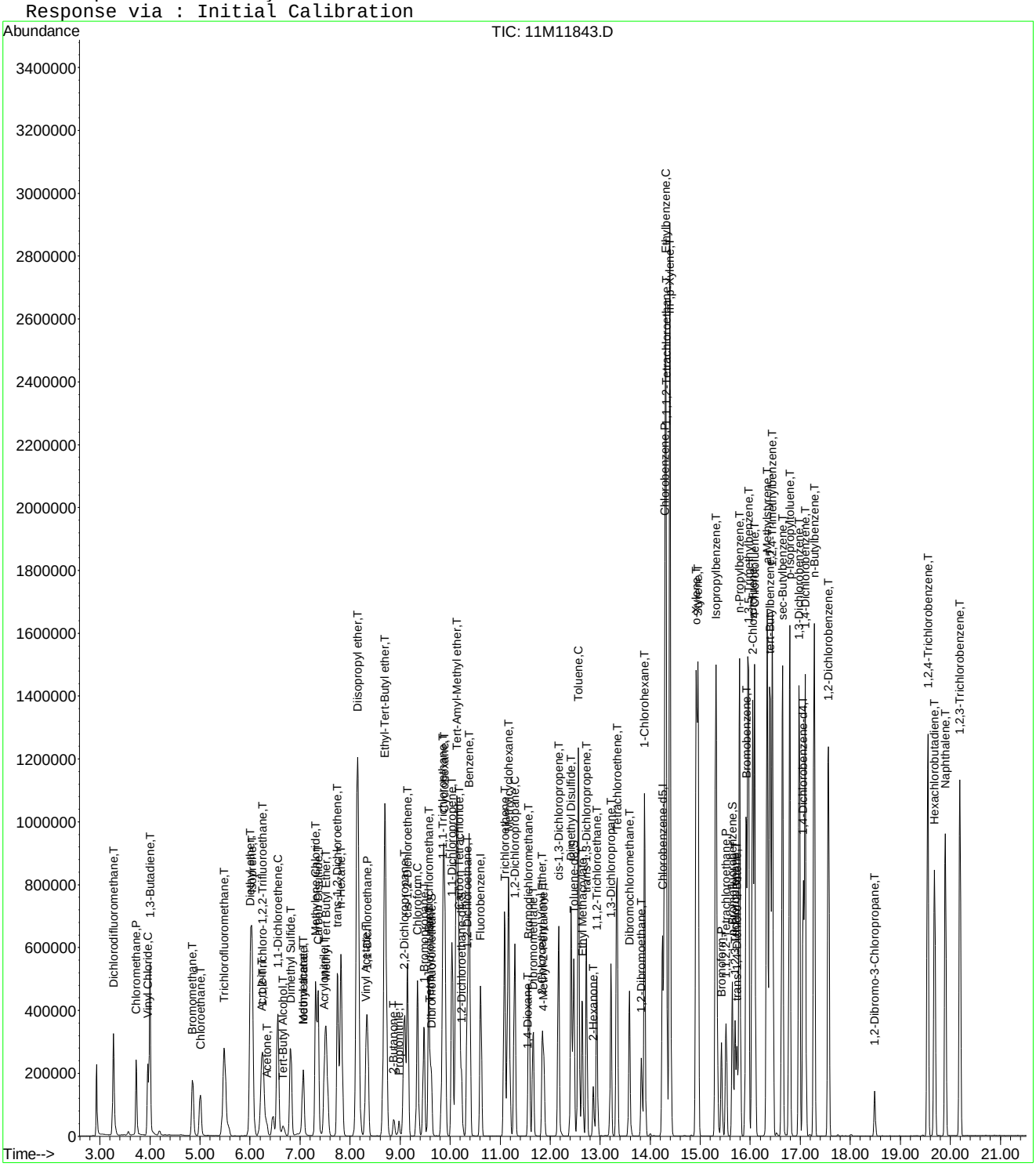
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	419000	49.5434 ug/L	100
45)	Benzene	10.38	78	947514	47.3064 ug/L	100
46)	Trichloroethene	11.09	130	307211	47.1888 ug/L	100
47)	Methylcyclohexane	11.17	83	418631	52.1043 ug/L	100
48)	1,2-Dichloropropane	11.29	63	268423	48.4136 ug/L	100
49)	1,4-Dioxane	11.55	88	5866	189.1665 ug/L	100
50)	Bromodichloromethane	11.57	83	385292	49.5015 ug/L	100
51)	Dibromomethane	11.65	93	142910	49.4635 ug/L	100
52)	2-Chloroethyl Vinyl Ether	11.84	63	133225	48.7541 ug/L	100
53)	4-Methyl-2-Pentanone	11.87	58	75720	49.1295 ug/L	100
54)	cis-1,3-Dichloropropene	12.17	75	394857	50.7199 ug/L	100
55)	Dimethyl Disulfide	12.42	79	236984	50.5867 ug/L	100
58)	Toluene	12.56	91	1095397	49.3360 ug/L	100
59)	Ethyl Methacrylate	12.65	69	249821	52.6944 ug/L	100
60)	trans-1,3-Dichloropropene	12.73	75	366443	51.4187 ug/L	100
61)	1,1,2-Trichloroethane	12.93	97	194150	49.3135 ug/L	100
62)	2-Hexanone	12.86	43	144364	49.9264 ug/L	100
63)	1,3-Dichloropropane	13.21	76	316783	50.1049 ug/L	100
64)	Tetrachloroethene	13.34	164	251037	48.6205 ug/L	100
65)	Dibromochloromethane	13.59	129	310662	51.7330 ug/L	100
66)	1,2-Dibromoethane	13.82	107	196704	49.8676 ug/L	100
67)	1-Chlorohexane	13.89	91	376690	51.4596 ug/L	100
68)	Chlorobenzene	14.29	112	797442	49.0276 ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.32	131	325801	49.5033 ug/L	100
70)	Ethylbenzene	14.31	106	408749	49.0078 ug/L	100
71)	m-,p-Xylene	14.39	106	996141	98.2427 ug/L	100
72)	o-Xylene	14.92	106	492043	49.8632 ug/L	100
73)	Styrene	14.95	104	838125	51.4077 ug/L	100
74)	Bromoform	15.43	173	184100	50.5823 ug/L	100
75)	Isopropylbenzene	15.31	105	1309383	50.1751 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.52	83	208930	50.8426 ug/L	100
79)	1,2,3-Trichloropropane	15.70	110	72411	46.9859 ug/L	100
80)	trans-1,4-Dichloro-2-Buten	15.74	53	94075	47.5347 ug/L	100
81)	n-Propylbenzene	15.79	91	1522917	49.8325 ug/L	100
82)	Bromobenzene	15.92	156	379178	47.2834 ug/L	100
83)	1,3,5-Trimethylbenzene	15.96	105	1143246	49.0221 ug/L	100
84)	2-Chlorotoluene	16.05	91	1021921	47.7415 ug/L	100
85)	4-Chlorotoluene	16.09	91	930690	48.5394 ug/L	100
86)	a-Methylstyrene	16.34	118	649847	52.8208 ug/L	100
87)	tert-Butylbenzene	16.40	134	241955	48.9705 ug/L	100
88)	1,2,4-Trimethylbenzene	16.44	105	1178963	49.6454 ug/L	100
89)	sec-Butylbenzene	16.65	105	1390388	49.6522 ug/L	100
90)	p-Isopropyltoluene	16.79	119	1282252	49.8529 ug/L	100
91)	1,3-Dichlorobenzene	16.98	146	737967	47.6473 ug/L	100
92)	1,4-Dichlorobenzene	17.10	146	740977	47.1987 ug/L	100
93)	n-Butylbenzene	17.28	91	1126170	49.6883 ug/L	100
94)	1,2-Dichlorobenzene	17.57	146	684016	48.4812 ug/L	100
95)	1,2-Dibromo-3-Chloropropan	18.49	75	42848	46.3023 ug/L	100
96)	1,2,4-Trichlorobenzene	19.55	180	512927	49.6830 ug/L	100
97)	Hexachlorobutadiene	19.69	225	219129	48.1793 ug/L	100
98)	Naphthalene	19.90	128	962852	50.2463 ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	453828	47.8975 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11843.D Vial: 8
Acq On : 13 May 2016 17:51 Operator: JDS
Sample : WG568769-08 50ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11844.D Vial: 9
Acq On : 13 May 2016 18:22 Operator: JDS
Sample : WG568769-09 100ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:57 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	541540	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	458522	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	275719	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	307700	51.9175	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 207.68%#			
43) 1,2-Dichloroethane-d4	10.23	65	345779	51.1676	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 204.68%#			
57) Toluene-d8	12.47	98	1011334	50.7627	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 203.04%#			
78) p-Bromofluorobenzene	15.64	95	423157	49.7872	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 199.16%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	918088	108.2020	ug/L	100
3) Chloromethane	3.72	50	641242	94.3625	ug/L	99
4) Vinyl Chloride	3.95	62	586615	103.9481	ug/L	100
5) 1,3-Butadiene	3.99	54	571156	101.7838	ug/L	99
6) Bromomethane	4.85	94	394826	101.7560	ug/L	99
7) Chloroethane	5.00	64	370541	102.1913	ug/L	99
8) Trichlorofluoromethane	5.48	101	1135647	100.9627	ug/L	98
9) Diethyl ether	6.01	59	836495	201.0821	ug/L	99
10) Isoprene	6.04	67	699724	100.9257	ug/L	100
11) Acrolein	6.24	56	55228	99.4421	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	545013	99.8560	ug/L	100
13) Acetone	6.34	43	123799	96.2731	ug/L	95
14) 1,1-Dichloroethene	6.56	61	1004294	101.3022	ug/L	100
15) Tert-Butyl Alcohol	6.66	59	148134	416.4687	ug/L	98
16) Dimethyl Sulfide	6.81	62	401237	101.3432	ug/L	100
17) Iodomethane	7.06	142	471112	102.3553	ug/L	100
18) Methyl acetate	7.07	43	381031	98.0957	ug/L	99
19) Methylene Chloride	7.31	84	501609	97.7649	ug/L	99
20) Carbon Disulfide	7.36	76	1695322	102.1458	ug/L	100
21) Acrylonitrile	7.49	53	184461	106.9881	ug/L	99
22) Methyl Tert Butyl Ether	7.52	73	1312901	102.5951	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	542907	98.9478	ug/L	98
24) n-Hexane	7.82	57	921942	100.8849	ug/L	99
25) Diisopropyl ether	8.15	45	4599625	201.7086	ug/L	99
26) Vinyl Acetate	8.31	43	855488	94.3763	ug/L	99
27) 1,1-Dichloroethane	8.34	63	1111115	100.9254	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	3780769	203.7060	ug/L	100
29) 2-Butanone	8.87	43	198511	102.1130	ug/L	100
30) Propionitrile	8.98	54	118699	208.4678	ug/L	97
31) 2,2-Dichloropropane	9.09	77	914695	106.1904	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	606774	100.2977	ug/L	99
33) Chloroform	9.35	83	1053766	97.4685	ug/L	100
34) 1-Bromopropane	9.48	122	106914	98.8615	ug/L	100
35) Bromochloromethane	9.57	130	387239	107.7795	ug/L	100
36) Tetrahydrofuran	9.60	42	270148	196.7890	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	1088263	102.2884	ug/L	99
39) Cyclohexane	9.88	56	1213186	104.6320	ug/L	100
40) 1,1-Dichloropropene	10.04	75	775674	102.1101	ug/L	98
41) Carbon Tetrachloride	10.18	117	1074698	103.4456	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	2619501	203.1147	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M11844.D 8260WT.M Sat May 14 18:50:58 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11844.D Vial: 9
Acq On : 13 May 2016 18:22 Operator: JDS
Sample : WG568769-09 100ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:57 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

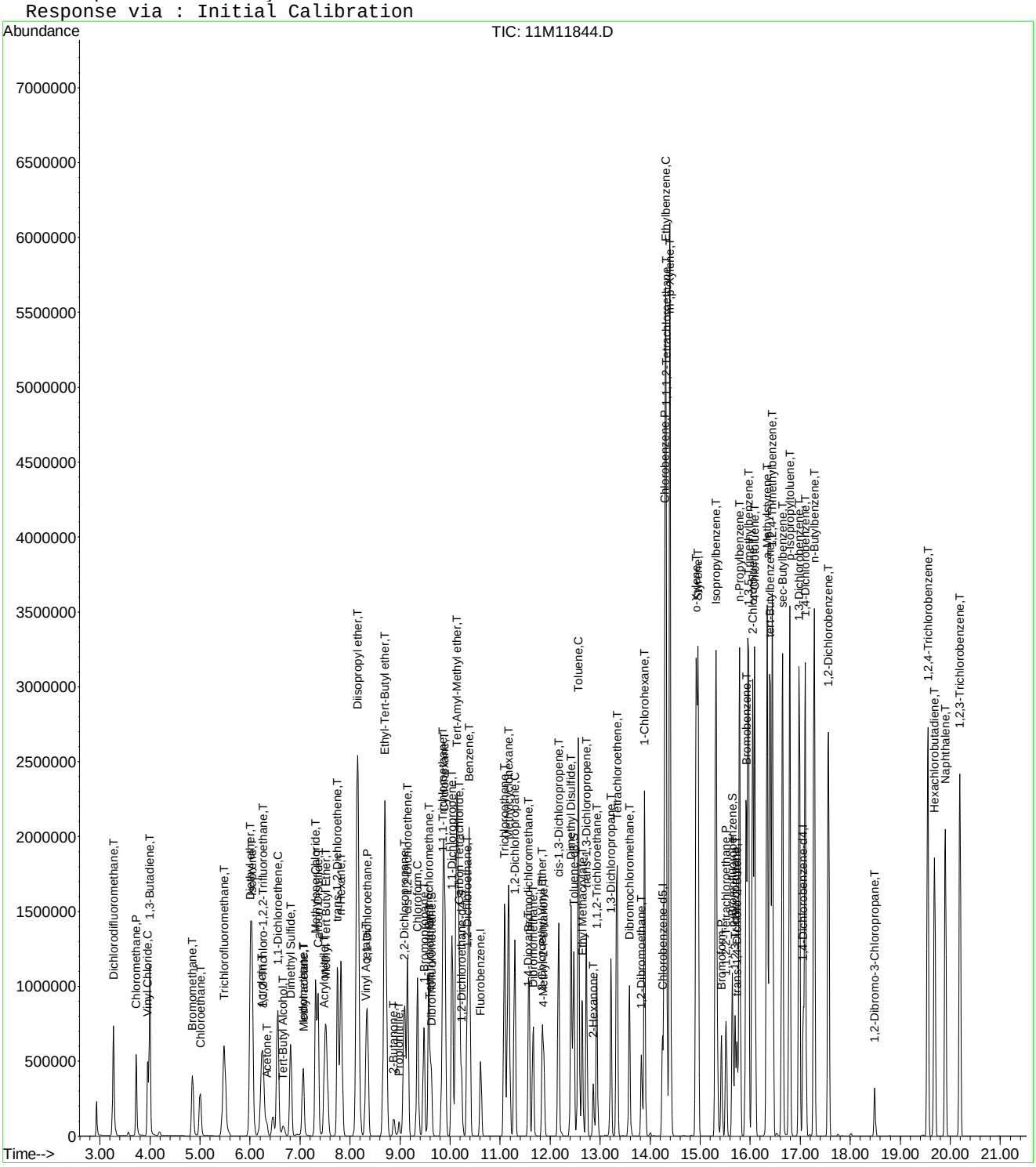
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	895394	101.9714 ug/L	100
45)	Benzene	10.38	78	2041856	98.1867 ug/L	100
46)	Trichloroethene	11.08	130	677193	100.1861 ug/L	99
47)	Methylcyclohexane	11.17	83	867487	103.9915 ug/L	100
48)	1,2-Dichloropropane	11.29	63	580562	100.8530 ug/L	98
49)	1,4-Dioxane	11.56	88	13651	395.0901 ug/L	100
50)	Bromodichloromethane	11.57	83	837797	103.6717 ug/L	99
51)	Dibromomethane	11.65	93	315786	105.2707 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.84	63	293822	103.5626 ug/L	100
53)	4-Methyl-2-Pentanone	11.87	58	164890	103.0430 ug/L	98
54)	cis-1,3-Dichloropropene	12.17	75	854611	105.7305 ug/L	99
55)	Dimethyl Disulfide	12.42	79	505463	103.9202 ug/L	99
58)	Toluene	12.56	91	2361378	101.7300 ug/L	100
59)	Ethyl Methacrylate	12.65	69	529740	106.8782 ug/L	98
60)	trans-1,3-Dichloropropene	12.73	75	793063	106.4420 ug/L	99
61)	1,1,2-Trichloroethane	12.94	97	418327	101.6330 ug/L	99
62)	2-Hexanone	12.86	43	314588	104.0648 ug/L	99
63)	1,3-Dichloropropane	13.21	76	685844	103.7610 ug/L	100
64)	Tetrachloroethene	13.34	164	550335	101.9528 ug/L	99
65)	Dibromochloromethane	13.59	129	681591	108.5659 ug/L	100
66)	1,2-Dibromoethane	13.82	107	427945	103.7729 ug/L	99
67)	1-Chlorohexane	13.89	91	807177	105.4730 ug/L	98
68)	Chlorobenzene	14.29	112	1705646	100.3046 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.32	131	704959	102.4557 ug/L	100
70)	Ethylbenzene	14.31	106	883839	101.3614 ug/L	99
71)	m-,p-Xylene	14.39	106	2123651	200.3333 ug/L	98
72)	o-Xylene	14.92	106	1053682	102.1356 ug/L	100
73)	Styrene	14.95	104	1807222	106.0282 ug/L	99
74)	Bromoform	15.43	173	412378	108.3755 ug/L	100
75)	Isopropylbenzene	15.31	105	2813193	103.1127 ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.52	83	454052	105.7501 ug/L	99
79)	1,2,3-Trichloropropane	15.70	110	156532	96.8210 ug/L	100
80)	trans-1,4-Dichloro-2-Buten	15.74	53	203327	97.5343 ug/L	96
81)	n-Propylbenzene	15.79	91	3285915	102.9061 ug/L	99
82)	Bromobenzene	15.92	156	828973	98.9359 ug/L	99
83)	1,3,5-Trimethylbenzene	15.96	105	2483230	101.9102 ug/L	100
84)	2-Chlorotoluene	16.05	91	2208423	98.7437 ug/L	100
85)	4-Chlorotoluene	16.09	91	2020827	100.8710 ug/L	100
86)	a-Methylstyrene	16.34	118	1361545	105.9190 ug/L	99
87)	tert-Butylbenzene	16.40	134	532522	103.1540 ug/L	98
88)	1,2,4-Trimethylbenzene	16.44	105	2546912	102.6457 ug/L	100
89)	sec-Butylbenzene	16.65	105	3003570	102.6569 ug/L	99
90)	p-Isopropyltoluene	16.79	119	2763313	102.8241 ug/L	99
91)	1,3-Dichlorobenzene	16.98	146	1600684	98.9134 ug/L	100
92)	1,4-Dichlorobenzene	17.10	146	1605475	97.8762 ug/L	100
93)	n-Butylbenzene	17.28	91	2452438	103.5609 ug/L	100
94)	1,2-Dichlorobenzene	17.57	146	1481276	100.4827 ug/L	100
95)	1,2-Dibromo-3-Chloropropan	18.49	75	95062	97.5959 ug/L	99
96)	1,2,4-Trichlorobenzene	19.55	180	1100416	102.0133 ug/L	100
97)	Hexachlorobutadiene	19.69	225	486893	102.4572 ug/L	100
98)	Naphthalene	19.90	128	2071229	103.4477 ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	980181	99.0092 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11844.D Vial: 9
Acq On : 13 May 2016 18:22 Operator: JDS
Sample : WG568769-09 100ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11845.D Vial: 10
Acq On : 13 May 2016 18:54 Operator: JDS
Sample : WG568769-10 200ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:59 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.61	96	552905	25.00	ug/L		0.00
56) Chlorobenzene-d5	14.25	117	473364	25.00	ug/L		0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	274188	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.63	111	629894	104.0960	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 416.40%#				
43) 1,2-Dichloroethane-d4	10.23	65	684792	99.2511	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 397.00%#				
57) Toluene-d8	12.47	98	2068111	100.5516	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 402.20%#				
78) p-Bromofluorobenzene	15.64	95	864999	102.3411	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 409.36%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.27	85	1843265	212.7741	ug/L		99
3) Chloromethane	3.72	50	1346993	194.1434	ug/L		100
4) Vinyl Chloride	3.95	62	1199147	208.1209	ug/L		100
5) 1,3-Butadiene	3.99	54	1131910	197.5677	ug/L		97
6) Bromomethane	4.85	94	859963	217.0771	ug/L		100
7) Chloroethane	5.00	64	764060	206.3883	ug/L		100
8) Trichlorofluoromethane	5.48	101	2275404	198.1327	ug/L		100
9) Diethyl ether	6.03	59	2592	0.6103	ug/L	#	21
10) Isoprene	6.04	67	1435794	202.8369	ug/L		97
11) Acrolein	6.25	56	3061	6.8231	ug/L		88
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	1123889	201.6837	ug/L		99
13) Acetone	6.34	43	254053	193.5049	ug/L		96
14) 1,1-Dichloroethene	6.56	61	2040432	201.5858	ug/L		99
15) Tert-Butyl Alcohol	6.67	59	7729	21.2829	ug/L	#	82
16) Dimethyl Sulfide	6.81	62	830179	205.3739	ug/L		99
17) Iodomethane	7.06	142	969857	206.1133	ug/L		99
18) Methyl acetate	7.07	43	749575	196.5068	ug/L		97
19) Methylene Chloride	7.31	84	1035656	197.7029	ug/L		97
20) Carbon Disulfide	7.36	76	3459748	204.1704	ug/L		99
21) Acrylonitrile	7.52	53	35662	20.2589	ug/L	#	39
22) Methyl Tert Butyl Ether	7.52	73	2706665	207.1616	ug/L		100
23) trans-1,2-Dichloroethene	7.74	96	1121963	200.2808	ug/L		99
24) n-Hexane	7.82	57	1873652	200.8128	ug/L		99
25) Diisopropyl ether	8.16	45	16567	0.7116	ug/L	#	87
26) Vinyl Acetate	8.31	43	1904053	202.8645	ug/L		100
27) 1,1-Dichloroethane	8.34	63	2261904	201.2314	ug/L		99
28) Ethyl-Tert-Butyl ether	8.70	59	9063	0.4783	ug/L		90
29) 2-Butanone	8.87	43	407543	205.3288	ug/L		99
30) Propionitrile	8.97	54	4182	7.1938	ug/L	#	60
31) 2,2-Dichloropropane	9.09	77	1850091	210.3692	ug/L		100
32) cis-1,2-Dichloroethene	9.15	96	1257477	203.5843	ug/L		100
33) Chloroform	9.35	83	2160999	195.7739	ug/L		100
34) 1-Bromopropane	9.48	122	222798	201.1267	ug/L		98
35) Bromochloromethane	9.57	130	798076	217.5612	ug/L		99
36) Tetrahydrofuran	9.60	42	9110	6.4998	ug/L		97
38) 1,1,1-Trichloroethane	9.85	97	2208198	203.2875	ug/L		99
39) Cyclohexane	9.88	56	2467804	208.4625	ug/L		100
40) 1,1-Dichloropropene	10.04	75	1587009	204.6205	ug/L		99
41) Carbon Tetrachloride	10.18	117	2174730	205.0269	ug/L		99
42) Tert-Amyl-Methyl ether	10.13	73	6538	0.4965	ug/L	#	83

(#) = qualifier out of range (m) = manual integration
11M11845.D 8260WT.M Sat May 14 18:51:00 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11845.D Vial: 10
Acq On : 13 May 2016 18:54 Operator: JDS
Sample : WG568769-10 200ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50:59 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

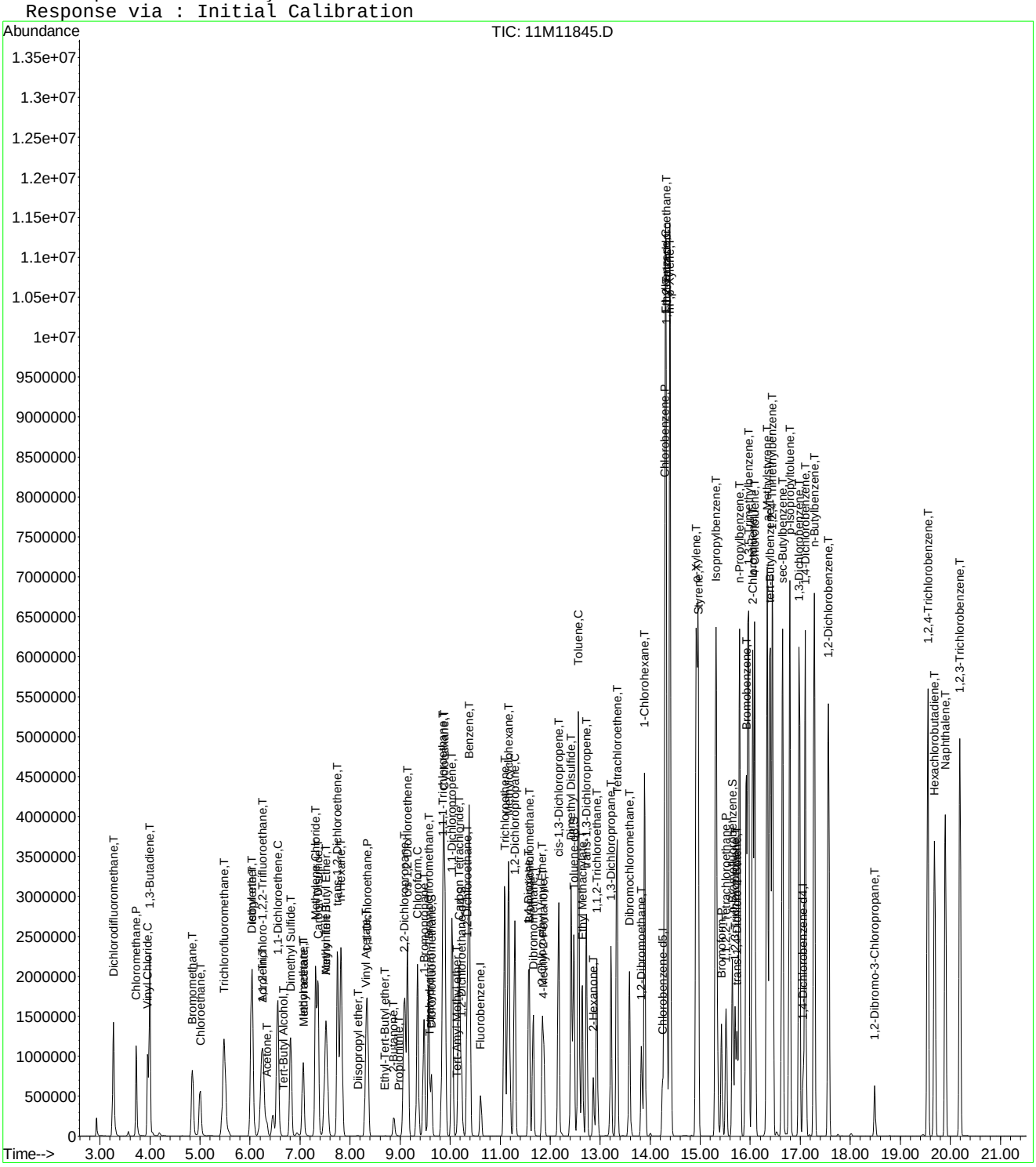
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloroethane	10.34	62	1808450	201.7209	ug/L		99
45)	Benzene	10.38	78	4119227	194.0096	ug/L		99
46)	Trichloroethene	11.09	130	1367103	198.0963	ug/L		100
47)	Methylcyclohexane	11.17	83	1789256	210.0812	ug/L		99
48)	1,2-Dichloropropane	11.29	63	1196100	203.5109	ug/L		99
49)	1,4-Dioxane	11.57	88	2656	94.1370	ug/L	#	31
50)	Bromodichloromethane	11.58	83	1721733	208.6734	ug/L		99
51)	Dibromomethane	11.66	93	641583	209.4825	ug/L		100
52)	2-Chloroethyl Vinyl Ether	11.84	63	608231	209.9748	ug/L		99
53)	4-Methyl-2-Pentanone	11.87	58	342251	209.4831	ug/L		99
54)	cis-1,3-Dichloropropene	12.17	75	1772737	214.8108	ug/L		100
55)	Dimethyl Disulfide	12.42	79	1052498	211.9395	ug/L		98
58)	Toluene	12.56	91	4699240	196.0993	ug/L		98
59)	Ethyl Methacrylate	12.65	69	1101451	215.2567	ug/L		97
60)	trans-1,3-Dichloropropene	12.73	75	1627488	211.5866	ug/L		99
61)	1,1,2-Trichloroethane	12.93	97	860113	202.4133	ug/L		99
62)	2-Hexanone	12.86	43	651287	208.6888	ug/L		99
63)	1,3-Dichloropropane	13.21	76	1412360	206.9756	ug/L		99
64)	Tetrachloroethene	13.34	164	1133410	203.3874	ug/L		99
65)	Dibromochloromethane	13.59	129	1409248	217.4313	ug/L		99
66)	1,2-Dibromoethane	13.82	107	889951	209.0389	ug/L		99
67)	1-Chlorohexane	13.89	91	1659272	210.0173	ug/L		97
68)	Chlorobenzene	14.29	112	3416597	194.6214	ug/L		98
69)	1,1,1,2-Tetrachloroethane	14.32	131	1457008	205.1158	ug/L		100
70)	Ethylbenzene	14.31	106	1814385	201.5551	ug/L		91
71)	m-,p-Xylene	14.39	106	4230307	386.5510	ug/L		85
72)	o-Xylene	14.92	106	2156790	202.5071	ug/L		96
73)	Styrene	14.96	104	3630570	206.3240	ug/L		98
74)	Bromoform	15.43	173	854308	217.4778	ug/L		100
75)	Isopropylbenzene	15.31	105	5485636	194.7621	ug/L		97
77)	1,1,2,2-Tetrachloroethane	15.52	83	939708	220.0830	ug/L		98
79)	1,2,3-Trichloropropane	15.70	110	325518	202.0716	ug/L		99
80)	trans-1,4-Dichloro-2-Buten	15.74	53	421012	202.2796	ug/L		97
81)	n-Propylbenzene	15.79	91	6220435	195.8952	ug/L		95
82)	Bromobenzene	15.92	156	1685980	202.3412	ug/L		99
83)	1,3,5-Trimethylbenzene	15.96	105	4875063	201.1866	ug/L		97
84)	2-Chlorotoluene	16.05	91	4287026	192.7532	ug/L		98
85)	4-Chlorotoluene	16.09	91	4030756	202.3214	ug/L		98
86)	a-Methylstyrene	16.34	118	2724122	213.1015	ug/L		98
87)	tert-Butylbenzene	16.40	134	1075661	209.5280	ug/L		96
88)	1,2,4-Trimethylbenzene	16.44	105	4921395	199.4496	ug/L		97
89)	sec-Butylbenzene	16.65	105	5740919	197.3104	ug/L		97
90)	p-Isopropyltoluene	16.79	119	5274037	197.3451	ug/L		95
91)	1,3-Dichlorobenzene	16.98	146	3171808	197.0945	ug/L		99
92)	1,4-Dichlorobenzene	17.10	146	3145357	192.8244	ug/L		99
93)	n-Butylbenzene	17.28	91	4684496	198.9203	ug/L		97
94)	1,2-Dichlorobenzene	17.57	146	2909224	198.4498	ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.49	75	191088	196.6217	ug/L		99
96)	1,2,4-Trichlorobenzene	19.55	180	2198003	204.9021	ug/L		99
97)	Hexachlorobutadiene	19.69	225	969160	205.0797	ug/L		99
98)	Naphthalene	19.90	128	3994903	200.6399	ug/L		98
99)	1,2,3-Trichlorobenzene	20.19	180	1999949	203.1452	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11845.D Vial: 10
Acq On : 13 May 2016 18:54 Operator: JDS
Sample : WG568769-10 200ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



11M11845.D 8260WT.M Sat May 14 18:51:00 2016 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11846.D Vial: 11
Acq On : 13 May 2016 19:26 Operator: JDS
Sample : WG568769-11 300ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:51:01 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	543599	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	479542	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	277309	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	905755	152.2472	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 609.00%#			
43) 1,2-Dichloroethane-d4	10.23	65	970758	143.1066	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 572.44%#			
57) Toluene-d8	12.47	98	3002456	144.0987	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 576.40%#			
78) p-Bromofluorobenzene	15.64	95	1285822	150.4179	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 601.68%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	2762707	324.3678	ug/L	99
3) Chloromethane	3.72	50	2113477	309.8323	ug/L	100
4) Vinyl Chloride	3.95	62	1802126	318.1269	ug/L	100
5) 1,3-Butadiene	3.99	54	1562377	277.3715	ug/L	98
6) Bromomethane	4.85	94	1341865	344.5204	ug/L	100
7) Chloroethane	5.00	64	1181546	324.6236	ug/L	100
8) Trichlorofluoromethane	5.48	101	3351045	296.7904	ug/L	99
9) Diethyl ether	6.01	59	1250668	299.5049	ug/L	97
10) Isoprene	6.04	67	2121830	304.8859	ug/L	97
11) Acrolein	6.23	56	87016	155.2272	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	1679276	306.5076	ug/L	99
13) Acetone	6.34	43	352141	272.8074	ug/L	95
14) 1,1-Dichloroethene	6.56	61	3009080	302.3733	ug/L	98
15) Tert-Butyl Alcohol	6.67	59	227782	637.9680	ug/L	97
16) Dimethyl Sulfide	6.81	62	1199487	301.8151	ug/L	96
17) Iodomethane	7.06	142	1359092	295.3515	ug/L	96
18) Methyl acetate	7.07	43	1093862	303.3719	ug/L	97
19) Methylene Chloride	7.31	84	1550974	301.1438	ug/L	91
20) Carbon Disulfide	7.36	76	5025219	301.6304	ug/L	99
21) Acrylonitrile	7.49	53	292311	168.8994	ug/L	94
22) Methyl Tert Butyl Ether	7.52	73	3880019	302.0512	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	1693308	307.4459	ug/L	98
24) n-Hexane	7.82	57	2752540	300.0599	ug/L	99
25) Diisopropyl ether	8.15	45	6621718	289.2841	ug/L	99
26) Vinyl Acetate	8.31	43	2814279	303.7518	ug/L	99
27) 1,1-Dichloroethane	8.34	63	3313473	299.8312	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	5508427	295.6672	ug/L	99
29) 2-Butanone	8.87	43	590742	302.7235	ug/L	97
30) Propionitrile	8.99	54	177454	310.4771	ug/L	98
31) 2,2-Dichloropropane	9.09	77	2735421	316.3626	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	1856543	305.7181	ug/L	98
33) Chloroform	9.35	83	3144758	289.7739	ug/L	100
34) 1-Bromopropane	9.48	122	329211	301.9597	ug/L	98
35) Bromochloromethane	9.57	130	1179409	327.0194	ug/L	97
36) Tetrahydrofuran	9.60	42	386389	280.3985	ug/L	96
38) 1,1,1-Trichloroethane	9.85	97	3227247	302.1877	ug/L	99
39) Cyclohexane	9.88	56	3625895	311.5332	ug/L	99
40) 1,1-Dichloropropene	10.04	75	2360605	309.5743	ug/L	100
41) Carbon Tetrachloride	10.18	117	3172921	304.2542	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	3912691	302.2388	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M11846.D 8260WT.M Sat May 14 18:51:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11846.D Vial: 11
Acq On : 13 May 2016 19:26 Operator: JDS
Sample : WG568769-11 300ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:51:01 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

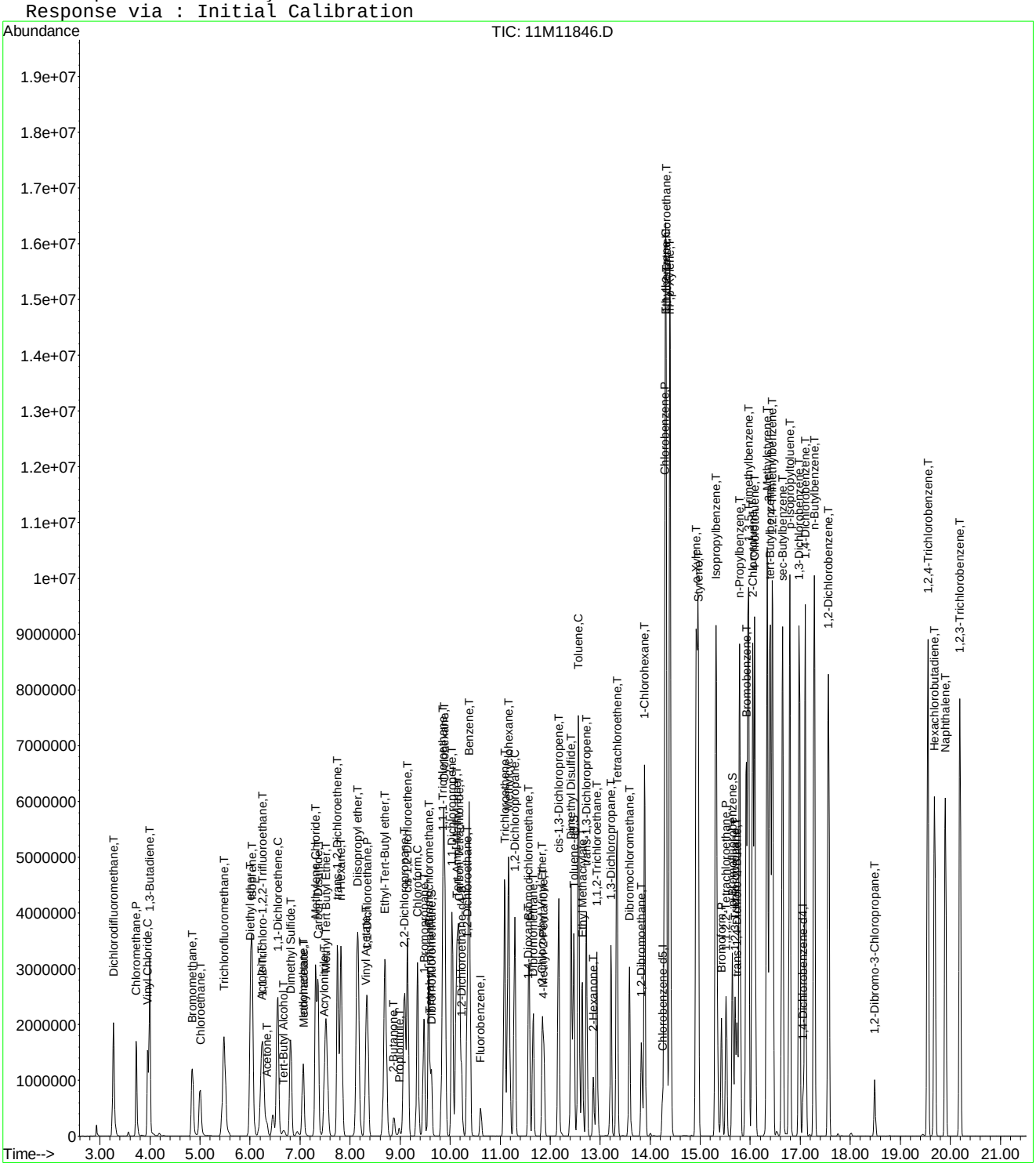
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloroethane	10.34	62	2551762	289.5052	ug/L		98
45)	Benzene	10.38	78	5961793	285.5987	ug/L		97
46)	Trichloroethene	11.09	130	2025948	298.5901	ug/L		99
47)	Methylcyclohexane	11.17	83	2657028	317.3092	ug/L		98
48)	1,2-Dichloropropane	11.29	63	1781372	308.2809	ug/L		96
49)	1,4-Dioxane	11.56	88	21540	607.7372	ug/L		100
50)	Bromodichloromethane	11.57	83	2511276	309.5762	ug/L		100
51)	Dibromomethane	11.65	93	939605	312.0413	ug/L		99
52)	2-Chloroethyl Vinyl Ether	11.84	63	879534	308.8327	ug/L		100
53)	4-Methyl-2-Pentanone	11.87	58	505191	314.5081	ug/L		99
54)	cis-1,3-Dichloropropene	12.17	75	2604960	321.0589	ug/L		99
55)	Dimethyl Disulfide	12.42	79	1529785	313.3234	ug/L		99
58)	Toluene	12.56	91	6613670	272.4329	ug/L		95
59)	Ethyl Methacrylate	12.65	69	1618015	312.1351	ug/L		94
60)	trans-1,3-Dichloropropene	12.73	75	2369133	304.0383	ug/L		98
61)	1,1,2-Trichloroethane	12.93	97	1271039	295.2644	ug/L		98
62)	2-Hexanone	12.86	43	950079	300.5074	ug/L		97
63)	1,3-Dichloropropane	13.21	76	2062188	298.3119	ug/L		97
64)	Tetrachloroethene	13.34	164	1691190	299.5697	ug/L		98
65)	Dibromochloromethane	13.59	129	2065480	314.5750	ug/L		100
66)	1,2-Dibromoethane	13.82	107	1334668	309.4588	ug/L		99
67)	1-Chlorohexane	13.89	91	2483371	310.2757	ug/L		95
68)	Chlorobenzene	14.29	112	4911463	276.1698	ug/L		96
69)	1,1,1,2-Tetrachloroethane	14.32	131	2161701	300.4009	ug/L		100
70)	Ethylbenzene	14.31	106	2715675	297.7904	ug/L		79
71)	m-,p-Xylene	14.39	106	6004062	541.5626	ug/L		73
72)	o-Xylene	14.92	106	3202500	296.8179	ug/L		90
73)	Styrene	14.96	104	5278134	296.0902	ug/L		96
74)	Bromoform	15.43	173	1313245	330.0007	ug/L		100
75)	Isopropylbenzene	15.31	105	7610374	266.7178	ug/L		92
77)	1,1,2,2-Tetrachloroethane	15.52	83	1470787	340.5868	ug/L		97
79)	1,2,3-Trichloropropane	15.70	110	494041	303.0514	ug/L		98
80)	trans-1,4-Dichloro-2-Buten	15.74	53	640812	304.0444	ug/L		94
81)	n-Propylbenzene	15.79	91	8405785	261.7374	ug/L		88
82)	Bromobenzene	15.92	156	2530711	300.3025	ug/L		98
83)	1,3,5-Trimethylbenzene	15.96	105	6851753	279.5793	ug/L		93
84)	2-Chlorotoluene	16.05	91	6055423	269.1996	ug/L		95
85)	4-Chlorotoluene	16.09	91	5712933	283.5299	ug/L		94
86)	a-Methylstyrene	16.34	118	4020347	310.9625	ug/L		96
87)	tert-Butylbenzene	16.40	134	1654009	318.5583	ug/L		89
88)	1,2,4-Trimethylbenzene	16.44	105	6879061	275.6504	ug/L		91
89)	sec-Butylbenzene	16.65	105	7999374	271.8373	ug/L		92
90)	p-Isopropyltoluene	16.79	119	7406083	274.0036	ug/L		90
91)	1,3-Dichlorobenzene	16.98	146	4679194	287.4903	ug/L		97
92)	1,4-Dichlorobenzene	17.10	146	4642399	281.3967	ug/L		96
93)	n-Butylbenzene	17.28	91	6723928	282.3084	ug/L		93
94)	1,2-Dichlorobenzene	17.57	146	4360022	294.0672	ug/L		96
95)	1,2-Dibromo-3-Chloropropan	18.49	75	302346	307.2381	ug/L		100
96)	1,2,4-Trichlorobenzene	19.55	180	3482946	321.0328	ug/L		97
97)	Hexachlorobutadiene	19.69	225	1629665	340.9652	ug/L		98
98)	Naphthalene	19.90	128	5970381	296.4815	ug/L	#	96
99)	1,2,3-Trichlorobenzene	20.19	180	3137470	315.1025	ug/L		98

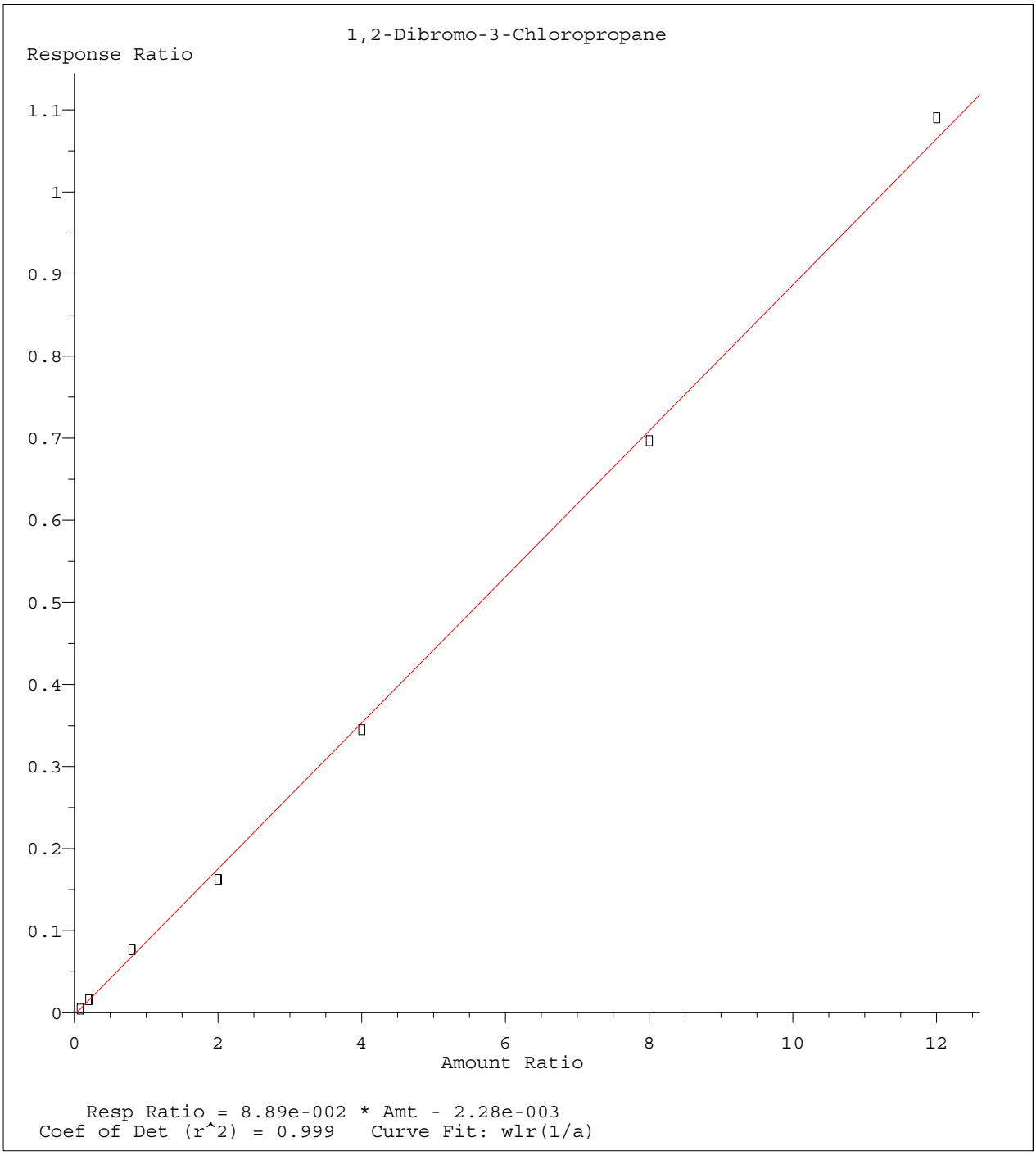
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

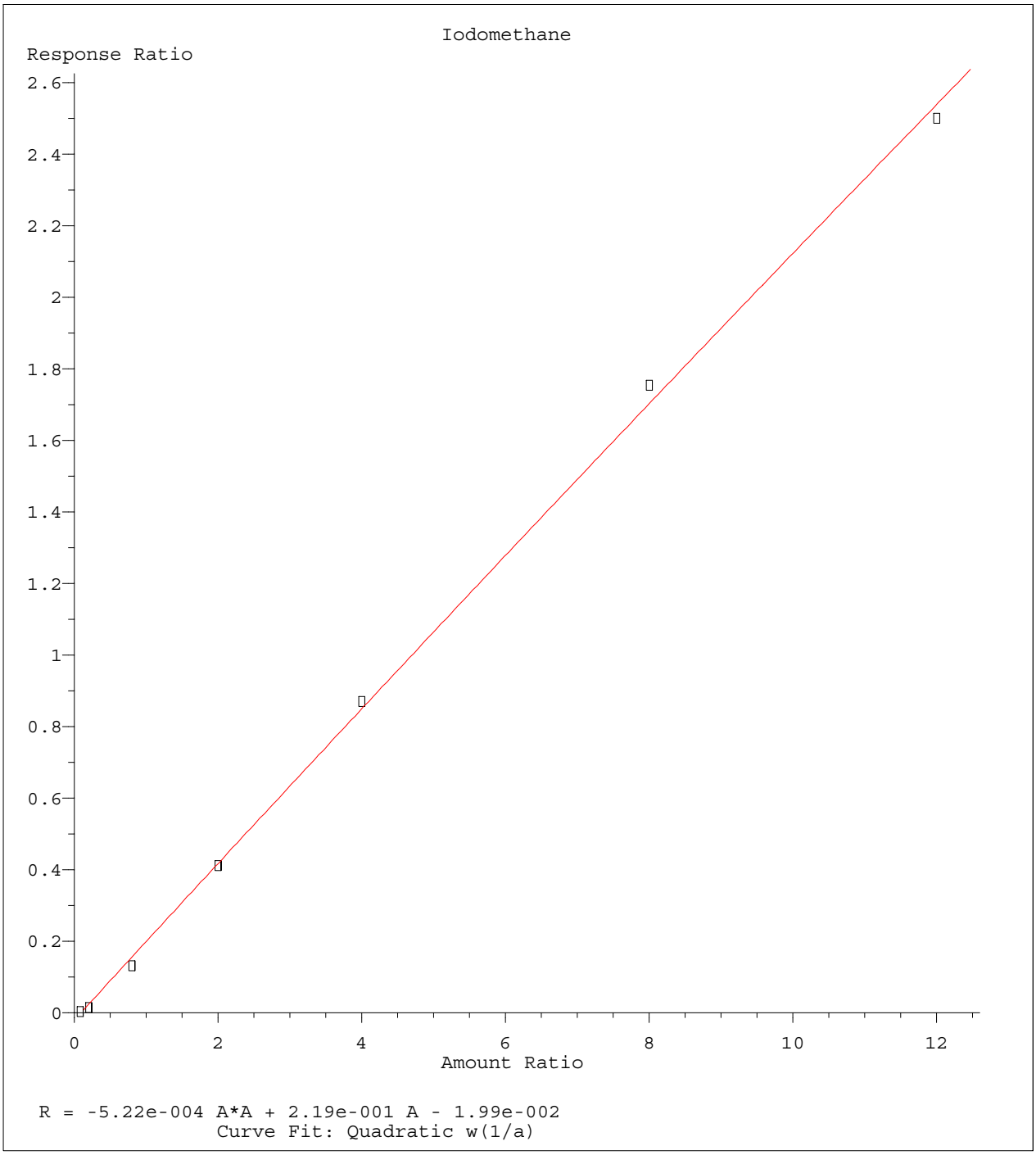
Data File : C:\MSDCHEM\1\DATA\051316\11M11846.D Vial: 11
Acq On : 13 May 2016 19:26 Operator: JDS
Sample : WG568769-11 300ug/L ICAL STD 8260 Inst : hpms11
Misc : 1,1 STD76127 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:51 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

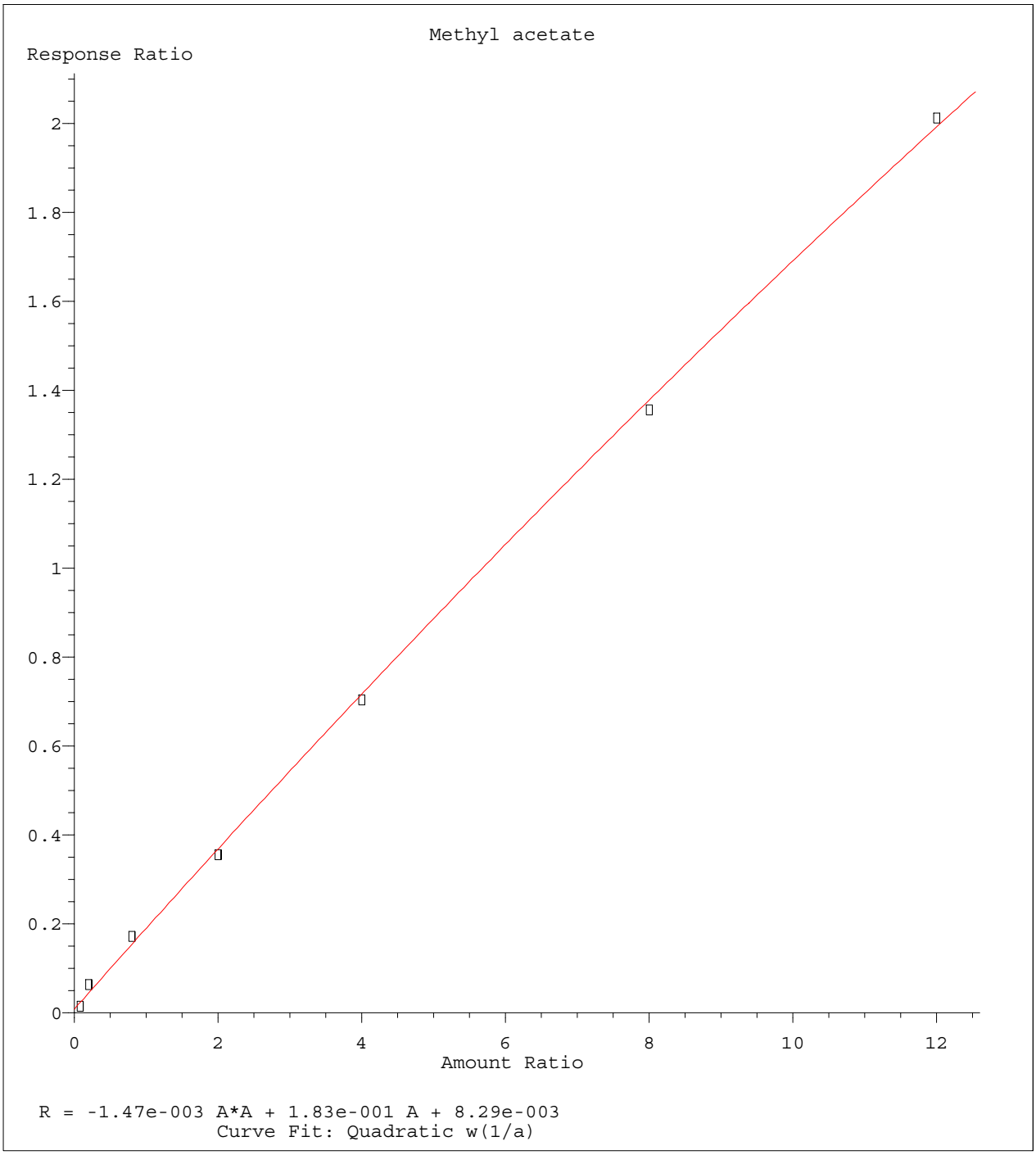




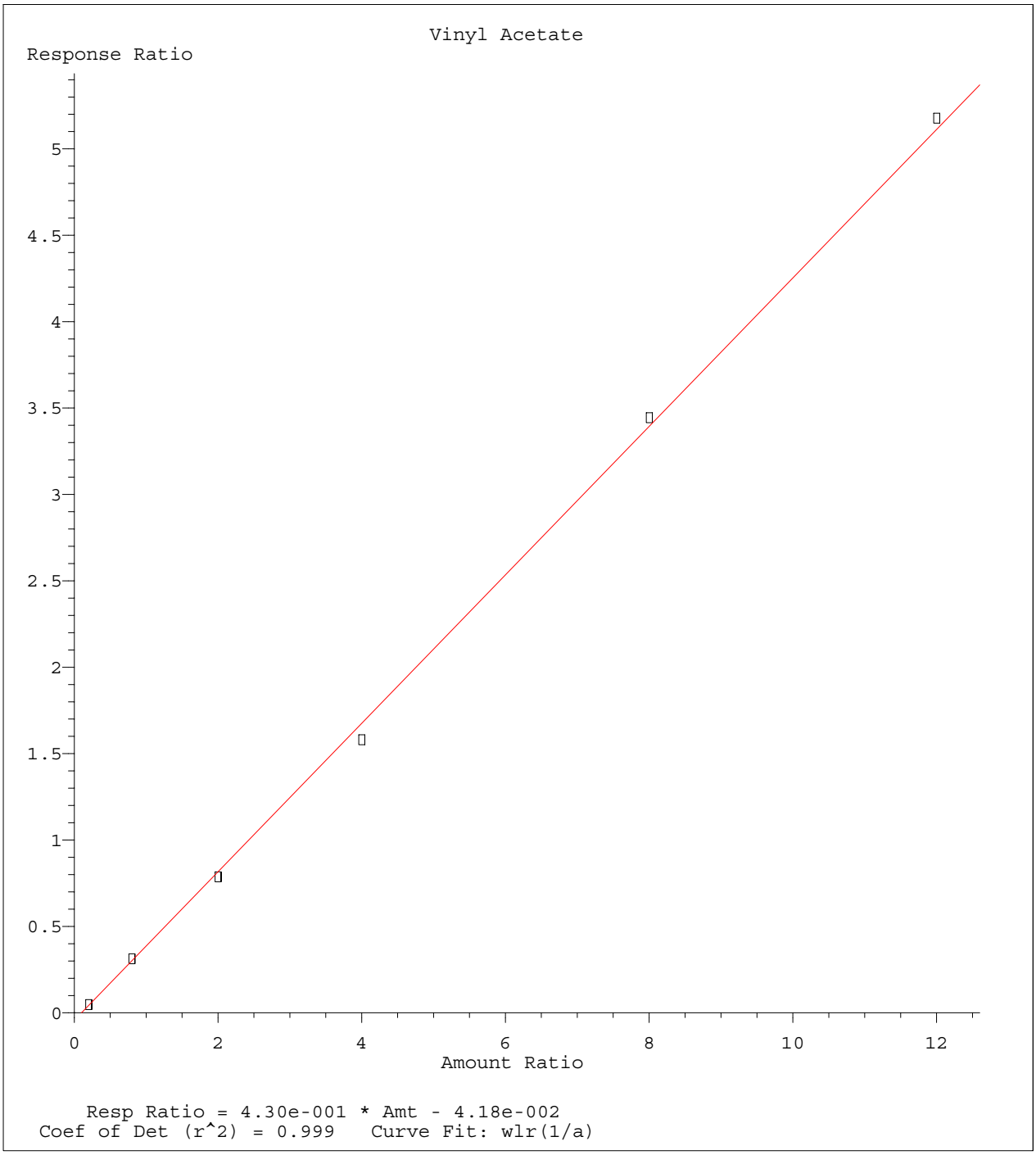
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



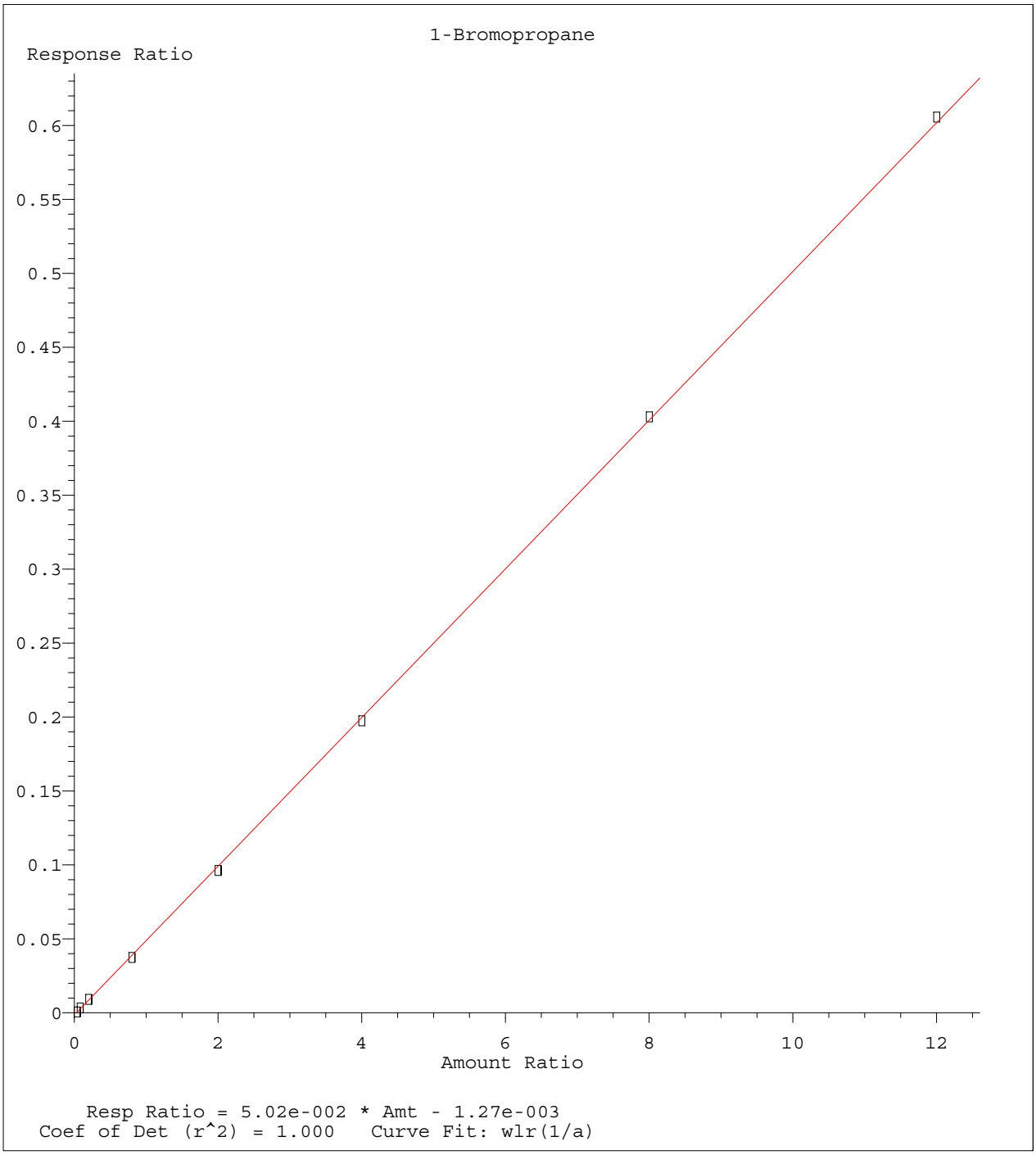
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



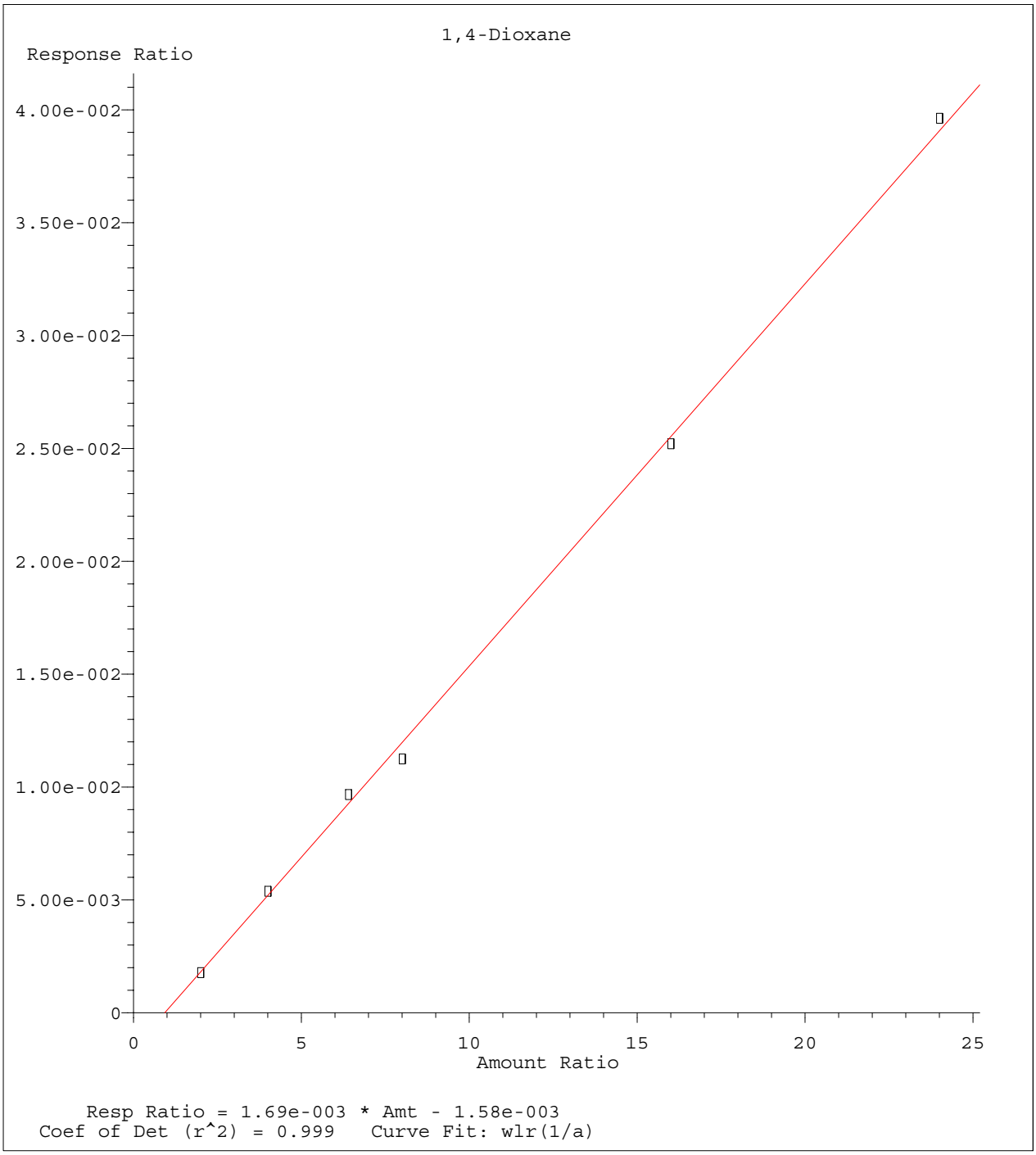
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



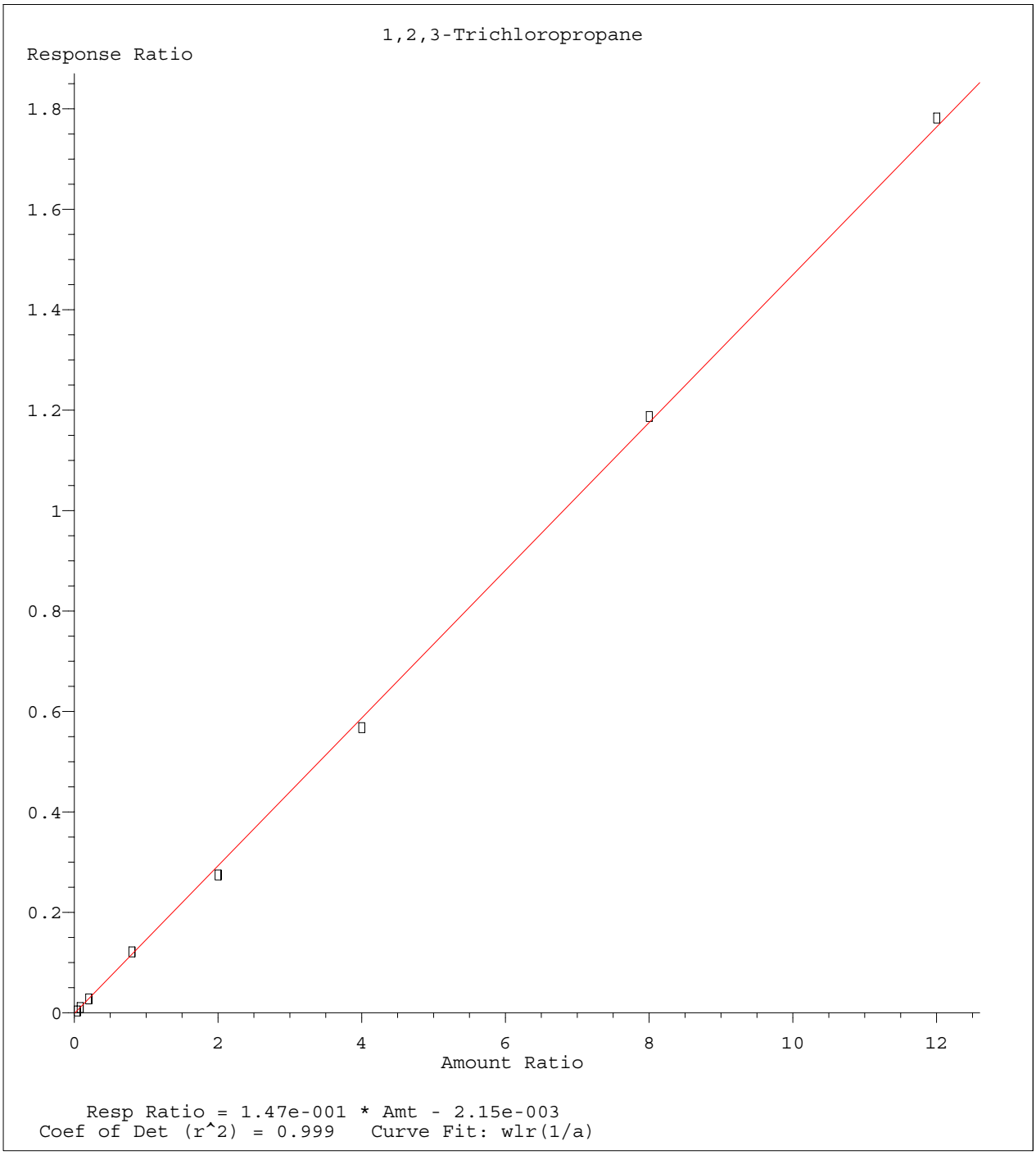
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



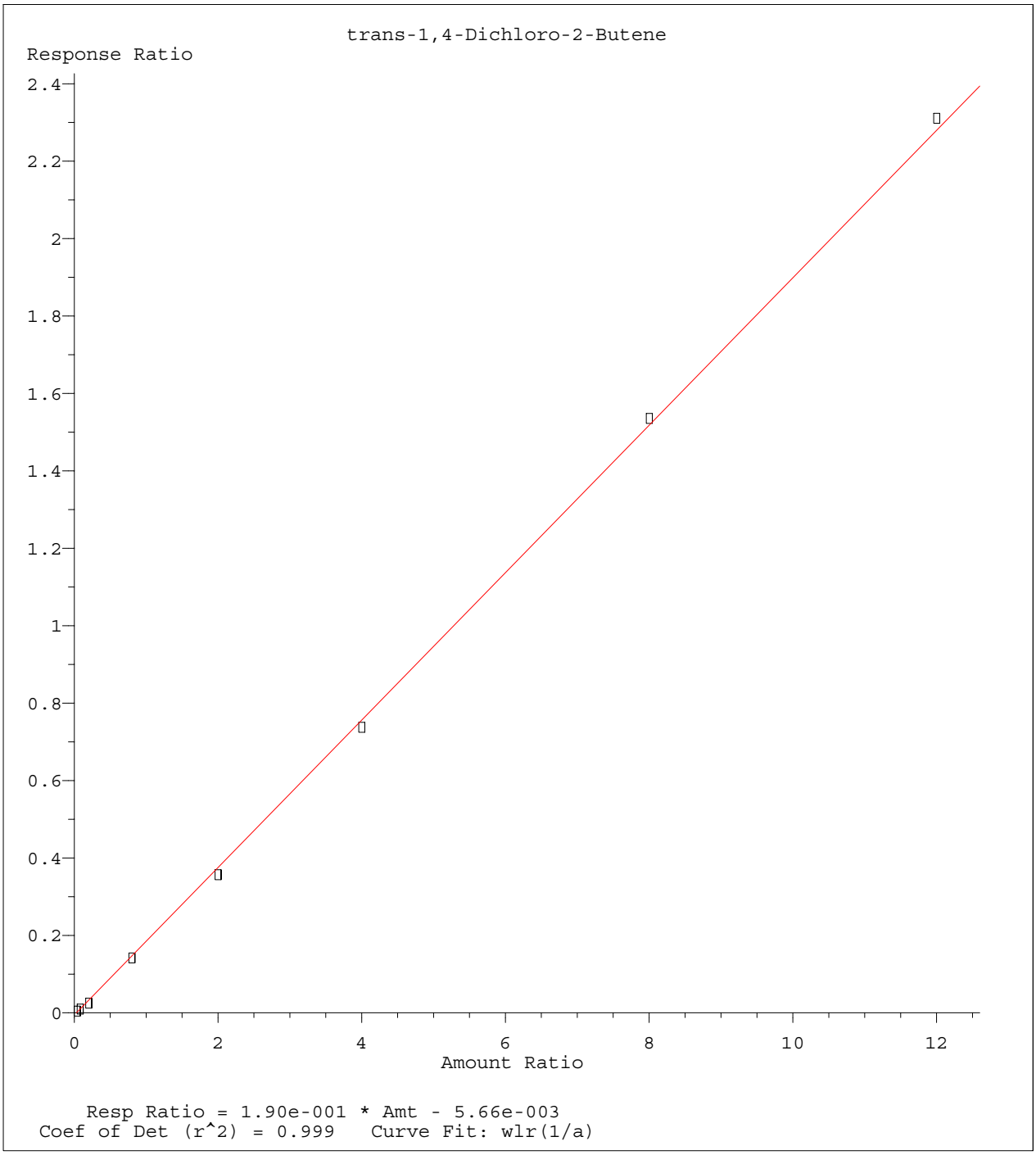
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



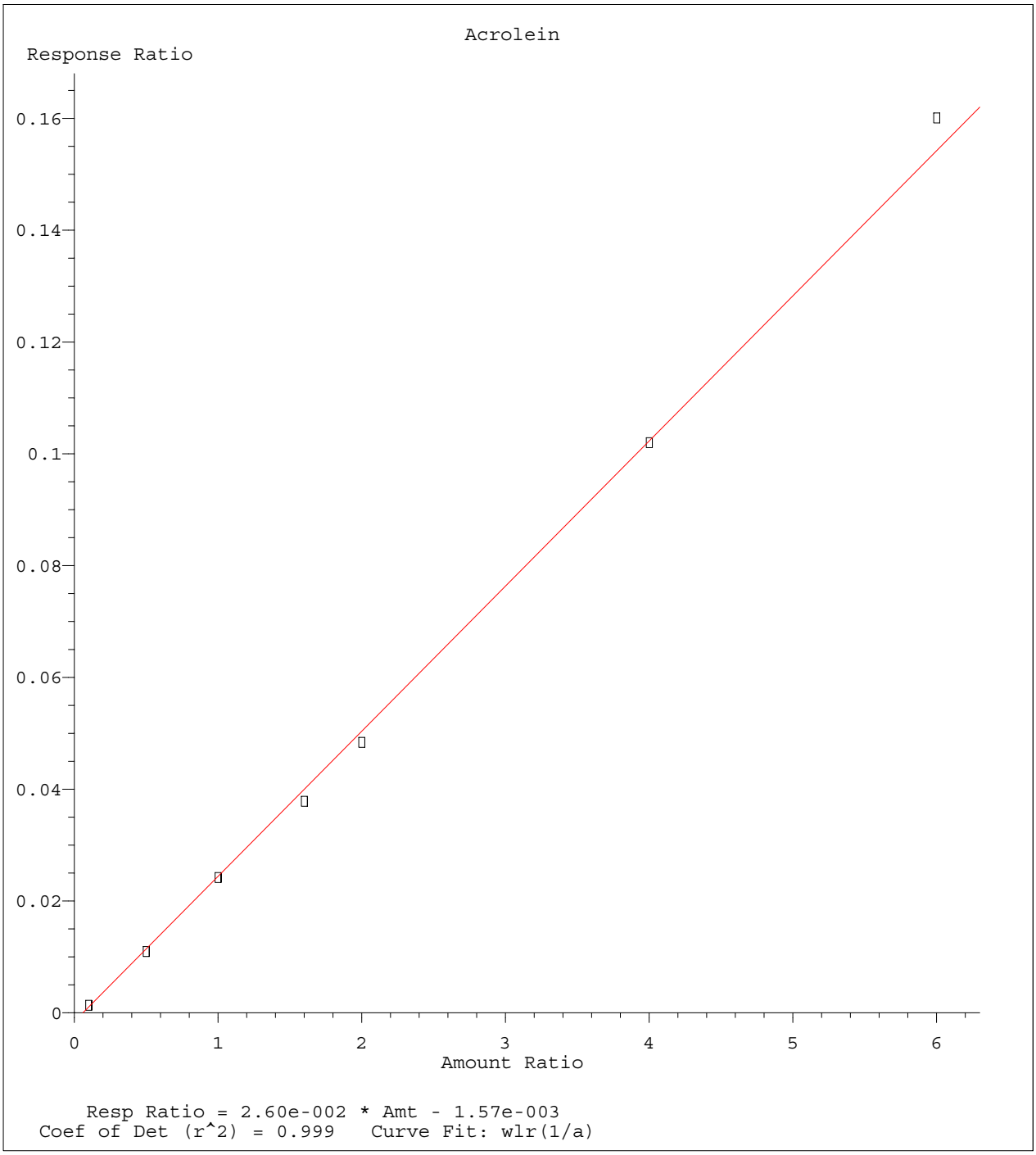
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
Acq On : 13 May 2016 20:30 Operator: JDS
Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:47:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	559172	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	461765	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	267551	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	155853	25.4675	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.88%			
43) 1,2-Dichloroethane-d4	10.23	65	160000	22.9299	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 91.72%			
57) Toluene-d8	12.47	98	531547	26.4930	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.96%			
78) p-Bromofluorobenzene	15.64	95	203747	24.7040	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	495777	56.5878	ug/L	98
3) Chloromethane	3.72	50	386673	55.1069	ug/L	100
4) Vinyl Chloride	3.95	62	326996	56.1165	ug/L	100
5) 1,3-Butadiene	3.99	54	212443	36.6650	ug/L	98
6) Bromomethane	4.84	94	202280	50.4885	ug/L	99
7) Chloroethane	5.00	64	220373	58.8601	ug/L	99
8) Trichlorofluoromethane	5.48	101	552017	47.5286	ug/L	99
9) Diethyl ether	6.01	59	453011	105.4639	ug/L	97
10) Isoprene	6.04	67	388108	54.2141	ug/L	93
11) Acrolein	6.23	56	56029	97.7296	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	292836	51.9609	ug/L	99
13) Acetone	6.35	43	65954	49.6723	ug/L	97
14) 1,1-Dichloroethene	6.55	61	486567	47.5319	ug/L	96
15) Tert-Butyl Alcohol	6.67	59	79387	216.1534	ug/L	96
16) Dimethyl Sulfide	6.81	62	290204	70.9875	ug/L	94
17) Iodomethane	7.06	142	176766	38.4128	ug/L	92
18) Methyl acetate	7.07	43	200985	48.7416	ug/L	98
19) Methylene Chloride	7.31	84	275442	51.9916	ug/L	91
20) Carbon Disulfide	7.35	76	765803	44.6859	ug/L	99
21) Acrylonitrile	7.49	53	93674	52.6181	ug/L	100
22) Methyl Tert Butyl Ether	7.52	73	687029	51.9942	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	295337	52.1295	ug/L	97
24) n-Hexane	7.82	57	420811	44.5959	ug/L	99
25) Diisopropyl ether	8.15	45	2449232	104.0201	ug/L	98
26) Vinyl Acetate	8.31	43	395913	43.6417	ug/L	99
27) 1,1-Dichloroethane	8.34	63	551372	48.5033	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1884917	98.3560	ug/L	99
29) 2-Butanone	8.87	43	101045	50.3380	ug/L	98
30) Propionitrile	8.99	54	62190	105.7785	ug/L	98
31) 2,2-Dichloropropane	9.09	77	405332	45.5727	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	332086	53.1618	ug/L	94
33) Chloroform	9.35	83	531122	47.5773	ug/L	100
34) 1-Bromopropane	9.48	122	76460	68.6656	ug/L	96
35) Bromochloromethane	9.57	130	199933	53.8923	ug/L	96
36) Tetrahydrofuran	9.60	42	131835	93.0068	ug/L	96
38) 1,1,1-Trichloroethane	9.85	97	527857	48.0501	ug/L	99
39) Cyclohexane	9.88	56	601180	50.2142	ug/L	99
40) 1,1-Dichloropropene	10.04	75	393057	50.1107	ug/L	100
41) Carbon Tetrachloride	10.18	117	507914	47.3479	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1406419	105.6143	ug/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
Acq On : 13 May 2016 20:30 Operator: JDS
Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:47:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

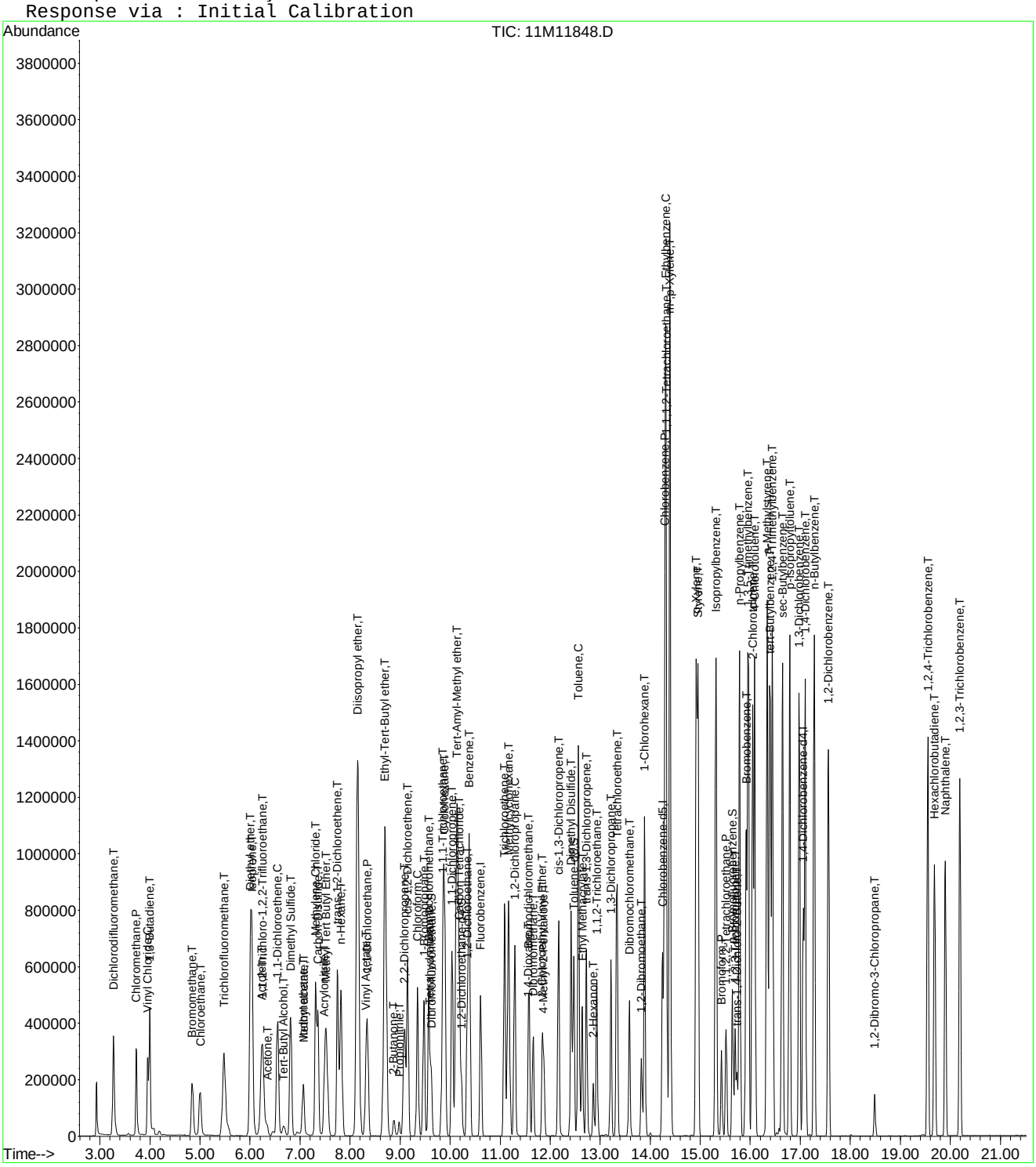
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	434117	47.8802	ug/L	99
45)	Benzene	10.38	78	1098993	51.1808	ug/L	100
46)	Trichloroethene	11.08	130	365193	52.3242	ug/L	99
47)	Methylcyclohexane	11.17	83	450581	52.3110	ug/L	97
48)	1,2-Dichloropropane	11.29	63	313901	52.8102	ug/L	94
49)	1,4-Dioxane	11.56	88	6366	191.2043	ug/L	95
50)	Bromodichloromethane	11.57	83	413329	49.5339	ug/L	99
51)	Dibromomethane	11.65	93	148822	48.0471	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.84	63	152083	51.9140	ug/L	99
53)	4-Methyl-2-Pentanone	11.87	58	86849	52.5623	ug/L	99
54)	cis-1,3-Dichloropropene	12.17	75	480729	57.5993	ug/L	99
55)	Dimethyl Disulfide	12.42	79	261188	52.0055	ug/L	96
58)	Toluene	12.56	91	1256481	53.7500	ug/L	100
59)	Ethyl Methacrylate	12.65	69	284944	57.0854	ug/L	90
60)	trans-1,3-Dichloropropene	12.73	75	391013	52.1118	ug/L	97
61)	1,1,2-Trichloroethane	12.93	97	218717	52.7643	ug/L	99
62)	2-Hexanone	12.86	43	158873	52.1857	ug/L	98
63)	1,3-Dichloropropane	13.21	76	374611	56.2767	ug/L	95
64)	Tetrachloroethene	13.34	164	283714	52.1906	ug/L	97
65)	Dibromochloromethane	13.59	129	332092	52.5252	ug/L	99
66)	1,2-Dibromoethane	13.82	107	218604	52.6373	ug/L	99
67)	1-Chlorohexane	13.89	91	420217	54.5237	ug/L	92
68)	Chlorobenzene	14.29	112	912650	53.2936	ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.32	131	353663	51.0389	ug/L	98
70)	Ethylbenzene	14.31	106	460093	52.3943	ug/L	99
71)	m-,p-Xylene	14.39	106	1144896	107.2445	ug/L	98
72)	o-Xylene	14.92	106	568307	54.7003	ug/L	100
73)	Styrene	14.95	104	943635	54.9735	ug/L	98
74)	Bromoform	15.43	173	190959	49.8328	ug/L	99
75)	Isopropylbenzene	15.31	105	1490416	54.2449	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.52	83	228913	54.9422	ug/L	100
79)	1,2,3-Trichloropropane	15.70	110	78385	50.1407	ug/L	92
80)	trans-1,4-Dichloro-2-Buten	15.74	53	73730	36.9129	ug/L	62
81)	n-Propylbenzene	15.79	91	1753049	56.5769	ug/L	99
82)	Bromobenzene	15.92	156	419932	51.6479	ug/L	99
83)	1,3,5-Trimethylbenzene	15.95	105	1303495	55.1277	ug/L	99
84)	2-Chlorotoluene	16.05	91	1145029	52.7599	ug/L	99
85)	4-Chlorotoluene	16.09	91	1077116	55.4064	ug/L	99
86)	a-Methylstyrene	16.34	118	741671	59.4584	ug/L	99
87)	tert-Butylbenzene	16.40	134	283244	56.5417	ug/L	95
88)	1,2,4-Trimethylbenzene	16.44	105	1296091	53.8297	ug/L	99
89)	sec-Butylbenzene	16.65	105	1586978	55.8961	ug/L	100
90)	p-Isopropyltoluene	16.79	119	1426648	54.7069	ug/L	99
91)	1,3-Dichlorobenzene	16.98	146	827515	52.6969	ug/L	98
92)	1,4-Dichlorobenzene	17.10	146	844174	53.0354	ug/L	98
93)	n-Butylbenzene	17.28	91	1238500	53.8957	ug/L	99
94)	1,2-Dichlorobenzene	17.57	146	766416	53.5772	ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.49	75	45158	48.1046	ug/L	97
96)	1,2,4-Trichlorobenzene	19.55	180	580278	55.4365	ug/L	99
97)	Hexachlorobutadiene	19.69	225	257859	55.9180	ug/L	98
98)	Naphthalene	19.90	128	993390	51.1296	ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	519374	54.0642	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
Acq On : 13 May 2016 20:30 Operator: JDS
Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 14 18:47 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
Acq On : 13 May 2016 20:30 Operator: JDS
Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	107	0.00
2	T	Dichlorodifluoromethane	50.0000	56.5878	-13.2	119	0.00
3	P	Chloromethane	50.0000	55.1069	-10.2	134	0.00
4	C	Vinyl Chloride	50.0000	56.1165	-12.2	125	-0.01
5	T	1,3-Butadiene	50.0000	36.6650	26.7#	76	-0.01
6	T	Bromomethane	50.0000	50.4885	-1.0	117	-0.01
7	T	Chloroethane	50.0000	58.8601	-17.7	131	0.00
8	T	Trichlorofluoromethane	50.0000	47.5286	4.9	106	0.00
9	T	Diethyl ether	100.0000	105.4639	-5.5	116	0.00
10	T	Isoprene	50.0000	54.2141	-8.4	117	0.00
11	T	Acrolein	50.0000	97.7296	-95.5#	222	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.9609	-3.9	115	0.00
13	T	Acetone	50.0000	49.6723	0.7	110	0.01
14	C	1,1-Dichloroethene	50.0000	47.5320	4.9	106	-0.01
15	T	Tert-Butyl Alcohol	200.0000	216.1534	-8.1	114	0.01
16	T	Dimethyl Sulfide	50.0000	70.9875	-42.0#	150	0.00
17	T	Iodomethane	50.0000	38.4128	23.2	82	0.00
18	T	Methyl acetate	50.0000	48.7416	2.5	108	0.01
19	T	Methylene Chloride	50.0000	51.9916	-4.0	118	0.00
20	T	Carbon Disulfide	50.0000	44.6859	10.6	94	-0.01
21	T	Acrylonitrile	50.0000	52.6181	-5.2	110	0.00
22	T	Methyl Tert Butyl Ether	50.0000	51.9942	-4.0	113	0.00
23	T	trans-1,2-Dichloroethene	50.0000	52.1295	-4.3	117	0.00
24	T	n-Hexane	50.0000	44.5959	10.8	94	0.00
25	T	Diisopropyl ether	100.0000	104.0201	-4.0	112	0.00
26	T	Vinyl Acetate	50.0000	43.6417	12.7	96	0.00
27	P	1,1-Dichloroethane	50.0000	48.5033	3.0	107	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	98.3560	1.6	106	0.00
29	T	2-Butanone	50.0000	50.3381	-0.7	111	0.00
30	T	Propionitrile	100.0000	105.7786	-5.8	110	0.01
31	T	2,2-Dichloropropane	50.0000	45.5727	8.9	101	0.00
32	T	cis-1,2-Dichloroethene	50.0000	53.1618	-6.3	118	0.00
33	C	Chloroform	50.0000	47.5773	4.8	108	0.00
34	T	1-Bromopropane	50.0000	68.6656	-37.3#	152	0.00
35	T	Bromochloromethane	50.0000	53.8923	-7.8	111	0.00
36	T	Tetrahydrofuran	100.0000	93.0068	7.0	103	0.00
37	S	Dibromofluoromethane	25.0000	25.4675	-1.9	111	0.00
38	T	1,1,1-Trichloroethane	50.0000	48.0501	3.9	106	0.00
39	T	Cyclohexane	50.0000	50.2142	-0.4	105	0.00
40	T	1,1-Dichloropropene	50.0000	50.1107	-0.2	111	0.00
41	T	Carbon Tetrachloride	50.0000	47.3479	5.3	103	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	105.6143	-5.6	115	0.00
43	S	1,2-Dichloroethane-d4	25.0000	22.9299	8.3	101	0.00
44	T	1,2-Dichloroethane	50.0000	47.8802	4.2	104	0.00
45	T	Benzene	50.0000	51.1809	-2.4	116	0.00
46	T	Trichloroethene	50.0000	52.3242	-4.6	119	-0.01
47	T	Methylcyclohexane	50.0000	52.3110	-4.6	108	0.00
48	C	1,2-Dichloropropane	50.0000	52.8102	-5.6	117	0.00
49	T	1,4-Dioxane	200.0000	191.2043	4.4	109	0.01
50	T	Bromodichloromethane	50.0000	49.5339	0.9	107	0.00
51	T	Dibromomethane	50.0000	48.0471	3.9	104	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	51.9140	-3.8	114	0.00
53	T	4-Methyl-2-Pentanone	50.0000	52.5623	-5.1	115	0.00
54	T	cis-1,3-Dichloropropene	50.0000	57.5993	-15.2	122	0.00

(#) = Out of Range
11M11848.D 8260WT.M Sat May 14 18:47:20 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
Acq On : 13 May 2016 20:30 Operator: JDS
Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	50.0000	52.0055	-4.0	110	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	105	0.00
57	S	Toluene-d8	25.0000	26.4930	-6.0	115	0.00
58	C	Toluene	50.0000	53.7500	-7.5	115	0.00
59	T	Ethyl Methacrylate	50.0000	57.0854	-14.2	114	0.00
60	T	trans-1,3-Dichloropropene	50.0000	52.1118	-4.2	107	0.00
61	T	1,1,2-Trichloroethane	50.0000	52.7643	-5.5	113	0.00
62	T	2-Hexanone	50.0000	52.1857	-4.4	110	0.00
63	T	1,3-Dichloropropane	50.0000	56.2767	-12.6	118	0.00
64	T	Tetrachloroethene	50.0000	52.1906	-4.4	113	0.00
65	T	Dibromochloromethane	50.0000	52.5251	-5.1	107	0.00
66	T	1,2-Dibromoethane	50.0000	52.6373	-5.3	111	0.00
67	T	1-Chlorohexane	50.0000	54.5237	-9.0	112	0.00
68	P	Chlorobenzene	50.0000	53.2936	-6.6	114	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	51.0388	-2.1	109	0.00
70	C	Ethylbenzene	50.0000	52.3943	-4.8	113	0.00
71	T	m-,p-Xylene	100.0000	107.2445	-7.2	115	0.00
72	T	o-Xylene	50.0000	54.7003	-9.4	115	0.00
73	T	Styrene	50.0000	54.9735	-9.9	113	0.00
74	P	Bromoform	50.0000	49.8327	0.3	104	0.00
75	T	Isopropylbenzene	50.0000	54.2449	-8.5	114	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	54.9422	-9.9	110	0.00
78	S	p-Bromofluorobenzene	25.0000	24.7040	1.2	108	0.00
79	T	1,2,3-Trichloropropane	50.0000	50.1407	-0.3	108	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	36.9129	26.2#	78	0.00
81	T	n-Propylbenzene	50.0000	56.5769	-13.2	115	0.00
82	T	Bromobenzene	50.0000	51.6479	-3.3	111	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	55.1277	-10.3	114	-0.01
84	T	2-Chlorotoluene	50.0000	52.7599	-5.5	112	0.00
85	T	4-Chlorotoluene	50.0000	55.4064	-10.8	116	0.00
86	T	a-Methylstyrene	50.0000	59.4584	-18.9	114	0.00
87	T	tert-Butylbenzene	50.0000	56.5417	-13.1	117	0.00
88	T	1,2,4-Trimethylbenzene	50.0000	53.8297	-7.7	110	0.00
89	T	sec-Butylbenzene	50.0000	55.8961	-11.8	114	0.00
90	T	p-Isopropyltoluene	50.0000	54.7069	-9.4	111	0.00
91	T	1,3-Dichlorobenzene	50.0000	52.6969	-5.4	112	0.00
92	T	1,4-Dichlorobenzene	50.0000	53.0354	-6.1	114	0.00
93	T	n-Butylbenzene	50.0000	53.8957	-7.8	110	0.00
94	T	1,2-Dichlorobenzene	50.0000	53.5772	-7.2	112	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	48.1046	3.8	105	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	55.4365	-10.9	113	0.00
97	T	Hexachlorobutadiene	50.0000	55.9180	-11.8	118	0.00
98	T	Naphthalene	50.0000	51.1296	-2.3	103	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	54.0642	-8.1	114	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M11848.D 8260WT.M Sat May 14 18:47:20 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:46 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

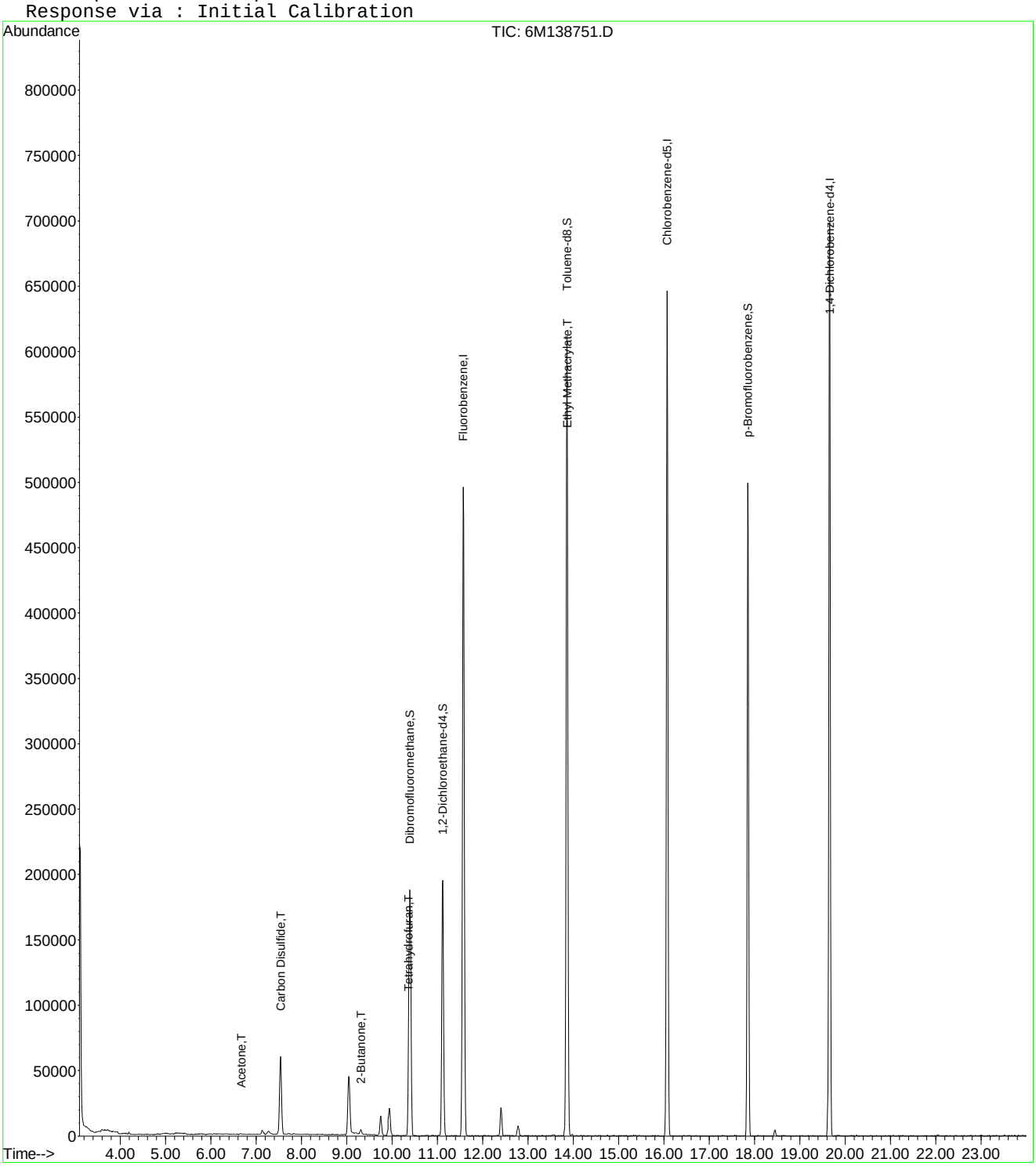
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	173671	27.7488	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.00%			
43) 1,2-Dichloroethane-d4	11.12	65	203570	26.8000	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 107.20%			
58) Toluene-d8	13.86	98	554047	26.0139	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.04%			
80) p-Bromofluorobenzene	17.85	95	229998	27.1525	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 108.60%			
Target Compounds						Qvalue
13) Acetone	6.67	43	1325	0.6992	ug/L #	46
20) Carbon Disulfide	7.54	76	18747	0.9622	ug/L #	39
29) 2-Butanone	9.31	43	1188	0.4247	ug/L #	1
36) Tetrahydrofuran	10.36	42	2769	1.5196	ug/L #	58
60) Ethyl Methacrylate	13.87	69	899	0.1270	ug/L #	1

(#) = qualifier out of range (m) = manual integration
6M138751.D 8260WTR.M Mon Apr 25 09:22:46 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:52 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

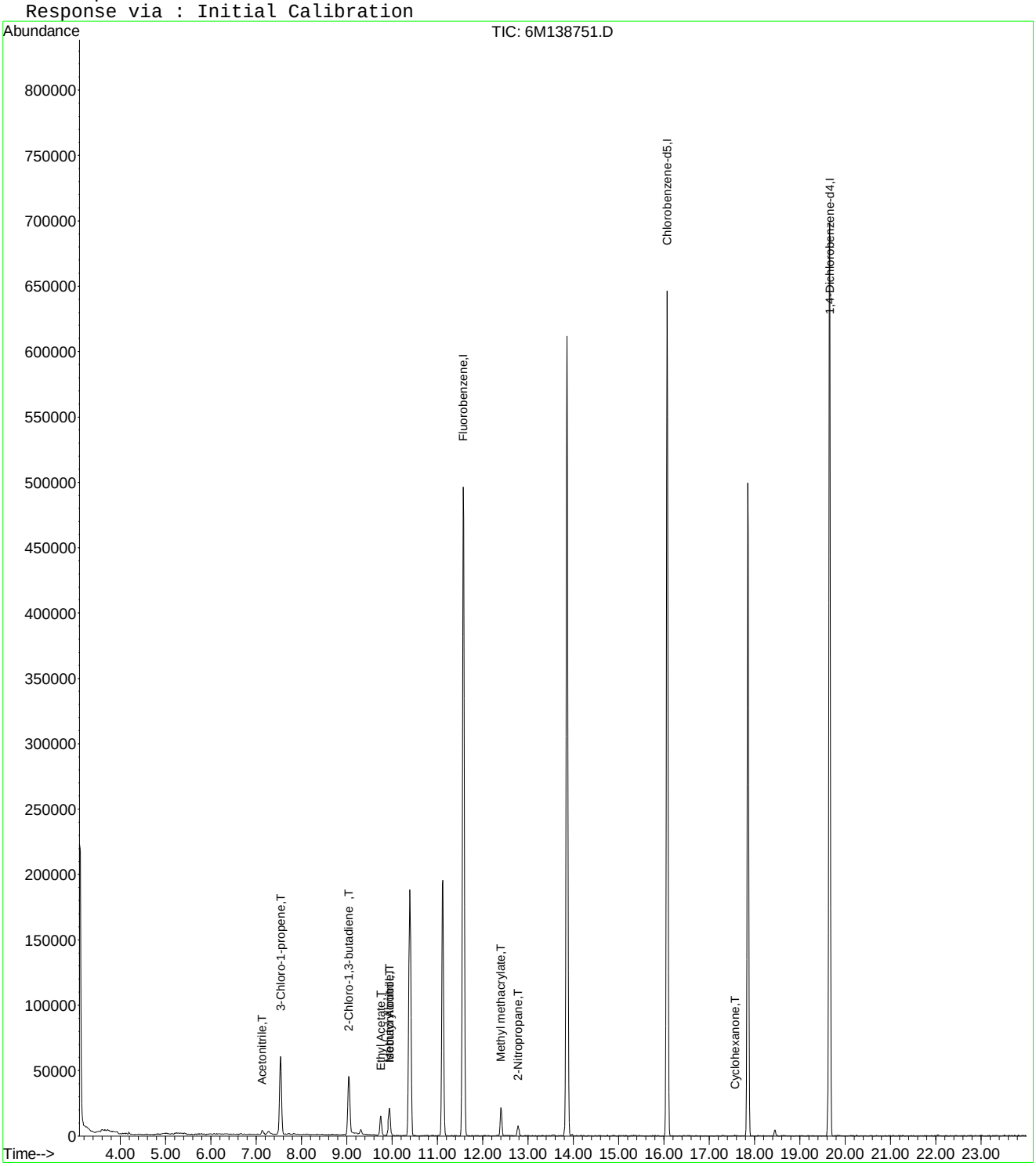
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	4366	3.7209	ug/L		76
3) 3-Chloro-1-propene	7.54	41	69268	4.2301	ug/L		92
4) 2-Chloro-1,3-butadiene	9.04	53	50753	3.6002	ug/L		85
5) Ethyl Acetate	9.75	43	28042	4.3499	ug/L	#	90
6) Methacrylonitrile	9.94	67	8721	3.5173	ug/L	#	55
7) Isobutyl Alcohol	9.94	43	1233	3.4767	ug/L	#	85
9) Methyl methacrylate	12.40	41	19474	3.0338	ug/L		79
10) 2-Nitropropane	12.78	43	7076	3.7392	ug/L		93
13) Cyclohexanone	17.57	55	447	0.5159	ug/L	#	25

(#) = qualifier out of range (m) = manual integration
6M138751.D A9FOOWT.M Mon Apr 25 15:45:52 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



6M138751.D A9FOOWT.M Mon Apr 25 15:45:53 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:56 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

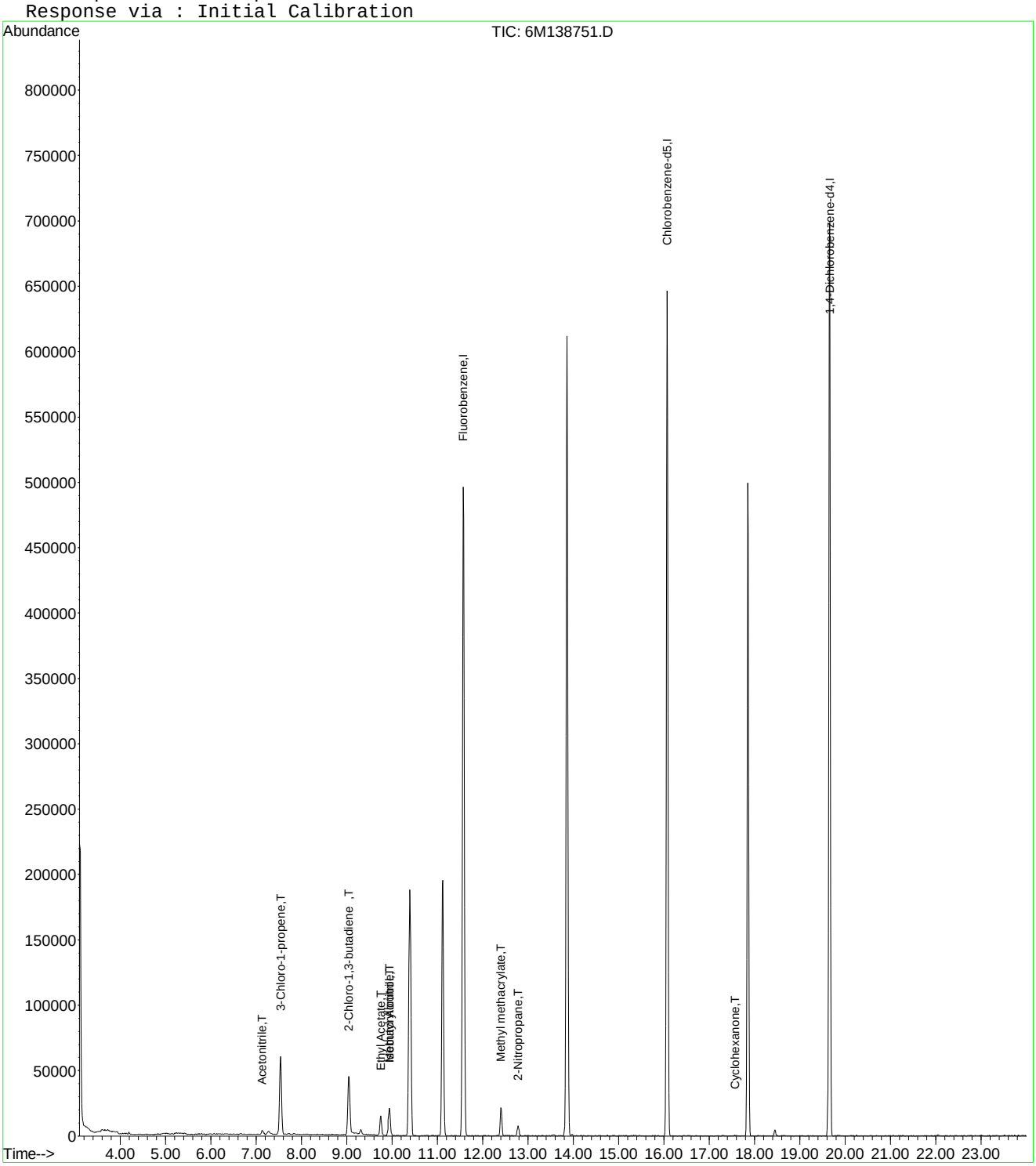
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	4366	4.7698	ug/L		76
3) 3-Chloro-1-propene	7.54	41	69268	4.5408	ug/L		92
4) 2-Chloro-1,3-butadiene	9.04	53	50753	3.8775	ug/L		85
5) Ethyl Acetate	9.75	43	28042	4.2792	ug/L	#	90
6) Methacrylonitrile	9.94	67	8721	3.8601	ug/L	#	55
7) Isobutyl Alcohol	9.94	43	1233	5.9076	ug/L	#	85
9) Methyl methacrylate	12.40	41	19474	3.5356	ug/L		79
10) 2-Nitropropane	12.78	43	7076	3.4543	ug/L		93
13) Cyclohexanone	17.57	55	447	1.4133	ug/L	#	25

(#) = qualifier out of range (m) = manual integration
6M138751.D A9FOOWT.M Wed Apr 27 16:04:56 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



6M138751.D A9FOOWT.M Wed Apr 27 16:04:56 2016 Page 2

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	5.0000	4.7698	4.6	100	0.00
3	T	3-Chloro-1-propene	5.0000	4.5408	9.2	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	3.8775	22.5	100	0.00
5	T	Ethyl Acetate	5.0000	4.2792	14.4	100	0.00
6	T	Methacrylonitrile	5.0000	3.8601	22.8	100	0.00
7	T	Isobutyl Alcohol	-1.0000	5.9076	0.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.99#
9	T	Methyl methacrylate	5.0000	3.5356	29.3	100	0.00
10	T	2-Nitropropane	-1.0000	3.4543	0.0	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	1.4133	0.0	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138751.D A9FOOWT.M Wed Apr 27 16:04:12 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:48 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

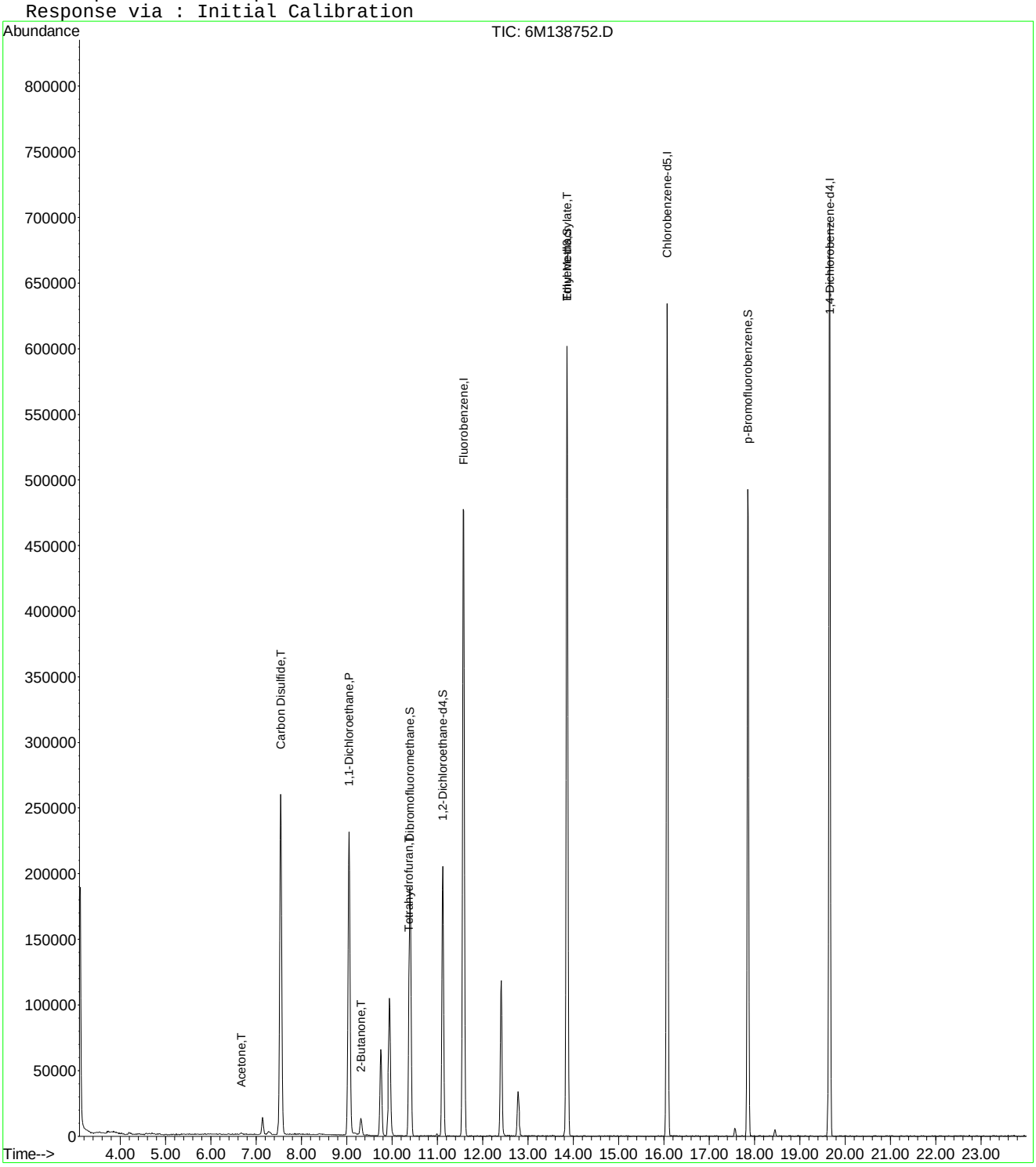
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	171577	27.9669	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.88%			
43) 1,2-Dichloroethane-d4	11.12	65	207390	27.8532	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.40%			
58) Toluene-d8	13.86	98	547786	26.2796	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.12%			
80) p-Bromofluorobenzene	17.85	95	228171	27.5052	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.04%			
Target Compounds						Qvalue
13) Acetone	6.67	43	2739	1.4745	ug/L #	59
20) Carbon Disulfide	7.54	76	81493	4.2668	ug/L #	36
27) 1,1-Dichloroethane	9.05	63	3411	0.2688	ug/L #	42
29) 2-Butanone	9.31	43	3879	1.4148	ug/L #	1
36) Tetrahydrofuran	10.37	42	3350	1.8754	ug/L #	62
60) Ethyl Methacrylate	13.86	69	1183	0.1708	ug/L #	27

(#) = qualifier out of range (m) = manual integration
6M138752.D 8260WTR.M Mon Apr 25 09:22:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:54 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

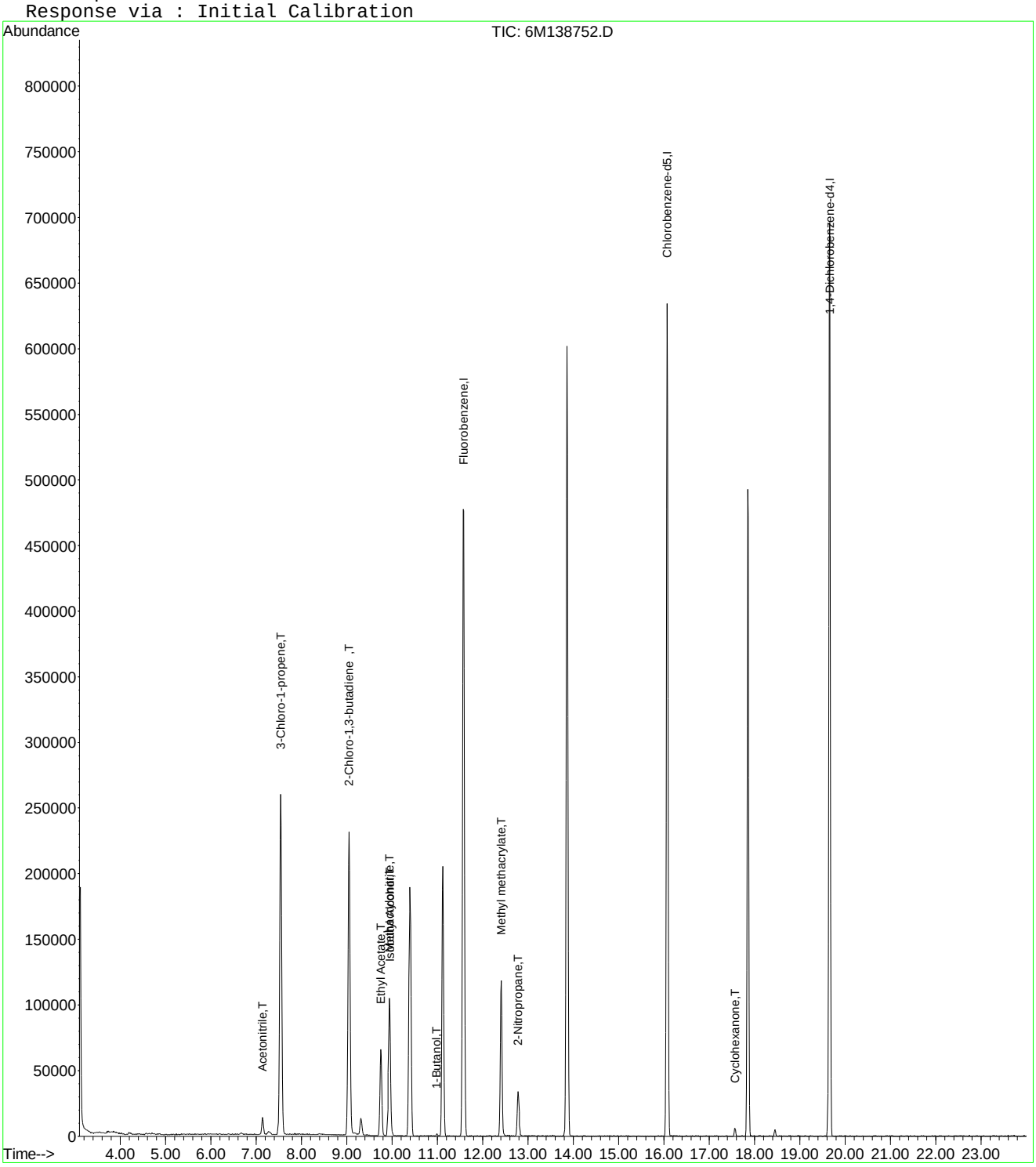
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L		-0.02
11) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	17741	15.4242	ug/L		95
3) 3-Chloro-1-propene	7.54	41	297686	18.5457	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	242962	17.5823	ug/L		84
5) Ethyl Acetate	9.75	43	124111	19.6403	ug/L		93
6) Methacrylonitrile	9.93	67	42708	17.5719	ug/L	#	59
7) Isobutyl Alcohol	9.95	43	7968	22.9203	ug/L	#	85
8) 1-Butanol	10.98	41	982	6.5662	ug/L	#	52
9) Methyl methacrylate	12.41	41	95824	15.2291	ug/L		81
10) 2-Nitropropane	12.78	43	34207	18.4403	ug/L		92
13) Cyclohexanone	17.57	55	4053	4.7763	ug/L		81

(#) = qualifier out of range (m) = manual integration
6M138752.D A9FOOWT.M Mon Apr 25 15:45:54 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:58 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

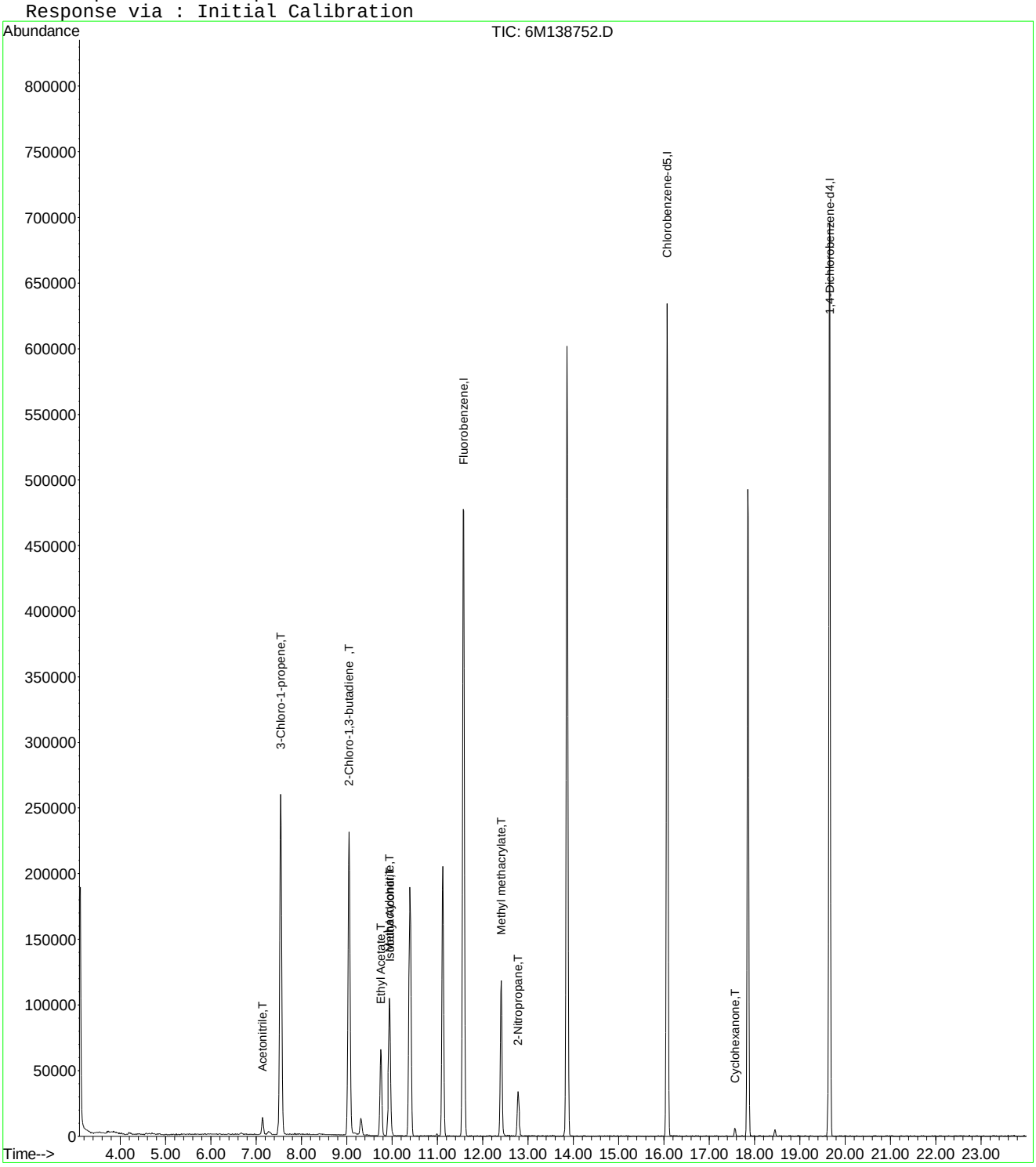
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	17741	19.7725	ug/L		95
3) 3-Chloro-1-propene	7.54	41	297686	19.9080	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	242962	18.9362	ug/L		84
5) Ethyl Acetate	9.75	43	124111	19.3209	ug/L		93
6) Methacrylonitrile	9.93	67	42708	19.2846	ug/L	#	59
7) Isobutyl Alcohol	9.95	43	7968	38.9462	ug/L	#	85
9) Methyl methacrylate	12.41	41	95824	17.7480	ug/L		81
10) 2-Nitropropane	12.78	43	34207	17.0355	ug/L		92
13) Cyclohexanone	17.57	55	4053	13.0852	ug/L		81

(#) = qualifier out of range (m) = manual integration
6M138752.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	19.7724	1.1	100	0.00
3	T	3-Chloro-1-propene	20.0000	19.9080	0.5	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	18.9362	5.3	100	0.00
5	T	Ethyl Acetate	20.0000	19.3209	3.4	100	0.00
6	T	Methacrylonitrile	20.0000	19.2846	3.6	100	0.00
7	T	Isobutyl Alcohol	40.0000	38.9462	2.6	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	20.0000	17.7480	11.3	100	0.00
10	T	2-Nitropropane	-1.0000	17.0355	0.0	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	13.0852	0.0	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138752.D A9FOOWT.M Wed Apr 27 16:04:26 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:48 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

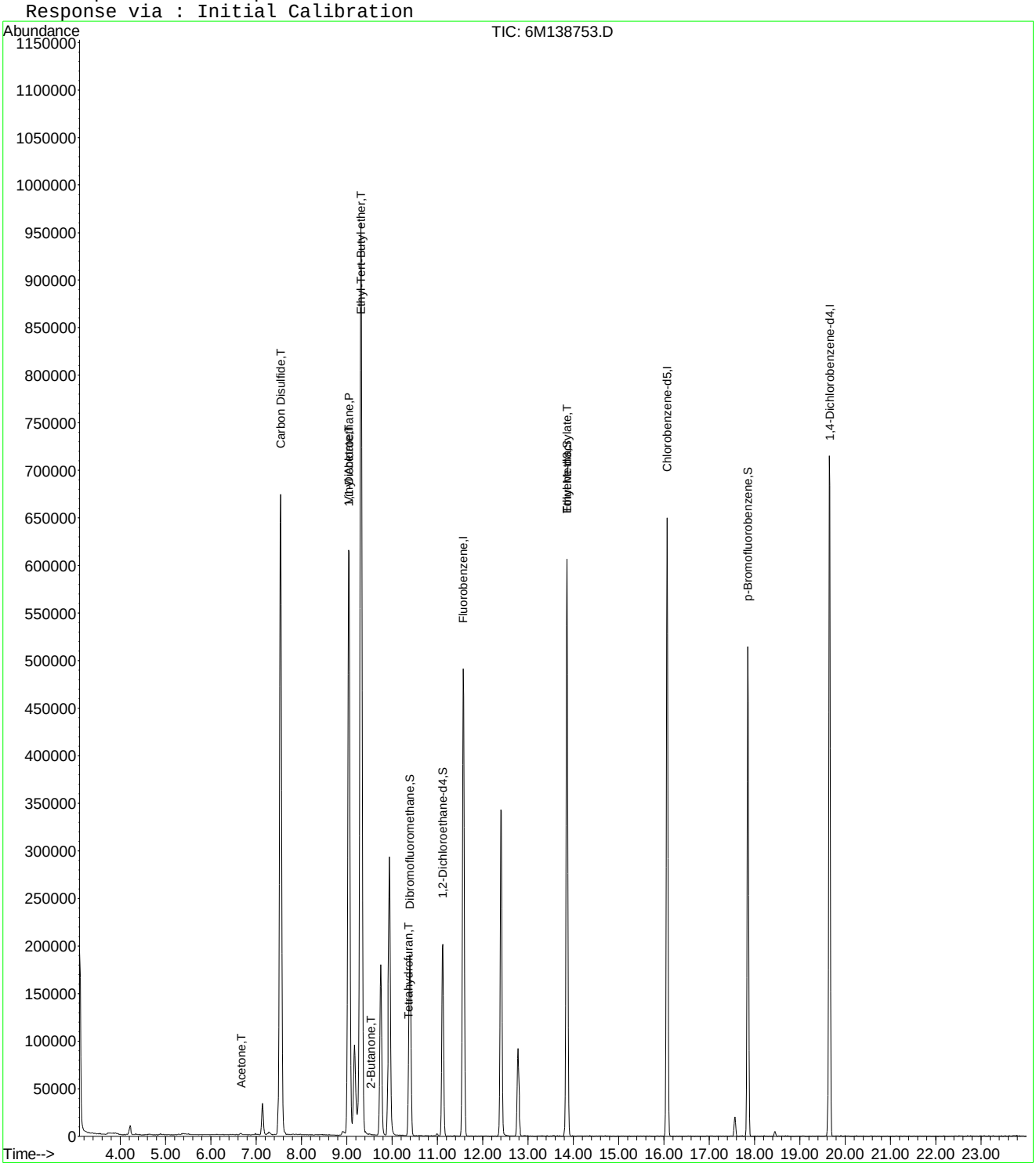
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	468574	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.40	111	172256	27.8132 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.24%		
43) 1,2-Dichloroethane-d4	11.12	65	208744	27.7711 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.08%		
58) Toluene-d8	13.86	98	553191	26.2235 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.88%		
80) p-Bromofluorobenzene	17.85	95	239542	28.1954 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.80%		
Target Compounds					Qvalue
13) Acetone	6.67	43	3732	1.9901 ug/L #	57
20) Carbon Disulfide	7.54	76	220780	11.4508 ug/L #	36
26) Vinyl Acetate	9.04	43	2704	0.2791 ug/L #	8
27) 1,1-Dichloroethane	9.05	63	9803	0.7652 ug/L #	42
28) Ethyl-Tert-Butyl ether	9.31	59	152978	7.3579 ug/L #	39
29) 2-Butanone	9.53	43	660	0.2385 ug/L #	52
36) Tetrahydrofuran	10.37	42	3746	2.0774 ug/L #	62
60) Ethyl Methacrylate	13.86	69	1423	0.2030 ug/L #	9

(#) = qualifier out of range (m) = manual integration
6M138753.D 8260WTR.M Mon Apr 25 09:22:49 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:55 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

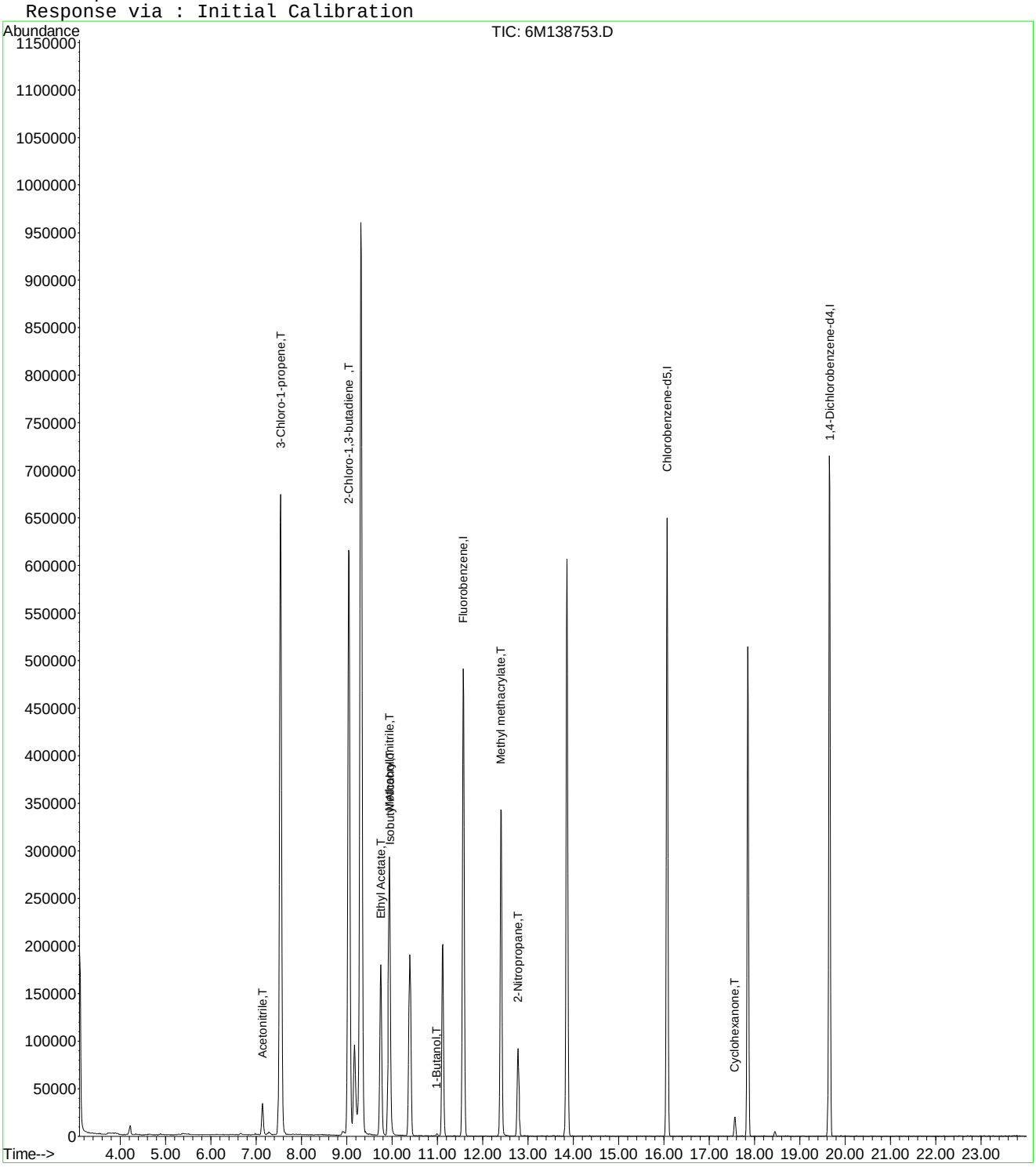
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	468574	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	46802	40.3072	ug/L		94
3) 3-Chloro-1-propene	7.54	41	793114	48.9454	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	674471	48.3496	ug/L		83
5) Ethyl Acetate	9.75	43	336975	52.8234	ug/L		93
6) Methacrylonitrile	9.94	67	119267	48.6097	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	20135	57.3741	ug/L	#	99
8) 1-Butanol	10.98	41	1474	9.7632	ug/L		77
9) Methyl methacrylate	12.40	41	279157	43.9482	ug/L		81
10) 2-Nitropropane	12.79	43	95327	50.9052	ug/L		94
13) Cyclohexanone	17.56	55	13241	15.2363	ug/L		91

(#) = qualifier out of range (m) = manual integration
6M138753.D A9FOOWT.M Mon Apr 25 15:45:56 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

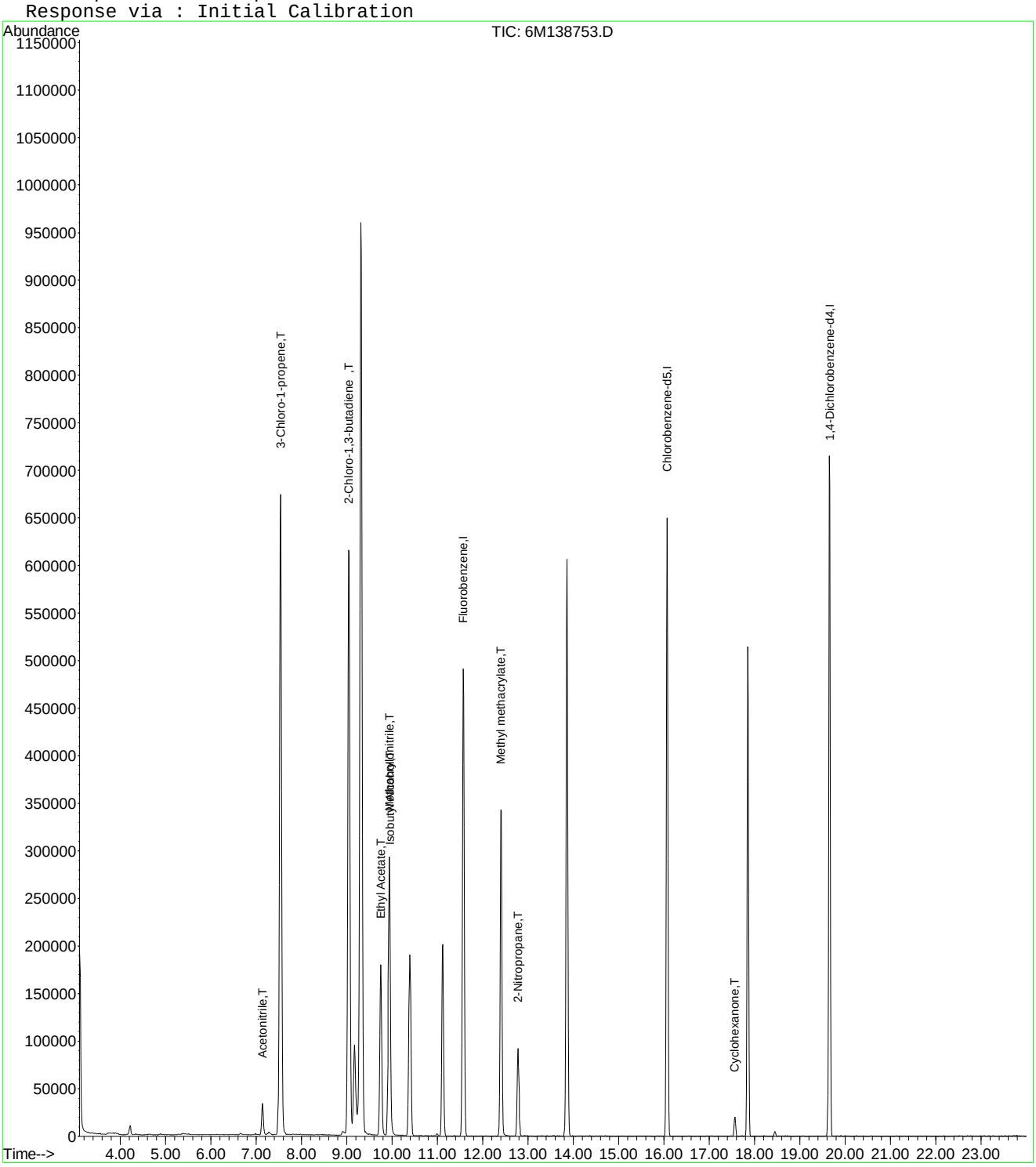
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	468574	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	46802	51.6701	ug/L		94
3) 3-Chloro-1-propene	7.54	41	793114	52.5409	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	674471	52.0726	ug/L		83
5) Ethyl Acetate	9.75	43	336975	51.9646	ug/L		93
6) Methacrylonitrile	9.94	67	119267	53.3476	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	20135	97.4900	ug/L	#	99
9) Methyl methacrylate	12.40	41	279157	51.2171	ug/L		81
10) 2-Nitropropane	12.79	43	95327	47.0270	ug/L		94
13) Cyclohexanone	17.56	55	13241	41.7415	ug/L		91

(#) = qualifier out of range (m) = manual integration
6M138753.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	51.6701	-3.3	100	0.00
3	T	3-Chloro-1-propene	50.0000	52.5409	-5.1	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	52.0726	-4.1	100	0.00
5	T	Ethyl Acetate	50.0000	51.9646	-3.9	100	0.00
6	T	Methacrylonitrile	50.0000	53.3476	-6.7	100	0.00
7	T	Isobutyl Alcohol	100.0000	97.4900	2.5	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	50.0000	51.2171	-2.4	100	0.00
10	T	2-Nitropropane	50.0000	47.0270	5.9	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	50.0000	41.7415	16.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138753.D A9FOOWT.M Wed Apr 27 16:04:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:49 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

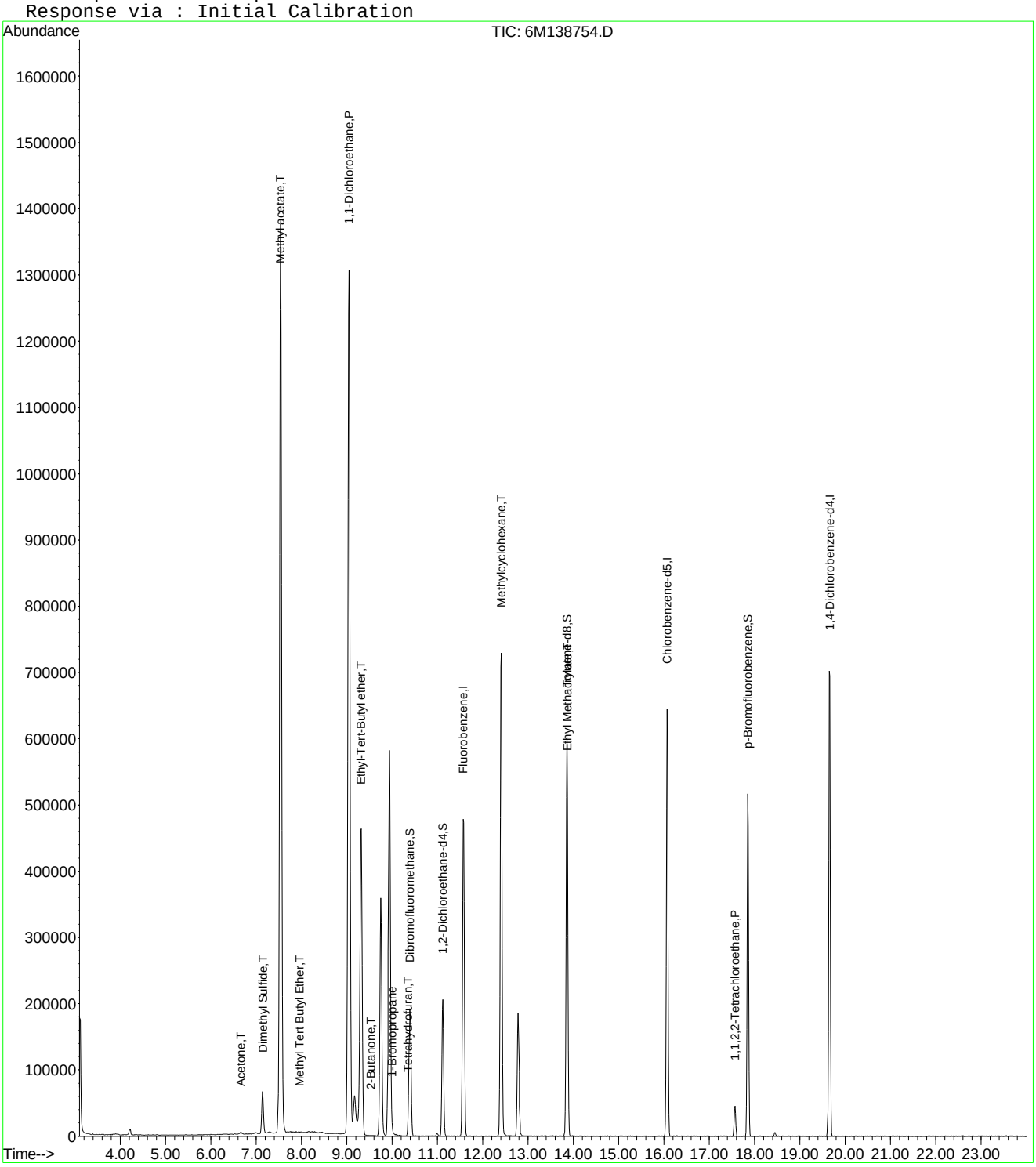
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	169577	27.6373	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.56%			
43) 1,2-Dichloroethane-d4	11.12	65	210119	28.2161	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.88%			
58) Toluene-d8	13.86	98	550953	26.1877	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.76%			
80) p-Bromofluorobenzene	17.85	95	239480	28.0420	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.16%			
Target Compounds						Qvalue
13) Acetone	6.66	43	6960	3.7463	ug/L	82
16) Dimethyl Sulfide	7.15	62	732	0.1448	ug/L #	1
18) Methyl acetate	7.53	43	1419	0.2750	ug/L #	1
22) Methyl Tert Butyl Ether	7.96	73	2141	0.1320	ug/L #	72
27) 1,1-Dichloroethane	9.05	63	20725	1.6328	ug/L #	42
28) Ethyl-Tert-Butyl ether	9.31	59	76666	3.7220	ug/L #	39
29) 2-Butanone	9.53	43	1176	0.4289	ug/L #	52
34) 1-Bromopropane	10.00	122	702	0.6817	ug/L #	1
36) Tetrahydrofuran	10.35	42	4425	2.4769	ug/L #	60
48) Methylcyclohexane	12.41	83	1461	0.1681	ug/L #	1
60) Ethyl Methacrylate	13.87	69	1083	0.1549	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	1910	0.3066	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138754.D 8260WTR.M Mon Apr 25 09:22:49 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138754.D 8260WTR.M Mon Apr 25 09:22:50 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:57 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

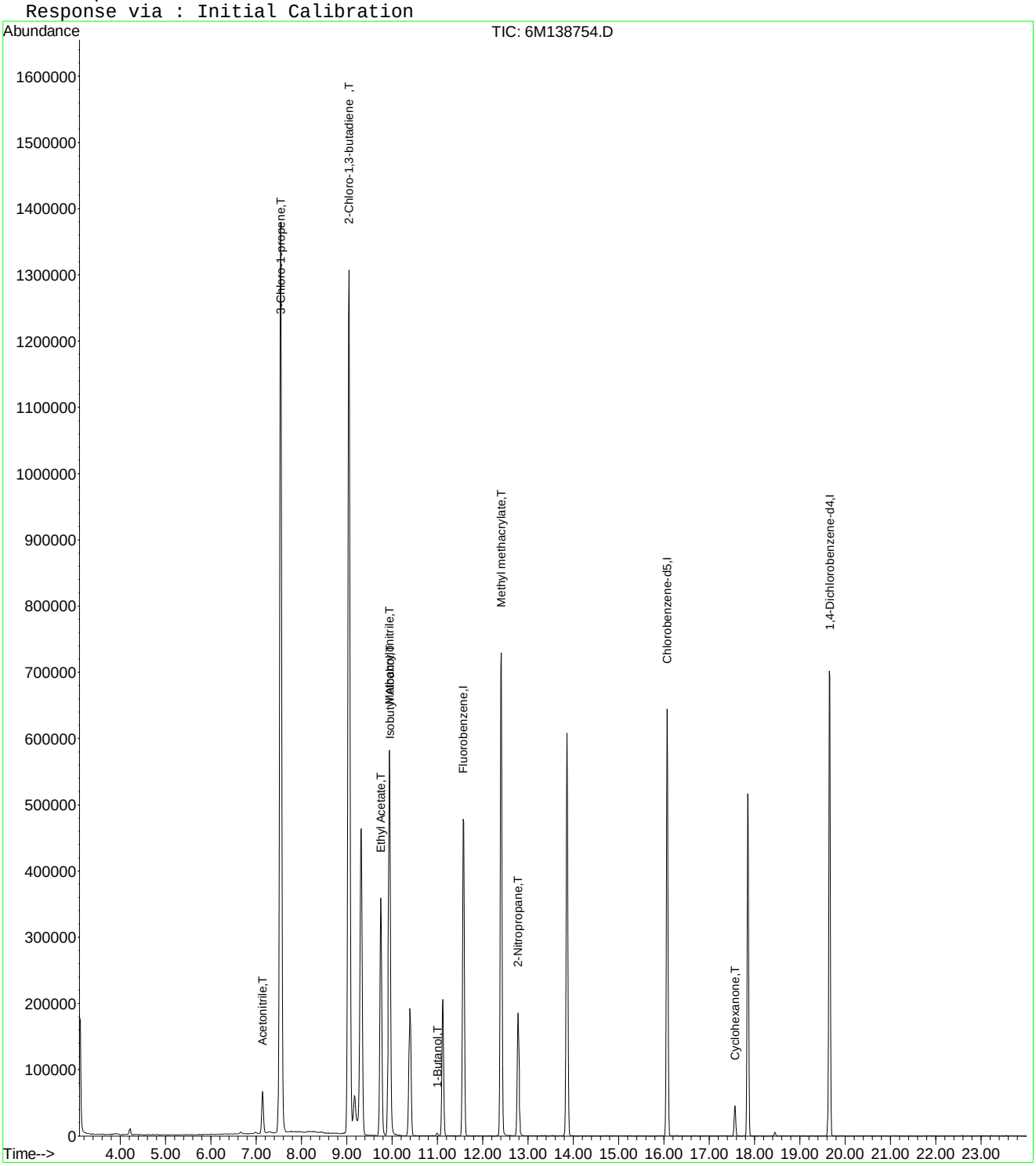
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	90880	79.0019	ug/L		95
3) 3-Chloro-1-propene	7.54	41	1610716	100.3335	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	1413663	102.2884	ug/L		83
5) Ethyl Acetate	9.75	43	673221	106.5217	ug/L		93
6) Methacrylonitrile	9.94	67	237219	97.5895	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	33897	97.4937	ug/L	#	85
8) 1-Butanol	11.00	41	2978	19.9099	ug/L	#	64
9) Methyl methacrylate	12.41	41	585839	93.0942	ug/L		80
10) 2-Nitropropane	12.78	43	197598	106.5074	ug/L		97
13) Cyclohexanone	17.57	55	27547	31.5338	ug/L		88

(#) = qualifier out of range (m) = manual integration
6M138754.D A9FOOWT.M Mon Apr 25 15:45:57 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

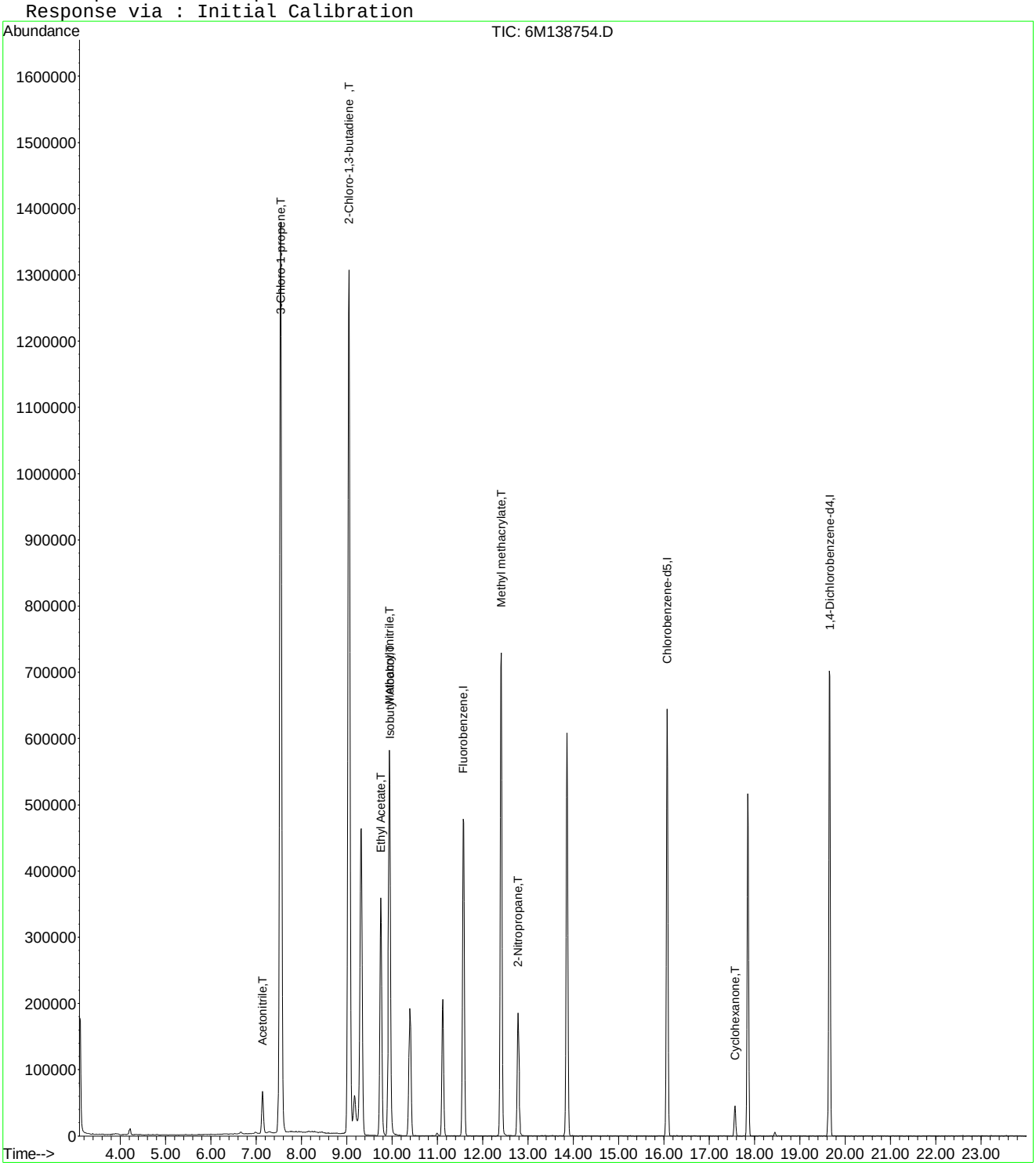
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	90880	101.2731	ug/L		95
3) 3-Chloro-1-propene	7.54	41	1610716	107.7041	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	1413663	110.1648	ug/L		83
5) Ethyl Acetate	9.75	43	673221	104.7898	ug/L		93
6) Methacrylonitrile	9.94	67	237219	107.1014	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	33897	165.6613	ug/L	#	85
9) Methyl methacrylate	12.41	41	585839	108.4917	ug/L		80
10) 2-Nitropropane	12.78	43	197598	98.3932	ug/L		97
13) Cyclohexanone	17.57	55	27547	86.3902	ug/L		88

(#) = qualifier out of range (m) = manual integration
6M138754.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



6M138754.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:50 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

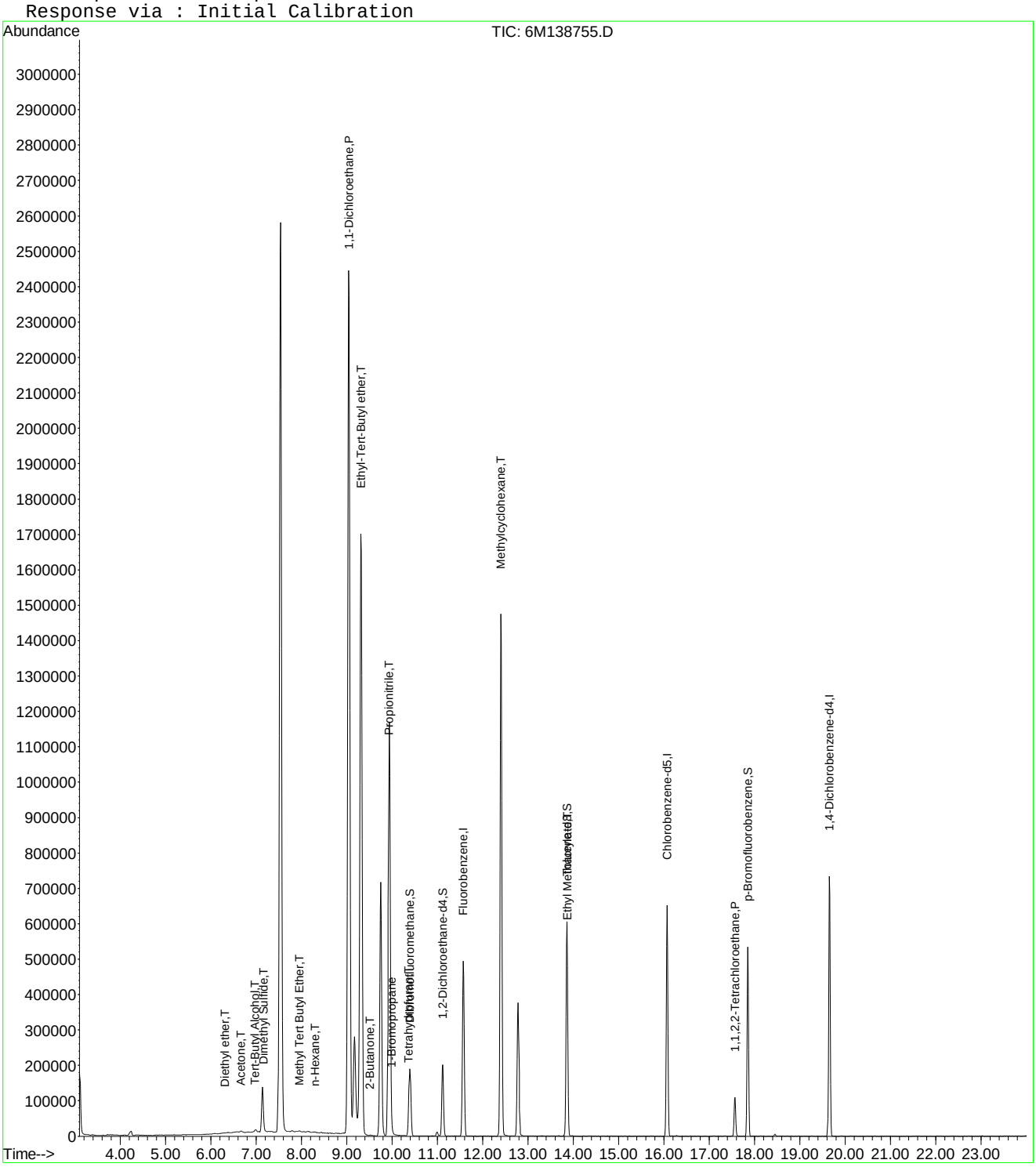
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	172341	27.7160	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.88%			
43) 1,2-Dichloroethane-d4	11.12	65	211249	27.9923	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.96%			
58) Toluene-d8	13.86	98	552831	25.9510	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.80%			
80) p-Bromofluorobenzene	17.85	95	247709	28.6419	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 114.56%			
Target Compounds						Qvalue
9) Diethyl ether	6.31	59	653	0.1225	ug/L #	12
13) Acetone	6.66	43	9406	4.9959	ug/L #	64
15) Tert-Butyl Alcohol	6.98	59	449	0.8301	ug/L #	1
16) Dimethyl Sulfide	7.16	62	680	0.1328	ug/L #	1
22) Methyl Tert Butyl Ether	7.96	73	3926	0.2388	ug/L	83
24) n-Hexane	8.30	57	1777	0.2040	ug/L	87
27) 1,1-Dichloroethane	9.05	63	41640	3.2372	ug/L #	47
28) Ethyl-Tert-Butyl ether	9.31	59	272648	13.0615	ug/L #	38
29) 2-Butanone	9.51	43	2992	1.0767	ug/L #	67
30) Propionitrile	9.93	54	258	0.3232	ug/L #	57
34) 1-Bromopropane	9.99	122	1417	1.3579	ug/L #	1
36) Tetrahydrofuran	10.37	42	4839	2.6728	ug/L #	62
48) Methylcyclohexane	12.40	83	2976	0.3378	ug/L #	1
60) Ethyl Methacrylate	13.87	69	1202	0.1698	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	5192	0.8231	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138755.D 8260WTR.M Mon Apr 25 09:22:50 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:58 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

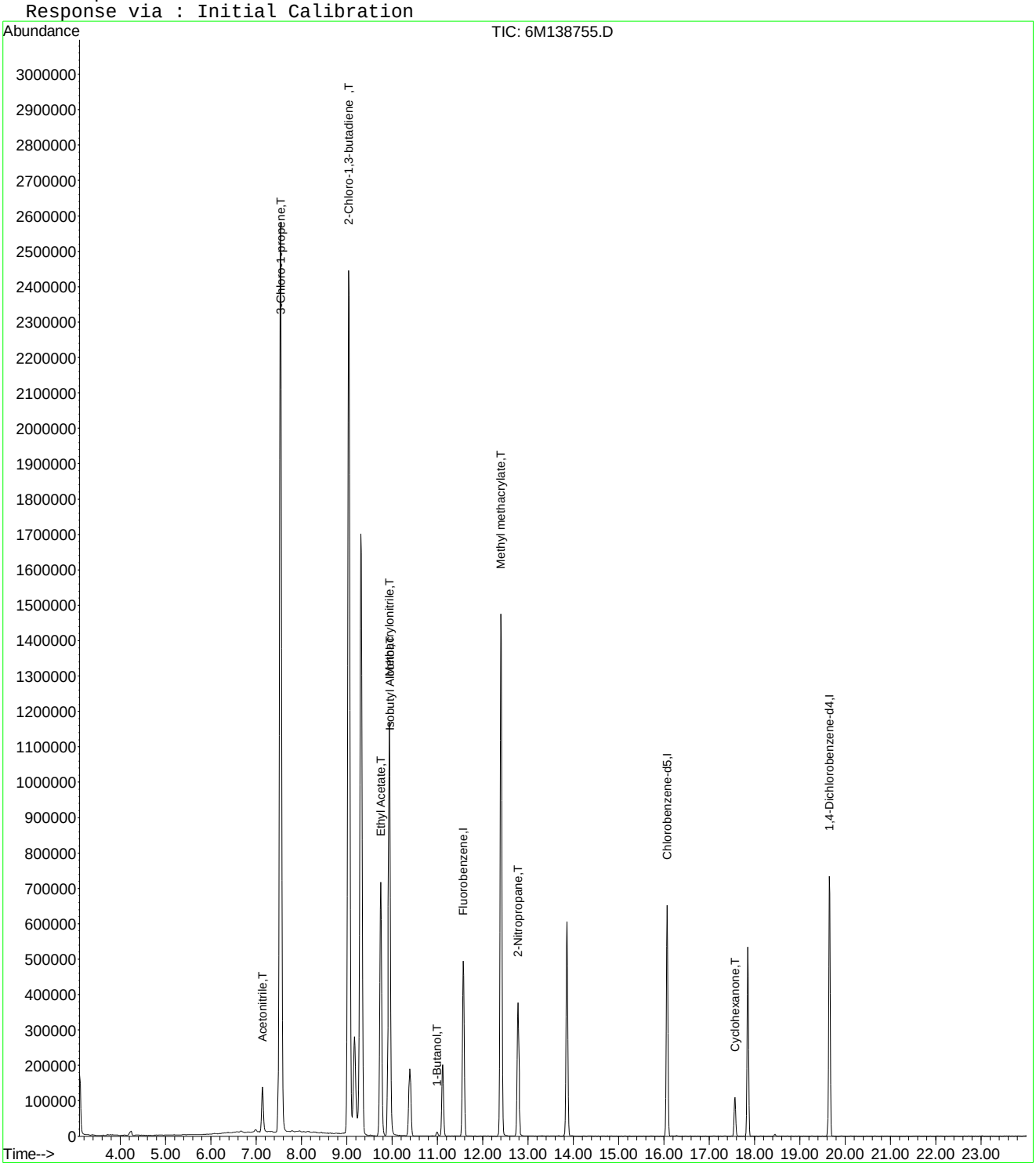
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	183628	157.5150	ug/L		93
3) 3-Chloro-1-propene	7.54	41	3085939	189.6828	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	2709180	193.4336	ug/L		83
5) Ethyl Acetate	9.75	43	1346541	210.2391	ug/L		94
6) Methacrylonitrile	9.94	67	471538	191.4186	ug/L	#	64
7) Isobutyl Alcohol	9.95	43	72755	206.4864	ug/L	#	92
8) 1-Butanol	10.99	41	8815	58.1542	ug/L	#	64
9) Methyl methacrylate	12.40	41	1186381	186.0295	ug/L		80
10) 2-Nitropropane	12.79	43	410702	218.4428	ug/L		99
13) Cyclohexanone	17.57	55	67080	75.8254	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138755.D A9FOOWT.M Mon Apr 25 15:45:58 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

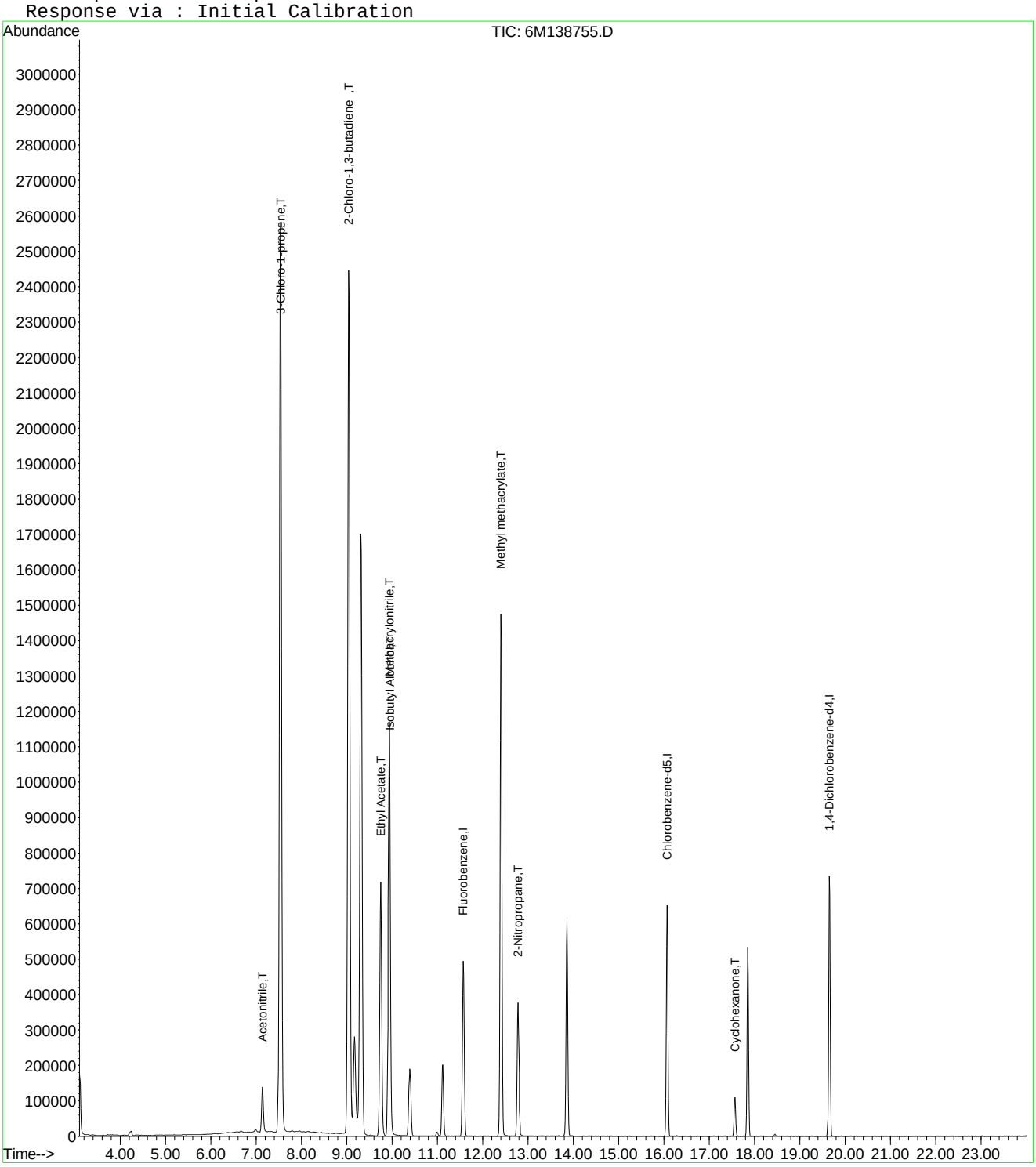
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	183628	201.9195	ug/L		93
3) 3-Chloro-1-propene	7.54	41	3085939	203.6170	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	2709180	208.3284	ug/L		83
5) Ethyl Acetate	9.75	43	1346541	206.8209	ug/L		94
6) Methacrylonitrile	9.94	67	471538	210.0757	ug/L	#	64
7) Isobutyl Alcohol	9.95	43	72755	350.8618	ug/L	#	92
9) Methyl methacrylate	12.40	41	1186381	216.7982	ug/L		80
10) 2-Nitropropane	12.79	43	410702	201.8008	ug/L		99
13) Cyclohexanone	17.57	55	67080	207.7320	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138755.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:50 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

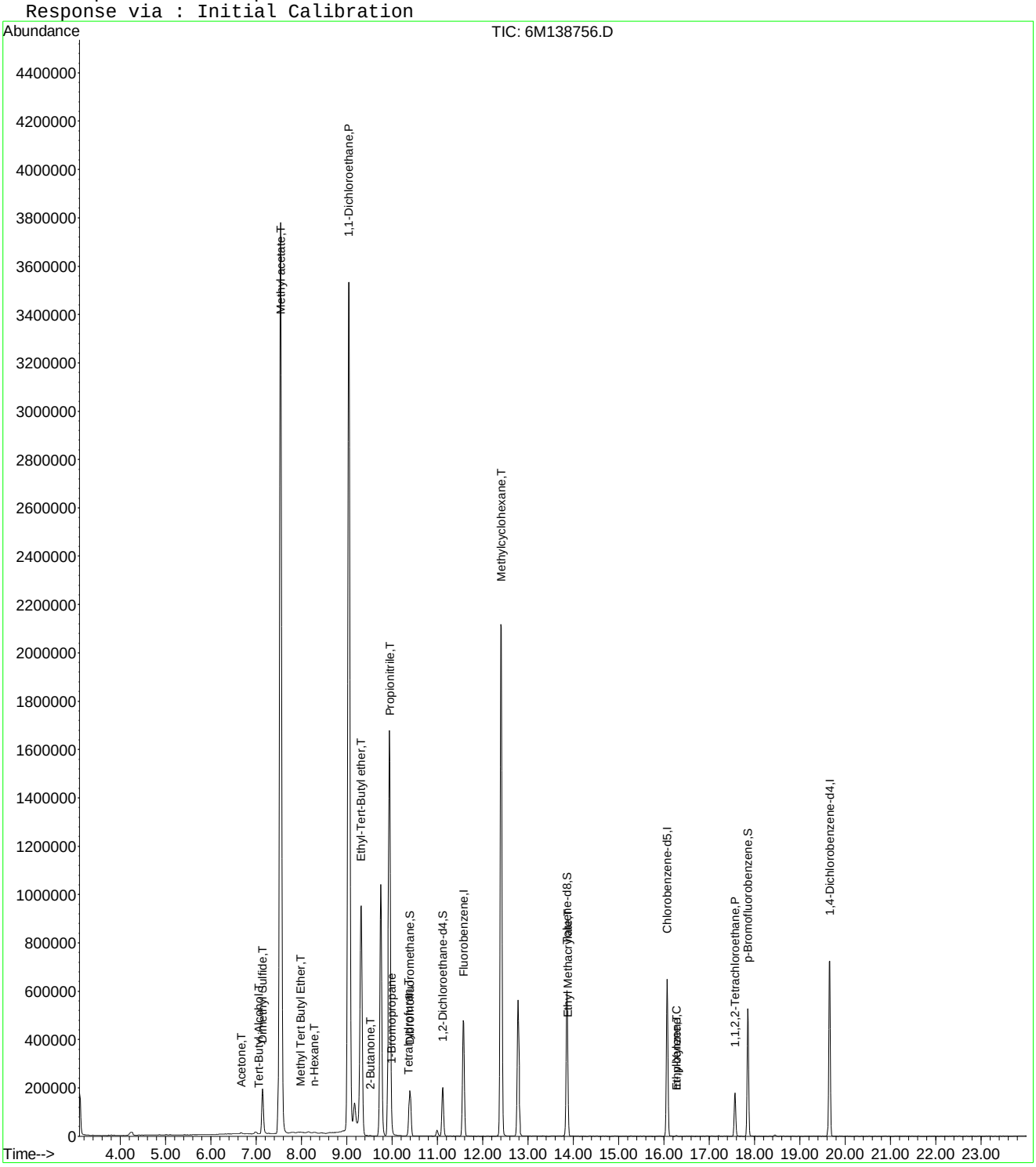
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	472685	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	169983	27.5546 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.20%		
43) 1,2-Dichloroethane-d4	11.12	65	207199	27.6745 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.68%		
58) Toluene-d8	13.86	98	553023	25.9875 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.96%		
80) p-Bromofluorobenzene	17.85	95	247939	28.0615 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.24%		
Target Compounds					Qvalue
13) Acetone	6.67	43	13666	7.3164 ug/L #	77
15) Tert-Butyl Alcohol	7.06	59	467	0.8703 ug/L #	59
16) Dimethyl Sulfide	7.14	62	668	0.1315 ug/L #	1
18) Methyl acetate	7.54	43	3262	0.6289 ug/L #	1
22) Methyl Tert Butyl Ether	7.97	73	10591	0.6492 ug/L #	53
24) n-Hexane	8.28	57	3576	0.4138 ug/L #	56
27) 1,1-Dichloroethane	9.04	63	60743	4.7600 ug/L #	48
28) Ethyl-Tert-Butyl ether	9.31	59	155796	7.5231 ug/L #	39
29) 2-Butanone	9.52	43	4002	1.4516 ug/L	97
30) Propionitrile	9.95	54	1113	1.4052 ug/L #	1
34) 1-Bromopropane	9.99	122	1450	1.4006 ug/L #	1
36) Tetrahydrofuran	10.36	42	4902	2.7292 ug/L #	61
48) Methylcyclohexane	12.41	83	4626	0.5293 ug/L #	1
60) Ethyl Methacrylate	13.88	69	1599	0.2261 ug/L #	1
72) Ethylbenzene	16.28	106	1349	0.1427 ug/L	56
73) m-,p-Xylene	16.28	106	1349	0.1203 ug/L	81
79) 1,1,2,2-Tetrachloroethane	17.57	83	8744	1.3569 ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138756.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

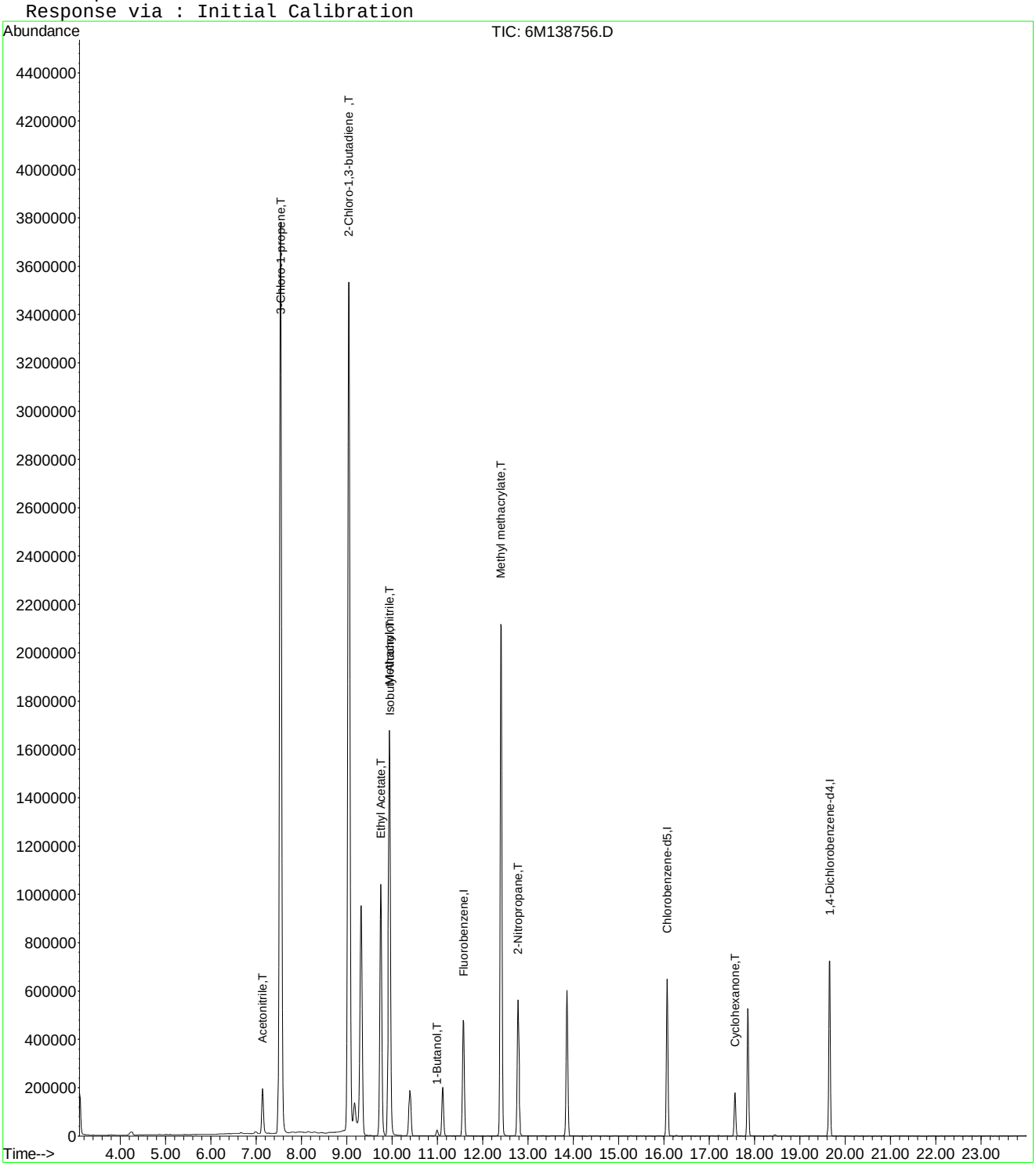
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L		-0.02
11) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	273003	236.0468	ug/L		93
3) 3-Chloro-1-propene	7.54	41	4493022	278.3729	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	3994938	287.5093	ug/L		83
5) Ethyl Acetate	9.75	43	1967613	309.6573	ug/L		94
6) Methacrylonitrile	9.94	67	686612	280.9484	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	121480	347.5212	ug/L	#	90
8) 1-Butanol	10.99	41	18116	120.4672	ug/L		69
9) Methyl methacrylate	12.40	41	1742413	275.3954	ug/L		81
10) 2-Nitropropane	12.78	43	613081	328.6824	ug/L		99
13) Cyclohexanone	17.57	55	106618	117.9661	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138756.D A9FOOWT.M Mon Apr 25 15:45:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

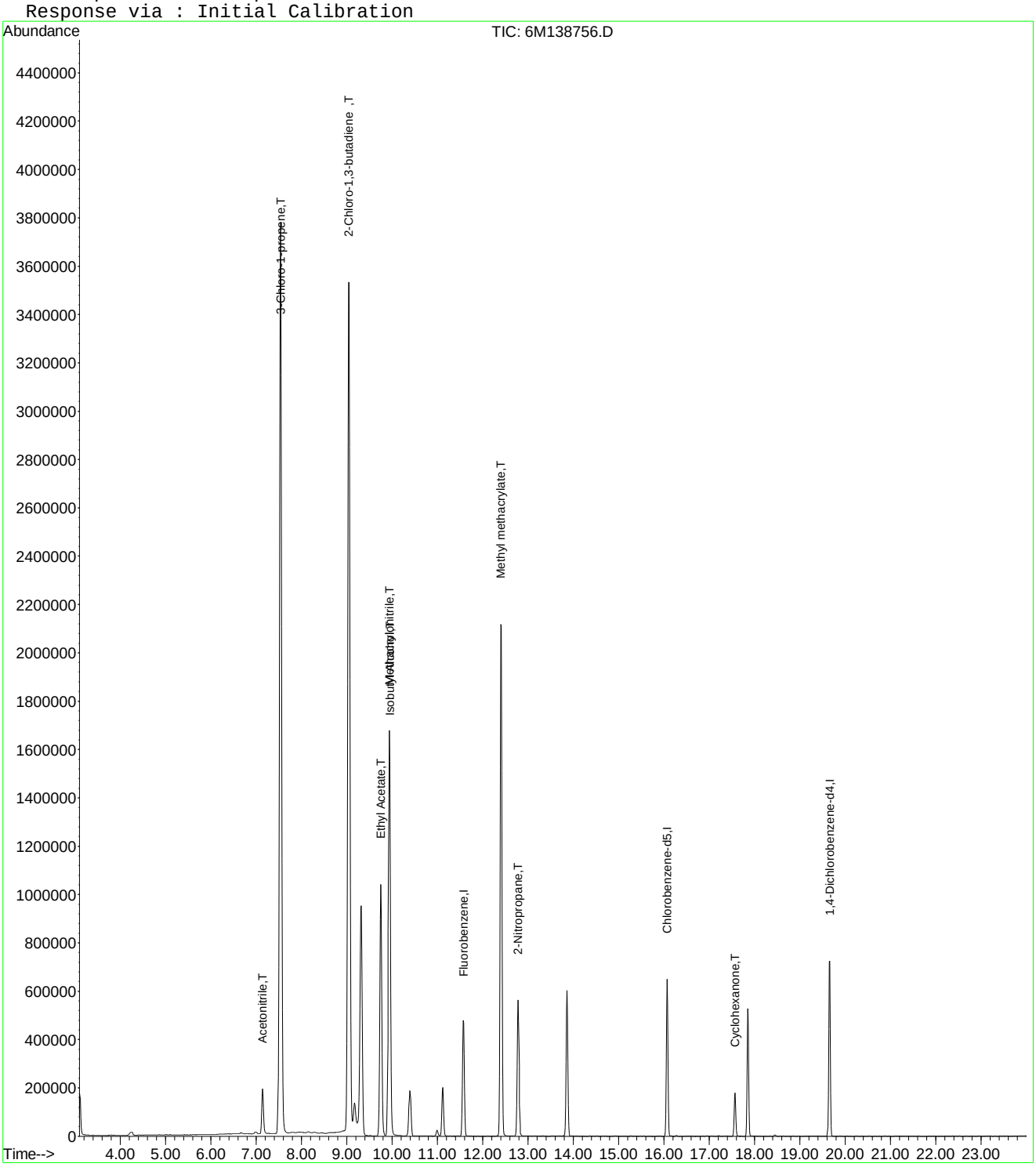
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L		0.01
11) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	273003	302.5900	ug/L		93
3) 3-Chloro-1-propene	7.54	41	4493022	298.8224	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	3994938	309.6481	ug/L		83
5) Ethyl Acetate	9.75	43	1967613	304.6228	ug/L		94
6) Methacrylonitrile	9.94	67	686612	308.3318	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	121480	590.5081	ug/L	#	90
9) Methyl methacrylate	12.40	41	1742413	320.9449	ug/L		81
10) 2-Nitropropane	12.78	43	613081	303.6419	ug/L		99
13) Cyclohexanone	17.57	55	106618	323.1811	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138756.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:51 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

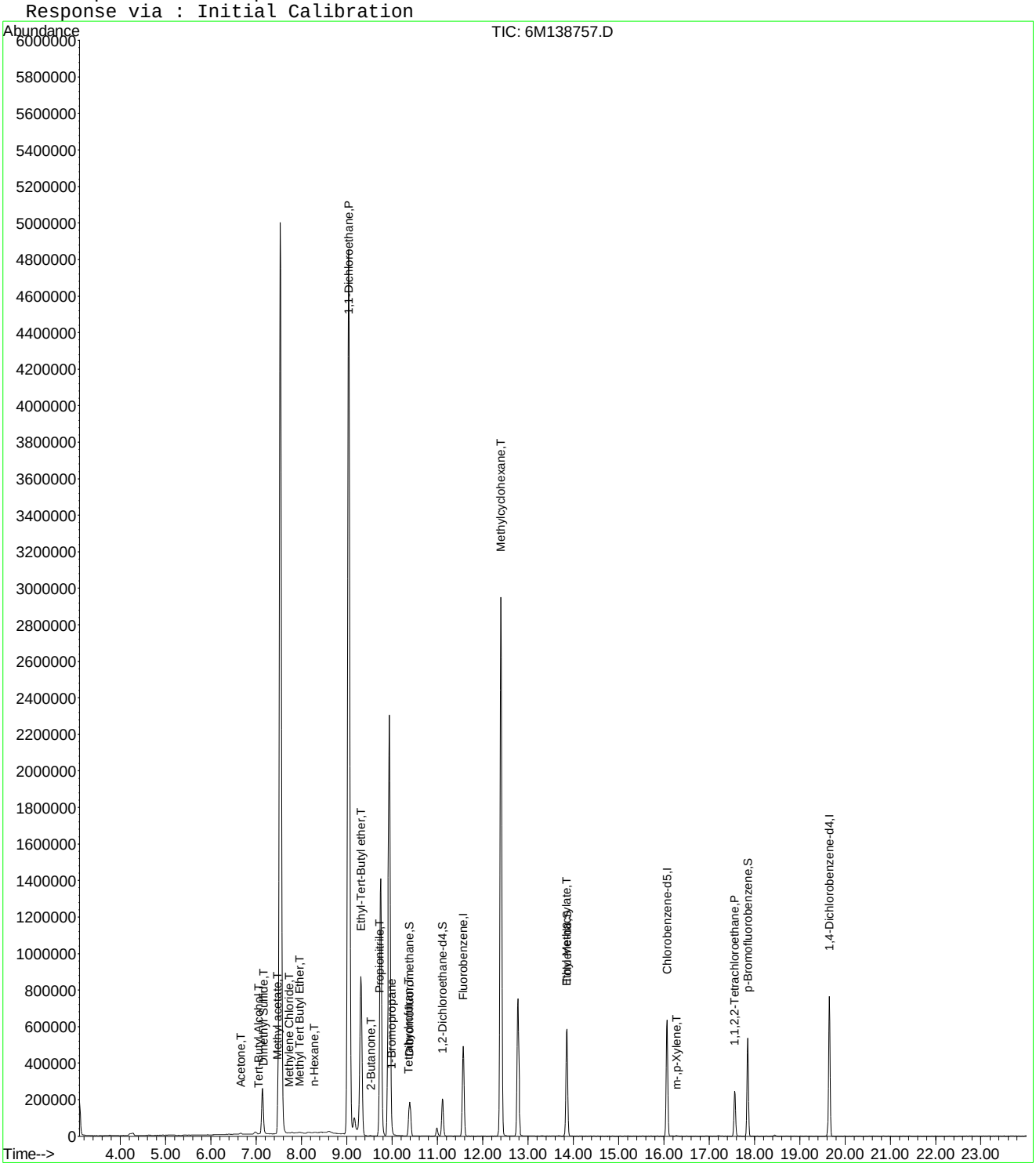
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		0.00
57) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	10.39	111	170708	27.6598	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.64%				
43) 1,2-Dichloroethane-d4	11.11	65	208757	27.8702	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.48%				
58) Toluene-d8	13.86	98	554316	25.9150	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.64%				
80) p-Bromofluorobenzene	17.85	95	246698	27.9116	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 111.64%				
Target Compounds							Qvalue
13) Acetone	6.66	43	14063	7.5256	ug/L		99
15) Tert-Butyl Alcohol	7.05	59	807	1.5033	ug/L	#	59
16) Dimethyl Sulfide	7.16	62	1034	0.2034	ug/L	#	1
18) Methyl acetate	7.48	43	1103	0.2125	ug/L	#	60
19) Methylene Chloride	7.73	84	1123	0.1699	ug/L	#	40
22) Methyl Tert Butyl Ether	7.97	73	18318	1.1224	ug/L	#	53
24) n-Hexane	8.28	57	5609	0.6488	ug/L		75
27) 1,1-Dichloroethane	9.04	63	82912	6.4943	ug/L	#	48
28) Ethyl-Tert-Butyl ether	9.32	59	139043	6.7111	ug/L	#	38
29) 2-Butanone	9.53	43	4129	1.4970	ug/L		86
30) Propionitrile	9.72	54	202	0.2549	ug/L	#	1
34) 1-Bromopropane	9.99	122	1978	1.9098	ug/L	#	1
36) Tetrahydrofuran	10.37	42	5444	3.0296	ug/L	#	63
48) Methylcyclohexane	12.40	83	6593	0.7540	ug/L	#	1
60) Ethyl Methacrylate	13.85	69	1165	0.1639	ug/L	#	1
73) m-,p-Xylene	16.28	106	1795	0.1593	ug/L		72
79) 1,1,2,2-Tetrachloroethane	17.57	83	12875	1.9973	ug/L	#	18

(#) = qualifier out of range (m) = manual integration
6M138757.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

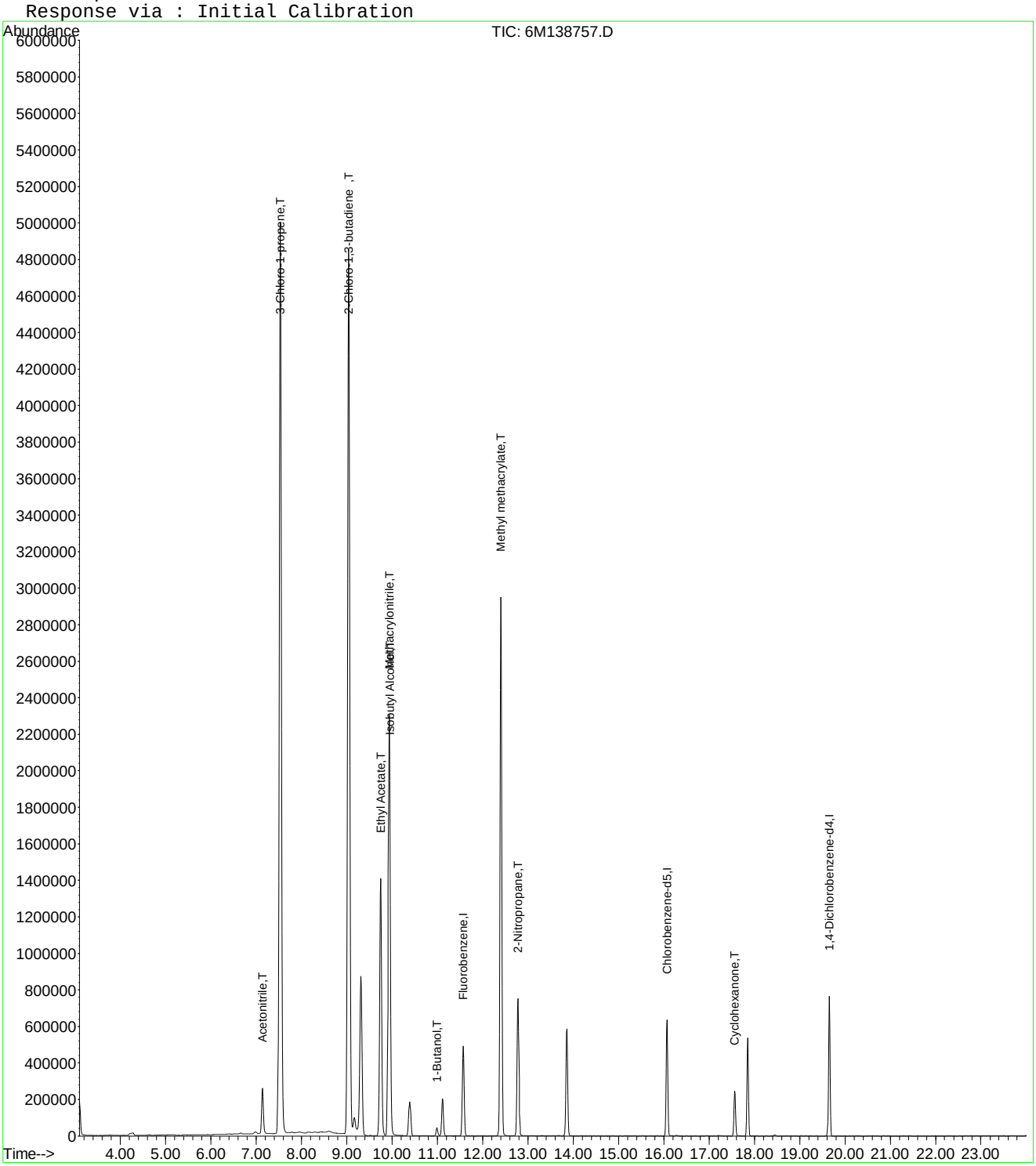
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	368012	318.0524	ug/L		93
3) 3-Chloro-1-propene	7.53	41	5948883	368.4088	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	5359203	385.5211	ug/L		83
5) Ethyl Acetate	9.76	43	2690267	423.1975	ug/L		94
6) Methacrylonitrile	9.94	67	929265	380.0675	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	192560	550.6158	ug/L	#	89
8) 1-Butanol	10.99	41	29815	198.1744	ug/L		75
9) Methyl methacrylate	12.40	41	2375132	375.2316	ug/L		81
10) 2-Nitropropane	12.79	43	849210	455.0717	ug/L		98
13) Cyclohexanone	17.57	55	149420	165.2683	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138757.D A9FOOWT.M Mon Apr 25 15:46:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

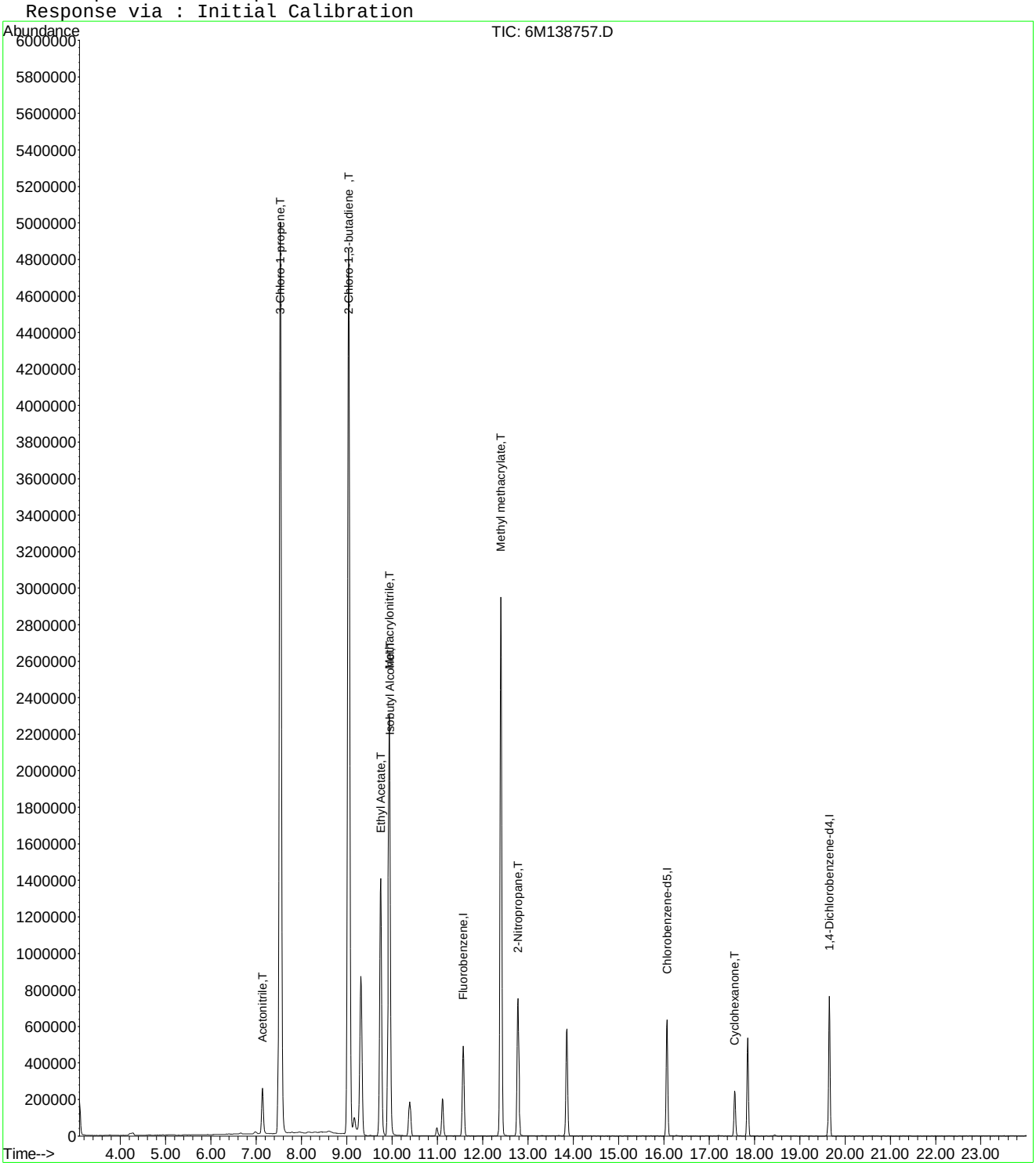
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	368012	407.7137	ug/L		93
3) 3-Chloro-1-propene	7.53	41	5948883	395.4723	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	5359203	415.2070	ug/L		83
5) Ethyl Acetate	9.76	43	2690267	416.3170	ug/L		94
6) Methacrylonitrile	9.94	67	929265	417.1119	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	192560	935.6065	ug/L	#	89
9) Methyl methacrylate	12.40	41	2375132	437.2937	ug/L		81
10) 2-Nitropropane	12.79	43	849210	420.4022	ug/L		98
13) Cyclohexanone	17.57	55	149420	452.7705	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138757.D A9FOOWT.M Wed Apr 27 16:05:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:52 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

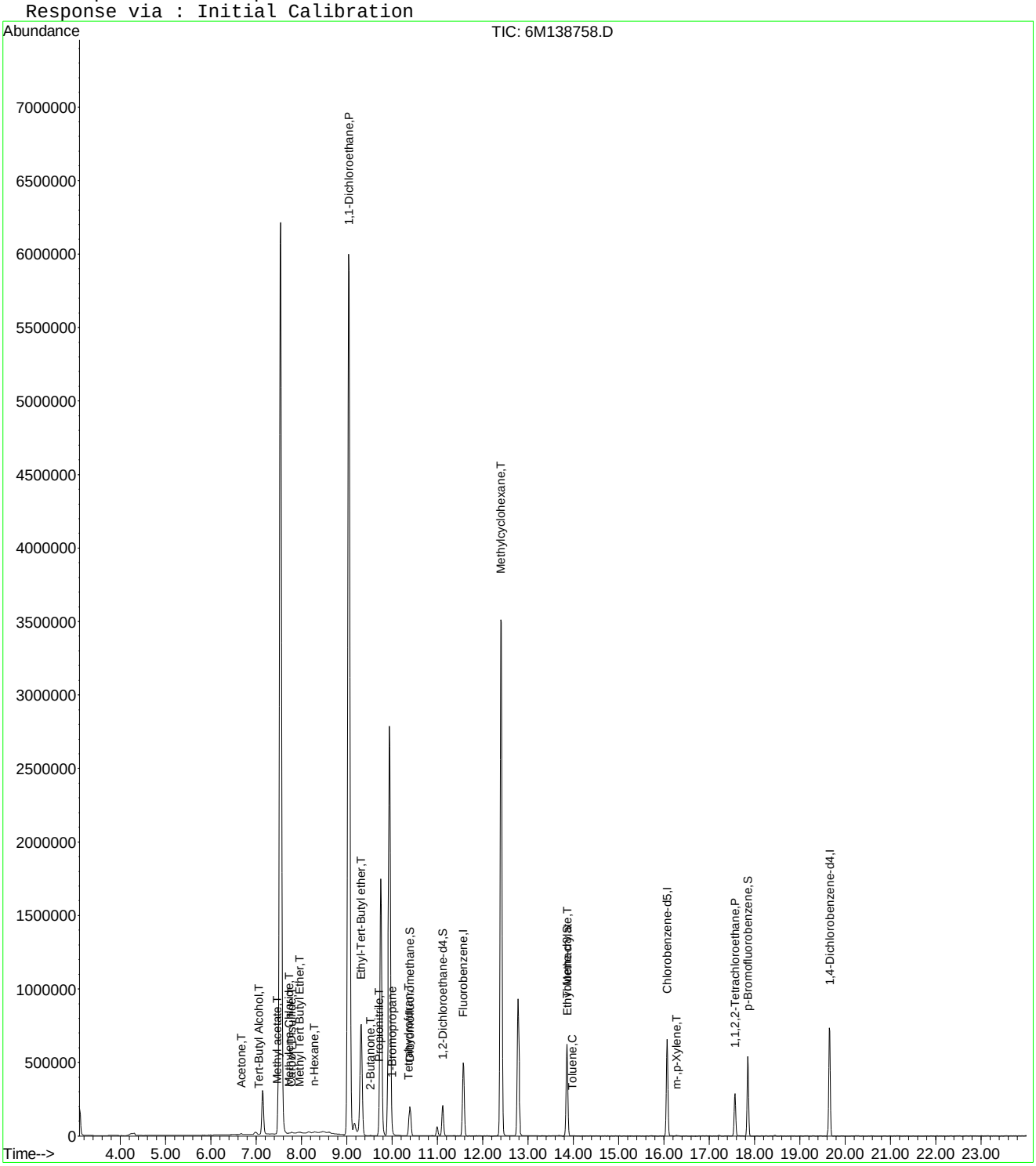
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	485048	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	175239	27.7556 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.04%		
43) 1,2-Dichloroethane-d4	11.12	65	210644	27.4898 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 109.96%		
58) Toluene-d8	13.86	98	563297	25.7957 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.20%		
80) p-Bromofluorobenzene	17.85	95	249406	27.7824 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 111.12%		
Target Compounds					Qvalue
13) Acetone	6.67	43	15233	7.9684 ug/L	89
15) Tert-Butyl Alcohol	7.06	59	370	0.6737 ug/L #	59
18) Methyl acetate	7.46	43	1079	0.2032 ug/L #	34
19) Methylene Chloride	7.73	84	1471	0.2176 ug/L	66
20) Carbon Disulfide	7.78	76	2765	0.1407 ug/L #	74
22) Methyl Tert Butyl Ether	7.96	73	25284	1.5144 ug/L #	53
24) n-Hexane	8.28	57	5266	0.5954 ug/L	97
27) 1,1-Dichloroethane	9.05	63	105121	8.0488 ug/L #	48
28) Ethyl-Tert-Butyl ether	9.31	59	124099	5.8551 ug/L #	39
29) 2-Butanone	9.52	43	4475	1.5860 ug/L #	72
30) Propionitrile	9.71	54	473	0.5835 ug/L #	1
34) 1-Bromopropane	10.00	122	2117	1.9980 ug/L #	1
36) Tetrahydrofuran	10.36	42	5652	3.0747 ug/L #	54
48) Methylcyclohexane	12.40	83	8011	0.8956 ug/L #	1
59) Toluene	13.98	91	3373	0.1249 ug/L	84
60) Ethyl Methacrylate	13.87	69	1585	0.2184 ug/L #	1
73) m-,p-Xylene	16.28	106	2521	0.2191 ug/L	79
79) 1,1,2,2-Tetrachloroethane	17.57	83	14350	2.1917 ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138758.D 8260WTR.M Mon Apr 25 09:22:52 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

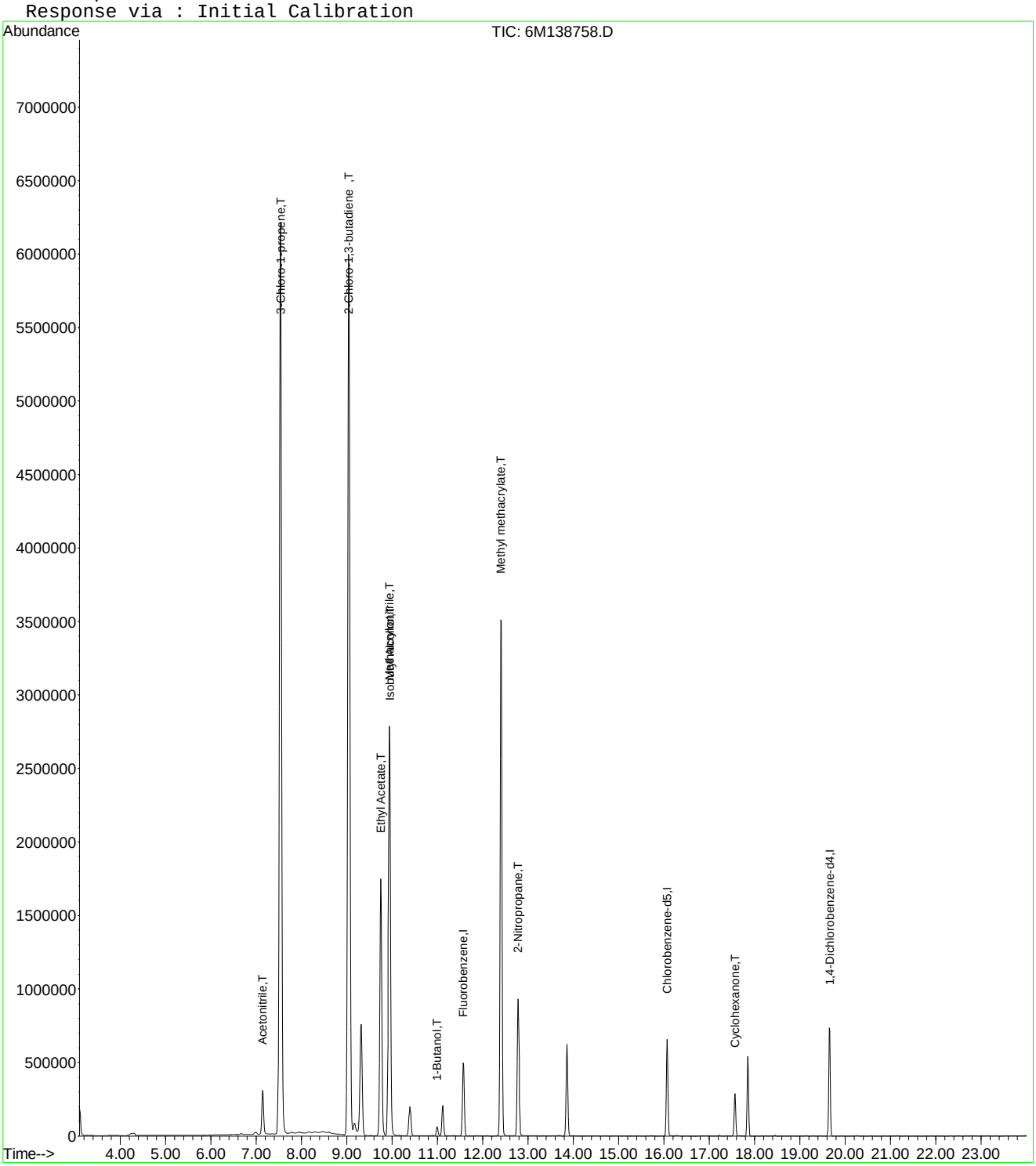
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	485048	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	449583	379.8136	ug/L		92
3) 3-Chloro-1-propene	7.54	41	7430577	449.8223	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	6752476	474.8265	ug/L		84
5) Ethyl Acetate	9.75	43	3307403	508.5794	ug/L		94
6) Methacrylonitrile	9.94	67	1145073	457.8027	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	251034	701.6799	ug/L	#	90
8) 1-Butanol	10.99	41	42236	274.4224	ug/L		75
9) Methyl methacrylate	12.40	41	2914815	450.1389	ug/L		81
10) 2-Nitropropane	12.78	43	1036720	543.0629	ug/L		99
13) Cyclohexanone	17.57	55	176545	192.2558	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138758.D A9FOOWT.M Mon Apr 25 15:46:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



6M138758.D A9FOOWT.M Mon Apr 25 15:46:01 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

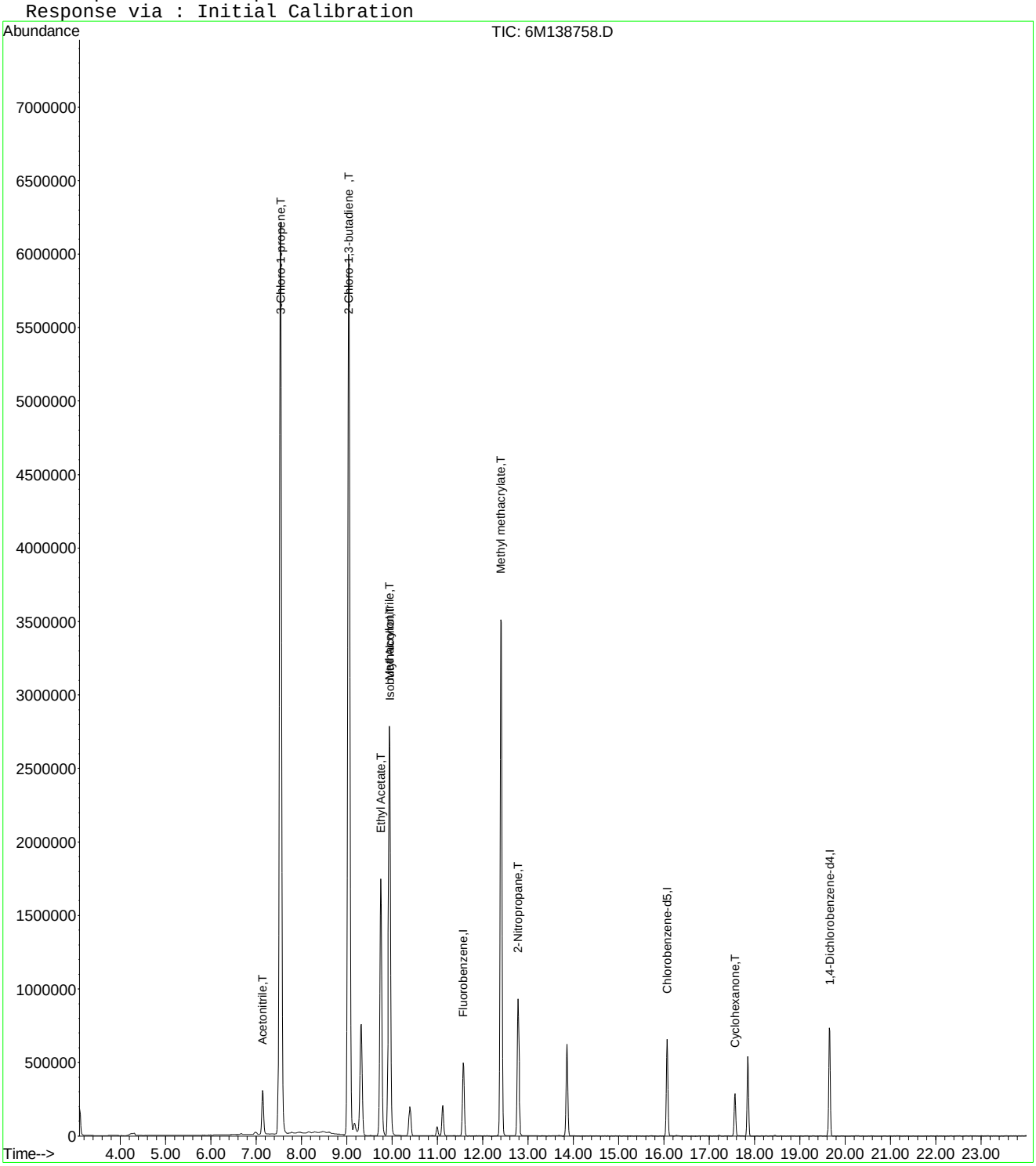
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	485048	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	449583	486.8858	ug/L		92
3) 3-Chloro-1-propene	7.54	41	7430577	482.8665	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	6752476	511.3891	ug/L		84
5) Ethyl Acetate	9.75	43	3307403	500.3107	ug/L		94
6) Methacrylonitrile	9.94	67	1145073	502.4237	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	251034	1192.2947	ug/L	#	90
9) Methyl methacrylate	12.40	41	2914815	524.5904	ug/L		81
10) 2-Nitropropane	12.78	43	1036720	501.6898	ug/L		99
13) Cyclohexanone	17.57	55	176545	526.7057	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138758.D A9FOOWT.M Wed Apr 27 16:05:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:54 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

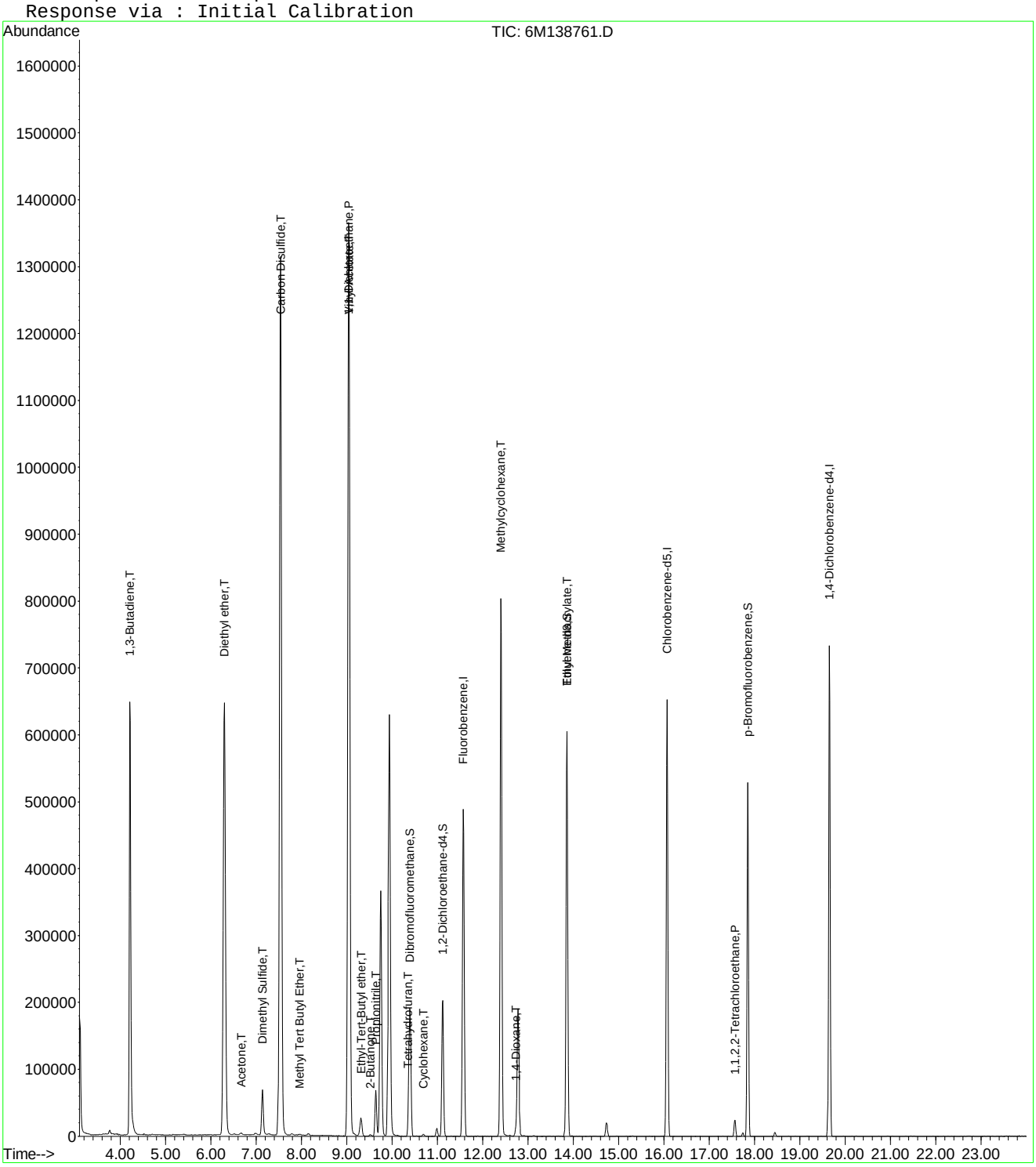
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	171708	27.8099	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.24%			
43) 1,2-Dichloroethane-d4	11.12	65	210067	28.0330	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.12%			
58) Toluene-d8	13.86	98	553825	26.0829	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.32%			
80) p-Bromofluorobenzene	17.85	95	243088	28.3441	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 113.36%			
Target Compounds						Qvalue
5) 1,3-Butadiene	4.21	54	367749	92.2302	ug/L	88
9) Diethyl ether	6.30	59	700386	132.3612	ug/L	92
13) Acetone	6.67	43	6570	3.5143	ug/L	81
16) Dimethyl Sulfide	7.14	62	2726	0.5361	ug/L #	1
20) Carbon Disulfide	7.54	76	432674	22.5096	ug/L #	36
22) Methyl Tert Butyl Ether	7.97	73	2916	0.1786	ug/L #	53
26) Vinyl Acetate	9.05	43	5230	0.5414	ug/L #	1
27) 1,1-Dichloroethane	9.04	63	22472	1.7594	ug/L #	42
28) Ethyl-Tert-Butyl ether	9.32	59	4063	0.1960	ug/L #	35
29) 2-Butanone	9.52	43	6076	2.2019	ug/L #	66
30) Propionitrile	9.64	54	91341	115.2239	ug/L	96
36) Tetrahydrofuran	10.36	42	4030	2.2418	ug/L #	52
39) Cyclohexane	10.69	56	2387	0.2138	ug/L	79
48) Methylcyclohexane	12.40	83	1353	0.1547	ug/L #	1
50) 1,4-Dioxane	12.73	88	9231	177.0935	ug/L	71
60) Ethyl Methacrylate	13.86	69	1222	0.1732	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	1146	0.1832	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138761.D 8260WTR.M Mon Apr 25 09:22:54 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138761.D 8260WTR.M Mon Apr 25 09:22:54 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

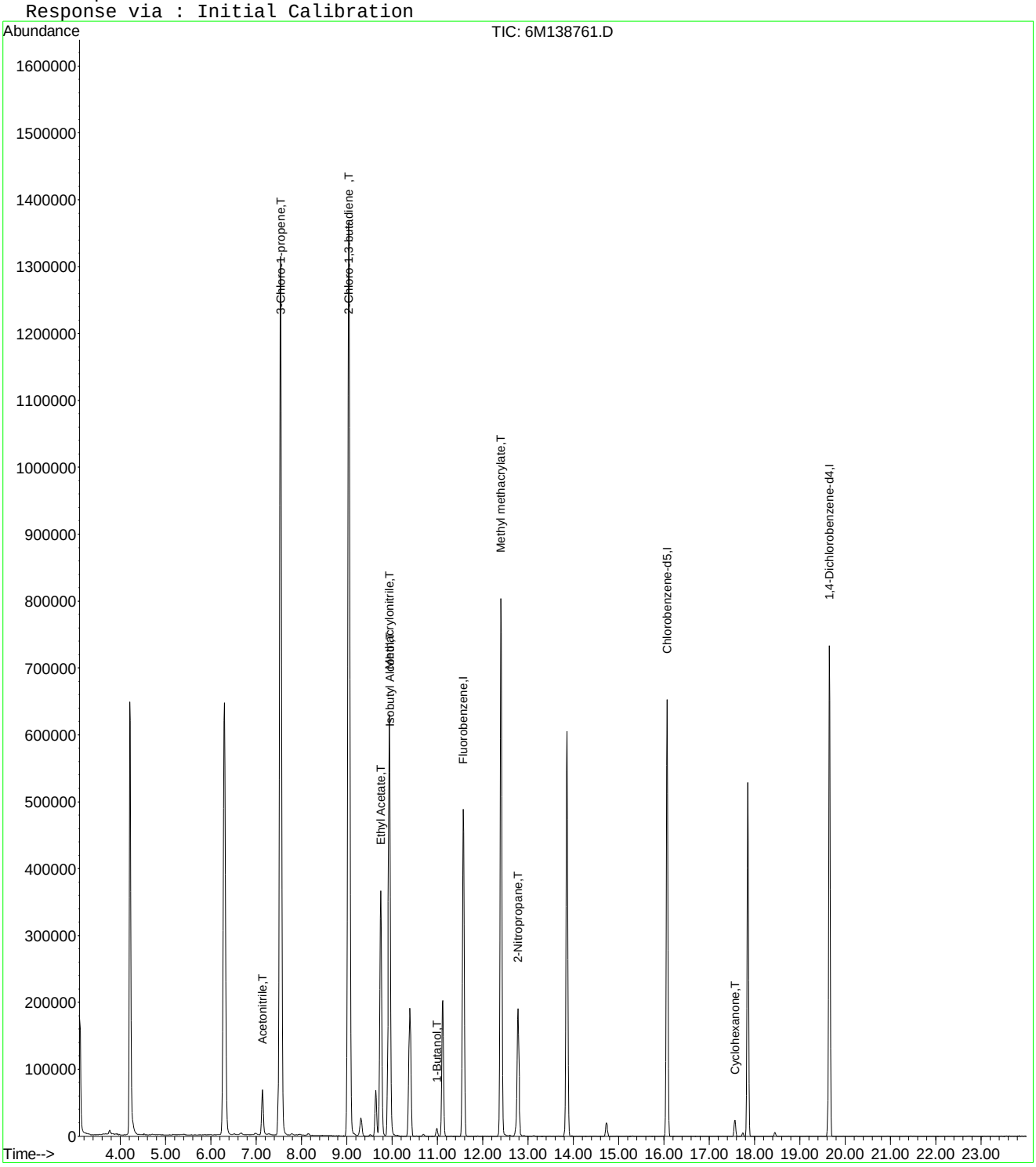
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	96564	83.4191	ug/L		96
3) 3-Chloro-1-propene	7.54	41	1552115	96.0797	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	1512761	108.7756	ug/L		83
5) Ethyl Acetate	9.75	43	691566	108.7414	ug/L		93
6) Methacrylonitrile	9.94	67	252030	103.0355	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	51165	146.2409	ug/L	#	93
8) 1-Butanol	10.99	41	7584	50.3877	ug/L		72
9) Methyl methacrylate	12.40	41	635574	100.3670	ug/L		81
10) 2-Nitropropane	12.79	43	211020	113.0321	ug/L		98
13) Cyclohexanone	17.57	55	15491	17.6579	ug/L		85

(#) = qualifier out of range (m) = manual integration
6M138761.D A9FOOWT.M Mon Apr 25 15:46:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:02 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

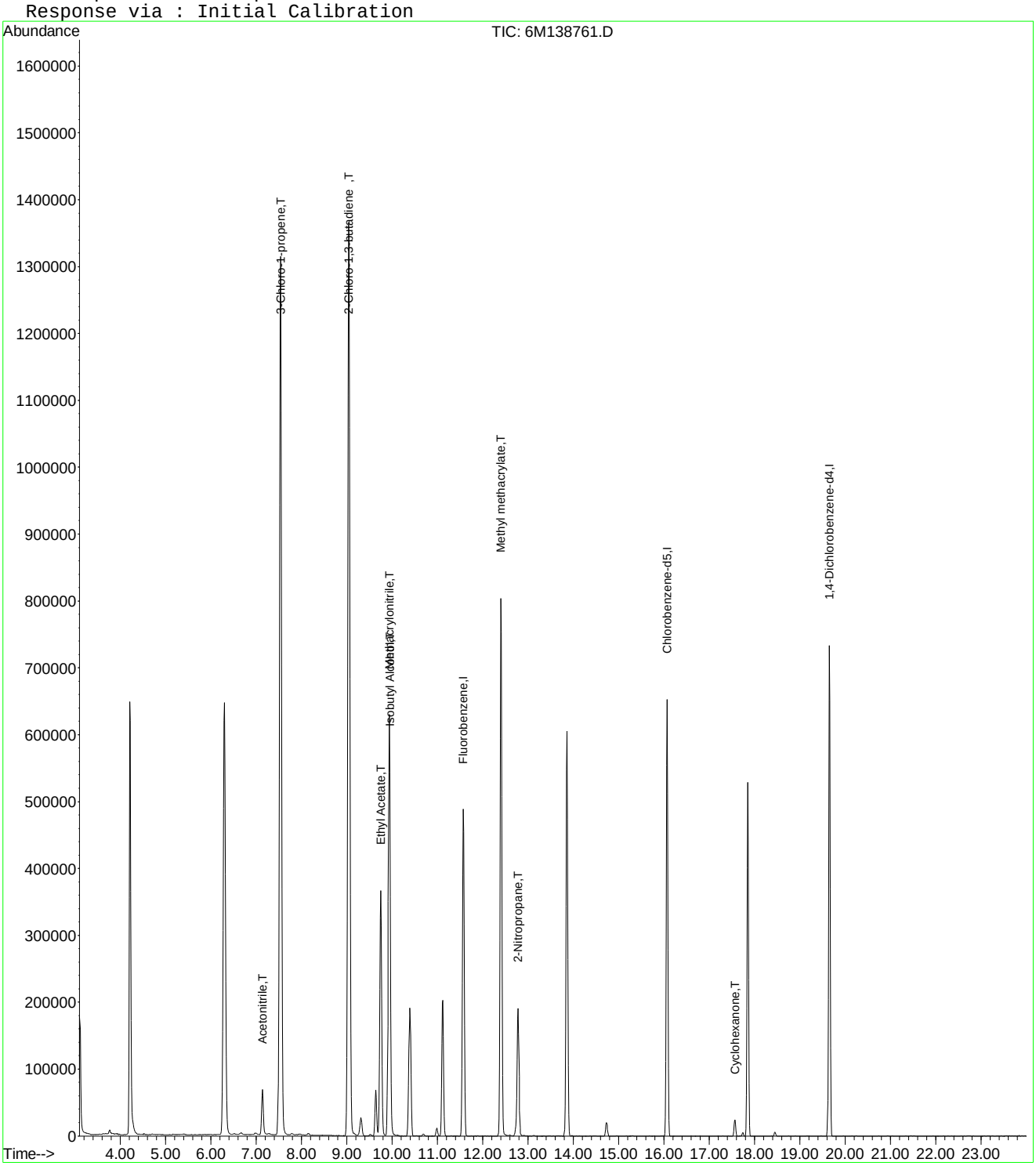
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	96564	106.9355	ug/L		96
3) 3-Chloro-1-propene	7.54	41	1552115	103.1378	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	1512761	117.1516	ug/L		83
5) Ethyl Acetate	9.75	43	691566	106.9734	ug/L		93
6) Methacrylonitrile	9.94	67	252030	113.0781	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	51165	248.4926	ug/L	#	93
9) Methyl methacrylate	12.40	41	635574	116.9674	ug/L		81
10) 2-Nitropropane	12.79	43	211020	104.4208	ug/L		98
13) Cyclohexanone	17.57	55	15491	48.3758	ug/L		85

(#) = qualifier out of range (m) = manual integration
6M138761.D A9FOOWT.M Wed Apr 27 16:05:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	101	0.00
2	T	Acetonitrile	100.0000	106.9355	-6.9	106	0.00
3	T	3-Chloro-1-propene	100.0000	103.1378	-3.1	96	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	117.1516	-17.2	107	0.00
5	T	Ethyl Acetate	100.0000	106.9734	-7.0	103	0.00
6	T	Methacrylonitrile	100.0000	113.0781	-13.1	106	0.00
7	T	Isobutyl Alcohol	200.0000	248.4926	-24.2	151	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	116.9674	-17.0	108	0.00
10	T	2-Nitropropane	100.0000	104.4208	-4.4	107	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	100.0000	48.3758	51.6	56	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138761.D A9FOOWT.M Wed Apr 27 16:05:40 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139178.D Vial: 2
Acq On : 11 May 2016 10:40 Operator: TMB
Sample : WG568265-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:09 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	791503	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	573562	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	301730	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	11.11	65	392	0.0424	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.16%#		
58) Toluene-d8	13.86	98	1707	0.0605	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.24%#		
80) p-Bromofluorobenzene	17.84	95	898	0.0803	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.32%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	3694	0.2964	ug/L	90
3) Chloromethane	3.93	50	6272	0.3669	ug/L	94
4) Vinyl Chloride	4.17	62	4005	0.3643	ug/L	99
5) 1,3-Butadiene	4.22	54	2166	Below Cal #		58
6) Bromomethane	5.07	94	2660	0.4280	ug/L	85
7) Chloroethane	5.25	64	2551	0.3632	ug/L #	70
8) Trichlorofluoromethane	5.73	101	4808	0.3447	ug/L	87
9) Diethyl ether	6.30	59	2260	0.3061	ug/L #	63
10) Isoprene	6.32	67	2506	0.3598	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.56	101	2062	0.2588	ug/L #	74
13) Acetone	6.65	43	3168	Below Cal #		48
14) 1,1-Dichloroethene	6.88	61	4852	0.3362	ug/L	98
16) Dimethyl Sulfide	7.17	62	2408	0.5120	ug/L #	53
18) Methyl acetate	7.45	43	4954	0.7345	ug/L #	66
19) Methylene Chloride	7.72	84	3270	0.3836	ug/L	97
20) Carbon Disulfide	7.77	76	6348	0.4251	ug/L	93
22) Methyl Tert Butyl Ether	7.95	73	6837	0.3110	ug/L	92
23) trans-1,2-Dichloroethene	8.21	96	2827	0.3425	ug/L	100
24) n-Hexane	8.29	57	3919	0.4500	ug/L #	37
26) Vinyl Acetate	8.85	43	2883	0.2473	ug/L #	78
27) 1,1-Dichloroethane	8.88	63	5695	0.3461	ug/L	88
29) 2-Butanone	9.52	43	3113	0.8667	ug/L #	57
31) 2,2-Dichloropropane	9.74	77	3949	0.3262	ug/L #	59
32) cis-1,2-Dichloroethene	9.82	96	2883	0.3162	ug/L	99
33) Chloroform	10.06	83	4896	0.3249	ug/L	94
35) Bromochloromethane	10.32	130	1182	0.2363	ug/L	84
36) Tetrahydrofuran	10.34	42	5217	Below Cal		83
38) 1,1,1-Trichloroethane	10.66	97	4121	0.3121	ug/L	89
39) Cyclohexane	10.69	56	4698	0.3552	ug/L	81
40) 1,1-Dichloropropene	10.88	75	3723	0.3246	ug/L	72
42) Carbon Tetrachloride	11.05	117	3559	0.3035	ug/L #	89
45) 1,2-Dichloroethane	11.25	62	3486	0.3012	ug/L #	78
46) Benzene	11.28	78	12102	0.3662	ug/L	92
47) Trichloroethene	12.15	130	3228	0.3735	ug/L	81
48) Methylcyclohexane	12.24	83	4036	0.3546	ug/L	86
49) 1,2-Dichloropropane	12.40	63	2995	0.3229	ug/L	79
51) Bromodichloromethane	12.73	83	3131	0.2775	ug/L	87
52) Dibromomethane	12.84	93	1252	0.2679	ug/L	79
53) 2-Chloroethyl Vinyl Ether	13.09	63	876	0.1923	ug/L #	41
55) cis-1,3-Dichloropropene	13.48	75	3940	0.2978	ug/L	87

(#) = qualifier out of range (m) = manual integration
6M139178.D 8260WTR.M Thu May 12 12:56:09 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139178.D Vial: 2
Acq On : 11 May 2016 10:40 Operator: TMB
Sample : WG568265-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:09 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

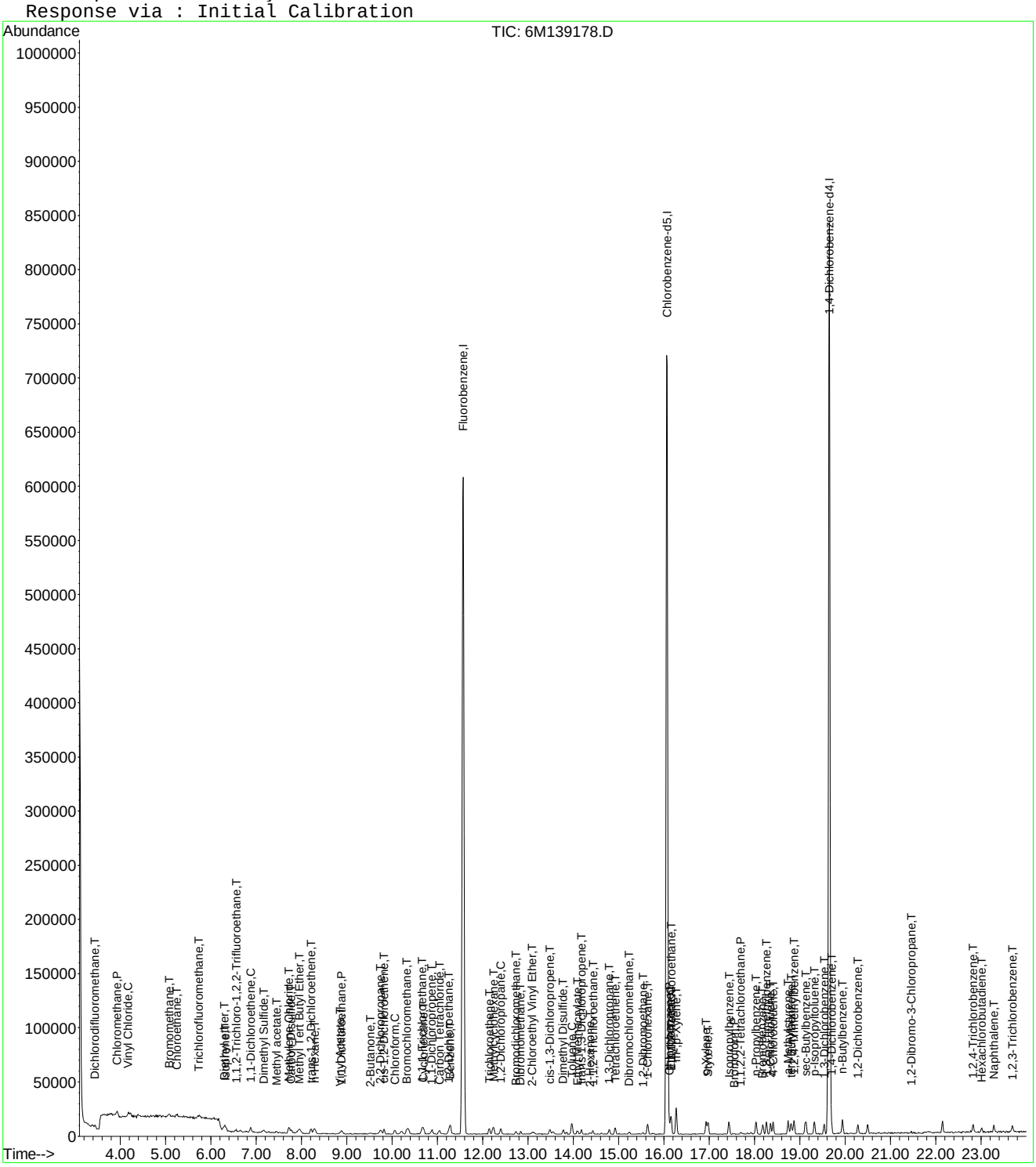
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
56)	Dimethyl Disulfide	13.78	79	1527	0.2098	ug/L	#	47
59)	Toluene	13.97	91	12357	0.3635	ug/L		93
60)	Ethyl Methacrylate	14.09	69	2466	0.2496	ug/L	#	55
62)	trans-1,3-Dichloropropene	14.18	75	3508	0.3032	ug/L	#	65
63)	1,1,2-Trichloroethane	14.44	97	1938	0.3077	ug/L		95
64)	2-Hexanone	14.37	43	2275	0.4123	ug/L	#	40
65)	1,3-Dichloropropane	14.79	76	3343	0.2985	ug/L		67
66)	Tetrachloroethene	14.93	166	3082	0.3484	ug/L		97
67)	Dibromochloromethane	15.24	129	2249	0.2913	ug/L		93
68)	1,2-Dibromoethane	15.54	107	1770	0.2865	ug/L		97
69)	1-Chlorohexane	15.64	91	4262	0.3641	ug/L		98
70)	Chlorobenzene	16.12	112	7553	0.3353	ug/L		98
71)	1,1,1,2-Tetrachloroethane	16.16	131	2305	0.2809	ug/L		93
72)	Ethylbenzene	16.15	106	4114	0.3376	ug/L		100
73)	m-,p-Xylene	16.27	106	10357	0.7068	ug/L		98
74)	o-Xylene	16.93	106	5038	0.3471	ug/L		91
75)	Styrene	16.97	104	8246	0.3288	ug/L		94
76)	Bromoform	17.55	173	1070	0.2160	ug/L	#	35
77)	Isopropylbenzene	17.44	105	12652	0.3447	ug/L		96
79)	1,1,2,2-Tetrachloroethane	17.70	83	2122	0.2927	ug/L		85
83)	n-Propylbenzene	18.03	91	16254	0.3905	ug/L	#	97
84)	Bromobenzene	18.18	156	3540	0.3637	ug/L		93
85)	1,3,5-Trimethylbenzene	18.26	105	11211	0.3730	ug/L		93
86)	2-Chlorotoluene	18.35	91	10096	0.3653	ug/L		93
87)	4-Chlorotoluene	18.41	91	10040	0.3802	ug/L		95
88)	a-Methylstyrene	18.74	118	5307	0.3180	ug/L		94
89)	tert-Butylbenzene	18.81	134	2279	0.3460	ug/L		96
90)	1,2,4-Trimethylbenzene	18.87	105	11707	0.3803	ug/L		96
91)	sec-Butylbenzene	19.13	105	13699	0.3774	ug/L		98
92)	p-Isopropyltoluene	19.32	119	11631	0.3709	ug/L		98
93)	1,3-Dichlorobenzene	19.54	146	6176	0.3335	ug/L		96
94)	1,4-Dichlorobenzene	19.70	146	6516	0.3470	ug/L		86
95)	n-Butylbenzene	19.94	91	11359	0.3804	ug/L		98
96)	1,2-Dichlorobenzene	20.28	146	6042	0.3446	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	21.46	75	189	0.1388	ug/L		85
98)	1,2,4-Trichlorobenzene	22.82	180	4170	0.3328	ug/L		92
99)	Hexachlorobutadiene	23.02	225	1963	0.3573	ug/L		85
100)	Naphthalene	23.28	128	8343	0.3372	ug/L		91
101)	1,2,3-Trichlorobenzene	23.69	180	4179	0.3549	ug/L	#	83

(#) = qualifier out of range (m) = manual integration
6M139178.D 8260WTR.M Thu May 12 12:56:09 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139178.D Vial: 2
Acq On : 11 May 2016 10:40 Operator: TMB
Sample : WG568265-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\6M139178.D Vial: 2
Acq On : 11 May 2016 10:40 Operator: TMB
Sample : WG568265-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2964	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.3669	0.0	100	0.00
4	C	Vinyl Chloride	-1.0000	0.3643	0.0	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.4280	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.3632	0.0	100	0.00
8	T	Trichlorofluoromethane	-1.0000	0.3447	0.0	100	0.00
9	T	Diethyl ether	-1.0000	0.3061	0.0	0	0.00
10	T	Isoprene	-1.0000	0.3598	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.55#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2588	0.0	100	0.00
13	T	Acetone	-1.0000	-3.3122	0.0	100	-0.01
14	C	1,1-Dichloroethene	-1.0000	0.3362	0.0	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-7.02#
16	T	Dimethyl Sulfide	-1.0000	0.5120	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-7.44#
18	T	Methyl acetate	-1.0000	0.7345	0.0	100	0.00
19	T	Methylene Chloride	-1.0000	0.3836	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.4251	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.92#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3110	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	-1.0000	0.3425	0.0	100	0.00
24	T	n-Hexane	-1.0000	0.4500	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.67#
26	T	Vinyl Acetate	-1.0000	0.2473	0.0	100	-0.01
27	P	1,1-Dichloroethane	-1.0000	0.3461	0.0	100	-0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-9.30#
29	T	2-Butanone	-1.0000	0.8667	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.64#
31	T	2,2-Dichloropropane	-1.0000	0.3262	0.0	100	-0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.3162	0.0	100	0.00
33	C	Chloroform	0.3000	0.3249	-8.3	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-10.21#
35	T	Bromochloromethane	-1.0000	0.2363	0.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	-1.4183	0.0	0	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-10.39#
38	T	1,1,1-Trichloroethane	-1.0000	0.3121	0.0	100	0.00
39	T	Cyclohexane	-1.0000	0.3552	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3246	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-11.00#
42	T	Carbon Tetrachloride	-1.0000	0.3035	0.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0424	0.0	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-11.01#
45	T	1,2-Dichloroethane	-1.0000	0.3012	0.0	100	0.00
46	T	Benzene	-1.0000	0.3662	0.0	100	0.00
47	T	Trichloroethene	-1.0000	0.3735	0.0	100	0.00
48	T	Methylcyclohexane	-1.0000	0.3546	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.3229	0.0	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-12.72#
51	T	Bromodichloromethane	-1.0000	0.2775	0.0	100	-0.01
52	T	Dibromomethane	-1.0000	0.2679	0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.1923	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0770	0.0	100	0.00

(#) = Out of Range
6M139178.D 8260WTR.M Thu May 12 12:56:34 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139178.D Vial: 2
Acq On : 11 May 2016 10:40 Operator: TMB
Sample : WG568265-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.2978	0.0	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.2098	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0605	0.0	100	0.00
59	C	Toluene	-1.0000	0.3635	0.0	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2496	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.97#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3032	0.0	100	0.00
63	T	1,1,2-Trichloroethane	-1.0000	0.3077	0.0	100	0.00
64	T	2-Hexanone	-1.0000	0.4123	0.0	100	0.00
65	T	1,3-Dichloropropane	-1.0000	0.2985	0.0	100	0.00
66	T	Tetrachloroethene	-1.0000	0.3484	0.0	100	0.00
67	T	Dibromochloromethane	-1.0000	0.2913	0.0	100	0.00
68	T	1,2-Dibromoethane	-1.0000	0.2865	0.0	100	0.00
69	T	1-Chlorohexane	-1.0000	0.3641	0.0	100	0.00
70	P	Chlorobenzene	-1.0000	0.3353	0.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2809	0.0	100	0.00
72	C	Ethylbenzene	-1.0000	0.3376	0.0	100	-0.01
73	T	m-,p-Xylene	-1.0000	0.7068	0.0	100	0.00
74	T	o-Xylene	-1.0000	0.3471	0.0	100	0.00
75	T	Styrene	-1.0000	0.3288	0.0	100	0.00
76	P	Bromoform	-1.0000	0.2160	0.0	100	0.00
77	T	Isopropylbenzene	-1.0000	0.3447	0.0	0	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2927	0.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0803	0.0	100	0.00
81	T	1,2,3-Trichloropropane	-1.0000	0.0923	0.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0731	0.0	100	0.00
83	T	n-Propylbenzene	-1.0000	0.3905	0.0	0	0.00
84	T	Bromobenzene	0.3000	0.3637	-21.2#	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.3730	0.0	0	0.00
86	T	2-Chlorotoluene	-1.0000	0.3653	0.0	100	0.00
87	T	4-Chlorotoluene	-1.0000	0.3802	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.3180	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.3460	0.0	100	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.3803	0.0	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.3774	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3709	0.0	100	0.00
93	T	1,3-Dichlorobenzene	-1.0000	0.3335	0.0	100	0.00
94	T	1,4-Dichlorobenzene	0.3000	0.3470	-15.7	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3804	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.3446	-14.9	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.1388	0.0	100	0.00
98	T	1,2,4-Trichlorobenzene	-1.0000	0.3328	0.0	100	0.00
99	T	Hexachlorobutadiene	-1.0000	0.3573	0.0	100	0.00
100	T	Naphthalene	-1.0000	0.3372	0.0	100	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.3549	-18.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139178.D 8260WTR.M Thu May 12 12:56:34 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139179.D Vial: 3
Acq On : 11 May 2016 11:12 Operator: TMB
Sample : WG568265-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:11 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	787125	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	576557	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	306768	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	0.00	111	0	0.0000 ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#	
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000 ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#	
58) Toluene-d8	0.00	98	0	0.0000 ug/L	
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.00%#	
80) p-Bromofluorobenzene	17.85	95	187	0.0164 ug/L	0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.08%#	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.45	85	4384	0.3537 ug/L	86
3) Chloromethane	3.93	50	8012	0.4713 ug/L #	74
4) Vinyl Chloride	4.17	62	5279	0.4829 ug/L	92
5) 1,3-Butadiene	4.22	54	2243	Below Cal #	79
6) Bromomethane	5.08	94	3208	0.5191 ug/L	78
7) Chloroethane	5.24	64	3119	0.4466 ug/L #	67
8) Trichlorofluoromethane	5.74	101	5402	0.3895 ug/L #	94
9) Diethyl ether	6.29	59	928	0.1264 ug/L #	1
10) Isoprene	6.33	67	4091	0.5907 ug/L	88
11) Acrolein	6.34	56	396	0.3591 ug/L #	15
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	2606	0.3289 ug/L	85
13) Acetone	6.66	43	2276	Below Cal #	64
14) 1,1-Dichloroethene	6.88	61	6013	0.4189 ug/L	93
16) Dimethyl Sulfide	7.17	62	2701	0.5775 ug/L #	53
18) Methyl acetate	7.45	43	4930	0.7350 ug/L #	66
19) Methylene Chloride	7.72	84	3779	0.4457 ug/L	92
20) Carbon Disulfide	7.77	76	6397	0.4307 ug/L	99
22) Methyl Tert Butyl Ether	7.97	73	8558	0.3914 ug/L	99
23) trans-1,2-Dichloroethene	8.21	96	3112	0.3792 ug/L	89
24) n-Hexane	8.29	57	4124	0.4762 ug/L #	33
26) Vinyl Acetate	8.86	43	3219	0.2776 ug/L #	78
27) 1,1-Dichloroethane	8.89	63	6467	0.3952 ug/L	99
29) 2-Butanone	9.51	43	2901	0.8121 ug/L #	57
31) 2,2-Dichloropropane	9.76	77	5003	0.4155 ug/L	67
32) cis-1,2-Dichloroethene	9.82	96	3612	0.3984 ug/L	100
33) Chloroform	10.06	83	6280	0.4191 ug/L	92
35) Bromochloromethane	10.32	130	1606	0.3229 ug/L	83
36) Tetrahydrofuran	10.35	42	5568	Below Cal	78
38) 1,1,1-Trichloroethane	10.66	97	4988	0.3798 ug/L	93
39) Cyclohexane	10.69	56	5833	0.4435 ug/L	84
40) 1,1-Dichloropropene	10.88	75	4777	0.4188 ug/L	81
42) Carbon Tetrachloride	11.03	117	4411	0.3782 ug/L	95
45) 1,2-Dichloroethane	11.25	62	4739	0.4118 ug/L #	81
46) Benzene	11.28	78	14250	0.4336 ug/L	94
47) Trichloroethene	12.14	130	3601	0.4189 ug/L	98
48) Methylcyclohexane	12.24	83	4672	0.4128 ug/L	86
49) 1,2-Dichloropropane	12.40	63	3777	0.4095 ug/L	88
51) Bromodichloromethane	12.74	83	4267	0.3803 ug/L	89
52) Dibromomethane	12.84	93	1639	0.3527 ug/L	97
53) 2-Chloroethyl Vinyl Ether	13.09	63	1653	0.3648 ug/L #	41

(#) = qualifier out of range (m) = manual integration
6M139179.D 8260WTR.M Thu May 12 12:56:11 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139179.D Vial: 3
Acq On : 11 May 2016 11:12 Operator: TMB
Sample : WG568265-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:11 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

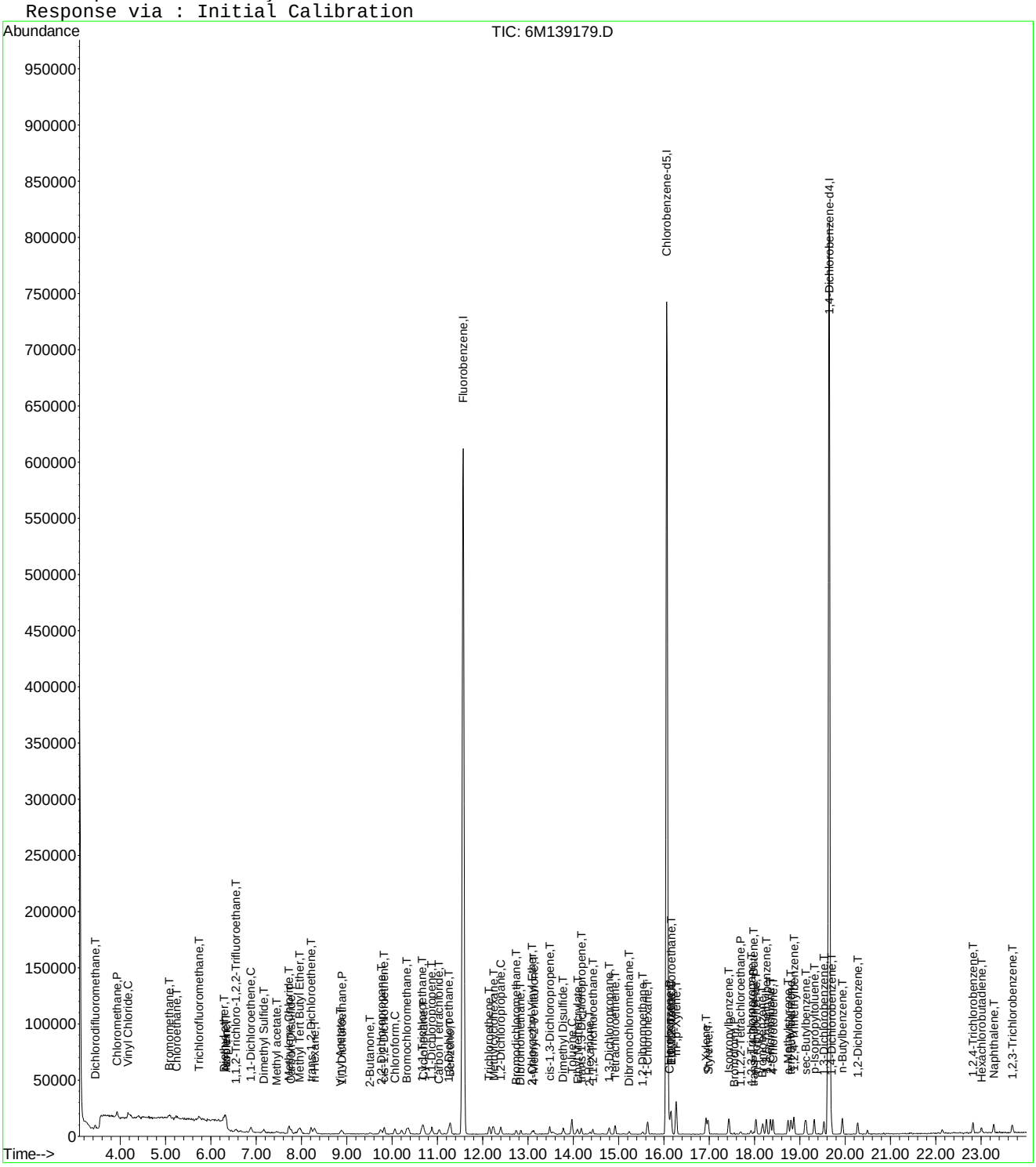
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
54)	4-Methyl-2-Pentanone	13.13	58	756	0.2735 ug/L	#	38
55)	cis-1,3-Dichloropropene	13.48	75	5226	0.3972 ug/L		94
56)	Dimethyl Disulfide	13.78	79	2359	0.3259 ug/L	#	65
59)	Toluene	13.97	91	14829	0.4339 ug/L		97
60)	Ethyl Methacrylate	14.10	69	3771	0.3797 ug/L		72
62)	trans-1,3-Dichloropropene	14.18	75	4049	0.3481 ug/L		84
63)	1,1,2-Trichloroethane	14.43	97	2320	0.3664 ug/L		96
64)	2-Hexanone	14.36	43	3271	0.5898 ug/L	#	58
65)	1,3-Dichloropropane	14.79	76	4228	0.3755 ug/L		67
66)	Tetrachloroethene	14.92	166	3487	0.3921 ug/L		93
67)	Dibromochloromethane	15.24	129	2544	0.3278 ug/L		96
68)	1,2-Dibromoethane	15.53	107	2294	0.3694 ug/L		97
69)	1-Chlorohexane	15.64	91	5006	0.4254 ug/L		96
70)	Chlorobenzene	16.12	112	9524	0.4206 ug/L		95
71)	1,1,1,2-Tetrachloroethane	16.16	131	3099	0.3757 ug/L		93
72)	Ethylbenzene	16.16	106	4704	0.3840 ug/L		77
73)	m-,p-Xylene	16.27	106	12663	0.8597 ug/L		99
74)	o-Xylene	16.93	106	5818	0.3987 ug/L		91
75)	Styrene	16.98	104	9806	0.3890 ug/L		89
76)	Bromoform	17.55	173	1315	0.2641 ug/L	#	51
77)	Isopropylbenzene	17.43	105	15681	0.4250 ug/L		96
79)	1,1,2,2-Tetrachloroethane	17.69	83	2628	0.3565 ug/L		92
81)	1,2,3-Trichloropropane	17.93	110	697	0.3244 ug/L	#	57
82)	trans-1,4-Dichloro-2-Buten	17.98	53	542	0.2083 ug/L		89
83)	n-Propylbenzene	18.03	91	18830	0.4449 ug/L	#	98
84)	Bromobenzene	18.18	156	3746	0.3785 ug/L		84
85)	1,3,5-Trimethylbenzene	18.26	105	13170	0.4310 ug/L		99
86)	2-Chlorotoluene	18.35	91	12422	0.4421 ug/L		97
87)	4-Chlorotoluene	18.41	91	12206	0.4546 ug/L		95
88)	a-Methylstyrene	18.74	118	6818	0.4019 ug/L		95
89)	tert-Butylbenzene	18.80	134	2807	0.4192 ug/L		95
90)	1,2,4-Trimethylbenzene	18.87	105	13330	0.4259 ug/L		87
91)	sec-Butylbenzene	19.13	105	15988	0.4332 ug/L		96
92)	p-Isopropyltoluene	19.32	119	13490	0.4231 ug/L		98
93)	1,3-Dichlorobenzene	19.53	146	7963	0.4230 ug/L		97
94)	1,4-Dichlorobenzene	19.70	146	7655	0.4010 ug/L		94
95)	n-Butylbenzene	19.94	91	12918	0.4256 ug/L		97
96)	1,2-Dichlorobenzene	20.28	146	7335	0.4115 ug/L		100
98)	1,2,4-Trichlorobenzene	22.82	180	5479	0.4301 ug/L		91
99)	Hexachlorobutadiene	23.02	225	2359	0.4223 ug/L		97
100)	Naphthalene	23.28	128	9845	0.3914 ug/L		97
101)	1,2,3-Trichlorobenzene	23.69	180	5016	0.4190 ug/L		89

(#) = qualifier out of range (m) = manual integration
6M139179.D 8260WTR.M Thu May 12 12:56:11 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139179.D Vial: 3
Acq On : 11 May 2016 11:12 Operator: TMB
Sample : WG568265-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\6M139179.D Vial: 3
Acq On : 11 May 2016 11:12 Operator: TMB
Sample : WG568265-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.3537	0.0	100	0.01
3	P	Chloromethane	-1.0000	0.4713	0.0	100	0.00
4	C	Vinyl Chloride	0.4000	0.4829	-20.7#	100	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.5191	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.4466	0.0	100	0.00
8	T	Trichlorofluoromethane	0.4000	0.3895	2.6	100	0.01
9	T	Diethyl ether	-1.0000	0.1264	0.0	0	0.00
10	T	Isoprene	-1.0000	0.5907	0.0	100	0.01
11	T	Acrolein	-1.0000	0.3591	0.0	0	-0.20
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3289	0.0	100	0.00
13	T	Acetone	-1.0000	-3.7172	0.0	100	0.00
14	C	1,1-Dichloroethene	0.4000	0.4189	-4.7	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-7.02#
16	T	Dimethyl Sulfide	-1.0000	0.5775	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-7.44#
18	T	Methyl acetate	-1.0000	0.7350	0.0	100	0.00
19	T	Methylene Chloride	-1.0000	0.4457	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.4307	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.92#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3914	0.0	100	0.01
23	T	trans-1,2-Dichloroethene	0.4000	0.3792	5.2	100	0.00
24	T	n-Hexane	-1.0000	0.4762	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.67#
26	T	Vinyl Acetate	-1.0000	0.2776	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.3952	1.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-9.30#
29	T	2-Butanone	-1.0000	0.8121	0.0	100	-0.01
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.64#
31	T	2,2-Dichloropropane	0.4000	0.4155	-3.9	100	0.01
32	T	cis-1,2-Dichloroethene	0.4000	0.3984	0.4	100	0.00
33	C	Chloroform	0.4000	0.4191	-4.8	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-10.21#
35	T	Bromochloromethane	0.4000	0.3229	19.3	100	0.00
36	T	Tetrahydrofuran	-1.0000	-1.2455	0.0	0	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-10.39#
38	T	1,1,1-Trichloroethane	0.4000	0.3798	5.0	100	0.01
39	T	Cyclohexane	-1.0000	0.4435	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.4188	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-11.00#
42	T	Carbon Tetrachloride	0.4000	0.3782	5.4	100	-0.01
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-11.11#
44		Heptane	-1.0000	0.0000	0.0	0	-11.01#
45	T	1,2-Dichloroethane	0.4000	0.4118	-2.9	100	0.01
46	T	Benzene	0.4000	0.4336	-8.4	100	0.00
47	T	Trichloroethene	0.4000	0.4189	-4.7	100	0.00
48	T	Methylcyclohexane	-1.0000	0.4128	0.0	100	0.01
49	C	1,2-Dichloropropane	0.4000	0.4095	-2.4	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-12.72#
51	T	Bromodichloromethane	0.4000	0.3803	4.9	100	0.00
52	T	Dibromomethane	0.4000	0.3527	11.8	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.3648	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.2735	0.0	100	0.01

(#) = Out of Range
6M139179.D 8260WTR.M Thu May 12 12:56:46 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139179.D Vial: 3
Acq On : 11 May 2016 11:12 Operator: TMB
Sample : WG568265-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3972	0.7	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.3259	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0000	0.0	0	-13.85#
59	C	Toluene	0.4000	0.4339	-8.5	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.3797	0.0	100	0.01
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.97#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3481	0.0	100	0.01
63	T	1,1,2-Trichloroethane	0.4000	0.3664	8.4	100	0.00
64	T	2-Hexanone	-1.0000	0.5898	0.0	100	0.00
65	T	1,3-Dichloropropane	0.4000	0.3755	6.1	100	0.00
66	T	Tetrachloroethene	0.4000	0.3921	2.0	100	0.00
67	T	Dibromochloromethane	0.4000	0.3277	18.1	100	0.00
68	T	1,2-Dibromoethane	0.4000	0.3694	7.7	100	0.00
69	T	1-Chlorohexane	0.4000	0.4254	-6.4	100	0.00
70	P	Chlorobenzene	0.4000	0.4206	-5.2	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.3757	6.1	100	0.00
72	C	Ethylbenzene	0.4000	0.3840	4.0	100	0.00
73	T	m-,p-Xylene	0.8000	0.8597	-7.5	100	0.00
74	T	o-Xylene	-1.0000	0.3987	0.0	100	0.00
75	T	Styrene	0.4000	0.3890	2.8	100	0.01
76	P	Bromoform	-1.0000	0.2641	0.0	100	0.00
77	T	Isopropylbenzene	0.4000	0.4250	-6.3	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4000	0.3565	10.9	100	-0.01
80	S	p-Bromofluorobenzene	-1.0000	0.0164	0.0	100	0.01
81	T	1,2,3-Trichloropropane	-1.0000	0.3244	0.0	100	0.01
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2083	0.0	100	0.00
83	T	n-Propylbenzene	0.4000	0.4449	-11.2	100	0.00
84	T	Bromobenzene	0.4000	0.3785	5.4	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.4310	-7.7	100	0.00
86	T	2-Chlorotoluene	0.4000	0.4421	-10.5	100	0.00
87	T	4-Chlorotoluene	0.4000	0.4546	-13.6	100	0.00
88	T	a-Methylstyrene	-1.0000	0.4019	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.4192	0.0	100	-0.01
90	T	1,2,4-Trimethylbenzene	-1.0000	0.4259	0.0	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.4332	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.4231	0.0	100	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.4230	-5.7	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.4010	-0.2	100	0.00
95	T	n-Butylbenzene	-1.0000	0.4256	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.4115	-2.9	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-21.46#
98	T	1,2,4-Trichlorobenzene	0.4000	0.4301	-7.5	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.4223	-5.6	100	0.00
100	T	Naphthalene	0.4000	0.3914	2.2	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.4190	-4.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1
6M139179.D 8260WTR.M Thu May 12 12:56:46 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\051116\6M139180.D Vial: 4
Acq On : 11 May 2016 11:45 Operator: TMB
Sample : WG568265-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:11 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	792651	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	579166	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	310093	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	4313	0.5183	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	2.08%#		
43) 1,2-Dichloroethane-d4	11.11	65	4674	0.5043	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	2.00%#		
58) Toluene-d8	13.85	98	15848	0.5560	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.24%#		
80) p-Bromofluorobenzene	17.85	95	6272	0.5456	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.20%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	12179	0.9756	ug/L	96
3) Chloromethane	3.94	50	21711	1.2682	ug/L	93
4) Vinyl Chloride	4.17	62	13213	1.2003	ug/L	97
5) 1,3-Butadiene	4.23	54	4252	Below Cal		96
6) Bromomethane	5.09	94	7576	1.2174	ug/L	86
7) Chloroethane	5.24	64	7741	1.1006	ug/L	97
8) Trichlorofluoromethane	5.74	101	14766	1.0572	ug/L	97
9) Diethyl ether	6.29	59	39306	5.3161	ug/L	93
10) Isoprene	6.32	67	8716	1.2497	ug/L	97
11) Acrolein	6.55	56	3210	2.8908	ug/L	88
12) 1,1,2-Trichloro-1,2,2-Trif	6.56	101	8455	1.0598	ug/L	97
13) Acetone	6.65	43	4731	Below Cal		83
14) 1,1-Dichloroethene	6.88	61	15754	1.0899	ug/L	99
15) Tert-Butyl Alcohol	7.02	59	6949	9.6909	ug/L #	55
16) Dimethyl Sulfide	7.18	62	5632	1.1958	ug/L	81
17) Iodomethane	7.44	142	1131	2.0678	ug/L #	32
18) Methyl acetate	7.45	43	9668	1.4313	ug/L #	73
19) Methylene Chloride	7.72	84	9396	1.1005	ug/L	97
20) Carbon Disulfide	7.77	76	15912	1.0639	ug/L	91
21) Acrylonitrile	7.92	53	6963	2.3581	ug/L	86
22) Methyl Tert Butyl Ether	7.96	73	22734	1.0326	ug/L	100
23) trans-1,2-Dichloroethene	8.22	96	8839	1.0694	ug/L	96
24) n-Hexane	8.29	57	10586	1.2138	ug/L	81
25) Diisopropyl ether	8.67	45	178646	5.2841	ug/L	100
26) Vinyl Acetate	8.86	43	9583	0.8207	ug/L #	78
27) 1,1-Dichloroethane	8.89	63	17078	1.0363	ug/L	98
28) Ethyl-Tert-Butyl ether	9.30	59	142962	5.0867	ug/L	99
29) 2-Butanone	9.52	43	5469	1.5204	ug/L #	57
30) Propionitrile	9.63	54	5061	5.1255	ug/L	96
31) 2,2-Dichloropropane	9.75	77	13704	1.1303	ug/L	87
32) cis-1,2-Dichloroethene	9.82	96	9574	1.0486	ug/L	84
33) Chloroform	10.07	83	15903	1.0538	ug/L	94
34) 1-Bromopropane	10.21	122	1004	0.8163	ug/L	84
35) Bromochloromethane	10.32	130	5031	1.0045	ug/L	97
36) Tetrahydrofuran	10.35	42	16784	3.8039	ug/L	93
38) 1,1,1-Trichloroethane	10.66	97	13787	1.0425	ug/L	95
39) Cyclohexane	10.69	56	14315	1.0809	ug/L	96
40) 1,1-Dichloropropene	10.88	75	11883	1.0345	ug/L	87
41) Tert-Amyl-Methyl ether	11.00	73	109901	5.0197	ug/L	98
42) Carbon Tetrachloride	11.05	117	11835	1.0077	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139180.D 8260WTR.M Thu May 12 12:56:12 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139180.D Vial: 4
Acq On : 11 May 2016 11:45 Operator: TMB
Sample : WG568265-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:11 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

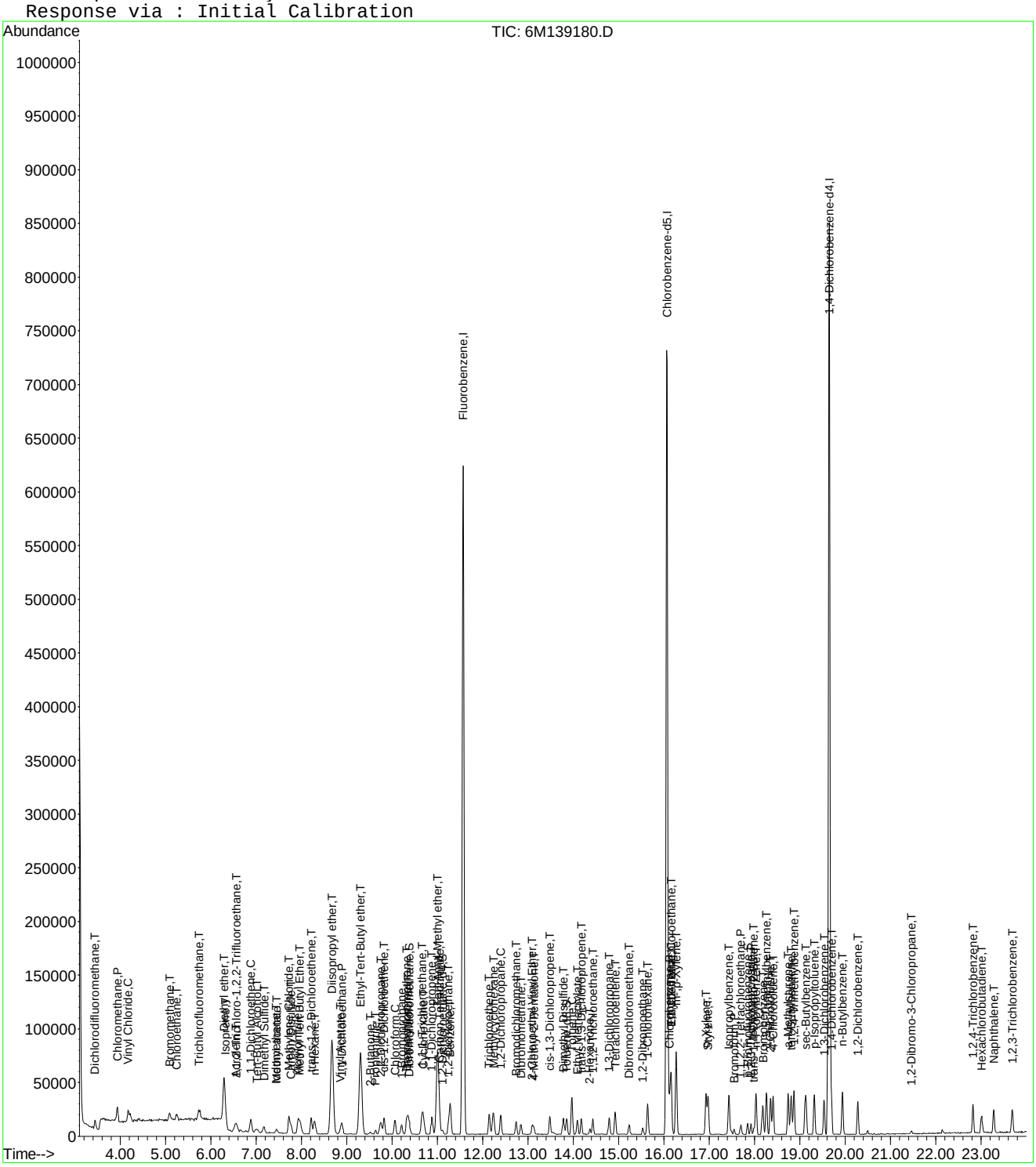
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	11497	0.9921 ug/L #	97
46)	Benzene	11.28	78	36153	1.0924 ug/L	98
47)	Trichloroethene	12.14	130	8907	1.0290 ug/L	94
48)	Methylcyclohexane	12.24	83	12602	1.1056 ug/L	95
49)	1,2-Dichloropropane	12.40	63	9829	1.0583 ug/L	93
51)	Bromodichloromethane	12.74	83	11420	1.0106 ug/L	99
52)	Dibromomethane	12.85	93	4519	0.9657 ug/L	94
53)	2-Chloroethyl Vinyl Ether	13.09	63	4244	0.9302 ug/L	91
54)	4-Methyl-2-Pentanone	13.13	58	2380	0.8549 ug/L	86
55)	cis-1,3-Dichloropropene	13.48	75	13154	0.9929 ug/L	97
56)	Dimethyl Disulfide	13.79	79	6584	0.9031 ug/L	86
59)	Toluene	13.97	91	36757	1.0708 ug/L	99
60)	Ethyl Methacrylate	14.09	69	9604	0.9626 ug/L	85
62)	trans-1,3-Dichloropropene	14.18	75	10905	0.9333 ug/L	96
63)	1,1,2-Trichloroethane	14.43	97	6676	1.0496 ug/L	97
64)	2-Hexanone	14.36	43	6432	1.1545 ug/L	82
65)	1,3-Dichloropropane	14.79	76	12012	1.0621 ug/L	95
66)	Tetrachloroethene	14.93	166	9681	1.0838 ug/L	94
67)	Dibromochloromethane	15.24	129	7329	0.9400 ug/L	96
68)	1,2-Dibromoethane	15.53	107	6285	1.0074 ug/L	96
69)	1-Chlorohexane	15.64	91	12081	1.0220 ug/L	94
70)	Chlorobenzene	16.12	112	23810	1.0468 ug/L	99
71)	1,1,1,2-Tetrachloroethane	16.16	131	8108	0.9784 ug/L	98
72)	Ethylbenzene	16.16	106	12326	1.0016 ug/L	86
73)	m-,p-Xylene	16.27	106	31451	2.1257 ug/L	96
74)	o-Xylene	16.93	106	15881	1.0834 ug/L	96
75)	Styrene	16.97	104	25864	1.0213 ug/L	98
76)	Bromoform	17.55	173	4337	0.8671 ug/L #	87
77)	Isopropylbenzene	17.43	105	39714	1.0715 ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	7728	1.0371 ug/L	99
81)	1,2,3-Trichloropropane	17.92	110	2176	1.0020 ug/L	64
82)	trans-1,4-Dichloro-2-Buten	17.98	53	2197	0.8353 ug/L	91
83)	n-Propylbenzene	18.03	91	48834	1.1415 ug/L	97
84)	Bromobenzene	18.19	156	10613	1.0609 ug/L	96
85)	1,3,5-Trimethylbenzene	18.26	105	33513	1.0849 ug/L	98
86)	2-Chlorotoluene	18.35	91	30600	1.0775 ug/L	99
87)	4-Chlorotoluene	18.41	91	30056	1.1074 ug/L	98
88)	a-Methylstyrene	18.74	118	17257	1.0062 ug/L	99
89)	tert-Butylbenzene	18.81	134	7125	1.0526 ug/L	95
90)	1,2,4-Trimethylbenzene	18.87	105	34381	1.0866 ug/L	99
91)	sec-Butylbenzene	19.13	105	40900	1.0964 ug/L	100
92)	p-Isopropyltoluene	19.32	119	34593	1.0733 ug/L	99
93)	1,3-Dichlorobenzene	19.54	146	20061	1.0542 ug/L	97
94)	1,4-Dichlorobenzene	19.70	146	20771	1.0764 ug/L	93
95)	n-Butylbenzene	19.94	91	33680	1.0976 ug/L	98
96)	1,2-Dichlorobenzene	20.28	146	18936	1.0510 ug/L	99
97)	1,2-Dibromo-3-Chloropropan	21.46	75	1282	0.9158 ug/L	87
98)	1,2,4-Trichlorobenzene	22.82	180	12669	0.9839 ug/L	98
99)	Hexachlorobutadiene	23.02	225	5669	1.0041 ug/L	90
100)	Naphthalene	23.28	128	26232	1.0316 ug/L	96
101)	1,2,3-Trichlorobenzene	23.69	180	12370	1.0223 ug/L	97

(#) = qualifier out of range (m) = manual integration
6M139180.D 8260WTR.M Thu May 12 12:56:12 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139180.D Vial: 4
Acq On : 11 May 2016 11:45 Operator: TMB
Sample : WG568265-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\6M139180.D Vial: 4
Acq On : 11 May 2016 11:45 Operator: TMB
Sample : WG568265-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	0.9757	2.4	100	0.00
3	P	Chloromethane	1.0000	1.2682	-26.8#	100	0.00
4	C	Vinyl Chloride	1.0000	1.2003	-20.0#	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.03
6	T	Bromomethane	1.0000	1.2174	-21.7#	100	0.00
7	T	Chloroethane	1.0000	1.1006	-10.1	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0572	-5.7	100	0.00
9	T	Diethyl ether	5.0000	5.3161	-6.3	100	0.00
10	T	Isoprene	-1.0000	1.2497	0.0	100	0.00
11	T	Acrolein	-1.0000	2.8908	0.0	0	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	1.0598	-6.0	100	0.00
13	T	Acetone	-1.0000	-2.5954	0.0	100	-0.01
14	C	1,1-Dichloroethene	1.0000	1.0899	-9.0	100	0.00
15	T	Tert-Butyl Alcohol	10.0000	9.6909	3.1	100	0.00
16	T	Dimethyl Sulfide	-1.0000	1.1958	0.0	100	0.00
17	T	Iodomethane	-1.0000	2.0678	0.0	0	0.00
18	T	Methyl acetate	-1.0000	1.4313	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.1005	-10.1	100	0.00
20	T	Carbon Disulfide	1.0000	1.0639	-6.4	100	0.00
21	T	Acrylonitrile	2.5000	2.3581	5.7	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	1.0326	-3.3	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	1.0694	-6.9	100	0.00
24	T	n-Hexane	-1.0000	1.2138	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	5.2841	-5.7	100	0.00
26	T	Vinyl Acetate	-1.0000	0.8207	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	1.0363	-3.6	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	5.0867	-1.7	100	0.00
29	T	2-Butanone	-1.0000	1.5204	0.0	100	0.00
30	T	Propionitrile	5.0000	5.1255	-2.5	100	-0.01
31	T	2,2-Dichloropropane	1.0000	1.1303	-13.0	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	1.0486	-4.9	100	0.00
33	C	Chloroform	1.0000	1.0538	-5.4	100	0.00
34		1-Bromopropane	1.0000	0.8163	18.4	100	0.00
35	T	Bromochloromethane	1.0000	1.0045	-0.4	100	0.00
36	T	Tetrahydrofuran	5.0000	3.8039	23.9#	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.5183	0.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	1.0425	-4.3	100	0.00
39	T	Cyclohexane	1.0000	1.0809	-8.1	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0345	-3.5	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	5.0197	-0.4	100	0.00
42	T	Carbon Tetrachloride	1.0000	1.0077	-0.8	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.5043	0.0	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	1.0000	0.9921	0.8	100	0.00
46	T	Benzene	1.0000	1.0924	-9.2	100	0.00
47	T	Trichloroethene	1.0000	1.0290	-2.9	100	0.00
48	T	Methylcyclohexane	-1.0000	1.1056	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	1.0583	-5.8	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-12.72#
51	T	Bromodichloromethane	1.0000	1.0107	-1.1	100	0.00
52	T	Dibromomethane	1.0000	0.9657	3.4	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.9302	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.8549	0.0	100	0.00

(#) = Out of Range
6M139180.D 8260WTR.M Thu May 12 12:56:56 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139180.D Vial: 4
Acq On : 11 May 2016 11:45 Operator: TMB
Sample : WG568265-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.9929	0.7	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.9031	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.5560	0.0	100	0.00
59	C	Toluene	1.0000	1.0708	-7.1	100	0.00
60	T	Ethyl Methacrylate	1.0000	0.9626	3.7	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	1.0000	0.9333	6.7	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	1.0496	-5.0	100	0.00
64	T	2-Hexanone	-1.0000	1.1545	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	1.0621	-6.2	100	0.00
66	T	Tetrachloroethene	1.0000	1.0838	-8.4	100	0.00
67	T	Dibromochloromethane	1.0000	0.9400	6.0	100	0.00
68	T	1,2-Dibromoethane	1.0000	1.0075	-0.7	100	0.00
69	T	1-Chlorohexane	1.0000	1.0220	-2.2	100	0.00
70	P	Chlorobenzene	1.0000	1.0468	-4.7	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.9784	2.2	100	0.00
72	C	Ethylbenzene	1.0000	1.0016	-0.2	100	0.00
73	T	m-,p-Xylene	2.0000	2.1257	-6.3	100	0.00
74	T	o-Xylene	1.0000	1.0835	-8.3	100	0.00
75	T	Styrene	1.0000	1.0213	-2.1	100	0.00
76	P	Bromoform	1.0000	0.8671	13.3	100	0.00
77	T	Isopropylbenzene	1.0000	1.0715	-7.2	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	1.0000	1.0371	-3.7	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.5456	0.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	1.0020	-0.2	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8353	16.5	100	0.00
83	T	n-Propylbenzene	1.0000	1.1415	-14.2	100	0.00
84	T	Bromobenzene	1.0000	1.0609	-6.1	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	1.0850	-8.5	100	0.00
86	T	2-Chlorotoluene	1.0000	1.0775	-7.7	100	0.00
87	T	4-Chlorotoluene	1.0000	1.1074	-10.7	100	0.00
88	T	a-Methylstyrene	-1.0000	1.0062	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	1.0526	-5.3	100	0.00
90	T	1,2,4-Trimethylbenzene	1.0000	1.0866	-8.7	100	0.00
91	T	sec-Butylbenzene	1.0000	1.0964	-9.6	100	0.00
92	T	p-Isopropyltoluene	1.0000	1.0733	-7.3	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	1.0542	-5.4	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	1.0764	-7.6	100	0.00
95	T	n-Butylbenzene	1.0000	1.0976	-9.8	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	1.0510	-5.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.9158	0.0	100	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	0.9839	1.6	100	0.00
99	T	Hexachlorobutadiene	1.0000	1.0041	-0.4	100	0.00
100	T	Naphthalene	1.0000	1.0316	-3.2	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	1.0223	-2.2	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1
6M139180.D 8260WTR.M Thu May 12 12:56:56 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139181.D Vial: 5
Acq On : 11 May 2016 12:16 Operator: TMB
Sample : WG568265-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:12 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	784533	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	566425	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	308839	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	8544	1.0374 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	4.16%#	
43) 1,2-Dichloroethane-d4	11.11	65	9286	1.0123 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.04%#	
58) Toluene-d8	13.85	98	29049	1.0421 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.16%#	
80) p-Bromofluorobenzene	17.84	95	12178	1.0638 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.24%#	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	23967	1.9398 ug/L	96
3) Chloromethane	3.94	50	35265	2.0813 ug/L	88
4) Vinyl Chloride	4.17	62	22874	2.0994 ug/L	100
5) 1,3-Butadiene	4.22	54	6148	0.8058 ug/L	84
6) Bromomethane	5.08	94	12667	2.0565 ug/L	94
7) Chloroethane	5.24	64	14443	2.0747 ug/L	100
8) Trichlorofluoromethane	5.74	101	27933	2.0205 ug/L	98
9) Diethyl ether	6.29	59	187514	25.6235 ug/L	99
10) Isoprene	6.32	67	13979	2.0251 ug/L	96
11) Acrolein	6.54	56	14339	13.0467 ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.56	101	16079	2.0362 ug/L	99
13) Acetone	6.66	43	9924	Below Cal	80
14) 1,1-Dichloroethene	6.88	61	28688	2.0052 ug/L	97
15) Tert-Butyl Alcohol	7.01	59	36735	51.7599 ug/L	94
16) Dimethyl Sulfide	7.17	62	10482	2.2486 ug/L	90
17) Iodomethane	7.44	142	2574	2.4066 ug/L #	70
18) Methyl acetate	7.45	43	17127	2.5619 ug/L #	88
19) Methylene Chloride	7.72	84	17843	2.1116 ug/L	99
20) Carbon Disulfide	7.77	76	30753	2.0775 ug/L	100
21) Acrylonitrile	7.92	53	36777	12.5839 ug/L	98
22) Methyl Tert Butyl Ether	7.95	73	44740	2.0532 ug/L	98
23) trans-1,2-Dichloroethene	8.21	96	17244	2.1079 ug/L	100
24) n-Hexane	8.28	57	19457	2.2541 ug/L	93
25) Diisopropyl ether	8.67	45	885124	26.4516 ug/L	100
26) Vinyl Acetate	8.86	43	18599	1.6093 ug/L	93
27) 1,1-Dichloroethane	8.89	63	33571	2.0583 ug/L	99
28) Ethyl-Tert-Butyl ether	9.30	59	725691	26.0876 ug/L	100
29) 2-Butanone	9.52	43	8923	2.5062 ug/L #	82
30) Propionitrile	9.64	54	25148	25.7322 ug/L	99
31) 2,2-Dichloropropane	9.75	77	25590	2.1325 ug/L	90
32) cis-1,2-Dichloroethene	9.82	96	18694	2.0686 ug/L	98
33) Chloroform	10.06	83	31054	2.0791 ug/L	98
34) 1-Bromopropane	10.21	122	2041	1.6766 ug/L	96
35) Bromochloromethane	10.32	130	10177	2.0530 ug/L	96
36) Tetrahydrofuran	10.35	42	64221	25.5345 ug/L	98
38) 1,1,1-Trichloroethane	10.65	97	26610	2.0330 ug/L	96
39) Cyclohexane	10.69	56	26925	2.0541 ug/L	96
40) 1,1-Dichloropropene	10.87	75	23273	2.0471 ug/L	95
41) Tert-Amyl-Methyl ether	11.00	73	560773	25.8782 ug/L	99
42) Carbon Tetrachloride	11.05	117	23080	1.9855 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139181.D 8260WTR.M Thu May 12 12:56:13 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139181.D Vial: 5
Acq On : 11 May 2016 12:16 Operator: TMB
Sample : WG568265-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:12 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

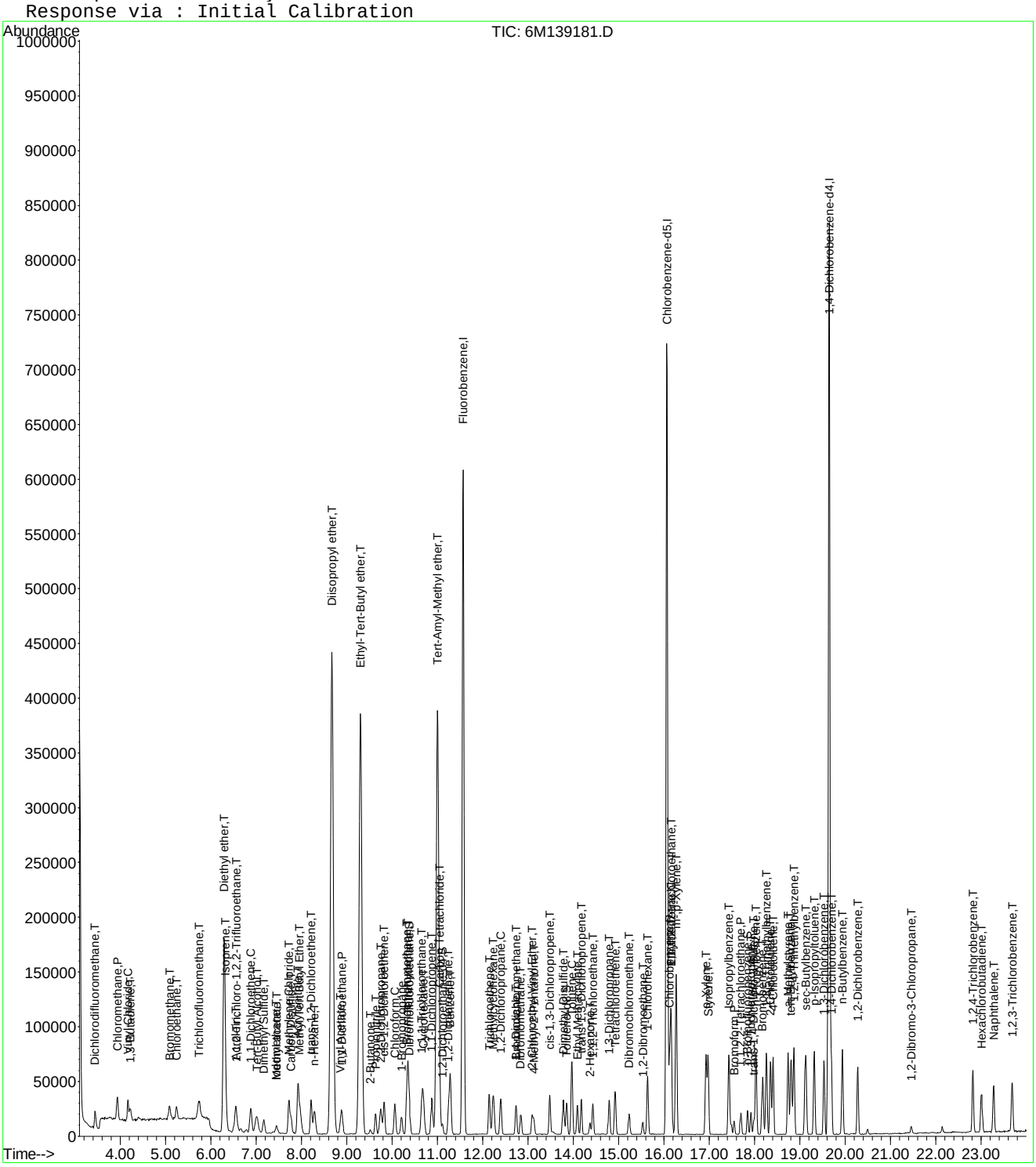
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	23276	2.0292	ug/L	99
46)	Benzene	11.28	78	68321	2.0858	ug/L	99
47)	Trichloroethene	12.15	130	17539	2.0472	ug/L	98
48)	Methylcyclohexane	12.23	83	24041	2.1311	ug/L	98
49)	1,2-Dichloropropane	12.40	63	18651	2.0289	ug/L	97
50)	1,4-Dioxane	12.73	88	2971	46.5411	ug/L	90
51)	Bromodichloromethane	12.74	83	22531	2.0146	ug/L	100
52)	Dibromomethane	12.84	93	9657	2.0850	ug/L	98
53)	2-Chloroethyl Vinyl Ether	13.09	63	8792	1.9470	ug/L	97
54)	4-Methyl-2-Pentanone	13.13	58	5305	1.9252	ug/L	98
55)	cis-1,3-Dichloropropene	13.48	75	26647	2.0322	ug/L	98
56)	Dimethyl Disulfide	13.78	79	12805	1.7747	ug/L	98
59)	Toluene	13.97	91	70880	2.1113	ug/L	100
60)	Ethyl Methacrylate	14.09	69	19469	1.9953	ug/L	97
62)	trans-1,3-Dichloropropene	14.18	75	22779	1.9933	ug/L	99
63)	1,1,2-Trichloroethane	14.43	97	12834	2.0631	ug/L	98
64)	2-Hexanone	14.37	43	12550	2.3033	ug/L	91
65)	1,3-Dichloropropane	14.79	76	23409	2.1163	ug/L	95
66)	Tetrachloroethene	14.93	166	18262	2.0903	ug/L	97
67)	Dibromochloromethane	15.23	129	14989	1.9656	ug/L	99
68)	1,2-Dibromoethane	15.54	107	12134	1.9888	ug/L	95
69)	1-Chlorohexane	15.64	91	24197	2.0930	ug/L	97
70)	Chlorobenzene	16.12	112	45883	2.0626	ug/L	84
71)	1,1,1,2-Tetrachloroethane	16.16	131	15892	1.9609	ug/L	99
72)	Ethylbenzene	16.16	106	25023	2.0792	ug/L	99
73)	m-,p-Xylene	16.27	106	60368	4.1719	ug/L	98
74)	o-Xylene	16.93	106	29152	2.0336	ug/L	94
75)	Styrene	16.98	104	50540	2.0405	ug/L	99
76)	Bromoform	17.55	173	8431	1.7235	ug/L	95
77)	Isopropylbenzene	17.43	105	76038	2.0978	ug/L	99
79)	1,1,2,2-Tetrachloroethane	17.70	83	15302	2.0618	ug/L	97
81)	1,2,3-Trichloropropane	17.92	110	4194	1.9391	ug/L	74
82)	trans-1,4-Dichloro-2-Buten	17.98	53	4643	1.7725	ug/L	99
83)	n-Propylbenzene	18.03	91	93222	2.1880	ug/L	98
84)	Bromobenzene	18.18	156	20646	2.0721	ug/L	98
85)	1,3,5-Trimethylbenzene	18.26	105	64709	2.1034	ug/L	99
86)	2-Chlorotoluene	18.35	91	58664	2.0740	ug/L	99
87)	4-Chlorotoluene	18.41	91	56406	2.0866	ug/L	99
88)	a-Methylstyrene	18.74	118	33613	1.9679	ug/L	100
89)	tert-Butylbenzene	18.80	134	13850	2.0544	ug/L	75
90)	1,2,4-Trimethylbenzene	18.87	105	66514	2.1107	ug/L	99
91)	sec-Butylbenzene	19.13	105	79269	2.1336	ug/L	97
92)	p-Isopropyltoluene	19.32	119	67362	2.0984	ug/L	100
93)	1,3-Dichlorobenzene	19.53	146	39491	2.0836	ug/L	100
94)	1,4-Dichlorobenzene	19.70	146	39086	2.0337	ug/L	85
95)	n-Butylbenzene	19.94	91	64243	2.1021	ug/L	98
96)	1,2-Dichlorobenzene	20.28	146	36552	2.0370	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	21.46	75	2666	1.9121	ug/L	95
98)	1,2,4-Trichlorobenzene	22.82	180	26232	2.0455	ug/L	99
99)	Hexachlorobutadiene	23.02	225	12496	2.2222	ug/L	97
100)	Naphthalene	23.28	128	51153	2.0199	ug/L	100
101)	1,2,3-Trichlorobenzene	23.69	180	23903	1.9834	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M139181.D 8260WTR.M Thu May 12 12:56:13 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139181.D Vial: 5
Acq On : 11 May 2016 12:16 Operator: TMB
Sample : WG568265-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\6M139181.D Vial: 5
Acq On : 11 May 2016 12:16 Operator: TMB
Sample : WG568265-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.9398	3.0	100	0.00
3	P	Chloromethane	2.0000	2.0813	-4.1	100	0.00
4	C	Vinyl Chloride	2.0000	2.0994	-5.0	100	0.00
5	T	1,3-Butadiene	-1.0000	0.8058	0.0	0	0.02
6	T	Bromomethane	2.0000	2.0565	-2.8	100	0.00
7	T	Chloroethane	2.0000	2.0747	-3.7	100	0.00
8	T	Trichlorofluoromethane	2.0000	2.0205	-1.0	100	0.00
9	T	Diethyl ether	25.0000	25.6235	-2.5	100	0.00
10	T	Isoprene	-1.0000	2.0251	0.0	100	0.00
11	T	Acrolein	12.5000	13.0467	-4.4	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	2.0362	-1.8	100	0.00
13	T	Acetone	-1.0000	-0.1597	0.0	100	0.00
14	C	1,1-Dichloroethene	2.0000	2.0052	-0.3	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	51.7599	-3.5	100	0.00
16	T	Dimethyl Sulfide	-1.0000	2.2486	0.0	100	0.00
17	T	Iodomethane	2.0000	2.4066	-20.3#	100	0.00
18	T	Methyl acetate	-1.0000	2.5619	0.0	100	0.00
19	T	Methylene Chloride	2.0000	2.1115	-5.6	100	0.00
20	T	Carbon Disulfide	2.0000	2.0775	-3.9	100	0.00
21	T	Acrylonitrile	12.5000	12.5839	-0.7	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	2.0532	-2.7	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	2.1079	-5.4	100	0.00
24	T	n-Hexane	-1.0000	2.2541	0.0	100	-0.01
25	T	Diisopropyl ether	25.0000	26.4516	-5.8	100	0.00
26	T	Vinyl Acetate	-1.0000	1.6093	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	2.0583	-2.9	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	26.0876	-4.4	100	0.00
29	T	2-Butanone	-1.0000	2.5062	0.0	100	0.00
30	T	Propionitrile	25.0000	25.7322	-2.9	100	0.00
31	T	2,2-Dichloropropane	2.0000	2.1325	-6.6	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	2.0686	-3.4	100	0.00
33	C	Chloroform	2.0000	2.0791	-4.0	100	0.00
34		1-Bromopropane	2.0000	1.6766	16.2	100	0.00
35	T	Bromochloromethane	2.0000	2.0530	-2.6	100	0.00
36	T	Tetrahydrofuran	25.0000	25.5345	-2.1	100	0.00
37	S	Dibromofluoromethane	1.0000	1.0374	-3.7	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	2.0330	-1.6	100	0.00
39	T	Cyclohexane	2.0000	2.0541	-2.7	100	0.00
40	T	1,1-Dichloropropene	2.0000	2.0471	-2.4	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	25.8782	-3.5	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.9855	0.7	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	1.0123	-1.2	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	-0.01
45	T	1,2-Dichloroethane	2.0000	2.0292	-1.5	100	0.00
46	T	Benzene	2.0000	2.0858	-4.3	100	0.00
47	T	Trichloroethene	2.0000	2.0471	-2.4	100	0.00
48	T	Methylcyclohexane	-1.0000	2.1311	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	2.0289	-1.4	100	0.00
50	T	1,4-Dioxane	-1.0000	46.5411	0.0	0	0.00
51	T	Bromodichloromethane	2.0000	2.0146	-0.7	100	0.00
52	T	Dibromomethane	2.0000	2.0850	-4.2	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.9470	2.7	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.9252	0.0	100	0.00

(#) = Out of Range
6M139181.D 8260WTR.M Thu May 12 12:57:05 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139181.D Vial: 5
Acq On : 11 May 2016 12:16 Operator: TMB
Sample : WG568265-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	2.0322	-1.6	100	0.00
56	T	Dimethyl Disulfide	-1.0000	1.7747	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	1.0421	-4.2	100	0.00
59	C	Toluene	2.0000	2.1113	-5.6	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.9953	0.2	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	-0.01
62	T	trans-1,3-Dichloropropene	2.0000	1.9933	0.3	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	2.0631	-3.2	100	0.00
64	T	2-Hexanone	-1.0000	2.3033	0.0	100	0.00
65	T	1,3-Dichloropropane	2.0000	2.1163	-5.8	100	0.00
66	T	Tetrachloroethene	2.0000	2.0903	-4.5	100	0.00
67	T	Dibromochloromethane	2.0000	1.9656	1.7	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.9888	0.6	100	0.00
69	T	1-Chlorohexane	2.0000	2.0930	-4.7	100	0.00
70	P	Chlorobenzene	2.0000	2.0626	-3.1	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.9609	2.0	100	0.00
72	C	Ethylbenzene	2.0000	2.0792	-4.0	100	0.00
73	T	m-,p-Xylene	4.0000	4.1719	-4.3	100	0.00
74	T	o-Xylene	2.0000	2.0336	-1.7	100	0.00
75	T	Styrene	2.0000	2.0405	-2.0	100	0.00
76	P	Bromoform	2.0000	1.7235	13.8	100	0.00
77	T	Isopropylbenzene	2.0000	2.0978	-4.9	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	2.0000	2.0618	-3.1	100	0.00
80	S	p-Bromofluorobenzene	1.0000	1.0638	-6.4	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	1.9391	3.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	1.7725	11.4	100	0.00
83	T	n-Propylbenzene	2.0000	2.1880	-9.4	100	0.00
84	T	Bromobenzene	2.0000	2.0721	-3.6	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	2.1034	-5.2	100	0.00
86	T	2-Chlorotoluene	2.0000	2.0740	-3.7	100	0.00
87	T	4-Chlorotoluene	2.0000	2.0866	-4.3	100	0.00
88	T	a-Methylstyrene	-1.0000	1.9679	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	2.0544	-2.7	100	-0.01
90	T	1,2,4-Trimethylbenzene	2.0000	2.1107	-5.5	100	0.00
91	T	sec-Butylbenzene	2.0000	2.1336	-6.7	100	0.00
92	T	p-Isopropyltoluene	2.0000	2.0984	-4.9	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	2.0836	-4.2	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	2.0337	-1.7	100	0.00
95	T	n-Butylbenzene	2.0000	2.1021	-5.1	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	2.0370	-1.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.9122	4.4	100	0.00
98	T	1,2,4-Trichlorobenzene	2.0000	2.0455	-2.3	100	0.00
99	T	Hexachlorobutadiene	2.0000	2.2222	-11.1	100	0.00
100	T	Naphthalene	2.0000	2.0199	-1.0	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.9834	0.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139181.D 8260WTR.M Thu May 12 12:57:05 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139182.D Vial: 6
Acq On : 11 May 2016 12:48 Operator: TMB
Sample : WG568265-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:13 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.56	96	784317	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	571879	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	313055	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	20434	2.4819	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 9.92%#			
43) 1,2-Dichloroethane-d4	11.11	65	23765	2.5915	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 10.36%#			
58) Toluene-d8	13.85	98	70235	2.4955	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 10.00%#			
80) p-Bromofluorobenzene	17.84	95	29589	2.5498	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 10.20%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	57866	4.6849	ug/L	99
3) Chloromethane	3.93	50	83851	4.9502	ug/L	96
4) Vinyl Chloride	4.16	62	52930	4.8593	ug/L	100
5) 1,3-Butadiene	4.21	54	9609	4.0196	ug/L	84
6) Bromomethane	5.08	94	29793	4.8382	ug/L	98
7) Chloroethane	5.24	64	34154	4.9074	ug/L	100
8) Trichlorofluoromethane	5.74	101	67091	4.8544	ug/L	98
9) Diethyl ether	6.29	59	354290	48.4266	ug/L	100
10) Isoprene	6.32	67	33456	4.8480	ug/L	98
11) Acrolein	6.55	56	27895	25.3880	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	39251	4.9721	ug/L	99
13) Acetone	6.66	43	18701	3.9213	ug/L	95
14) 1,1-Dichloroethene	6.89	61	70737	4.9457	ug/L	100
15) Tert-Butyl Alcohol	7.01	59	72854	102.6800	ug/L	97
16) Dimethyl Sulfide	7.17	62	23965	5.1423	ug/L	97
17) Iodomethane	7.45	142	9304	3.9748	ug/L	99
18) Methyl acetate	7.45	43	39009	5.8366	ug/L	94
19) Methylene Chloride	7.72	84	42119	4.9858	ug/L	99
20) Carbon Disulfide	7.77	76	73171	4.9443	ug/L	100
21) Acrylonitrile	7.93	53	70002	23.9590	ug/L	92
22) Methyl Tert Butyl Ether	7.96	73	111589	5.1224	ug/L	99
23) trans-1,2-Dichloroethene	8.21	96	39587	4.8405	ug/L	95
24) n-Hexane	8.28	57	46754	5.4180	ug/L	96
25) Diisopropyl ether	8.67	45	1658197	49.5682	ug/L	100
26) Vinyl Acetate	8.86	43	54317	4.7011	ug/L	97
27) 1,1-Dichloroethane	8.90	63	81893	5.0223	ug/L	100
28) Ethyl-Tert-Butyl ether	9.31	59	1372500	49.3531	ug/L	100
29) 2-Butanone	9.51	43	20429	5.7395	ug/L	91
30) Propionitrile	9.63	54	49875	51.0476	ug/L	100
31) 2,2-Dichloropropane	9.74	77	63268	5.2737	ug/L	95
32) cis-1,2-Dichloroethene	9.83	96	44454	4.9205	ug/L	96
33) Chloroform	10.06	83	72273	4.8400	ug/L	99
34) 1-Bromopropane	10.21	122	6342	5.2110	ug/L	91
35) Bromochloromethane	10.33	130	25378	5.1209	ug/L	100
36) Tetrahydrofuran	10.36	42	119875	50.9523	ug/L	98
38) 1,1,1-Trichloroethane	10.65	97	64706	4.9448	ug/L	99
39) Cyclohexane	10.68	56	65366	4.9881	ug/L	99
40) 1,1-Dichloropropene	10.88	75	56728	4.9913	ug/L	97
41) Tert-Amyl-Methyl ether	11.00	73	1067848	49.2919	ug/L	100
42) Carbon Tetrachloride	11.04	117	55925	4.8124	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M139182.D 8260WTR.M Thu May 12 12:56:13 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139182.D Vial: 6
Acq On : 11 May 2016 12:48 Operator: TMB
Sample : WG568265-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:13 2016 Quant Results File: 8260WTR.RES

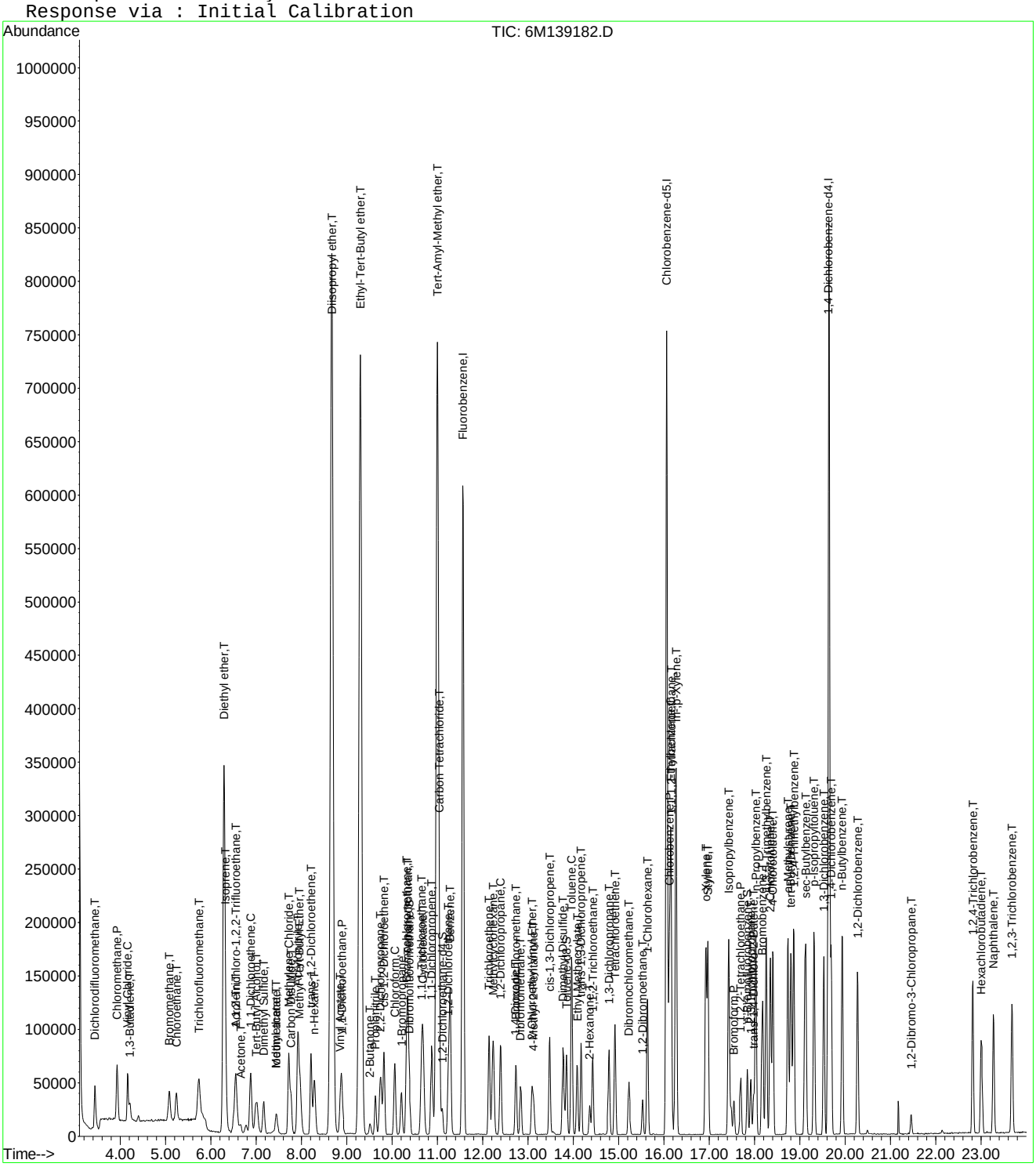
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.25	62	58247	5.0795	ug/L	99
46)	Benzene	11.29	78	166964	5.0987	ug/L	98
47)	Trichloroethene	12.14	130	42346	4.9440	ug/L	98
48)	Methylcyclohexane	12.24	83	57612	5.1083	ug/L	99
49)	1,2-Dichloropropane	12.39	63	45757	4.9790	ug/L	99
50)	1,4-Dioxane	12.73	88	6024	94.3926	ug/L	94
51)	Bromodichloromethane	12.74	83	55582	4.9712	ug/L	98
52)	Dibromomethane	12.84	93	24066	5.1974	ug/L	97
53)	2-Chloroethyl Vinyl Ether	13.09	63	22628	5.0123	ug/L	98
54)	4-Methyl-2-Pentanone	13.12	58	13771	4.9990	ug/L	98
55)	cis-1,3-Dichloropropene	13.48	75	65268	4.9788	ug/L	100
56)	Dimethyl Disulfide	13.78	79	32388	4.4900	ug/L	97
59)	Toluene	13.96	91	170623	5.0338	ug/L	100
60)	Ethyl Methacrylate	14.09	69	48224	4.8952	ug/L	97
62)	trans-1,3-Dichloropropene	14.18	75	57170	4.9550	ug/L	98
63)	1,1,2-Trichloroethane	14.43	97	31738	5.0533	ug/L	100
64)	2-Hexanone	14.36	43	30250	5.4989	ug/L	97
65)	1,3-Dichloropropane	14.79	76	56332	5.0442	ug/L	97
66)	Tetrachloroethene	14.92	166	44530	5.0485	ug/L	98
67)	Dibromochloromethane	15.23	129	38407	4.9886	ug/L	100
68)	1,2-Dibromoethane	15.53	107	31700	5.1461	ug/L	100
69)	1-Chlorohexane	15.65	91	57685	4.9422	ug/L	97
70)	Chlorobenzene	16.13	112	111261	4.9540	ug/L	93
71)	1,1,1,2-Tetrachloroethane	16.17	131	39251	4.7969	ug/L	99
72)	Ethylbenzene	16.16	106	60381	4.9693	ug/L	99
73)	m-,p-Xylene	16.27	106	146775	10.0465	ug/L	99
74)	o-Xylene	16.93	106	70994	4.9051	ug/L	97
75)	Styrene	16.97	104	124289	4.9703	ug/L	99
76)	Bromoform	17.55	173	22369	4.5292	ug/L	99
77)	Isopropylbenzene	17.43	105	185751	5.0757	ug/L	99
79)	1,1,2,2-Tetrachloroethane	17.70	83	38392	5.1034	ug/L	99
81)	1,2,3-Trichloropropane	17.92	110	11097	5.0617	ug/L	81
82)	trans-1,4-Dichloro-2-Buten	17.98	53	13138	4.9479	ug/L	99
83)	n-Propylbenzene	18.04	91	224177	5.1907	ug/L	99
84)	Bromobenzene	18.18	156	49206	4.8720	ug/L	97
85)	1,3,5-Trimethylbenzene	18.26	105	157987	5.0663	ug/L	100
86)	2-Chlorotoluene	18.35	91	149598	5.2177	ug/L	99
87)	4-Chlorotoluene	18.40	91	132680	4.8421	ug/L	99
88)	a-Methylstyrene	18.74	118	83761	4.8378	ug/L	100
89)	tert-Butylbenzene	18.80	134	33944	4.9673	ug/L	99
90)	1,2,4-Trimethylbenzene	18.87	105	162371	5.0832	ug/L	98
91)	sec-Butylbenzene	19.13	105	196080	5.2067	ug/L	99
92)	p-Isopropyltoluene	19.31	119	168870	5.1897	ug/L	99
93)	1,3-Dichlorobenzene	19.54	146	96772	5.0371	ug/L	99
94)	1,4-Dichlorobenzene	19.69	146	95507	4.9025	ug/L	93
95)	n-Butylbenzene	19.94	91	158252	5.1085	ug/L	100
96)	1,2-Dichlorobenzene	20.28	146	90214	4.9597	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	21.47	75	6583	4.6580	ug/L	91
98)	1,2,4-Trichlorobenzene	22.83	180	65836	5.0646	ug/L	99
99)	Hexachlorobutadiene	23.01	225	29043	5.0953	ug/L	99
100)	Naphthalene	23.27	128	133109	5.1852	ug/L	98
101)	1,2,3-Trichlorobenzene	23.68	180	59619	4.8804	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139182.D 8260WTR.M Thu May 12 12:56:13 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\051116\6M139182.D Vial: 6
Acq On : 11 May 2016 12:48 Operator: TMB
Sample : WG568265-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\6M139182.D Vial: 6
Acq On : 11 May 2016 12:48 Operator: TMB
Sample : WG568265-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.6849	6.3	100	0.00
3	P	Chloromethane	5.0000	4.9502	1.0	100	0.00
4	C	Vinyl Chloride	5.0000	4.8593	2.8	100	0.00
5	T	1,3-Butadiene	5.0000	4.0196	19.6	100	0.01
6	T	Bromomethane	5.0000	4.8382	3.2	100	0.00
7	T	Chloroethane	5.0000	4.9074	1.9	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.8544	2.9	100	0.01
9	T	Diethyl ether	50.0000	48.4266	3.1	100	0.00
10	T	Isoprene	5.0000	4.8480	3.0	100	0.00
11	T	Acrolein	25.0000	25.3880	-1.6	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.9721	0.6	100	0.00
13	T	Acetone	5.0000	3.9213	21.6#	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.9458	1.1	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	102.6800	-2.7	100	0.00
16	T	Dimethyl Sulfide	5.0000	5.1423	-2.8	100	0.00
17	T	Iodomethane	5.0000	3.9748	20.5#	100	0.00
18	T	Methyl acetate	5.0000	5.8366	-16.7	100	0.00
19	T	Methylene Chloride	5.0000	4.9858	0.3	100	0.00
20	T	Carbon Disulfide	5.0000	4.9443	1.1	100	0.00
21	T	Acrylonitrile	25.0000	23.9591	4.2	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	5.1224	-2.4	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.8405	3.2	100	0.00
24	T	n-Hexane	5.0000	5.4180	-8.4	100	0.00
25	T	Diisopropyl ether	50.0000	49.5682	0.9	100	0.00
26	T	Vinyl Acetate	5.0000	4.7011	6.0	100	0.00
27	P	1,1-Dichloroethane	5.0000	5.0223	-0.4	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	49.3531	1.3	100	0.00
29	T	2-Butanone	5.0000	5.7395	-14.8	100	0.00
30	T	Propionitrile	50.0000	51.0476	-2.1	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.2737	-5.5	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.9205	1.6	100	0.00
33	C	Chloroform	5.0000	4.8400	3.2	100	0.00
34		1-Bromopropane	5.0000	5.2110	-4.2	100	0.00
35	T	Bromochloromethane	5.0000	5.1209	-2.4	100	0.00
36	T	Tetrahydrofuran	50.0000	50.9523	-1.9	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4819	0.7	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.9448	1.1	100	0.00
39	T	Cyclohexane	5.0000	4.9881	0.2	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.9913	0.2	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	49.2919	1.4	100	0.00
42	T	Carbon Tetrachloride	5.0000	4.8124	3.8	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.5915	-3.7	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	5.0000	5.0795	-1.6	100	0.00
46	T	Benzene	5.0000	5.0987	-2.0	100	0.00
47	T	Trichloroethene	5.0000	4.9440	1.1	100	0.00
48	T	Methylcyclohexane	5.0000	5.1083	-2.2	100	0.00
49	C	1,2-Dichloropropane	5.0000	4.9790	0.4	100	0.00
50	T	1,4-Dioxane	100.0000	94.3927	5.6	100	0.00
51	T	Bromodichloromethane	5.0000	4.9712	0.6	100	0.00
52	T	Dibromomethane	5.0000	5.1974	-3.9	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	5.0123	-0.2	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.9990	0.0	100	0.00

(#) = Out of Range
6M139182.D 8260WTR.M Thu May 12 12:57:17 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139182.D Vial: 6
Acq On : 11 May 2016 12:48 Operator: TMB
Sample : WG568265-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.9788	0.4	100	0.00
56	T	Dimethyl Disulfide	5.0000	4.4900	10.2	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.4955	0.2	100	0.00
59	C	Toluene	5.0000	5.0338	-0.7	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.8952	2.1	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	5.0000	4.9550	0.9	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	5.0533	-1.1	100	0.00
64	T	2-Hexanone	5.0000	5.4989	-10.0	100	0.00
65	T	1,3-Dichloropropane	5.0000	5.0442	-0.9	100	0.00
66	T	Tetrachloroethene	5.0000	5.0485	-1.0	100	0.00
67	T	Dibromochloromethane	5.0000	4.9886	0.2	100	0.00
68	T	1,2-Dibromoethane	5.0000	5.1461	-2.9	100	0.00
69	T	1-Chlorohexane	5.0000	4.9422	1.2	100	0.00
70	P	Chlorobenzene	5.0000	4.9539	0.9	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.7969	4.1	100	0.00
72	C	Ethylbenzene	5.0000	4.9693	0.6	100	0.00
73	T	m-,p-Xylene	10.0000	10.0465	-0.5	100	0.00
74	T	o-Xylene	5.0000	4.9051	1.9	100	0.00
75	T	Styrene	5.0000	4.9703	0.6	100	0.00
76	P	Bromoform	5.0000	4.5293	9.4	100	0.00
77	T	Isopropylbenzene	5.0000	5.0757	-1.5	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	5.0000	5.1034	-2.1	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.5498	-2.0	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	5.0617	-1.2	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	4.9479	1.0	100	0.00
83	T	n-Propylbenzene	5.0000	5.1907	-3.8	100	0.00
84	T	Bromobenzene	5.0000	4.8720	2.6	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	5.0663	-1.3	100	0.00
86	T	2-Chlorotoluene	5.0000	5.2176	-4.4	100	0.00
87	T	4-Chlorotoluene	5.0000	4.8421	3.2	100	0.00
88	T	a-Methylstyrene	5.0000	4.8378	3.2	100	0.00
89	T	tert-Butylbenzene	5.0000	4.9673	0.7	100	0.00
90	T	1,2,4-Trimethylbenzene	5.0000	5.0832	-1.7	100	0.00
91	T	sec-Butylbenzene	5.0000	5.2067	-4.1	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.1897	-3.8	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	5.0371	-0.7	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	4.9025	2.0	100	0.00
95	T	n-Butylbenzene	5.0000	5.1085	-2.2	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	4.9597	0.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.6580	6.8	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	5.0646	-1.3	100	0.00
99	T	Hexachlorobutadiene	5.0000	5.0953	-1.9	100	0.00
100	T	Naphthalene	5.0000	5.1852	-3.7	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	4.8804	2.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139182.D 8260WTR.M Thu May 12 12:57:17 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\051116\6M139183.D Vial: 7
Acq On : 11 May 2016 13:20 Operator: TMB
Sample : WG568265-07 20ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:14 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.56	96	789018	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	577246	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	317857	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	83991	10.1405	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.56%#			
43) 1,2-Dichloroethane-d4	11.11	65	94948	10.2922	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.16%#			
58) Toluene-d8	13.85	98	290630	10.2303	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 40.92%#			
80) p-Bromofluorobenzene	17.84	95	122445	10.3922	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.56%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	257571	20.7288	ug/L	100
3) Chloromethane	3.93	50	330530	19.3967	ug/L	98
4) Vinyl Chloride	4.16	62	209794	19.1455	ug/L	100
5) 1,3-Butadiene	4.20	54	33058	25.8312	ug/L	98
6) Bromomethane	5.08	94	112450	18.1525	ug/L	99
7) Chloroethane	5.24	64	134803	19.2537	ug/L	99
8) Trichlorofluoromethane	5.73	101	277592	19.9656	ug/L	100
9) Diethyl ether	6.29	59	559304	75.9937	ug/L	99
10) Isoprene	6.32	67	137363	19.7863	ug/L	100
11) Acrolein	6.55	56	41130	37.2105	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	151429	19.0678	ug/L	99
13) Acetone	6.65	43	50620	18.6177	ug/L	99
14) 1,1-Dichloroethene	6.89	61	276062	19.1865	ug/L	99
15) Tert-Butyl Alcohol	7.01	59	113082	158.4276	ug/L	100
16) Dimethyl Sulfide	7.17	62	95589	20.3888	ug/L	99
17) Iodomethane	7.44	142	70984	18.2470	ug/L	99
18) Methyl acetate	7.45	43	136817	20.3489	ug/L	98
19) Methylene Chloride	7.72	84	161533	19.0073	ug/L	98
20) Carbon Disulfide	7.77	76	294121	19.7560	ug/L	100
21) Acrylonitrile	7.93	53	113375	38.5728	ug/L	96
22) Methyl Tert Butyl Ether	7.96	73	425496	19.4157	ug/L	100
23) trans-1,2-Dichloroethene	8.21	96	159038	19.3304	ug/L	98
24) n-Hexane	8.28	57	173036	19.9326	ug/L	98
25) Diisopropyl ether	8.67	45	2648010	78.6848	ug/L	100
26) Vinyl Acetate	8.86	43	204373	17.5831	ug/L	100
27) 1,1-Dichloroethane	8.89	63	321661	19.6092	ug/L	100
28) Ethyl-Tert-Butyl ether	9.31	59	2202191	78.7158	ug/L	100
29) 2-Butanone	9.51	43	73337	20.4813	ug/L	99
30) Propionitrile	9.63	54	78484	79.8506	ug/L	100
31) 2,2-Dichloropropane	9.75	77	221420	18.3464	ug/L	98
32) cis-1,2-Dichloroethene	9.83	96	176142	19.3805	ug/L	85
33) Chloroform	10.06	83	285304	18.9926	ug/L	99
34) 1-Bromopropane	10.21	122	26411	21.5718	ug/L	97
35) Bromochloromethane	10.32	130	99944	20.0470	ug/L	100
36) Tetrahydrofuran	10.36	42	183213	79.3719	ug/L	99
38) 1,1,1-Trichloroethane	10.65	97	256824	19.5095	ug/L	99
39) Cyclohexane	10.68	56	260310	19.7459	ug/L	99
40) 1,1-Dichloropropene	10.88	75	223099	19.5126	ug/L	99
41) Tert-Amyl-Methyl ether	11.00	73	1709576	78.4439	ug/L	100
42) Carbon Tetrachloride	11.04	117	227000	19.4172	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139183.D 8260WTR.M Thu May 12 12:56:14 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139183.D Vial: 7
Acq On : 11 May 2016 13:20 Operator: TMB
Sample : WG568265-07 20ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:14 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

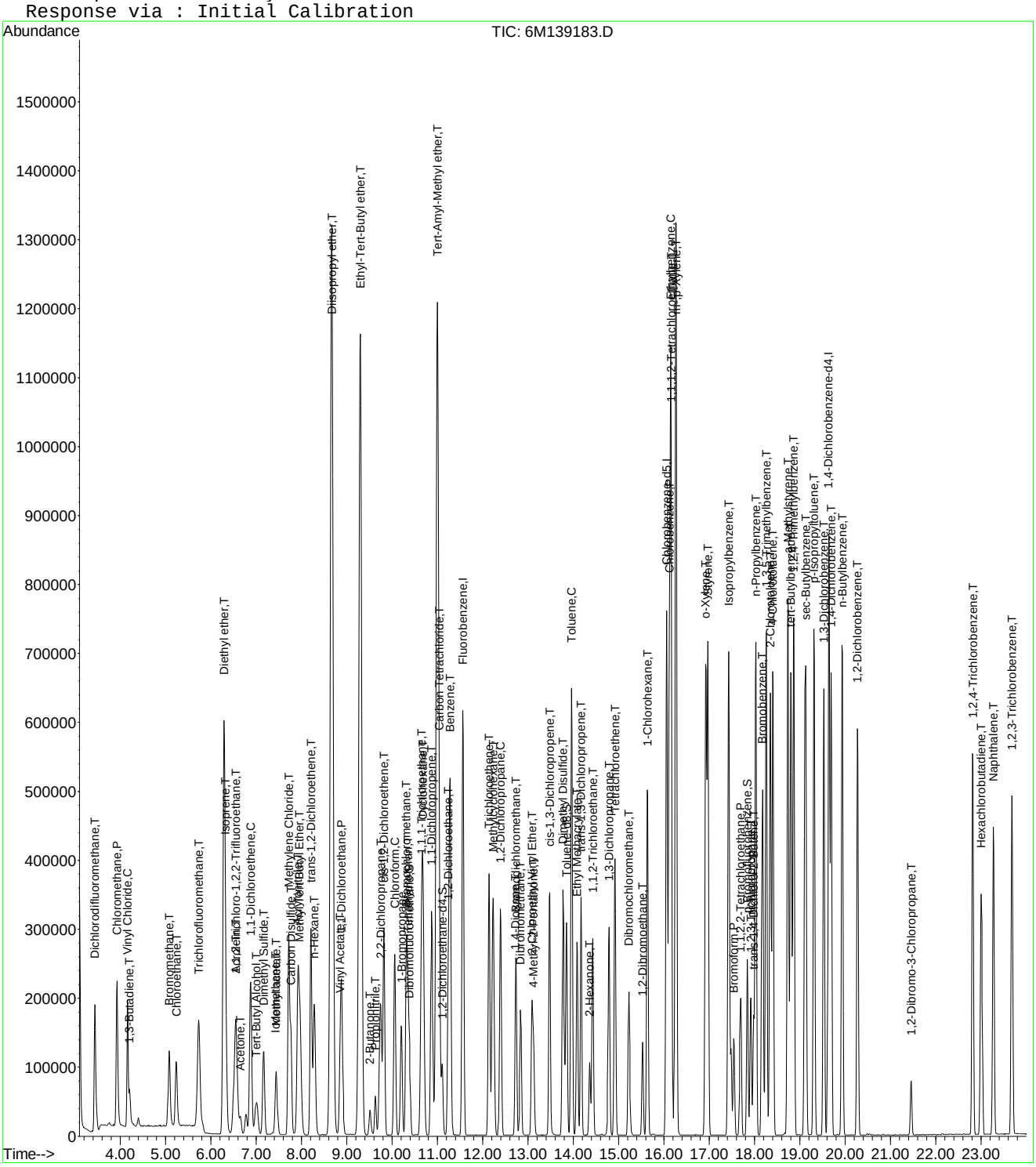
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.25	62	225743	19.5688	ug/L	100
46)	Benzene	11.29	78	637623	19.3557	ug/L	99
47)	Trichloroethene	12.14	130	169297	19.6480	ug/L	100
48)	Methylcyclohexane	12.24	83	227407	20.0436	ug/L	99
49)	1,2-Dichloropropane	12.39	63	178532	19.3111	ug/L	100
50)	1,4-Dioxane	12.73	88	9403	146.4618	ug/L	87
51)	Bromodichloromethane	12.74	83	219121	19.4811	ug/L	100
52)	Dibromomethane	12.84	93	91931	19.7356	ug/L	98
53)	2-Chloroethyl Vinyl Ether	13.09	63	95923	21.1212	ug/L	100
54)	4-Methyl-2-Pentanone	13.12	58	56162	20.2658	ug/L	99
55)	cis-1,3-Dichloropropene	13.48	75	259527	19.6795	ug/L	100
56)	Dimethyl Disulfide	13.78	79	143018	19.7085	ug/L	98
59)	Toluene	13.96	91	662410	19.3609	ug/L	100
60)	Ethyl Methacrylate	14.08	69	201802	20.2942	ug/L	98
62)	trans-1,3-Dichloropropene	14.18	75	227564	19.5399	ug/L	99
63)	1,1,2-Trichloroethane	14.43	97	124096	19.5747	ug/L	100
64)	2-Hexanone	14.36	43	111543	20.0881	ug/L	97
65)	1,3-Dichloropropane	14.79	76	220311	19.5442	ug/L	98
66)	Tetrachloroethene	14.92	166	170947	19.2005	ug/L	99
67)	Dibromochloromethane	15.23	129	155428	20.0004	ug/L	99
68)	1,2-Dibromoethane	15.53	107	123730	19.8992	ug/L	100
69)	1-Chlorohexane	15.65	91	229295	19.4622	ug/L	100
70)	Chlorobenzene	16.13	112	437306	19.2902	ug/L	99
71)	1,1,1,2-Tetrachloroethane	16.17	131	160098	19.3839	ug/L	100
72)	Ethylbenzene	16.16	106	234354	19.1077	ug/L	99
73)	m-,p-Xylene	16.27	106	564385	38.2719	ug/L	99
74)	o-Xylene	16.92	106	280125	19.1745	ug/L	99
75)	Styrene	16.97	104	488501	19.3534	ug/L	100
76)	Bromoform	17.55	173	94520	18.9604	ug/L	99
77)	Isopropylbenzene	17.43	105	719292	19.4720	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.69	83	148404	19.4291	ug/L	99
81)	1,2,3-Trichloropropane	17.92	110	43789	19.6719	ug/L	84
82)	trans-1,4-Dichloro-2-Buten	17.99	53	55531	20.5975	ug/L	94
83)	n-Propylbenzene	18.04	91	865702	19.7421	ug/L	100
84)	Bromobenzene	18.18	156	194680	18.9846	ug/L	99
85)	1,3,5-Trimethylbenzene	18.26	105	609928	19.2634	ug/L	100
86)	2-Chlorotoluene	18.35	91	577167	19.8262	ug/L	100
87)	4-Chlorotoluene	18.40	91	509516	18.3136	ug/L	100
88)	a-Methylstyrene	18.74	118	355426	20.2183	ug/L	99
89)	tert-Butylbenzene	18.80	134	134089	19.3258	ug/L	99
90)	1,2,4-Trimethylbenzene	18.86	105	633172	19.5227	ug/L	98
91)	sec-Butylbenzene	19.13	105	758140	19.8276	ug/L	100
92)	p-Isopropyltoluene	19.31	119	651066	19.7063	ug/L	100
93)	1,3-Dichlorobenzene	19.54	146	374793	19.2138	ug/L	100
94)	1,4-Dichlorobenzene	19.69	146	374495	18.9328	ug/L	100
95)	n-Butylbenzene	19.95	91	610027	19.3948	ug/L	100
96)	1,2-Dichlorobenzene	20.27	146	350277	18.9663	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	21.47	75	28133	19.6055	ug/L	99
98)	1,2,4-Trichlorobenzene	22.83	180	257088	19.4783	ug/L	99
99)	Hexachlorobutadiene	23.01	225	112472	19.4339	ug/L	98
100)	Naphthalene	23.27	128	524313	20.1160	ug/L	100
101)	1,2,3-Trichlorobenzene	23.68	180	235919	19.0207	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139183.D 8260WTR.M Thu May 12 12:56:14 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139183.D Vial: 7
Acq On : 11 May 2016 13:20 Operator: TMB
Sample : WG568265-07 20ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139184.D Vial: 8
Acq On : 11 May 2016 13:53 Operator: TMB
Sample : WG568265-08 50ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:15 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	798515	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.06	117	582993	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	328042	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	205198	24.4796	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.92%			
43) 1,2-Dichloroethane-d4	11.11	65	229976	24.6325	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.52%			
58) Toluene-d8	13.85	98	701763	24.4590	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.84%			
80) p-Bromofluorobenzene	17.84	95	296525	24.3854	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.56%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	659078	52.4105	ug/L	100
3) Chloromethane	3.93	50	823496	47.7510	ug/L	100
4) Vinyl Chloride	4.16	62	523031	47.1635	ug/L	100
5) 1,3-Butadiene	4.20	54	54738	45.7969	ug/L	100
6) Bromomethane	5.08	94	286621	45.7182	ug/L	100
7) Chloroethane	5.24	64	341016	48.1275	ug/L	100
8) Trichlorofluoromethane	5.73	101	717241	50.9735	ug/L	100
9) Diethyl ether	6.29	59	713290	95.7634	ug/L	100
10) Isoprene	6.32	67	336798	47.9368	ug/L	100
11) Acrolein	6.55	56	53834	48.1247	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	390908	48.6373	ug/L	100
13) Acetone	6.66	43	118196	49.1919	ug/L	100
14) 1,1-Dichloroethene	6.88	61	699539	48.0403	ug/L	100
15) Tert-Butyl Alcohol	7.02	59	146008	202.1240	ug/L	100
16) Dimethyl Sulfide	7.17	62	235608	49.6567	ug/L	100
17) Iodomethane	7.44	142	220706	52.3149	ug/L	100
18) Methyl acetate	7.45	43	329103	48.3656	ug/L	100
19) Methylene Chloride	7.72	84	413637	48.0930	ug/L	100
20) Carbon Disulfide	7.77	76	722399	47.9462	ug/L	100
21) Acrylonitrile	7.92	53	152816	51.3732	ug/L	100
22) Methyl Tert Butyl Ether	7.96	73	1090168	49.1536	ug/L	100
23) trans-1,2-Dichloroethene	8.21	96	409936	49.2335	ug/L	100
24) n-Hexane	8.29	57	422417	48.0809	ug/L	100
25) Diisopropyl ether	8.67	45	3381227	99.2772	ug/L	100
26) Vinyl Acetate	8.86	43	541645	46.0458	ug/L	100
27) 1,1-Dichloroethane	8.89	63	812710	48.9553	ug/L	100
28) Ethyl-Tert-Butyl ether	9.30	59	2807516	99.1592	ug/L	100
29) 2-Butanone	9.52	43	180235	49.7367	ug/L	100
30) Propionitrile	9.64	54	102216	102.7590	ug/L	100
31) 2,2-Dichloropropane	9.75	77	564381	46.2074	ug/L	100
32) cis-1,2-Dichloroethene	9.82	96	448631	48.7748	ug/L	100
33) Chloroform	10.06	83	724870	47.6805	ug/L	100
34) 1-Bromopropane	10.21	122	63962	51.6211	ug/L	100
35) Bromochloromethane	10.32	130	258050	51.1446	ug/L	100
36) Tetrahydrofuran	10.35	42	235033	101.6215	ug/L	100
38) 1,1,1-Trichloroethane	10.65	97	655004	49.1653	ug/L	100
39) Cyclohexane	10.69	56	631813	47.3564	ug/L	100
40) 1,1-Dichloropropene	10.88	75	563792	48.7237	ug/L	100
41) Tert-Amyl-Methyl ether	11.00	73	2182494	98.9527	ug/L	100
42) Carbon Tetrachloride	11.04	117	588237	49.7184	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139184.D 8260WTR.M Thu May 12 12:56:15 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139184.D Vial: 8
Acq On : 11 May 2016 13:53 Operator: TMB
Sample : WG568265-08 50ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:15 2016 Quant Results File: 8260WTR.RES

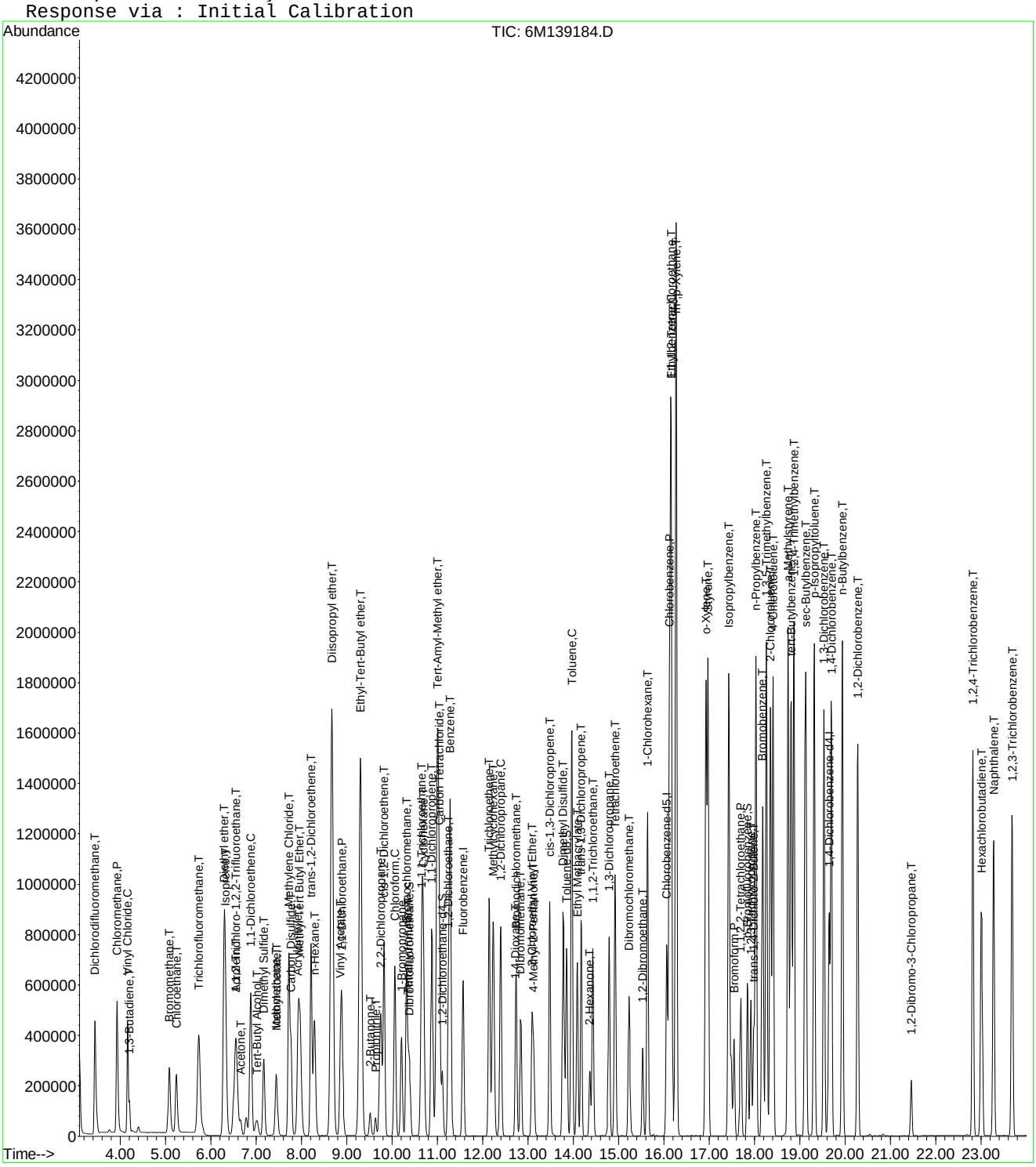
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	570979	48.9073	ug/L	100
46)	Benzene	11.28	78	1609728	48.2838	ug/L	100
47)	Trichloroethene	12.14	130	428539	49.1432	ug/L	100
48)	Methylcyclohexane	12.23	83	554636	48.3041	ug/L	100
49)	1,2-Dichloropropane	12.40	63	454580	48.5853	ug/L	100
50)	1,4-Dioxane	12.72	88	13836	212.9474	ug/L	100
51)	Bromodichloromethane	12.74	83	570430	50.1113	ug/L	100
52)	Dibromomethane	12.84	93	236859	50.2437	ug/L	100
53)	2-Chloroethyl Vinyl Ether	13.09	63	241961	52.6435	ug/L	100
54)	4-Methyl-2-Pentanone	13.12	58	145179	51.7642	ug/L	100
55)	cis-1,3-Dichloropropene	13.48	75	665508	49.8643	ug/L	100
56)	Dimethyl Disulfide	13.78	79	362839	49.4061	ug/L	100
59)	Toluene	13.97	91	1689306	48.8883	ug/L	100
60)	Ethyl Methacrylate	14.09	69	495509	49.3397	ug/L	100
62)	trans-1,3-Dichloropropene	14.17	75	588411	50.0263	ug/L	100
63)	1,1,2-Trichloroethane	14.43	97	318299	49.7130	ug/L	100
64)	2-Hexanone	14.36	43	279839	49.9002	ug/L	100
65)	1,3-Dichloropropane	14.79	76	566848	49.7904	ug/L	100
66)	Tetrachloroethene	14.92	166	436067	48.4956	ug/L	100
67)	Dibromochloromethane	15.24	129	410706	52.3285	ug/L	100
68)	1,2-Dibromoethane	15.53	107	319990	50.9558	ug/L	100
69)	1-Chlorohexane	15.64	91	564895	47.4747	ug/L	100
70)	Chlorobenzene	16.12	112	1127632	49.2512	ug/L	100
71)	1,1,1,2-Tetrachloroethane	16.17	131	423004	50.7105	ug/L	100
72)	Ethylbenzene	16.17	106	610995	49.3254	ug/L	100
73)	m-,p-Xylene	16.27	106	1467802	98.5529	ug/L	100
74)	o-Xylene	16.93	106	723736	49.0513	ug/L	100
75)	Styrene	16.97	104	1280669	50.2374	ug/L	100
76)	Bromoform	17.55	173	262413	52.1202	ug/L	100
77)	Isopropylbenzene	17.43	105	1861162	49.8870	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	390140	49.4914	ug/L	100
81)	1,2,3-Trichloropropane	17.92	110	116221	50.5904	ug/L	84
82)	trans-1,4-Dichloro-2-Buten	17.98	53	143667	51.6343	ug/L	100
83)	n-Propylbenzene	18.03	91	2239474	49.4850	ug/L	100
84)	Bromobenzene	18.18	156	502869	47.5157	ug/L	100
85)	1,3,5-Trimethylbenzene	18.26	105	1611101	49.3037	ug/L	100
86)	2-Chlorotoluene	18.35	91	1444414	48.0764	ug/L	100
87)	4-Chlorotoluene	18.41	91	1396141	48.6235	ug/L	100
88)	a-Methylstyrene	18.74	118	900578	49.6387	ug/L	100
89)	tert-Butylbenzene	18.81	134	349839	48.8555	ug/L	100
90)	1,2,4-Trimethylbenzene	18.87	105	1675362	50.0529	ug/L	100
91)	sec-Butylbenzene	19.13	105	1985203	50.3068	ug/L	100
92)	p-Isopropyltoluene	19.32	119	1721640	50.4921	ug/L	100
93)	1,3-Dichlorobenzene	19.53	146	984133	48.8852	ug/L	100
94)	1,4-Dichlorobenzene	19.70	146	987627	48.3798	ug/L	100
95)	n-Butylbenzene	19.94	91	1633253	50.3142	ug/L	100
96)	1,2-Dichlorobenzene	20.28	146	925793	48.5722	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	21.46	75	77110	52.0685	ug/L	100
98)	1,2,4-Trichlorobenzene	22.82	180	673887	49.4719	ug/L	100
99)	Hexachlorobutadiene	23.02	225	287527	48.1390	ug/L	100
100)	Naphthalene	23.28	128	1390842	51.7048	ug/L	100
101)	1,2,3-Trichlorobenzene	23.69	180	619594	48.4030	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139184.D 8260WTR.M Thu May 12 12:56:15 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\051116\6M139184.D Vial: 8
Acq On : 11 May 2016 13:53 Operator: TMB
Sample : WG568265-08 50ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139185.D Vial: 9
Acq On : 11 May 2016 14:25 Operator: TMB
Sample : WG568265-09 100ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:15 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	775651	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	576121	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	341568	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.38	111	401168	49.2690	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 197.08%#			
43) 1,2-Dichloroethane-d4	11.11	65	446334	49.2156	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 196.88%#			
58) Toluene-d8	13.85	98	1363327	48.0836	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 192.32%#			
80) p-Bromofluorobenzene	17.85	95	594176	46.9284	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 187.72%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	1320831	108.1297	ug/L	100
3) Chloromethane	3.93	50	1686399	100.6695	ug/L	99
4) Vinyl Chloride	4.16	62	1039791	96.5253	ug/L	100
5) 1,3-Butadiene	4.20	54	106686	99.1888	ug/L	98
6) Bromomethane	5.07	94	612167	100.5236	ug/L	99
7) Chloroethane	5.24	64	706318	102.6209	ug/L	100
8) Trichlorofluoromethane	5.73	101	1410619	103.2061	ug/L	100
9) Diethyl ether	6.29	59	1489387	205.8533	ug/L	96
10) Isoprene	6.32	67	717790	105.1752	ug/L	96
11) Acrolein	6.55	56	106940	98.4165	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	786674	100.7643	ug/L	100
13) Acetone	6.66	43	223201	100.1365	ug/L	98
14) 1,1-Dichloroethene	6.88	61	1400575	99.0186	ug/L	100
15) Tert-Butyl Alcohol	7.01	59	287761	410.1001	ug/L	98
16) Dimethyl Sulfide	7.17	62	455700	98.8744	ug/L	99
17) Iodomethane	7.43	142	441757	105.8818	ug/L	100
18) Methyl acetate	7.45	43	626509	94.7870	ug/L	99
19) Methylene Chloride	7.72	84	817379	97.8368	ug/L	100
20) Carbon Disulfide	7.77	76	1454147	99.3578	ug/L	100
21) Acrylonitrile	7.92	53	288081	99.7009	ug/L	99
22) Methyl Tert Butyl Ether	7.95	73	2112199	98.0423	ug/L	99
23) trans-1,2-Dichloroethene	8.21	96	809563	100.0949	ug/L	99
24) n-Hexane	8.29	57	849349	99.5254	ug/L	99
25) Diisopropyl ether	8.67	45	6413042	193.8456	ug/L	99
26) Vinyl Acetate	8.86	43	1202955	105.2789	ug/L	99
27) 1,1-Dichloroethane	8.89	63	1599992	99.2199	ug/L	99
28) Ethyl-Tert-Butyl ether	9.30	59	5413844	196.8491	ug/L	99
29) 2-Butanone	9.52	43	337845	95.9781	ug/L	100
30) Propionitrile	9.64	54	190001	196.6408	ug/L	99
31) 2,2-Dichloropropane	9.75	77	1141054	96.1749	ug/L	98
32) cis-1,2-Dichloroethene	9.82	96	886861	99.2609	ug/L	100
33) Chloroform	10.06	83	1430939	96.8988	ug/L	100
34) 1-Bromopropane	10.21	122	128006	106.3536	ug/L	99
35) Bromochloromethane	10.32	130	506429	103.3312	ug/L	100
36) Tetrahydrofuran	10.35	42	436668	197.8167	ug/L	100
38) 1,1,1-Trichloroethane	10.66	97	1308777	101.1339	ug/L	100
39) Cyclohexane	10.69	56	1271020	98.0752	ug/L	100
40) 1,1-Dichloropropene	10.87	75	1120823	99.7184	ug/L	99
41) Tert-Amyl-Methyl ether	11.00	73	4249847	198.3648	ug/L	100
42) Carbon Tetrachloride	11.04	117	1193238	103.8266	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139185.D 8260WTR.M Thu May 12 12:56:16 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139185.D Vial: 9
Acq On : 11 May 2016 14:25 Operator: TMB
Sample : WG568265-09 100ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:15 2016 Quant Results File: 8260WTR.RES

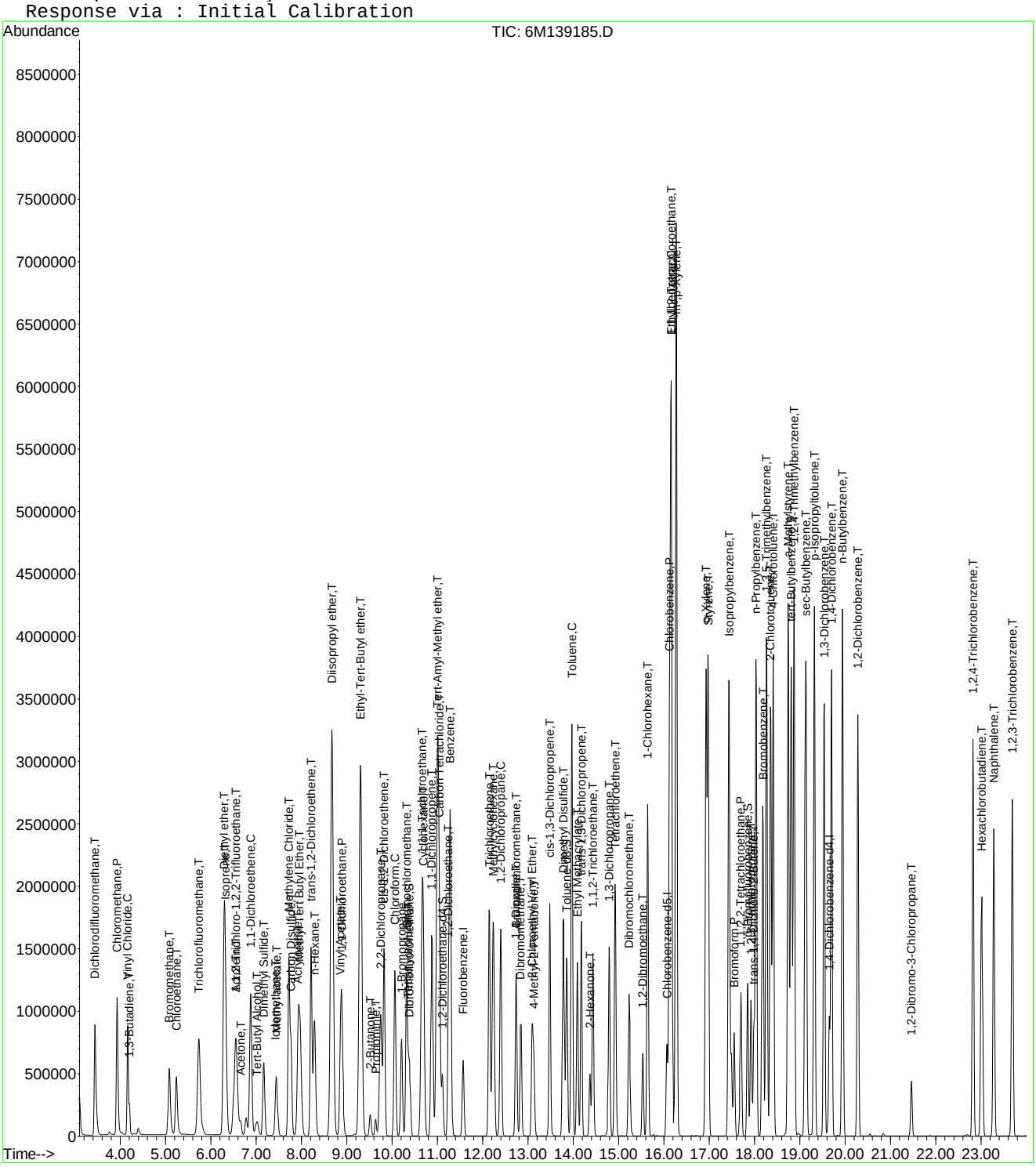
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	1121272	98.8739	ug/L	100
46)	Benzene	11.28	78	3178096	98.1370	ug/L	100
47)	Trichloroethene	12.15	130	833450	98.3942	ug/L	100
48)	Methylcyclohexane	12.23	83	1120009	100.4186	ug/L	100
49)	1,2-Dichloropropane	12.40	63	898385	98.8493	ug/L	100
50)	1,4-Dioxane	12.73	88	26979	427.4687	ug/L	95
51)	Bromodichloromethane	12.74	83	1125695	101.8053	ug/L	99
52)	Dibromomethane	12.84	93	466704	101.9178	ug/L	100
53)	2-Chloroethyl Vinyl Ether	13.09	63	448792	100.5220	ug/L	100
54)	4-Methyl-2-Pentanone	13.13	58	269607	98.9632	ug/L	98
55)	cis-1,3-Dichloropropene	13.48	75	1312635	101.2505	ug/L	100
56)	Dimethyl Disulfide	13.79	79	729244	102.2248	ug/L	100
59)	Toluene	13.97	91	3354389	98.2336	ug/L	100
60)	Ethyl Methacrylate	14.09	69	983873	99.1365	ug/L	100
62)	trans-1,3-Dichloropropene	14.18	75	1171296	100.7706	ug/L	100
63)	1,1,2-Trichloroethane	14.43	97	627405	99.1591	ug/L	100
64)	2-Hexanone	14.37	43	528644	95.3910	ug/L	100
65)	1,3-Dichloropropane	14.79	76	1096978	97.5050	ug/L	100
66)	Tetrachloroethene	14.93	166	861830	96.9886	ug/L	99
67)	Dibromochloromethane	15.24	129	820726	105.8170	ug/L	99
68)	1,2-Dibromoethane	15.53	107	623296	100.4388	ug/L	100
69)	1-Chlorohexane	15.64	91	1152589	98.0209	ug/L	99
70)	Chlorobenzene	16.12	112	2265189	100.1161	ug/L	99
71)	1,1,1,2-Tetrachloroethane	16.16	131	863961	104.8086	ug/L	99
72)	Ethylbenzene	16.16	106	1247492	101.9109	ug/L	99
73)	m-,p-Xylene	16.27	106	2983326	202.6994	ug/L	97
74)	o-Xylene	16.93	106	1469311	100.7706	ug/L	100
75)	Styrene	16.98	104	2629654	104.3850	ug/L	99
76)	Bromoform	17.55	173	546548	109.8496	ug/L	99
77)	Isopropylbenzene	17.44	105	3794606	102.9248	ug/L	99
79)	1,1,2,2-Tetrachloroethane	17.70	83	814086	99.1818	ug/L	99
81)	1,2,3-Trichloropropane	17.92	110	233412	97.5796	ug/L	84
82)	trans-1,4-Dichloro-2-Buten	17.98	53	300589	103.7543	ug/L	94
83)	n-Propylbenzene	18.03	91	4584027	97.2808	ug/L	100
84)	Bromobenzene	18.19	156	1035417	93.9614	ug/L	99
85)	1,3,5-Trimethylbenzene	18.26	105	3357272	98.6724	ug/L	100
86)	2-Chlorotoluene	18.35	91	2906991	92.9259	ug/L	100
87)	4-Chlorotoluene	18.41	91	3013622	100.7995	ug/L	100
88)	a-Methylstyrene	18.74	118	1915371	101.3921	ug/L	99
89)	tert-Butylbenzene	18.81	134	739242	99.1481	ug/L	98
90)	1,2,4-Trimethylbenzene	18.87	105	3521301	101.0361	ug/L	99
91)	sec-Butylbenzene	19.13	105	4152691	101.0658	ug/L	100
92)	p-Isopropyltoluene	19.32	119	3611625	101.7270	ug/L	99
93)	1,3-Dichlorobenzene	19.54	146	2068020	98.6576	ug/L	99
94)	1,4-Dichlorobenzene	19.70	146	2067053	97.2467	ug/L	100
95)	n-Butylbenzene	19.94	91	3443965	101.8940	ug/L	100
96)	1,2-Dichlorobenzene	20.28	146	1919398	96.7143	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	21.46	75	156661	101.5961	ug/L	99
98)	1,2,4-Trichlorobenzene	22.82	180	1398111	98.5748	ug/L	99
99)	Hexachlorobutadiene	23.02	225	604182	97.1489	ug/L	99
100)	Naphthalene	23.28	128	2810159	100.3312	ug/L	99
101)	1,2,3-Trichlorobenzene	23.69	180	1279024	95.9612	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139185.D 8260WTR.M Thu May 12 12:56:16 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\051116\6M139185.D Vial: 9
Acq On : 11 May 2016 14:25 Operator: TMB
Sample : WG568265-09 100ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139187.D Vial: 11
Acq On : 11 May 2016 15:29 Operator: TMB
Sample : WG568265-11 300ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:17 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	917718	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	623462	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	348680	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	1452497	150.7718 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 603.08%#		
43) 1,2-Dichloroethane-d4	11.11	65	1564740	145.8284 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 583.32%#		
58) Toluene-d8	13.85	98	4770117	155.4640 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 621.84%#		
80) p-Bromofluorobenzene	17.85	95	1926682	149.0668 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 596.28%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	4096736	283.4607 ug/L	100
3) Chloromethane	3.93	50	4931503	248.8135 ug/L	100
4) Vinyl Chloride	4.16	62	3105284	243.6427 ug/L	99
5) 1,3-Butadiene	4.20	54	339130	302.1406 ug/L	99
6) Bromomethane	5.06	94	2035599	282.5188 ug/L	99
7) Chloroethane	5.23	64	2285134	280.6108 ug/L	100
8) Trichlorofluoromethane	5.72	101	4643448	287.1398 ug/L	99
9) Diethyl ether	6.29	59	2584762	301.9451 ug/L	99
10) Isoprene	6.31	67	2490050	308.3763 ug/L	100
11) Acrolein	6.54	56	205151	159.5727 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.53	101	2788033	301.8332 ug/L	100
13) Acetone	6.66	43	752928	294.3328 ug/L	99
14) 1,1-Dichloroethene	6.87	61	4929198	294.5396 ug/L	99
15) Tert-Butyl Alcohol	7.04	59	469664	565.7210 ug/L	99
16) Dimethyl Sulfide	7.16	62	1596553	292.7825 ug/L	99
17) Iodomethane	7.43	142	1457161	291.9597 ug/L	99
18) Methyl acetate	7.45	43	2223074	284.2710 ug/L	98
19) Methylene Chloride	7.72	84	2902405	293.6256 ug/L	97
20) Carbon Disulfide	7.76	76	5119877	295.6721 ug/L	99
21) Acrylonitrile	7.92	53	565562	165.4328 ug/L	97
22) Methyl Tert Butyl Ether	7.95	73	7551467	296.2559 ug/L	99
23) trans-1,2-Dichloroethene	8.21	96	2901202	303.1771 ug/L	99
24) n-Hexane	8.28	57	2997214	296.8401 ug/L	99
25) Diisopropyl ether	8.67	45	11134502	284.4591 ug/L	96
26) Vinyl Acetate	8.86	43	4736338	350.3415 ug/L	99
27) 1,1-Dichloroethane	8.88	63	5725139	300.0712 ug/L	99
28) Ethyl-Tert-Butyl ether	9.30	59	9686933	297.6946 ug/L	98
29) 2-Butanone	9.52	43	1137831	273.2055 ug/L	98
30) Propionitrile	9.64	54	314061	274.7191 ug/L	98
31) 2,2-Dichloropropane	9.75	77	4040671	287.8500 ug/L	97
32) cis-1,2-Dichloroethene	9.82	96	3191234	301.8827 ug/L	100
33) Chloroform	10.06	83	5069033	290.1213 ug/L	100
34) 1-Bromopropane	10.21	122	457960	321.5929 ug/L	99
35) Bromochloromethane	10.32	130	1805102	311.2948 ug/L	99
36) Tetrahydrofuran	10.35	42	780827	300.8992 ug/L	99
38) 1,1,1-Trichloroethane	10.66	97	4718615	308.1788 ug/L	100
39) Cyclohexane	10.68	56	4630221	301.9713 ug/L	99
40) 1,1-Dichloropropene	10.87	75	4025368	302.6921 ug/L	98
41) Tert-Amyl-Methyl ether	11.00	73	7704890	303.9589 ug/L	100
42) Carbon Tetrachloride	11.04	117	4354797	320.2627 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139187.D 8260WTR.M Thu May 12 12:56:17 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139187.D Vial: 11
Acq On : 11 May 2016 15:29 Operator: TMB
Sample : WG568265-11 300ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:17 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

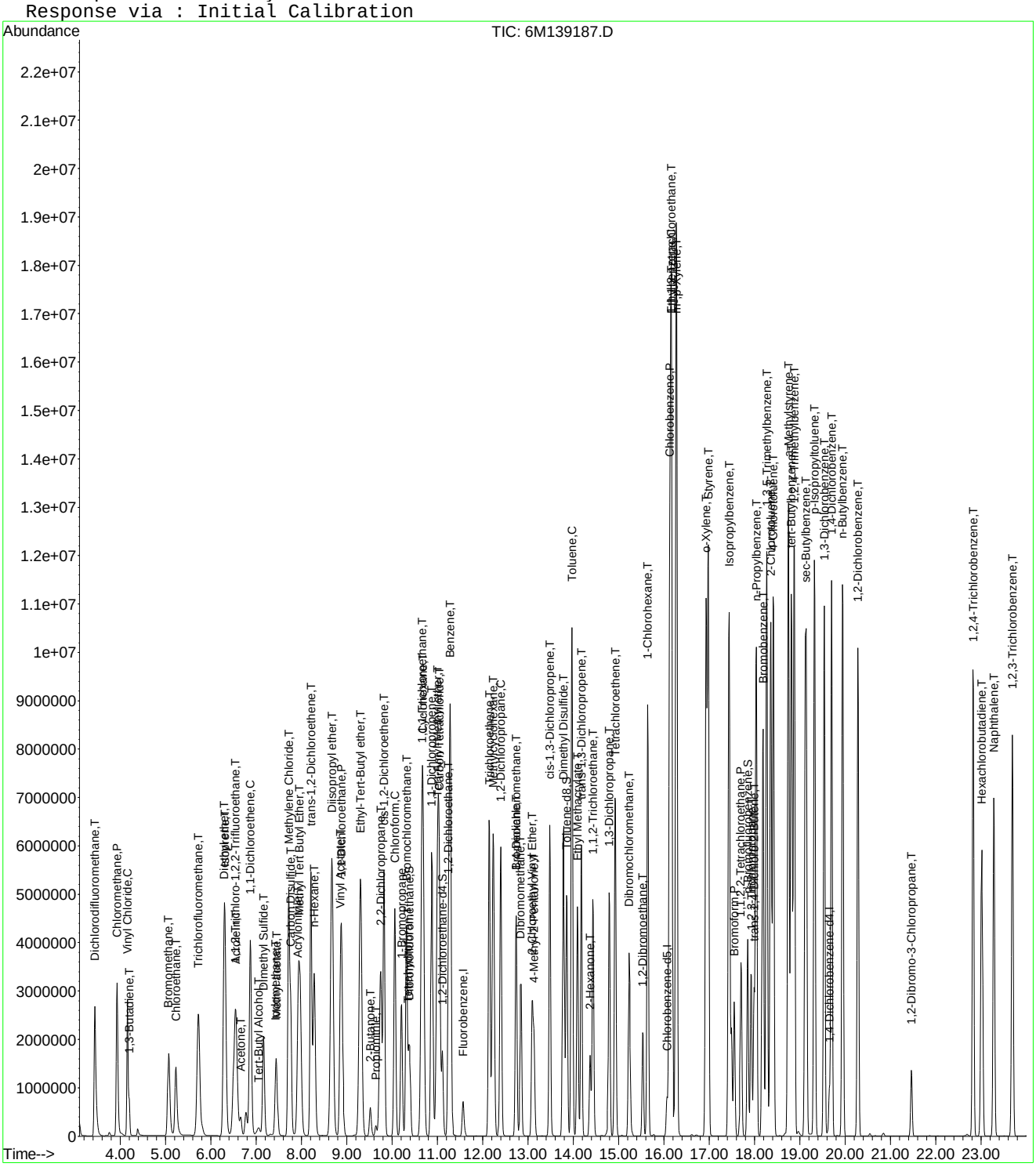
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	4021904	299.7501 ug/L	99
46)	Benzene	11.28	78	10204131	266.3171 ug/L	93
47)	Trichloroethene	12.15	130	2938738	293.2297 ug/L	98
48)	Methylcyclohexane	12.23	83	4008598	303.7681 ug/L	100
49)	1,2-Dichloropropane	12.40	63	3187061	296.3866 ug/L	99
50)	1,4-Dioxane	12.74	88	45130	604.3672 ug/L	97
51)	Bromodichloromethane	12.74	83	3979344	304.1713 ug/L	99
52)	Dibromomethane	12.83	93	1659331	306.2660 ug/L	100
53)	2-Chloroethyl Vinyl Ether	13.09	63	1456494	275.7287 ug/L	100
54)	4-Methyl-2-Pentanone	13.13	58	905868	281.0376 ug/L	98
55)	cis-1,3-Dichloropropene	13.48	75	4564287	297.5659 ug/L	100
56)	Dimethyl Disulfide	13.78	79	2667339	316.0231 ug/L	99
59)	Toluene	13.97	91	10036247	271.5950 ug/L	90
60)	Ethyl Methacrylate	14.09	69	3364634	313.2824 ug/L	98
62)	trans-1,3-Dichloropropene	14.18	75	4019947	319.5884 ug/L	100
63)	1,1,2-Trichloroethane	14.43	97	2103502	307.2070 ug/L	99
64)	2-Hexanone	14.37	43	1730467	288.5433 ug/L	99
65)	1,3-Dichloropropane	14.79	76	3636551	298.6911 ug/L	99
66)	Tetrachloroethene	14.93	166	2950034	306.7819 ug/L	96
67)	Dibromochloromethane	15.23	129	2720133	324.0791 ug/L	98
68)	1,2-Dibromoethane	15.53	107	2039235	303.6534 ug/L	99
69)	1-Chlorohexane	15.64	91	3826959	300.7473 ug/L	99
70)	Chlorobenzene	16.13	112	6952765	283.9623 ug/L	90
71)	1,1,1,2-Tetrachloroethane	16.16	131	2804189	314.3503 ug/L	98
72)	Ethylbenzene	16.16	106	4064851	306.8535 ug/L	71
73)	m-,p-Xylene	16.28	106	8500269	533.6888 ug/L	68
74)	o-Xylene	16.93	106	4614905	292.4735 ug/L	88
75)	Styrene	16.98	104	7783772	285.5179 ug/L	89
76)	Bromoform	17.55	173	1827681	339.4488 ug/L	98
77)	Isopropylbenzene	17.44	105	10100535	253.1637 ug/L	91
79)	1,1,2,2-Tetrachloroethane	17.70	83	2610301	311.5317 ug/L	99
81)	1,2,3-Trichloropropane	17.93	110	746823	305.8467 ug/L	85
82)	trans-1,4-Dichloro-2-Buten	17.99	53	976449	330.1664 ug/L	90
83)	n-Propylbenzene	18.04	91	11201654	232.8692 ug/L	88
84)	Bromobenzene	18.19	156	3265507	290.2921 ug/L	98
85)	1,3,5-Trimethylbenzene	18.27	105	9151454	263.4811 ug/L	91
86)	2-Chlorotoluene	18.36	91	8996825	281.7295 ug/L	95
87)	4-Chlorotoluene	18.41	91	7720612	252.9713 ug/L	91
88)	a-Methylstyrene	18.75	118	5757577	298.5664 ug/L	97
89)	tert-Butylbenzene	18.81	134	2284651	300.1704 ug/L	89
90)	1,2,4-Trimethylbenzene	18.88	105	9395639	264.0886 ug/L	89
91)	sec-Butylbenzene	19.14	105	10613638	253.0398 ug/L	91
92)	p-Isopropyltoluene	19.32	119	9427677	260.1288 ug/L	91
93)	1,3-Dichlorobenzene	19.54	146	6024703	281.5538 ug/L	93
94)	1,4-Dichlorobenzene	19.70	146	5977504	275.4821 ug/L	93
95)	n-Butylbenzene	19.94	91	9021058	261.4553 ug/L	92
96)	1,2-Dichlorobenzene	20.28	146	5584955	275.6739 ug/L	94
97)	1,2-Dibromo-3-Chloropropan	21.46	75	485969	308.7273 ug/L	99
98)	1,2,4-Trichlorobenzene	22.83	180	4209743	290.7568 ug/L	97
99)	Hexachlorobutadiene	23.02	225	1820577	286.7672 ug/L	99
100)	Naphthalene	23.28	128	7807734	273.0739 ug/L	95
101)	1,2,3-Trichlorobenzene	23.69	180	3835427	281.8909 ug/L	98

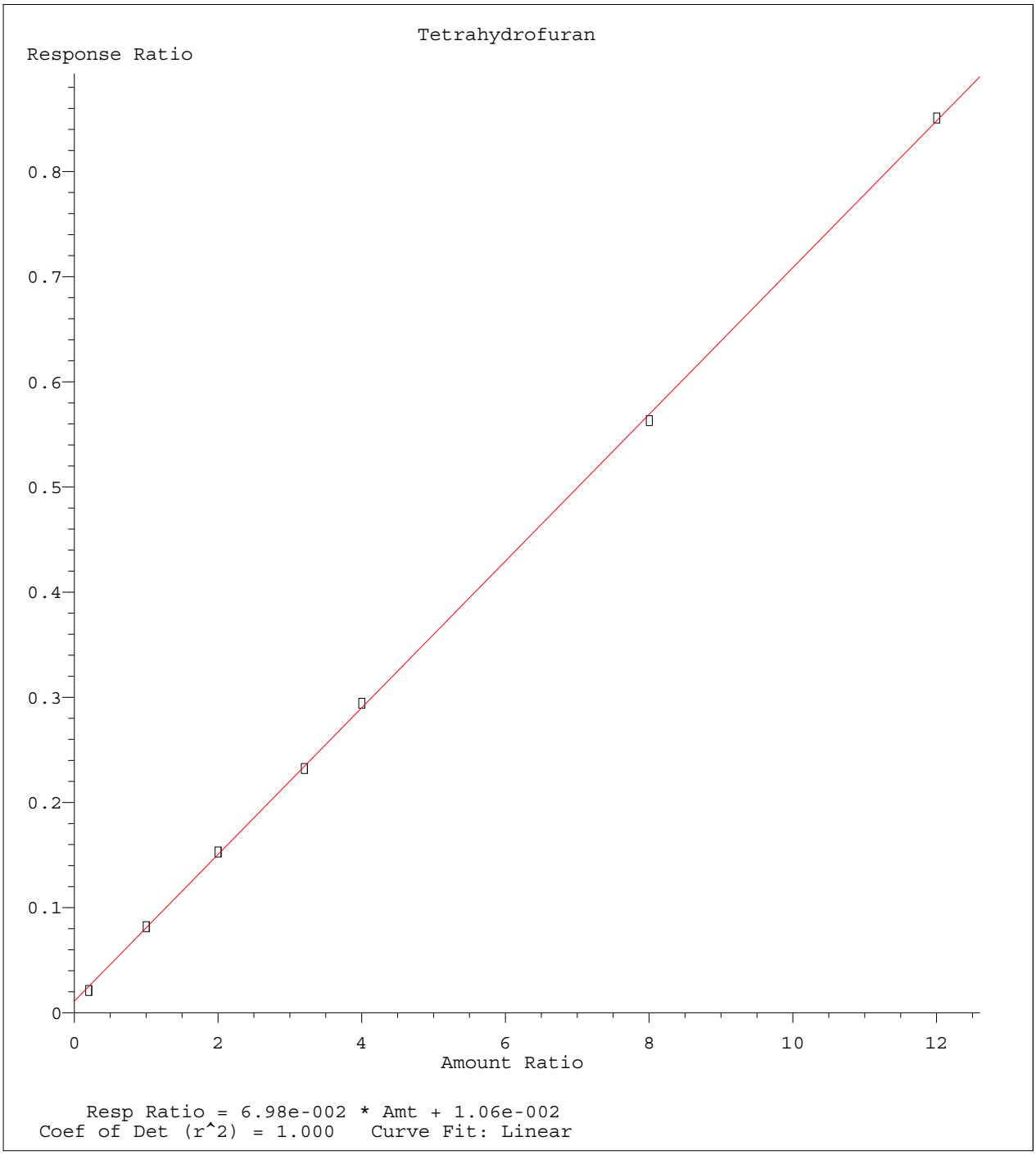
(#) = qualifier out of range (m) = manual integration
6M139187.D 8260WTR.M Thu May 12 12:56:17 2016 Page 2

Quantitation Report (Not Reviewed)

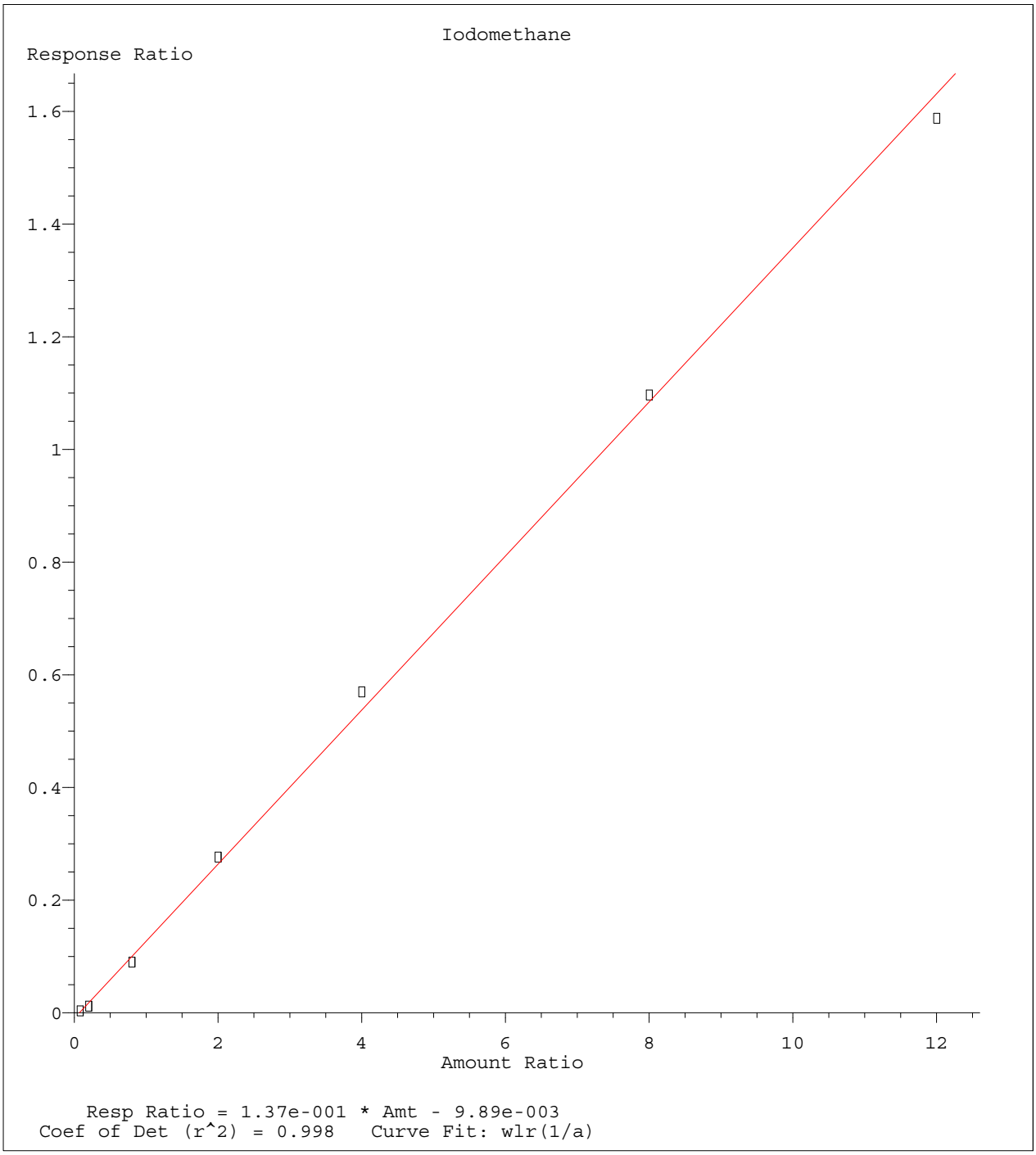
Data File : C:\MSDCHEM\1\DATA\051116\6M139187.D Vial: 11
Acq On : 11 May 2016 15:29 Operator: TMB
Sample : WG568265-11 300ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD76070 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration

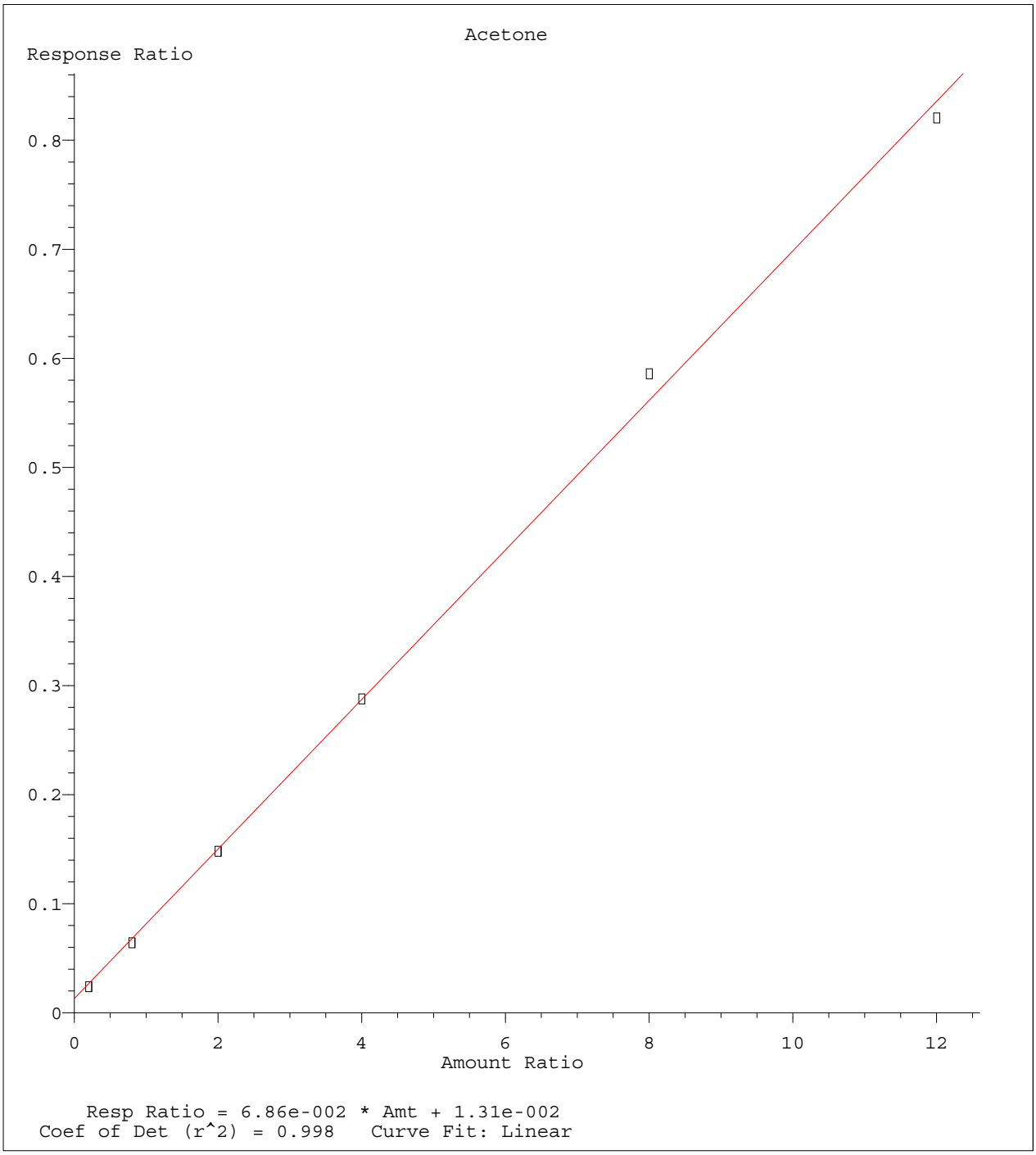




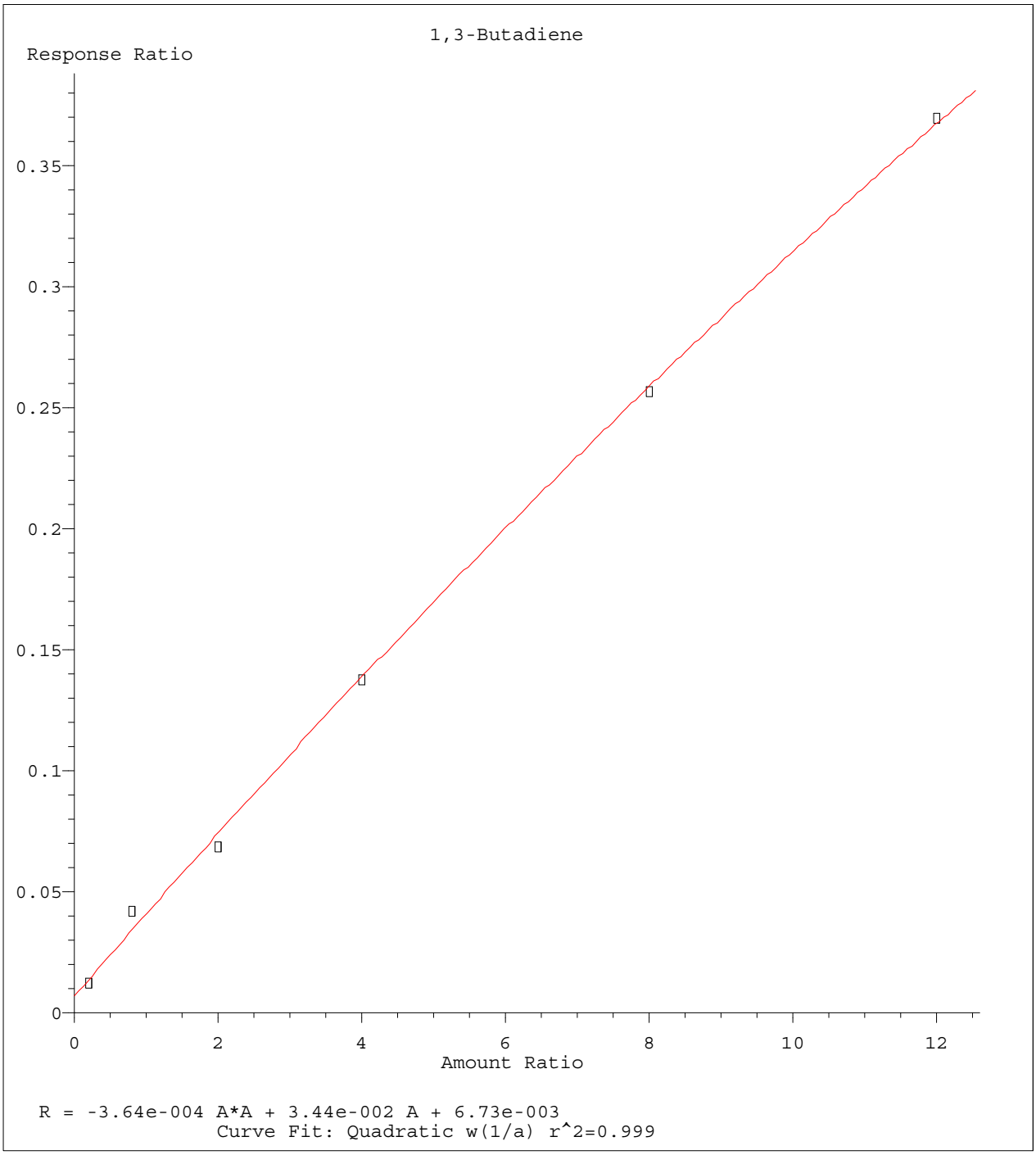
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Thu May 12 12:57:41 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Thu May 12 12:57:41 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Thu May 12 12:57:41 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Thu May 12 12:57:41 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139191.D Vial: 15
Acq On : 11 May 2016 18:17 Operator: FJB
Sample : WG568265-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:18 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	812535	25.00 ug/L	-0.01
57) Chlorobenzene-d5	16.06	117	603774	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	337360	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	211868	24.8392 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.36%		
43) 1,2-Dichloroethane-d4	11.11	65	223101	23.4838 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.92%		
58) Toluene-d8	13.85	98	724998	24.3991 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.60%		
80) p-Bromofluorobenzene	17.84	95	303582	24.2762 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.12%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	788491	61.6196 ug/L	99
3) Chloromethane	3.93	50	832489	47.4395 ug/L	99
4) Vinyl Chloride	4.16	62	564348	50.0111 ug/L	99
5) 1,3-Butadiene	4.20	54	93300	81.3225 ug/L	98
6) Bromomethane	5.06	94	316883	49.6731 ug/L	100
7) Chloroethane	5.22	64	389173	53.9762 ug/L	100
8) Trichlorofluoromethane	5.72	101	733267	51.2132 ug/L	100
9) Diethyl ether	6.29	59	782702	103.2692 ug/L	98
10) Isoprene	6.31	67	739221	103.3985 ug/L	99
11) Acrolein	6.55	56	120404	105.7774 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.53	101	472121	57.7284 ug/L	99
13) Acetone	6.66	43	123915	50.8268 ug/L	95
14) 1,1-Dichloroethene	6.87	61	745812	50.3343 ug/L	99
15) Tert-Butyl Alcohol	7.02	59	145373	197.7725 ug/L	99
16) Dimethyl Sulfide	7.16	62	512873	106.2280 ug/L	98
17) Iodomethane	7.43	142	333312	76.7683 ug/L	100
18) Methyl acetate	7.45	43	304914	44.0375 ug/L	97
19) Methylene Chloride	7.72	84	457558	52.2816 ug/L	96
20) Carbon Disulfide	7.76	76	1358383	88.6013 ug/L	100
21) Acrylonitrile	7.92	53	155615	51.4115 ug/L	99
22) Methyl Tert Butyl Ether	7.95	73	1192034	52.8192 ug/L	99
23) trans-1,2-Dichloroethene	8.21	96	459781	54.2671 ug/L	99
24) n-Hexane	8.28	57	732428	81.9289 ug/L	99
25) Diisopropyl ether	8.67	45	3701074	106.7933 ug/L	99
26) Vinyl Acetate	8.85	43	367076	30.6671 ug/L	99
27) 1,1-Dichloroethane	8.88	63	848633	50.2372 ug/L	100
28) Ethyl-Tert-Butyl ether	9.30	59	2896231	100.5275 ug/L	99
29) 2-Butanone	9.51	43	185919	50.4200 ug/L	99
30) Propionitrile	9.63	54	99024	97.8323 ug/L	99
31) 2,2-Dichloropropane	9.74	77	723006	58.1730 ug/L	99
32) cis-1,2-Dichloroethene	9.82	96	504066	53.8560 ug/L	97
33) Chloroform	10.06	83	785317	50.7653 ug/L	99
34) 1-Bromopropane	10.21	122	116133	92.1089 ug/L	99
35) Bromochloromethane	10.32	130	273500	53.2715 ug/L	100
36) Tetrahydrofuran	10.35	42	218970	92.7238 ug/L	99
38) 1,1,1-Trichloroethane	10.65	97	723362	53.3594 ug/L	99
39) Cyclohexane	10.68	56	904471	66.6232 ug/L	99
40) 1,1-Dichloropropene	10.87	75	616503	52.3598 ug/L	99
41) Tert-Amyl-Methyl ether	11.00	73	2361043	105.2009 ug/L	100
42) Carbon Tetrachloride	11.04	117	651396	54.1067 ug/L	100

(#) = qualifier out of range (m) = manual integration
6M139191.D 8260WTR.M Thu May 12 12:56:19 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139191.D Vial: 15
Acq On : 11 May 2016 18:17 Operator: FJB
Sample : WG568265-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56:18 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

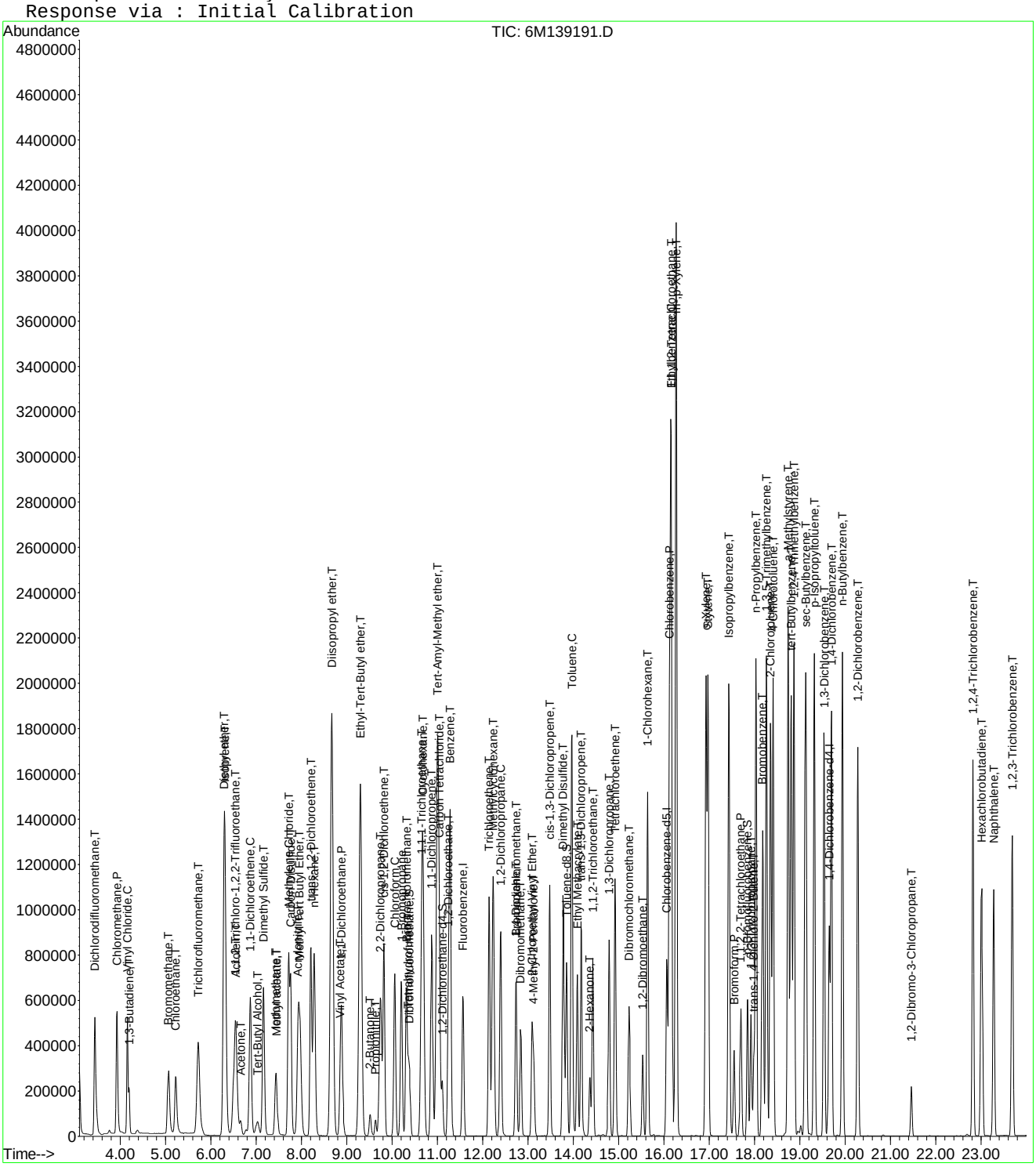
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	610374	51.3796	ug/L	99
46)	Benzene	11.28	78	1764477	52.0123	ug/L	99
47)	Trichloroethene	12.14	130	474473	53.4719	ug/L	99
48)	Methylcyclohexane	12.23	83	756746	64.7690	ug/L	99
49)	1,2-Dichloropropane	12.40	63	499902	52.5074	ug/L	99
50)	1,4-Dioxane	12.73	88	14913	225.5629	ug/L	99
51)	Bromodichloromethane	12.74	83	607532	52.4497	ug/L	100
52)	Dibromomethane	12.84	93	239195	49.8638	ug/L	100
53)	2-Chloroethyl Vinyl Ether	13.09	63	253251	54.1491	ug/L	100
54)	4-Methyl-2-Pentanone	13.12	58	141728	49.6618	ug/L	98
55)	cis-1,3-Dichloropropene	13.48	75	786283	57.8970	ug/L	100
56)	Dimethyl Disulfide	13.77	79	437891	58.5968	ug/L	99
59)	Toluene	13.97	91	1865477	52.1286	ug/L	100
60)	Ethyl Methacrylate	14.09	69	528440	50.8077	ug/L	96
62)	trans-1,3-Dichloropropene	14.17	75	639350	52.4862	ug/L	100
63)	1,1,2-Trichloroethane	14.43	97	337095	50.8365	ug/L	100
64)	2-Hexanone	14.36	43	272304	46.8854	ug/L	99
65)	1,3-Dichloropropane	14.79	76	622384	52.7870	ug/L	99
66)	Tetrachloroethene	14.92	166	479679	51.5097	ug/L	99
67)	Dibromochloromethane	15.23	129	430406	52.9511	ug/L	100
68)	1,2-Dibromoethane	15.53	107	331866	51.0281	ug/L	100
69)	1-Chlorohexane	15.64	91	671787	54.5149	ug/L	97
70)	Chlorobenzene	16.12	112	1250428	52.7348	ug/L	100
71)	1,1,1,2-Tetrachloroethane	16.16	131	458894	53.1196	ug/L	99
72)	Ethylbenzene	16.16	106	672376	52.4124	ug/L	100
73)	m-,p-Xylene	16.27	106	1641537	106.4245	ug/L	99
74)	o-Xylene	16.93	106	811554	53.1101	ug/L	100
75)	Styrene	16.97	104	1373664	52.0307	ug/L	99
76)	Bromoform	17.55	173	256471	49.1867	ug/L	100
77)	Isopropylbenzene	17.43	105	2062344	53.3769	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	401496	49.5252	ug/L	100
81)	1,2,3-Trichloropropane	17.92	110	118882	50.3194	ug/L	87
82)	trans-1,4-Dichloro-2-Buten	17.98	53	120517	42.1177	ug/L	97
83)	n-Propylbenzene	18.03	91	2508465	53.8979	ug/L	100
84)	Bromobenzene	18.18	156	526917	48.4128	ug/L	99
85)	1,3,5-Trimethylbenzene	18.26	105	1741180	51.8127	ug/L	99
86)	2-Chlorotoluene	18.35	91	1557434	50.4064	ug/L	100
87)	4-Chlorotoluene	18.41	91	1565137	53.0036	ug/L	100
88)	a-Methylstyrene	18.74	118	1051674	56.3658	ug/L	100
89)	tert-Butylbenzene	18.81	134	390198	52.9867	ug/L	82
90)	1,2,4-Trimethylbenzene	18.87	105	1761999	51.1873	ug/L	99
91)	sec-Butylbenzene	19.13	105	2190479	53.9756	ug/L	100
92)	p-Isopropyltoluene	19.32	119	1857775	52.9798	ug/L	100
93)	1,3-Dichlorobenzene	19.54	146	1055496	50.9819	ug/L	100
94)	1,4-Dichlorobenzene	19.70	146	1074534	51.1832	ug/L	100
95)	n-Butylbenzene	19.94	91	1761297	52.7601	ug/L	100
96)	1,2-Dichlorobenzene	20.28	146	1005487	51.2963	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	21.46	75	76441	50.1910	ug/L	99
98)	1,2,4-Trichlorobenzene	22.82	180	732498	52.2895	ug/L	99
99)	Hexachlorobutadiene	23.02	225	352038	57.3117	ug/L	100
100)	Naphthalene	23.28	128	1263647	45.6788	ug/L	100
101)	1,2,3-Trichlorobenzene	23.69	180	652958	49.6005	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139191.D 8260WTR.M Thu May 12 12:56:19 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\051116\6M139191.D Vial: 15
Acq On : 11 May 2016 18:17 Operator: FJB
Sample : WG568265-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 12:56 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\6M139191.D Vial: 15
Acq On : 11 May 2016 18:17 Operator: FJB
Sample : WG568265-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	102	-0.01
2	T	Dichlorodifluoromethane	50.0000	61.6196	-23.2#	120	0.00
3	P	Chloromethane	50.0000	47.4395	5.1	101	0.00
4	C	Vinyl Chloride	50.0000	50.0111	-0.0	108	0.00
5	T	1,3-Butadiene	50.0000	81.3225	-62.6#	170	0.00
6	T	Bromomethane	50.0000	49.6731	0.7	111	-0.01
7	T	Chloroethane	50.0000	53.9762	-8.0	114	-0.02
8	T	Trichlorofluoromethane	50.0000	51.2132	-2.4	102	-0.01
9	T	Diethyl ether	100.0000	103.2693	-3.3	110	0.00
10	T	Isoprene	50.0000	103.3985	-106.8#	219	-0.01
11	T	Acrolein	50.0000	105.7774	-111.6#	224	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	57.7284	-15.5	121	-0.01
13	T	Acetone	50.0000	50.8268	-1.7	105	0.00
14	C	1,1-Dichloroethene	50.0000	50.3343	-0.7	107	-0.01
15	T	Tert-Butyl Alcohol	200.0000	197.7725	1.1	100	0.00
16	T	Dimethyl Sulfide	50.0000	106.2280	-112.5#	218	-0.01
17	T	Iodomethane	50.0000	76.7683	-53.5#	151	-0.01
18	T	Methyl acetate	50.0000	44.0376	11.9	93	0.00
19	T	Methylene Chloride	50.0000	52.2816	-4.6	111	0.00
20	T	Carbon Disulfide	50.0000	88.6013	-77.2#	188	-0.01
21	T	Acrylonitrile	50.0000	51.4115	-2.8	102	0.00
22	T	Methyl Tert Butyl Ether	50.0000	52.8192	-5.6	109	0.00
23	T	trans-1,2-Dichloroethene	50.0000	54.2671	-8.5	112	0.00
24	T	n-Hexane	50.0000	81.9289	-63.9#	173	-0.01
25	T	Diisopropyl ether	100.0000	106.7933	-6.8	109	0.00
26	T	Vinyl Acetate	50.0000	30.6671	38.7#	68	-0.01
27	P	1,1-Dichloroethane	50.0000	50.2372	-0.5	104	-0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	100.5276	-0.5	103	0.00
29	T	2-Butanone	50.0000	50.4200	-0.8	103	-0.01
30	T	Propionitrile	100.0000	97.8323	2.2	97	-0.01
31	T	2,2-Dichloropropane	50.0000	58.1730	-16.3	128	-0.01
32	T	cis-1,2-Dichloroethene	50.0000	53.8560	-7.7	112	0.00
33	C	Chloroform	50.0000	50.7653	-1.5	108	0.00
34		1-Bromopropane	50.0000	92.1089	-84.2#	182	0.00
35	T	Bromochloromethane	50.0000	53.2715	-6.5	106	0.00
36	T	Tetrahydrofuran	100.0000	92.7238	7.3	93	0.00
37	S	Dibromofluoromethane	25.0000	24.8392	0.6	103	0.00
38	T	1,1,1-Trichloroethane	50.0000	53.3594	-6.7	110	0.00
39	T	Cyclohexane	50.0000	66.6232	-33.2#	143	-0.01
40	T	1,1-Dichloropropene	50.0000	52.3598	-4.7	109	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	105.2009	-5.2	108	0.00
42	T	Carbon Tetrachloride	50.0000	54.1067	-8.2	111	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.4838	6.1	97	0.00
44		Heptane	-1.0000	0.0000	0.0	107	-0.01
45	T	1,2-Dichloroethane	50.0000	51.3796	-2.8	107	0.00
46	T	Benzene	50.0000	52.0123	-4.0	110	0.00
47	T	Trichloroethene	50.0000	53.4719	-6.9	111	0.00
48	T	Methylcyclohexane	50.0000	64.7690	-29.5#	136	0.00
49	C	1,2-Dichloropropane	50.0000	52.5074	-5.0	110	0.00
50	T	1,4-Dioxane	200.0000	225.5630	-12.8	108	0.00
51	T	Bromodichloromethane	50.0000	52.4497	-4.9	107	0.00
52	T	Dibromomethane	50.0000	49.8638	0.3	101	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	54.1491	-8.3	105	0.00
54	T	4-Methyl-2-Pentanone	50.0000	49.6618	0.7	98	0.00

(#) = Out of Range
6M139191.D 8260WTR.M Thu May 12 12:58:14 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\051116\6M139191.D Vial: 15
Acq On : 11 May 2016 18:17 Operator: FJB
Sample : WG568265-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD76109 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 09:29:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	57.8970	-15.8	118	0.00
56	T	Dimethyl Disulfide	50.0000	58.5968	-17.2	121	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	104	0.00
58	S	Toluene-d8	25.0000	24.3991	2.4	103	0.00
59	C	Toluene	50.0000	52.1286	-4.3	110	0.00
60	T	Ethyl Methacrylate	50.0000	50.8077	-1.6	107	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	114	0.00
62	T	trans-1,3-Dichloropropene	50.0000	52.4862	-5.0	109	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.8366	-1.7	106	0.00
64	T	2-Hexanone	50.0000	46.8854	6.2	97	0.00
65	T	1,3-Dichloropropane	50.0000	52.7870	-5.6	110	0.00
66	T	Tetrachloroethene	50.0000	51.5097	-3.0	110	0.00
67	T	Dibromochloromethane	50.0000	52.9511	-5.9	105	0.00
68	T	1,2-Dibromoethane	50.0000	51.0281	-2.1	104	0.00
69	T	1-Chlorohexane	50.0000	54.5149	-9.0	119	0.00
70	P	Chlorobenzene	50.0000	52.7348	-5.5	111	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	53.1196	-6.2	108	0.00
72	C	Ethylbenzene	50.0000	52.4124	-4.8	110	0.00
73	T	m-,p-Xylene	100.0000	106.4245	-6.4	112	0.00
74	T	o-Xylene	50.0000	53.1101	-6.2	112	0.00
75	T	Styrene	50.0000	52.0307	-4.1	107	0.00
76	P	Bromoform	50.0000	49.1867	1.6	98	0.00
77	T	Isopropylbenzene	50.0000	53.3769	-6.8	111	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	103	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	49.5252	0.9	103	0.00
80	S	p-Bromofluorobenzene	25.0000	24.2762	2.9	102	0.00
81	T	1,2,3-Trichloropropane	50.0000	50.3194	-0.6	102	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	42.1178	15.8	84	0.00
83	T	n-Propylbenzene	50.0000	53.8978	-7.8	112	0.00
84	T	Bromobenzene	50.0000	48.4128	3.2	105	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	51.8127	-3.6	108	0.00
86	T	2-Chlorotoluene	50.0000	50.4065	-0.8	108	0.00
87	T	4-Chlorotoluene	50.0000	53.0036	-6.0	112	0.00
88	T	a-Methylstyrene	50.0000	56.3658	-12.7	117	0.00
89	T	tert-Butylbenzene	50.0000	52.9866	-6.0	112	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	51.1873	-2.4	105	0.00
91	T	sec-Butylbenzene	50.0000	53.9755	-8.0	110	0.00
92	T	p-Isopropyltoluene	50.0000	52.9798	-6.0	108	0.00
93	T	1,3-Dichlorobenzene	50.0000	50.9819	-2.0	107	0.00
94	T	1,4-Dichlorobenzene	50.0000	51.1831	-2.4	109	0.00
95	T	n-Butylbenzene	50.0000	52.7602	-5.5	108	0.00
96	T	1,2-Dichlorobenzene	50.0000	51.2963	-2.6	109	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	50.1910	-0.4	99	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	52.2895	-4.6	109	0.00
99	T	Hexachlorobutadiene	50.0000	57.3117	-14.6	122	0.00
100	T	Naphthalene	50.0000	45.6788	8.6	91	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	49.6005	0.8	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139191.D 8260WTR.M Thu May 12 12:58:14 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:22:55 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	512979	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	428806	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	262717	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	151525	26.9899	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.96%			
43) 1,2-Dichloroethane-d4	10.23	65	167290	26.1335	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 104.52%			
57) Toluene-d8	12.47	98	490053	26.3022	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.20%			
78) p-Bromofluorobenzene	15.64	95	208331	25.7246	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	426666	53.0848	ug/L	99
3) Chloromethane	3.72	50	307610	47.7869	ug/L	99
4) Vinyl Chloride	3.96	62	291675	54.5624	ug/L	100
5) 1,3-Butadiene	4.00	54	318426	59.9051	ug/L	99
6) Bromomethane	4.85	94	170986	46.5206	ug/L	99
7) Chloroethane	5.00	64	166789	48.5597	ug/L	100
8) Trichlorofluoromethane	5.48	101	598681	56.1881	ug/L	100
9) Diethyl ether	6.01	59	354444	89.9474	ug/L	98
10) Isoprene	6.04	67	311530	47.4357	ug/L	95
11) Acrolein	6.24	56	17834	34.8923	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	268733	51.9780	ug/L	98
13) Acetone	6.34	43	55798	45.8076	ug/L	97
14) 1,1-Dichloroethene	6.56	61	487461	51.9073	ug/L	97
15) Tert-Butyl Alcohol	6.66	59	56033	166.3039	ug/L	99
16) Dimethyl Sulfide	6.81	62	186610	49.7576	ug/L	100
17) Iodomethane	7.06	142	219911	51.3464	ug/L	94
18) Methyl acetate	7.06	43	161133	42.3624	ug/L	98
19) Methylene Chloride	7.31	84	231347	47.6006	ug/L	99
20) Carbon Disulfide	7.36	76	785115	49.9382	ug/L	100
21) Acrylonitrile	7.49	53	74998	45.9210	ug/L	98
22) Methyl Tert Butyl Ether	7.52	73	590822	48.7396	ug/L	97
23) trans-1,2-Dichloroethene	7.75	96	258279	49.6937	ug/L	99
24) n-Hexane	7.82	57	423596	48.9334	ug/L	100
25) Diisopropyl ether	8.15	45	2045070	94.6763	ug/L	98
26) Vinyl Acetate	8.31	43	312325	37.8687	ug/L	98
27) 1,1-Dichloroethane	8.34	63	527355	50.5680	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1672471	95.1291	ug/L	99
29) 2-Butanone	8.87	43	78015	42.3648	ug/L	99
30) Propionitrile	8.98	54	45496	84.3521	ug/L	94
31) 2,2-Dichloropropane	9.09	77	451126	55.2889	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	286238	49.9485	ug/L	98
33) Chloroform	9.35	83	528375	51.5933	ug/L	100
34) 1-Bromopropane	9.48	122	51595	50.6744	ug/L	98
35) Bromochloromethane	9.57	130	182617	53.6574	ug/L	97
36) Tetrahydrofuran	9.60	42	100781	77.5012	ug/L	98
38) 1,1,1-Trichloroethane	9.85	97	557731	55.3412	ug/L	99
39) Cyclohexane	9.88	56	554005	50.4408	ug/L	98
40) 1,1-Dichloropropene	10.04	75	367335	51.0485	ug/L	98
41) Carbon Tetrachloride	10.18	117	575034	58.4319	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	1123043	91.9285	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M12102.D 8260WT.M Wed May 25 09:22:56 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:22:55 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

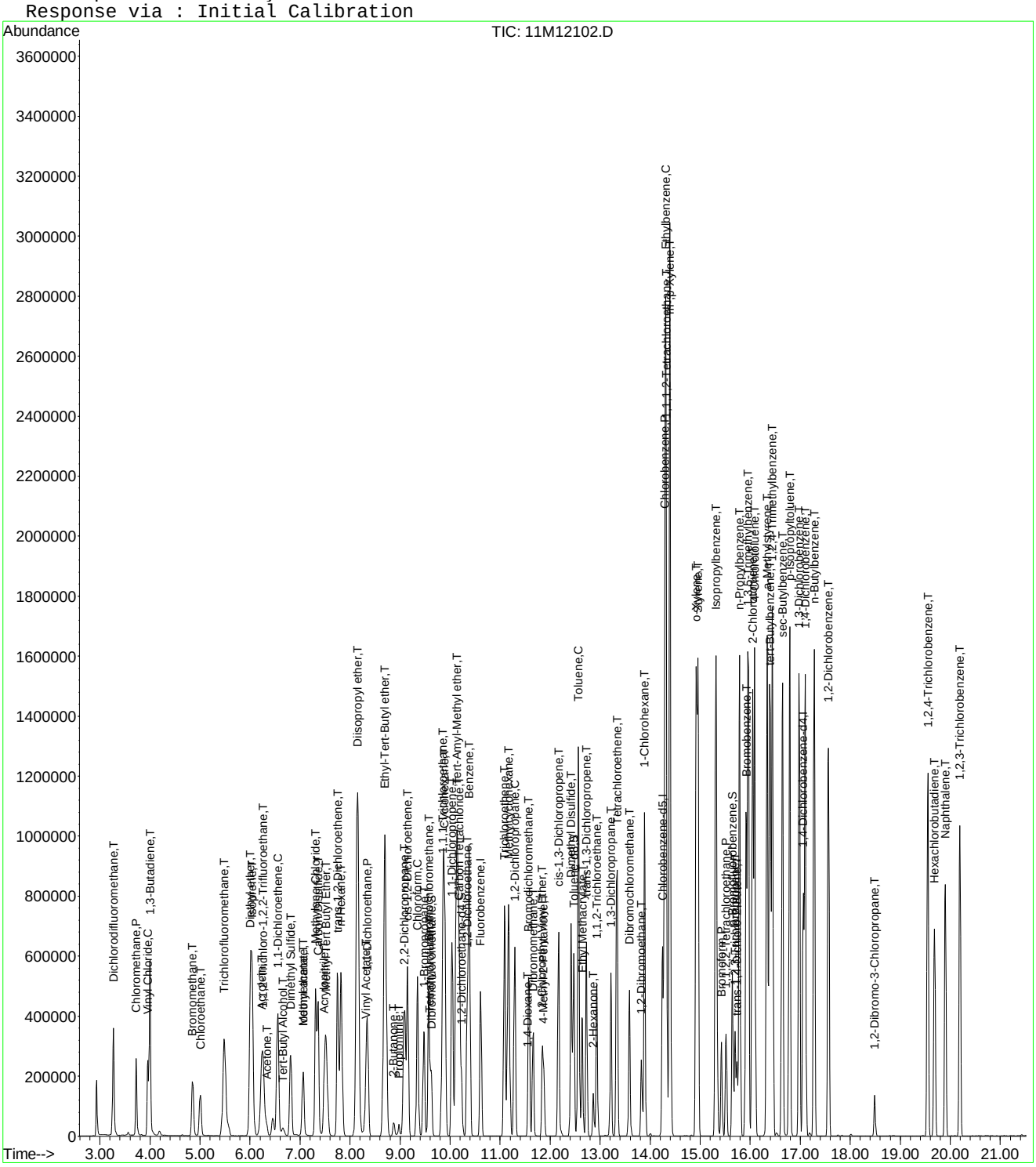
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	455477	54.7598	ug/L	98
45)	Benzene	10.38	78	945495	47.9974	ug/L	99
46)	Trichloroethene	11.08	130	323487	50.5223	ug/L	99
47)	Methylcyclohexane	11.17	83	389663	49.3122	ug/L	99
48)	1,2-Dichloropropane	11.29	63	261956	48.0396	ug/L	92
49)	1,4-Dioxane	11.55	88	4799	161.2694	ug/L	88
50)	Bromodichloromethane	11.57	83	414688	54.1718	ug/L	99
51)	Dibromomethane	11.65	93	147676	51.9704	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.84	63	116400	43.3114	ug/L	98
53)	4-Methyl-2-Pentanone	11.87	58	63019	41.5745	ug/L	95
54)	cis-1,3-Dichloropropene	12.17	75	402408	52.5568	ug/L	99
55)	Dimethyl Disulfide	12.42	79	227707	49.4217	ug/L	99
58)	Toluene	12.56	91	1128421	51.9821	ug/L	99
59)	Ethyl Methacrylate	12.65	69	219658	47.3885	ug/L	98
60)	trans-1,3-Dichloropropene	12.73	75	369125	52.9759	ug/L	99
61)	1,1,2-Trichloroethane	12.94	97	188398	48.9434	ug/L	98
62)	2-Hexanone	12.86	43	124311	43.9714	ug/L	100
63)	1,3-Dichloropropane	13.21	76	308129	49.8472	ug/L	98
64)	Tetrachloroethene	13.34	164	267845	53.0585	ug/L	100
65)	Dibromochloromethane	13.59	129	328064	55.8763	ug/L	100
66)	1,2-Dibromoethane	13.82	107	194730	50.4927	ug/L	99
67)	1-Chlorohexane	13.89	91	369483	51.6258	ug/L	98
68)	Chlorobenzene	14.29	112	835288	52.5252	ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.32	131	349911	54.3787	ug/L	99
70)	Ethylbenzene	14.31	106	423059	51.8800	ug/L	97
71)	m-,p-Xylene	14.39	106	1021975	103.0883	ug/L	97
72)	o-Xylene	14.92	106	497194	51.5339	ug/L	95
73)	Styrene	14.95	104	863571	54.1761	ug/L	97
74)	Bromoform	15.43	173	189274	53.1895	ug/L	100
75)	Isopropylbenzene	15.31	105	1367280	53.5882	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.52	83	188540	46.0848	ug/L	98
79)	1,2,3-Trichloropropane	15.70	110	71252	46.4437	ug/L	92
80)	trans-1,4-Dichloro-2-Buten	15.74	53	83355	42.3870	ug/L	95
81)	n-Propylbenzene	15.79	91	1576389	51.8116	ug/L	100
82)	Bromobenzene	15.92	156	398084	49.8617	ug/L	99
83)	1,3,5-Trimethylbenzene	15.95	105	1204939	51.8972	ug/L	99
84)	2-Chlorotoluene	16.05	91	1080977	50.7250	ug/L	99
85)	4-Chlorotoluene	16.09	91	989930	51.8585	ug/L	99
86)	a-Methylstyrene	16.34	118	633448	51.7167	ug/L	98
87)	tert-Butylbenzene	16.40	134	248439	50.5064	ug/L	97
88)	1,2,4-Trimethylbenzene	16.44	105	1240868	52.4845	ug/L	98
89)	sec-Butylbenzene	16.65	105	1390071	49.8616	ug/L	100
90)	p-Isopropyltoluene	16.79	119	1317100	51.4354	ug/L	100
91)	1,3-Dichlorobenzene	16.98	146	785850	50.9645	ug/L	99
92)	1,4-Dichlorobenzene	17.10	146	782153	50.0431	ug/L	99
93)	n-Butylbenzene	17.28	91	1108118	49.1092	ug/L	100
94)	1,2-Dichlorobenzene	17.57	146	706181	50.2747	ug/L	100
95)	1,2-Dibromo-3-Chloropropan	18.49	75	40467	43.9567	ug/L	97
96)	1,2,4-Trichlorobenzene	19.55	180	479235	46.6259	ug/L	99
97)	Hexachlorobutadiene	19.69	225	175359	38.7271	ug/L	98
98)	Naphthalene	19.90	128	843718	44.2251	ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	410026	43.4670	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:22 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	98	0.00
2	T	Dichlorodifluoromethane	0.3917	0.4159	-6.2	102	0.00
3	P	Chloromethane	0.3137	0.2998	4.4	107	0.00
4	C	Vinyl Chloride	0.2605	0.2843	-9.1	112	0.00
5	T	1,3-Butadiene	0.2591	0.3104	-19.8	113	0.00
6	T	Bromomethane	0.1791	0.1667	7.0	99	0.00
7	T	Chloroethane	0.1674	0.1626	2.9	99	0.00
8	T	Trichlorofluoromethane	0.5193	0.5835	-12.4	115	0.00
9	T	Diethyl ether	0.1920	0.1727	10.0	90	0.00
10	T	Isoprene	0.3201	0.3036	5.1	94	0.00
11	T	Acrolein	0.0228	0.0174	23.7	71	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2520	0.2619	-4.0	105	0.01
13	T	Acetone	0.0594	0.0544	8.4	93	0.00
14	C	1,1-Dichloroethene	0.4577	0.4751	-3.8	106	0.00
15	T	Tert-Butyl Alcohol	0.0164	0.0137	16.9	81	0.00
16	T	Dimethyl Sulfide	0.1828	0.1819	0.5	96	0.00
17	T	Iodomethane	0.1615	0.2144	-32.7#	102	0.00
18	T	Methyl acetate	0.2006	0.1571	21.7	87	0.00
19	T	Methylene Chloride	0.2369	0.2255	4.8	99	0.00
20	T	Carbon Disulfide	0.7662	0.7652	0.1	96	0.00
21	T	Acrylonitrile	0.0796	0.0731	8.2	88	0.00
22	T	Methyl Tert Butyl Ether	0.5908	0.5759	2.5	97	0.00
23	T	trans-1,2-Dichloroethene	0.2533	0.2517	0.6	102	0.01
24	T	n-Hexane	0.4219	0.4129	2.1	94	0.00
25	T	Diisopropyl ether	1.0527	0.9967	5.3	94	0.00
26	T	Vinyl Acetate	0.3793	0.3044	19.7	76	0.00
27	P	1,1-Dichloroethane	0.5082	0.5140	-1.1	102	0.00
28	T	Ethyl-Tert-Butyl ether	0.8568	0.8151	4.9	94	0.00
29	T	2-Butanone	0.0897	0.0760	15.3	86	0.00
30	T	Propionitrile	0.0263	0.0222	15.7	80	0.00
31	T	2,2-Dichloropropane	0.3977	0.4397	-10.6	112	0.00
32	T	cis-1,2-Dichloroethene	0.2793	0.2790	0.1	101	0.00
33	C	Chloroform	0.4991	0.5150	-3.2	108	0.00
34	T	1-Bromopropane	0.0432	0.0503	-16.5	103	0.00
35	T	Bromochloromethane	0.1659	0.1780	-7.3	101	0.00
36	T	Tetrahydrofuran	0.0634	0.0491	22.5	79	0.00
37	S	Dibromofluoromethane	0.2736	0.2954	-8.0	108	0.00
38	T	1,1,1-Trichloroethane	0.4911	0.5436	-10.7	112	0.00
39	T	Cyclohexane	0.5353	0.5400	-0.9	96	0.00
40	T	1,1-Dichloropropene	0.3507	0.3580	-2.1	104	0.00
41	T	Carbon Tetrachloride	0.4796	0.5605	-16.9	117	0.00
42	T	Tert-Amyl-Methyl ether	0.5954	0.5473	8.1	91	0.00
43	S	1,2-Dichloroethane-d4	0.3120	0.3261	-4.5	106	0.00
44	T	1,2-Dichloroethane	0.4054	0.4440	-9.5	109	0.00
45	T	Benzene	0.9600	0.9216	4.0	100	0.00
46	T	Trichloroethene	0.3120	0.3153	-1.0	105	-0.01
47	T	Methylcyclohexane	0.3851	0.3798	1.4	93	0.00
48	C	1,2-Dichloropropane	0.2657	0.2553	3.9	98	0.00
49	T	1,4-Dioxane	0.0014	0.0012	16.4	82	0.00
50	T	Bromodichloromethane	0.3731	0.4042	-8.3	108	0.00
51	T	Dibromomethane	0.1385	0.1439	-3.9	103	0.00
52	T	2-Chloroethyl Vinyl Ether	0.1310	0.1135	13.4	87	0.00
53	T	4-Methyl-2-Pentanone	0.0739	0.0614	16.9	83	0.00
54	T	cis-1,3-Dichloropropene	0.3731	0.3922	-5.1	102	0.00

(#) = Out of Range
11M12102.D 8260WT.M Wed May 25 09:30:14 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	0.2245	0.2220	1.2	96	0.00
56	I	Chlorobenzene-d5	1.0000	1.0000	0.0	98	0.00
57	S	Toluene-d8	1.0862	1.1428	-5.2	106	0.00
58	C	Toluene	1.2656	1.3158	-4.0	103	0.00
59	T	Ethyl Methacrylate	0.2702	0.2561	5.2	88	0.00
60	T	trans-1,3-Dichloropropene	0.4062	0.4304	-6.0	101	0.00
61	T	1,1,2-Trichloroethane	0.2244	0.2197	2.1	97	0.00
62	T	2-Hexanone	0.1648	0.1450	12.1	86	0.00
63	T	1,3-Dichloropropane	0.3604	0.3593	0.3	97	0.00
64	T	Tetrachloroethene	0.2943	0.3123	-6.1	107	0.00
65	T	Dibromochloromethane	0.3423	0.3825	-11.8	106	0.00
66	T	1,2-Dibromoethane	0.2248	0.2271	-1.0	99	0.00
67	T	1-Chlorohexane	0.4173	0.4308	-3.3	98	0.00
68	P	Chlorobenzene	0.9272	0.9740	-5.0	105	0.00
69	T	1,1,1,2-Tetrachloroethane	0.3751	0.4080	-8.8	107	0.00
70	C	Ethylbenzene	0.4754	0.4933	-3.8	104	0.00
71	T	m-,p-Xylene	0.5780	0.5958	-3.1	103	0.00
72	T	o-Xylene	0.5625	0.5797	-3.1	101	0.00
73	T	Styrene	0.9293	1.0070	-8.4	103	0.00
74	P	Bromoform	0.2075	0.2207	-6.4	103	0.00
75	T	Isopropylbenzene	1.4875	1.5943	-7.2	104	0.00
76	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	0.3893	0.3588	7.8	90	0.00
78	S	p-Bromofluorobenzene	0.7706	0.7930	-2.9	110	0.00
79	T	1,2,3-Trichloropropane	0.1351	0.1356	-0.3	98	0.00
80	T	trans-1,4-Dichloro-2-Butene	0.1588	0.1586	0.1	89	0.00
81	T	n-Propylbenzene	2.8953	3.0002	-3.6	104	0.00
82	T	Bromobenzene	0.7597	0.7576	0.3	105	0.00
83	T	1,3,5-Trimethylbenzene	2.2094	2.2932	-3.8	105	-0.01
84	T	2-Chlorotoluene	2.0279	2.0573	-1.4	106	0.00
85	T	4-Chlorotoluene	1.8165	1.8840	-3.7	106	0.00
86	T	a-Methylstyrene	1.1656	1.2056	-3.4	97	0.00
87	T	tert-Butylbenzene	0.4681	0.4728	-1.0	103	0.00
88	T	1,2,4-Trimethylbenzene	2.2498	2.3616	-5.0	105	0.00
89	T	sec-Butylbenzene	2.6529	2.6456	0.3	100	0.00
90	T	p-Isopropyltoluene	2.4367	2.5067	-2.9	103	0.00
91	T	1,3-Dichlorobenzene	1.4673	1.4956	-1.9	106	0.00
92	T	1,4-Dichlorobenzene	1.4873	1.4886	-0.1	106	0.00
93	T	n-Butylbenzene	2.1472	2.1090	1.8	98	0.00
94	T	1,2-Dichlorobenzene	1.3366	1.3440	-0.5	103	0.00
95	T	1,2-Dibromo-3-Chloropropane	0.0825	0.0770	6.6	94	0.00
96	T	1,2,4-Trichlorobenzene	0.9781	0.9121	6.7	93	0.00
97	T	Hexachlorobutadiene	0.4309	0.3337	22.5	80	0.00
98	T	Naphthalene	1.8154	1.6058	11.5	88	0.00
99	T	1,2,3-Trichlorobenzene	0.8976	0.7804	13.1	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M12102.D 8260WT.M Wed May 25 09:30:14 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	98	0.00
2	T	Dichlorodifluoromethane	50.0000	53.0848	-6.2	102	0.00
3	P	Chloromethane	50.0000	47.7869	4.4	107	0.00
4	C	Vinyl Chloride	50.0000	54.5624	-9.1	112	0.00
5	T	1,3-Butadiene	50.0000	59.9051	-19.8	113	0.00
6	T	Bromomethane	50.0000	46.5207	7.0	99	0.00
7	T	Chloroethane	50.0000	48.5597	2.9	99	0.00
8	T	Trichlorofluoromethane	50.0000	56.1881	-12.4	115	0.00
9	T	Diethyl ether	100.0000	89.9474	10.1	90	0.00
10	T	Isoprene	50.0000	47.4357	5.1	94	0.00
11	T	Acrolein	50.0000	34.8923	30.2#	71	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.9780	-4.0	105	0.01
13	T	Acetone	50.0000	45.8076	8.4	93	0.00
14	C	1,1-Dichloroethene	50.0000	51.9073	-3.8	106	0.00
15	T	Tert-Butyl Alcohol	200.0000	166.3039	16.8	81	0.00
16	T	Dimethyl Sulfide	50.0000	49.7576	0.5	96	0.00
17	T	Iodomethane	50.0000	51.3464	-2.7	102	0.00
18	T	Methyl acetate	50.0000	42.3624	15.3	87	0.00
19	T	Methylene Chloride	50.0000	47.6006	4.8	99	0.00
20	T	Carbon Disulfide	50.0000	49.9382	0.1	96	0.00
21	T	Acrylonitrile	50.0000	45.9210	8.2	88	0.00
22	T	Methyl Tert Butyl Ether	50.0000	48.7396	2.5	97	0.00
23	T	trans-1,2-Dichloroethene	50.0000	49.6936	0.6	102	0.01
24	T	n-Hexane	50.0000	48.9334	2.1	94	0.00
25	T	Diisopropyl ether	100.0000	94.6763	5.3	94	0.00
26	T	Vinyl Acetate	50.0000	37.8687	24.3	76	0.00
27	P	1,1-Dichloroethane	50.0000	50.5680	-1.1	102	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	95.1291	4.9	94	0.00
29	T	2-Butanone	50.0000	42.3648	15.3	86	0.00
30	T	Propionitrile	100.0000	84.3521	15.6	80	0.00
31	T	2,2-Dichloropropane	50.0000	55.2889	-10.6	112	0.00
32	T	cis-1,2-Dichloroethene	50.0000	49.9485	0.1	101	0.00
33	C	Chloroform	50.0000	51.5933	-3.2	108	0.00
34	T	1-Bromopropane	50.0000	50.6744	-1.3	103	0.00
35	T	Bromochloromethane	50.0000	53.6574	-7.3	101	0.00
36	T	Tetrahydrofuran	100.0000	77.5012	22.5	79	0.00
37	S	Dibromofluoromethane	25.0000	26.9899	-8.0	108	0.00
38	T	1,1,1-Trichloroethane	50.0000	55.3412	-10.7	112	0.00
39	T	Cyclohexane	50.0000	50.4408	-0.9	96	0.00
40	T	1,1-Dichloropropene	50.0000	51.0485	-2.1	104	0.00
41	T	Carbon Tetrachloride	50.0000	58.4319	-16.9	117	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	91.9285	8.1	91	0.00
43	S	1,2-Dichloroethane-d4	25.0000	26.1335	-4.5	106	0.00
44	T	1,2-Dichloroethane	50.0000	54.7598	-9.5	109	0.00
45	T	Benzene	50.0000	47.9974	4.0	100	0.00
46	T	Trichloroethene	50.0000	50.5223	-1.0	105	-0.01
47	T	Methylcyclohexane	50.0000	49.3122	1.4	93	0.00
48	C	1,2-Dichloropropane	50.0000	48.0396	3.9	98	0.00
49	T	1,4-Dioxane	200.0000	161.2694	19.4	82	0.00
50	T	Bromodichloromethane	50.0000	54.1718	-8.3	108	0.00
51	T	Dibromomethane	50.0000	51.9704	-3.9	103	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	43.3114	13.4	87	0.00
53	T	4-Methyl-2-Pentanone	50.0000	41.5745	16.9	83	0.00
54	T	cis-1,3-Dichloropropene	50.0000	52.5568	-5.1	102	0.00

(#) = Out of Range
11M12102.D 8260WT.M Wed May 25 09:30:16 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\11M12102.D Vial: 2
Acq On : 24 May 2016 15:08 Operator: JDS
Sample : WG570083-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	50.0000	49.4217	1.2	96	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	98	0.00
57	S	Toluene-d8	25.0000	26.3022	-5.2	106	0.00
58	C	Toluene	50.0000	51.9821	-4.0	103	0.00
59	T	Ethyl Methacrylate	50.0000	47.3885	5.2	88	0.00
60	T	trans-1,3-Dichloropropene	50.0000	52.9759	-6.0	101	0.00
61	T	1,1,2-Trichloroethane	50.0000	48.9434	2.1	97	0.00
62	T	2-Hexanone	50.0000	43.9714	12.1	86	0.00
63	T	1,3-Dichloropropane	50.0000	49.8472	0.3	97	0.00
64	T	Tetrachloroethene	50.0000	53.0585	-6.1	107	0.00
65	T	Dibromochloromethane	50.0000	55.8763	-11.8	106	0.00
66	T	1,2-Dibromoethane	50.0000	50.4927	-1.0	99	0.00
67	T	1-Chlorohexane	50.0000	51.6257	-3.3	98	0.00
68	P	Chlorobenzene	50.0000	52.5252	-5.1	105	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	54.3787	-8.8	107	0.00
70	C	Ethylbenzene	50.0000	51.8800	-3.8	104	0.00
71	T	m-,p-Xylene	100.0000	103.0883	-3.1	103	0.00
72	T	o-Xylene	50.0000	51.5339	-3.1	101	0.00
73	T	Styrene	50.0000	54.1761	-8.4	103	0.00
74	P	Bromoform	50.0000	53.1895	-6.4	103	0.00
75	T	Isopropylbenzene	50.0000	53.5882	-7.2	104	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	46.0848	7.8	90	0.00
78	S	p-Bromofluorobenzene	25.0000	25.7246	-2.9	110	0.00
79	T	1,2,3-Trichloropropane	50.0000	46.4437	7.1	98	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	42.3870	15.2	89	0.00
81	T	n-Propylbenzene	50.0000	51.8116	-3.6	104	0.00
82	T	Bromobenzene	50.0000	49.8617	0.3	105	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	51.8972	-3.8	105	-0.01
84	T	2-Chlorotoluene	50.0000	50.7250	-1.5	106	0.00
85	T	4-Chlorotoluene	50.0000	51.8585	-3.7	106	0.00
86	T	a-Methylstyrene	50.0000	51.7167	-3.4	97	0.00
87	T	tert-Butylbenzene	50.0000	50.5064	-1.0	103	0.00
88	T	1,2,4-Trimethylbenzene	50.0000	52.4845	-5.0	105	0.00
89	T	sec-Butylbenzene	50.0000	49.8616	0.3	100	0.00
90	T	p-Isopropyltoluene	50.0000	51.4354	-2.9	103	0.00
91	T	1,3-Dichlorobenzene	50.0000	50.9645	-1.9	106	0.00
92	T	1,4-Dichlorobenzene	50.0000	50.0431	-0.1	106	0.00
93	T	n-Butylbenzene	50.0000	49.1092	1.8	98	0.00
94	T	1,2-Dichlorobenzene	50.0000	50.2747	-0.5	103	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	43.9567	12.1	94	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	46.6259	6.7	93	0.00
97	T	Hexachlorobutadiene	50.0000	38.7272	22.5	80	0.00
98	T	Naphthalene	50.0000	44.2251	11.5	88	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	43.4670	13.1	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M12102.D 8260WT.M Wed May 25 09:30:16 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:34:29 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	484890	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	413552	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	253886	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	141867	26.7335	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.92%			
43) 1,2-Dichloroethane-d4	10.23	65	159522	26.3636	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.44%			
57) Toluene-d8	12.47	98	469748	26.1424	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.56%			
78) p-Bromofluorobenzene	15.64	95	198808	25.4026	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	414806	54.5988	ug/L	99
3) Chloromethane	3.72	50	301327	49.5225	ug/L	98
4) Vinyl Chloride	3.95	62	288211	57.0376	ug/L	99
5) 1,3-Butadiene	3.99	54	296993	59.1095	ug/L	98
6) Bromomethane	4.85	94	163052	46.9318	ug/L	97
7) Chloroethane	5.00	64	162824	50.1514	ug/L	99
8) Trichlorofluoromethane	5.48	101	589130	58.4946	ug/L	99
9) Diethyl ether	6.01	59	336345	90.2989	ug/L	98
10) Isoprene	6.04	67	291400	46.9409	ug/L	96
11) Acrolein	6.23	56	15192	31.5939	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	262560	53.7258	ug/L	97
13) Acetone	6.34	43	50740	44.0682	ug/L	100
14) 1,1-Dichloroethene	6.56	61	487190	54.8837	ug/L	97
15) Tert-Butyl Alcohol	6.66	59	51403	161.3999	ug/L	99
16) Dimethyl Sulfide	6.81	62	170886	48.2045	ug/L	97
17) Iodomethane	7.06	142	202558	50.0865	ug/L	92
18) Methyl acetate	7.06	43	154010	42.8550	ug/L	98
19) Methylene Chloride	7.31	84	219864	47.8585	ug/L	96
20) Carbon Disulfide	7.36	76	741730	49.9116	ug/L	100
21) Acrylonitrile	7.49	53	68911	44.6382	ug/L	97
22) Methyl Tert Butyl Ether	7.52	73	551662	48.1454	ug/L	98
23) trans-1,2-Dichloroethene	7.75	96	246230	50.1198	ug/L	96
24) n-Hexane	7.82	57	390119	47.6768	ug/L	99
25) Diisopropyl ether	8.15	45	1906203	93.3595	ug/L	97
26) Vinyl Acetate	8.31	43	275690	35.5241	ug/L	98
27) 1,1-Dichloroethane	8.34	63	506541	51.3858	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1570435	94.4998	ug/L	99
29) 2-Butanone	8.87	43	72188	41.4714	ug/L	98
30) Propionitrile	8.97	54	42845	84.0387	ug/L	99
31) 2,2-Dichloropropane	9.09	77	437767	56.7596	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	273595	50.5079	ug/L	95
33) Chloroform	9.35	83	508810	52.5609	ug/L	99
34) 1-Bromopropane	9.48	122	49454	51.3765	ug/L	98
35) Bromochloromethane	9.57	130	176167	54.7607	ug/L	96
36) Tetrahydrofuran	9.60	42	92301	75.0918	ug/L	98
38) 1,1,1-Trichloroethane	9.85	97	545226	57.2343	ug/L	99
39) Cyclohexane	9.88	56	516377	49.7384	ug/L	99
40) 1,1-Dichloropropene	10.04	75	355120	52.2098	ug/L	99
41) Carbon Tetrachloride	10.17	117	562656	60.4861	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	1054773	91.3417	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M12129.D 8260WT.M Wed May 25 15:34:29 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:34:29 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

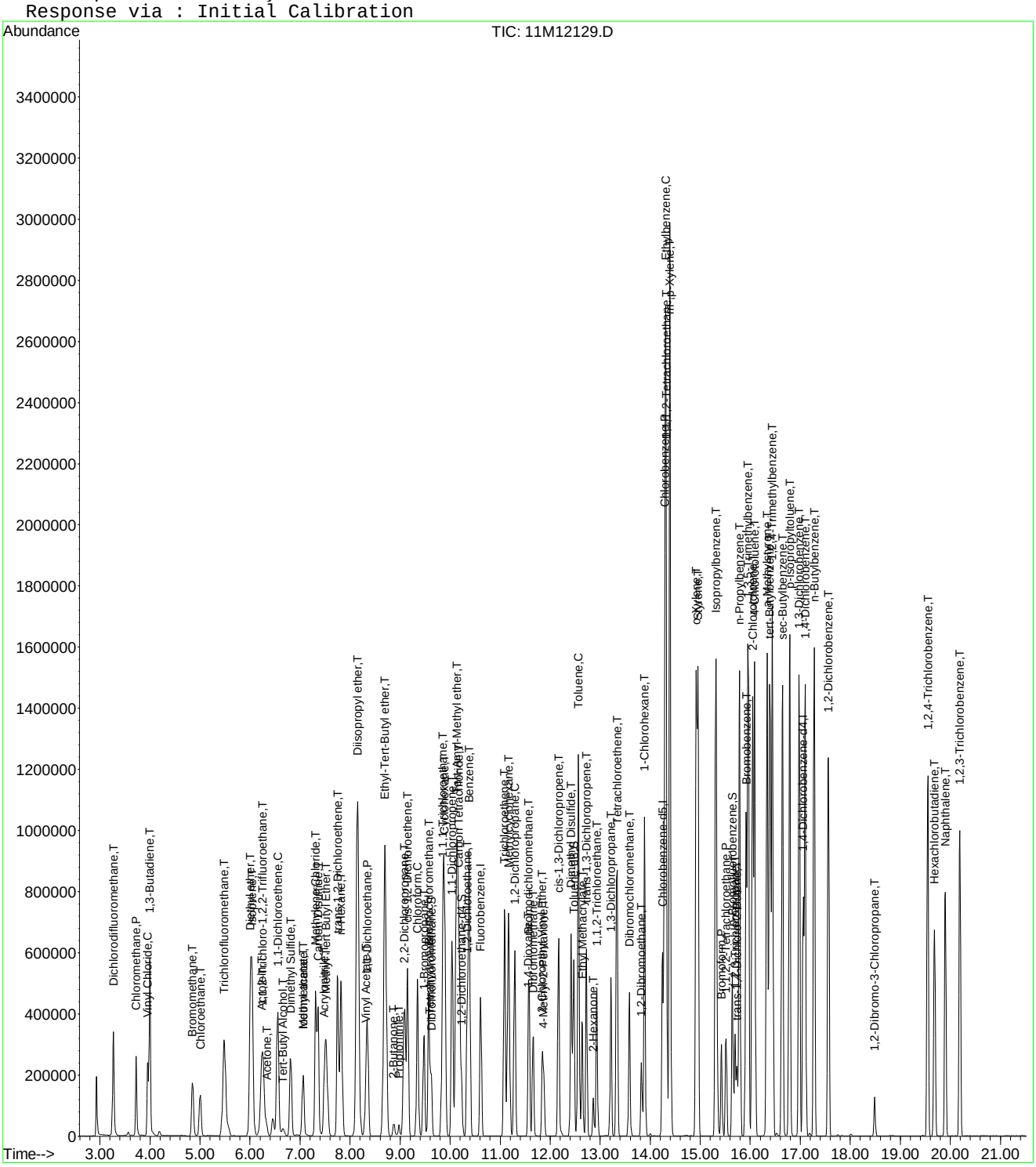
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	434882	55.3125	ug/L	98
45)	Benzene	10.38	78	898290	48.2427	ug/L	99
46)	Trichloroethene	11.08	130	314943	52.0373	ug/L	100
47)	Methylcyclohexane	11.17	83	366178	49.0246	ug/L	99
48)	1,2-Dichloropropane	11.29	63	249156	48.3391	ug/L	92
49)	1,4-Dioxane	11.56	88	4123	148.6997	ug/L	97
50)	Bromodichloromethane	11.57	83	399611	55.2263	ug/L	99
51)	Dibromomethane	11.65	93	140858	52.4425	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.84	63	106871	42.0694	ug/L	97
53)	4-Methyl-2-Pentanone	11.87	58	57313	40.0004	ug/L	96
54)	cis-1,3-Dichloropropene	12.17	75	376998	52.0905	ug/L	100
55)	Dimethyl Disulfide	12.42	79	212685	48.8354	ug/L	99
58)	Toluene	12.56	91	1086082	51.8771	ug/L	100
59)	Ethyl Methacrylate	12.65	69	207878	46.5013	ug/L	100
60)	trans-1,3-Dichloropropene	12.73	75	359904	53.5577	ug/L	99
61)	1,1,2-Trichloroethane	12.93	97	179587	48.3753	ug/L	100
62)	2-Hexanone	12.86	43	110891	40.6713	ug/L	98
63)	1,3-Dichloropropane	13.21	76	294520	49.4030	ug/L	98
64)	Tetrachloroethene	13.34	164	259503	53.3021	ug/L	98
65)	Dibromochloromethane	13.59	129	312457	55.1811	ug/L	99
66)	1,2-Dibromoethane	13.82	107	183934	49.4525	ug/L	100
67)	1-Chlorohexane	13.89	91	353988	51.2851	ug/L	99
68)	Chlorobenzene	14.29	112	803418	52.3846	ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.32	131	345811	55.7238	ug/L	99
70)	Ethylbenzene	14.31	106	411638	52.3413	ug/L	99
71)	m-,p-Xylene	14.39	106	990888	103.6393	ug/L	97
72)	o-Xylene	14.92	106	483958	52.0122	ug/L	95
73)	Styrene	14.95	104	830858	54.0464	ug/L	97
74)	Bromoform	15.43	173	181440	52.8687	ug/L	99
75)	Isopropylbenzene	15.31	105	1327095	53.9318	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.52	83	178543	45.1592	ug/L	98
79)	1,2,3-Trichloropropane	15.70	110	68245	46.0342	ug/L	93
80)	trans-1,4-Dichloro-2-Buten	15.74	53	78903	41.5339	ug/L	92
81)	n-Propylbenzene	15.79	91	1530896	52.0665	ug/L	99
82)	Bromobenzene	15.92	156	385767	49.9996	ug/L	98
83)	1,3,5-Trimethylbenzene	15.95	105	1175195	52.3767	ug/L	99
84)	2-Chlorotoluene	16.05	91	1060304	51.4856	ug/L	99
85)	4-Chlorotoluene	16.09	91	935109	50.6906	ug/L	99
86)	a-Methylstyrene	16.34	118	606141	51.2087	ug/L	98
87)	tert-Butylbenzene	16.39	134	240949	50.6876	ug/L	96
88)	1,2,4-Trimethylbenzene	16.44	105	1215017	53.1786	ug/L	98
89)	sec-Butylbenzene	16.65	105	1359956	50.4781	ug/L	100
90)	p-Isopropyltoluene	16.79	119	1284885	51.9227	ug/L	100
91)	1,3-Dichlorobenzene	16.98	146	763003	51.2040	ug/L	100
92)	1,4-Dichlorobenzene	17.10	146	752932	49.8491	ug/L	99
93)	n-Butylbenzene	17.28	91	1086126	49.8088	ug/L	100
94)	1,2-Dichlorobenzene	17.57	146	682644	50.2895	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.49	75	37997	42.7276	ug/L	93
96)	1,2,4-Trichlorobenzene	19.55	180	464685	46.7828	ug/L	98
97)	Hexachlorobutadiene	19.69	225	173476	39.6439	ug/L	98
98)	Naphthalene	19.90	128	815411	44.2280	ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	400847	43.9720	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:34 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	93	0.00
2	T	Dichlorodifluoromethane	0.3917	0.4277	-9.2	99	0.00
3	P	Chloromethane	0.3137	0.3107	1.0	105	0.00
4	C	Vinyl Chloride	0.2605	0.2972	-14.1	110	-0.01
5	T	1,3-Butadiene	0.2591	0.3063	-18.2	106	-0.01
6	T	Bromomethane	0.1791	0.1681	6.1	95	0.00
7	T	Chloroethane	0.1674	0.1679	-0.3	97	0.00
8	T	Trichlorofluoromethane	0.5193	0.6075	-17.0	113	0.00
9	T	Diethyl ether	0.1920	0.1734	9.7	86	0.00
10	T	Isoprene	0.3201	0.3005	6.1	88	0.00
11	T	Acrolein	0.0228	0.0157	31.2#	60	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2520	0.2707	-7.4	103	0.00
13	T	Acetone	0.0594	0.0523	11.9	84	0.00
14	C	1,1-Dichloroethene	0.4577	0.5024	-9.8	106	0.00
15	T	Tert-Butyl Alcohol	0.0164	0.0133	19.3	74	0.00
16	T	Dimethyl Sulfide	0.1828	0.1762	3.6	88	0.00
17	T	Iodomethane	0.1615	0.2089	-29.3#	94	0.00
18	T	Methyl acetate	0.2006	0.1588	20.8	83	0.00
19	T	Methylene Chloride	0.2369	0.2267	4.3	94	0.00
20	T	Carbon Disulfide	0.7662	0.7648	0.2	91	0.00
21	T	Acrylonitrile	0.0796	0.0711	10.7	81	0.00
22	T	Methyl Tert Butyl Ether	0.5908	0.5688	3.7	90	0.00
23	T	trans-1,2-Dichloroethene	0.2533	0.2539	-0.2	98	0.01
24	T	n-Hexane	0.4219	0.4023	4.6	87	0.00
25	T	Diisopropyl ether	1.0527	0.9828	6.6	87	0.00
26	T	Vinyl Acetate	0.3793	0.2843	25.1#	67	0.00
27	P	1,1-Dichloroethane	0.5082	0.5223	-2.8	98	0.00
28	T	Ethyl-Tert-Butyl ether	0.8568	0.8097	5.5	88	0.00
29	T	2-Butanone	0.0897	0.0744	17.1	79	0.00
30	T	Propionitrile	0.0263	0.0221	16.0	76	0.00
31	T	2,2-Dichloropropane	0.3977	0.4514	-13.5	109	0.00
32	T	cis-1,2-Dichloroethene	0.2793	0.2821	-1.0	97	0.00
33	C	Chloroform	0.4991	0.5247	-5.1	104	0.00
34	T	1-Bromopropane	0.0432	0.0510	-18.1	99	0.00
35	T	Bromochloromethane	0.1659	0.1817	-9.5	98	0.00
36	T	Tetrahydrofuran	0.0634	0.0476	24.9	72	0.00
37	S	Dibromofluoromethane	0.2736	0.2926	-6.9	101	0.00
38	T	1,1,1-Trichloroethane	0.4911	0.5622	-14.5	110	0.00
39	T	Cyclohexane	0.5353	0.5325	0.5	90	0.00
40	T	1,1-Dichloropropene	0.3507	0.3662	-4.4	101	0.00
41	T	Carbon Tetrachloride	0.4796	0.5802	-21.0	114	-0.01
42	T	Tert-Amyl-Methyl ether	0.5954	0.5438	8.7	86	0.00
43	S	1,2-Dichloroethane-d4	0.3120	0.3290	-5.5	101	0.00
44	T	1,2-Dichloroethane	0.4054	0.4484	-10.6	104	0.00
45	T	Benzene	0.9600	0.9263	3.5	95	0.00
46	T	Trichloroethene	0.3120	0.3248	-4.1	103	-0.01
47	T	Methylcyclohexane	0.3851	0.3776	2.0	87	0.00
48	C	1,2-Dichloropropane	0.2657	0.2569	3.3	93	0.00
49	T	1,4-Dioxane	0.0014	0.0011	24.3	70	0.01
50	T	Bromodichloromethane	0.3731	0.4121	-10.5	104	0.00
51	T	Dibromomethane	0.1385	0.1452	-4.9	99	0.00
52	T	2-Chloroethyl Vinyl Ether	0.1310	0.1102	15.9	80	0.00
53	T	4-Methyl-2-Pentanone	0.0739	0.0591	20.0	76	0.00
54	T	cis-1,3-Dichloropropene	0.3731	0.3887	-4.2	95	0.00

(#) = Out of Range
11M12129.D 8260WT.M Wed May 25 15:35:28 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	0.2245	0.2193	2.3	90	0.00
56	I	Chlorobenzene-d5	1.0000	1.0000	0.0	94	0.00
57	S	Toluene-d8	1.0862	1.1359	-4.6	101	0.00
58	C	Toluene	1.2656	1.3131	-3.8	99	0.00
59	T	Ethyl Methacrylate	0.2702	0.2513	7.0	83	0.00
60	T	trans-1,3-Dichloropropene	0.4062	0.4351	-7.1	98	0.00
61	T	1,1,2-Trichloroethane	0.2244	0.2171	3.2	92	0.00
62	T	2-Hexanone	0.1648	0.1341	18.7	77	0.00
63	T	1,3-Dichloropropane	0.3604	0.3561	1.2	93	0.00
64	T	Tetrachloroethene	0.2943	0.3137	-6.6	103	0.00
65	T	Dibromochloromethane	0.3423	0.3778	-10.4	101	0.00
66	T	1,2-Dibromoethane	0.2248	0.2224	1.1	94	0.00
67	T	1-Chlorohexane	0.4173	0.4280	-2.6	94	0.00
68	P	Chlorobenzene	0.9272	0.9714	-4.8	101	0.00
69	T	1,1,1,2-Tetrachloroethane	0.3751	0.4181	-11.4	106	0.00
70	C	Ethylbenzene	0.4754	0.4977	-4.7	101	0.00
71	T	m-,p-Xylene	0.5780	0.5990	-3.6	99	0.00
72	T	o-Xylene	0.5625	0.5851	-4.0	98	0.00
73	T	Styrene	0.9293	1.0045	-8.1	99	0.00
74	P	Bromoform	0.2075	0.2194	-5.7	99	0.00
75	T	Isopropylbenzene	1.4875	1.6045	-7.9	101	0.00
76	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	96	0.00
77	P	1,1,2,2-Tetrachloroethane	0.3893	0.3516	9.7	85	0.00
78	S	p-Bromofluorobenzene	0.7706	0.7831	-1.6	105	0.00
79	T	1,2,3-Trichloropropane	0.1351	0.1344	0.6	94	0.00
80	T	trans-1,4-Dichloro-2-Butene	0.1588	0.1554	2.2	84	0.00
81	T	n-Propylbenzene	2.8953	3.0149	-4.1	101	0.00
82	T	Bromobenzene	0.7597	0.7597	0.0	102	0.00
83	T	1,3,5-Trimethylbenzene	2.2094	2.3144	-4.8	103	-0.01
84	T	2-Chlorotoluene	2.0279	2.0882	-3.0	104	0.00
85	T	4-Chlorotoluene	1.8165	1.8416	-1.4	100	0.00
86	T	a-Methylstyrene	1.1656	1.1937	-2.4	93	0.00
87	T	tert-Butylbenzene	0.4681	0.4745	-1.4	100	-0.01
88	T	1,2,4-Trimethylbenzene	2.2498	2.3928	-6.4	103	0.00
89	T	sec-Butylbenzene	2.6529	2.6783	-1.0	98	0.00
90	T	p-Isopropyltoluene	2.4367	2.5304	-3.8	100	0.00
91	T	1,3-Dichlorobenzene	1.4673	1.5027	-2.4	103	0.00
92	T	1,4-Dichlorobenzene	1.4873	1.4828	0.3	102	0.00
93	T	n-Butylbenzene	2.1472	2.1390	0.4	96	0.00
94	T	1,2-Dichlorobenzene	1.3366	1.3444	-0.6	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	0.0825	0.0748	9.3	89	0.00
96	T	1,2,4-Trichlorobenzene	0.9781	0.9151	6.4	91	0.00
97	T	Hexachlorobutadiene	0.4309	0.3416	20.7	79	0.00
98	T	Naphthalene	1.8154	1.6059	11.5	85	0.00
99	T	1,2,3-Trichlorobenzene	0.8976	0.7894	12.1	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M12129.D 8260WT.M Wed May 25 15:35:28 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	93	0.00
2	T	Dichlorodifluoromethane	50.0000	54.5988	-9.2	99	0.00
3	P	Chloromethane	50.0000	49.5225	1.0	105	0.00
4	C	Vinyl Chloride	50.0000	57.0376	-14.1	110	-0.01
5	T	1,3-Butadiene	50.0000	59.1095	-18.2	106	-0.01
6	T	Bromomethane	50.0000	46.9318	6.1	95	0.00
7	T	Chloroethane	50.0000	50.1514	-0.3	97	0.00
8	T	Trichlorofluoromethane	50.0000	58.4947	-17.0	113	0.00
9	T	Diethyl ether	100.0000	90.2989	9.7	86	0.00
10	T	Isoprene	50.0000	46.9409	6.1	88	0.00
11	T	Acrolein	50.0000	31.5939	36.8#	60	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.7258	-7.5	103	0.00
13	T	Acetone	50.0000	44.0682	11.9	84	0.00
14	C	1,1-Dichloroethene	50.0000	54.8837	-9.8	106	0.00
15	T	Tert-Butyl Alcohol	200.0000	161.3999	19.3	74	0.00
16	T	Dimethyl Sulfide	50.0000	48.2045	3.6	88	0.00
17	T	Iodomethane	50.0000	50.0865	-0.2	94	0.00
18	T	Methyl acetate	50.0000	42.8550	14.3	83	0.00
19	T	Methylene Chloride	50.0000	47.8585	4.3	94	0.00
20	T	Carbon Disulfide	50.0000	49.9116	0.2	91	0.00
21	T	Acrylonitrile	50.0000	44.6382	10.7	81	0.00
22	T	Methyl Tert Butyl Ether	50.0000	48.1454	3.7	90	0.00
23	T	trans-1,2-Dichloroethene	50.0000	50.1198	-0.2	98	0.01
24	T	n-Hexane	50.0000	47.6768	4.6	87	0.00
25	T	Diisopropyl ether	100.0000	93.3595	6.6	87	0.00
26	T	Vinyl Acetate	50.0000	35.5241	29.0#	67	0.00
27	P	1,1-Dichloroethane	50.0000	51.3858	-2.8	98	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	94.4998	5.5	88	0.00
29	T	2-Butanone	50.0000	41.4714	17.1	79	0.00
30	T	Propionitrile	100.0000	84.0387	16.0	76	0.00
31	T	2,2-Dichloropropane	50.0000	56.7596	-13.5	109	0.00
32	T	cis-1,2-Dichloroethene	50.0000	50.5079	-1.0	97	0.00
33	C	Chloroform	50.0000	52.5609	-5.1	104	0.00
34	T	1-Bromopropane	50.0000	51.3765	-2.8	99	0.00
35	T	Bromochloromethane	50.0000	54.7607	-9.5	98	0.00
36	T	Tetrahydrofuran	100.0000	75.0918	24.9	72	0.00
37	S	Dibromofluoromethane	25.0000	26.7335	-6.9	101	0.00
38	T	1,1,1-Trichloroethane	50.0000	57.2343	-14.5	110	0.00
39	T	Cyclohexane	50.0000	49.7383	0.5	90	0.00
40	T	1,1-Dichloropropene	50.0000	52.2098	-4.4	101	0.00
41	T	Carbon Tetrachloride	50.0000	60.4861	-21.0	114	-0.01
42	T	Tert-Amyl-Methyl ether	100.0000	91.3417	8.7	86	0.00
43	S	1,2-Dichloroethane-d4	25.0000	26.3636	-5.5	101	0.00
44	T	1,2-Dichloroethane	50.0000	55.3125	-10.6	104	0.00
45	T	Benzene	50.0000	48.2427	3.5	95	0.00
46	T	Trichloroethene	50.0000	52.0373	-4.1	103	-0.01
47	T	Methylcyclohexane	50.0000	49.0246	2.0	87	0.00
48	C	1,2-Dichloropropane	50.0000	48.3391	3.3	93	0.00
49	T	1,4-Dioxane	200.0000	148.6997	25.7#	70	0.01
50	T	Bromodichloromethane	50.0000	55.2263	-10.5	104	0.00
51	T	Dibromomethane	50.0000	52.4425	-4.9	99	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	42.0694	15.9	80	0.00
53	T	4-Methyl-2-Pentanone	50.0000	40.0004	20.0	76	0.00
54	T	cis-1,3-Dichloropropene	50.0000	52.0904	-4.2	95	0.00

(#) = Out of Range
11M12129.D 8260WT.M Wed May 25 15:35:31 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052516\11M12129.D Vial: 2
Acq On : 25 May 2016 13:46 Operator: JDS
Sample : WG570237-02 50ug/L CCV STD 8260 Inst : hpms11
Misc : 1,1 STD76227 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	50.0000	48.8354	2.3	90	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	94	0.00
57	S	Toluene-d8	25.0000	26.1424	-4.6	101	0.00
58	C	Toluene	50.0000	51.8772	-3.8	99	0.00
59	T	Ethyl Methacrylate	50.0000	46.5013	7.0	83	0.00
60	T	trans-1,3-Dichloropropene	50.0000	53.5577	-7.1	98	0.00
61	T	1,1,2-Trichloroethane	50.0000	48.3753	3.2	92	0.00
62	T	2-Hexanone	50.0000	40.6713	18.7	77	0.00
63	T	1,3-Dichloropropane	50.0000	49.4030	1.2	93	0.00
64	T	Tetrachloroethene	50.0000	53.3021	-6.6	103	0.00
65	T	Dibromochloromethane	50.0000	55.1811	-10.4	101	0.00
66	T	1,2-Dibromoethane	50.0000	49.4525	1.1	94	0.00
67	T	1-Chlorohexane	50.0000	51.2851	-2.6	94	0.00
68	P	Chlorobenzene	50.0000	52.3846	-4.8	101	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	55.7238	-11.4	106	0.00
70	C	Ethylbenzene	50.0000	52.3413	-4.7	101	0.00
71	T	m-,p-Xylene	100.0000	103.6393	-3.6	99	0.00
72	T	o-Xylene	50.0000	52.0122	-4.0	98	0.00
73	T	Styrene	50.0000	54.0464	-8.1	99	0.00
74	P	Bromoform	50.0000	52.8687	-5.7	99	0.00
75	T	Isopropylbenzene	50.0000	53.9318	-7.9	101	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	96	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	45.1592	9.7	85	0.00
78	S	p-Bromofluorobenzene	25.0000	25.4026	-1.6	105	0.00
79	T	1,2,3-Trichloropropane	50.0000	46.0342	7.9	94	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	41.5339	16.9	84	0.00
81	T	n-Propylbenzene	50.0000	52.0665	-4.1	101	0.00
82	T	Bromobenzene	50.0000	49.9996	0.0	102	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	52.3767	-4.8	103	-0.01
84	T	2-Chlorotoluene	50.0000	51.4856	-3.0	104	0.00
85	T	4-Chlorotoluene	50.0000	50.6906	-1.4	100	0.00
86	T	a-Methylstyrene	50.0000	51.2086	-2.4	93	0.00
87	T	tert-Butylbenzene	50.0000	50.6876	-1.4	100	-0.01
88	T	1,2,4-Trimethylbenzene	50.0000	53.1786	-6.4	103	0.00
89	T	sec-Butylbenzene	50.0000	50.4781	-1.0	98	0.00
90	T	p-Isopropyltoluene	50.0000	51.9227	-3.8	100	0.00
91	T	1,3-Dichlorobenzene	50.0000	51.2040	-2.4	103	0.00
92	T	1,4-Dichlorobenzene	50.0000	49.8491	0.3	102	0.00
93	T	n-Butylbenzene	50.0000	49.8088	0.4	96	0.00
94	T	1,2-Dichlorobenzene	50.0000	50.2895	-0.6	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	42.7276	14.5	89	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	46.7828	6.4	91	0.00
97	T	Hexachlorobutadiene	50.0000	39.6439	20.7	79	0.00
98	T	Naphthalene	50.0000	44.2280	11.5	85	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	43.9720	12.1	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M12129.D 8260WT.M Wed May 25 15:35:31 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 07:31:51 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	756618	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	565459	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	317558	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	200821	25.2840 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.12%		
43) 1,2-Dichloroethane-d4	11.10	65	214137	24.2061 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.84%		
58) Toluene-d8	13.85	98	682466	24.5240 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.08%		
80) p-Bromofluorobenzene	17.84	95	281039	23.8749 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.48%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	649259	54.4886 ug/L	100
3) Chloromethane	3.92	50	691709	42.3302 ug/L	100
4) Vinyl Chloride	4.16	62	510120	48.5464 ug/L	100
5) 1,3-Butadiene	4.20	54	64872	58.8621 ug/L	98
6) Bromomethane	5.07	94	204202	34.3754 ug/L	98
7) Chloroethane	5.23	64	317222	47.2486 ug/L	97
8) Trichlorofluoromethane	5.73	101	710007	53.2535 ug/L	100
9) Diethyl ether	6.29	59	670954	95.0676 ug/L	99
10) Isoprene	6.32	67	312120	46.8843 ug/L	99
11) Acrolein	6.55	56	38151	35.9934 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	395714	51.9617 ug/L	99
13) Acetone	6.65	43	102042	44.3964 ug/L	97
14) 1,1-Dichloroethene	6.87	61	681149	49.3676 ug/L	98
15) Tert-Butyl Alcohol	7.01	59	123313	180.1592 ug/L	97
16) Dimethyl Sulfide	7.16	62	211111	46.9575 ug/L	99
17) Iodomethane	7.44	142	195355	48.9890 ug/L	99
18) Methyl acetate	7.45	43	291568	45.2221 ug/L	100
19) Methylene Chloride	7.72	84	407745	50.0331 ug/L	99
20) Carbon Disulfide	7.76	76	698292	48.9126 ug/L	100
21) Acrylonitrile	7.93	53	141912	50.3493 ug/L	98
22) Methyl Tert Butyl Ether	7.95	73	1013697	48.2366 ug/L	100
23) trans-1,2-Dichloroethene	8.21	96	400427	50.7545 ug/L	100
24) n-Hexane	8.28	57	427142	51.3109 ug/L	100
25) Diisopropyl ether	8.66	45	3189050	98.8196 ug/L	100
26) Vinyl Acetate	8.86	43	741462	66.5228 ug/L	100
27) 1,1-Dichloroethane	8.89	63	794118	50.4842 ug/L	99
28) Ethyl-Tert-Butyl ether	9.31	59	2566297	95.6586 ug/L	99
29) 2-Butanone	9.51	43	160846	46.8441 ug/L	99
30) Propionitrile	9.63	54	93006	98.6775 ug/L	99
31) 2,2-Dichloropropane	9.74	77	615708	53.2010 ug/L	99
32) cis-1,2-Dichloroethene	9.83	96	439215	50.3952 ug/L	100
33) Chloroform	10.06	83	706380	49.0372 ug/L	99
34) 1-Bromopropane	10.20	122	62919	53.5912 ug/L	98
35) Bromochloromethane	10.32	130	252218	52.7568 ug/L	100
36) Tetrahydrofuran	10.35	42	210026	95.6226 ug/L	98
38) 1,1,1-Trichloroethane	10.65	97	634834	50.2899 ug/L	99
39) Cyclohexane	10.68	56	599197	47.3987 ug/L	100
40) 1,1-Dichloropropene	10.88	75	545550	49.7580 ug/L	98
41) Tert-Amyl-Methyl ether	11.00	73	2001325	95.7632 ug/L	98
42) Carbon Tetrachloride	11.04	117	582172	51.9305 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139572.D 8260WTR.M Tue May 24 07:31:51 2016 Page 1

Data File : C:\MSDchem\1\data\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 07:31:51 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

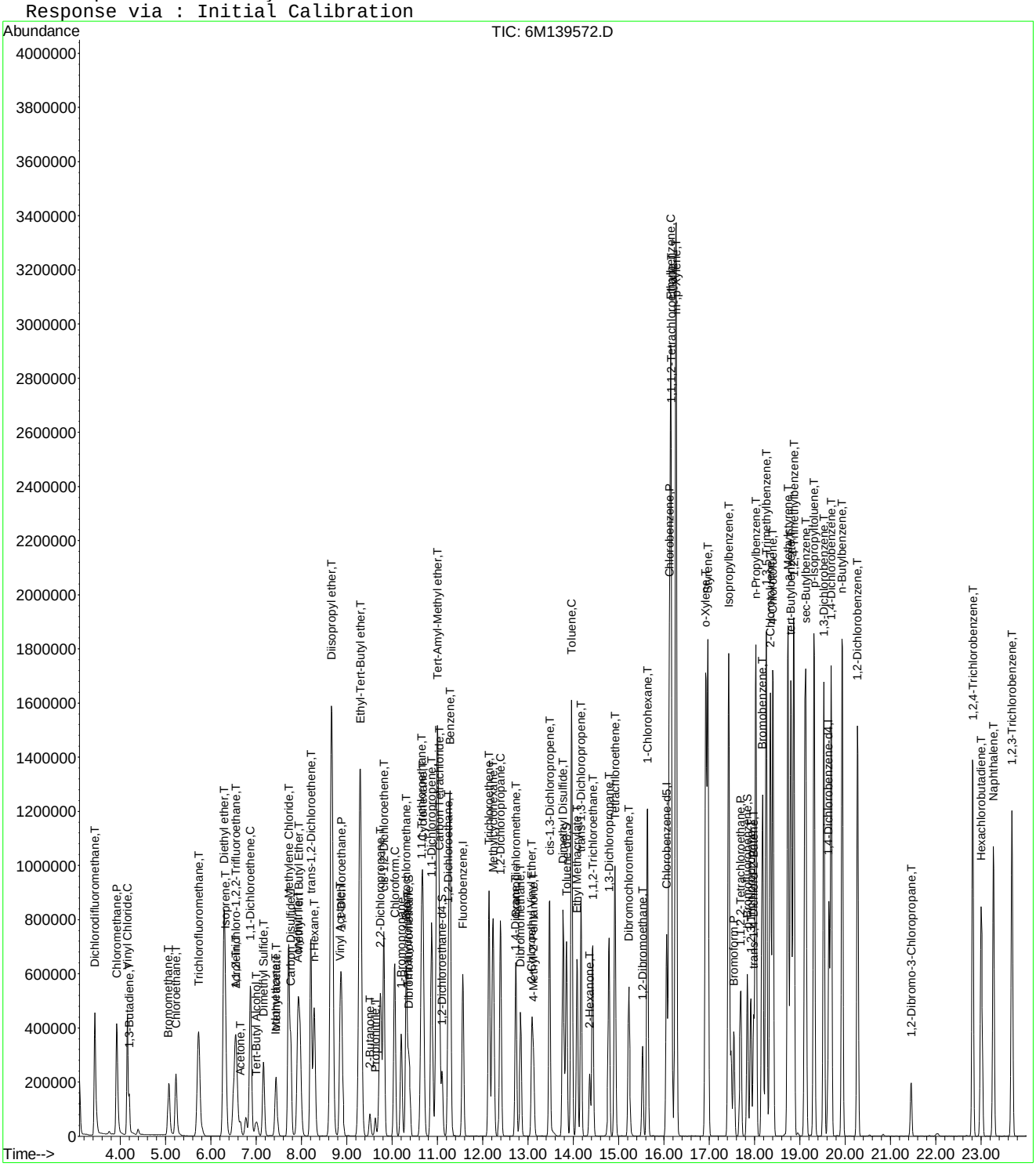
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.25	62	547140	49.4605	ug/L	99
46)	Benzene	11.29	78	1567769	49.6293	ug/L	100
47)	Trichloroethene	12.14	130	400109	48.4237	ug/L	99
48)	Methylcyclohexane	12.24	83	526317	48.3760	ug/L	100
49)	1,2-Dichloropropane	12.39	63	440467	49.6837	ug/L	100
50)	1,4-Dioxane	12.73	88	11940	193.9423	ug/L	91
51)	Bromodichloromethane	12.74	83	552180	51.1941	ug/L	99
52)	Dibromomethane	12.84	93	229200	51.3113	ug/L	98
53)	2-Chloroethyl Vinyl Ether	13.08	63	214163	49.1757	ug/L	100
54)	4-Methyl-2-Pentanone	13.12	58	127909	48.1319	ug/L	99
55)	cis-1,3-Dichloropropene	13.48	75	645296	51.0272	ug/L	99
56)	Dimethyl Disulfide	13.78	79	328127	47.1536	ug/L	99
59)	Toluene	13.96	91	1639580	48.9206	ug/L	100
60)	Ethyl Methacrylate	14.08	69	474788	48.7424	ug/L	99
62)	trans-1,3-Dichloropropene	14.18	75	584659	51.2486	ug/L	99
63)	1,1,2-Trichloroethane	14.43	97	312254	50.2811	ug/L	99
64)	2-Hexanone	14.36	43	242132	44.5152	ug/L	99
65)	1,3-Dichloropropane	14.79	76	541116	49.0040	ug/L	98
66)	Tetrachloroethene	14.92	166	421920	48.3773	ug/L	99
67)	Dibromochloromethane	15.23	129	405749	53.3000	ug/L	100
68)	1,2-Dibromoethane	15.53	107	304605	50.0100	ug/L	100
69)	1-Chlorohexane	15.65	91	549776	47.6368	ug/L	100
70)	Chlorobenzene	16.13	112	1090783	49.1191	ug/L	99
71)	1,1,1,2-Tetrachloroethane	16.17	131	415149	51.3121	ug/L	99
72)	Ethylbenzene	16.16	106	590285	49.1312	ug/L	100
73)	m-,p-Xylene	16.27	106	1421822	98.4259	ug/L	100
74)	o-Xylene	16.92	106	693725	48.4752	ug/L	99
75)	Styrene	16.97	104	1234958	49.9464	ug/L	100
76)	Bromoform	17.55	173	263218	53.9012	ug/L	100
77)	Isopropylbenzene	17.43	105	1786692	49.3760	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.69	83	399978	52.4145	ug/L	100
81)	1,2,3-Trichloropropane	17.92	110	112512	50.5928	ug/L	87
82)	trans-1,4-Dichloro-2-Buten	17.99	53	145641	54.0718	ug/L	93
83)	n-Propylbenzene	18.04	91	2173517	49.6132	ug/L	99
84)	Bromobenzene	18.18	156	490294	47.8570	ug/L	100
85)	1,3,5-Trimethylbenzene	18.26	105	1538025	48.6213	ug/L	100
86)	2-Chlorotoluene	18.35	91	1456357	50.0743	ug/L	99
87)	4-Chlorotoluene	18.40	91	1314788	47.3020	ug/L	100
88)	a-Methylstyrene	18.74	118	848182	48.2941	ug/L	100
89)	tert-Butylbenzene	18.80	134	334276	48.2233	ug/L	98
90)	1,2,4-Trimethylbenzene	18.87	105	1624631	50.1397	ug/L	99
91)	sec-Butylbenzene	19.13	105	1889869	49.4721	ug/L	100
92)	p-Isopropyltoluene	19.31	119	1633300	49.4827	ug/L	100
93)	1,3-Dichlorobenzene	19.54	146	965020	49.5183	ug/L	100
94)	1,4-Dichlorobenzene	19.69	146	955524	48.3525	ug/L	99
95)	n-Butylbenzene	19.94	91	1569719	49.9535	ug/L	99
96)	1,2-Dichlorobenzene	20.27	146	891279	48.3052	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	21.47	75	72474	50.5537	ug/L	98
98)	1,2,4-Trichlorobenzene	22.83	180	630326	47.8017	ug/L	99
99)	Hexachlorobutadiene	23.01	225	263646	45.5980	ug/L	100
100)	Naphthalene	23.27	128	1248635	47.9507	ug/L	100
101)	1,2,3-Trichlorobenzene	23.68	180	570296	46.0227	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 7:31 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS6
Initial cal date: 11 May 2016 13:53
CCV date: 24 May 2016 7:07
CCV Filename: 6M139572.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	798515	11.57	582993	16.06	328042	19.65
CCV	756618	11.56	565459	16.07	317558	19.64

Data File : C:\MSDCHEM\1\DATA\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	95	0.00
2	T	Dichlorodifluoromethane	0.3937	0.4290	-9.0	99	0.00
3	P	Chloromethane	0.5399	0.4571	15.3	84	0.00
4	C	Vinyl Chloride	0.3472	0.3371	2.9	98	0.00
5	T	1,3-Butadiene	0.0409	0.0429	-4.9	119	0.00
6	T	Bromomethane	0.1963	0.1349	31.3#	71	0.00
7	T	Chloroethane	0.2218	0.2096	5.5	93	0.00
8	T	Trichlorofluoromethane	0.4405	0.4692	-6.5	99	0.00
9	T	Diethyl ether	0.2332	0.2217	4.9	94	0.00
10	T	Isoprene	0.2200	0.2063	6.2	93	0.00
11	T	Acrolein	0.0350	0.0252	28.0#	71	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2516	0.2615	-3.9	101	0.00
13	T	Acetone	0.0812	0.0674	16.9	86	0.00
14	C	1,1-Dichloroethene	0.4559	0.4501	1.3	97	0.00
15	T	Tert-Butyl Alcohol	0.0226	0.0204	9.9	84	0.00
16	T	Dimethyl Sulfide	0.1485	0.1395	6.1	90	0.00
17	T	Iodomethane	0.1090	0.1291	-18.5	89	0.00
18	T	Methyl acetate	0.2130	0.1927	9.6	89	0.00
19	T	Methylene Chloride	0.2693	0.2695	-0.1	99	0.00
20	T	Carbon Disulfide	0.4717	0.4615	2.2	97	0.00
21	T	Acrylonitrile	0.0931	0.0938	-0.7	93	0.00
22	T	Methyl Tert Butyl Ether	0.6944	0.6699	3.5	93	0.00
23	T	trans-1,2-Dichloroethene	0.2607	0.2646	-1.5	98	0.00
24	T	n-Hexane	0.2751	0.2823	-2.6	101	0.00
25	T	Diisopropyl ether	1.0663	1.0537	1.2	94	0.00
26	T	Vinyl Acetate	0.3683	0.4900	-33.0#	137	0.00
27	P	1,1-Dichloroethane	0.5198	0.5248	-1.0	98	0.00
28	T	Ethyl-Tert-Butyl ether	0.8864	0.8479	4.3	91	0.00
29	T	2-Butanone	0.1135	0.1063	6.3	89	0.00
30	T	Propionitrile	0.0311	0.0307	1.3	91	0.00
31	T	2,2-Dichloropropane	0.3824	0.4069	-6.4	109	0.00
32	T	cis-1,2-Dichloroethene	0.2880	0.2903	-0.8	98	0.00
33	C	Chloroform	0.4760	0.4668	1.9	97	0.00
34		1-Bromopropane	0.0388	0.0416	-7.2	98	0.00
35	T	Bromochloromethane	0.1580	0.1667	-5.5	98	0.00
36	T	Tetrahydrofuran	0.0788	0.0694	11.9	89	0.00
37	S	Dibromofluoromethane	0.2624	0.2654	-1.1	98	0.00
38	T	1,1,1-Trichloroethane	0.4171	0.4195	-0.6	97	0.00
39	T	Cyclohexane	0.4177	0.3960	5.2	95	0.00
40	T	1,1-Dichloropropene	0.3623	0.3605	0.5	97	0.00
41	T	Tert-Amyl-Methyl ether	0.6905	0.6613	4.2	92	0.00
42	T	Carbon Tetrachloride	0.3704	0.3847	-3.9	99	0.00
43	S	1,2-Dichloroethane-d4	0.2923	0.2830	3.2	93	0.00
44		Heptane	0.0000	0.0000	0.0	89	0.00
45	T	1,2-Dichloroethane	0.3655	0.3616	1.1	96	0.00
46	T	Benzene	1.0438	1.0360	0.7	97	0.00
47	T	Trichloroethene	0.2730	0.2644	3.2	93	0.00
48	T	Methylcyclohexane	0.3595	0.3478	3.2	95	0.00
49	C	1,2-Dichloropropane	0.2929	0.2911	0.6	97	0.00
50	T	1,4-Dioxane	0.0020	0.0020	3.0	86	0.00
51	T	Bromodichloromethane	0.3564	0.3649	-2.4	97	0.00
52	T	Dibromomethane	0.1476	0.1515	-2.6	97	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1439	0.1415	1.6	89	0.00
54	T	4-Methyl-2-Pentanone	0.0878	0.0845	3.7	88	0.00

(#) = Out of Range
6M139572.D 8260WTR.M Tue May 24 07:32:19 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4179	0.4264	-2.1	97	0.00
56	T	Dimethyl Disulfide	0.2299	0.2168	5.7	90	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	97	0.00
58	S	Toluene-d8	1.2304	1.2069	1.9	97	0.00
59	C	Toluene	1.4818	1.4498	2.2	97	0.00
60	T	Ethyl Methacrylate	0.4307	0.4198	2.5	96	0.00
61		Paraldehyde	0.0000	0.0000	0.0	97	0.00
62	T	trans-1,3-Dichloropropene	0.5044	0.5170	-2.5	99	0.00
63	T	1,1,2-Trichloroethane	0.2746	0.2761	-0.6	98	0.00
64	T	2-Hexanone	0.2405	0.2141	11.0	87	0.00
65	T	1,3-Dichloropropane	0.4882	0.4785	2.0	95	0.00
66	T	Tetrachloroethene	0.3856	0.3731	3.2	97	0.00
67	T	Dibromochloromethane	0.3366	0.3588	-6.6	99	0.00
68	T	1,2-Dibromoethane	0.2693	0.2693	-0.0	95	0.00
69	T	1-Chlorohexane	0.5102	0.4861	4.7	97	0.00
70	P	Chlorobenzene	0.9818	0.9645	1.8	97	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3577	0.3671	-2.6	98	0.00
72	C	Ethylbenzene	0.5312	0.5220	1.7	97	0.00
73	T	m-,p-Xylene	0.6387	0.6286	1.6	97	0.00
74	T	o-Xylene	0.6327	0.6134	3.0	96	0.00
75	T	Styrene	1.0932	1.0920	0.1	96	0.00
76	P	Bromoform	0.2159	0.2328	-7.8	100	0.00
77	T	Isopropylbenzene	1.5998	1.5799	1.2	96	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	97	0.00
79	P	1,1,2,2-Tetrachloroethane	0.6008	0.6298	-4.8	103	0.00
80	S	p-Bromofluorobenzene	0.9267	0.8850	4.5	95	0.00
81	T	1,2,3-Trichloropropane	0.1751	0.1772	-1.2	97	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.2120	0.2293	-8.1	101	0.00
83	T	n-Propylbenzene	3.4489	3.4222	0.8	97	0.00
84	T	Bromobenzene	0.8065	0.7720	4.3	97	0.00
85	T	1,3,5-Trimethylbenzene	2.4903	2.4216	2.8	95	0.00
86	T	2-Chlorotoluene	2.2897	2.2931	-0.1	101	0.00
87	T	4-Chlorotoluene	2.1882	2.0701	5.4	94	0.00
88	T	a-Methylstyrene	1.3826	1.3355	3.4	94	0.00
89	T	tert-Butylbenzene	0.5457	0.5263	3.6	96	0.00
90	T	1,2,4-Trimethylbenzene	2.5509	2.5580	-0.3	97	0.00
91	T	sec-Butylbenzene	3.0074	2.9756	1.1	95	0.00
92	T	p-Isopropyltoluene	2.5985	2.5717	1.0	95	0.00
93	T	1,3-Dichlorobenzene	1.5342	1.5194	1.0	98	0.00
94	T	1,4-Dichlorobenzene	1.5558	1.5045	3.3	97	0.00
95	T	n-Butylbenzene	2.4739	2.4716	0.1	96	0.00
96	T	1,2-Dichlorobenzene	1.4526	1.4033	3.4	96	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.1129	0.1141	-1.1	94	0.00
98	T	1,2,4-Trichlorobenzene	1.0381	0.9925	4.4	94	0.00
99	T	Hexachlorobutadiene	0.4552	0.4151	8.8	92	0.00
100	T	Naphthalene	2.0500	1.9660	4.1	90	0.00
101	T	1,2,3-Trichlorobenzene	0.9755	0.8979	8.0	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139572.D 8260WTR.M Tue May 24 07:32:19 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	95	0.00
2	T	Dichlorodifluoromethane	50.0000	54.4886	-9.0	99	0.00
3	P	Chloromethane	50.0000	42.3302	15.3	84	0.00
4	C	Vinyl Chloride	50.0000	48.5464	2.9	98	0.00
5	T	1,3-Butadiene	50.0000	58.8621	-17.7	119	0.00
6	T	Bromomethane	50.0000	34.3754	31.2#	71	0.00
7	T	Chloroethane	50.0000	47.2486	5.5	93	0.00
8	T	Trichlorofluoromethane	50.0000	53.2535	-6.5	99	0.00
9	T	Diethyl ether	100.0000	95.0676	4.9	94	0.00
10	T	Isoprene	50.0000	46.8843	6.2	93	0.00
11	T	Acrolein	50.0000	35.9935	28.0#	71	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.9617	-3.9	101	0.00
13	T	Acetone	50.0000	44.3964	11.2	86	0.00
14	C	1,1-Dichloroethene	50.0000	49.3676	1.3	97	0.00
15	T	Tert-Butyl Alcohol	200.0000	180.1592	9.9	84	0.00
16	T	Dimethyl Sulfide	50.0000	46.9575	6.1	90	0.00
17	T	Iodomethane	50.0000	48.9890	2.0	89	0.00
18	T	Methyl acetate	50.0000	45.2221	9.6	89	0.00
19	T	Methylene Chloride	50.0000	50.0331	-0.1	99	0.00
20	T	Carbon Disulfide	50.0000	48.9126	2.2	97	0.00
21	T	Acrylonitrile	50.0000	50.3493	-0.7	93	0.00
22	T	Methyl Tert Butyl Ether	50.0000	48.2366	3.5	93	0.00
23	T	trans-1,2-Dichloroethene	50.0000	50.7545	-1.5	98	0.00
24	T	n-Hexane	50.0000	51.3109	-2.6	101	0.00
25	T	Diisopropyl ether	100.0000	98.8196	1.2	94	0.00
26	T	Vinyl Acetate	50.0000	66.5228	-33.0#	137	0.00
27	P	1,1-Dichloroethane	50.0000	50.4842	-1.0	98	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	95.6586	4.3	91	0.00
29	T	2-Butanone	50.0000	46.8441	6.3	89	0.00
30	T	Propionitrile	100.0000	98.6775	1.3	91	0.00
31	T	2,2-Dichloropropane	50.0000	53.2010	-6.4	109	0.00
32	T	cis-1,2-Dichloroethene	50.0000	50.3952	-0.8	98	0.00
33	C	Chloroform	50.0000	49.0372	1.9	97	0.00
34		1-Bromopropane	50.0000	53.5912	-7.2	98	0.00
35	T	Bromochloromethane	50.0000	52.7568	-5.5	98	0.00
36	T	Tetrahydrofuran	100.0000	95.6226	4.4	89	0.00
37	S	Dibromofluoromethane	25.0000	25.2840	-1.1	98	0.00
38	T	1,1,1-Trichloroethane	50.0000	50.2899	-0.6	97	0.00
39	T	Cyclohexane	50.0000	47.3987	5.2	95	0.00
40	T	1,1-Dichloropropene	50.0000	49.7580	0.5	97	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	95.7632	4.2	92	0.00
42	T	Carbon Tetrachloride	50.0000	51.9305	-3.9	99	0.00
43	S	1,2-Dichloroethane-d4	25.0000	24.2061	3.2	93	0.00
44		Heptane	-1.0000	0.0000	0.0	89	0.00
45	T	1,2-Dichloroethane	50.0000	49.4605	1.1	96	0.00
46	T	Benzene	50.0000	49.6292	0.7	97	0.00
47	T	Trichloroethene	50.0000	48.4237	3.2	93	0.00
48	T	Methylcyclohexane	50.0000	48.3760	3.2	95	0.00
49	C	1,2-Dichloropropane	50.0000	49.6837	0.6	97	0.00
50	T	1,4-Dioxane	200.0000	193.9423	3.0	86	0.00
51	T	Bromodichloromethane	50.0000	51.1941	-2.4	97	0.00
52	T	Dibromomethane	50.0000	51.3113	-2.6	97	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	49.1757	1.6	89	0.00
54	T	4-Methyl-2-Pentanone	50.0000	48.1319	3.7	88	0.00

(#) = Out of Range
6M139572.D 8260WTR.M Tue May 24 07:32:20 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\6M139572.D Vial: 3
Acq On : 24 May 2016 7:07 Operator: TMB
Sample : WG569959-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	51.0272	-2.1	97	0.00
56	T	Dimethyl Disulfide	50.0000	47.1536	5.7	90	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	97	0.00
58	S	Toluene-d8	25.0000	24.5240	1.9	97	0.00
59	C	Toluene	50.0000	48.9206	2.2	97	0.00
60	T	Ethyl Methacrylate	50.0000	48.7424	2.5	96	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	97	0.00
62	T	trans-1,3-Dichloropropene	50.0000	51.2486	-2.5	99	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.2811	-0.6	98	0.00
64	T	2-Hexanone	50.0000	44.5152	11.0	87	0.00
65	T	1,3-Dichloropropane	50.0000	49.0040	2.0	95	0.00
66	T	Tetrachloroethene	50.0000	48.3773	3.2	97	0.00
67	T	Dibromochloromethane	50.0000	53.3000	-6.6	99	0.00
68	T	1,2-Dibromoethane	50.0000	50.0100	-0.0	95	0.00
69	T	1-Chlorohexane	50.0000	47.6368	4.7	97	0.00
70	P	Chlorobenzene	50.0000	49.1191	1.8	97	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	51.3121	-2.6	98	0.00
72	C	Ethylbenzene	50.0000	49.1312	1.7	97	0.00
73	T	m-,p-Xylene	100.0000	98.4259	1.6	97	0.00
74	T	o-Xylene	50.0000	48.4752	3.0	96	0.00
75	T	Styrene	50.0000	49.9464	0.1	96	0.00
76	P	Bromoform	50.0000	53.9012	-7.8	100	0.00
77	T	Isopropylbenzene	50.0000	49.3760	1.2	96	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	97	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	52.4145	-4.8	103	0.00
80	S	p-Bromofluorobenzene	25.0000	23.8749	4.5	95	0.00
81	T	1,2,3-Trichloropropane	50.0000	50.5928	-1.2	97	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	54.0718	-8.1	101	0.00
83	T	n-Propylbenzene	50.0000	49.6132	0.8	97	0.00
84	T	Bromobenzene	50.0000	47.8570	4.3	97	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	48.6213	2.8	95	0.00
86	T	2-Chlorotoluene	50.0000	50.0743	-0.1	101	0.00
87	T	4-Chlorotoluene	50.0000	47.3020	5.4	94	0.00
88	T	a-Methylstyrene	50.0000	48.2941	3.4	94	0.00
89	T	tert-Butylbenzene	50.0000	48.2233	3.6	96	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	50.1397	-0.3	97	0.00
91	T	sec-Butylbenzene	50.0000	49.4721	1.1	95	0.00
92	T	p-Isopropyltoluene	50.0000	49.4827	1.0	95	0.00
93	T	1,3-Dichlorobenzene	50.0000	49.5183	1.0	98	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.3525	3.3	97	0.00
95	T	n-Butylbenzene	50.0000	49.9535	0.1	96	0.00
96	T	1,2-Dichlorobenzene	50.0000	48.3052	3.4	96	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	50.5537	-1.1	94	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	47.8017	4.4	94	0.00
99	T	Hexachlorobutadiene	50.0000	45.5980	8.8	92	0.00
100	T	Naphthalene	50.0000	47.9507	4.1	90	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	46.0226	8.0	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139572.D 8260WTR.M Tue May 24 07:32:20 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139573.D Vial: 4
Acq On : 24 May 2016 7:39 Operator: TMB
Sample : WG569963-01 100ug/L A9 CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 08:04:01 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

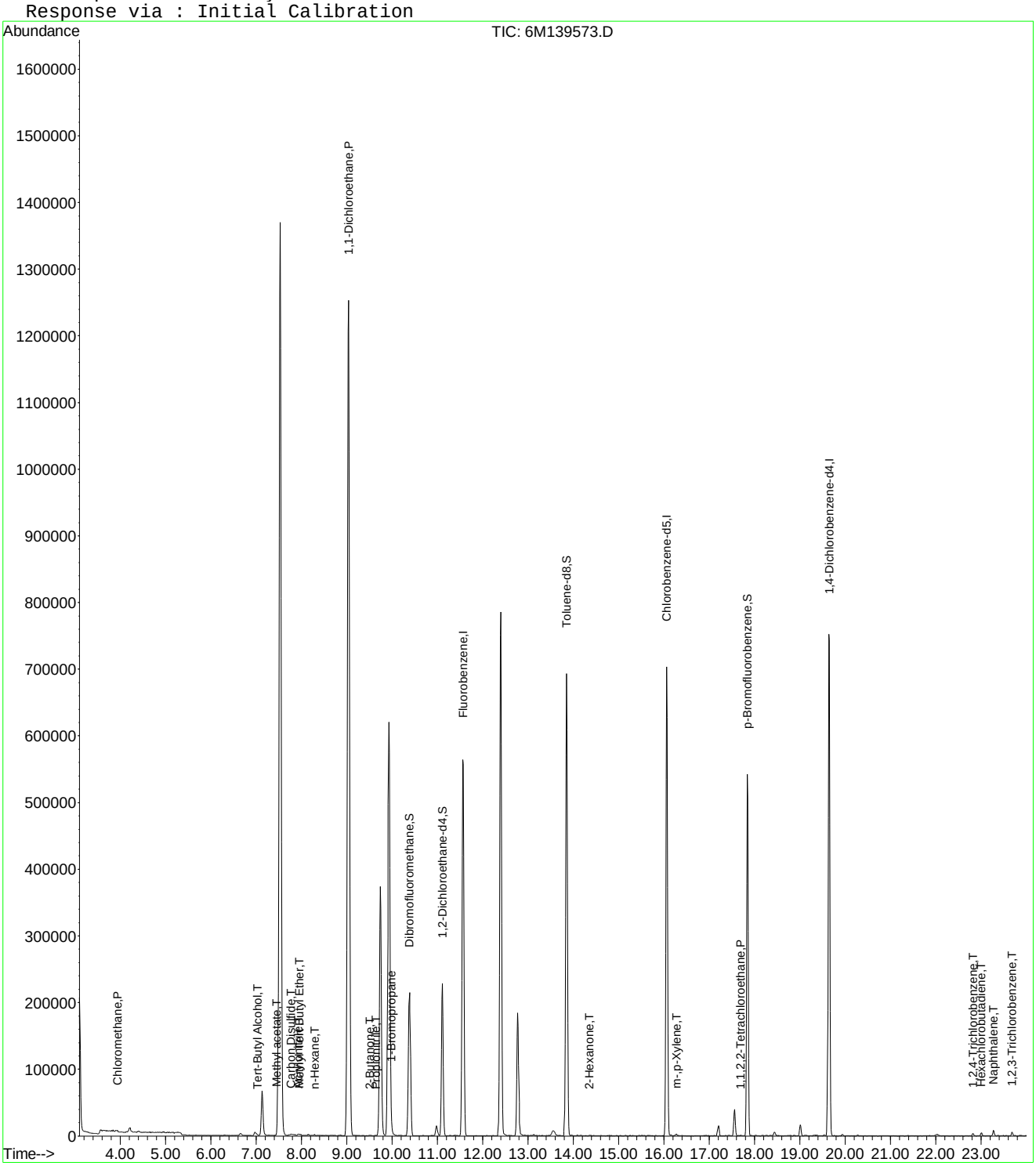
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	739461	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	537633	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	283827	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	197860	25.4892 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.96%		
43) 1,2-Dichloroethane-d4	11.11	65	210652	24.3646 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.44%		
58) Toluene-d8	13.85	98	649791	24.5583 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.24%		
80) p-Bromofluorobenzene	17.84	95	260041	24.7164 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.88%		
Target Compounds					Qvalue
3) Chloromethane	3.94	50	2696	0.1688 ug/L	# 53
13) Acetone	6.66	43	6548	Below Cal	100
15) Tert-Butyl Alcohol	7.03	59	2274	3.3994 ug/L	# 57
18) Methyl acetate	7.45	43	2267	0.3598 ug/L	# 66
20) Carbon Disulfide	7.77	76	2842	0.2037 ug/L	# 74
21) Acrylonitrile	7.93	53	610	0.2214 ug/L	# 48
22) Methyl Tert Butyl Ether	7.95	73	3211	0.1563 ug/L	# 49
24) n-Hexane	8.29	57	991	0.1218 ug/L	90
27) 1,1-Dichloroethane	9.04	63	20704	1.3467 ug/L	# 43
29) 2-Butanone	9.51	43	2095	0.6243 ug/L	# 57
30) Propionitrile	9.64	54	759	0.8240 ug/L	# 56
34) 1-Bromopropane	9.98	122	1084	0.9447 ug/L	# 1
36) Tetrahydrofuran	10.36	42	4966	Below Cal	79
64) 2-Hexanone	14.35	43	1280	0.2475 ug/L	# 28
73) m-,p-Xylene	16.28	106	1661	0.1209 ug/L	90
79) 1,1,2,2-Tetrachloroethane	17.69	83	966	0.1416 ug/L	# 45
98) 1,2,4-Trichlorobenzene	22.82	180	2407	0.2042 ug/L	# 91
99) Hexachlorobutadiene	23.01	225	2482	0.4803 ug/L	82
100) Naphthalene	23.27	128	11312	0.4860 ug/L	90
101) 1,2,3-Trichlorobenzene	23.68	180	4041	0.3649 ug/L	91

(#) = qualifier out of range (m) = manual integration
6M139573.D 8260WTR.M Tue May 24 08:04:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139573.D Vial: 4
Acq On : 24 May 2016 7:39 Operator: TMB
Sample : WG569963-01 100ug/L A9 CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 8:04 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



6M139573.D 8260WTR.M Tue May 24 08:04:01 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139573.D Vial: 4
Acq On : 24 May 2016 7:39 Operator: TMB
Sample : WG569963-01 100ug/L A9 CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 08:18:18 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

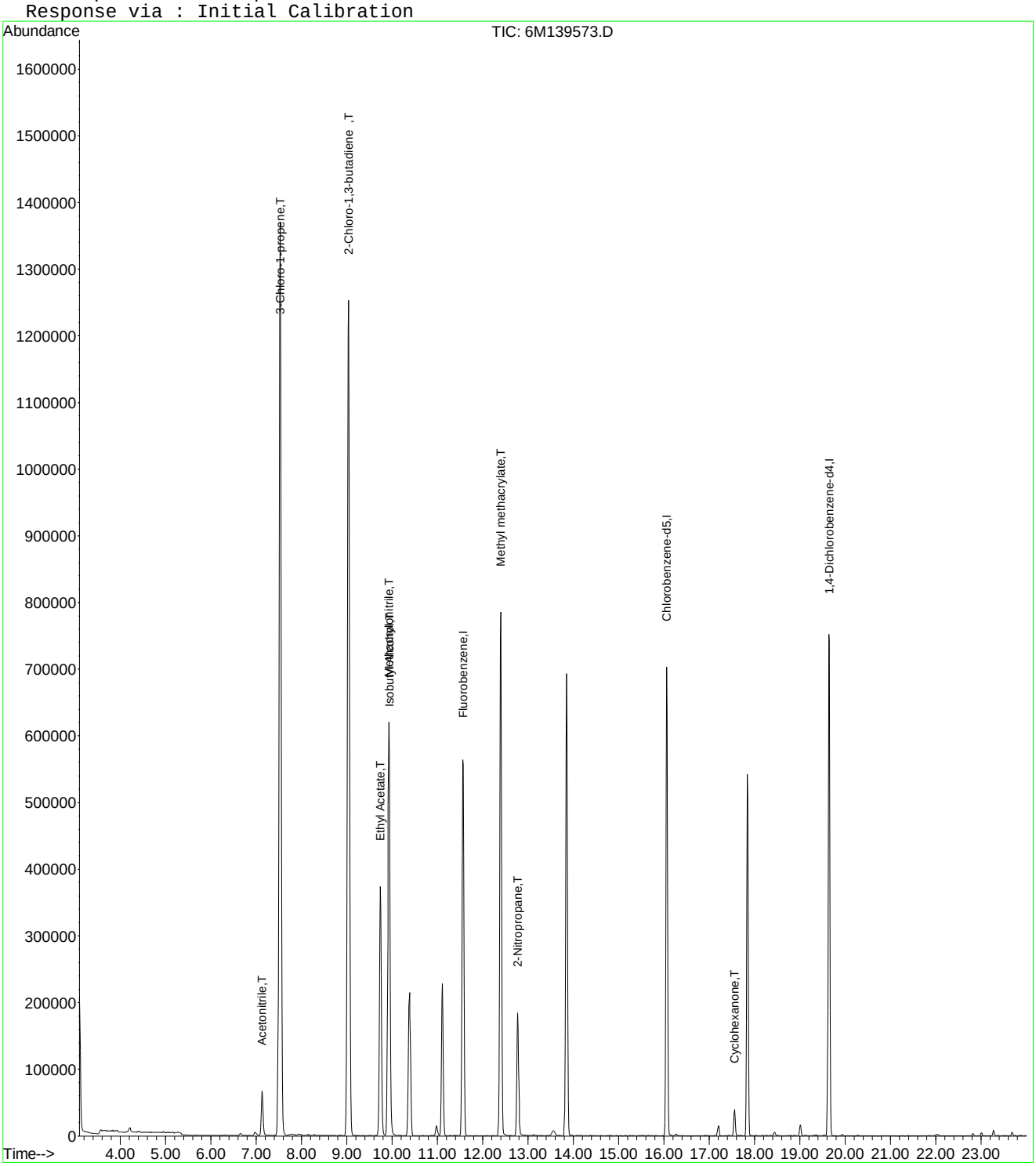
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	739461	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.06	117	537633	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	283827	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	98038	88.5156	ug/L		94
3) 3-Chloro-1-propene	7.53	41	1608344	87.1348	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	1362942	86.0545	ug/L		86
5) Ethyl Acetate	9.74	43	705174	88.9318	ug/L		94
6) Methacrylonitrile	9.93	67	252578	92.3933	ug/L	#	63
7) Isobutyl Alcohol	9.94	43	52359	207.3244	ug/L	#	91
9) Methyl methacrylate	12.40	41	638559	95.8117	ug/L		82
10) 2-Nitropropane	12.77	43	188791	76.1663	ug/L		94
13) Cyclohexanone	17.56	55	25221	71.2846	ug/L		86

(#) = qualifier out of range (m) = manual integration
6M139573.D A9FOOWT.M Tue May 24 08:18:18 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139573.D Vial: 4
Acq On : 24 May 2016 7:39 Operator: TMB
Sample : WG569963-01 100ug/L A9 CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 8:18 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Initial Calibration



6M139573.D A9FOOWT.M Tue May 24 08:18:18 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052416\6M139573.D Vial: 4
Acq On : 24 May 2016 7:39 Operator: TMB
Sample : WG569963-01 100ug/L A9 CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	123	0.00
2	T	Acetonitrile	100.0000	88.5156	11.5	108	0.00
3	T	3-Chloro-1-propene	100.0000	87.1348	12.9	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	86.0545	13.9	96	0.00
5	T	Ethyl Acetate	100.0000	88.9318	11.1	105	0.00
6	T	Methacrylonitrile	100.0000	92.3933	7.6	106	0.00
7	T	Isobutyl Alcohol	200.0000	207.3244	-3.7	154	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	95.8117	4.2	109	0.00
10	T	2-Nitropropane	100.0000	76.1663	23.8	96	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	115	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	111	0.00
13	T	Cyclohexanone	100.0000	71.2846	28.7	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139573.D A9FOOWT.M Tue May 24 08:18:21 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 19:53:27 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.56	96	848209	25.00	ug/L	-0.01
57) Chlorobenzene-d5	16.06	117	620141	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	341865	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.38	111	221526	24.8792	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.52%			
43) 1,2-Dichloroethane-d4	11.11	65	237832	23.9815	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.92%			
58) Toluene-d8	13.85	98	755445	24.7527	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.00%			
80) p-Bromofluorobenzene	17.84	95	312624	24.6698	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.44	85	718820	53.8123	ug/L	100
3) Chloromethane	3.93	50	751453	41.0207	ug/L	99
4) Vinyl Chloride	4.16	62	588405	49.9499	ug/L	99
5) 1,3-Butadiene	4.20	54	69066	55.5692	ug/L	99
6) Bromomethane	5.07	94	225856	33.9151	ug/L	100
7) Chloroethane	5.23	64	371029	49.2955	ug/L	98
8) Trichlorofluoromethane	5.73	101	849133	56.8113	ug/L	100
9) Diethyl ether	6.29	59	760461	96.1149	ug/L	99
10) Isoprene	6.32	67	373388	50.0311	ug/L	100
11) Acrolein	6.54	56	44302	37.2833	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.54	101	471376	55.2132	ug/L	99
13) Acetone	6.65	43	120025	46.8165	ug/L	94
14) 1,1-Dichloroethene	6.88	61	815826	52.7438	ug/L	99
15) Tert-Butyl Alcohol	7.00	59	139448	181.7330	ug/L	98
16) Dimethyl Sulfide	7.16	62	255551	50.7044	ug/L	100
17) Iodomethane	7.43	142	220604	49.3339	ug/L	98
18) Methyl acetate	7.45	43	346534	47.9436	ug/L	100
19) Methylene Chloride	7.72	84	471803	51.6420	ug/L	99
20) Carbon Disulfide	7.77	76	817743	51.0945	ug/L	100
21) Acrylonitrile	7.92	53	157807	49.9429	ug/L	99
22) Methyl Tert Butyl Ether	7.95	73	1161250	49.2910	ug/L	100
23) trans-1,2-Dichloroethene	8.21	96	469055	53.0333	ug/L	100
24) n-Hexane	8.28	57	501478	53.7357	ug/L	99
25) Diisopropyl ether	8.67	45	3578269	98.9073	ug/L	100
26) Vinyl Acetate	8.85	43	800386	64.0553	ug/L	100
27) 1,1-Dichloroethane	8.88	63	925938	52.5081	ug/L	99
28) Ethyl-Tert-Butyl ether	9.30	59	2916896	96.9867	ug/L	100
29) 2-Butanone	9.51	43	181019	47.0265	ug/L	100
30) Propionitrile	9.63	54	103446	97.9027	ug/L	100
31) 2,2-Dichloropropane	9.75	77	723503	55.7647	ug/L	98
32) cis-1,2-Dichloroethene	9.82	96	511696	52.3719	ug/L	99
33) Chloroform	10.06	83	824524	51.0580	ug/L	99
34) 1-Bromopropane	10.21	122	74012	56.2325	ug/L	99
35) Bromochloromethane	10.32	130	286963	53.5430	ug/L	100
36) Tetrahydrofuran	10.35	42	232816	94.5105	ug/L	100
38) 1,1,1-Trichloroethane	10.65	97	753061	53.2139	ug/L	99
39) Cyclohexane	10.68	56	726307	51.2496	ug/L	99
40) 1,1-Dichloropropene	10.87	75	652747	53.1064	ug/L	98
41) Tert-Amyl-Methyl ether	11.00	73	2245159	95.8301	ug/L	99
42) Carbon Tetrachloride	11.04	117	684955	54.5013	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139595.D 8260WTR.M Tue May 24 19:53:27 2016 Page 1

Data File : C:\MSDchem\1\data\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 19:53:27 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

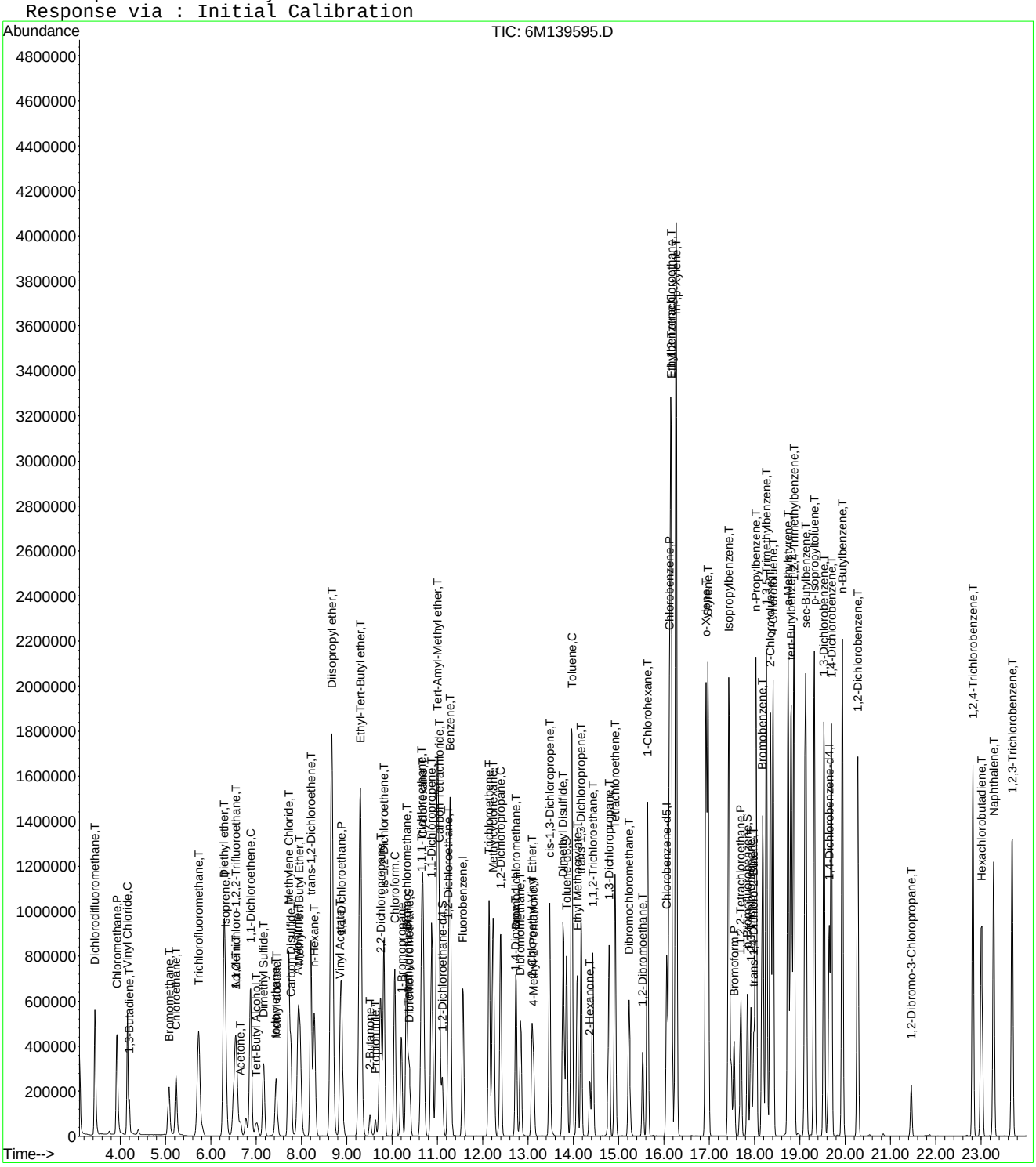
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	630974	50.8798	ug/L	100
46)	Benzene	11.28	78	1829986	51.6746	ug/L	100
47)	Trichloroethene	12.14	130	462759	49.9584	ug/L	99
48)	Methylcyclohexane	12.23	83	631918	51.8104	ug/L	100
49)	1,2-Dichloropropane	12.40	63	505993	50.9119	ug/L	99
50)	1,4-Dioxane	12.72	88	14543	210.7152	ug/L	96
51)	Bromodichloromethane	12.73	83	635319	52.5418	ug/L	100
52)	Dibromomethane	12.84	93	261664	52.2536	ug/L	100
53)	2-Chloroethyl Vinyl Ether	13.09	63	249557	51.1151	ug/L	99
54)	4-Methyl-2-Pentanone	13.12	58	141032	47.3395	ug/L	99
55)	cis-1,3-Dichloropropene	13.48	75	743265	52.4276	ug/L	100
56)	Dimethyl Disulfide	13.77	79	382865	49.0787	ug/L	100
59)	Toluene	13.97	91	1911160	51.9956	ug/L	100
60)	Ethyl Methacrylate	14.09	69	524723	49.1188	ug/L	99
62)	trans-1,3-Dichloropropene	14.17	75	654146	52.2835	ug/L	100
63)	1,1,2-Trichloroethane	14.43	97	351440	51.6011	ug/L	99
64)	2-Hexanone	14.36	43	261359	43.8132	ug/L	99
65)	1,3-Dichloropropane	14.79	76	616451	50.9039	ug/L	98
66)	Tetrachloroethene	14.92	166	487171	50.9335	ug/L	99
67)	Dibromochloromethane	15.23	129	454118	54.3938	ug/L	100
68)	1,2-Dibromoethane	15.53	107	341481	51.1207	ug/L	99
69)	1-Chlorohexane	15.64	91	654557	51.7148	ug/L	100
70)	Chlorobenzene	16.12	112	1247599	51.2269	ug/L	99
71)	1,1,1,2-Tetrachloroethane	16.16	131	466119	52.5319	ug/L	99
72)	Ethylbenzene	16.16	106	684814	51.9731	ug/L	99
73)	m-,p-Xylene	16.27	106	1635013	103.2039	ug/L	100
74)	o-Xylene	16.93	106	796232	50.7321	ug/L	98
75)	Styrene	16.97	104	1402576	51.7237	ug/L	99
76)	Bromoform	17.55	173	284490	53.1203	ug/L	99
77)	Isopropylbenzene	17.43	105	2072793	52.2315	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	433626	52.7836	ug/L	100
81)	1,2,3-Trichloropropane	17.92	110	122867	51.3208	ug/L	83
82)	trans-1,4-Dichloro-2-Buten	17.98	53	154407	53.2504	ug/L	99
83)	n-Propylbenzene	18.03	91	2522571	53.4867	ug/L	99
84)	Bromobenzene	18.18	156	547217	49.6154	ug/L	99
85)	1,3,5-Trimethylbenzene	18.26	105	1770466	51.9899	ug/L	100
86)	2-Chlorotoluene	18.35	91	1613595	51.5359	ug/L	99
87)	4-Chlorotoluene	18.41	91	1569815	52.4615	ug/L	99
88)	a-Methylstyrene	18.74	118	951171	50.3074	ug/L	100
89)	tert-Butylbenzene	18.81	134	383903	51.4448	ug/L	80
90)	1,2,4-Trimethylbenzene	18.87	105	1845603	52.9095	ug/L	100
91)	sec-Butylbenzene	19.13	105	2188691	53.2208	ug/L	99
92)	p-Isopropyltoluene	19.32	119	1877220	52.8289	ug/L	100
93)	1,3-Dichlorobenzene	19.53	146	1065455	50.7847	ug/L	99
94)	1,4-Dichlorobenzene	19.70	146	1056367	49.6547	ug/L	99
95)	n-Butylbenzene	19.94	91	1805683	53.3770	ug/L	99
96)	1,2-Dichlorobenzene	20.28	146	981779	49.4268	ug/L	98
97)	1,2-Dibromo-3-Chloropropan	21.46	75	78159	50.6428	ug/L	100
98)	1,2,4-Trichlorobenzene	22.82	180	707467	49.8371	ug/L	99
99)	Hexachlorobutadiene	23.02	225	299940	48.1867	ug/L	99
100)	Naphthalene	23.28	128	1414019	50.4409	ug/L	100
101)	1,2,3-Trichlorobenzene	23.69	180	649037	48.6529	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139595.D 8260WTR.M Tue May 24 19:53:27 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 19:53 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	106	-0.01
2	T	Dichlorodifluoromethane	0.3937	0.4237	-7.6	109	0.00
3	P	Chloromethane	0.5399	0.4430	18.0	91	0.00
4	C	Vinyl Chloride	0.3472	0.3468	0.1	112	0.00
5	T	1,3-Butadiene	0.0409	0.0407	0.4	126	0.00
6	T	Bromomethane	0.1963	0.1331	32.2#	79	0.00
7	T	Chloroethane	0.2218	0.2187	1.4	109	-0.01
8	T	Trichlorofluoromethane	0.4405	0.5005	-13.6	118	0.00
9	T	Diethyl ether	0.2332	0.2241	3.9	107	0.00
10	T	Isoprene	0.2200	0.2201	-0.1	111	0.00
11	T	Acrolein	0.0350	0.0261	25.4#	82	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2516	0.2779	-10.4	121	0.00
13	T	Acetone	0.0812	0.0707	12.8	102	-0.01
14	C	1,1-Dichloroethene	0.4559	0.4809	-5.5	117	0.00
15	T	Tert-Butyl Alcohol	0.0226	0.0205	9.2	96	-0.01
16	T	Dimethyl Sulfide	0.1485	0.1506	-1.4	108	-0.01
17	T	Iodomethane	0.1090	0.1300	-19.3	100	-0.01
18	T	Methyl acetate	0.2130	0.2043	4.1	105	0.00
19	T	Methylene Chloride	0.2693	0.2781	-3.3	114	0.00
20	T	Carbon Disulfide	0.4717	0.4820	-2.2	113	0.00
21	T	Acrylonitrile	0.0931	0.0930	0.1	103	0.00
22	T	Methyl Tert Butyl Ether	0.6944	0.6845	1.4	107	0.00
23	T	trans-1,2-Dichloroethene	0.2607	0.2765	-6.1	114	0.00
24	T	n-Hexane	0.2751	0.2956	-7.5	119	-0.01
25	T	Diisopropyl ether	1.0663	1.0547	1.1	106	0.00
26	T	Vinyl Acetate	0.3683	0.4718	-28.1#	148	-0.01
27	P	1,1-Dichloroethane	0.5198	0.5458	-5.0	114	-0.01
28	T	Ethyl-Tert-Butyl ether	0.8864	0.8597	3.0	104	0.00
29	T	2-Butanone	0.1135	0.1067	5.9	100	-0.01
30	T	Propionitrile	0.0311	0.0305	2.1	101	-0.01
31	T	2,2-Dichloropropane	0.3824	0.4265	-11.5	128	0.00
32	T	cis-1,2-Dichloroethene	0.2880	0.3016	-4.7	114	0.00
33	C	Chloroform	0.4760	0.4860	-2.1	114	0.00
34		1-Bromopropane	0.0388	0.0436	-12.5	116	0.00
35	T	Bromochloromethane	0.1580	0.1692	-7.1	111	0.00
36	T	Tetrahydrofuran	0.0788	0.0686	12.9	99	0.00
37	S	Dibromofluoromethane	0.2624	0.2612	0.5	108	0.00
38	T	1,1,1-Trichloroethane	0.4171	0.4439	-6.4	115	0.00
39	T	Cyclohexane	0.4177	0.4281	-2.5	115	-0.01
40	T	1,1-Dichloropropene	0.3623	0.3848	-6.2	116	0.00
41	T	Tert-Amyl-Methyl ether	0.6905	0.6617	4.2	103	0.00
42	T	Carbon Tetrachloride	0.3704	0.4038	-9.0	116	0.00
43	S	1,2-Dichloroethane-d4	0.2923	0.2804	4.1	103	0.00
44		Heptane	0.0000	0.0000	0.0	106	-0.01
45	T	1,2-Dichloroethane	0.3655	0.3719	-1.8	111	0.00
46	T	Benzene	1.0438	1.0787	-3.3	114	0.00
47	T	Trichloroethene	0.2730	0.2728	0.1	108	0.00
48	T	Methylcyclohexane	0.3595	0.3725	-3.6	114	0.00
49	C	1,2-Dichloropropane	0.2929	0.2983	-1.8	111	0.00
50	T	1,4-Dioxane	0.0020	0.0021	-5.4	105	0.00
51	T	Bromodichloromethane	0.3564	0.3745	-5.1	111	-0.01
52	T	Dibromomethane	0.1476	0.1543	-4.5	110	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1439	0.1471	-2.2	103	0.00
54	T	4-Methyl-2-Pentanone	0.0878	0.0831	5.3	97	0.00

(#) = Out of Range
6M139595.D 8260WTR.M Tue May 24 20:02:22 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4179	0.4381	-4.9	112	0.00
56	T	Dimethyl Disulfide	0.2299	0.2257	1.8	106	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	106	0.00
58	S	Toluene-d8	1.2304	1.2182	1.0	108	0.00
59	C	Toluene	1.4818	1.5409	-4.0	113	0.00
60	T	Ethyl Methacrylate	0.4307	0.4231	1.8	106	0.00
61		Paraldehyde	0.0000	0.0000	0.0	114	0.00
62	T	trans-1,3-Dichloropropene	0.5044	0.5274	-4.6	111	0.00
63	T	1,1,2-Trichloroethane	0.2746	0.2833	-3.2	110	0.00
64	T	2-Hexanone	0.2405	0.2107	12.4	93	0.00
65	T	1,3-Dichloropropane	0.4882	0.4970	-1.8	109	0.00
66	T	Tetrachloroethene	0.3856	0.3928	-1.9	112	0.00
67	T	Dibromochloromethane	0.3366	0.3661	-8.8	111	0.00
68	T	1,2-Dibromoethane	0.2693	0.2753	-2.2	107	0.00
69	T	1-Chlorohexane	0.5102	0.5278	-3.4	116	0.00
70	P	Chlorobenzene	0.9818	1.0059	-2.5	111	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3577	0.3758	-5.1	110	0.00
72	C	Ethylbenzene	0.5312	0.5521	-3.9	112	0.00
73	T	m-,p-Xylene	0.6387	0.6591	-3.2	111	0.00
74	T	o-Xylene	0.6327	0.6420	-1.5	110	0.00
75	T	Styrene	1.0932	1.1308	-3.4	110	0.00
76	P	Bromoform	0.2159	0.2294	-6.2	108	0.00
77	T	Isopropylbenzene	1.5998	1.6712	-4.5	111	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	104	0.00
79	P	1,1,2,2-Tetrachloroethane	0.6008	0.6342	-5.6	111	0.00
80	S	p-Bromofluorobenzene	0.9267	0.9145	1.3	105	0.00
81	T	1,2,3-Trichloropropane	0.1751	0.1797	-2.6	106	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.2120	0.2258	-6.5	107	0.00
83	T	n-Propylbenzene	3.4489	3.6894	-7.0	113	0.00
84	T	Bromobenzene	0.8065	0.8003	0.8	109	0.00
85	T	1,3,5-Trimethylbenzene	2.4903	2.5894	-4.0	110	0.00
86	T	2-Chlorotoluene	2.2897	2.3600	-3.1	112	0.00
87	T	4-Chlorotoluene	2.1882	2.2960	-4.9	112	0.00
88	T	a-Methylstyrene	1.3826	1.3912	-0.6	106	0.00
89	T	tert-Butylbenzene	0.5457	0.5615	-2.9	110	0.00
90	T	1,2,4-Trimethylbenzene	2.5509	2.6993	-5.8	110	0.00
91	T	sec-Butylbenzene	3.0074	3.2011	-6.4	110	0.00
92	T	p-Isopropyltoluene	2.5985	2.7456	-5.7	109	0.00
93	T	1,3-Dichlorobenzene	1.5342	1.5583	-1.6	108	0.00
94	T	1,4-Dichlorobenzene	1.5558	1.5450	0.7	107	0.00
95	T	n-Butylbenzene	2.4739	2.6409	-6.8	111	0.00
96	T	1,2-Dichlorobenzene	1.4526	1.4359	1.1	106	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.1129	0.1143	-1.3	101	0.00
98	T	1,2,4-Trichlorobenzene	1.0381	1.0347	0.3	105	0.00
99	T	Hexachlorobutadiene	0.4552	0.4387	3.6	104	0.00
100	T	Naphthalene	2.0500	2.0681	-0.9	102	0.00
101	T	1,2,3-Trichlorobenzene	0.9755	0.9493	2.7	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139595.D 8260WTR.M Tue May 24 20:02:22 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	106	-0.01
2	T	Dichlorodifluoromethane	50.0000	53.8123	-7.6	109	0.00
3	P	Chloromethane	50.0000	41.0207	18.0	91	0.00
4	C	Vinyl Chloride	50.0000	49.9499	0.1	112	0.00
5	T	1,3-Butadiene	50.0000	55.5692	-11.1	126	0.00
6	T	Bromomethane	50.0000	33.9151	32.2#	79	0.00
7	T	Chloroethane	50.0000	49.2955	1.4	109	-0.01
8	T	Trichlorofluoromethane	50.0000	56.8113	-13.6	118	0.00
9	T	Diethyl ether	100.0000	96.1149	3.9	107	0.00
10	T	Isoprene	50.0000	50.0311	-0.1	111	0.00
11	T	Acrolein	50.0000	37.2833	25.4#	82	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	55.2132	-10.4	121	0.00
13	T	Acetone	50.0000	46.8165	6.4	102	-0.01
14	C	1,1-Dichloroethene	50.0000	52.7438	-5.5	117	0.00
15	T	Tert-Butyl Alcohol	200.0000	181.7330	9.1	96	-0.01
16	T	Dimethyl Sulfide	50.0000	50.7044	-1.4	108	-0.01
17	T	Iodomethane	50.0000	49.3339	1.3	100	-0.01
18	T	Methyl acetate	50.0000	47.9436	4.1	105	0.00
19	T	Methylene Chloride	50.0000	51.6420	-3.3	114	0.00
20	T	Carbon Disulfide	50.0000	51.0945	-2.2	113	0.00
21	T	Acrylonitrile	50.0000	49.9430	0.1	103	0.00
22	T	Methyl Tert Butyl Ether	50.0000	49.2910	1.4	107	0.00
23	T	trans-1,2-Dichloroethene	50.0000	53.0333	-6.1	114	0.00
24	T	n-Hexane	50.0000	53.7357	-7.5	119	-0.01
25	T	Diisopropyl ether	100.0000	98.9073	1.1	106	0.00
26	T	Vinyl Acetate	50.0000	64.0553	-28.1#	148	-0.01
27	P	1,1-Dichloroethane	50.0000	52.5081	-5.0	114	-0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	96.9867	3.0	104	0.00
29	T	2-Butanone	50.0000	47.0265	5.9	100	-0.01
30	T	Propionitrile	100.0000	97.9027	2.1	101	-0.01
31	T	2,2-Dichloropropane	50.0000	55.7647	-11.5	128	0.00
32	T	cis-1,2-Dichloroethene	50.0000	52.3719	-4.7	114	0.00
33	C	Chloroform	50.0000	51.0580	-2.1	114	0.00
34		1-Bromopropane	50.0000	56.2325	-12.5	116	0.00
35	T	Bromochloromethane	50.0000	53.5430	-7.1	111	0.00
36	T	Tetrahydrofuran	100.0000	94.5105	5.5	99	0.00
37	S	Dibromofluoromethane	25.0000	24.8792	0.5	108	0.00
38	T	1,1,1-Trichloroethane	50.0000	53.2139	-6.4	115	0.00
39	T	Cyclohexane	50.0000	51.2496	-2.5	115	-0.01
40	T	1,1-Dichloropropene	50.0000	53.1064	-6.2	116	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	95.8301	4.2	103	0.00
42	T	Carbon Tetrachloride	50.0000	54.5013	-9.0	116	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.9815	4.1	103	0.00
44		Heptane	-1.0000	0.0000	0.0	106	-0.01
45	T	1,2-Dichloroethane	50.0000	50.8798	-1.8	111	0.00
46	T	Benzene	50.0000	51.6746	-3.3	114	0.00
47	T	Trichloroethene	50.0000	49.9584	0.1	108	0.00
48	T	Methylcyclohexane	50.0000	51.8104	-3.6	114	0.00
49	C	1,2-Dichloropropane	50.0000	50.9119	-1.8	111	0.00
50	T	1,4-Dioxane	200.0000	210.7152	-5.4	105	0.00
51	T	Bromodichloromethane	50.0000	52.5418	-5.1	111	-0.01
52	T	Dibromomethane	50.0000	52.2536	-4.5	110	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	51.1151	-2.2	103	0.00
54	T	4-Methyl-2-Pentanone	50.0000	47.3395	5.3	97	0.00

(#) = Out of Range
6M139595.D 8260WTR.M Tue May 24 20:02:23 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\6M139595.D Vial: 2
Acq On : 24 May 2016 19:29 Operator: FJB
Sample : WG570139-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD76244 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	52.4276	-4.9	112	0.00
56	T	Dimethyl Disulfide	50.0000	49.0787	1.8	106	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	106	0.00
58	S	Toluene-d8	25.0000	24.7527	1.0	108	0.00
59	C	Toluene	50.0000	51.9956	-4.0	113	0.00
60	T	Ethyl Methacrylate	50.0000	49.1188	1.8	106	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	114	0.00
62	T	trans-1,3-Dichloropropene	50.0000	52.2835	-4.6	111	0.00
63	T	1,1,2-Trichloroethane	50.0000	51.6011	-3.2	110	0.00
64	T	2-Hexanone	50.0000	43.8132	12.4	93	0.00
65	T	1,3-Dichloropropane	50.0000	50.9039	-1.8	109	0.00
66	T	Tetrachloroethene	50.0000	50.9335	-1.9	112	0.00
67	T	Dibromochloromethane	50.0000	54.3938	-8.8	111	0.00
68	T	1,2-Dibromoethane	50.0000	51.1207	-2.2	107	0.00
69	T	1-Chlorohexane	50.0000	51.7148	-3.4	116	0.00
70	P	Chlorobenzene	50.0000	51.2269	-2.5	111	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	52.5319	-5.1	110	0.00
72	C	Ethylbenzene	50.0000	51.9731	-3.9	112	0.00
73	T	m-,p-Xylene	100.0000	103.2039	-3.2	111	0.00
74	T	o-Xylene	50.0000	50.7321	-1.5	110	0.00
75	T	Styrene	50.0000	51.7237	-3.4	110	0.00
76	P	Bromoform	50.0000	53.1203	-6.2	108	0.00
77	T	Isopropylbenzene	50.0000	52.2315	-4.5	111	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	104	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	52.7837	-5.6	111	0.00
80	S	p-Bromofluorobenzene	25.0000	24.6698	1.3	105	0.00
81	T	1,2,3-Trichloropropane	50.0000	51.3208	-2.6	106	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	53.2504	-6.5	107	0.00
83	T	n-Propylbenzene	50.0000	53.4867	-7.0	113	0.00
84	T	Bromobenzene	50.0000	49.6154	0.8	109	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	51.9899	-4.0	110	0.00
86	T	2-Chlorotoluene	50.0000	51.5359	-3.1	112	0.00
87	T	4-Chlorotoluene	50.0000	52.4615	-4.9	112	0.00
88	T	a-Methylstyrene	50.0000	50.3074	-0.6	106	0.00
89	T	tert-Butylbenzene	50.0000	51.4449	-2.9	110	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	52.9096	-5.8	110	0.00
91	T	sec-Butylbenzene	50.0000	53.2208	-6.4	110	0.00
92	T	p-Isopropyltoluene	50.0000	52.8289	-5.7	109	0.00
93	T	1,3-Dichlorobenzene	50.0000	50.7848	-1.6	108	0.00
94	T	1,4-Dichlorobenzene	50.0000	49.6547	0.7	107	0.00
95	T	n-Butylbenzene	50.0000	53.3770	-6.8	111	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.4268	1.1	106	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	50.6428	-1.3	101	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	49.8371	0.3	105	0.00
99	T	Hexachlorobutadiene	50.0000	48.1867	3.6	104	0.00
100	T	Naphthalene	50.0000	50.4409	-0.9	102	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	48.6529	2.7	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139595.D 8260WTR.M Tue May 24 20:02:23 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139596.D Vial: 3
Acq On : 24 May 2016 20:04 Operator: FJB
Sample : WG570141-01 100ug/L CCV A9 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 20:28:18 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

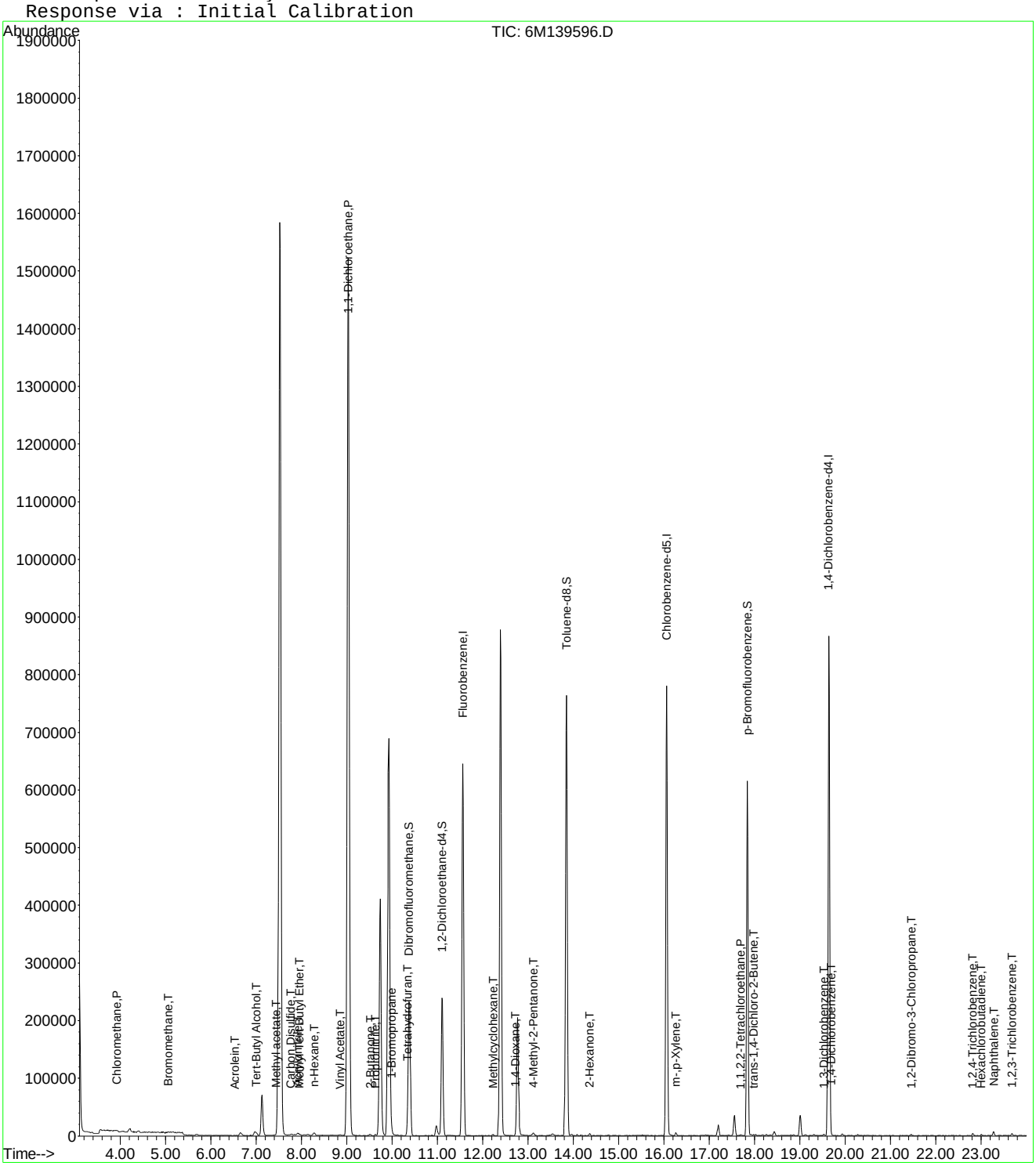
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	820406	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	590688	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	312885	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.38	111	213642	24.8069 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.24%		
43) 1,2-Dichloroethane-d4	11.10	65	231359	24.1194 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.48%		
58) Toluene-d8	13.85	98	726632	24.9958 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.00%		
80) p-Bromofluorobenzene	17.84	95	292295	25.2020 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.80%		
Target Compounds					Qvalue
3) Chloromethane	3.92	50	3345	0.1888 ug/L	# 50
6) Bromomethane	5.07	94	968	0.1503 ug/L	# 22
11) Acrolein	6.53	56	208	0.1810 ug/L	# 15
13) Acetone	6.65	43	10298	Below Cal	# 76
15) Tert-Butyl Alcohol	7.01	59	5746	7.7421 ug/L	# 1
18) Methyl acetate	7.45	43	8116	1.1609 ug/L	# 71
20) Carbon Disulfide	7.76	76	1886	0.1218 ug/L	# 74
21) Acrylonitrile	7.93	53	2285	0.7477 ug/L	94
22) Methyl Tert Butyl Ether	7.96	73	3975	0.1744 ug/L	# 60
24) n-Hexane	8.28	57	3667	0.4063 ug/L	88
26) Vinyl Acetate	8.86	43	1754	0.1451 ug/L	# 78
27) 1,1-Dichloroethane	9.03	63	25930	1.5203 ug/L	# 44
29) 2-Butanone	9.52	43	4791	1.2868 ug/L	85
30) Propionitrile	9.63	54	2677	2.6194 ug/L	89
34) 1-Bromopropane	9.99	122	1171	0.9198 ug/L	# 1
36) Tetrahydrofuran	10.35	42	9861	0.5256 ug/L	98
48) Methylcyclohexane	12.24	83	1612	0.1366 ug/L	# 72
50) 1,4-Dioxane	12.73	88	191	2.8612 ug/L	# 14
54) 4-Methyl-2-Pentanone	13.12	58	1215	0.4217 ug/L	# 38
64) 2-Hexanone	14.36	43	4000	0.7040 ug/L	83
73) m-,p-Xylene	16.26	106	2471	0.1637 ug/L	92
79) 1,1,2,2-Tetrachloroethane	17.69	83	1608	0.2139 ug/L	86
82) trans-1,4-Dichloro-2-Buten	17.98	53	731	0.2755 ug/L	69
93) 1,3-Dichlorobenzene	19.54	146	2325	0.1211 ug/L	85
94) 1,4-Dichlorobenzene	19.69	146	2764	0.1420 ug/L	# 36
97) 1,2-Dibromo-3-Chloropropan	21.47	75	728	0.5154 ug/L	92
98) 1,2,4-Trichlorobenzene	22.81	180	3028	0.2331 ug/L	93
99) Hexachlorobutadiene	23.01	225	1145	0.2010 ug/L	82
100) Naphthalene	23.28	128	9723	0.3790 ug/L	97
101) 1,2,3-Trichlorobenzene	23.68	180	2851	0.2335 ug/L	94

(#) = qualifier out of range (m) = manual integration
6M139596.D 8260WTR.M Tue May 24 20:28:18 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139596.D Vial: 3
Acq On : 24 May 2016 20:04 Operator: FJB
Sample : WG570141-01 100ug/L CCV A9 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 20:28 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



6M139596.D 8260WTR.M Tue May 24 20:28:18 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139596.D Vial: 3
Acq On : 24 May 2016 20:04 Operator: FJB
Sample : WG570141-01 100ug/L CCV A9 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 11:59:52 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

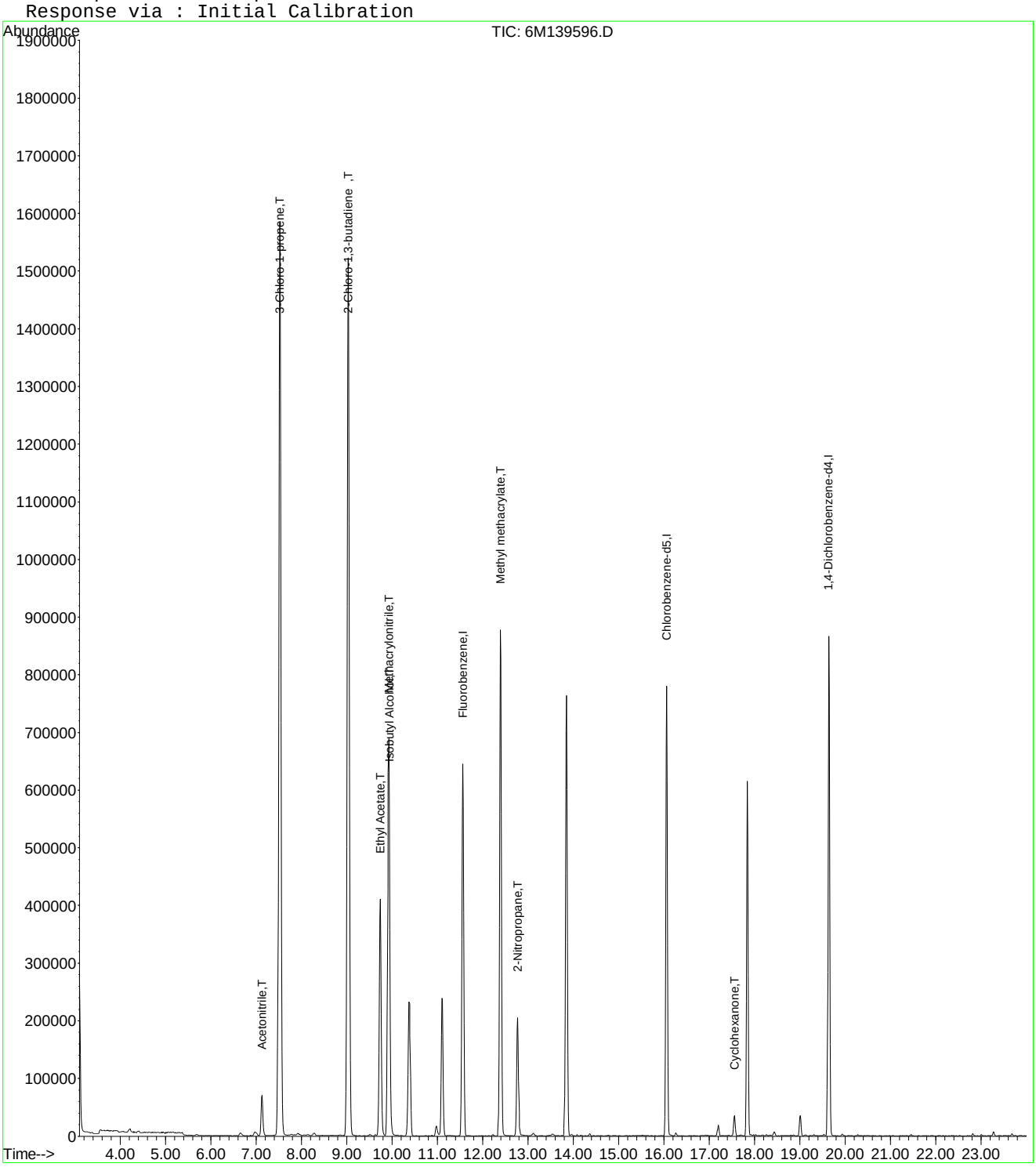
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.56	96	820406	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.06	117	590688	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.64	152	312885	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	104654	85.1662	ug/L		93
3) 3-Chloro-1-propene	7.52	41	1877824	91.6967	ug/L		94
4) 2-Chloro-1,3-butadiene	9.03	53	1668398	94.9473	ug/L		86
5) Ethyl Acetate	9.74	43	774083	87.9903	ug/L		95
6) Methacrylonitrile	9.93	67	283234	93.3849	ug/L	#	65
7) Isobutyl Alcohol	9.94	43	62616	223.4759	ug/L	#	93
9) Methyl methacrylate	12.39	41	709030	95.8889	ug/L		82
10) 2-Nitropropane	12.78	43	213949	77.7998	ug/L		97
13) Cyclohexanone	17.57	55	23708	60.7851	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M139596.D A9FOOWT.M Wed May 25 11:59:52 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139596.D Vial: 3
Acq On : 24 May 2016 20:04 Operator: FJB
Sample : WG570141-01 100ug/L CCV A9 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 11:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Initial Calibration



6M139596.D A9FOOWT.M Wed May 25 11:59:52 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052416\6M139596.D Vial: 3
Acq On : 24 May 2016 20:04 Operator: FJB
Sample : WG570141-01 100ug/L CCV A9 Inst : HPMS6
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Multiple Level Calibration

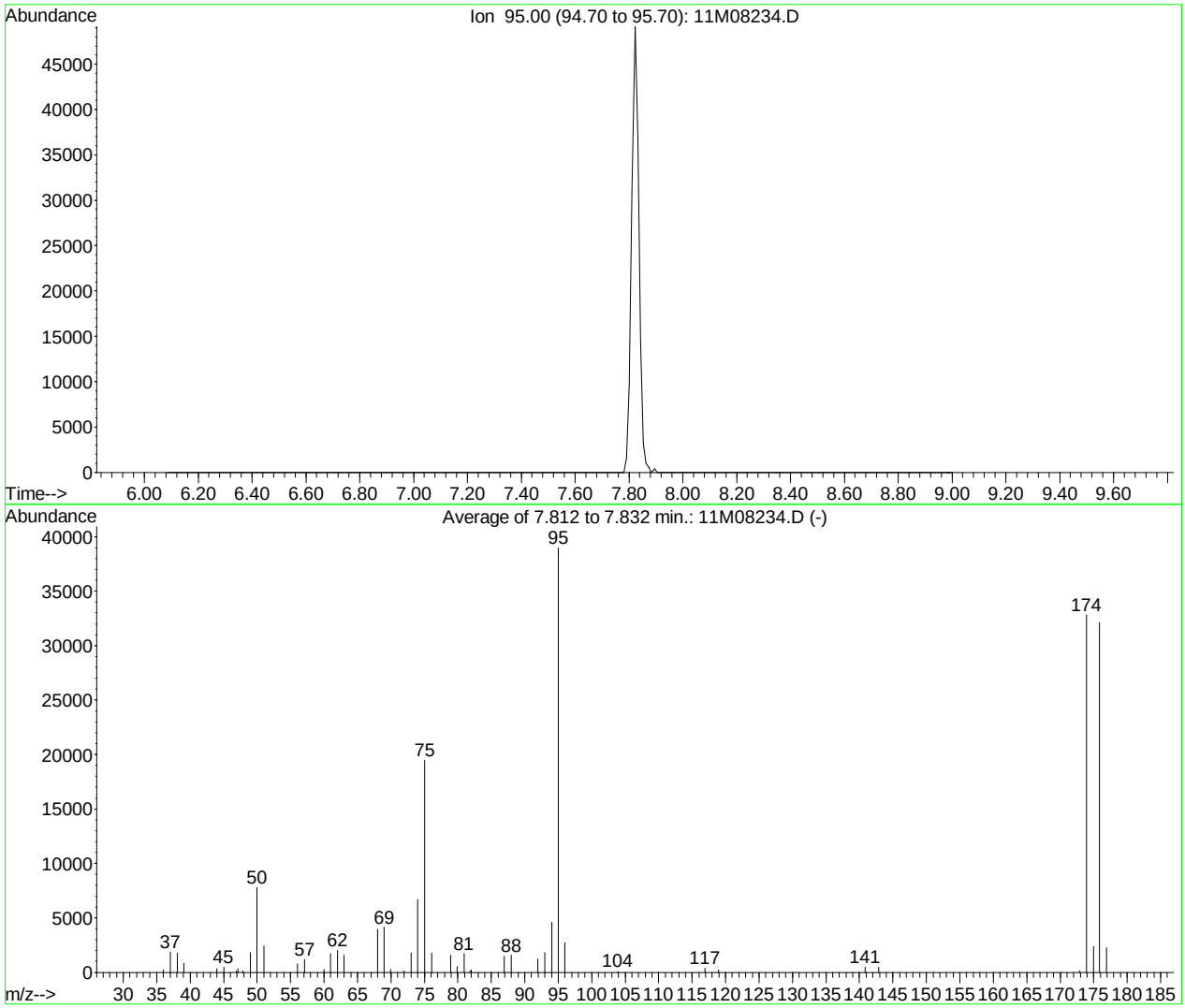
Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	137	0.00
2	T	Acetonitrile	100.0000	85.1662	14.8	115	0.00
3	T	3-Chloro-1-propene	100.0000	91.6967	8.3	117	-0.02
4	T	2-Chloro-1,3-butadiene	100.0000	94.9473	5.1	118	0.00
5	T	Ethyl Acetate	100.0000	87.9903	12.0	115	0.00
6	T	Methacrylonitrile	100.0000	93.3849	6.6	119	0.00
7	T	Isobutyl Alcohol	200.0000	223.4759	-11.7	185	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	95.8889	4.1	121	0.00
10	T	2-Nitropropane	100.0000	77.7998	22.2	108	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	126	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	122	-0.02
13	T	Cyclohexanone	100.0000	60.7852	39.2	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M139596.D A9FOOWT.M Wed May 25 11:59:56 2016 Page 1

2.1.1.5 Raw QC Data

Data File : C:\MSDCHEM\1\DATA\061415\11M08234.D Vial: 1
Acq On : 14 Jun 2015 9:34 Operator: TMB /DLW
Sample : WG527475-01 50ng BFB STD Inst : hpms11
Misc : 1,1 STD70707 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11



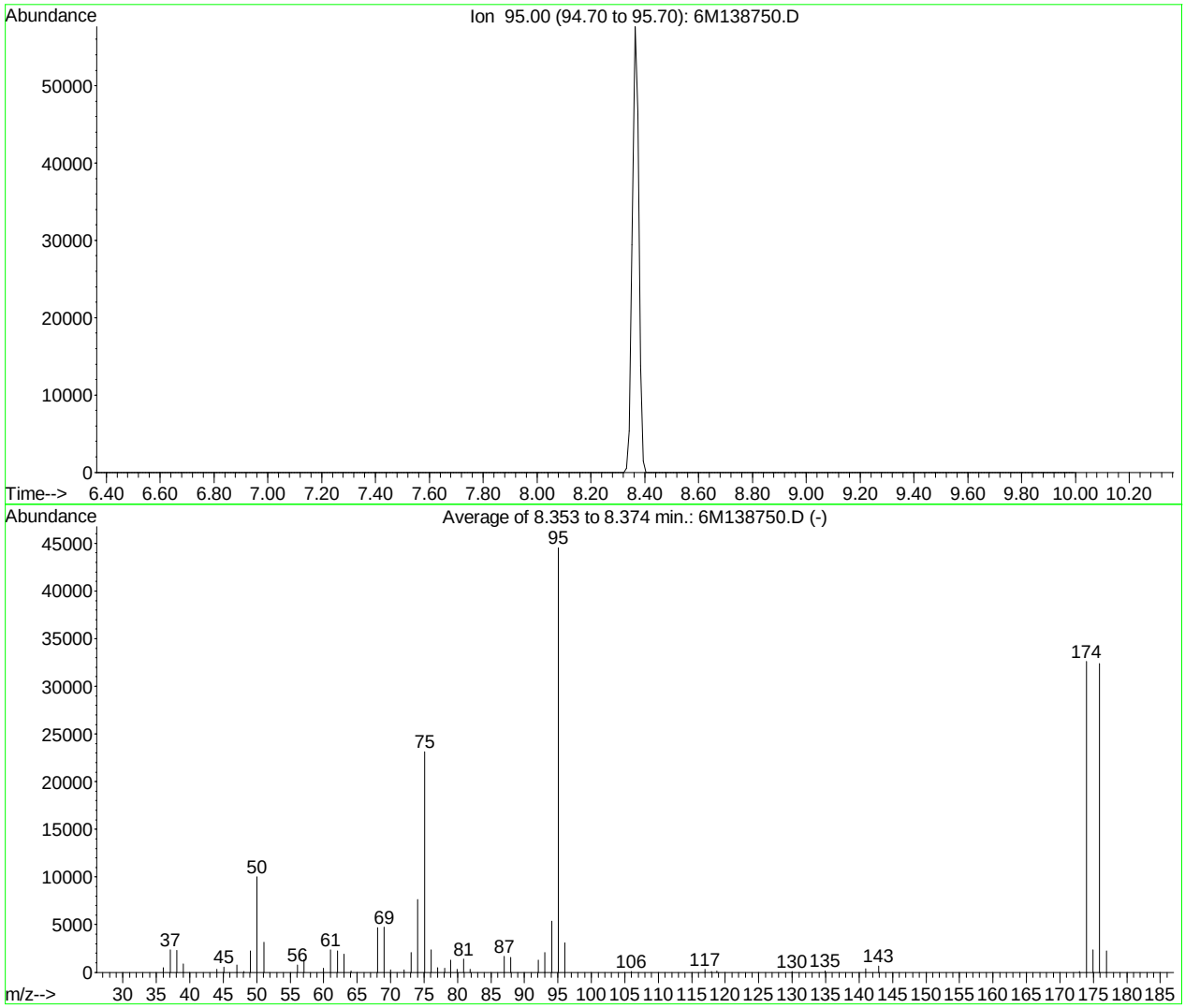
AutoFind: Scans 168, 169, 170; Background Corrected with Scan 163

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.9	7754	PASS
75	95	30	60	49.9	19472	PASS
95	95	100	100	100.0	38997	PASS
96	95	5	9	7.0	2731	PASS
173	174	0.00	2	0.3	111	PASS
174	95	50	100	84.2	32837	PASS
175	174	5	9	7.2	2357	PASS
176	174	95	101	97.9	32146	PASS
177	176	5	9	7.1	2284	PASS

11M08234.D 8260WTR.M Sun Jun 14 09:44:09 2015

BFB

Data File : C:\MSDCHEM\1\DATA\042416\6M138750.D Vial: 1
Acq On : 24 Apr 2016 16:33 Operator: JDS
Sample : WG566155-01 50ng BFB 826-A9 Inst : HPMS6
Misc : 1,1 STD75485 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)
Title : SOP: OVL MSV01



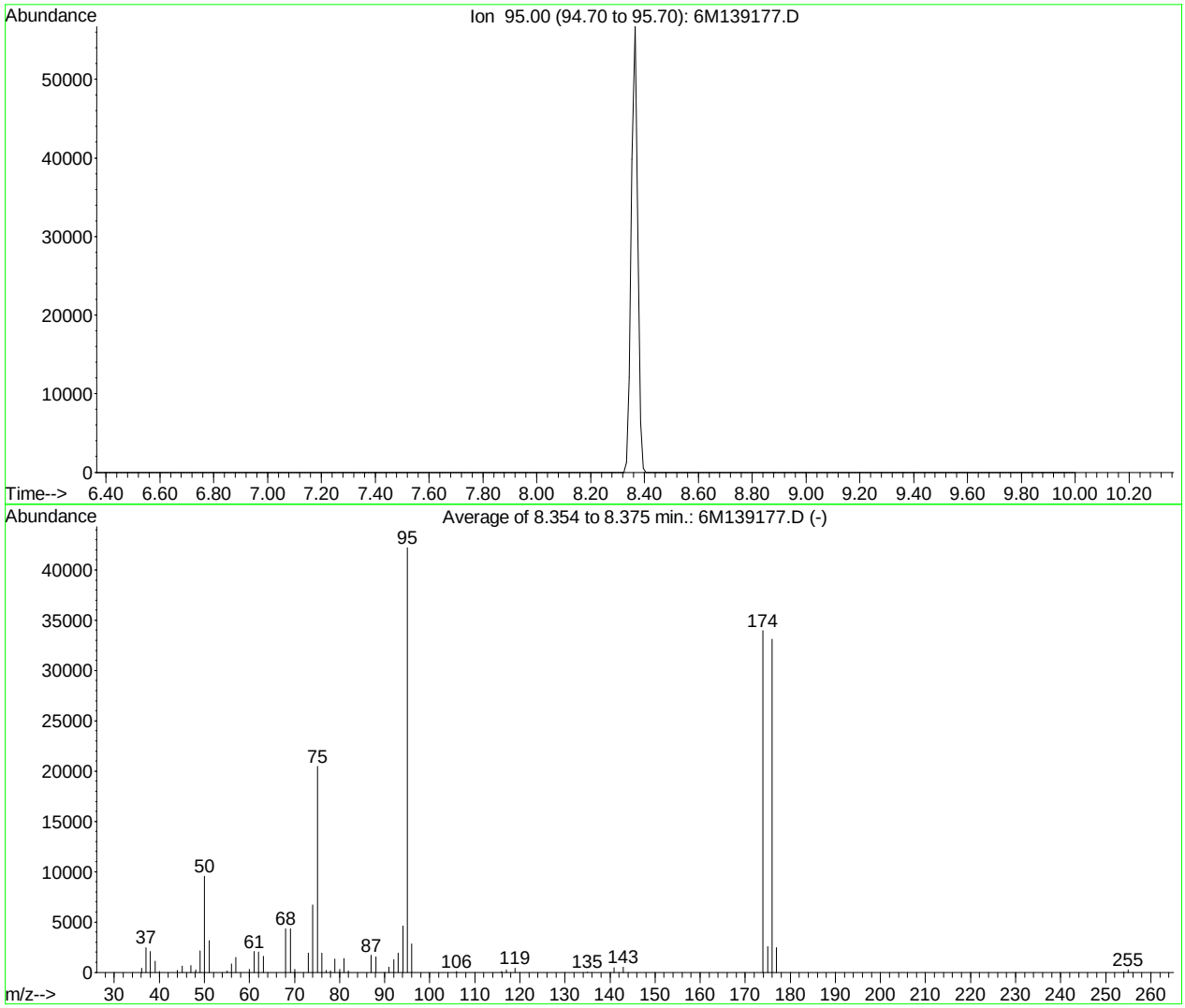
AutoFind: Scans 320, 321, 322; Background Corrected with Scan 315

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	10010	PASS
75	95	30	60	52.0	23152	PASS
95	95	100	100	100.0	44552	PASS
96	95	5	9	6.9	3085	PASS
173	174	0.00	2	0.3	113	PASS
174	95	50	100	73.2	32632	PASS
175	174	5	9	7.2	2336	PASS
176	174	95	101	99.2	32384	PASS
177	176	5	9	7.0	2251	PASS

6M138750.D BFB.M Mon Apr 25 09:21:54 2016

BFB

```
Data File : C:\MSDCHEM\1\DATA\051116\6M139177.D          Vial: 1
Acq On    : 11 May 2016  10:08                    Operator: TMB
Sample    : WG568265-01 50ng BFB STD 8260         Inst    : HPMS6
Misc      : 1,1 STD76034                          Multiplr: 1.00
MS Integration Params: rteint.p
Method    : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)
Title     : SOP: OVL MSV01
```



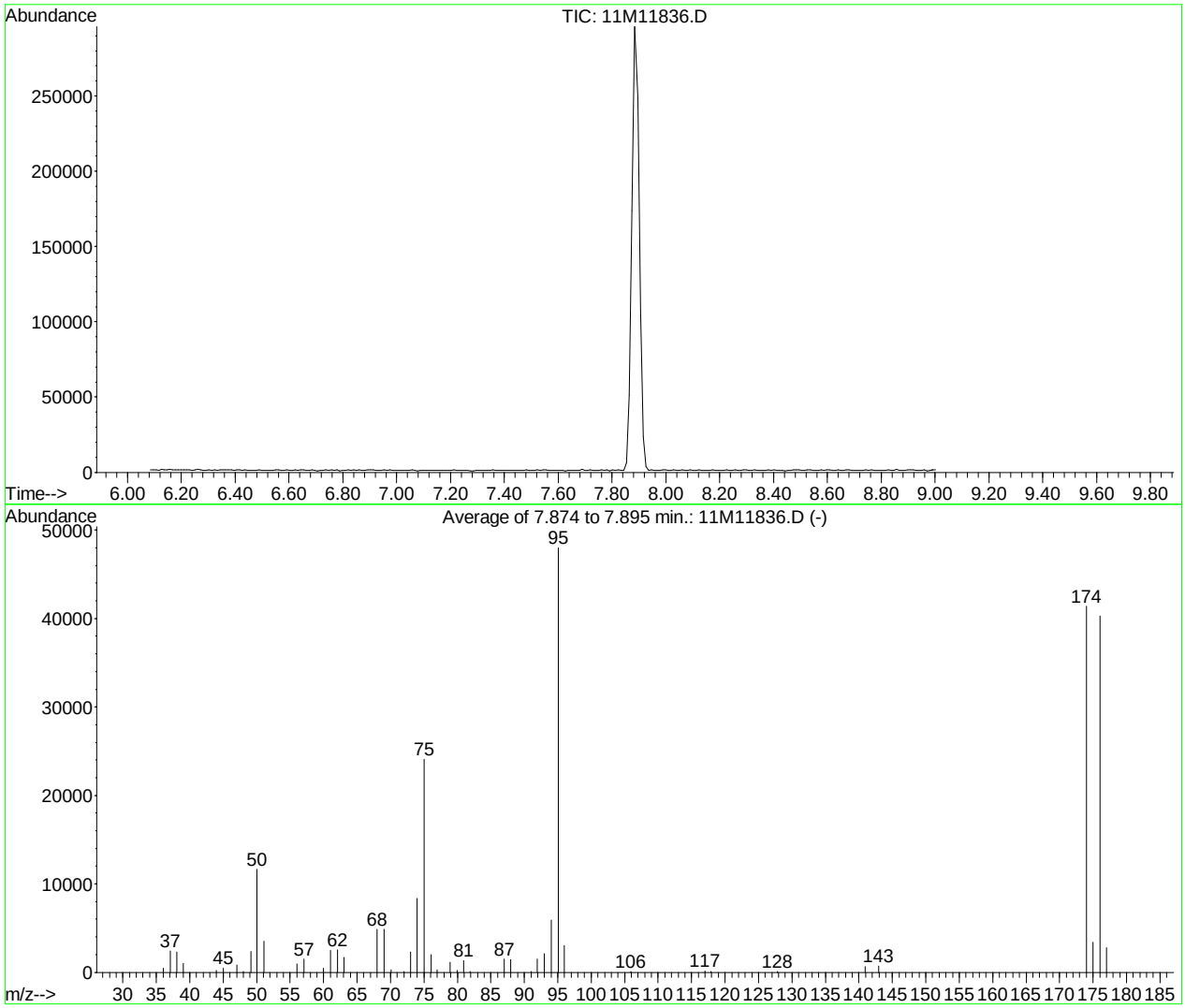
AutoFind: Scans 320, 321, 322; Background Corrected with Scan 315

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	9547	PASS
75	95	30	60	48.4	20449	PASS
95	95	100	100	100.0	42216	PASS
96	95	5	9	6.7	2828	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.4	33962	PASS
175	174	5	9	7.4	2530	PASS
176	174	95	101	97.5	33112	PASS
177	176	5	9	7.4	2439	PASS

6M139177.D BFB.M Wed May 11 10:27:08 2016

BFB

Data File : C:\MSDCHEM\1\DATA\051316\11M11836.D Vial: 2
Acq On : 13 May 2016 14:15 Operator: JDS
Sample : WG568769-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD76034 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



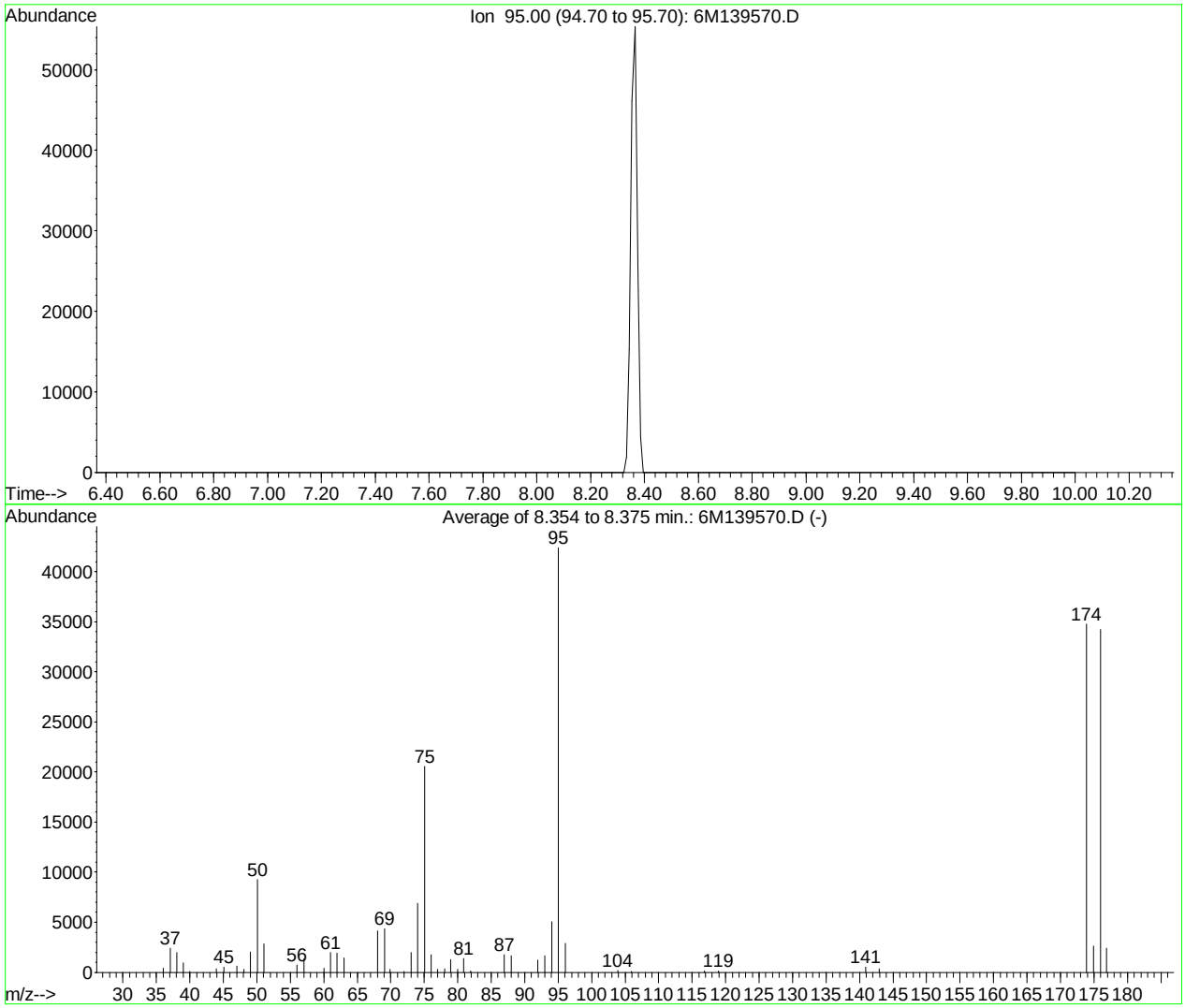
AutoFind: Scans 174, 175, 176; Background Corrected with Scan 169

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.2	11638	PASS
75	95	30	60	50.2	24088	PASS
95	95	100	100	100.0	48016	PASS
96	95	5	9	6.3	3008	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.2	41402	PASS
175	174	5	9	8.3	3421	PASS
176	174	95	101	97.3	40288	PASS
177	176	5	9	6.9	2789	PASS

11M11836.D 8260WT.M Tue May 17 14:18:03 2016

BFB

Data File : C:\MSDCHEM\1\DATA\052416\6M139570.D Vial: 1
Acq On : 24 May 2016 6:10 Operator: TMB
Sample : WG569959-01 50ng BFB STD 8260 Inst : HPMS6
Misc : 1,1 STD76034 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)
Title : SOP: OVL MSV01



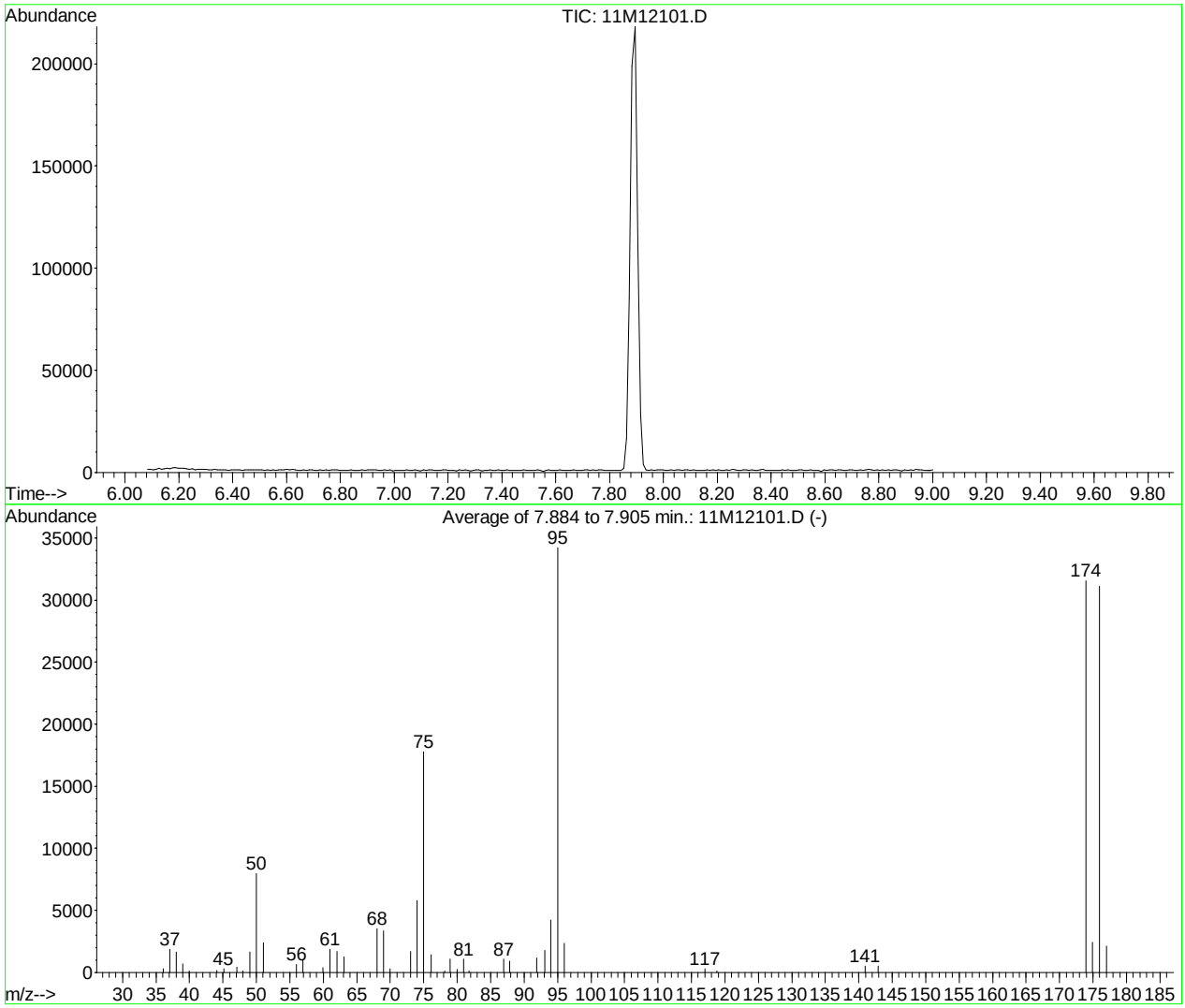
AutoFind: Scans 320, 321, 322; Background Corrected with Scan 315

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	9273	PASS
75	95	30	60	48.5	20581	PASS
95	95	100	100	100.0	42402	PASS
96	95	5	9	6.8	2885	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.0	34778	PASS
175	174	5	9	7.6	2633	PASS
176	174	95	101	98.4	34213	PASS
177	176	5	9	7.1	2426	PASS

6M139570.D BFB.M Tue May 24 06:21:39 2016

BFB

Data File : C:\MSDCHEM\1\DATA\052416\11M12101.D Vial: 1
Acq On : 24 May 2016 14:44 Operator: JDS
Sample : WG570083-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD76034 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



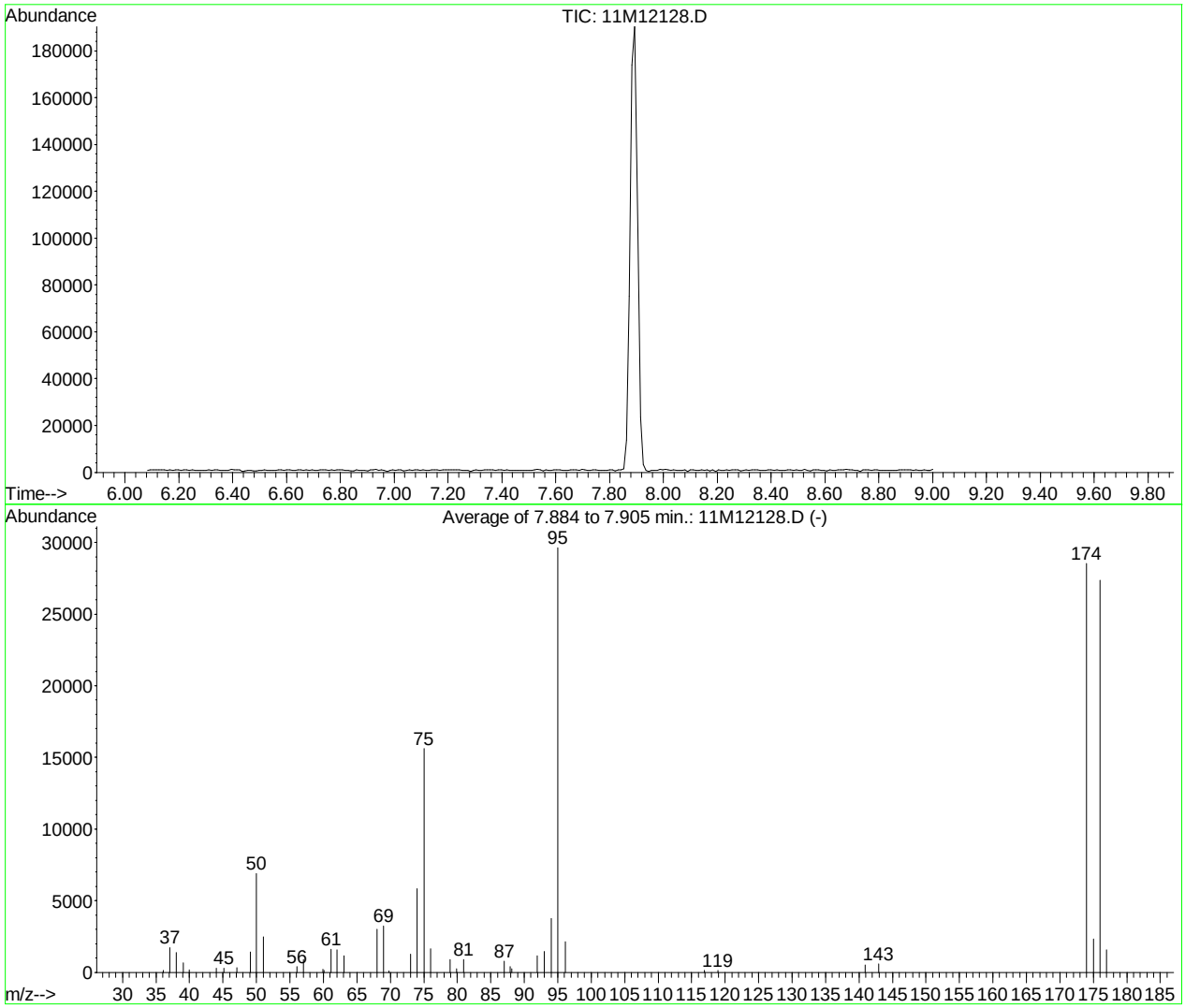
AutoFind: Scans 175, 176, 177; Background Corrected with Scan 169

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.3	7972	PASS
75	95	30	60	52.0	17796	PASS
95	95	100	100	100.0	34232	PASS
96	95	5	9	6.8	2319	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	92.2	31557	PASS
175	174	5	9	7.6	2404	PASS
176	174	95	101	98.7	31138	PASS
177	176	5	9	6.7	2100	PASS

11M12101.D 8260WT.M Wed May 25 09:29:35 2016

BFB

Data File : C:\MSDCHEM\1\DATA\052516\11M12128.D Vial: 1
Acq On : 25 May 2016 13:22 Operator: JDS
Sample : WG570237-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD76034 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



AutoFind: Scans 175, 176, 177; Background Corrected with Scan 169

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.2	6879	PASS
75	95	30	60	52.7	15631	PASS
95	95	100	100	100.0	29640	PASS
96	95	5	9	7.2	2125	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.2	28528	PASS
175	174	5	9	8.2	2341	PASS
176	174	95	101	96.0	27384	PASS
177	176	5	9	5.8	1576	PASS

11M12128.D 8260WT.M Wed May 25 15:34:04 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12104.D Vial: 4
Acq On : 24 May 2016 16:12 Operator: JDS
Sample : WG570084-01 BLANK STD 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:36:50 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

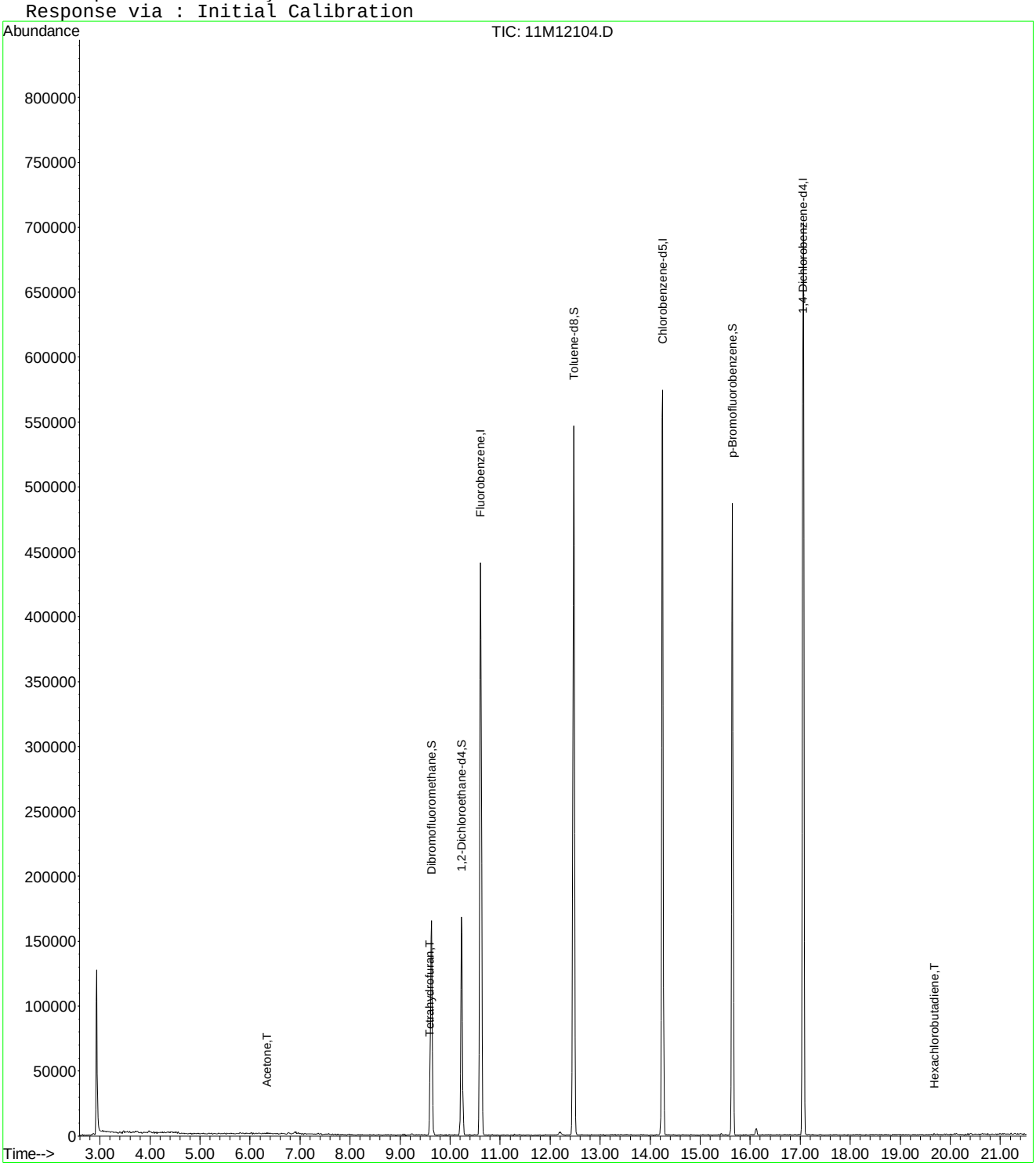
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	473725	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	400338	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	232903	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	133951	25.8367	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 103.36%			
43) 1,2-Dichloroethane-d4	10.23	65	159196	26.9298	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 107.72%			
57) Toluene-d8	12.47	98	447833	25.7454	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.00%			
78) p-Bromofluorobenzene	15.64	95	181303	25.2530	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.00%			
Target Compounds						Qvalue
13) Acetone	6.34	43	404	0.3591	ug/L #	49
36) Tetrahydrofuran	9.60	42	1676	1.3957	ug/L #	47
97) Hexachlorobutadiene	19.69	225	523	0.1303	ug/L #	49

(#) = qualifier out of range (m) = manual integration
11M12104.D 8260WT.M Wed May 25 09:36:51 2016 Page 1

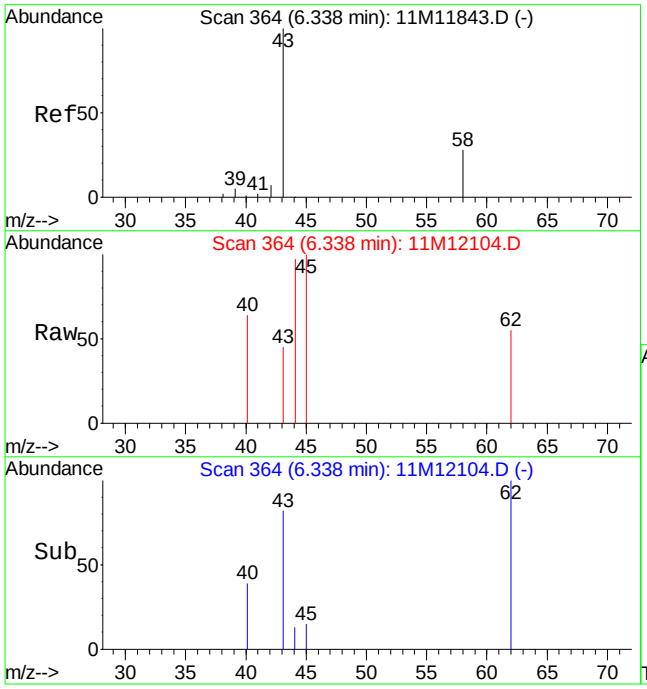
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12104.D Vial: 4
Acq On : 24 May 2016 16:12 Operator: JDS
Sample : WG570084-01 BLANK STD 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:36 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



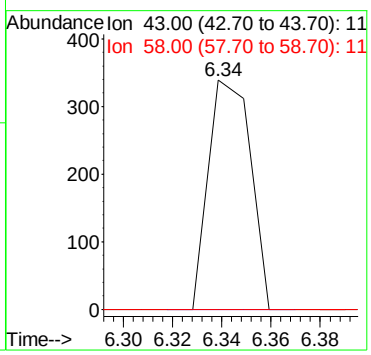
11M12104.D 8260WT.M Wed May 25 09:36:51 2016 Page 2

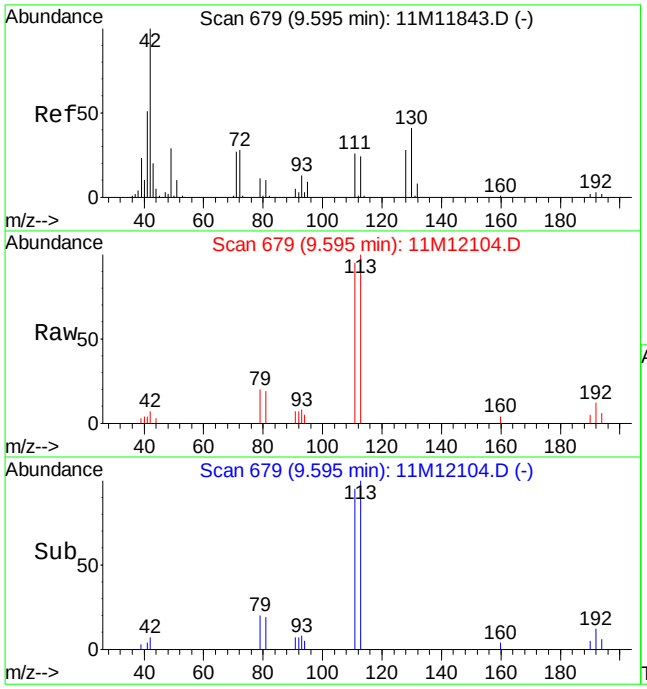


#13
Acetone
Concen: 0.36 ug/L
RT: 6.34 min Scan# 364
Delta R.T. 0.00 min
Lab File: 11M12104.D
Acq: 24 May 2016 16:12

Tgt Ion: 43 Resp: 404

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#

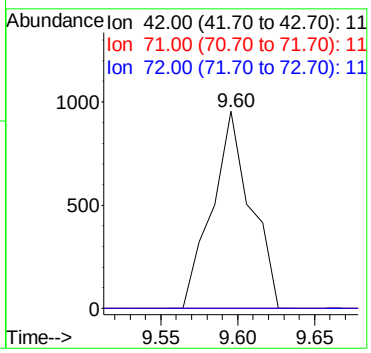


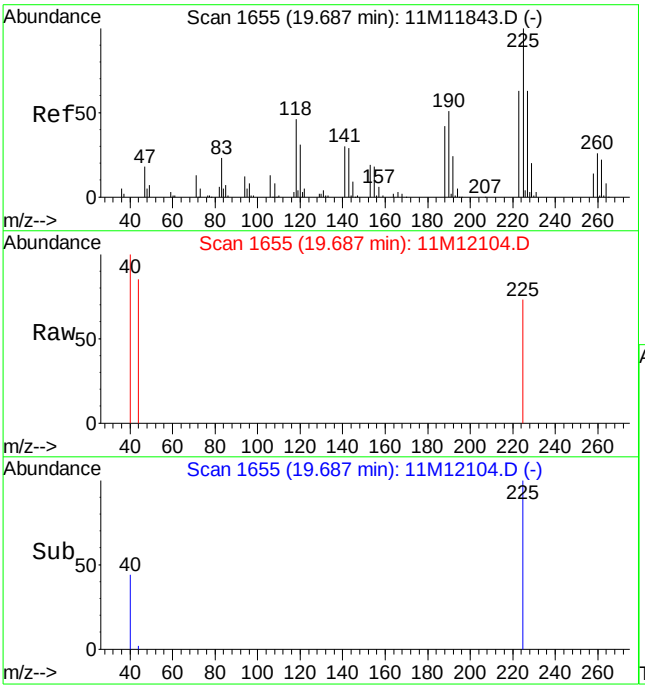


#36
Tetrahydrofuran
Concen: 1.40 ug/L
RT: 9.60 min Scan# 679
Delta R.T. 0.00 min
Lab File: 11M12104.D
Acq: 24 May 2016 16:12

Tgt Ion: 42 Resp: 1676

Ion	Ratio	Lower	Upper
42	100		
71	0.0	16.4	38.2#
72	0.0	16.6	38.8#

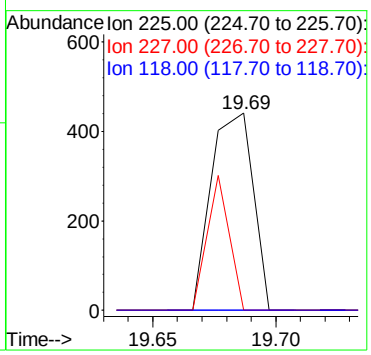




#97
Hexachlorobutadiene
Concen: 0.13 ug/L
RT: 19.69 min Scan# 1655
Delta R.T. 0.00 min
Lab File: 11M12104.D
Acq: 24 May 2016 16:12

Tgt Ion:225 Resp: 523

Ion	Ratio	Lower	Upper
225	100		
227	35.8	38.3	89.3#
118	0.0	28.7	66.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12131.D Vial: 4
Acq On : 25 May 2016 14:51 Operator: JDS
Sample : WG570238-01 BLANK STD 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09:34 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

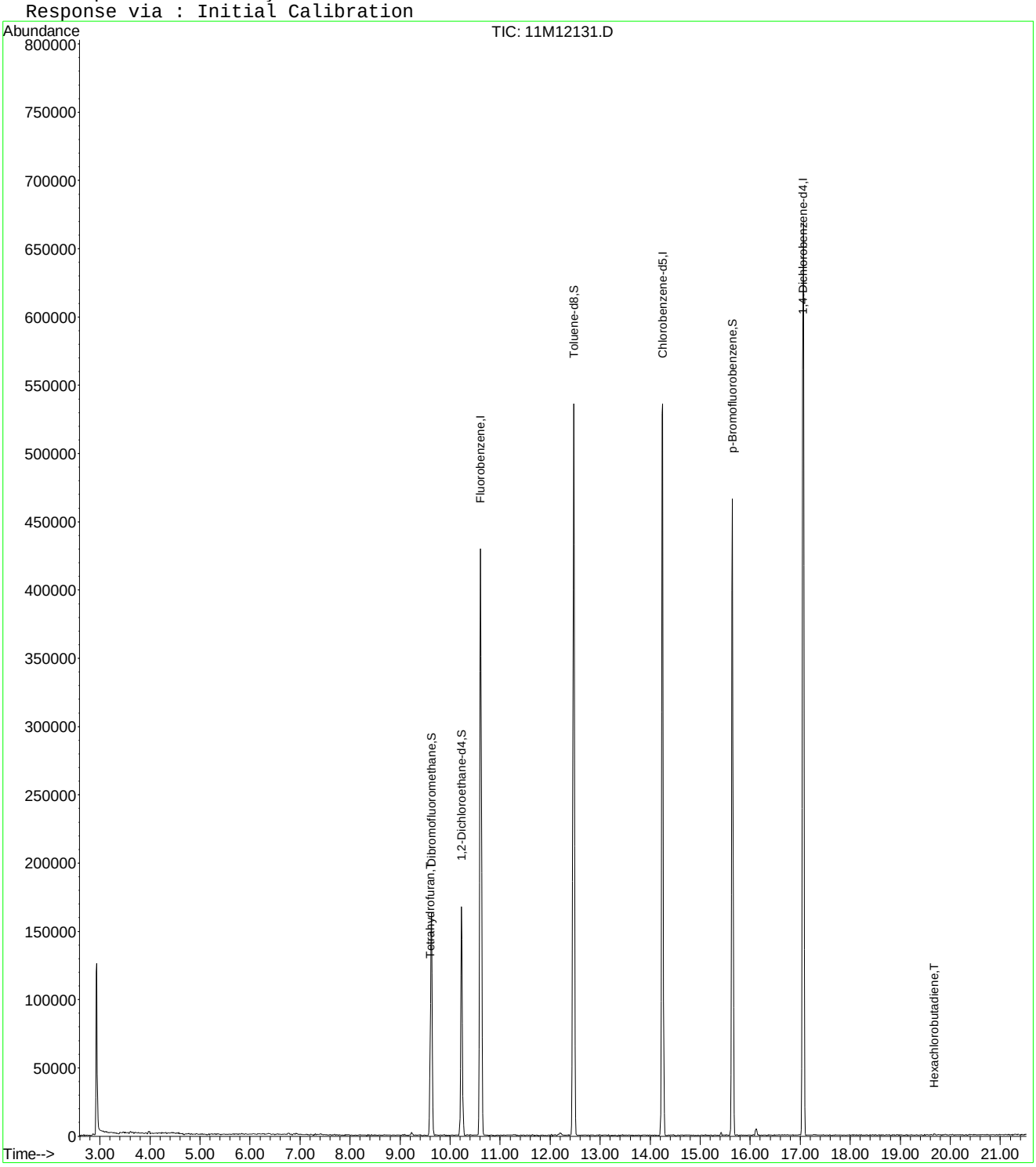
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	451122	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	383586	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	216058	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	131817	26.6990	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.80%			
43) 1,2-Dichloroethane-d4	10.23	65	154828	27.5032	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.00%			
57) Toluene-d8	12.47	98	427362	25.6415	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.56%			
78) p-Bromofluorobenzene	15.64	95	179584	26.9637	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 107.84%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.61	42	1464	1.2802	ug/L #	47
97) Hexachlorobutadiene	19.68	225	804	0.2159	ug/L #	39

(#) = qualifier out of range (m) = manual integration
11M12131.D 8260WT.M Thu May 26 11:09:35 2016 Page 1

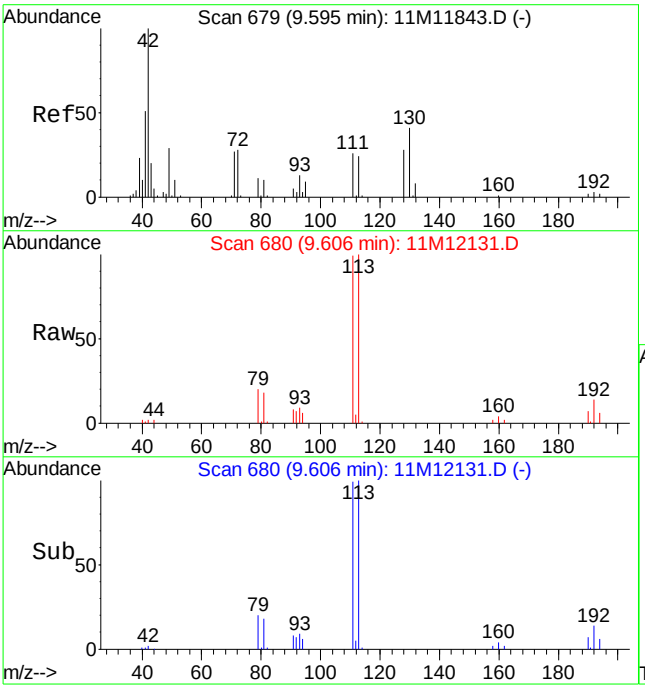
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12131.D Vial: 4
Acq On : 25 May 2016 14:51 Operator: JDS
Sample : WG570238-01 BLANK STD 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:09 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



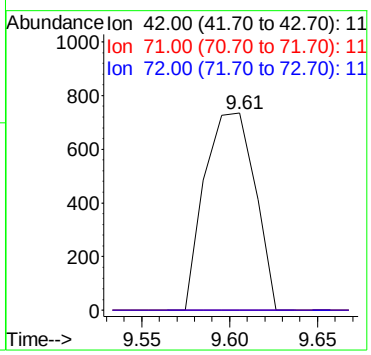
11M12131.D 8260WT.M Thu May 26 11:09:35 2016 Page 2

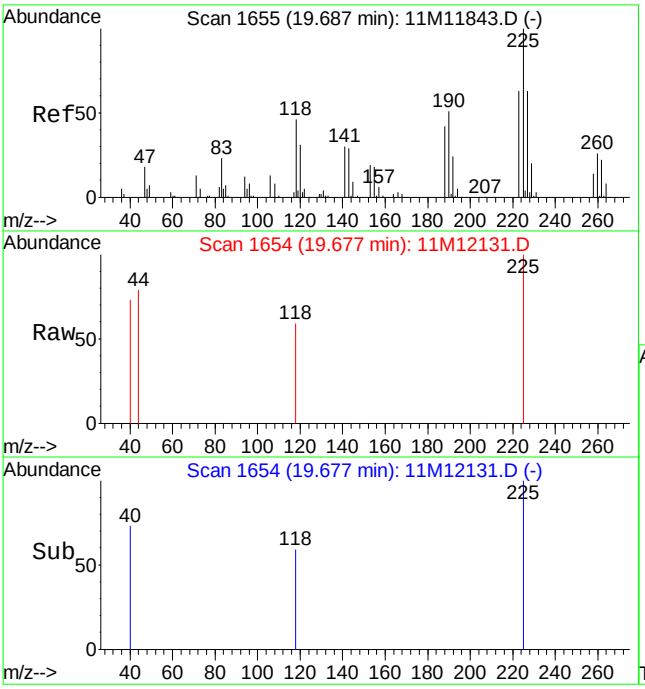


#36
Tetrahydrofuran
Concen: 1.28 ug/L
RT: 9.61 min Scan# 680
Delta R.T. 0.01 min
Lab File: 11M12131.D
Acq: 25 May 2016 14:51

Tgt Ion: 42 Resp: 1464

Ion	Ratio	Lower	Upper
42	100		
71	0.0	16.4	38.2#
72	0.0	16.6	38.8#

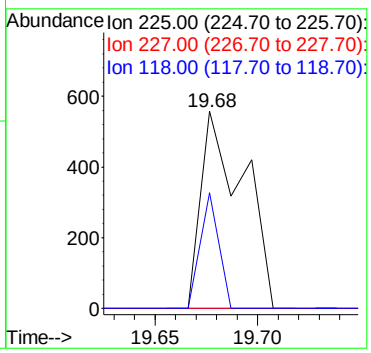




#97
Hexachlorobutadiene
Concen: 0.22 ug/L
RT: 19.68 min Scan# 1654
Delta R.T. -0.01 min
Lab File: 11M12131.D
Acq: 25 May 2016 14:51

Tgt Ion:225 Resp: 804

Ion	Ratio	Lower	Upper
225	100		
227	0.0	38.3	89.3#
118	25.4	28.7	66.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139574.D Vial: 5
Acq On : 24 May 2016 8:12 Operator: TMB
Sample : WG569960-01 VBLK0524 BLANK STD 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 08:29:31 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

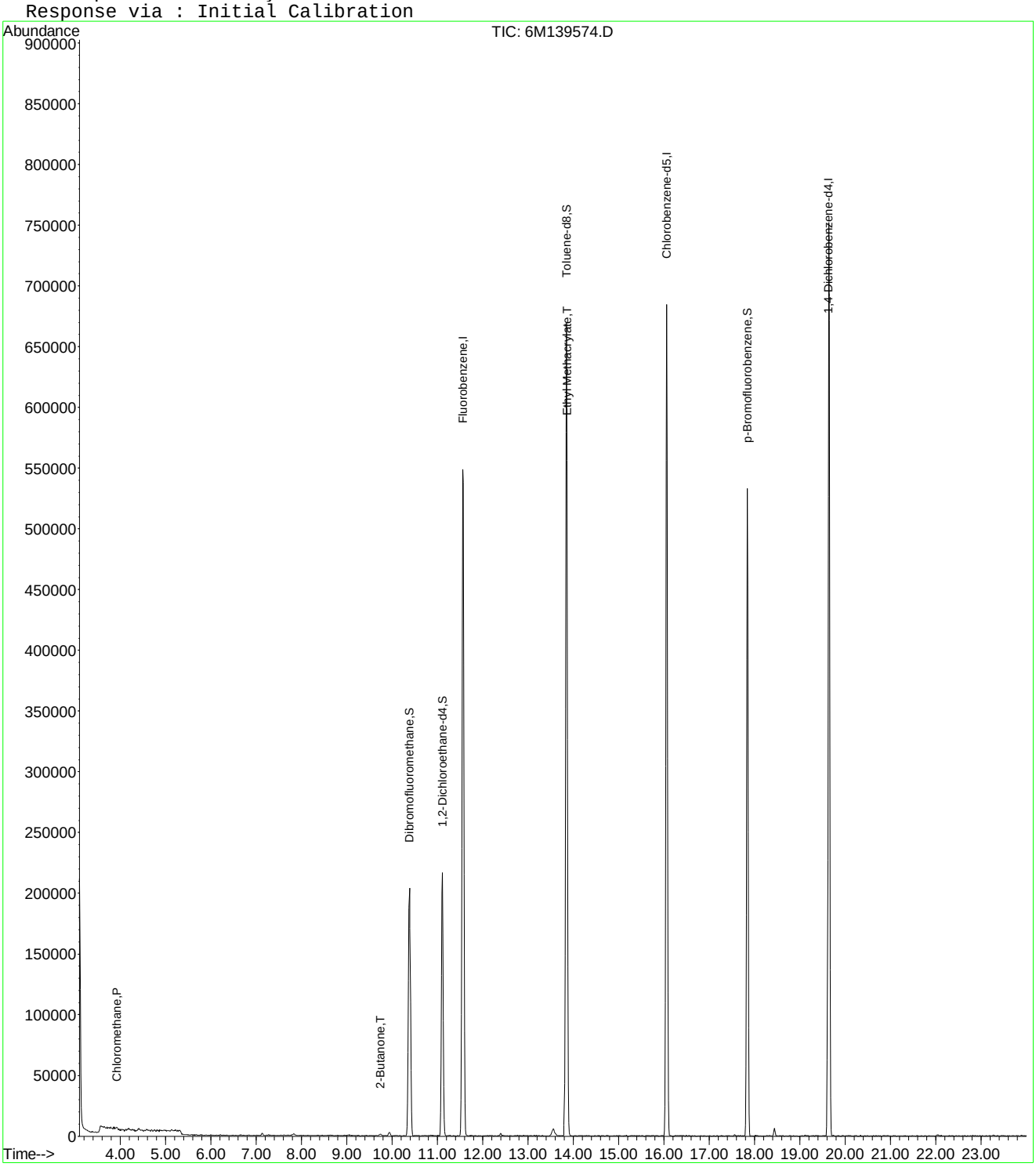
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.56	96	709856	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	518099	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	270574	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	185541	24.8991 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.60%		
43) 1,2-Dichloroethane-d4	11.11	65	202956	24.4535 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.80%		
58) Toluene-d8	13.85	98	625687	24.5389 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.16%		
80) p-Bromofluorobenzene	17.84	95	244679	24.3954 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.60%		
Target Compounds					Qvalue
3) Chloromethane	3.92	50	2105	0.1373 ug/L #	2
13) Acetone	6.64	43	619	Below Cal #	48
29) 2-Butanone	9.74	43	3141	0.9750 ug/L #	57
36) Tetrahydrofuran	10.37	42	2904	Below Cal #	67
60) Ethyl Methacrylate	13.86	69	1284	0.1439 ug/L	73

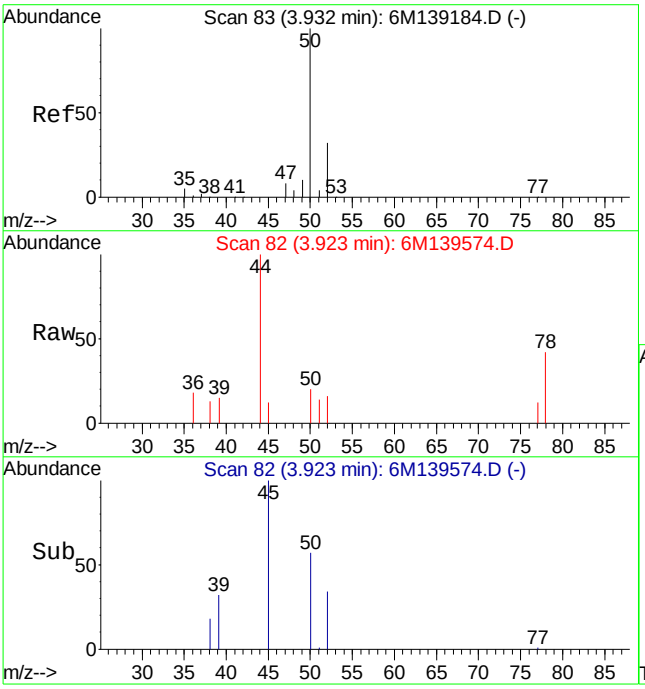
(#) = qualifier out of range (m) = manual integration
6M139574.D 8260WTR.M Wed May 25 08:29:31 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139574.D Vial: 5
Acq On : 24 May 2016 8:12 Operator: TMB
Sample : WG569960-01 VBLK0524 BLANK STD 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 25 8:29 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration

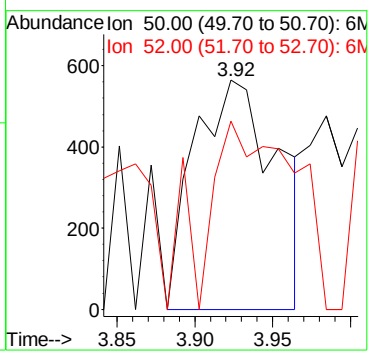


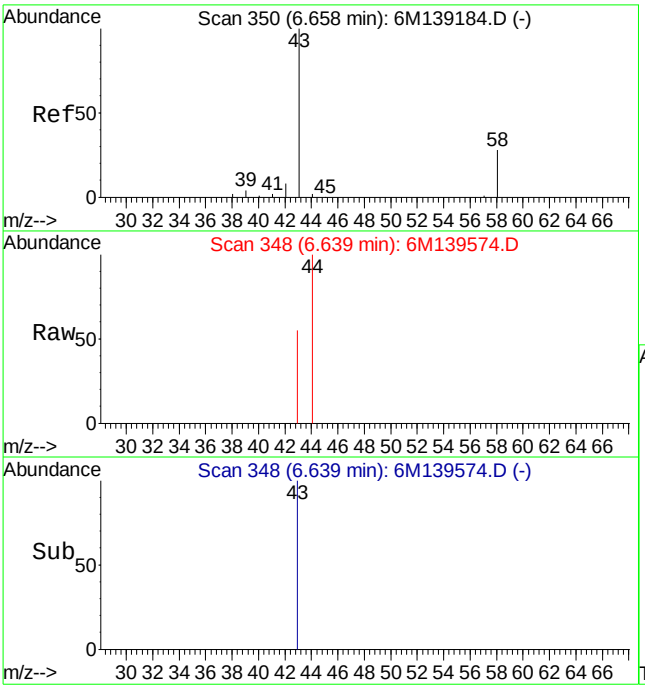


#3
Chloromethane
Concen: 0.14 ug/L
RT: 3.92 min Scan# 82
Delta R.T. -0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 50 Resp: 2105

Ion	Ratio	Lower	Upper
50	100		
52	88.1	19.8	46.2#

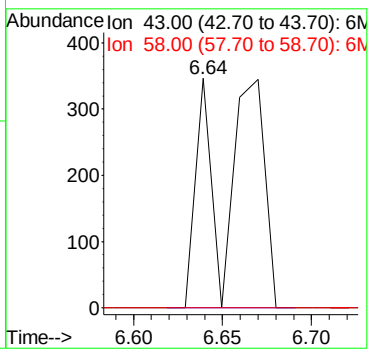


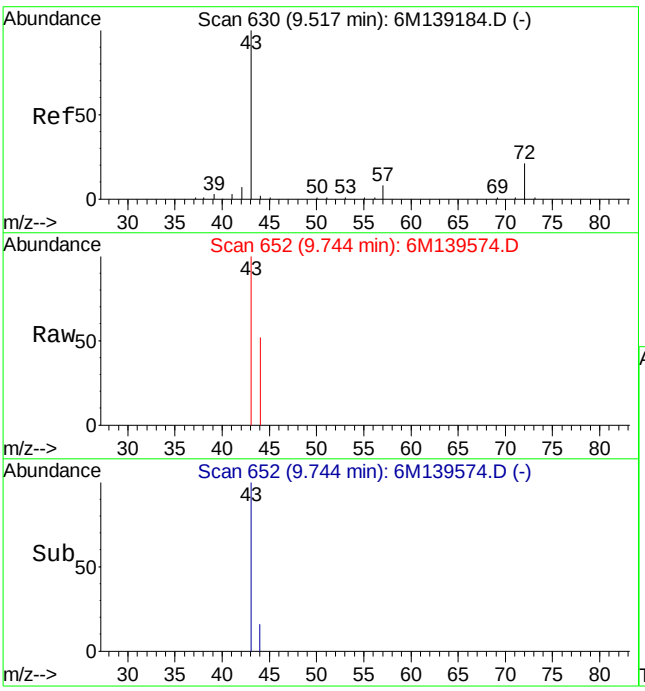


#13
Acetone
Concen: Below Cal
RT: 6.64 min Scan# 348
Delta R.T. -0.02 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 43 Resp: 619

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

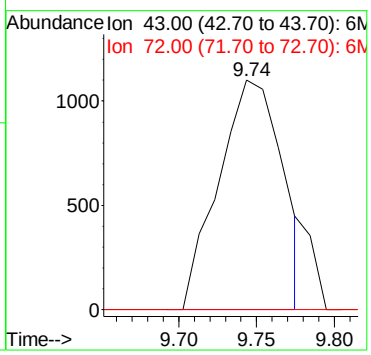


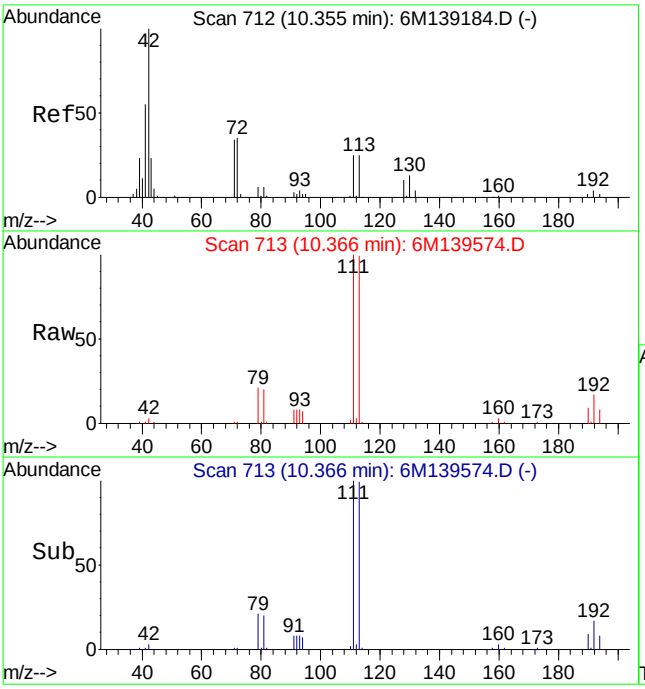


#29
2-Butanone
Concen: 0.98 ug/L
RT: 9.74 min Scan# 652
Delta R.T. 0.23 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 43 Resp: 3141

Ion	Ratio	Lower	Upper
43	100		
72	0.0	11.9	27.9#

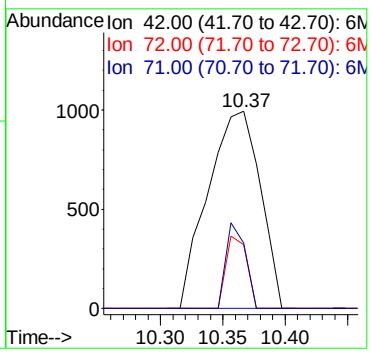


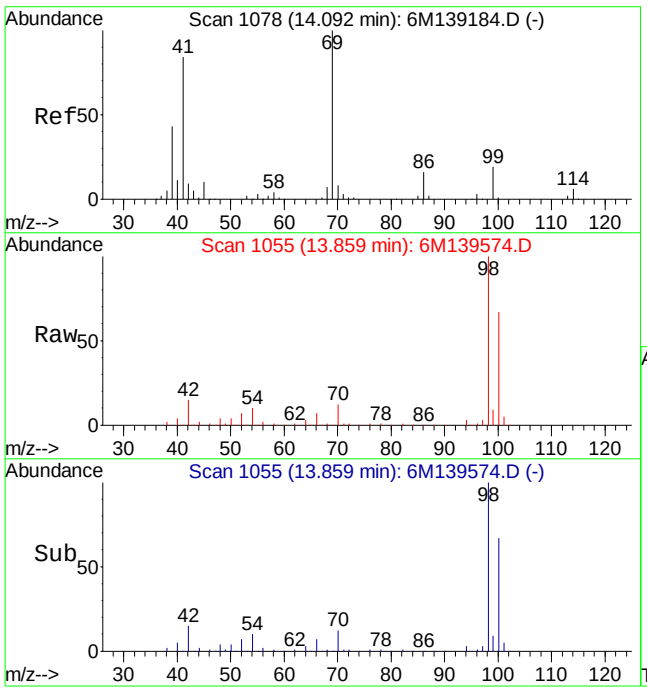


#36
Tetrahydrofuran
Concen: Below Cal
RT: 10.37 min Scan# 713
Delta R.T. 0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 42 Resp: 2904

Ion	Ratio	Lower	Upper
42	100		
72	14.5	20.8	48.4#
71	16.0	19.9	46.5#

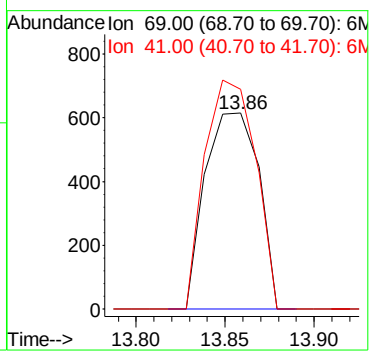




#60
Ethyl Methacrylate
Concen: 0.14 ug/L
RT: 13.86 min Scan# 1055
Delta R.T. -0.23 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 69 Resp: 1284

Ion	Ratio	Lower	Upper
69	100		
41	110.7	51.4	120.0



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139574.D Vial: 5
Acq On : 24 May 2016 8:12 Operator: TMB
Sample : WG569960-01 VBLK0524 BLANK STD 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 10:25:58 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

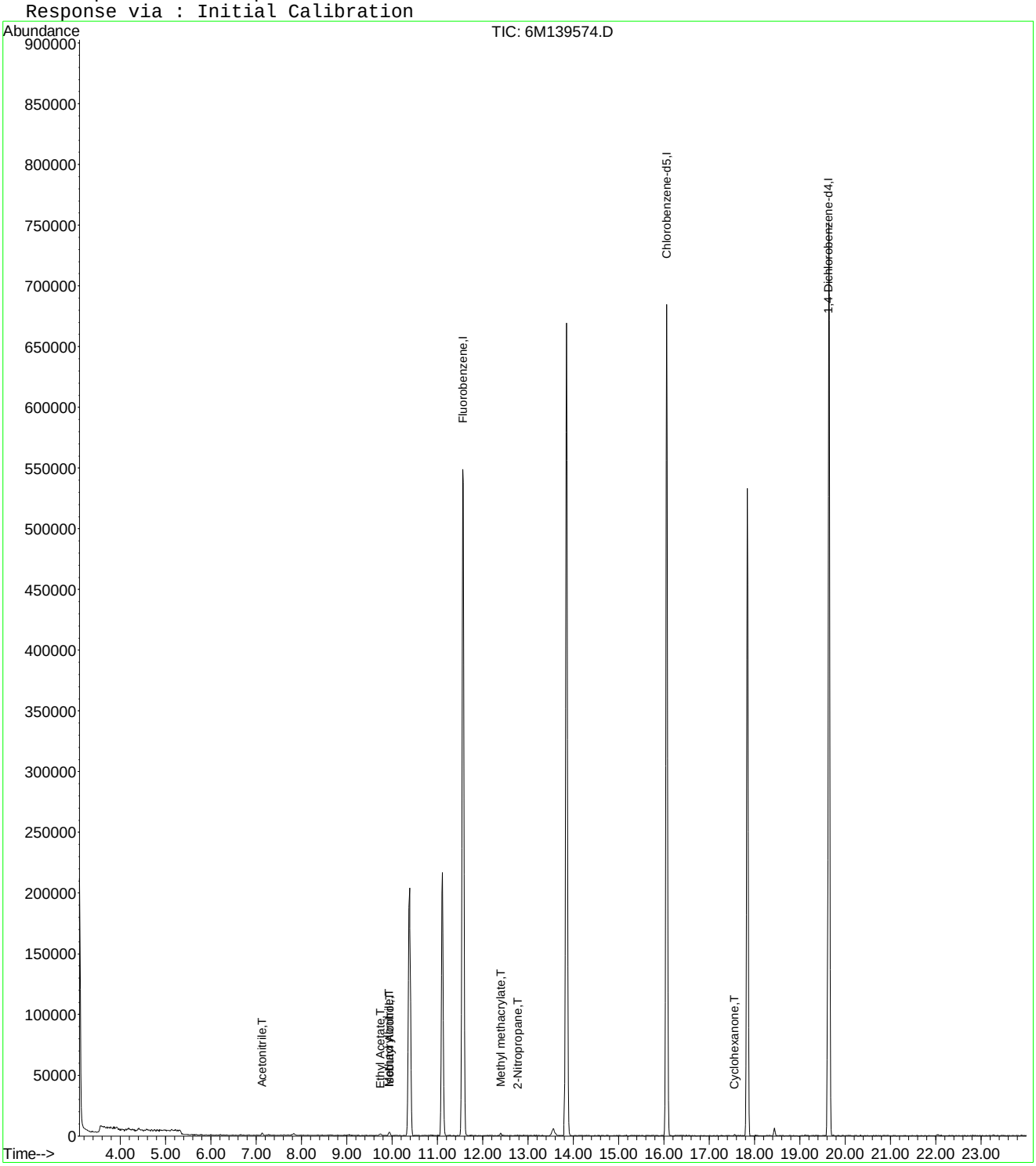
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.56	96	709856	25.00	ug/L	0.00
11) Chlorobenzene-d5	16.06	117	518099	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	19.64	152	270574	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	7.13	41	1673	1.5735	ug/L #	44
5) Ethyl Acetate	9.74	43	3358	0.4412	ug/L #	68
6) Methacrylonitrile	9.93	67	191	0.0728	ug/L #	1
7) Isobutyl Alcohol	9.94	43	1102	4.5455	ug/L #	85
9) Methyl methacrylate	12.40	41	1626	0.2541	ug/L #	50
10) 2-Nitropropane	12.78	43	222	0.0933	ug/L #	1
13) Cyclohexanone	17.56	55	972	2.8818	ug/L #	62

(#) = qualifier out of range (m) = manual integration
6M139574.D A9FOOWT.M Tue May 24 10:25:58 2016 Page 1

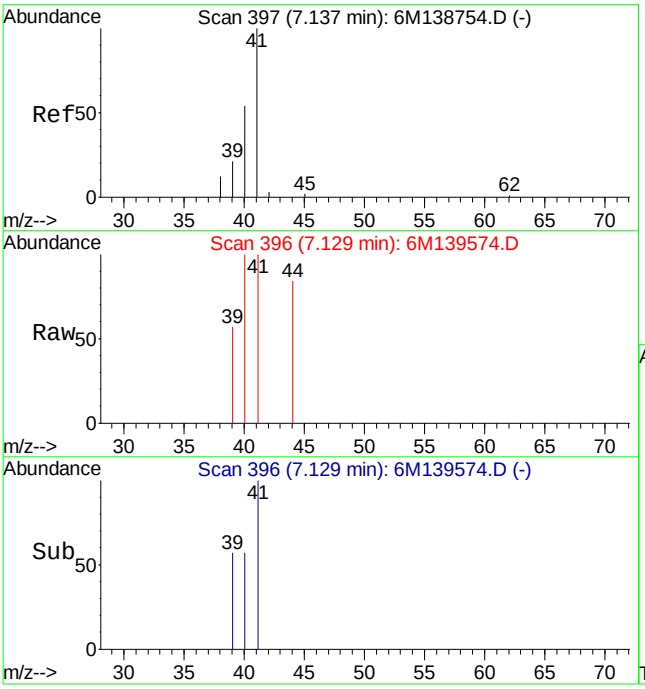
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\6M139574.D Vial: 5
Acq On : 24 May 2016 8:12 Operator: TMB
Sample : WG569960-01 VBLK0524 BLANK STD 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 24 10:25 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:05:13 2016
Response via : Initial Calibration



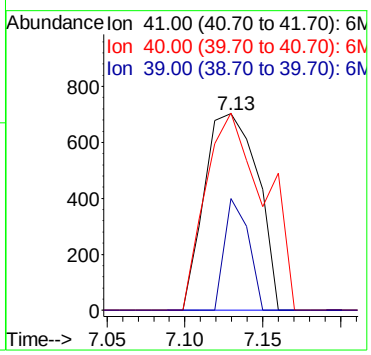
6M139574.D A9FOOWT.M Tue May 24 10:25:58 2016 Page 2

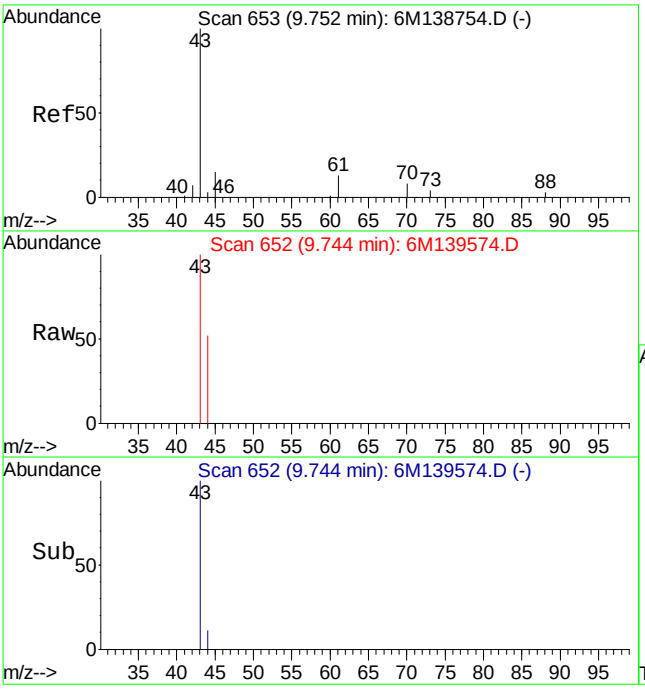


#2
Acetonitrile
Concen: 1.57 ug/L
RT: 7.13 min Scan# 396
Delta R.T. -0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 41 Resp: 1673

Ion	Ratio	Lower	Upper
41	100		
40	110.8	19.8	99.8#
39	25.6	0.0	57.7

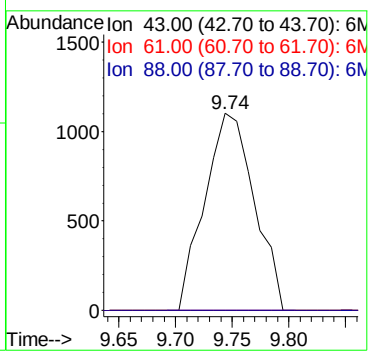


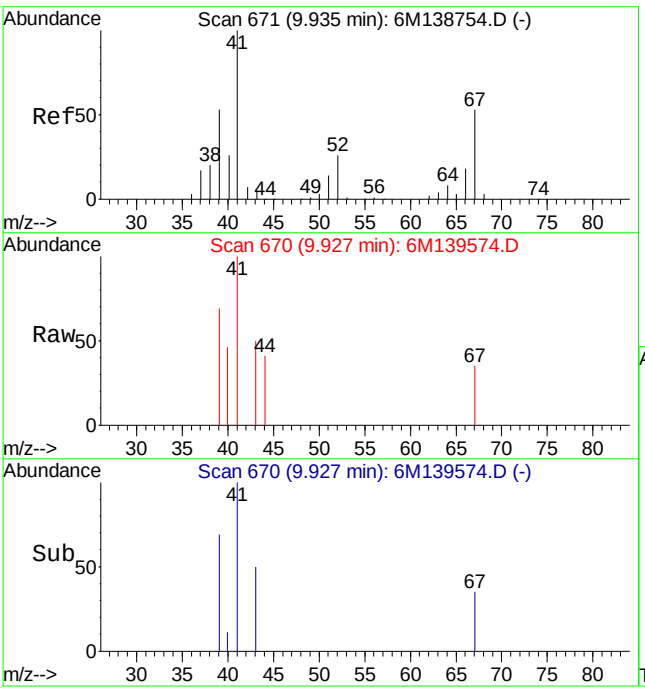


#5
Ethyl Acetate
Concen: 0.44 ug/L
RT: 9.74 min Scan# 652
Delta R.T. -0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 43 Resp: 3358

Ion	Ratio	Lower	Upper
43	100		
61	0.0	9.5	22.1#
88	0.0	2.8	6.4#

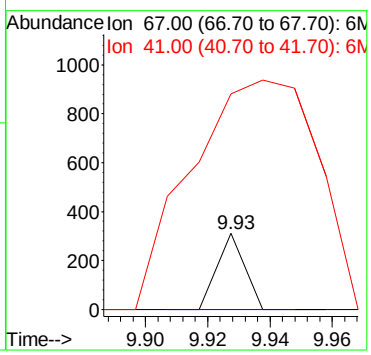


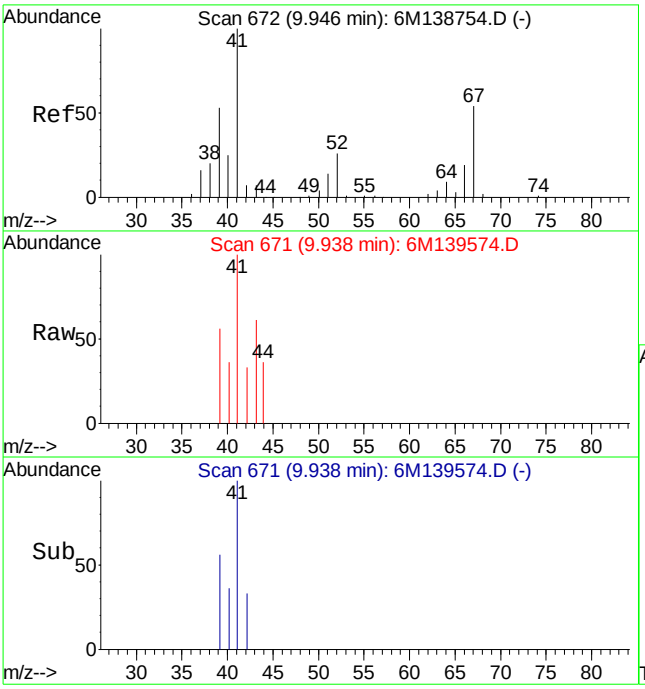


#6
Methacrylonitrile
Concen: 0.07 ug/L
RT: 9.93 min Scan# 670
Delta R.T. -0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 67 Resp: 191

Ion	Ratio	Lower	Upper
67	100		
41	1390.1	112.0	192.0#

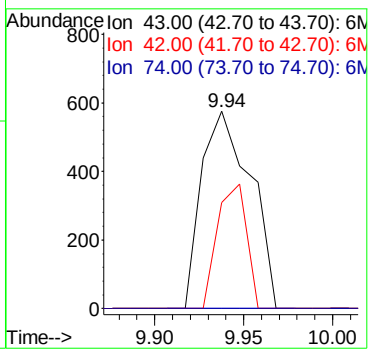


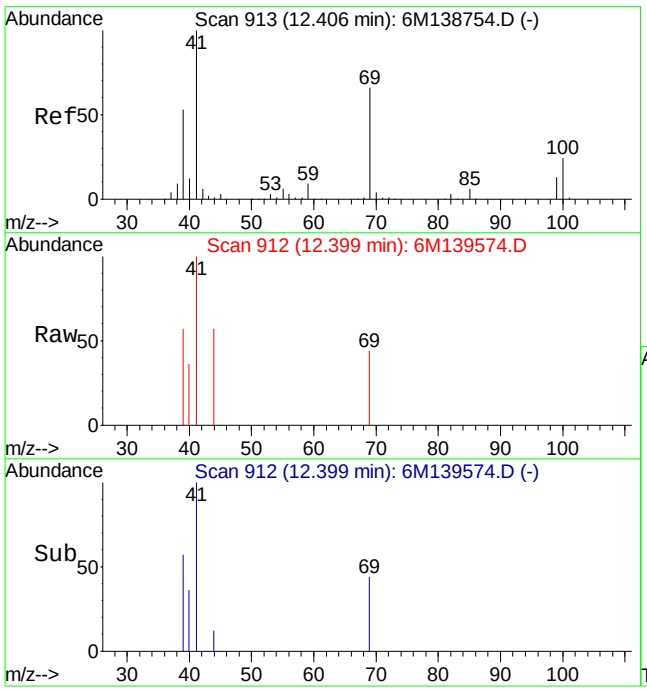


#7
Isobutyl Alcohol
Concen: 4.55 ug/L
RT: 9.94 min Scan# 671
Delta R.T. -0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 43 Resp: 1102

Ion	Ratio	Lower	Upper
43	100		
42	37.4	0.0	40.0
74	0.0	0.0	44.8

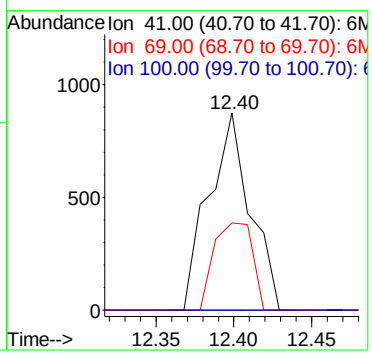


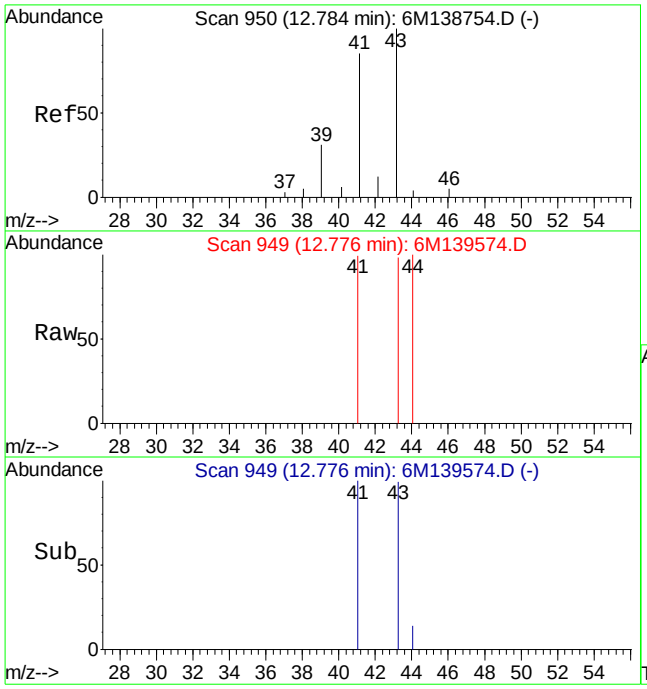


#9
Methyl methacrylate
Concen: 0.25 ug/L
RT: 12.40 min Scan# 912
Delta R.T. 0.00 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 41 Resp: 1626

Ion	Ratio	Lower	Upper
41	100		
69	40.9	42.7	122.7#
100	0.0	0.0	73.7

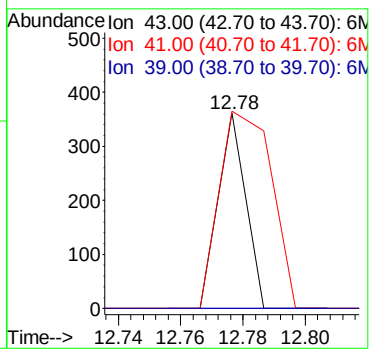


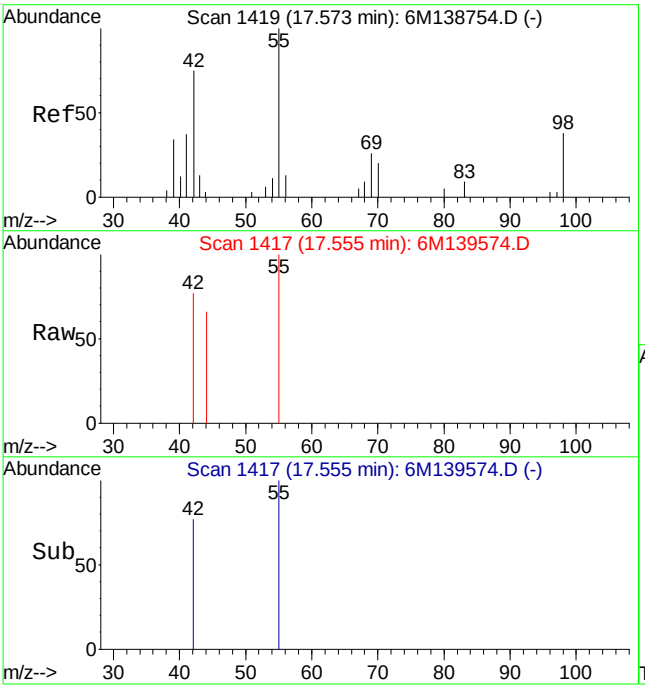


#10
2-Nitropropane
Concen: 0.09 ug/L
RT: 12.78 min Scan# 949
Delta R.T. -0.01 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 43 Resp: 222

Ion	Ratio	Lower	Upper
43	100		
41	191.4	50.0	116.8#
39	0.0	16.6	38.8#

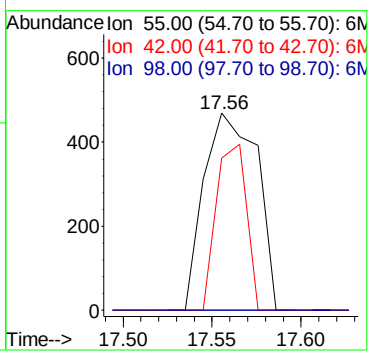




#13
Cyclohexanone
Concen: 2.88 ug/L
RT: 17.56 min Scan# 1417
Delta R.T. -0.02 min
Lab File: 6M139574.D
Acq: 24 May 2016 8:12

Tgt Ion: 55 Resp: 972

Ion	Ratio	Lower	Upper
55	100		
42	47.7	37.1	86.7
98	0.0	25.3	58.9#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12150.D Vial: 23
Acq On : 26 May 2016 00:57 Operator: JDS
Sample : WG570238-06 BLANK2 STD 624 Inst : hpms11
Misc : 2,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:10:16 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

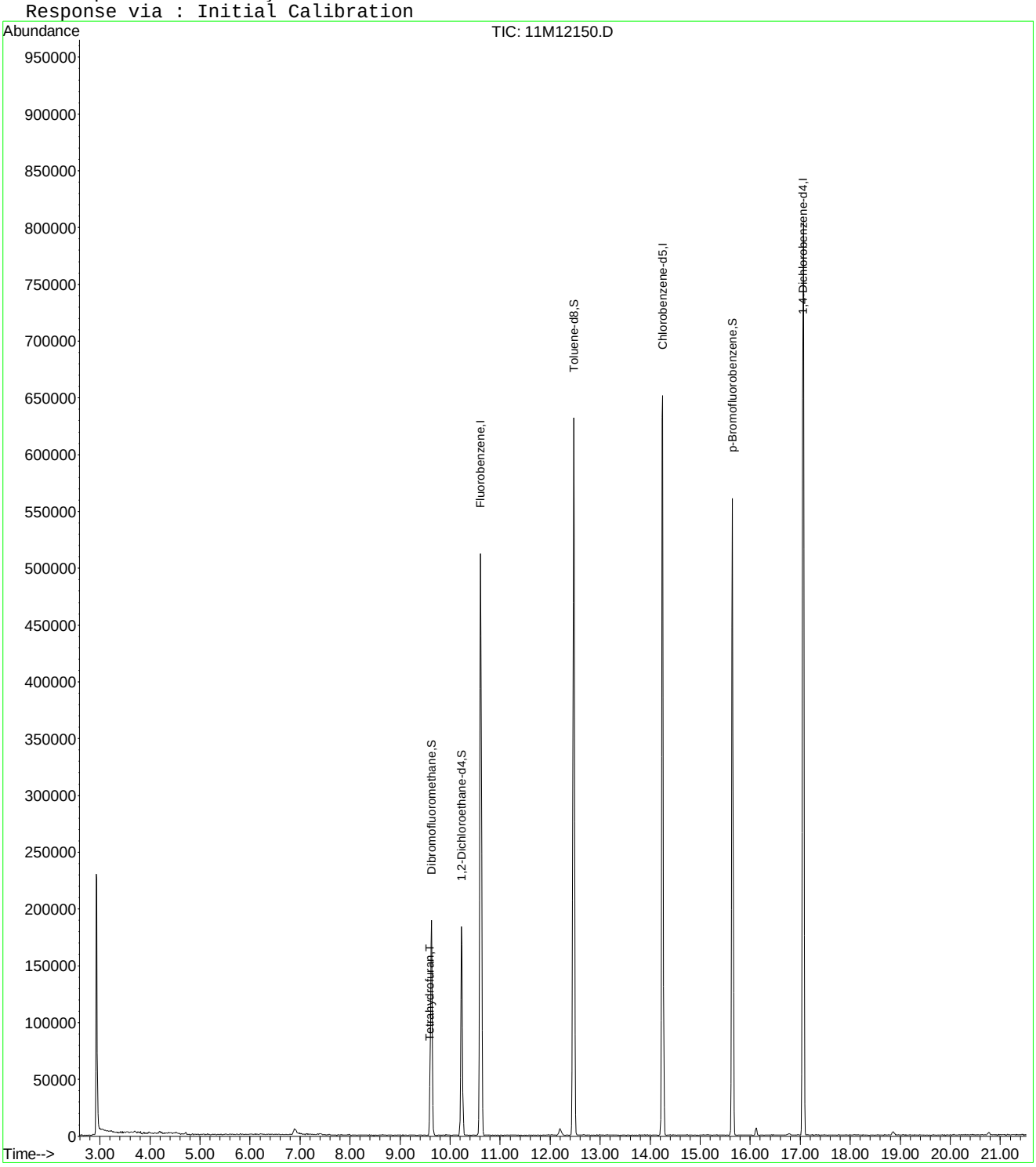
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	562352	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	473880	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	270452	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	152398	24.7621	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.04%			
43) 1,2-Dichloroethane-d4	10.23	65	167467	23.8643	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.44%			
57) Toluene-d8	12.47	98	525488	25.5214	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.08%			
78) p-Bromofluorobenzene	15.64	95	215536	25.8531	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.40%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.60	42	1659	1.1638	ug/L #	59

(#) = qualifier out of range (m) = manual integration
11M12150.D 8260WT.M Thu May 26 11:10:17 2016 Page 1

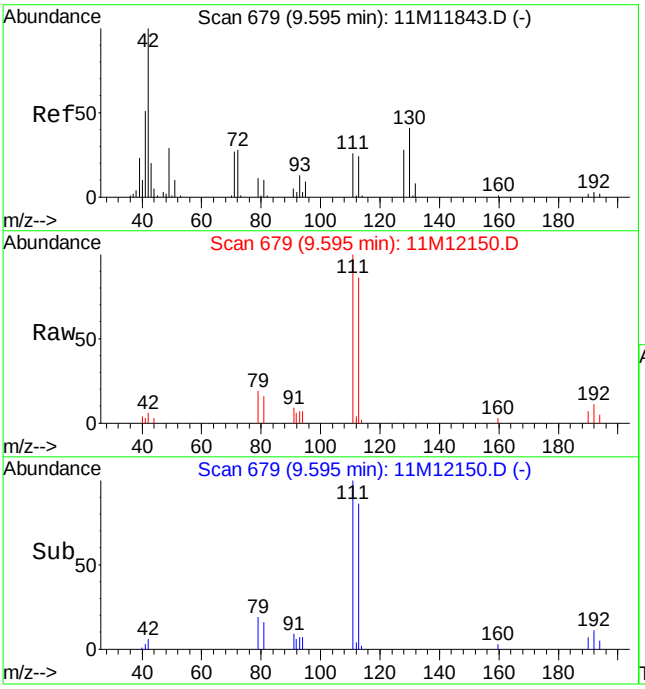
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052516\11M12150.D Vial: 23
Acq On : 26 May 2016 00:57 Operator: JDS
Sample : WG570238-06 BLANK2 STD 624 Inst : hpms11
Misc : 2,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 26 11:10 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



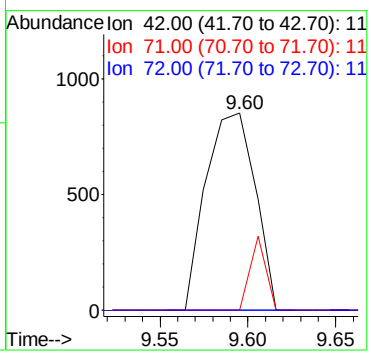
11M12150.D 8260WT.M Thu May 26 11:10:17 2016 Page 2



#36
Tetrahydrofuran
Concen: 1.16 ug/L
RT: 9.60 min Scan# 679
Delta R.T. 0.00 min
Lab File: 11M12150.D
Acq: 26 May 2016 00:57

Tgt Ion: 42 Resp: 1659

Ion	Ratio	Lower	Upper
42	100		
71	12.0	16.4	38.2#
72	0.0	16.6	38.8#



Data File : C:\MSDCHEM\1\DATA\052416\11M12105.D Vial: 5
Acq On : 24 May 2016 16:44 Operator: JDS
Sample : WG570084-02 20ug/L LCS STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:23:00 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	490321	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	417356	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	254483	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	142747	26.6014	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 106.40%			
43) 1,2-Dichloroethane-d4	10.23	65	161584	26.4086	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.64%			
57) Toluene-d8	12.47	98	461133	25.4290	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.72%			
78) p-Bromofluorobenzene	15.64	95	194723	24.8223	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	194936	25.3742	ug/L	99
3) Chloromethane	3.72	50	126593	20.5749	ug/L	99
4) Vinyl Chloride	3.95	62	122335	23.9422	ug/L	98
5) 1,3-Butadiene	3.99	54	43712	8.6035	ug/L	98
6) Bromomethane	4.85	94	72264	20.5696	ug/L	98
7) Chloroethane	5.00	64	71066	21.6466	ug/L	99
8) Trichlorofluoromethane	5.48	101	218514	21.4559	ug/L	99
9) Diethyl ether	6.01	59	398687	105.8503	ug/L	98
10) Isoprene	6.04	67	135680	21.6143	ug/L	97
11) Acrolein	6.23	56	61679	122.3070	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	103929	21.0307	ug/L	97
13) Acetone	6.34	43	25492	21.8948	ug/L	96
14) 1,1-Dichloroethene	6.56	61	175024	19.4987	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	61919	192.2656	ug/L	98
16) Dimethyl Sulfide	6.81	62	131841	36.7785	ug/L	99
17) Iodomethane	7.05	142	120321	30.3031	ug/L	95
18) Methyl acetate	7.07	43	70252	18.5543	ug/L	96
19) Methylene Chloride	7.31	84	92050	19.8149	ug/L	97
20) Carbon Disulfide	7.36	76	287980	19.1638	ug/L	100
21) Acrylonitrile	7.49	53	32575	20.8673	ug/L	99
22) Methyl Tert Butyl Ether	7.52	73	254578	21.9718	ug/L	97
23) trans-1,2-Dichloroethene	7.74	96	100081	20.1457	ug/L	100
24) n-Hexane	7.82	57	151917	18.3603	ug/L	99
25) Diisopropyl ether	8.15	45	2170374	105.1203	ug/L	98
26) Vinyl Acetate	8.31	43	102188	14.5626	ug/L	99
27) 1,1-Dichloroethane	8.34	63	190194	19.0804	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1725104	102.6571	ug/L	99
29) 2-Butanone	8.87	43	35903	20.3975	ug/L	99
30) Propionitrile	8.97	54	51102	99.1242	ug/L	99
31) 2,2-Dichloropropane	9.09	77	166283	21.3210	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	112243	20.4915	ug/L	99
33) Chloroform	9.35	83	197910	20.2180	ug/L	99
34) 1-Bromopropane	9.48	122	26120	27.1358	ug/L	99
35) Bromochloromethane	9.57	130	71798	22.0709	ug/L	95
36) Tetrahydrofuran	9.60	42	108754	87.4972	ug/L	98
38) 1,1,1-Trichloroethane	9.85	97	210771	21.8803	ug/L	99
39) Cyclohexane	9.88	56	204751	19.5035	ug/L	99
40) 1,1-Dichloropropene	10.04	75	133361	19.3896	ug/L	98
41) Carbon Tetrachloride	10.17	117	213335	22.6797	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	1253367	107.3374	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\052416\11M12105.D Vial: 5
Acq On : 24 May 2016 16:44 Operator: JDS
Sample : WG570084-02 20ug/L LCS STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:23:00 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

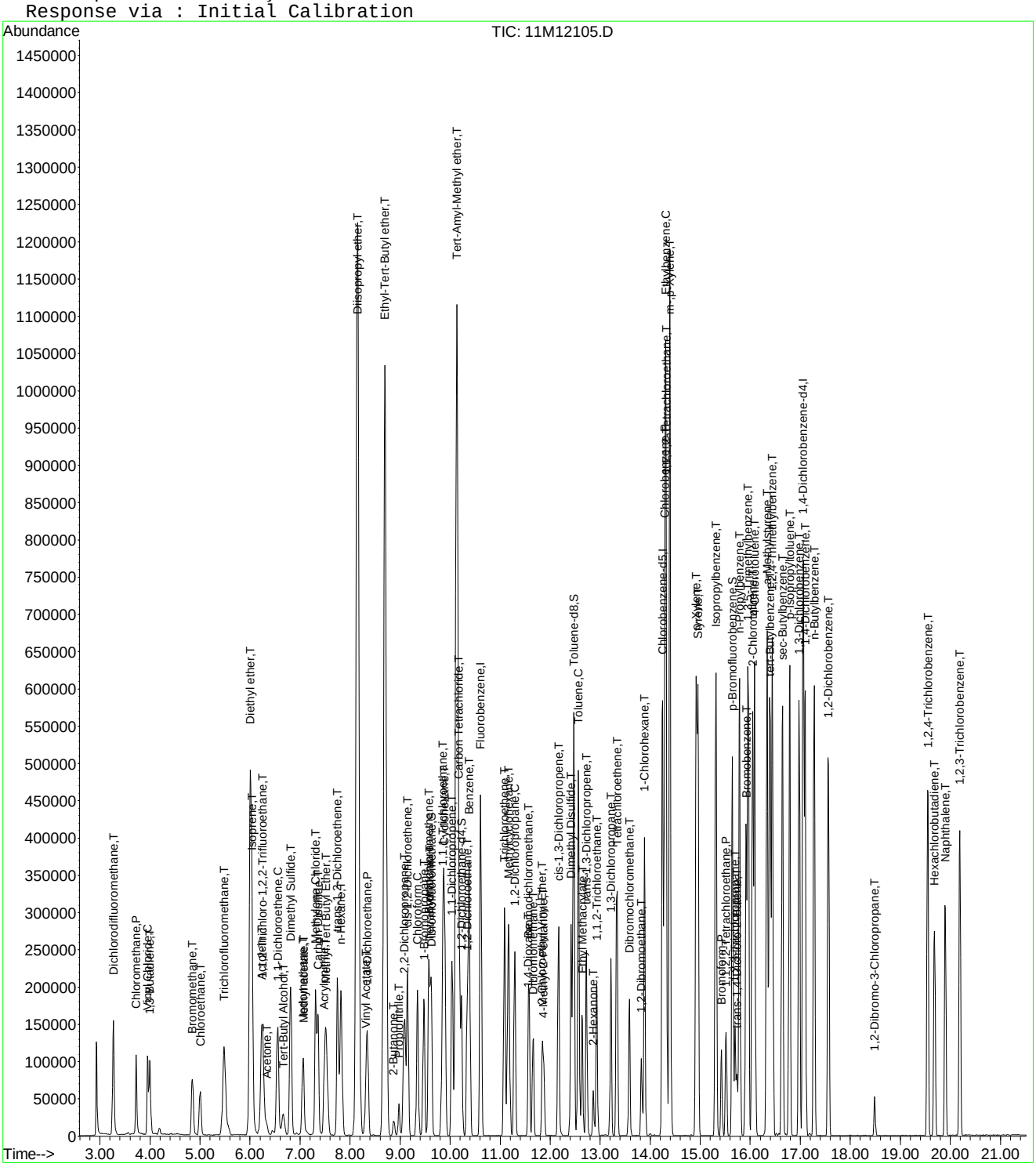
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	180267	22.6741	ug/L	98
45)	Benzene	10.38	78	361420	19.1951	ug/L	99
46)	Trichloroethene	11.08	130	127228	20.7887	ug/L	99
47)	Methylcyclohexane	11.17	83	143154	18.9534	ug/L	98
48)	1,2-Dichloropropane	11.29	63	103139	19.7885	ug/L	92
49)	1,4-Dioxane	11.56	88	3833	138.5868	ug/L	97
50)	Bromodichloromethane	11.57	83	156553	21.3960	ug/L	99
51)	Dibromomethane	11.65	93	56689	20.8720	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.84	63	48317	18.8091	ug/L	95
53)	4-Methyl-2-Pentanone	11.87	58	27404	18.9142	ug/L	93
54)	cis-1,3-Dichloropropene	12.17	75	166010	22.6838	ug/L	99
55)	Dimethyl Disulfide	12.42	79	88916	20.1902	ug/L	94
58)	Toluene	12.56	91	433169	20.5019	ug/L	98
59)	Ethyl Methacrylate	12.65	69	94143	20.8674	ug/L	98
60)	trans-1,3-Dichloropropene	12.73	75	147103	21.6910	ug/L	99
61)	1,1,2-Trichloroethane	12.93	97	77246	20.6181	ug/L	99
62)	2-Hexanone	12.86	43	52554	19.0995	ug/L	98
63)	1,3-Dichloropropane	13.21	76	133297	22.1556	ug/L	97
64)	Tetrachloroethene	13.34	164	99104	20.1705	ug/L	99
65)	Dibromochloromethane	13.59	129	126269	22.0963	ug/L	100
66)	1,2-Dibromoethane	13.82	107	78758	20.9819	ug/L	98
67)	1-Chlorohexane	13.89	91	133651	19.1866	ug/L	98
68)	Chlorobenzene	14.29	112	325244	21.0133	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.32	131	131945	21.0678	ug/L	97
70)	Ethylbenzene	14.31	106	159186	20.0566	ug/L	95
71)	m-,p-Xylene	14.39	106	398348	41.2844	ug/L	96
72)	o-Xylene	14.92	106	197284	21.0094	ug/L	96
73)	Styrene	14.95	104	327397	21.1027	ug/L	98
74)	Bromoform	15.43	173	73032	21.0864	ug/L	99
75)	Isopropylbenzene	15.31	105	525712	21.1697	ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.52	83	76697	19.3536	ug/L	98
79)	1,2,3-Trichloropropane	15.70	110	30667	20.8388	ug/L	87
80)	trans-1,4-Dichloro-2-Buten	15.74	53	25863	14.0823	ug/L	73
81)	n-Propylbenzene	15.79	91	615996	20.9012	ug/L	99
82)	Bromobenzene	15.92	156	155188	20.0669	ug/L	97
83)	1,3,5-Trimethylbenzene	15.95	105	461834	20.5350	ug/L	98
84)	2-Chlorotoluene	16.05	91	428002	20.7339	ug/L	100
85)	4-Chlorotoluene	16.09	91	380746	20.5911	ug/L	98
86)	a-Methylstyrene	16.34	118	254304	21.4340	ug/L	99
87)	tert-Butylbenzene	16.40	134	98822	20.7401	ug/L	99
88)	1,2,4-Trimethylbenzene	16.44	105	476760	20.8178	ug/L	98
89)	sec-Butylbenzene	16.65	105	538204	19.9299	ug/L	100
90)	p-Isopropyltoluene	16.79	119	497752	20.0672	ug/L	99
91)	1,3-Dichlorobenzene	16.98	146	301470	20.1837	ug/L	99
92)	1,4-Dichlorobenzene	17.10	146	306504	20.2450	ug/L	99
93)	n-Butylbenzene	17.28	91	418670	19.1548	ug/L	100
94)	1,2-Dichlorobenzene	17.57	146	280447	20.6117	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.49	75	17401	19.8699	ug/L	91
96)	1,2,4-Trichlorobenzene	19.55	180	185356	18.6172	ug/L	96
97)	Hexachlorobutadiene	19.69	225	71709	16.3490	ug/L	96
98)	Naphthalene	19.90	128	321161	17.3790	ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	169059	18.5019	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12105.D Vial: 5
Acq On : 24 May 2016 16:44 Operator: JDS
Sample : WG570084-02 20ug/L LCS STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:23 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDchem\1\data\052516\11M12132.D Vial: 5
Acq On : 25 May 2016 15:23 Operator: JDS
Sample : WG570238-02 20ug/L LCS STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:44:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	468540	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	399853	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	242886	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	139090	27.1248	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 108.48%			
43) 1,2-Dichloroethane-d4	10.23	65	158962	27.1878	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 108.76%			
57) Toluene-d8	12.47	98	445907	25.6658	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.68%			
78) p-Bromofluorobenzene	15.64	95	187917	25.0984	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	184328	25.1088	ug/L	99
3) Chloromethane	3.72	50	123406	20.9893	ug/L	98
4) Vinyl Chloride	3.95	62	113611	23.2685	ug/L	99
5) 1,3-Butadiene	4.00	54	31438	6.4753	ug/L	98
6) Bromomethane	4.85	94	71297	21.2378	ug/L	100
7) Chloroethane	5.00	64	65602	20.9112	ug/L	97
8) Trichlorofluoromethane	5.48	101	213305	21.9181	ug/L	99
9) Diethyl ether	6.01	59	386382	107.3522	ug/L	98
10) Isoprene	6.04	67	129479	21.5853	ug/L	96
11) Acrolein	6.23	56	55066	114.3688	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	98924	20.9485	ug/L	98
13) Acetone	6.34	43	23002	20.6746	ug/L	97
14) 1,1-Dichloroethene	6.56	61	172260	20.0829	ug/L	97
15) Tert-Butyl Alcohol	6.67	59	51777	168.2474	ug/L	100
16) Dimethyl Sulfide	6.81	62	124469	36.3361	ug/L	97
17) Iodomethane	7.06	142	114950	30.2967	ug/L	94
18) Methyl acetate	7.06	43	66293	18.3069	ug/L	98
19) Methylene Chloride	7.31	84	86651	19.5198	ug/L	99
20) Carbon Disulfide	7.36	76	268721	18.7134	ug/L	100
21) Acrylonitrile	7.49	53	32433	21.7421	ug/L	96
22) Methyl Tert Butyl Ether	7.52	73	244548	22.0873	ug/L	96
23) trans-1,2-Dichloroethene	7.74	96	93704	19.7389	ug/L	96
24) n-Hexane	7.82	57	141591	17.9078	ug/L	100
25) Diisopropyl ether	8.15	45	2078306	105.3405	ug/L	97
26) Vinyl Acetate	8.31	43	86946	13.2331	ug/L	98
27) 1,1-Dichloroethane	8.34	63	185561	19.4810	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	1645863	102.4947	ug/L	99
29) 2-Butanone	8.87	43	34830	20.7078	ug/L	98
30) Propionitrile	8.97	54	47592	96.6073	ug/L	97
31) 2,2-Dichloropropane	9.09	77	162543	21.8103	ug/L	97
32) cis-1,2-Dichloroethene	9.15	96	105797	20.2126	ug/L	97
33) Chloroform	9.35	83	189976	20.3097	ug/L	99
34) 1-Bromopropane	9.48	122	24387	26.5277	ug/L	99
35) Bromochloromethane	9.57	130	68985	22.1920	ug/L	96
36) Tetrahydrofuran	9.60	42	106048	89.2864	ug/L	98
38) 1,1,1-Trichloroethane	9.85	97	206800	22.4661	ug/L	98
39) Cyclohexane	9.88	56	195832	19.5211	ug/L	99
40) 1,1-Dichloropropene	10.04	75	130891	19.9151	ug/L	96
41) Carbon Tetrachloride	10.18	117	204479	22.7488	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	1203585	107.8657	ug/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDchem\1\data\052516\11M12132.D Vial: 5
Acq On : 25 May 2016 15:23 Operator: JDS
Sample : WG570238-02 20ug/L LCS STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:44:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

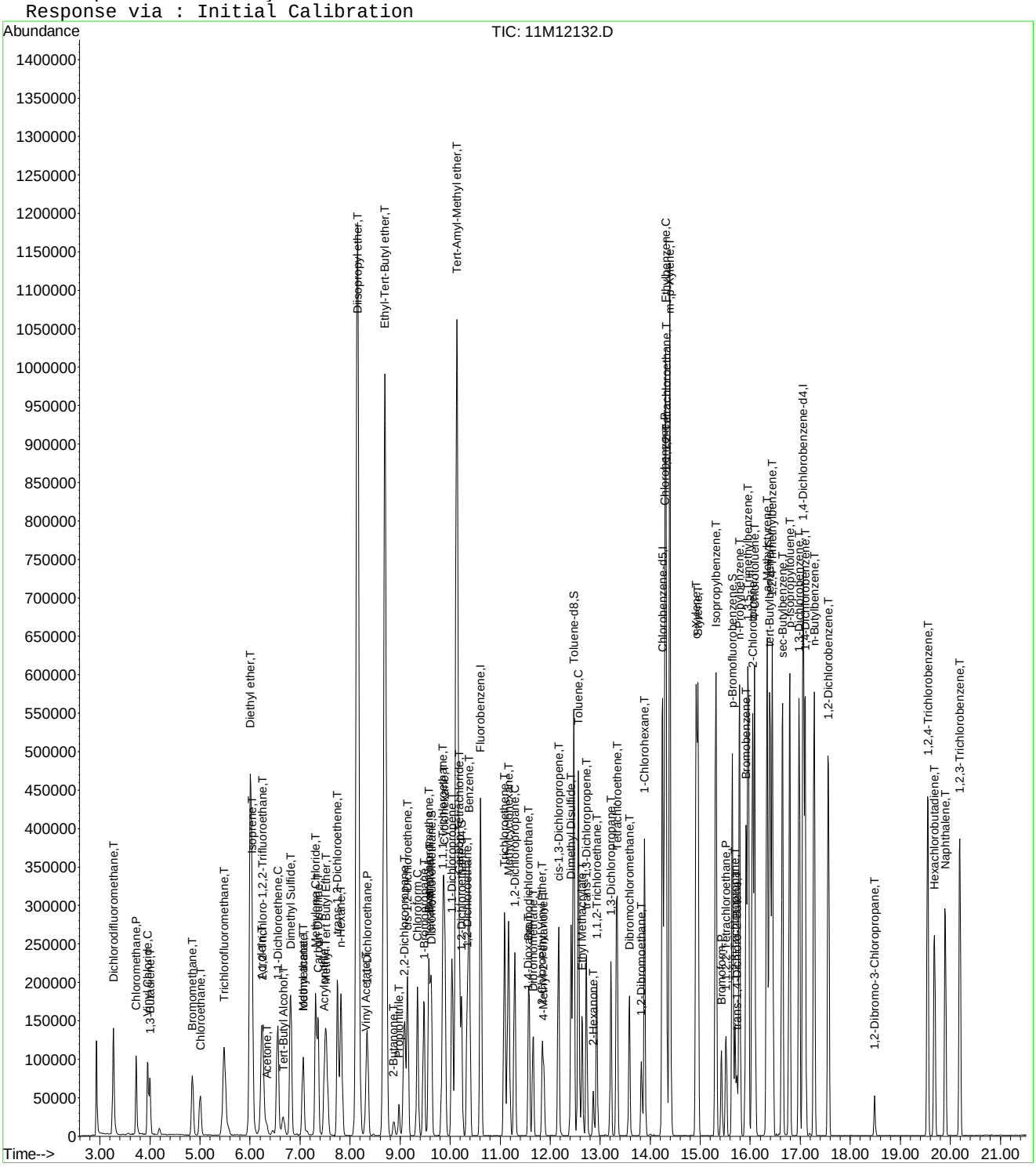
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	178954	23.5554	ug/L	97
45)	Benzene	10.38	78	345313	19.1922	ug/L	100
46)	Trichloroethene	11.08	130	122004	20.8619	ug/L	99
47)	Methylcyclohexane	11.17	83	139910	19.3851	ug/L	99
48)	1,2-Dichloropropane	11.29	63	98119	19.7005	ug/L	90
49)	1,4-Dioxane	11.56	88	3063	119.7073	ug/L	95
50)	Bromodichloromethane	11.57	83	153380	21.9368	ug/L	97
51)	Dibromomethane	11.65	93	55363	21.3313	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.84	63	46865	19.0920	ug/L	98
53)	4-Methyl-2-Pentanone	11.87	58	26638	19.2402	ug/L	95
54)	cis-1,3-Dichloropropene	12.17	75	157897	22.5782	ug/L	99
55)	Dimethyl Disulfide	12.42	79	87979	20.9061	ug/L	95
58)	Toluene	12.56	91	413089	20.4074	ug/L	100
59)	Ethyl Methacrylate	12.64	69	89109	20.6162	ug/L	97
60)	trans-1,3-Dichloropropene	12.73	75	138961	21.3874	ug/L	100
61)	1,1,2-Trichloroethane	12.93	97	74199	20.6717	ug/L	98
62)	2-Hexanone	12.86	43	49504	18.7785	ug/L	99
63)	1,3-Dichloropropane	13.21	76	125617	21.7930	ug/L	96
64)	Tetrachloroethene	13.34	164	93346	19.8302	ug/L	96
65)	Dibromochloromethane	13.59	129	125098	22.8497	ug/L	98
66)	1,2-Dibromoethane	13.82	107	75971	21.1253	ug/L	99
67)	1-Chlorohexane	13.89	91	132875	19.9102	ug/L	100
68)	Chlorobenzene	14.29	112	312370	21.0650	ug/L	98
69)	1,1,1,2-Tetrachloroethane	14.32	131	130170	21.6942	ug/L	99
70)	Ethylbenzene	14.31	106	151655	19.9442	ug/L	94
71)	m-,p-Xylene	14.39	106	379842	41.0897	ug/L	96
72)	o-Xylene	14.92	106	184431	20.5003	ug/L	93
73)	Styrene	14.95	104	315137	21.2016	ug/L	97
74)	Bromoform	15.43	173	68984	20.7895	ug/L	99
75)	Isopropylbenzene	15.31	105	504087	21.1874	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.52	83	72876	19.2674	ug/L	99
79)	1,2,3-Trichloropropane	15.70	110	30325	21.5772	ug/L	81
80)	trans-1,4-Dichloro-2-Buten	15.74	53	27229	15.4573	ug/L	84
81)	n-Propylbenzene	15.79	91	590531	20.9938	ug/L	100
82)	Bromobenzene	15.91	156	148994	20.1858	ug/L	95
83)	1,3,5-Trimethylbenzene	15.95	105	446236	20.7888	ug/L	98
84)	2-Chlorotoluene	16.05	91	405929	20.6035	ug/L	99
85)	4-Chlorotoluene	16.09	91	363279	20.5846	ug/L	99
86)	a-Methylstyrene	16.34	118	245469	21.6772	ug/L	97
87)	tert-Butylbenzene	16.39	134	93337	20.5242	ug/L	96
88)	1,2,4-Trimethylbenzene	16.44	105	452059	20.6817	ug/L	99
89)	sec-Butylbenzene	16.65	105	516041	20.0216	ug/L	100
90)	p-Isopropyltoluene	16.79	119	472250	19.9481	ug/L	99
91)	1,3-Dichlorobenzene	16.98	146	288485	20.2366	ug/L	100
92)	1,4-Dichlorobenzene	17.10	146	296483	20.5181	ug/L	98
93)	n-Butylbenzene	17.28	91	394414	18.9066	ug/L	100
94)	1,2-Dichlorobenzene	17.57	146	273405	21.0536	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.49	75	16469	19.7090	ug/L	85
96)	1,2,4-Trichlorobenzene	19.55	180	178940	18.8309	ug/L	100
97)	Hexachlorobutadiene	19.69	225	69187	16.5271	ug/L	97
98)	Naphthalene	19.90	128	305405	17.3154	ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	155559	17.8373	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M12132.D 8260WT.M Wed May 25 15:44:57 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052516\11M12132.D Vial: 5
Acq On : 25 May 2016 15:23 Operator: JDS
Sample : WG570238-02 20ug/L LCS STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 15:44 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139575.D Vial: 6
Acq On : 24 May 2016 8:44 Operator: TMB
Sample : WG569960-02 20ug/L LCS STD 8260 Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 09:08:20 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	728534	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.06	117	535675	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.64	152	303537	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	191987	25.1036 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.40%		
43) 1,2-Dichloroethane-d4	11.11	65	206833	24.2817 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.12%		
58) Toluene-d8	13.85	98	643544	24.4111 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.64%		
80) p-Bromofluorobenzene	17.84	95	264094	23.4717 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 93.88%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.44	85	279681	24.3768 ug/L	98
3) Chloromethane	3.92	50	283429	18.0135 ug/L	100
4) Vinyl Chloride	4.16	62	206265	20.3862 ug/L	99
5) 1,3-Butadiene	4.20	54	84096	81.7953 ug/L	98
6) Bromomethane	5.07	94	90787	15.8722 ug/L	99
7) Chloroethane	5.23	64	129856	20.0870 ug/L	98
8) Trichlorofluoromethane	5.73	101	262911	20.4796 ug/L	99
9) Diethyl ether	6.29	59	709285	104.3729 ug/L	100
10) Isoprene	6.32	67	243514	37.9889 ug/L	98
11) Acrolein	6.55	56	123618	121.1229 ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.55	101	149980	20.4532 ug/L	99
13) Acetone	6.66	43	44052	17.2728 ug/L	99
14) 1,1-Dichloroethene	6.88	61	244433	18.3987 ug/L	100
15) Tert-Butyl Alcohol	7.02	59	119752	181.7010 ug/L	96
16) Dimethyl Sulfide	7.16	62	223874	51.7160 ug/L	100
17) Iodomethane	7.43	142	161909	42.4186 ug/L	98
18) Methyl acetate	7.45	43	126429	20.3650 ug/L	100
19) Methylene Chloride	7.72	84	152964	19.4933 ug/L	98
20) Carbon Disulfide	7.77	76	494560	35.9774 ug/L	100
21) Acrylonitrile	7.92	53	56000	20.6343 ug/L	99
22) Methyl Tert Butyl Ether	7.96	73	401309	19.8323 ug/L	98
23) trans-1,2-Dichloroethene	8.21	96	149143	19.6327 ug/L	100
24) n-Hexane	8.28	57	238173	29.7137 ug/L	99
25) Diisopropyl ether	8.67	45	3296874	106.0989 ug/L	100
26) Vinyl Acetate	8.85	43	266268	24.8100 ug/L	100
27) 1,1-Dichloroethane	8.89	63	284347	18.7735 ug/L	100
28) Ethyl-Tert-Butyl ether	9.30	59	2483613	96.1453 ug/L	100
29) 2-Butanone	9.52	43	64683	19.5642 ug/L	96
30) Propionitrile	9.63	54	91631	100.9663 ug/L	99
31) 2,2-Dichloropropane	9.75	77	215615	19.3487 ug/L	99
32) cis-1,2-Dichloroethene	9.82	96	165518	19.7235 ug/L	98
33) Chloroform	10.06	83	263520	18.9989 ug/L	99
34) 1-Bromopropane	10.21	122	36613	32.3872 ug/L	100
35) Bromochloromethane	10.32	130	91054	19.7801 ug/L	99
36) Tetrahydrofuran	10.36	42	208178	98.5461 ug/L	98
38) 1,1,1-Trichloroethane	10.65	97	236587	19.4643 ug/L	100
39) Cyclohexane	10.68	56	298947	24.5594 ug/L	99
40) 1,1-Dichloropropene	10.88	75	198338	18.7871 ug/L	97
41) Tert-Amyl-Methyl ether	11.00	73	2032463	101.0021 ug/L	98
42) Carbon Tetrachloride	11.04	117	208622	19.3267 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139575.D 8260WTR.M Tue May 24 09:08:20 2016 Page 1

Data File : C:\MSDchem\1\data\052416\6M139575.D Vial: 6
Acq On : 24 May 2016 8:44 Operator: TMB
Sample : WG569960-02 20ug/L LCS STD 8260 Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 09:08:20 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

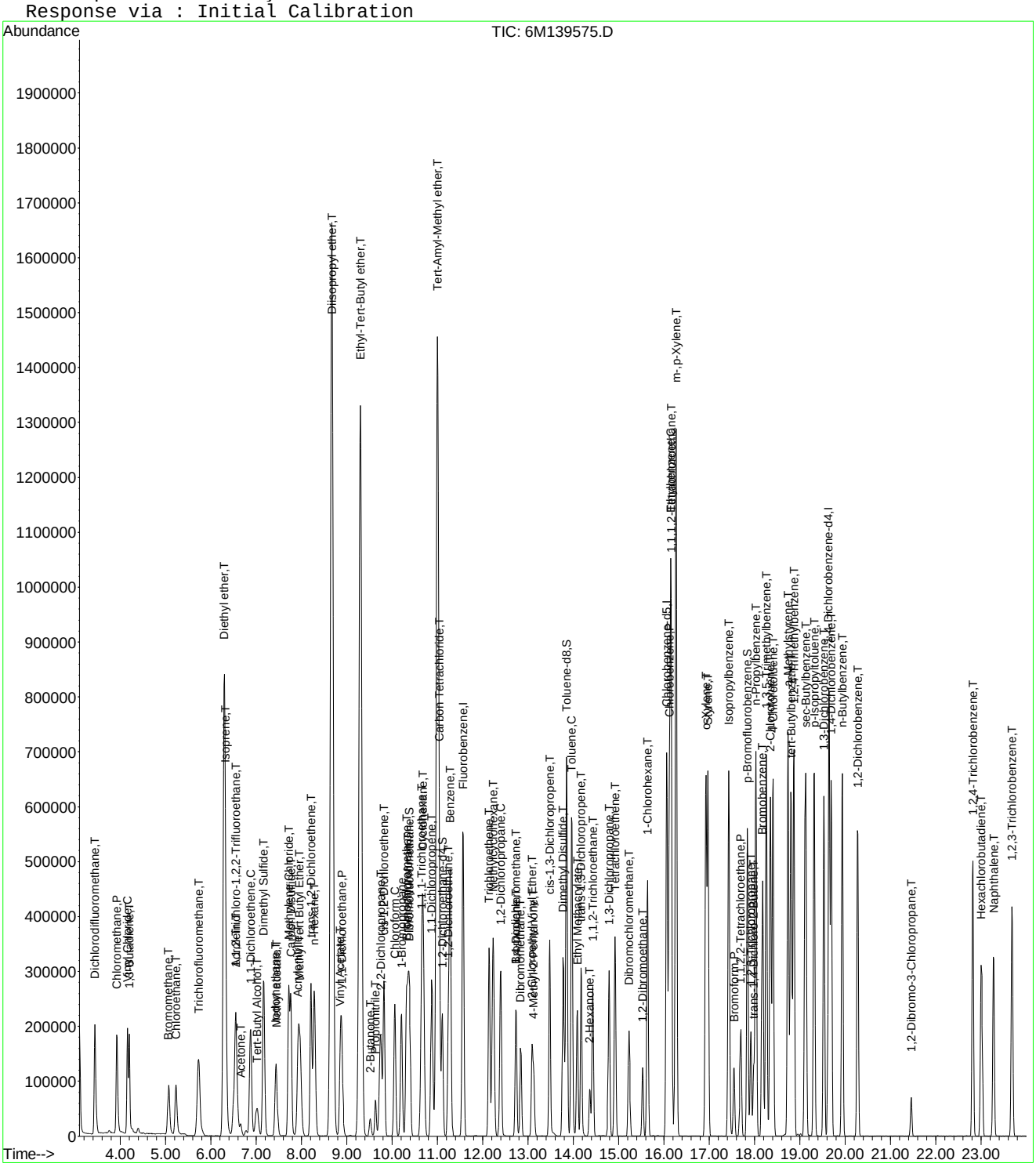
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	11.24	62	205635	19.3056	ug/L	99
46)	Benzene	11.28	78	591102	19.4332	ug/L	100
47)	Trichloroethene	12.14	130	154598	19.4317	ug/L	100
48)	Methylcyclohexane	12.23	83	232667	22.2098	ug/L	100
49)	1,2-Dichloropropane	12.40	63	167475	19.6190	ug/L	100
50)	1,4-Dioxane	12.73	88	9492	160.1226	ug/L	92
51)	Bromodichloromethane	12.73	83	202876	19.5343	ug/L	100
52)	Dibromomethane	12.84	93	81602	18.9726	ug/L	99
53)	2-Chloroethyl Vinyl Ether	13.09	63	82192	19.6003	ug/L	98
54)	4-Methyl-2-Pentanone	13.12	58	47995	18.7566	ug/L	100
55)	cis-1,3-Dichloropropene	13.48	75	255853	21.0116	ug/L	99
56)	Dimethyl Disulfide	13.78	79	131062	19.5604	ug/L	97
59)	Toluene	13.96	91	613945	19.3370	ug/L	99
60)	Ethyl Methacrylate	14.09	69	172697	18.7151	ug/L	99
62)	trans-1,3-Dichloropropene	14.17	75	209671	19.4007	ug/L	99
63)	1,1,2-Trichloroethane	14.43	97	117725	20.0108	ug/L	100
64)	2-Hexanone	14.36	43	92126	17.8788	ug/L	99
65)	1,3-Dichloropropane	14.79	76	216004	20.6492	ug/L	100
66)	Tetrachloroethene	14.92	166	154131	18.6553	ug/L	100
67)	Dibromochloromethane	15.24	129	145981	20.2426	ug/L	100
68)	1,2-Dibromoethane	15.53	107	112431	19.4852	ug/L	98
69)	1-Chlorohexane	15.64	91	202100	18.4851	ug/L	99
70)	Chlorobenzene	16.12	112	411697	19.5699	ug/L	100
71)	1,1,1,2-Tetrachloroethane	16.17	131	149938	19.5626	ug/L	99
72)	Ethylbenzene	16.16	106	215411	18.9262	ug/L	99
73)	m-,p-Xylene	16.27	106	533448	38.9813	ug/L	100
74)	o-Xylene	16.93	106	265636	19.5938	ug/L	100
75)	Styrene	16.97	104	443825	18.9480	ug/L	100
76)	Bromoform	17.55	173	86222	18.6381	ug/L	99
77)	Isopropylbenzene	17.43	105	666728	19.4498	ug/L	100
79)	1,1,2,2-Tetrachloroethane	17.70	83	142069	19.4772	ug/L	100
81)	1,2,3-Trichloropropane	17.92	110	42496	19.9917	ug/L	90
82)	trans-1,4-Dichloro-2-Buten	17.98	53	43518	16.9032	ug/L	93
83)	n-Propylbenzene	18.03	91	828255	19.7792	ug/L	99
84)	Bromobenzene	18.18	156	178762	18.2547	ug/L	99
85)	1,3,5-Trimethylbenzene	18.26	105	567573	18.7714	ug/L	99
86)	2-Chlorotoluene	18.35	91	537488	19.3342	ug/L	100
87)	4-Chlorotoluene	18.41	91	505547	19.0281	ug/L	100
88)	a-Methylstyrene	18.74	118	330889	19.7106	ug/L	99
89)	tert-Butylbenzene	18.81	134	126610	19.1087	ug/L	99
90)	1,2,4-Trimethylbenzene	18.87	105	587909	18.9823	ug/L	99
91)	sec-Butylbenzene	19.13	105	705235	19.3141	ug/L	100
92)	p-Isopropyltoluene	19.32	119	597588	18.9409	ug/L	99
93)	1,3-Dichlorobenzene	19.54	146	356361	19.1307	ug/L	100
94)	1,4-Dichlorobenzene	19.69	146	361201	19.1222	ug/L	99
95)	n-Butylbenzene	19.94	91	558576	18.5968	ug/L	100
96)	1,2-Dichlorobenzene	20.28	146	337296	19.1250	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	21.47	75	24868	18.1477	ug/L	99
98)	1,2,4-Trichlorobenzene	22.82	180	226326	17.9566	ug/L	100
99)	Hexachlorobutadiene	23.01	225	99781	18.0544	ug/L	100
100)	Naphthalene	23.28	128	394266	15.8402	ug/L	100
101)	1,2,3-Trichlorobenzene	23.68	180	204564	17.2708	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M139575.D 8260WTR.M Tue May 24 09:08:20 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\052416\6M139575.D Vial: 6
Acq On : 24 May 2016 8:44 Operator: TMB
Sample : WG569960-02 20ug/L LCS STD 8260 Inst : HPMS6
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 24 9:08 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 05-11-16 - HPMS6
Last Update : Thu May 12 12:57:41 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\052416\11M12106.D Vial: 6
Acq On : 24 May 2016 17:16 Operator: JDS
Sample : WG570084-03 20ug/L LCS2 STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:23:02 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	480929	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	415508	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	241751	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	140963	26.7819	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.12%			
43) 1,2-Dichloroethane-d4	10.23	65	157650	26.2688	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.08%			
57) Toluene-d8	12.47	98	455088	25.2073	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.84%			
78) p-Bromofluorobenzene	15.64	95	194367	26.0818	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.27	85	204915	27.1941	ug/L	97
3) Chloromethane	3.72	50	137201	22.7344	ug/L	99
4) Vinyl Chloride	3.95	62	126736	25.2879	ug/L	99
5) 1,3-Butadiene	3.99	54	45620	9.1544	ug/L	99
6) Bromomethane	4.85	94	70899	20.5752	ug/L	98
7) Chloroethane	5.00	64	69880	21.7010	ug/L	99
8) Trichlorofluoromethane	5.48	101	222460	22.2699	ug/L	98
9) Diethyl ether	6.01	59	396850	107.4202	ug/L	97
10) Isoprene	6.04	67	136598	22.1855	ug/L	98
11) Acrolein	6.23	56	59412	120.1394	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	103736	21.4016	ug/L	98
13) Acetone	6.34	43	24495	21.4494	ug/L	97
14) 1,1-Dichloroethene	6.56	61	173256	19.6787	ug/L	98
15) Tert-Butyl Alcohol	6.66	59	64837	205.2580	ug/L	97
16) Dimethyl Sulfide	6.81	62	131803	37.4859	ug/L	100
17) Iodomethane	7.06	142	146052	36.9863	ug/L	97
18) Methyl acetate	7.06	43	66110	17.7505	ug/L	95
19) Methylene Chloride	7.31	84	91134	20.0008	ug/L	97
20) Carbon Disulfide	7.36	76	290403	19.7024	ug/L	99
21) Acrylonitrile	7.49	53	31580	20.6249	ug/L	98
22) Methyl Tert Butyl Ether	7.52	73	255373	22.4708	ug/L	96
23) trans-1,2-Dichloroethene	7.74	96	98680	20.2516	ug/L	98
24) n-Hexane	7.82	57	153934	18.9673	ug/L	99
25) Diisopropyl ether	8.15	45	2150944	106.2137	ug/L	98
26) Vinyl Acetate	8.31	43	103546	14.9638	ug/L	99
27) 1,1-Dichloroethane	8.34	63	193247	19.7653	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	1696860	102.9483	ug/L	99
29) 2-Butanone	8.87	43	34245	19.8355	ug/L	97
30) Propionitrile	8.97	54	50160	99.1971	ug/L	97
31) 2,2-Dichloropropane	9.09	77	167282	21.8679	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	109204	20.3260	ug/L	95
33) Chloroform	9.35	83	193420	20.1452	ug/L	98
34) 1-Bromopropane	9.48	122	26337	27.8780	ug/L	98
35) Bromochloromethane	9.57	130	69445	21.7645	ug/L	96
36) Tetrahydrofuran	9.60	42	106480	87.3407	ug/L	98
38) 1,1,1-Trichloroethane	9.85	97	210575	22.2869	ug/L	99
39) Cyclohexane	9.88	56	206129	20.0182	ug/L	98
40) 1,1-Dichloropropene	10.04	75	136477	20.2301	ug/L	97
41) Carbon Tetrachloride	10.18	117	203440	22.0501	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	1236244	107.9385	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M12106.D 8260WT.M Wed May 25 09:23:03 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052416\11M12106.D Vial: 6
Acq On : 24 May 2016 17:16 Operator: JDS
Sample : WG570084-03 20ug/L LCS2 STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 09:23:02 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

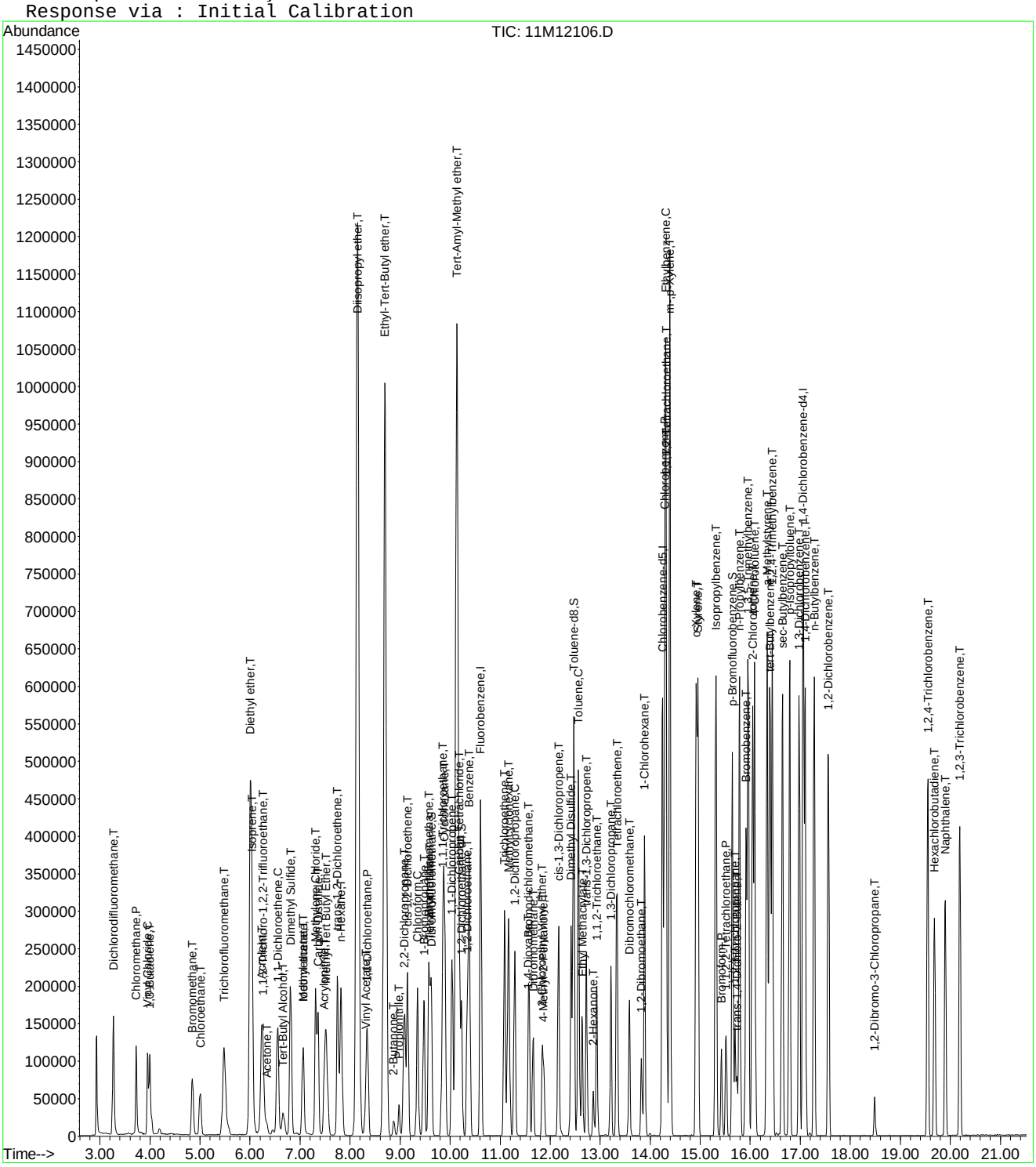
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.34	62	178756	22.9232	ug/L	97
45)	Benzene	10.38	78	363261	19.6696	ug/L	100
46)	Trichloroethene	11.08	130	128431	21.3951	ug/L	99
47)	Methylcyclohexane	11.17	83	144792	19.5447	ug/L	98
48)	1,2-Dichloropropane	11.29	63	102574	20.0644	ug/L	94
49)	1,4-Dioxane	11.56	88	5060	178.4696	ug/L	93
50)	Bromodichloromethane	11.57	83	156055	21.7445	ug/L	99
51)	Dibromomethane	11.66	93	56540	21.2237	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.84	63	48424	19.2189	ug/L	99
53)	4-Methyl-2-Pentanone	11.87	58	27482	19.3385	ug/L	98
54)	cis-1,3-Dichloropropene	12.17	75	160682	22.3846	ug/L	99
55)	Dimethyl Disulfide	12.42	79	90146	20.8692	ug/L	97
58)	Toluene	12.56	91	431002	20.4901	ug/L	100
59)	Ethyl Methacrylate	12.65	69	90571	20.1649	ug/L	99
60)	trans-1,3-Dichloropropene	12.73	75	145271	21.5162	ug/L	99
61)	1,1,2-Trichloroethane	12.93	97	75209	20.1637	ug/L	98
62)	2-Hexanone	12.86	43	51790	18.9055	ug/L	97
63)	1,3-Dichloropropane	13.21	76	128702	21.4870	ug/L	98
64)	Tetrachloroethene	13.34	164	101163	20.6811	ug/L	97
65)	Dibromochloromethane	13.59	129	125166	22.0007	ug/L	100
66)	1,2-Dibromoethane	13.82	107	77639	20.7758	ug/L	100
67)	1-Chlorohexane	13.89	91	138320	19.9452	ug/L	100
68)	Chlorobenzene	14.29	112	327623	21.2612	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.32	131	133844	21.4660	ug/L	100
70)	Ethylbenzene	14.31	106	162076	20.5116	ug/L	99
71)	m-,p-Xylene	14.39	106	397792	41.4101	ug/L	96
72)	o-Xylene	14.92	106	194986	20.8570	ug/L	95
73)	Styrene	14.95	104	331416	21.4568	ug/L	99
74)	Bromoform	15.43	173	71126	20.6274	ug/L	100
75)	Isopropylbenzene	15.31	105	532211	21.5267	ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.52	83	75220	19.9805	ug/L	98
79)	1,2,3-Trichloropropane	15.70	110	29528	21.1166	ug/L	89
80)	trans-1,4-Dichloro-2-Buten	15.74	53	27902	15.8918	ug/L	97
81)	n-Propylbenzene	15.79	91	613810	21.9239	ug/L	99
82)	Bromobenzene	15.91	156	153581	20.9050	ug/L	96
83)	1,3,5-Trimethylbenzene	15.95	105	457906	21.4326	ug/L	100
84)	2-Chlorotoluene	16.05	91	425543	21.7005	ug/L	99
85)	4-Chlorotoluene	16.09	91	380483	21.6606	ug/L	100
86)	a-Methylstyrene	16.34	118	257093	22.8103	ug/L	98
87)	tert-Butylbenzene	16.40	134	98710	21.8076	ug/L	98
88)	1,2,4-Trimethylbenzene	16.44	105	476826	21.9172	ug/L	97
89)	sec-Butylbenzene	16.65	105	544341	21.2188	ug/L	99
90)	p-Isopropyltoluene	16.79	119	498343	21.1491	ug/L	100
91)	1,3-Dichlorobenzene	16.98	146	303958	21.4221	ug/L	100
92)	1,4-Dichlorobenzene	17.10	146	309218	21.4999	ug/L	99
93)	n-Butylbenzene	17.28	91	418327	20.1471	ug/L	99
94)	1,2-Dichlorobenzene	17.57	146	280113	21.6714	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.49	75	16897	20.2963	ug/L	89
96)	1,2,4-Trichlorobenzene	19.55	180	190333	20.1239	ug/L	99
97)	Hexachlorobutadiene	19.69	225	75431	18.1033	ug/L	97
98)	Naphthalene	19.90	128	320630	18.2640	ug/L	100
99)	1,2,3-Trichlorobenzene	20.19	180	168867	19.4542	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M12106.D 8260WT.M Wed May 25 09:23:03 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052416\11M12106.D Vial: 6
Acq On : 24 May 2016 17:16 Operator: JDS
Sample : WG570084-03 20ug/L LCS2 STD 8260 Inst : hpms11
Misc : 1,1 STD76265 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 25 9:23 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



2.1.2 RSK 175

2.1.2.1 Summary Data

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW11-051916	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG569917	**Analyst:**	JDS	**Run Date:**	05/23/2016 18:08
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	16G49988
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.00	U	5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW08-051916	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG569917	**Analyst:**	JDS	**Run Date:**	05/23/2016 18:19
Collect Date:	05/19/2016 09:55	**Dilution:**	1	**File ID:**	16G49989
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	11.3		5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	67WW13-051916	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG569917	**Analyst:**	JDS	**Run Date:**	05/23/2016 18:31
Collect Date:	05/19/2016 11:00	**Dilution:**	1	**File ID:**	16G49990
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.00	U	5.00	2.00	1.00
Ethene	74-85-1	2.00	U	5.00	2.00	1.00
Ethane	74-84-0	2.00	U	5.00	2.00	1.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.1.2.2 QC Summary Data

RSK-175 - Example Calculation for Methane

1.0 Linear Calibration Models

Option A - Average RF Method

ICAL_x	ICAL_r		RF
1.67	19901		11917
6.67	69174		10371
16.7	176923		10594
66.7	685135		10272
133	1324853		9961
300	2845104		9484
		Average RF:	**10433**

Where:
ICAL_x = the ICAL concentration
ICAL_r = the ICAL response (area)
RF = calibration factor = ICAL_r / ICAL_x

Option B - Agilent Linear Regression Constant

ICAL_x	ICAL_r	[ICAL_r}^2	[ICAL-x][ICAL-r]
1.67	19901	396049801	33235
6.67	69174	4785042276	461391
16.7	176923	31301747929	2954614
66.7	685135	4.6941E+11	45698505
133	1324853	1.75524E+12	176205449
300	2845104	8.09462E+12	853531200
Summation:		**1.03557E+13**	**1078884393**

Agilent Linear Regression Constant : **9598.567853**
(1.03557E+13)/1078884393)

2.0 Calculate the concentration in extract, Cx

Where:	
y = area response of methane from quant report	**1157414**
a = average RF (or Agilent regression constant)	**10433.00**
Cx = y/a	**110.9377935**

3.0 Calculate the concentration in sample

Cs = Cx (MW/Tf) (HS/S) (DF)

Where:		
Cx = Concentration in extract	**110.9377935**	umol/mol
MW = molecular weight of analyte	**16.04**	ug/umol
TF = temperature factor = (22.4)(313/273)	**25.68**	L/mol
HS = headspace volume	**0.015**	L
S = sample volume remaining after headspace removal	**0.00547**	L
DF = dilution factor	**2**	
Cs = calculated sample concentration	**380.034301**	ug/L

RSK-175 - Example Calculation for Carbon Dioxide

ICAL Plot - Quadratic Regression (y = Ax^2 + Bx +C)

Ax^2 + Bx + (C - y) = 0

Step 1 - Calculate the concentration in extract, Cx

Data from quadratic regression plot:		
Value of A from plot:	**0.916**	
Value of B from plot:	**1540**	
Value of C from plot:	**0**	
Response for methane from quantitation report (y):	**8763828**	
Value of C - y	**-8763828**	
Solving for Cx using the quadratic formula:		
Root 1 - Computed Cx1:	**2364.716284**	umol/mol
Root 2 - Computed Cx2:	**-4045.938991**	

Step 2 - Calculate the concentration in sample

Cs = Cx (MW/Tf) (HS/S) (DF)

Where:

Cx = Concentration in extract :	**2364.716284**	umol/mol
MW = molecular weight of analyte:	**44.0**	ug/umol
TF = temperature factor = (22.4)(313/273):	**25.68**	L/mol
HS = initial headspace volume (extraction log):	**0.015**	L
S = final volume (extraction log):	**0.00547**	L
DF = dilution factor:	**10**	
Cs = calculated sample concentration:	**111106.798**	ug/L

Other Notes:

Temperature of headspace = 40 C = 313 K

Analyte	MW (g/mol)
Methane	16.04
Ethane	30.07
Ethene	28.05
Propane	44.1
Carbon Dioxide	44.0

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 032516

Analyst1: JDS Analyst2: NA

Method: RSK175 SOP: RSK01 Rev: 19

Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA

CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND

Workgroups: WG562401 WG562514

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49625	RINSE	NA	1	1		03/25/16 11:11
16G49626	WG562401-01 0.67umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:22
16G49627	WG562401-02 1.67umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:34
16G49628	WG562401-03 33.3umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:46
16G49629	WG562401-04 66.7umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:58
16G49630	WG562401-05 133umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:10
16G49631	WG562401-06 333umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:22
16G49632	WG562401-07 533umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:34
16G49633	RINSE	NA	1	1		03/25/16 12:46
16G49634	WG562401-08 133umol/moL ALT SRC STD	NA	1	1	STD68250	03/25/16 13:47
16G49635	WG562401-08 133umol/moL ALT SRC STD	NA	1	1	STD68250	03/25/16 18:26
16G49636	WG562514-01 BLANK STD RSK175	NA	1	1		03/25/16 18:38
16G49637	WG562514-02 67umol/moL LCS STD RSK1	NA	1	1	STD68250	03/25/16 18:50
16G49638	WG562514-03 67umol/moL LCS2 STD RSK	NA	1	1	STD68250	03/25/16 19:02
16G49639	L16031272-14 B A1 RSK175	<2	1	1		03/25/16 19:14
16G49640	L16031272-15 B A1 RSK175	<2	1	1		03/25/16 19:26
16G49641	L16031272-22 B A1 RSK175	<2	1	1		03/25/16 19:38
16G49642	L16031272-03 B D1 10X RSK175	<2	1	10		03/25/16 19:50
16G49643	L16031272-04 B D1 5X RSK175	<2	1	5		03/25/16 20:01
16G49644	L16031272-08 B D1 50X RSK175	<2	1	50		03/25/16 20:13
16G49645	L16031272-19 B D1 10X RSK175	<2	1	10		03/25/16 20:25
16G49646	WG562401-09 133umol/moL CCV STD RSK	NA	1	1	STD75351	03/25/16 20:37
16G49647	L16031363-04 A RSK175	<2	1	1		03/25/16 20:49
16G49648	L16031363-05 A RSK175	<2	1	1		03/25/16 21:01
16G49649	L16031363-11 A RSK175	<2	1	1		03/25/16 21:12
16G49650	L16031363-12 A RSK175	<2	1	1		03/25/16 21:24
16G49651	L16031363-17 A RSK175	<2	1	1		03/25/16 21:36
16G49652	L16031388-01 A RSK175	<2	1	1		03/25/16 21:48
16G49653	WG562401-10 133umol/moL CCV STD RSK	NA	1	1	STD75351	03/25/16 21:59

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X			CO2

Approved: April 01, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 032516

Analyst1: JDS Analyst2: NA

Method: RSK175 SOP: RSK01 Rev: 19

Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA

CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND

Workgroups: WG562401 WG562514

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 16G49634				
	Alt. Src. failed low for CO2			
23	X	50	Over Calibration Range	m
File ID: 16G49647				
	L16031363-04			
24	X	20	Over Calibration Range	m
File ID: 16G49648				
	L16031363-05			
25	X	5	Over Calibration Range	m
File ID: 16G49649				
	L16031363-11			
26	X	5	Over Calibration Range	m
File ID: 16G49650				
	L16031363-12			
27	X	10	Over Calibration Range	m
File ID: 16G49651				
	L16031363-17			
28	X	5	Over Calibration Range	m, p
File ID: 16G49652				
	L16031388-01 took prop. hit with high failing prop result in CCV.			
33			Check Standard Failure	p
File ID: 16G49653				
	WG562401-10 failed high for prop.			

Approved: April 01, 2016

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 052316

Analyst1: JDS Analyst2: NA

Method: RSK175 SOP: RSK01 Rev: 19

Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID: 53763

Internal Standard: NA Surrogate Standard: NA

CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND

Workgroups: WG569917

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49983	WG569916-01 133umol/moL CCV STD RSK	NA	1	1	STD75351	05/23/16 13:37
16G49984	WG569917-01 BLANK STD RSK175	NA	1	1		05/23/16 17:21
16G49985	WG569917-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	05/23/16 17:33
16G49986	WG569917-03 67umol/mol LCS2 STD RSK1	NA	1	1	STD68250	05/23/16 17:45
16G49987	L16051018-01 B D1 10X RSK175	<2	1	10		05/23/16 17:57
16G49988	L16051153-15 A RSK175	<2	1	1		05/23/16 18:08
16G49989	L16051153-16 A RSK175	<2	1	1		05/23/16 18:19
16G49990	L16051153-17 A RSK175	<2	1	1		05/23/16 18:31
16G49991	WG569916-02 133umol/moL CCV STD RSK	NA	1	1	STD75351	05/23/16 18:43

Approved: May 31, 2016

Page: 1

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B220401

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG562401-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-04	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-05	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-06	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-07	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-08	15	mL	15	mL					5.47	mL	5.47	mL	40

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B223275

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG569916-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG569916-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG569917-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16051018-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16051153-17	15	mL	15	mL					5.47	mL	5.47	mL	40
WG569917-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
WG569917-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16051153-15	15	mL	15	mL					5.47	mL	5.47	mL	40
L16051153-16	15	mL	15	mL					5.47	mL	5.47	mL	40

Microbac Laboratories Inc.

Data Checklist

Date: 25-MAR-2016
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 74110
Analytical Workgroups: WG562401 WG562514

Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the resonableness of the results	X

Primary Reviewer:
31-MAR-2016

Secondary Reviewer:
01-APR-2016

CHECKLIST1 - Modified 03/05/2008
Generated: APR-01-2016 11:20:23

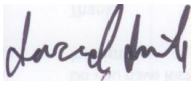
Microbac Laboratories Inc.

Data Checklist

Date: 23-MAY-2016
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 75313
Analytical Workgroups: WG569917

Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the resonableness of the results	X

Primary Reviewer:
25-MAY-2016



Secondary Reviewer:
31-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-31-2016 15:50:51

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: RSK175 **AAB#:** WG569917

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-051916	15	05/19/16					05/23/2016	4.4	14		05/23/16	4.4	14	
67WW08-051916	16	05/19/16					05/23/2016	4.4	14		05/23/16	4.4	14	
67WW13-051916	17	05/19/16					05/23/2016	4.3	14		05/23/16	4.3	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4780650
Report generated 05/31/2016 15:47

METHOD BLANK SUMMARY

Login Number: L16051153
Work Group: WG569917
Blank File ID: 16G49984
Blank Sample ID: WG569917-01
Prep Date: 05/23/16 17:21
Instrument ID: HP16
Analyzed Date: 05/23/16 17:21
Method: RSK175
Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569917-02	16G49985	05/23/16 17:33	01
LCS2	WG569917-03	16G49986	05/23/16 17:45	01
67WW11-051916	L16051153-15	16G49988	05/23/16 18:08	01
67WW08-051916	L16051153-16	16G49989	05/23/16 18:19	01
67WW13-051916	L16051153-17	16G49990	05/23/16 18:31	01

Report Name: BLANK_SUMMARY
PDF File ID: 4780651
Report generated 05/31/2016 15:47

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/23/16 17:21 Sample ID: WG569917-01
Instrument ID: HP16 Run Date: 05/23/16 17:21 Prep Method: 5021
File ID: 16G49984 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG569917 Matrix: Water Units: ug/L
Contract #: Cal ID: HP16-25-MAR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Methane	1.00	5.00	1.00	1	U
Ethene	1.00	5.00	1.00	1	U
Ethane	1.00	5.00	1.00	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4780652
31-MAY-2016 15:47

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: JDS Prep Method: 5021
Instrument ID: HP16 Matrix: Water Method: RSK175
Workgroup (AAB#): WG569917 Units: ug/L
QC Key: DOD4 Lot #: STD68250

Sample ID: WG569917-02 LCS File ID: 16G49985 Run Date: 05/23/2016 17:33
Sample ID: WG569917-03 LCS2 File ID: 16G49986 Run Date: 05/23/2016 17:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methane	114	114	99.8	114	112	97.7	2.11	85 - 115	20	
Ethene	200	194	97.1	200	186	93.2	4.10	85 - 115	20	
Ethane	214	211	98.8	214	203	95.1	3.84	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4780653
Report generated: 05/31/2016 15:47

Calibration Table Report
Method: RSKEXT1.M
Title: RSK175 HP16 (SOP: OVL RSK01) 032516
Last Calibration: Fri Mar 25 13:38:01 2016
Curve: WG562401
Calibration Files

		0.67	1.67	33.3	66.7	133	333	533			
		16G49626.	16G49627.	16G49628.	16G49629.	16G49630.	16G49631.	16G49632.D			
	Compound								Avg	%RSD	Linear
T	methane		357678.3	191763.4	178440.8	176333.2	180289.8	181011.4	210919.0	34.2	1.00
T	ethene		326426.9	323789.7	303078.0	300924.8	311353.3	306803.0	312063.0	3.4	
T	acetylene		320308.2	339363.3	305153.5	300205.1	309436.5	299142.0	312268.0	4.9	
T	ethane	315183.9	335780.5	332335.5	309080.0	306732.7	318673.0	314718.5	318929.0	3.5	
T	propane	455610.0	490813.9	490102.0	464477.8	457676.8	478108.3	465536.1	471761.0	3.1	
T	n-butane	583900.4	644607.5	634321.2	604644.0	590464.7	622084.9	599806.6	611404.0	3.7	
	Signal #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
T	carbon dioxide		4817.9	5324.5	5339.4	5356.8	5546.3	5286.4	5278.5	4.6	

Mon Mar 28 10:00:37 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16051153 Run Date: 03/25/2016 Sample ID: WG562401-08
Instrument ID: HP16 Run Time: 18:26 Method: RSK175
File ID: 16G49635 Analyst: JDS QC Key: DOD4
ICal Workgroup: WG562401 Cal ID: HP16 - 25-MAR-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
methane		228	235	ug/L	187000	3.20	15	
ethene		398	400	ug/L	314000	0.500	15	
ethane		427	434	ug/L	324000	1.70	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4780654
Report generated 05/31/2016 15:47

Login Number: L16051153 Run Date: 05/23/2016 Sample ID: WG569916-01
Instrument ID: HP16 Run Time: 13:37 Method: RSK175
File ID: 16G49983 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569917 Cal ID: HP16 - 25-MAR-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	213	ug/L	170000	6.33	15	
ethene		398	367	ug/L	287000	7.98	15	
ethane		427	391	ug/L	292000	8.30	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4780655
Report generated 05/31/2016 15:47

Login Number: L16051153 Run Date: 05/23/2016 Sample ID: WG569916-02
Instrument ID: HP16 Run Time: 18:43 Method: RSK175
File ID: 16G49991 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569917 Cal ID: HP16 - 25-MAR-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	213	ug/L	170000	6.33	15	
ethene		398	356	ug/L	279000	10.5	15	
ethane		427	383	ug/L	286000	10.4	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4780655
Report generated 05/31/2016 15:47

2.1.2.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49988.D Vial: 6
Acq On : 23 May 2016 18:08 Operator: JDS
Sample : L16051153-15 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:14:24 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	382152	0.508	umol/
2) T	ethene	1.06	9685	0.031	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.39	10059	0.032	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/

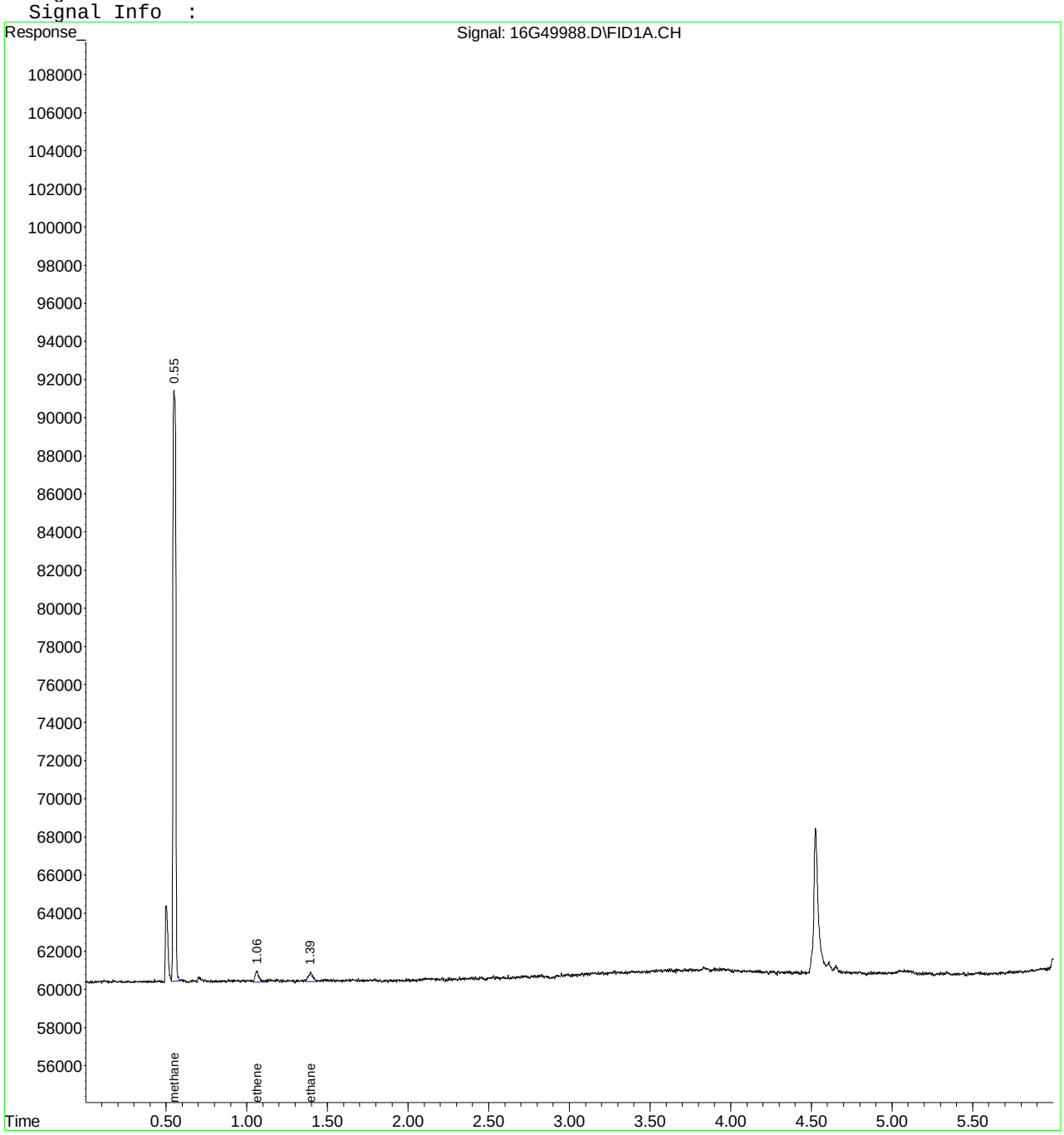
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49988.D RSK1.M Mon May 23 18:14:25 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49988.D Vial: 6
Acq On : 23 May 2016 18:08 Operator: JDS
Sample : L16051153-15 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:14 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49989.D Vial: 7
Acq On : 23 May 2016 18:19 Operator: JDS
Sample : L16051153-16 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:25:48 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	1471774	6.593	umol/
2) T	ethene	1.06	29093	0.093	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.40	23161	0.073	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/

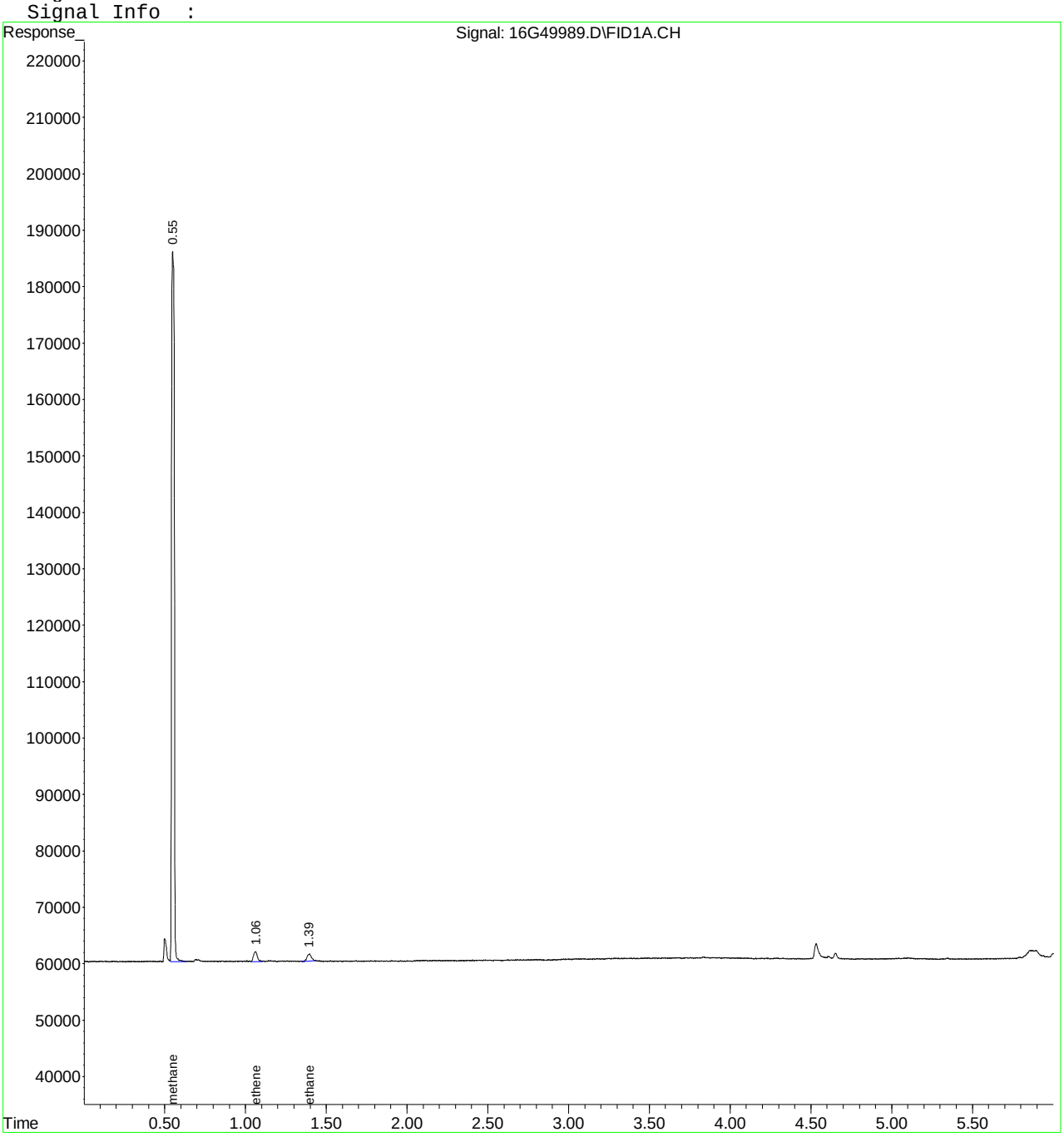
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49989.D RSK1.M Mon May 23 18:25:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49989.D Vial: 7
Acq On : 23 May 2016 18:19 Operator: JDS
Sample : L16051153-16 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:25 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49990.D Vial: 8
Acq On : 23 May 2016 18:31 Operator: JDS
Sample : L16051153-17 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:37:34 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	249415	N.D.	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.39	25230	0.079	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/

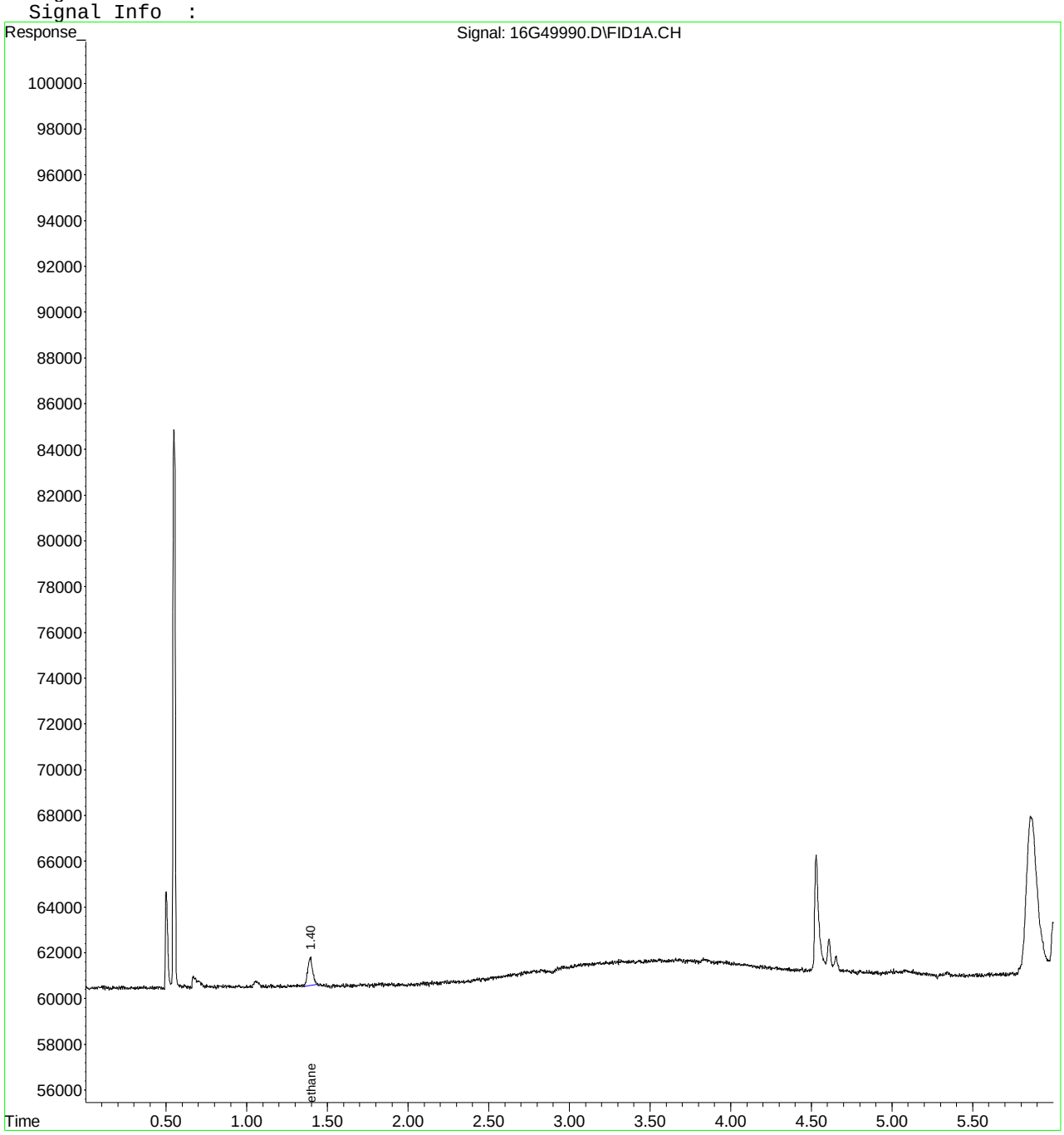
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49990.D RSK1.M Mon May 23 18:37:35 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49990.D Vial: 8
Acq On : 23 May 2016 18:31 Operator: JDS
Sample : L16051153-17 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:37 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



2.1.2.4 Standards Data

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49626.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49626.D\TCD2B.CH
Acq On : 25 Mar 2016 11:22 Operator: JDS
Sample : WG562401-01 0.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:32:57 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:31:58 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

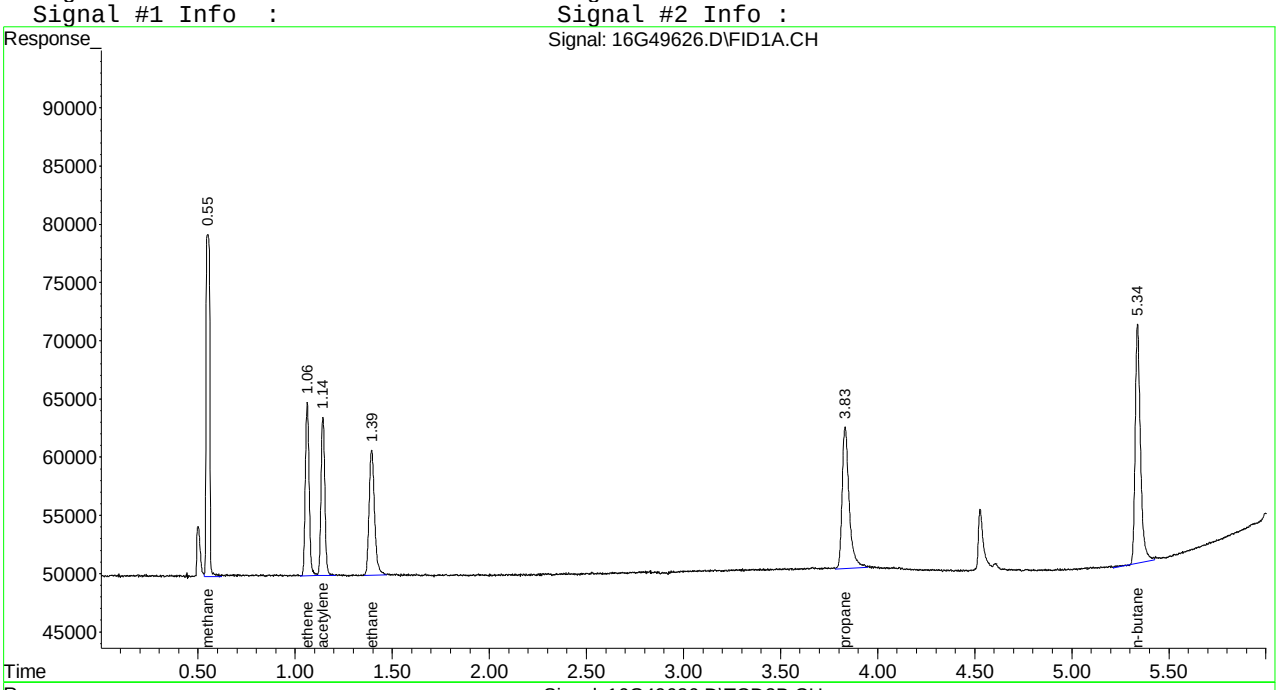
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	386491	0.533	umol/
2) T	ethene	1.06	205756	0.659	umol/
3) T	acetylene	1.14	186400	0.597	umol/
4) T	ethane	1.39	210228	0.659	umol/
5) T	propane	3.83	303892	0.644	umol/
6) T	n-butane	5.34	389462	0.637	umol/
8) T	carbon dioxide	0.00	0	N.D.	umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49626.D RSKEXT1.M Fri Mar 25 13:33:07 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49626.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49626.D\TCD2B.CH
Acq On : 25 Mar 2016 11:22 Operator: JDS
Sample : WG562401-01 0.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:32 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:31:58 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:38:12 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

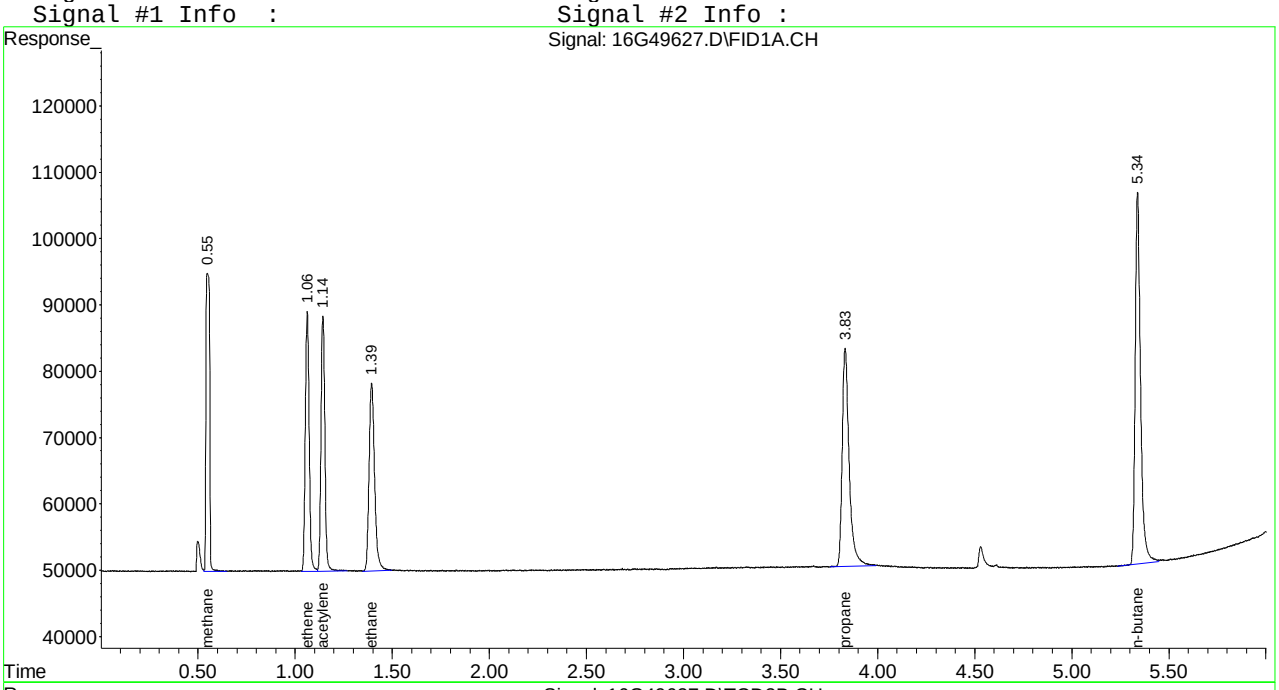
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	597323	1.710	umol/
2) T	ethene	1.06	545133	1.747	umol/
3) T	acetylene	1.14	534915	1.713	umol/
4) T	ethane	1.39	560754	1.758	umol/
5) T	propane	3.83	819659	1.737	umol/
6) T	n-butane	5.34	1076495	1.761	umol/
8) T	carbon dioxide	0.20	9635725	1825.458	umol/

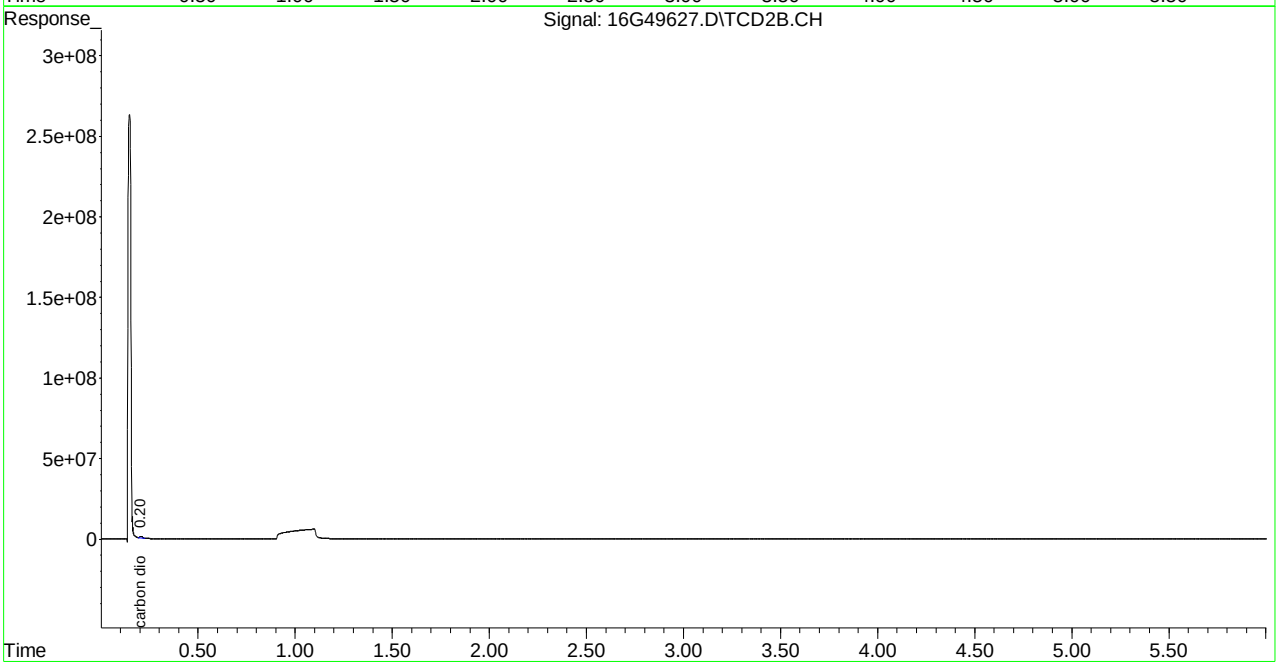
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49627.D RSKEXT1.M Fri Mar 25 13:38:12 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:38 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	1.670	1.710	-2.4	100	0.00
2	T	ethene	1.670	1.747	-4.6	100	0.00
3	T	acetylene	1.670	1.713	-2.6	100	0.00
4	T	ethane	1.670	1.758	-5.3	100	0.00
5	T	propane	1.670	1.737	-4.0	100	0.00
6	T	n-butane	1.670	1.761	-5.4	100	0.00
		Signal #2					
8	T	carbon dioxide	2000.000	1825.458	8.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49627.D RSKEXT1.M Fri Mar 25 13:38:22 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49628.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49628.D\TCD2B.CH
Acq On : 25 Mar 2016 11:46 Operator: JDS
Sample : WG562401-03 33.3umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:25 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

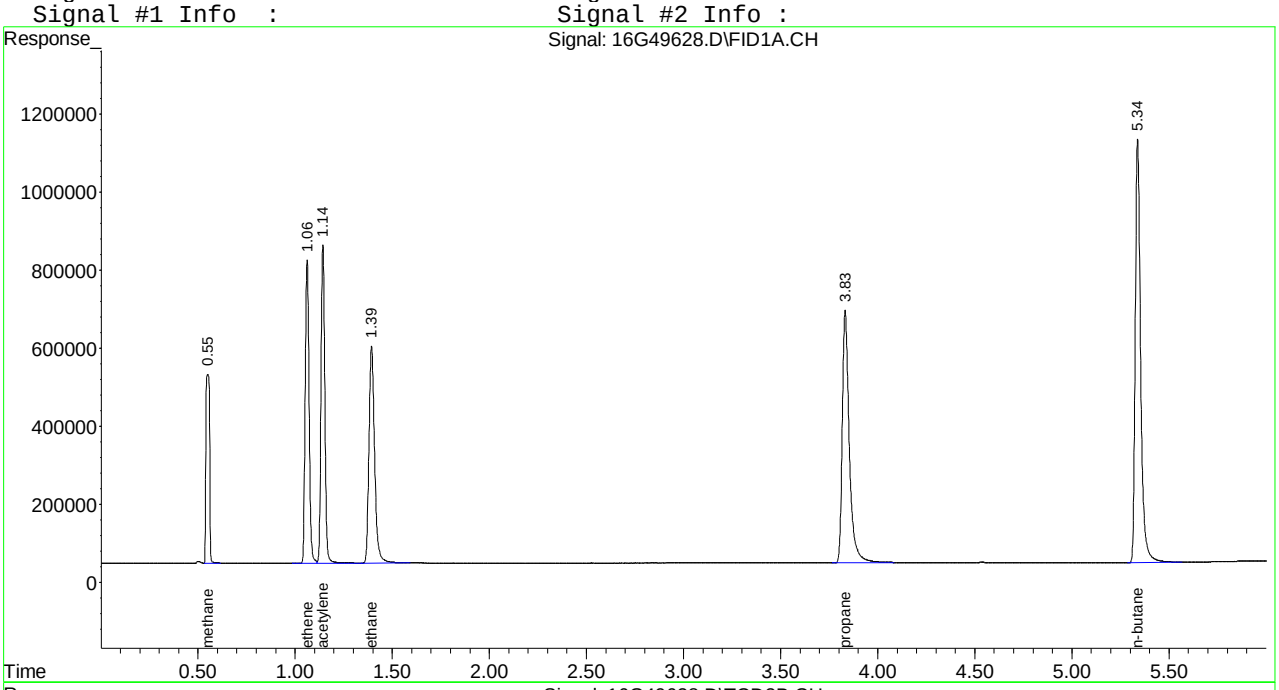
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	6385721	34.033 umol/
2) T	ethene	1.06	10782198	34.551 umol/
3) T	acetylene	1.14	11300799	36.189 umol/
4) T	ethane	1.39	11066771	34.700 umol/
5) T	propane	3.83	16320395	34.595 umol/
6) T	n-butane	5.34	21122896	34.548 umol/
8) T	carbon dioxide	0.20	17730539	3358.995 umol/

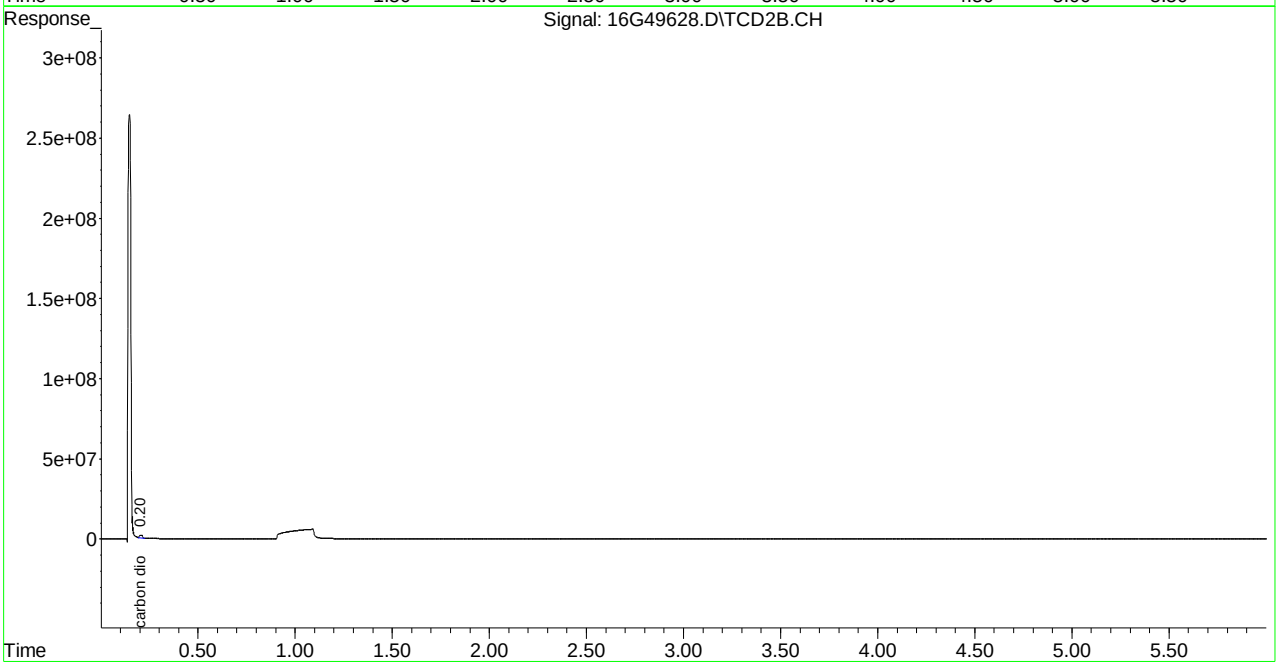
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49628.D RSKEXT1.M Fri Mar 25 13:33:26 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49628.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49628.D\TCD2B.CH
Acq On : 25 Mar 2016 11:46 Operator: JDS
Sample : WG562401-03 33.3umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49629.D\FID1A.CH Vial: 5
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49629.D\TCD2B.CH
Acq On : 25 Mar 2016 11:58 Operator: JDS
Sample : WG562401-04 66.7umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:26 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

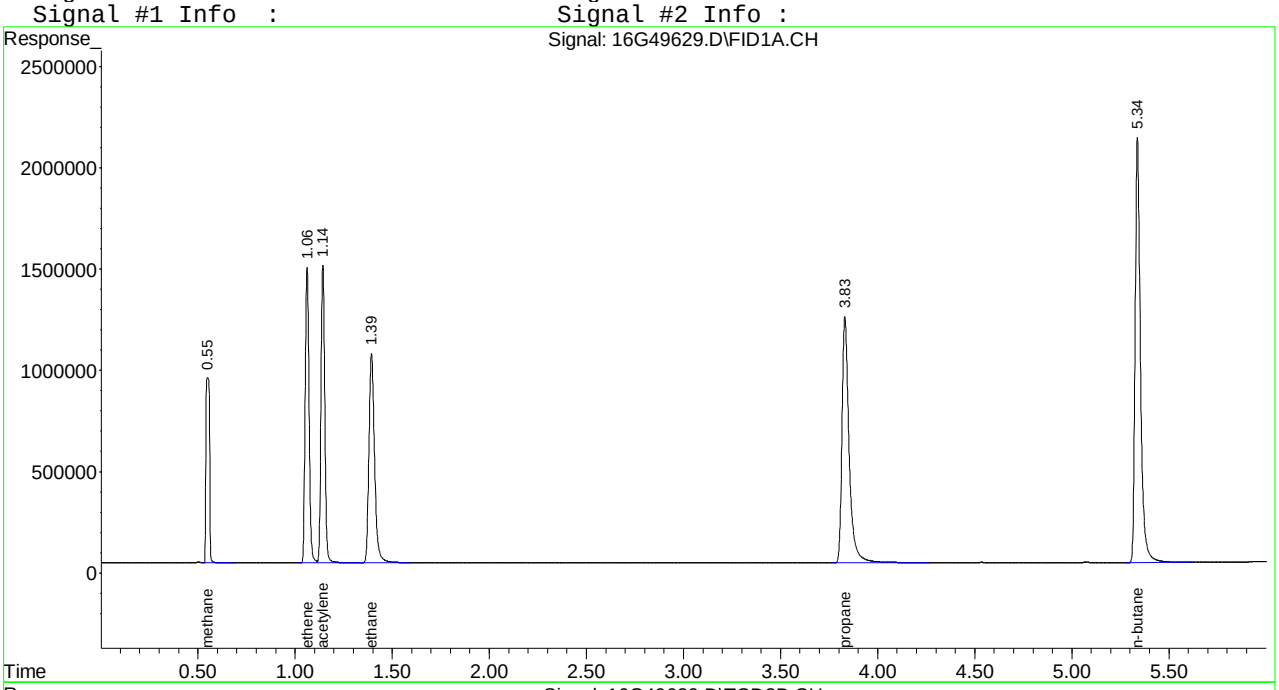
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	11901999	64.837 umol/
2) T	ethene	1.06	20215300	64.780 umol/
3) T	acetylene	1.14	20353735	65.180 umol/
4) T	ethane	1.39	20615639	64.640 umol/
5) T	propane	3.83	30980672	65.670 umol/
6) T	n-butane	5.34	40329758	65.963 umol/
8) T	carbon dioxide	0.20	35613763	6746.916 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49629.D RSKEXT1.M Fri Mar 25 13:33:27 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49629.D\FID1A.CH Vial: 5
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49629.D\TCD2B.CH
Acq On : 25 Mar 2016 11:58 Operator: JDS
Sample : WG562401-04 66.7umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49630.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49630.D\TCD2B.CH
Acq On : 25 Mar 2016 12:10 Operator: JDS
Sample : WG562401-05 133umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:27 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23452315	129.335 umol/
2) T	ethene	1.06	40022999	128.253 umol/
3) T	acetylene	1.14	39927283	127.862 umol/
4) T	ethane	1.39	40795450	127.914 umol/
5) T	propane	3.83	60871012	129.029 umol/
6) T	n-butane	5.34	78531804	128.445 umol/
8) T	carbon dioxide	0.20	71244989	13497.140 umol/

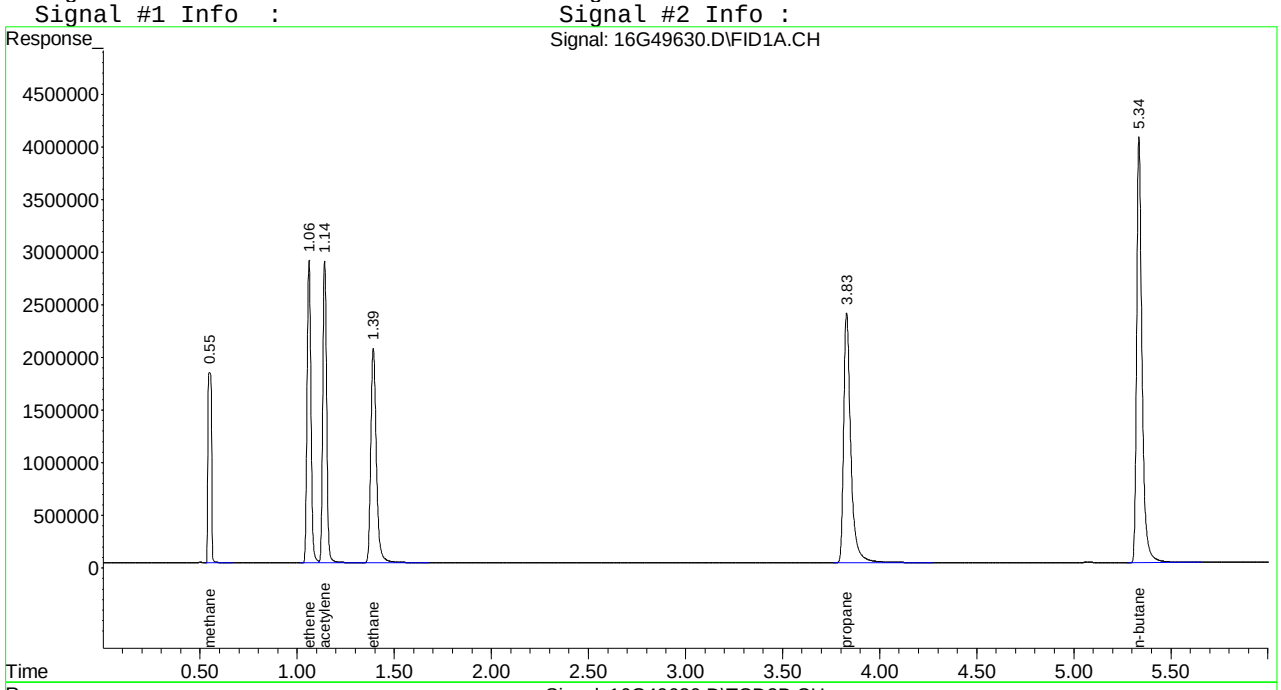
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49630.D RSKEXT1.M Fri Mar 25 13:33:27 2016 Page 1

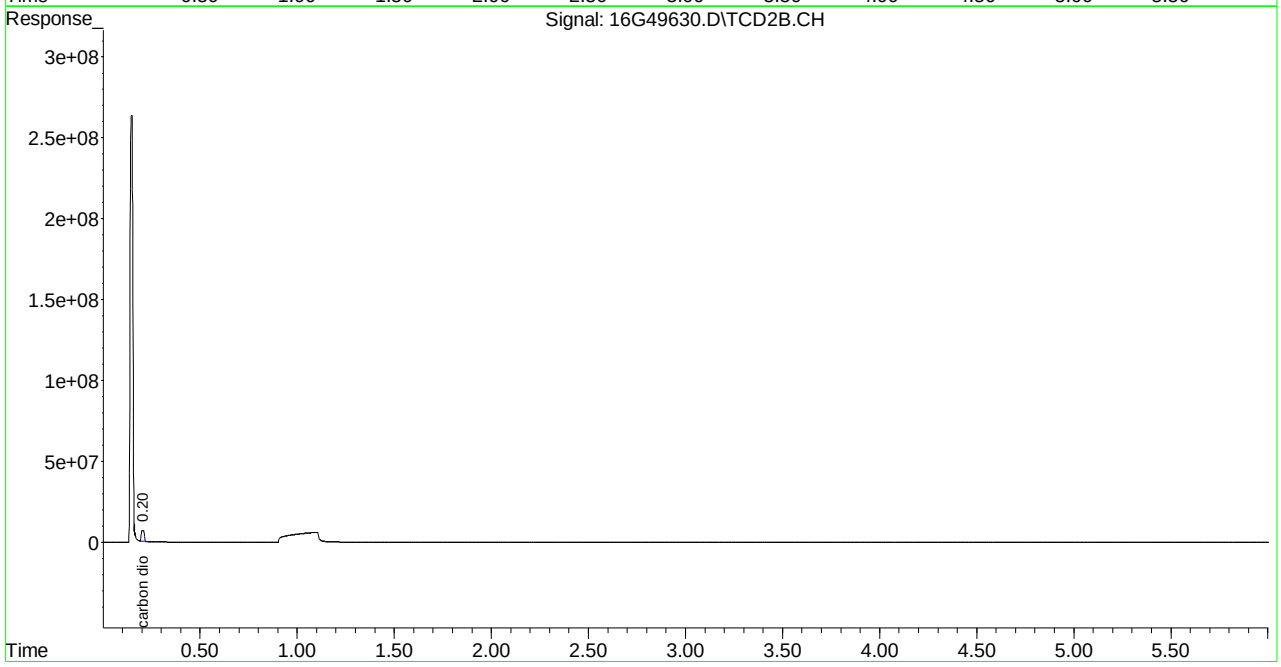
Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49630.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49630.D\TCD2B.CH
Acq On : 25 Mar 2016 12:10 Operator: JDS
Sample : WG562401-05 133umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49631.D\FID1A.CH Vial: 7
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49631.D\TCD2B.CH
Acq On : 25 Mar 2016 12:22 Operator: JDS
Sample : WG562401-06 333umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:28 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

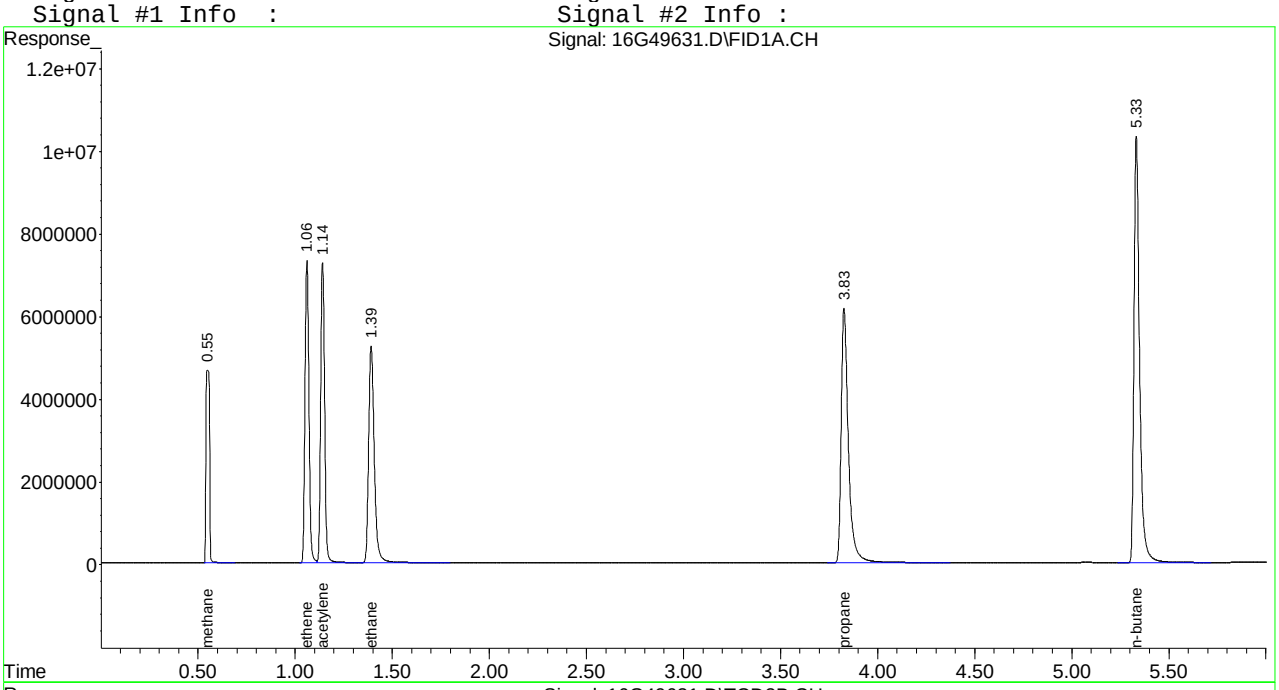
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	60036501	333.627 umol/
2) T	ethene	1.06	103680653	332.243 umol/
3) T	acetylene	1.14	103042347	329.980 umol/
4) T	ethane	1.39	106118124	332.733 umol/
5) T	propane	3.83	159210076	337.481 umol/
6) T	n-butane	5.33	207154261	338.817 umol/
8) T	carbon dioxide	0.20	184690679	34989.072 umol/

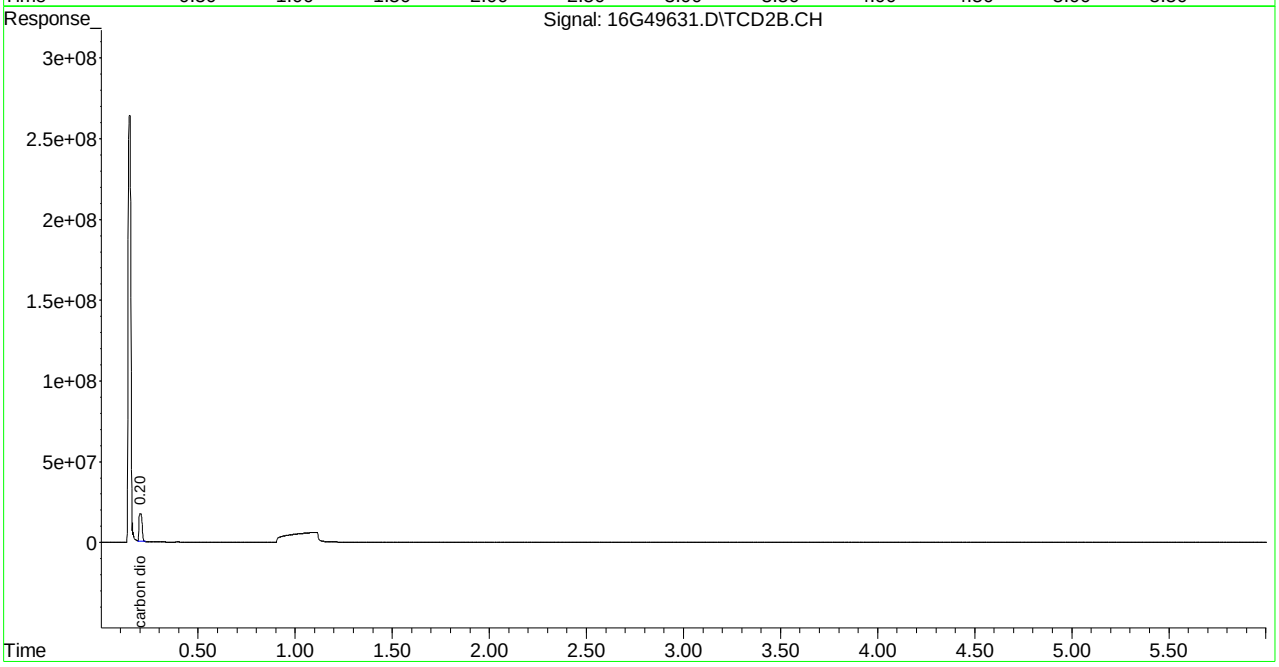
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49631.D RSKEXT1.M Fri Mar 25 13:33:28 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49631.D\FID1A.CH Vial: 7
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49631.D\TCD2B.CH
Acq On : 25 Mar 2016 12:22 Operator: JDS
Sample : WG562401-06 333umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (Not Reviewed)

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49632.D\FID1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49632.D\TCD2B.CH
Acq On : 25 Mar 2016 12:34 Operator: JDS
Sample : WG562401-07 533umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:29 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

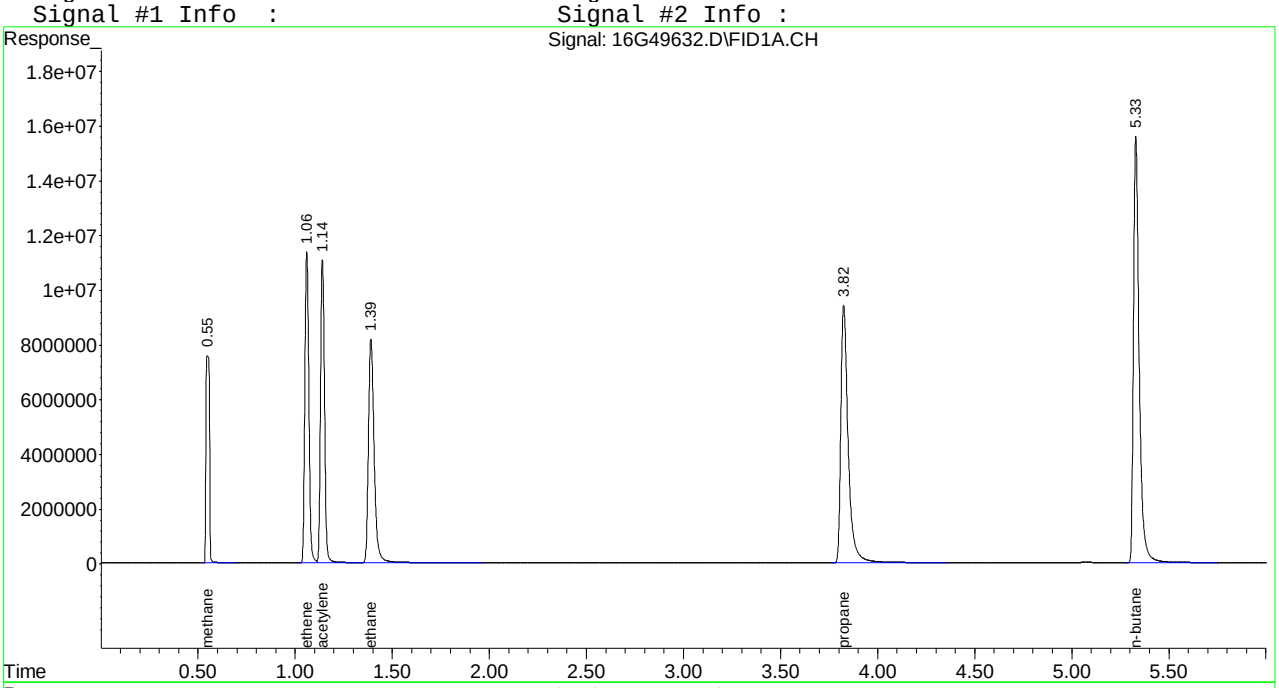
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	96479096	537.128 umol/
2) T	ethene	1.06	163526008	524.017 umol/
3) T	acetylene	1.14	159442689	510.596 umol/
4) T	ethane	1.39	167744947	525.963 umol/
5) T	propane	3.83	248130764	525.967 umol/
6) T	n-butane	5.33	319696896	522.890 umol/
8) T	carbon dioxide	0.20	281763639	53379.240 umol/

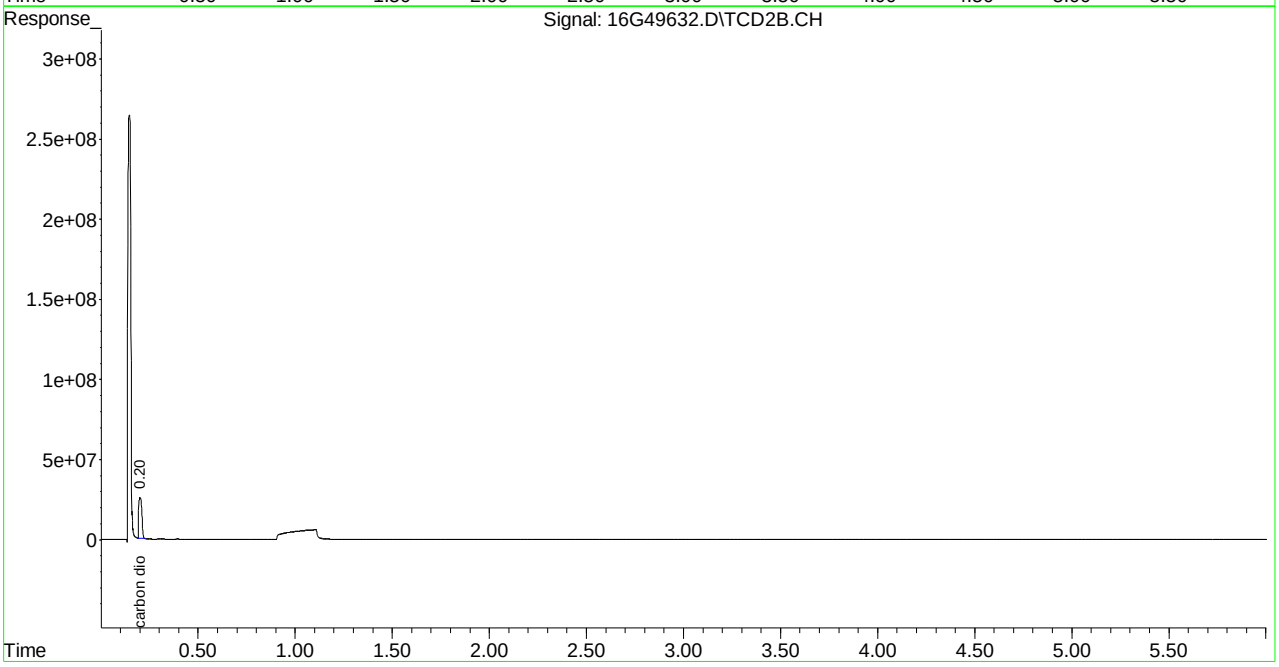
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49632.D RSKEXT1.M Fri Mar 25 13:33:29 2016 Page 1

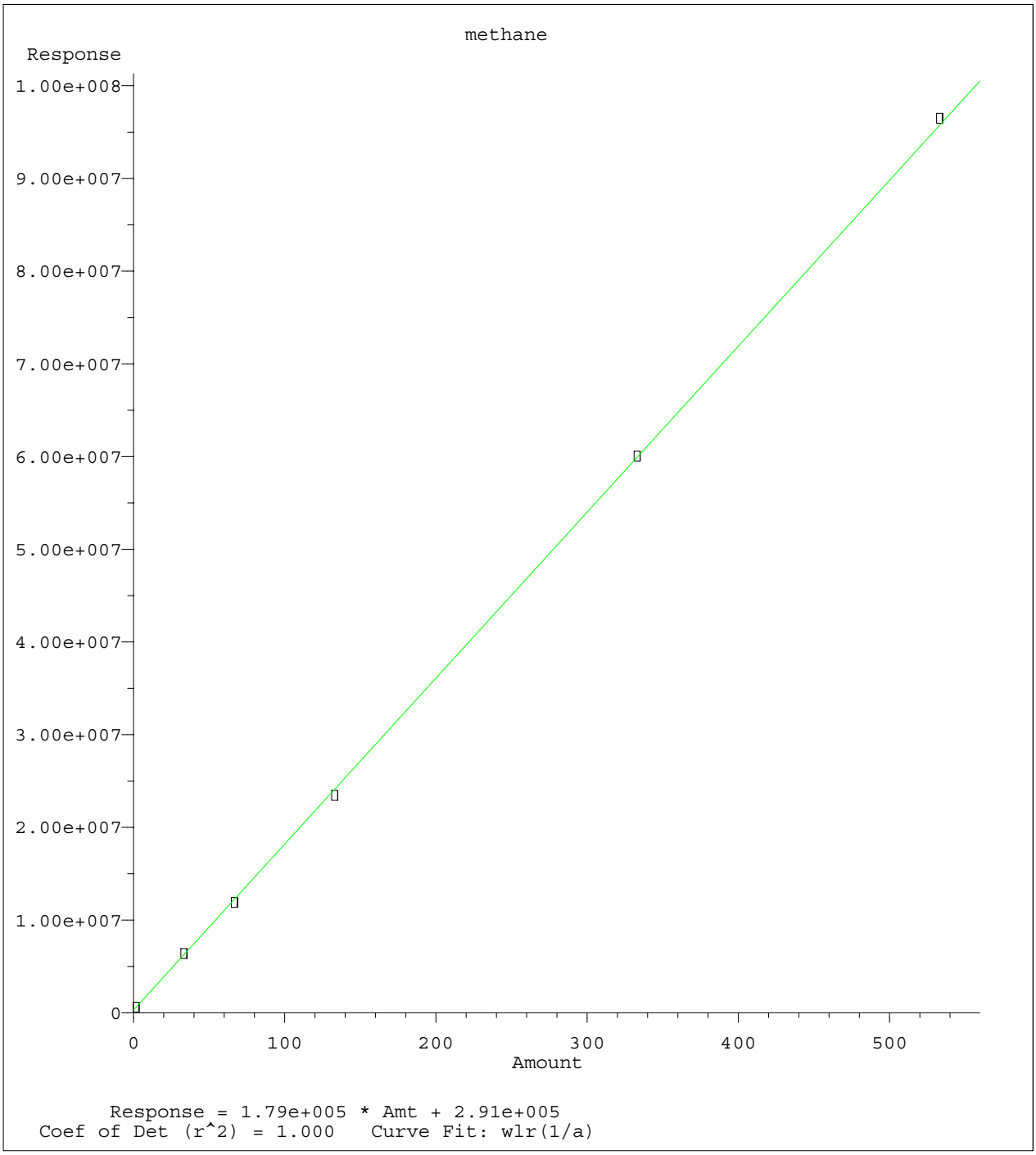
Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49632.D\FID1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49632.D\TCD2B.CH
Acq On : 25 Mar 2016 12:34 Operator: JDS
Sample : WG562401-07 533umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :







Method Name: C:\MSDCHEM\1\METHODS\RSKEXT1.M
Calibration Table Last Updated: Fri Mar 25 13:38:01 2016

Signal #1 : C:\MSDchem\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDchem\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 18:32:35 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

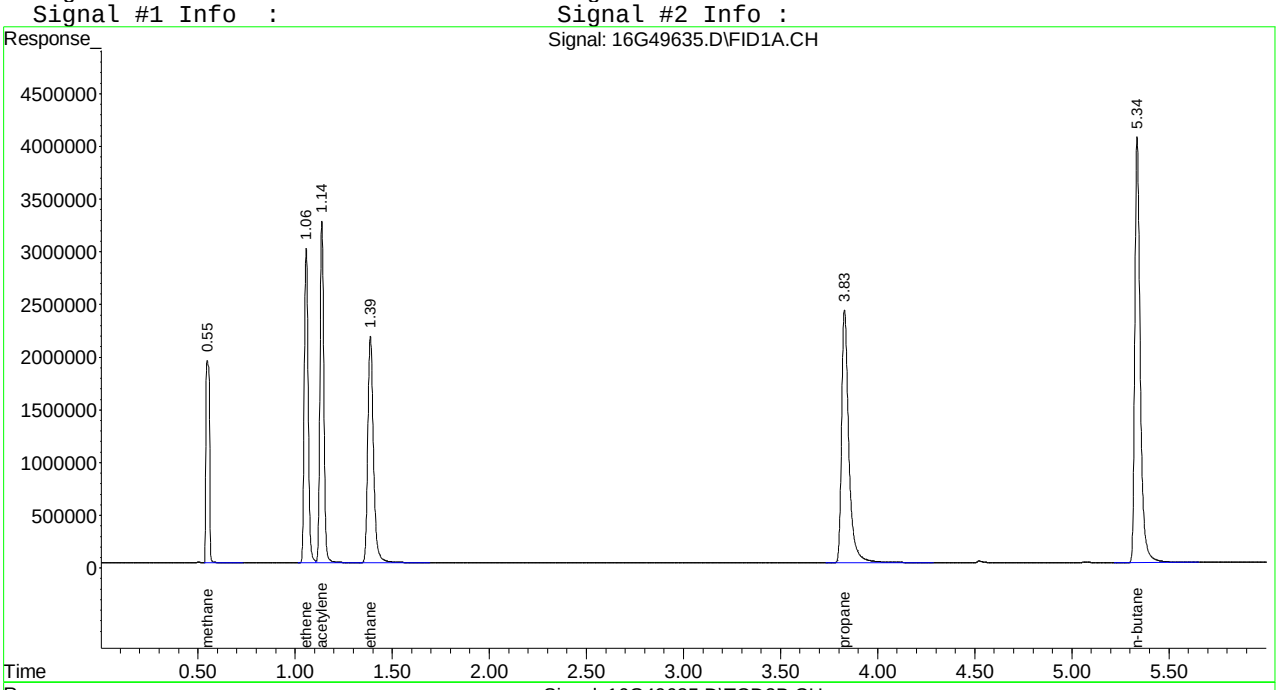
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	24881813	137.318 umol/
2) T	ethene	1.06	41706426	133.648 umol/
3) T	acetylene	1.14	45236671	144.865 umol/
4) T	ethane	1.39	43137584	135.258 umol/
5) T	propane	3.83	62226584	131.903 umol/
6) T	n-butane	5.34	79421956	129.901 umol/
8) T	carbon dioxide	0.20	77169864	14619.589 umol/

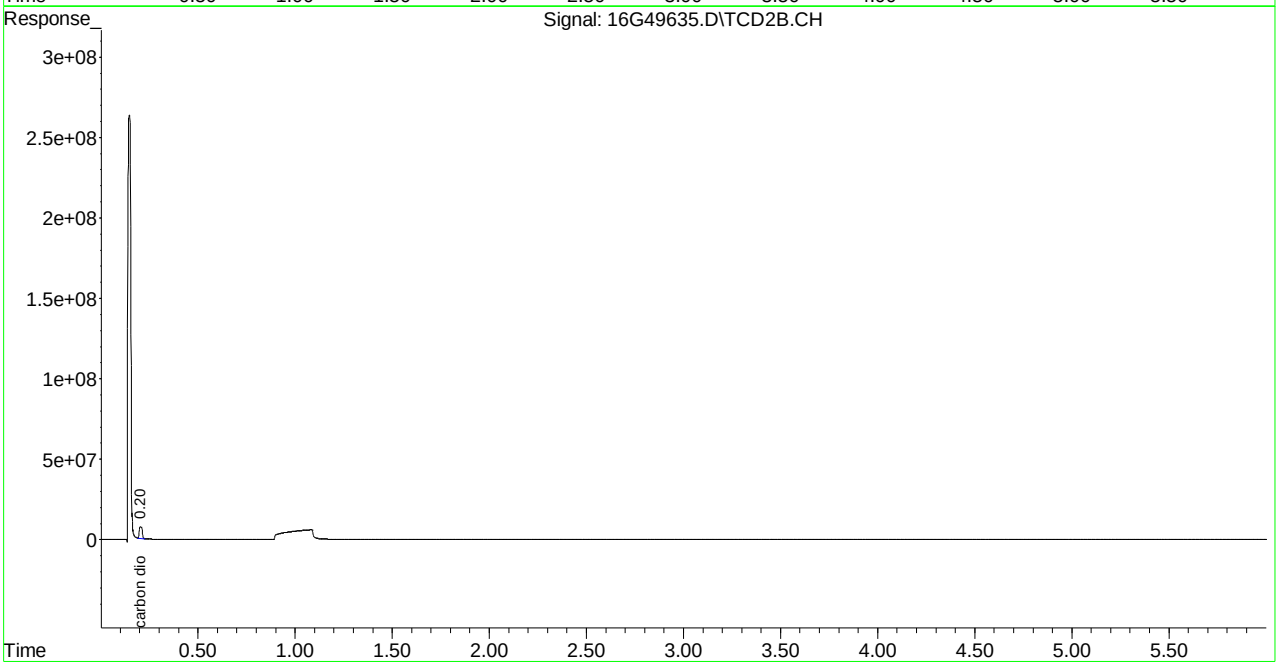
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49635.D RSKEXT1.M Fri Mar 25 18:32:35 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDchem\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 18:32 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	137.318	-3.2	106	0.00
2	T	ethene	133.000	133.648	-0.5	104	0.00
3	T	acetylene	133.000	144.865	-8.9	113	0.00
4	T	ethane	133.000	135.258	-1.7	106	0.00
5	T	propane	133.000	131.903	0.8	102	0.00
6	T	n-butane	133.000	129.901	2.3	101	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	14619.589	-9.9	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49635.D RSKEXT1.M Mon Mar 28 09:35:32 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49983.D Vial: 1
Acq On : 23 May 2016 13:37 Operator: JDS
Sample : WG569916-01 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 13:43:40 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	22600239	124.577 umol/
2) T	ethene	1.06	38192466	122.387 umol/
3) T	acetylene	1.14	40291626	129.029 umol/
4) T	ethane	1.39	38896700	121.960 umol/
5) T	propane	3.83	57712298	122.334 umol/
6) T	n-butane	5.34	74033960	121.088 umol/

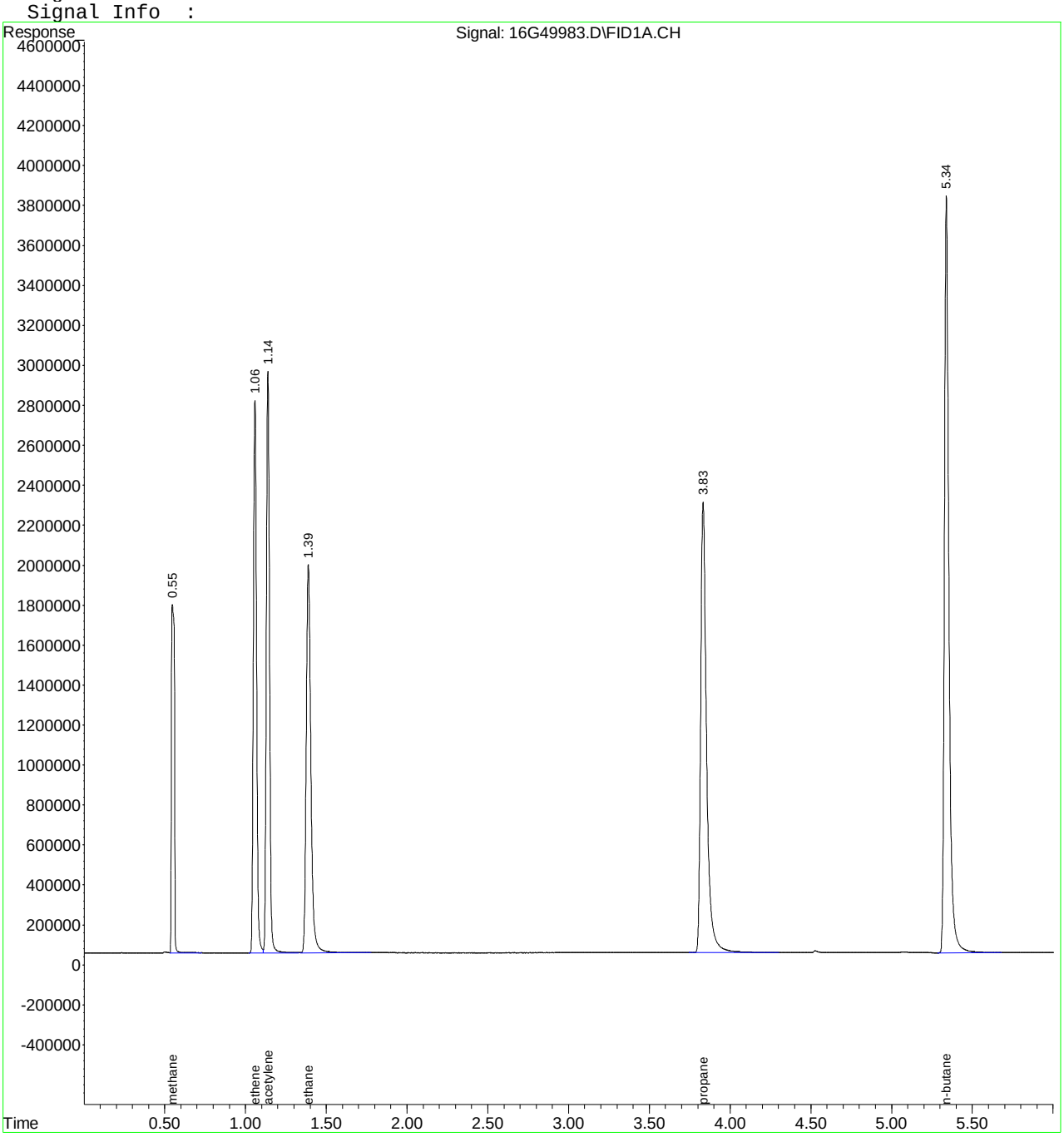
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49983.D RSK1.M Mon May 23 13:43:40 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49983.D Vial: 1
Acq On : 23 May 2016 13:37 Operator: JDS
Sample : WG569916-01 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 13:43 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



16G49983.D RSK1.M Mon May 23 13:43:40 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\052316\16G49983.D Vial: 1
Acq On : 23 May 2016 13:37 Operator: JDS
Sample : WG569916-01 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	124.577	6.3	96	0.00
2	T	ethene	133.000	122.387	8.0	95	0.00
3	T	acetylene	133.000	129.029	3.0	101	0.00
4	T	ethane	133.000	121.960	8.3	95	0.00
5	T	propane	133.000	122.334	8.0	95	0.00
6	T	n-butane	133.000	121.088	9.0	94	0.00

Data File : C:\MSDCHEM\1\DATA\052316\16G49983.D Vial: 1
Acq On : 23 May 2016 13:37 Operator: JDS
Sample : WG569916-01 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49991.D Vial: 9
Acq On : 23 May 2016 18:43 Operator: JDS
Sample : WG569916-02 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:49:11 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	22602013	124.587 umol/
2) T	ethene	1.06	37131751	118.988 umol/
3) T	acetylene	1.14	34928868	111.855 umol/
4) T	ethane	1.39	38015559	119.197 umol/
5) T	propane	3.83	55338291	117.302 umol/
6) T	n-butane	5.34	69212346	113.202 umol/

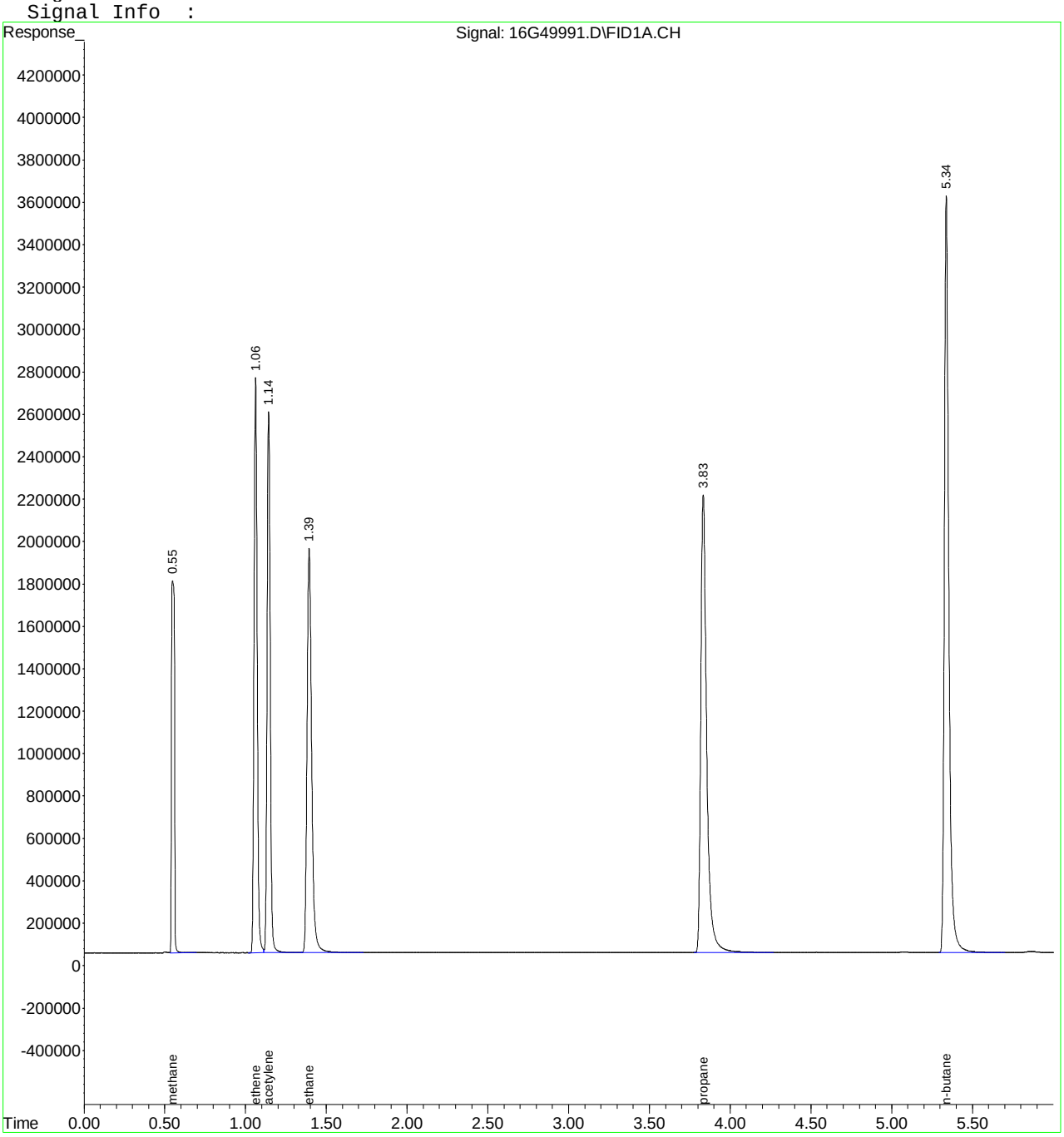
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49991.D RSK1.M Mon May 23 18:49:11 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49991.D Vial: 9
Acq On : 23 May 2016 18:43 Operator: JDS
Sample : WG569916-02 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 18:49 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : C:\MSDCHEM\1\DATA\052316\16G49991.D Vial: 9
Acq On : 23 May 2016 18:43 Operator: JDS
Sample : WG569916-02 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	124.587	6.3	96	0.00
2	T	ethene	133.000	118.988	10.5	93	0.00
3	T	acetylene	133.000	111.855	15.9#	87	0.00
4	T	ethane	133.000	119.197	10.4	93	0.00
5	T	propane	133.000	117.302	11.8	91	0.00
6	T	n-butane	133.000	113.202	14.9	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49991.D RSK1.M Tue May 24 08:52:25 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\052316\16G49991.D Vial: 9
Acq On : 23 May 2016 18:43 Operator: JDS
Sample : WG569916-02 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Microbac Laboratories Inc.
Daily Retention Time Window Determination

Login #: L16051153 **Run Date:** 05/23/2016 **Sample ID:** WG569916-01
Instrument: HP16 **Run Time:** 13:37 **Method:** RSK175
Workgroup (AAB#): WG569917 **File ID:** 16G49983

RT Standard	Analysis Date	File ID	Analyst
WG536037-01	08/21/2015	16G48293	JDS
WG535907-01	08/20/2015	16G48276	JDS
WG535544-01	08/19/2015	16G48247	JDS

Analyte	RT #1	RT #2	RT #3	STD	Lower	Upper
METHANE	.55	.55	.55	.55	0.520	0.580
ETHENE	1.06	1.06	1.06	1.06	1.030	1.090
ETHANE	1.39	1.4	1.4	1.39	1.360	1.420
PROPANE	3.83	3.83	3.83	3.83	3.800	3.860
N-BUTANE	5.34	5.34	5.34	5.34	5.310	5.370
CARBON DIOXIDE	.2	.2	.2			
ACETYLENE	1.14	1.14	1.15	1.14	1.110	1.170

RT_WIN - Modified 01/06/2010
PDF File ID: 4780656
Report generated 05/31/2016 15:49

2.1.2.5 Raw QC Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052316\16G49984.D Vial: 2
Acq On : 23 May 2016 17:21 Operator: JDS
Sample : WG569917-01 BLANK STD RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 17:28:01 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	275028	N.D.	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	0.00	0	N.D.	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/

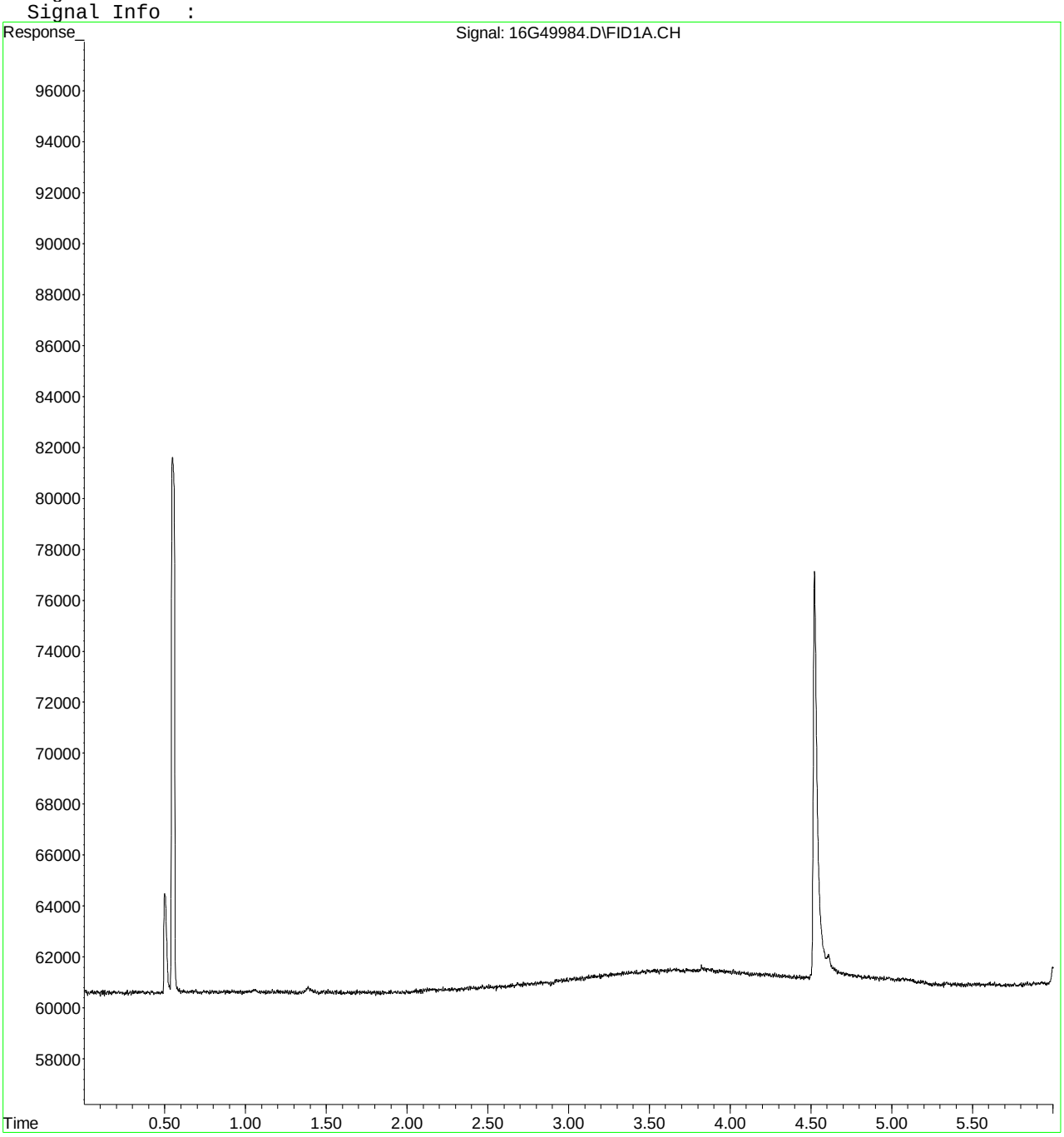
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49984.D RSK1.M Tue May 24 08:56:23 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\052316\16G49984.D Vial: 2
Acq On : 23 May 2016 17:21 Operator: JDS
Sample : WG569917-01 BLANK STD RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 17:28 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49985.D Vial: 3
Acq On : 23 May 2016 17:33 Operator: JDS
Sample : WG569917-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 17:39:42 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	12209655	66.555 umol/
2) T	ethene	1.06	20193975	64.711 umol/
3) T	acetylene	1.15	20187056	64.647 umol/
4) T	ethane	1.40	21002137	65.852 umol/
5) T	propane	3.83	30252508	64.127 umol/
6) T	n-butane	5.34	37596524	61.492 umol/

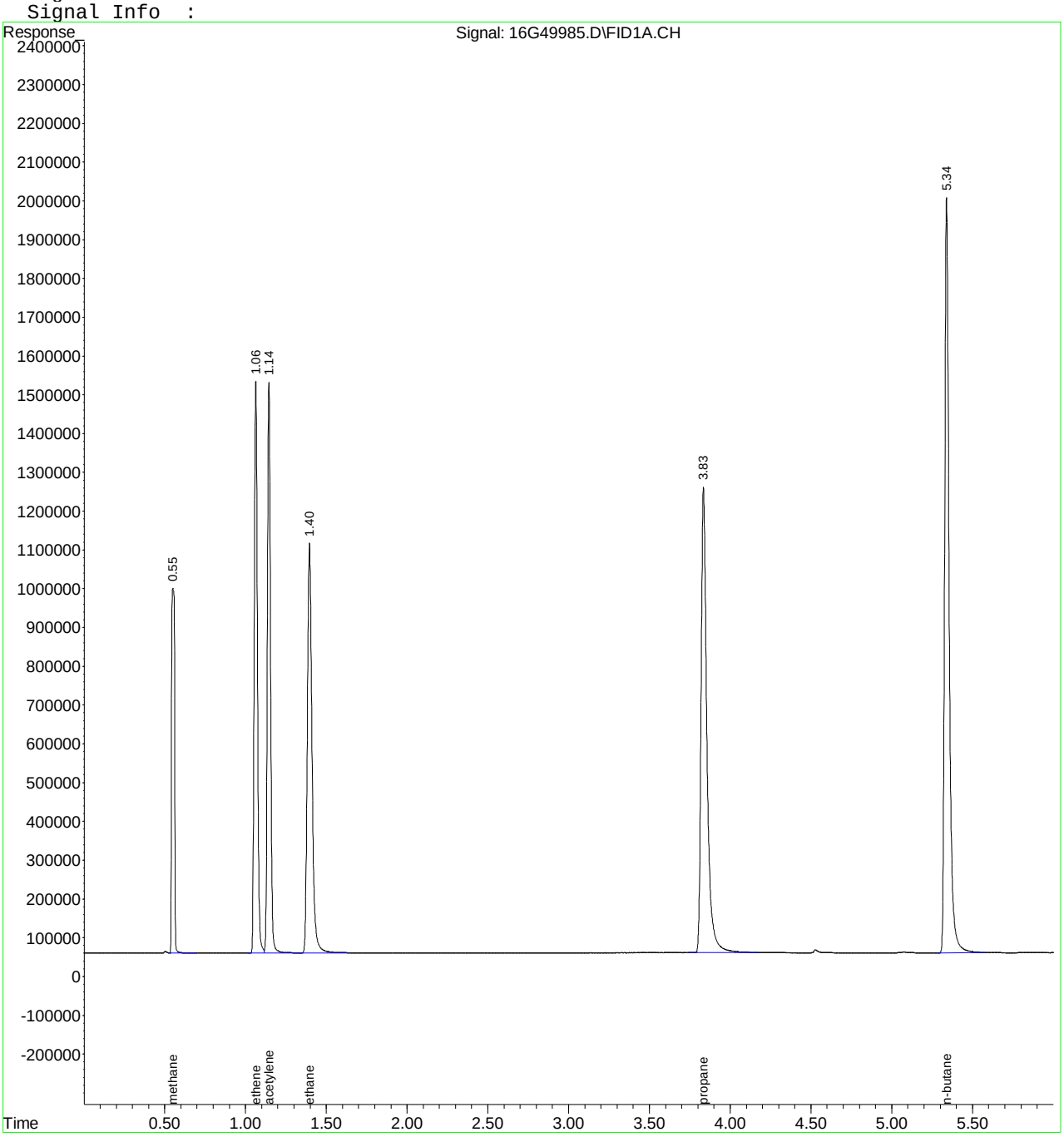
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49985.D RSK1.M Mon May 23 17:39:43 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49985.D Vial: 3
Acq On : 23 May 2016 17:33 Operator: JDS
Sample : WG569917-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 17:39 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49986.D Vial: 4
Acq On : 23 May 2016 17:45 Operator: JDS
Sample : WG569917-03 67umol/mol LCS2 STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 17:51:22 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	11960130	65.161 umol/
2) T	ethene	1.06	19382015	62.109 umol/
3) T	acetylene	1.14	19060251	61.038 umol/
4) T	ethane	1.40	20209055	63.365 umol/
5) T	propane	3.83	28764183	60.972 umol/
6) T	n-butane	5.34	36117382	59.073 umol/

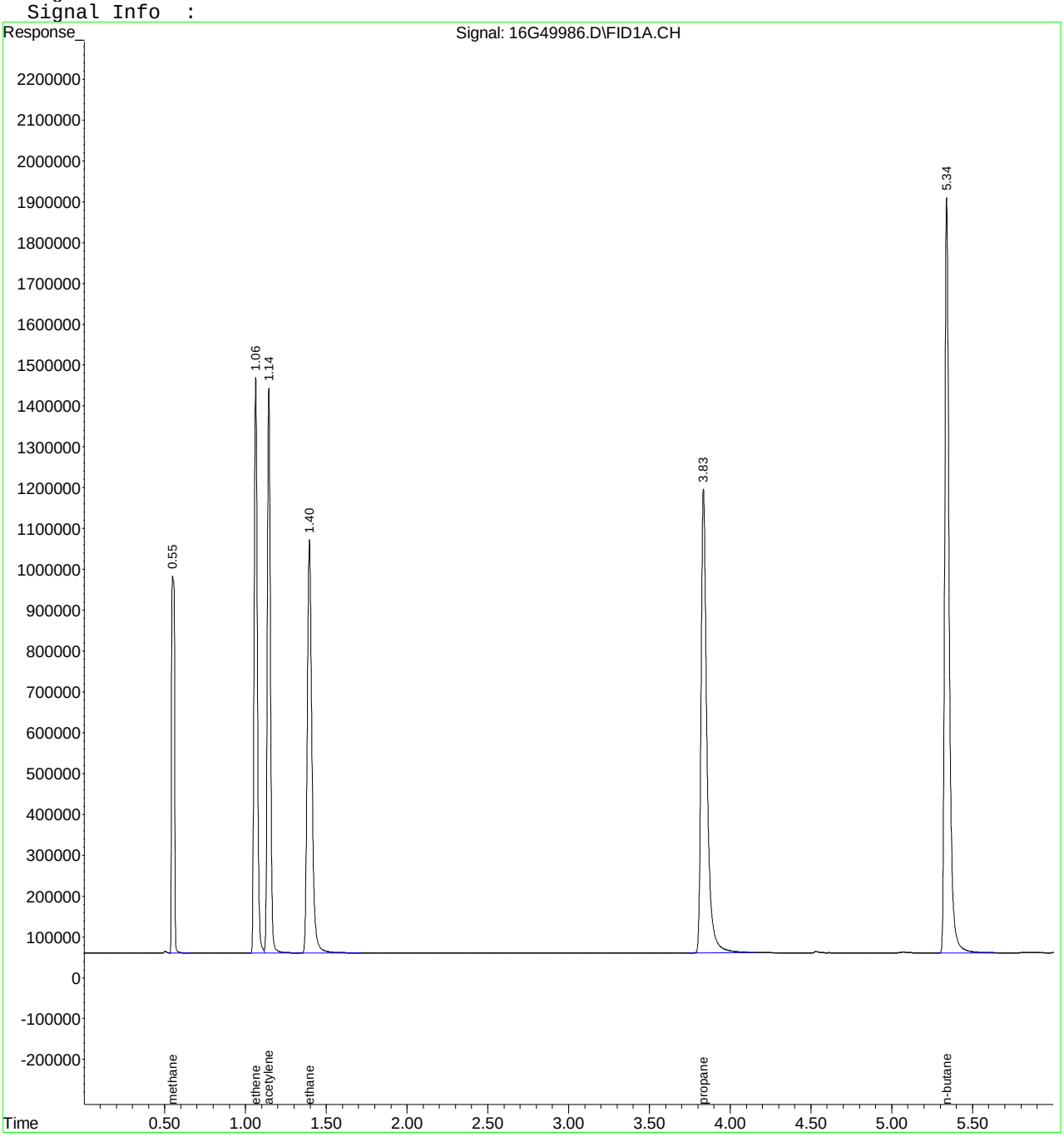
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49986.D RSK1.M Mon May 23 17:51:22 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\DATA\052316\16G49986.D Vial: 4
Acq On : 23 May 2016 17:45 Operator: JDS
Sample : WG569917-03 67umol/mol LCS2 STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 23 17:51 2016 Quant Results File: RSK1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSK1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSK1.M

Volume Inj. :
Signal Phase :
Signal Info :



2.2 General Chemistry Data

2.2.1 Method 9056

2.2.1.1 Summary Data

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW11-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 17:11
Collect Date:	05/19/2016 08:50	**Dilution:**	10	**File ID:**	I1_052016-07
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	409		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW11-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 17:28
Collect Date:	05/19/2016 08:50	**Dilution:**	100	**File ID:**	I1_052016-08
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1430		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW08-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 17:46
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	I1_052016-09
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	365		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW08-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 18:04
Collect Date:	05/19/2016 09:55	**Dilution:**	100	**File ID:**	I1_052016-10
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1510		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW13-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 18:21
Collect Date:	05/19/2016 11:00	**Dilution:**	10	**File ID:**	I1_052016-11
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	358		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	67WW13-051916	**Prep Method:**	9056	**Prep Date:**	05/20/2016 14:00
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	04/29/2016 12:41
Workgroup #:	WG569764	**Analyst:**	ALS	**Run Date:**	05/20/2016 18:39
Collect Date:	05/19/2016 11:00	**Dilution:**	100	**File ID:**	I1_052016-12
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1660		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.2.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant
c1= the curve slope
c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(- c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)} \right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
or:	-40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

f (y) = y / c1

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 042916 ICAL IC1.SEQ

Analyst1: AED Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#:

Eluent ID#: RGT36585

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Internal STD: NA Surrogate STD: NA Calibration STD WG566125 29-APR-2016

CCV STD: STD74524 LCS STD: STD74525 MS/MSD STD: STD74525

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_042916-01	ELUENT	1	1		04/29/16 10:37
2	I1_042916-02	DI WATER	1	1		04/29/16 10:54
3	I1_042916-03	WG566125-01 STD \#6	1	1		04/29/16 11:12
4	I1_042916-04	WG566125-02 STD \#5	1	1		04/29/16 11:30
5	I1_042916-05	WG566125-03 STD \#4	1	1		04/29/16 11:48
6	I1_042916-06	WG566125-04 STD \#3	1	1		04/29/16 12:05
7	I1_042916-07	WG566125-05 STD \#2	1	1		04/29/16 12:23
8	I1_042916-08	WG566125-06 STD \#1	1	1		04/29/16 12:41
9	I1_042916-09	WG566125-07 SSCV	1	1		04/29/16 12:58
10	I1_042916-10	LCR LEVEL 6	1	1		04/29/16 13:16
11	I1_042916-11	LCR LEVEL 2	1	1		04/29/16 13:34
12	I1_042916-12	LCR LEVEL 0	1	1		04/29/16 13:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 02-MAY-16

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 052016 IC1.SEQ

Analyst1: ALS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 151125254

Eluent ID#: RGT36805

Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Workgroups: WG569764

Internal STD: NA Surrogate STD: NA Calibration STD WG566125 29-APR-2016

CCV STD: STD74524 LCS STD: STD74525 MS/MSD STD: STD74525

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_052016-01	ELUENT	1	1		05/20/16 15:24
2	I1_052016-02	DI WATER	1	1		05/20/16 15:42
3	I1_052016-03	WG569787-01 ANION CCV	1	1		05/20/16 16:00
4	I1_052016-04	WG569787-02 ANION CCB	1	1		05/20/16 16:17
5	I1_052016-05	WG569764-01 ANION BLANK	1	1		05/20/16 16:35
6	I1_052016-06	WG569764-02 ANION LCS	1	1		05/20/16 16:53
7	I1_052016-07	L16051153-15 1/10 (CL,NO2,NO3,SO4)	1	10		05/20/16 17:11
8	I1_052016-08	L16051153-15 1/100 (CL,NO2,NO3,SO4)	1	100		05/20/16 17:28
9	I1_052016-09	L16051153-16 1/10 (CL,NO2,NO3,SO4)	1	10		05/20/16 17:46
10	I1_052016-10	L16051153-16 1/100 (CL,NO2,NO3,SO4)	1	100		05/20/16 18:04
11	I1_052016-11	L16051153-17 1/10 (CL,NO2,NO3,SO4)	1	10		05/20/16 18:21
12	I1_052016-12	L16051153-17 1/100 (CL,NO2,NO3,SO4)	1	100		05/20/16 18:39
13	I1_052016-13	L16051039-10 1/3 (F)	2	3		05/20/16 18:57
14	I1_052016-14	L16051039-11 1/5 (F)	2	5		05/20/16 19:14
15	I1_052016-15	WG569787-03 ANION CCV	1	1		05/20/16 19:32
16	I1_052016-16	WG569787-04 ANION CCB	1	1		05/20/16 19:50
17	I1_052016-17	L16051039-12 1/5 (F)	2	5		05/20/16 20:08
18	I1_052016-18	WG569764-03 ANION LCS DUP	1	1		05/20/16 20:25
19	I1_052016-19	L16051040-02 (ALL-BR)	18	1		05/20/16 20:43
20	I1_052016-20	L16051040-04 (ALL-BR)	18	1		05/20/16 21:01
21	I1_052016-21	WG569787-05 ANION CCV	1	1		05/20/16 21:18
22	I1_052016-22	WG569787-06 ANION CCB	1	1		05/20/16 21:36
23	I1_052016-23	END	1	1		05/20/16 21:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes
7				
	L16051153-15 1/10 (CL,NO2,NO3,SO4) was analyzed at a dilution due to CL and SO4 exceeding 200ppm.			
8				
	L16051153-15 1/100 (CL,NO2,NO3,SO4) was analyzed at a dilution due to CL exceeding the ICAL.			
9				
	L16051153-16 1/10 (CL,NO2,NO3,SO4) was analyzed at a dilution due to CL and SO4 exceeding 200ppm.			
10				

Page: 1 Approved: 23-MAY-16

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 052016 IC1.SEQ

Analyst1: ALS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 151125254

Eluent ID#: RGT36805

Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Workgroups: WG569764

Internal STD: NA Surrogate STD: NA WG566125 29-APR-2016

CCV STD: STD74524 LCS STD: STD74525 STD74525

Comments

Seq.	Rerun	Dil.	Reason	Analytes
				L16051153-16 1/100 (CL,NO2,NO3,SO4) was analyzed at a dilution due to CL exceeding the ICAL.
11				L16051153-17 1/10 (CL,NO2,NO3,SO4) was analyzed at a dilution due to CL and SO4 exceeding 200ppm.
12				L16051153-17 1/100 (CL,NO2,NO3,SO4) was analyzed at a dilution due to CL exceeding the ICAL.
13				L16051039-10 1/3 (F) was analyzed at a dilution due to SO4 exceeding 200ppm.
14				L16051039-11 1/5 (F) was analyzed at a dilution due to SO4 exceeding 200ppm.
17				L16051039-12 1/5 (F) was analyzed at a dilution due to SO4 exceeding 200ppm.
19				L16051040-02 (ALL-BR) was analyzed to confirm dip in the baseline.
20				L16051040-04 (ALL-BR) was analyzed to confirm dip in the baseline.

Page: 2 Approved: 23-MAY-16

Microbac Laboratories Inc.

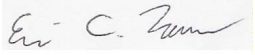
Data Checklist

Date: 29-APR-2016
Analyst: AED
Analyst: NA
Method: 9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 74807
Analytical Workgroups: WG566125 ICAL

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	NA
TCL hits	NA
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	NA
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	AED
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
02-MAY-2016

Secondary Reviewer:
02-MAY-2016



CHECKLIST1 - Modified 03/05/2008
Generated: MAY-02-2016 14:32:03

Microbac Laboratories Inc.

Data Checklist

Date: 20-MAY-2016
Analyst: ALS
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 75228
Analytical Workgroups: L16051039 L16051153

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	ALS
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	WTD

Primary Reviewer:
21-MAY-2016

Secondary Reviewer:
23-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-23-2016 09:32:02

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9056 AAB#: WG569764

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-051916	15	05/19/16					05/20/2016	1.2	2		05/20/16	1.3	2	
67WW11-051916	15	05/19/16					05/20/2016	1.2	2		05/20/16	1.4	2	
67WW08-051916	16	05/19/16					05/20/2016	1.2	2		05/20/16	1.3	2	
67WW08-051916	16	05/19/16					05/20/2016	1.2	2		05/20/16	1.3	2	
67WW13-051916	17	05/19/16					05/20/2016	1.1	2		05/20/16	1.3	2	
67WW13-051916	17	05/19/16					05/20/2016	1.1	2		05/20/16	1.3	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4774257
Report generated 05/23/2016 09:54

METHOD BLANK SUMMARY

Login Number: L16051153
Work Group: WG569764
Blank File ID: I1_052016-05
Blank Sample ID: WG569764-01
Prep Date: 05/20/16 14:00
Instrument ID: IC1
Analyzed Date: 05/20/16 16:35
Method: 9056
Analyst: ALS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569764-02	I1_052016-06	05/20/16 16:53	01
67WW11-051916	L16051153-15	I1_052016-07	05/20/16 17:11	DL01
67WW11-051916	L16051153-15	I1_052016-08	05/20/16 17:28	DL02
67WW08-051916	L16051153-16	I1_052016-09	05/20/16 17:46	DL01
67WW08-051916	L16051153-16	I1_052016-10	05/20/16 18:04	DL02
67WW13-051916	L16051153-17	I1_052016-11	05/20/16 18:21	DL01
67WW13-051916	L16051153-17	I1_052016-12	05/20/16 18:39	DL02
LCS2	WG569764-03	I1_052016-18	05/20/16 20:25	01

Report Name: BLANK_SUMMARY
PDF File ID: 4774258
Report generated 05/23/2016 09:54

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/20/16 14:00 Sample ID: WG569764-01
Instrument ID: IC1 Run Date: 05/20/16 16:35 Prep Method: 9056
File ID: I1_052016-05 Analyst: ALS Method: 9056
Workgroup (AAB#): WG569764 Matrix: Water Units: mg/L
Contract #: Cal ID: IC1-29-APR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.400	0.100	1	U
Nitrate	0.100	0.400	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4774259
23-MAY-2016 09:54

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: ALS Prep Method: 9056
Instrument ID: IC1 Matrix: Water Method: 9056
Workgroup (AAB#): WG569764 Units: mg/L
QC Key: DOD4 Lot #: STD74525

Sample ID: WG569764-02 LCS File ID: I1_052016-06 Run Date: 05/20/2016 16:53
Sample ID: WG569764-03 LCS2 File ID: I1_052016-18 Run Date: 05/20/2016 20:25

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chloride	8.00	8.10	101	8.00	7.95	99.4	1.91	90 - 110	20	
Nitrate	5.42	5.37	99.2	5.42	5.28	97.5	1.67	90 - 110	20	
Nitrite	4.87	4.93	101	4.87	4.86	99.7	1.45	90 - 110	20	
Sulfate	40.0	40.6	102	40.0	40.1	100	1.41	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4774260
Report generated: 05/23/2016 09:54

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16051153
Analytical Method: 9056
ICAL Workgroup: WG566125

Instrument ID: IC1
Initial Calibration Date: 29-APR-16 12:41
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		6.078	7.86	0.99700	
Nitrate		2.464	10.4	0.99800	
Nitrite		2.956	4.80	0.99900	
Sulfate		7.882	13.8	0.99700	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4774261
Report generated 05/23/2016 09:54

Login Number: L16051153
Analytical Method: 9056
Instrument ID: IC1
Initial Calibration Date: 29-APR-16 12:41
Column ID: F

Analyte	WG566125-01			WG566125-02			WG566125-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	24.0	4.50300000	5.330	12.0	2.07600000	5.780	8.00	1.27500000	6.275
Nitrate	16.3	7.72700000	2.105	8.13	3.53200000	2.302	5.42	2.25500000	2.404
Nitrite	14.6	5.30500000	2.755	7.31	2.57800000	2.834	4.87	1.63200000	2.985
Sulfate	120	18.4750000	6.495	60.0	8.44600000	7.104	40.0	5.31900000	7.520

INT_CAL - Modified 03/06/2008
PDF File ID: 4774261
Report generated 05/23/2016 09:54

Login Number: L16051153
Analytical Method: 9056
Instrument ID: IC1
Initial Calibration Date: 29-APR-16 12:41
Column ID: F

Analyte	WG566125-04			WG566125-05			WG566125-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	4.00	0.644000000	6.211	1.00	0.151000000	6.623	0.200	0.0320000000	6.250
Nitrate	2.71	1.07300000	2.526	0.678	0.260000000	2.606	0.134	0.0470000000	2.841
Nitrite	2.44	0.817000000	2.981	0.609	0.194000000	3.139	0.122	0.0400000000	3.045
Sulfate	20.0	2.51300000	7.959	5.00	0.588000000	8.503	1.00	0.103000000	9.709

INT_CAL - Modified 03/06/2008
PDF File ID: 4774261
Report generated 05/23/2016 09:54

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16051153 Run Date: 04/29/2016 Sample ID: WG566125-07
Instrument ID: IC1 Run Time: 12:58 Method: 9056
File ID: I1_042916-09 Analyst: AED QC Key: DOD4
ICal Workgroup: WG566125 Cal ID: IC1 - 29-APR-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	8.15	mg/L	5.92	1.90	10	
Nitrate		5.42	5.41	mg/L	2.38	0.300	10	
Nitrite		4.87	4.95	mg/L	2.88	1.70	10	
Sulfate		40.0	40.4	mg/L	7.39	1.00	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4774262
Report generated 05/23/2016 09:54

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16051153 Run Date: 05/20/2016 Sample ID: WG569787-02
Instrument ID: IC1 Run Time: 16:17 Method: 9056
File ID: I1_052016-04 Analyst: ALS Units: mg/L
Workgroup (AAB#): WG569764 Cal ID: IC1 - 29-APR-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4774264
Report generated 05/23/2016 09:55

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16051153 | Run Date: 05/20/2016 | Sample ID: WG569787-04
Instrument ID: IC1 | Run Time: 19:50 | Method: 9056
File ID: I1_052016-16 | Analyst: ALS | Units: mg/L
Workgroup (AAB#): WG569764 | Cal ID: IC1 - 29-APR-16
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4774264
Report generated 05/23/2016 09:55

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16051153 Run Date: 05/20/2016 Sample ID: WG569787-06
Instrument ID: IC1 Run Time: 21:36 Method: 9056
File ID: I1_052016-22 Analyst: ALS Units: mg/L
Workgroup (AAB#): WG569764 Cal ID: IC1 - 29-APR-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4774264
Report generated 05/23/2016 09:55

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16051153 Run Date: 05/20/2016 Sample ID: WG569787-01

Instrument ID: IC1 Run Time: 16:00 Method: 9056

File ID: I1_052016-03 Analyst: ALS QC Key: DOD4

Workgroup (AAB#): WG569764 Cal ID: IC1 - 29-APR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.92	mg/L	6.10	1.03	10	
Nitrate		5.42	5.25	mg/L	2.46	3.24	10	
Nitrite		4.87	4.75	mg/L	3.01	2.57	10	
Sulfate		40.0	39.4	mg/L	7.58	1.60	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4774263

Report generated 05/23/2016 09:54

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16051153 Run Date: 05/20/2016 Sample ID: WG569787-03
Instrument ID: IC1 Run Time: 19:32 Method: 9056
File ID: I1_052016-15 Analyst: ALS QC Key: DOD4
Workgroup (AAB#): WG569764 Cal ID: IC1 - 29-APR-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.90	mg/L	6.11	1.30	10	
Nitrate		5.42	5.24	mg/L	2.46	3.40	10	
Nitrite		4.87	4.77	mg/L	3.00	2.18	10	
Sulfate		40.0	39.6	mg/L	7.54	1.11	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4774263
Report generated 05/23/2016 09:54

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16051153 **Run Date:** 05/20/2016 **Sample ID:** WG569787-05
Instrument ID: IC1 **Run Time:** 21:18 **Method:** 9056
File ID: I1_052016-21 **Analyst:** ALS **QC Key:** DOD4
Workgroup (AAB#): WG569764 **Cal ID:** IC1 - 29-APR-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.81	mg/L	6.18	2.39	10	
Nitrate		5.42	5.14	mg/L	2.51	5.14	10	
Nitrite		4.87	4.71	mg/L	3.03	3.29	10	
Sulfate		40.0	38.8	mg/L	7.69	2.95	10	

*** Exceeds %D Criteria**

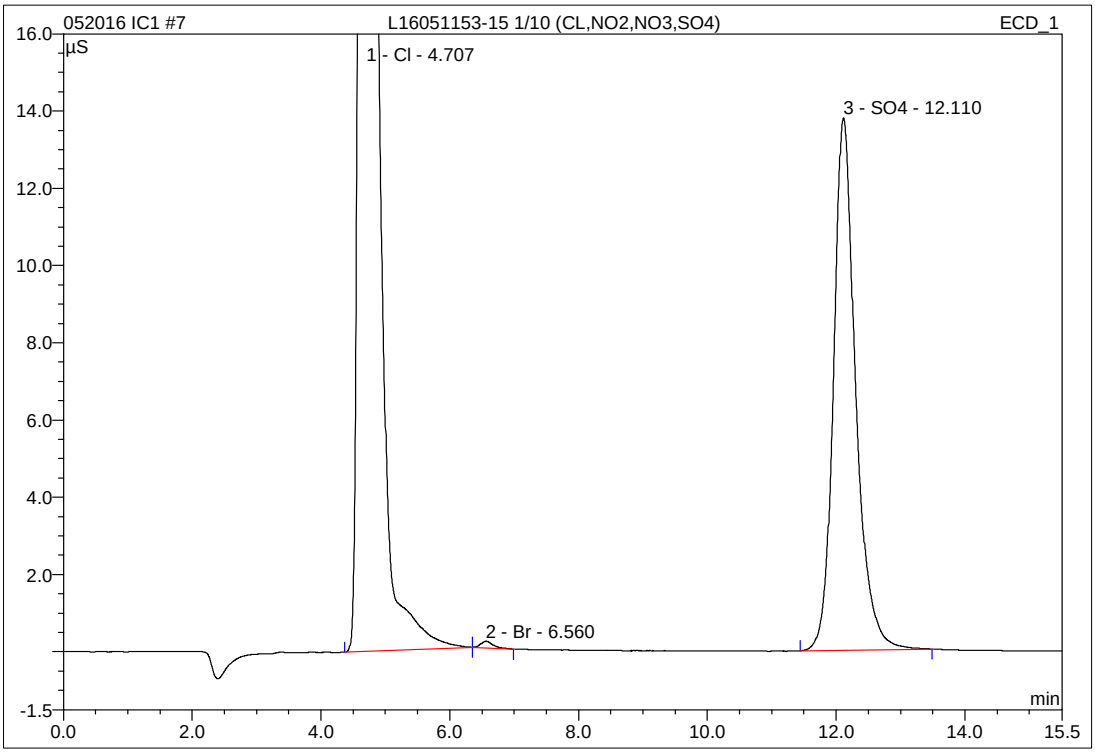
CCV - Modified 03/05/2008
PDF File ID: 4774263
Report generated 05/23/2016 09:54

2.2.1.3 Sample Data

7 L16051153-15 1/10 (CL,NO2,NO3,SO4)

1,10 ALS (CL,SO4>200PPM)

Sample Name:	**L16051153-15 1/10 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 17:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

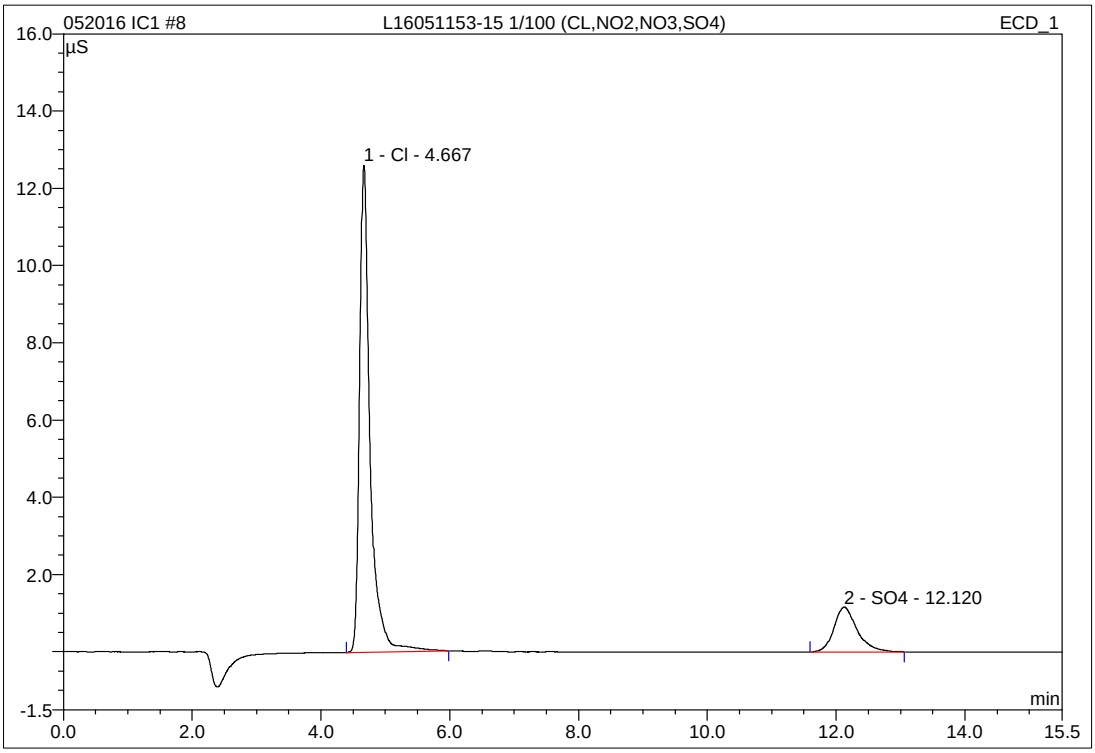


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.71	Cl	181.956	32.120	85.32	193.492	BMb
2	6.56	Br	0.172	0.038	0.10	0.606	bMB
3	12.11	SO4	13.783	5.488	14.58	40.933	BMB
Total:			195.911	37.647	100.00	235.032	

8 L16051153-15 1/100 (CL,NO2,NO3,SO4)

1,100 ALS (CL>ICAL)

Sample Name:	**L16051153-15 1/100 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 17:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

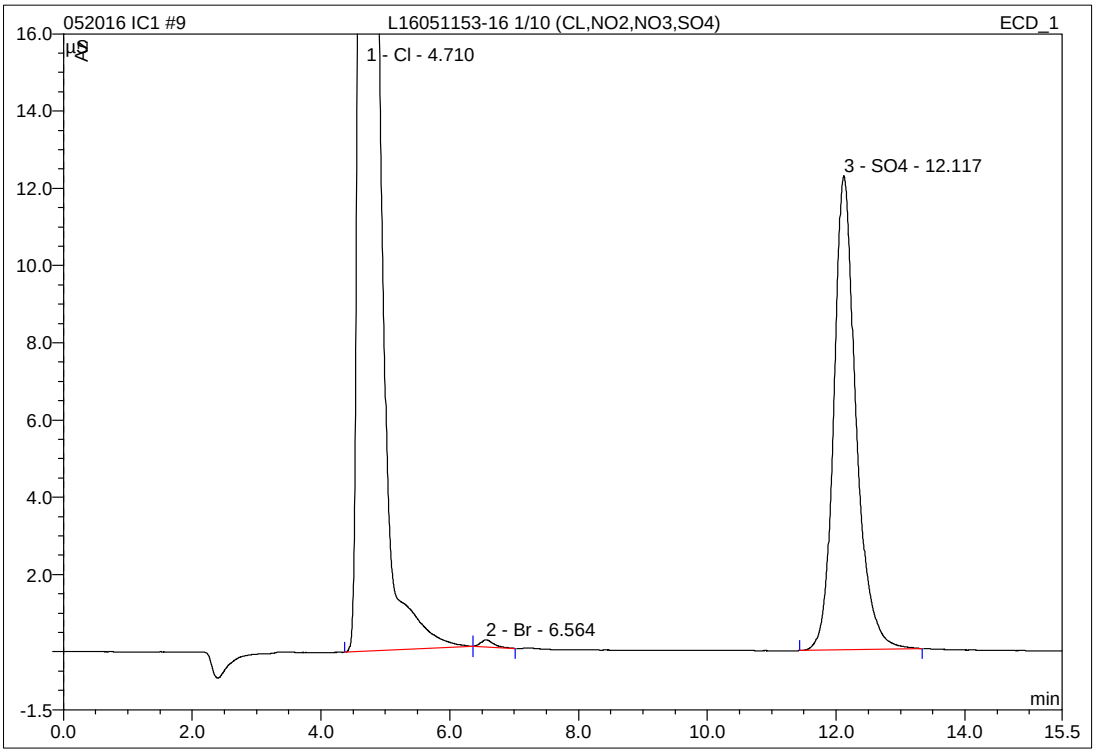


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.67	Cl	12.615	2.377	82.98	14.333	BMB
2	12.12	SO4	1.165	0.488	17.02	3.865	BMB
Total:			13.780	2.865	100.00	18.198	

9 L16051153-16 1/10 (CL,NO2,NO3,SO4)

1,10 ALS (CL,SO4>200PPM)

Sample Name:	**L16051153-16 1/10 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 17:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

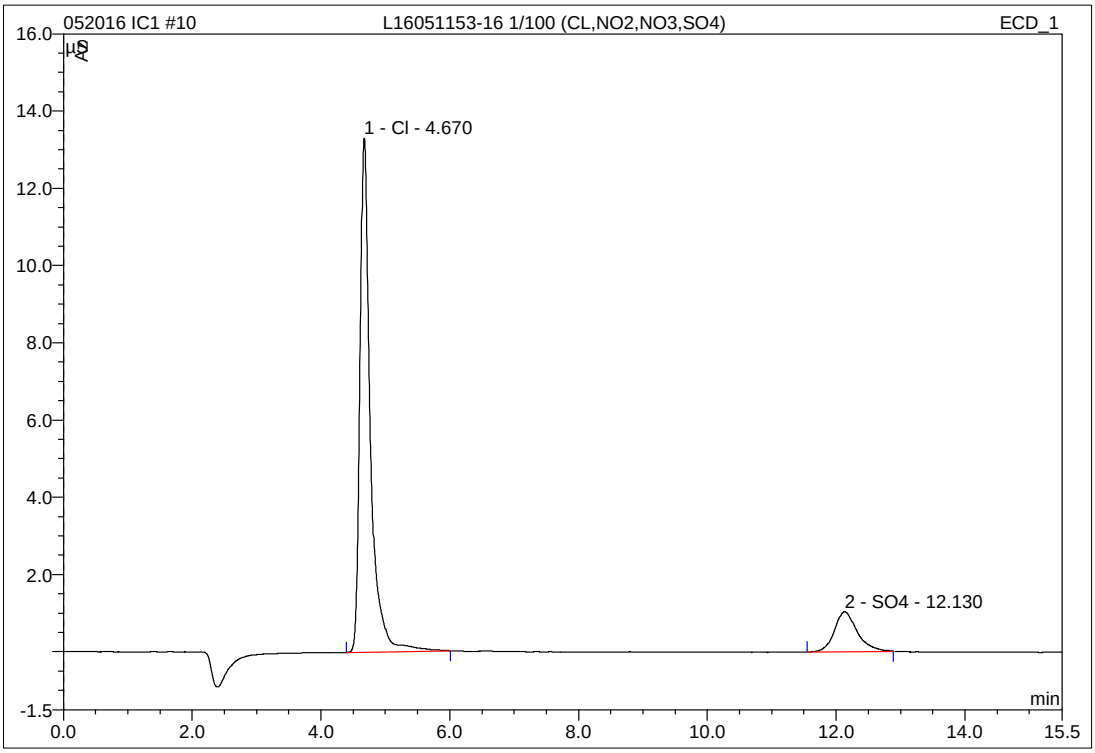


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.71	Cl	192.976	34.303	87.42	206.640	BMb
2	6.56	Br	0.184	0.042	0.11	0.660	bMB
3	12.12	SO4	12.276	4.895	12.47	36.534	BMB
Total:			205.437	39.240	100.00	243.834	

10 L16051153-16 1/100 (CL,NO2,NO3,SO4)

1,100 ALS (CL>ICAL)

Sample Name:	**L16051153-16 1/100 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 18:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

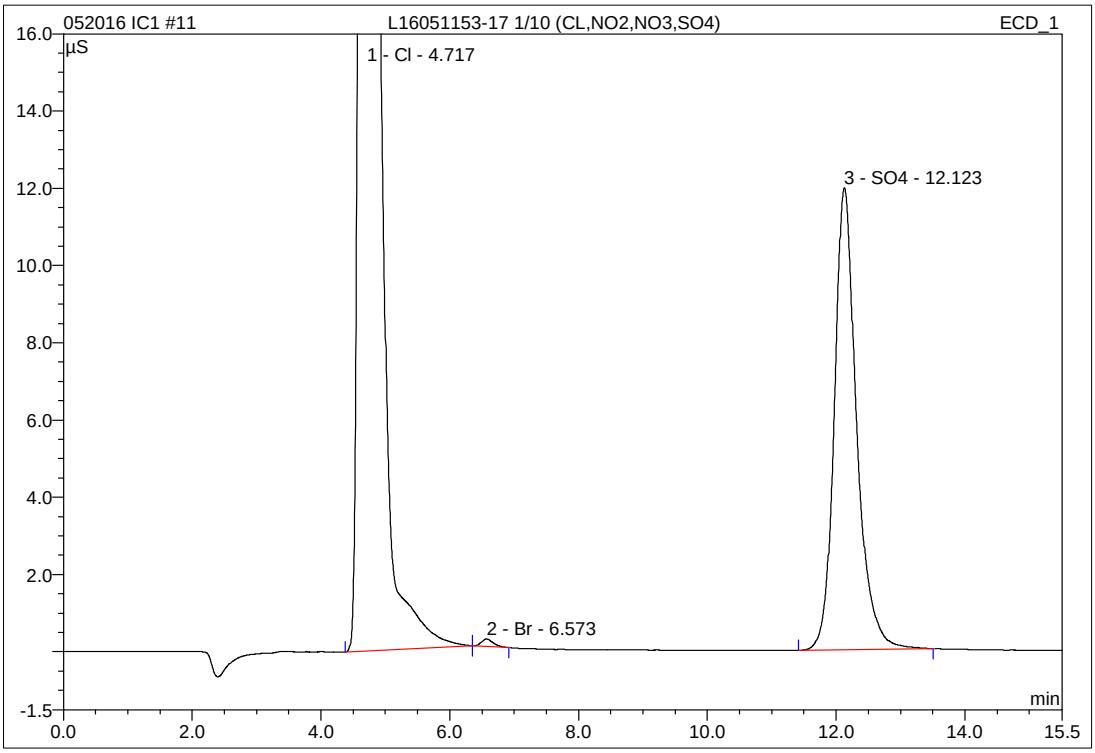


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.67	Cl	13.310	2.512	85.46	15.144	BMB
2	12.13	SO4	1.034	0.427	14.54	3.417	BMB
Total:			14.344	2.939	100.00	18.562	

11 L16051153-17 1/10 (CL,NO2,NO3,SO4)

1,10 ALS (CL,SO4>200PPM)

Sample Name:	**L16051153-17 1/10 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 18:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

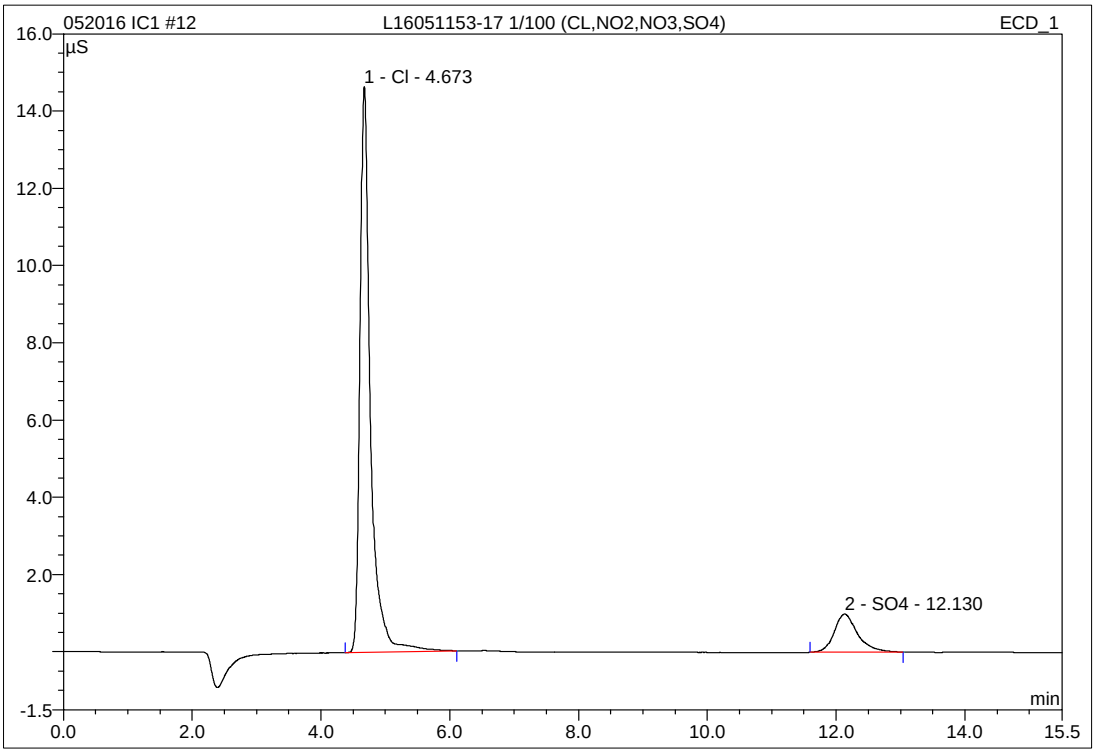


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.72	Cl	208.364	37.828	88.65	227.871	BMb
2	6.57	Br	0.194	0.041	0.10	0.647	bMB
3	12.12	SO4	11.967	4.801	11.25	35.836	BMB
Total:			220.525	42.669	100.00	264.354	

12 L16051153-17 1/100 (CL,NO2,NO3,SO4)

1,100 ALS (CL>ICAL)

Sample Name:	**L16051153-17 1/100 (CL,NO2,NO3,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 18:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



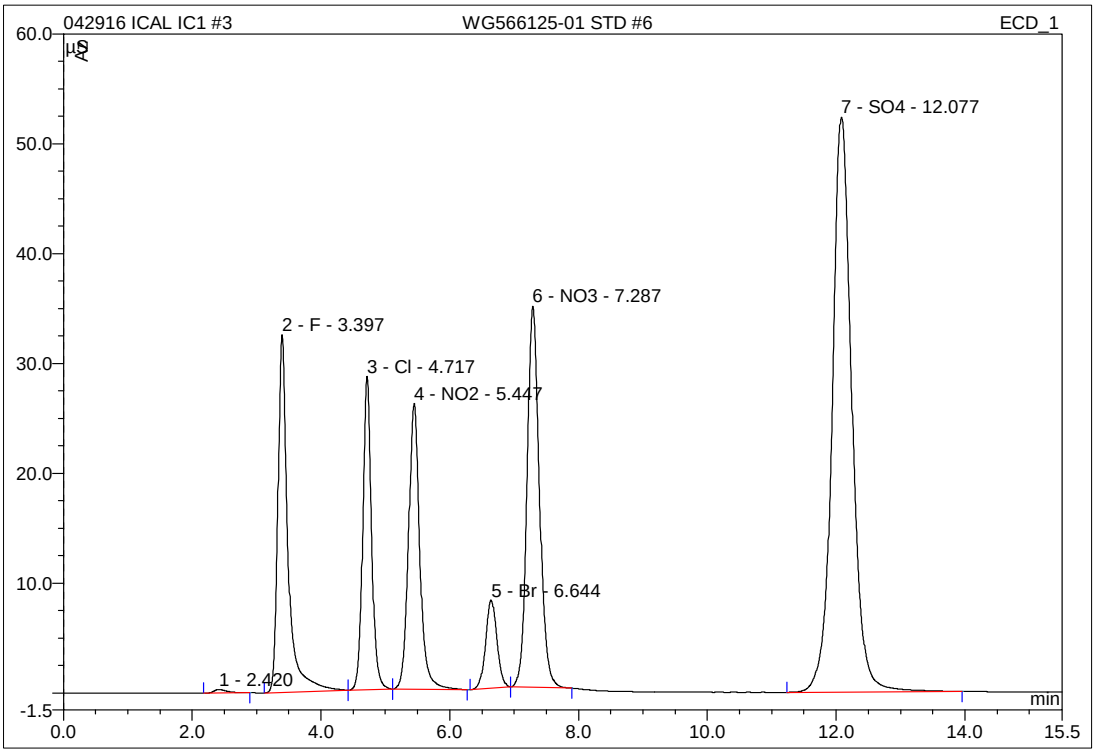
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.67	Cl	14.650	2.761	86.91	16.646	BMB
2	12.13	SO4	0.991	0.416	13.09	3.333	BMB
Total:			15.641	3.177	100.00	19.979	

2.2.1.4 Standards Data

3 WG566125-01 STD #6

1,1 AED STD74524 (_____psi @___:___)

Sample Name:	**WG566125-01 STD #6**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 11:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

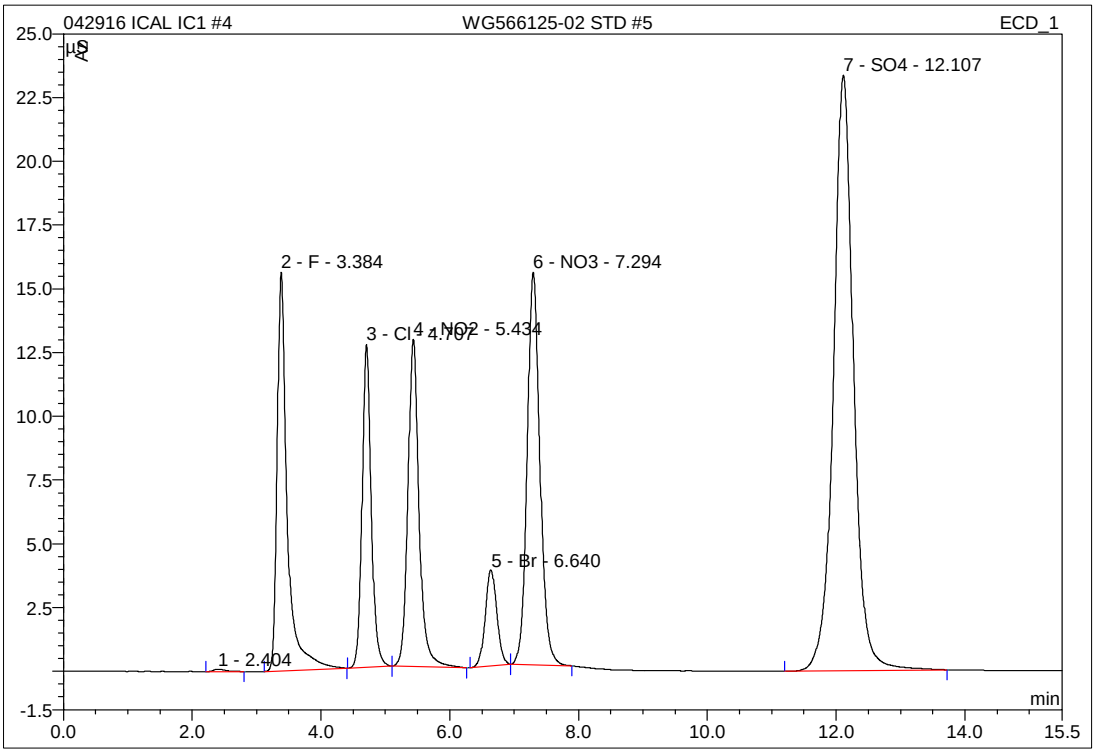


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.42	n.a.	0.310	0.075	0.17	n.a.	BMB
2	3.40	F	32.557	5.876	13.48	25.460	BMB
3	4.72	Cl	28.514	4.503	10.33	27.139	BMB
4	5.45	NO2	25.992	5.305	12.17	15.546	BMB
5	6.64	Br	8.014	1.633	3.75	25.377	BMb
6	7.29	NO3	34.689	7.727	17.73	18.298	bMB
7	12.08	SO4	52.305	18.475	42.38	137.202	BMB
Total:			182.381	43.595	100.00	249.021	

4 WG566125-02 STD #5

1,1 AED STD74524

Sample Name:	**WG566125-02 STD #5**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 11:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

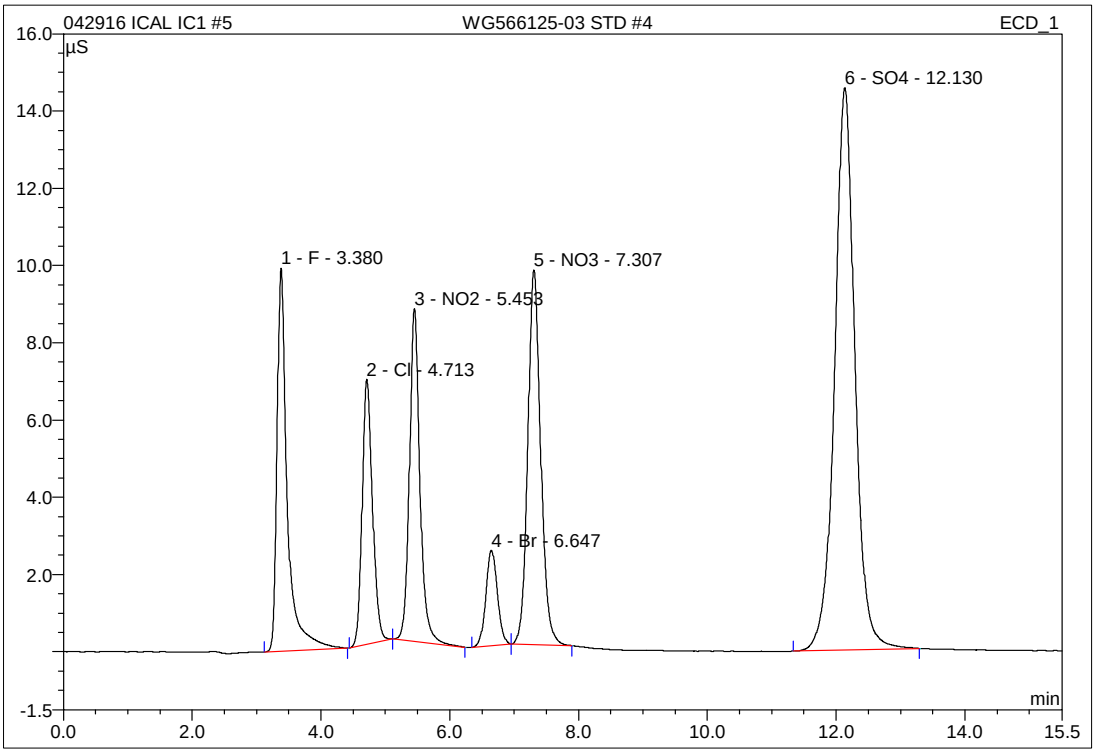


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.40	n.a.	0.095	0.021	0.10	n.a.	BMB
2	3.38	F	15.633	2.819	13.92	12.246	BMB
3	4.71	Cl	12.654	2.076	10.25	12.517	BMb
4	5.43	NO2	12.825	2.578	12.73	7.556	bMB
5	6.64	Br	3.769	0.782	3.86	12.163	BMB
6	7.29	NO3	15.394	3.532	17.44	8.377	bMB
7	12.11	SO4	23.351	8.446	41.70	62.857	BMB
Total:			83.720	20.254	100.00	115.716	

5 WG566125-03 STD #4

1,1 AED STD74524

Sample Name:	**WG566125-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

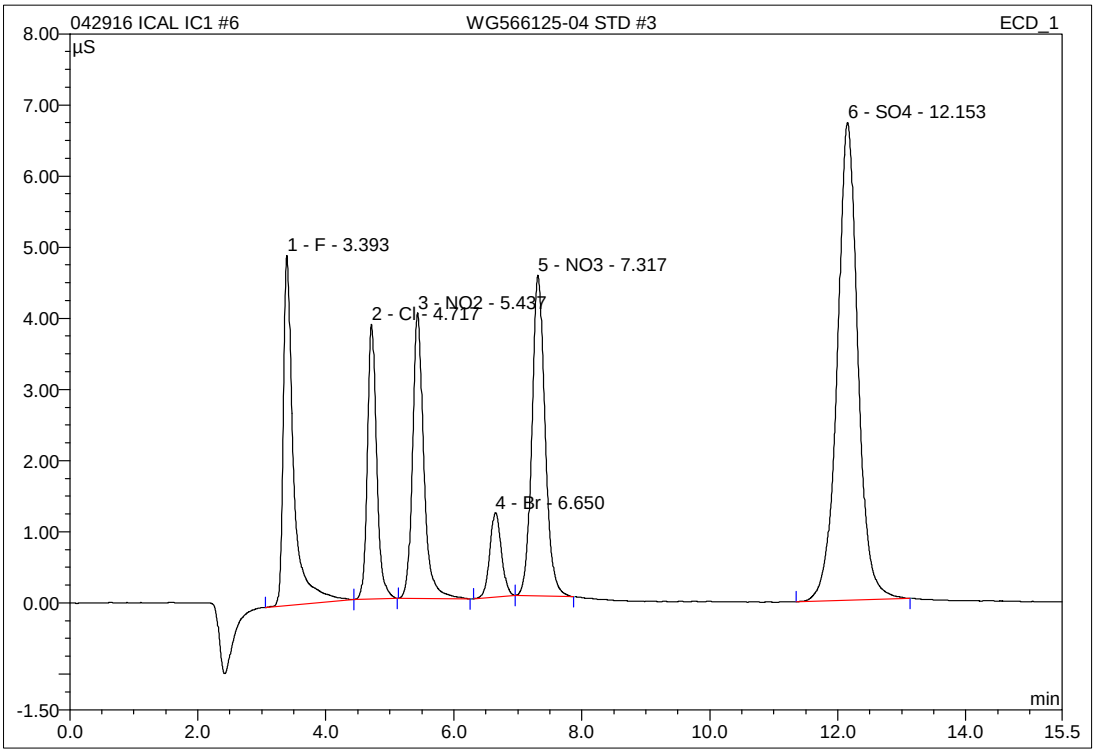


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	9.920	1.826	14.25	7.953	BMB
2	4.71	Cl	6.863	1.275	9.95	7.695	BMb
3	5.45	NO2	8.623	1.632	12.73	4.785	bMB
4	6.65	Br	2.469	0.513	4.00	7.974	BMB
5	7.31	NO3	9.699	2.255	17.59	5.358	bMB
6	12.13	SO4	14.564	5.319	41.49	39.676	BMB
Total:			52.139	12.820	100.00	73.440	

6 WG566125-04 STD #3

1,1 AED STD74524

Sample Name:	**WG566125-04 STD #3**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

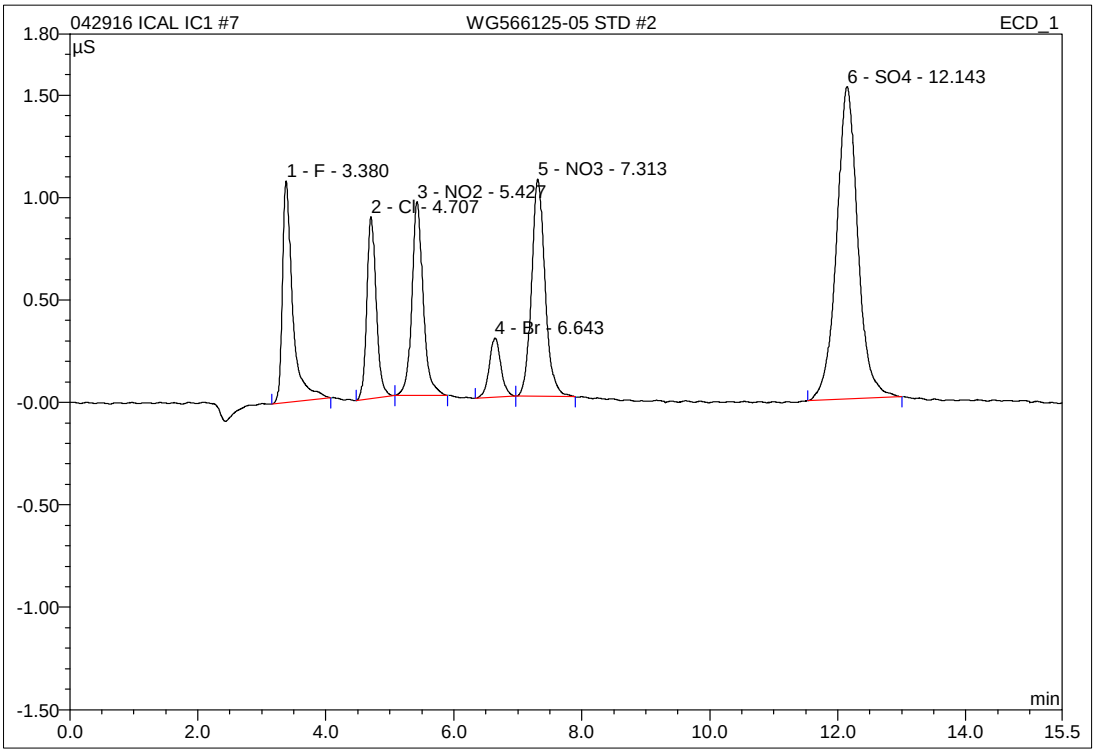


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	4.918	0.916	14.74	4.017	BMB
2	4.72	Cl	3.858	0.644	10.37	3.892	bMB
3	5.44	NO2	4.013	0.817	13.15	2.398	BMB
4	6.65	Br	1.186	0.249	4.00	3.875	BMB
5	7.32	NO3	4.506	1.073	17.28	2.563	bMB
6	12.15	SO4	6.714	2.513	40.45	18.874	BMB
Total:			25.194	6.211	100.00	35.619	

7 WG566125-05 STD #2

1,1 AED STD74524

Sample Name:	**WG566125-05 STD #2**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

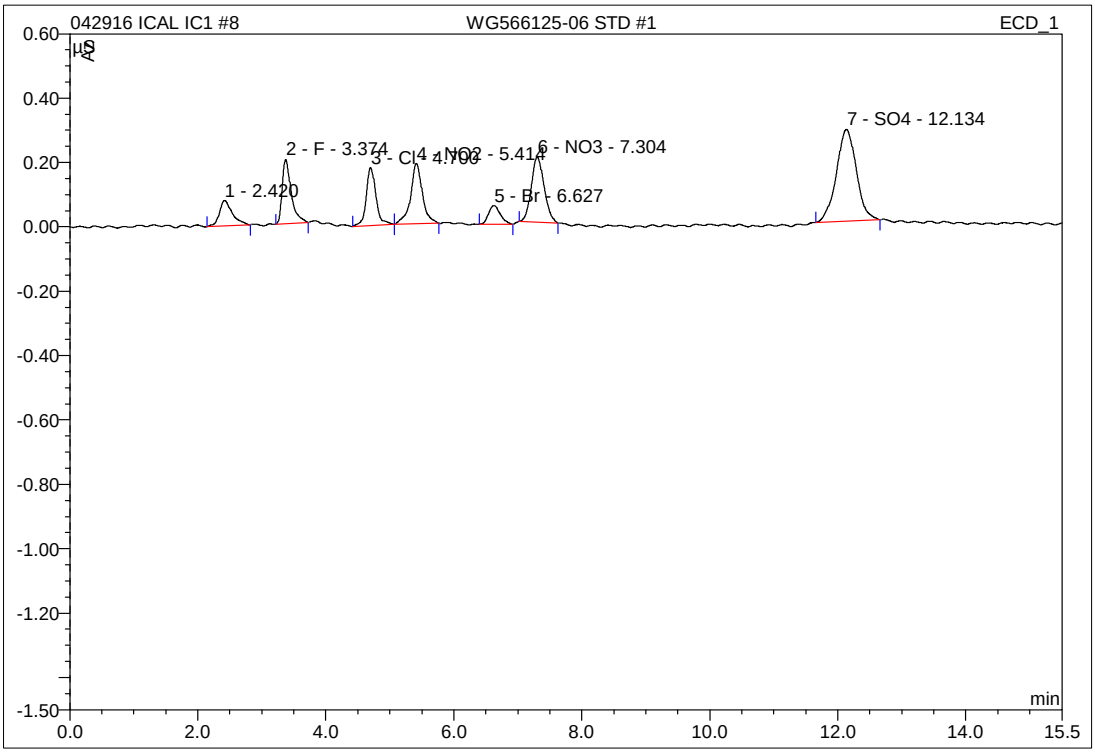


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	1.083	0.202	13.87	0.932	BMB
2	4.71	Cl	0.887	0.151	10.39	0.924	BMB
3	5.43	NO2	0.947	0.194	13.32	0.573	BMB
4	6.64	Br	0.290	0.061	4.22	0.967	BMB
5	7.31	NO3	1.059	0.260	17.83	0.639	BMB
6	12.14	SO4	1.525	0.588	40.38	4.609	BMB
Total:			5.793	1.457	100.00	8.644	

8 WG566125-06 STD #1

1,1 AED STD74525

Sample Name:	**WG566125-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



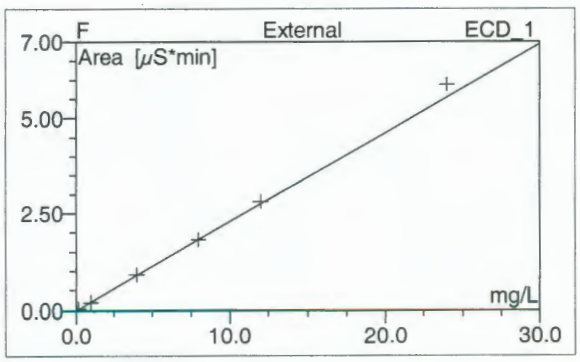
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.42	n.a.	0.080	0.019	6.56	n.a.	BMB
2	3.37	F	0.199	0.033	11.57	0.202	BMB
3	4.70	Cl	0.180	0.032	11.03	0.203	BMB
4	5.41	NO2	0.188	0.040	14.12	0.123	BMB
5	6.63	Br	0.058	0.012	4.25	0.201	BMB
6	7.30	NO3	0.203	0.047	16.53	0.137	BMB
7	12.13	SO4	0.285	0.103	35.94	1.013	BMB
Total:			1.193	0.287	100.00	1.880	

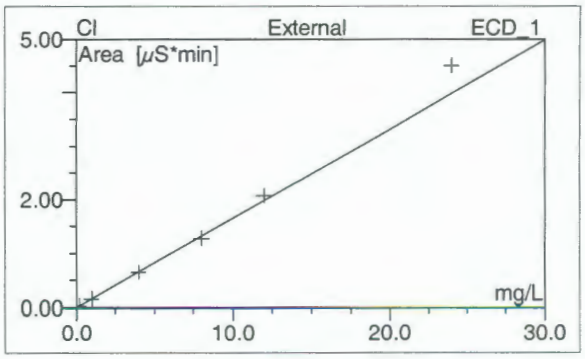
00749871

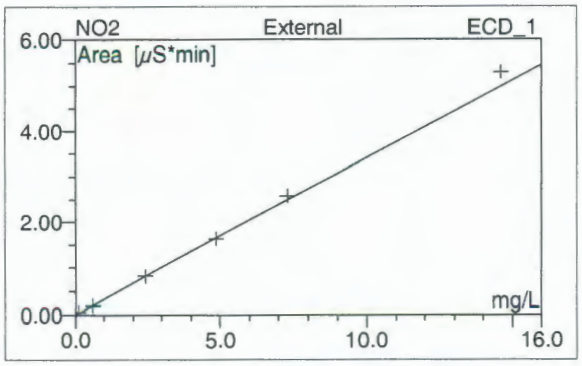
8 WG566125-06 STD #1

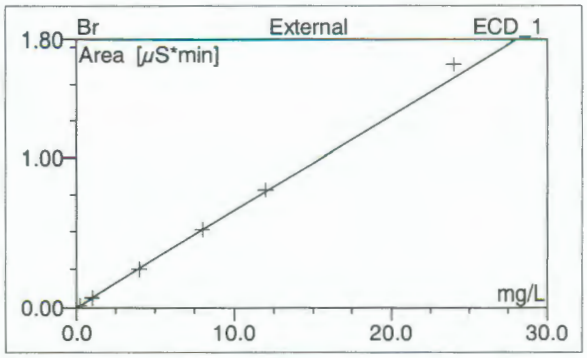
1,1 AED STD74525

Sample Name:	**WG566125-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**









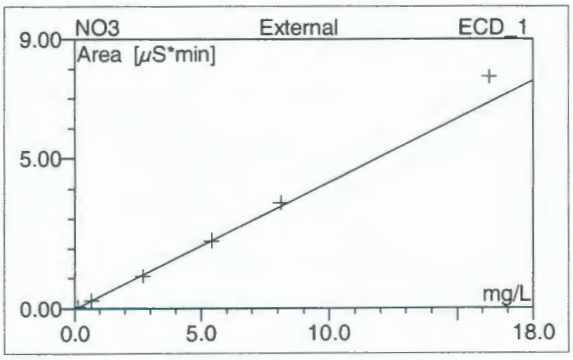
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	0.0000
6	7.30	NO3	YYLOff	6	99.7649	-0.0105	0.4229	0.0000
7	12.13	SO4	YYLOff	6	99.6654	-0.0336	0.1349	0.0000
Average:					99.8111	-0.0104	0.2268	0.0000

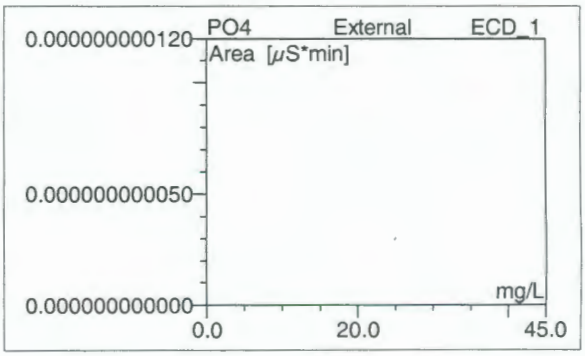
00749872

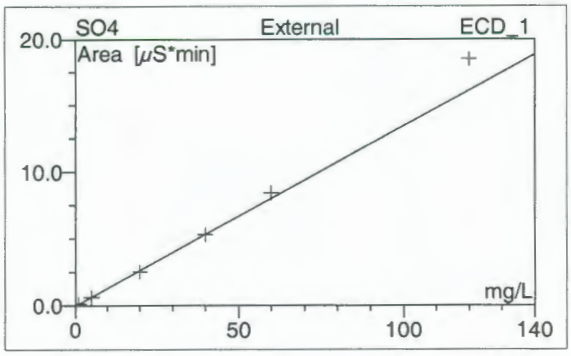
8 WG566125-06 STD #1

1,1 AED STD74525

Sample Name:	**WG566125-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**







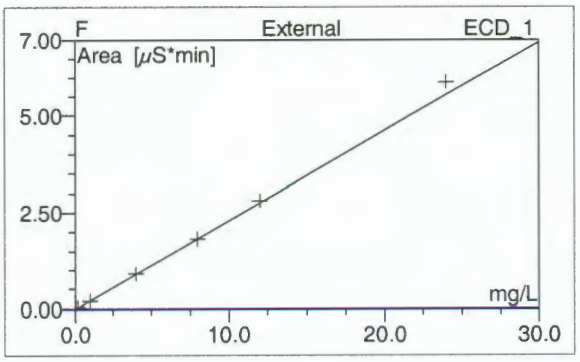
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	0.0000
6	7.30	NO3	YYLOff	6	99.7649	-0.0105	0.4229	0.0000
7	12.13	SO4	YYLOff	6	99.6654	-0.0336	0.1349	0.0000
Average:					99.8111	-0.0104	0.2268	0.0000

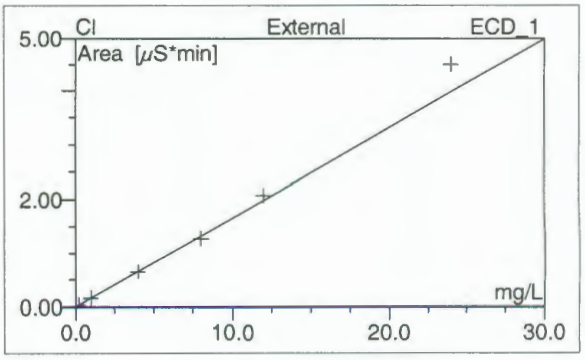
00749873

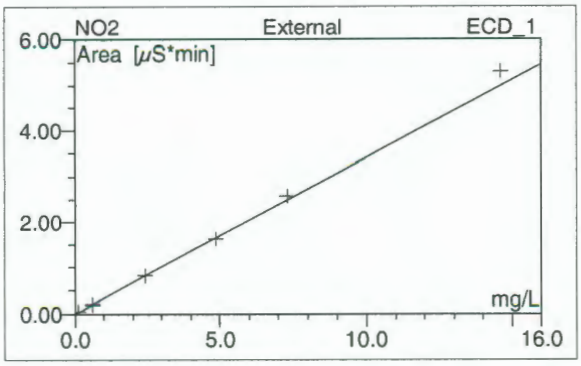
8 WG566125-06 STD #1

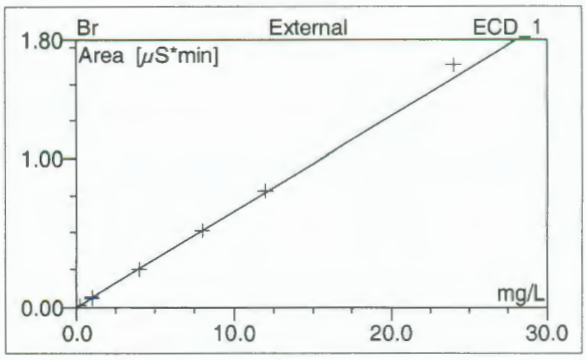
1,1 AED STD74525

Sample Name:	**WG566125-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**









No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	0.0000
6	7.30	NO3	YYLOff	6	99.7649	-0.0105	0.4229	0.0000
7	12.13	SO4	YYLOff	6	99.6654	-0.0336	0.1349	0.0000
Average:					99.8111	-0.0104	0.2268	0.0000

IC/Calibration(Batch)

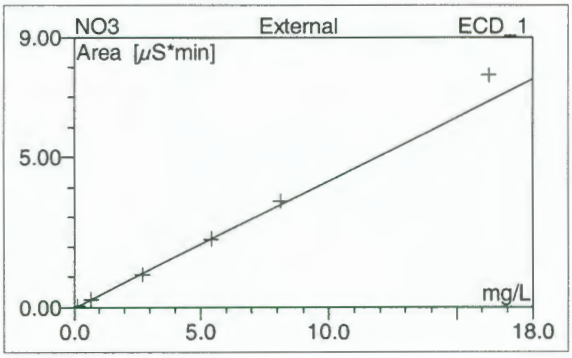
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

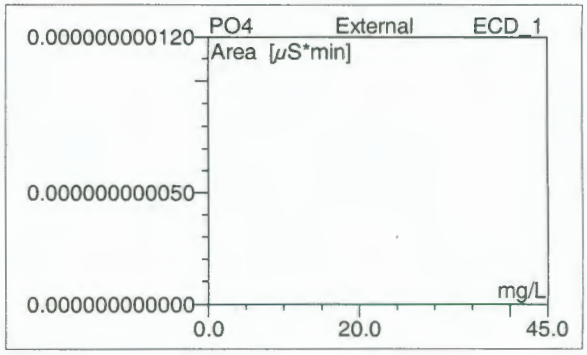
00749874

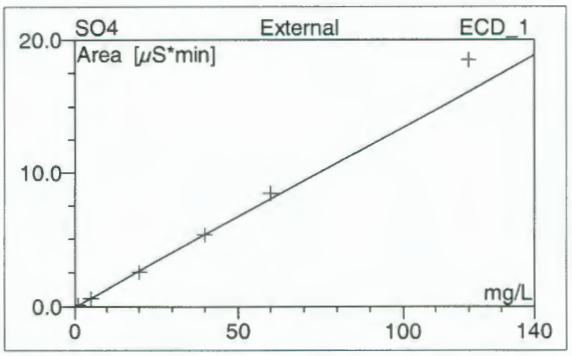
8 WG566125-06 STD #1

1,1 AED STD74525

Sample Name:	**WG566125-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**





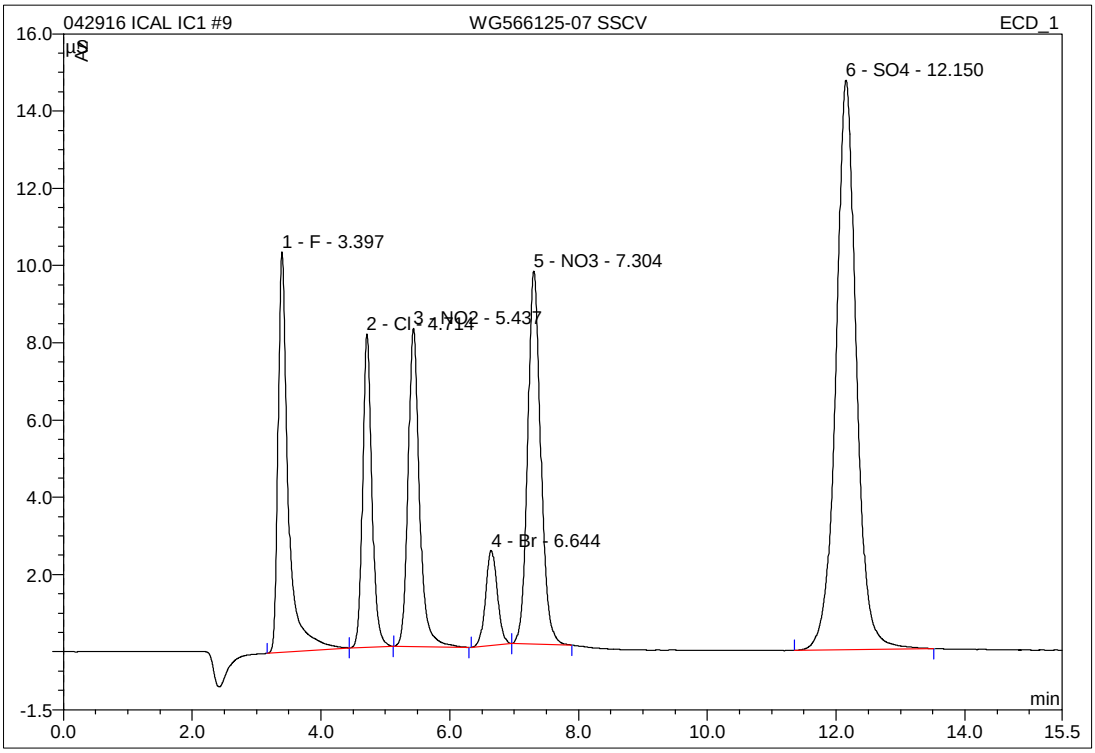


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	0.0000
6	7.30	NO3	YYLOff	6	99.7649	-0.0105	0.4229	0.0000
7	12.13	SO4	YYLOff	6	99.6654	-0.0336	0.1349	0.0000
Average:					99.8111	-0.0104	0.2268	0.0000

9 WG566125-07 SSCV

1,1 AED STD74524

Sample Name:	**WG566125-07 SSCV**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.40	F	10.371	1.900	14.45	8.271	BMB
2	4.71	Cl	8.115	1.351	10.27	8.152	BMB
3	5.44	NO2	8.239	1.689	12.85	4.953	BMB
4	6.64	Br	2.458	0.519	3.95	8.079	BMB
5	7.30	NO3	9.664	2.275	17.30	5.405	bMB
6	12.15	SO4	14.748	5.416	41.18	40.394	BMB
Total:			53.595	13.150	100.00	75.254	

9 WG566125-07 SSCV

1,1 AED STD74524

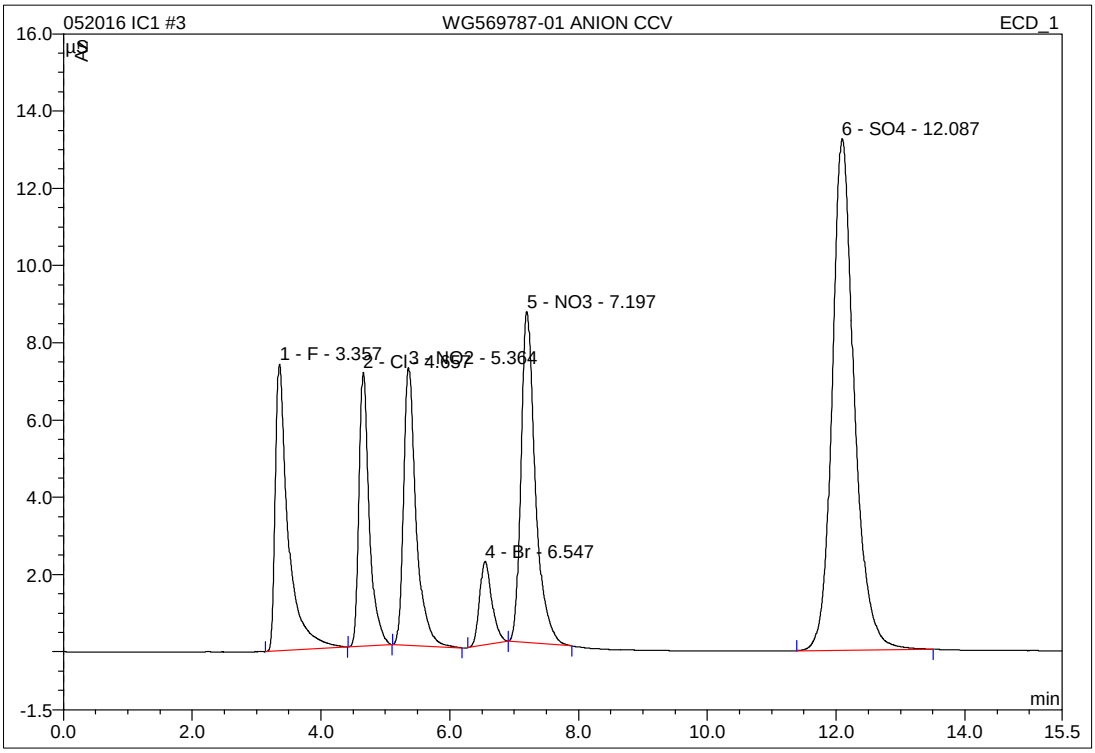
Sample Name:	**WG566125-07 SSCV**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/29/2016 12:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

WG566125-07 SSCV	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.2708	3.39	PASS
Cl	8.00	8.1519	1.90	PASS
NO2-N	4.8714	4.9535	1.68	PASS
Br	8.00	8.0787	0.98	PASS
NO3-N	5.4216	5.4053	-0.30	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.3939	0.98	PASS

3 WG569787-01 ANION CCV

1,1 ALS STD74524

Sample Name:	**WG569787-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 16:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	7.422	1.727	13.68	7.525	BMB
2	4.66	Cl	7.088	1.312	10.40	7.918	BMB
3	5.36	NO2	7.193	1.619	12.82	4.746	BMB
4	6.55	Br	2.165	0.480	3.81	7.475	BMb
5	7.20	NO3	8.575	2.208	17.49	5.246	bMB
6	12.09	SO4	13.242	5.276	41.80	39.360	BMB
Total:			45.685	12.623	100.00	72.271	

3 WG569787-01 ANION CCV

1,1 ALS STD74524

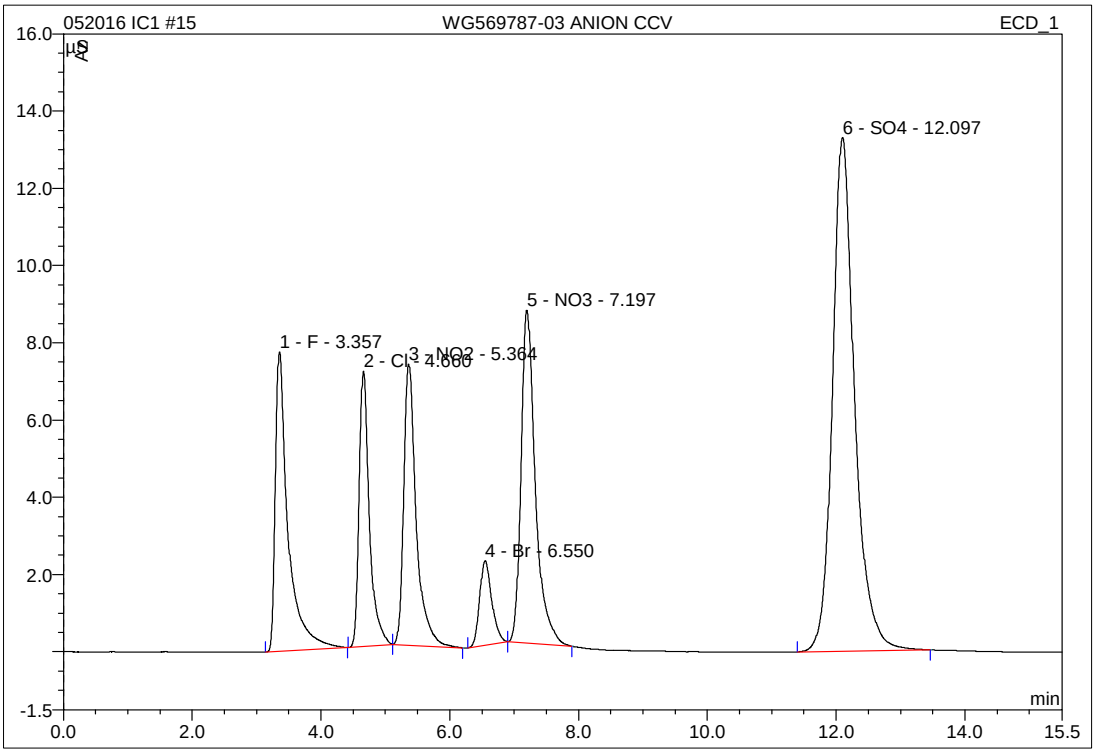
Sample Name:	**WG569787-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 16:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

WG569787-01 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	7.5255	-5.93	PASS
Cl	8.00	7.9179	-1.03	PASS
NO2-N	4.8714	4.7464	-2.57	PASS
Br	8.00	7.4748	-6.56	PASS
NO3-N	5.4216	5.2461	-3.24	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.3601	-1.60	PASS

15 WG569787-03 ANION CCV

1,1 ALS STD74524

Sample Name:	**WG569787-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 19:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	7.755	1.763	13.90	7.678	BMB
2	4.66	Cl	7.131	1.309	10.32	7.896	BMB
3	5.36	NO2	7.272	1.625	12.81	4.765	BMB
4	6.55	Br	2.183	0.479	3.78	7.450	BMb
5	7.20	NO3	8.617	2.204	17.38	5.237	bMB
6	12.10	SO4	13.309	5.302	41.81	39.555	BMB
Total:			46.267	12.682	100.00	72.581	

15 WG569787-03 ANION CCV

1,1 ALS STD74524

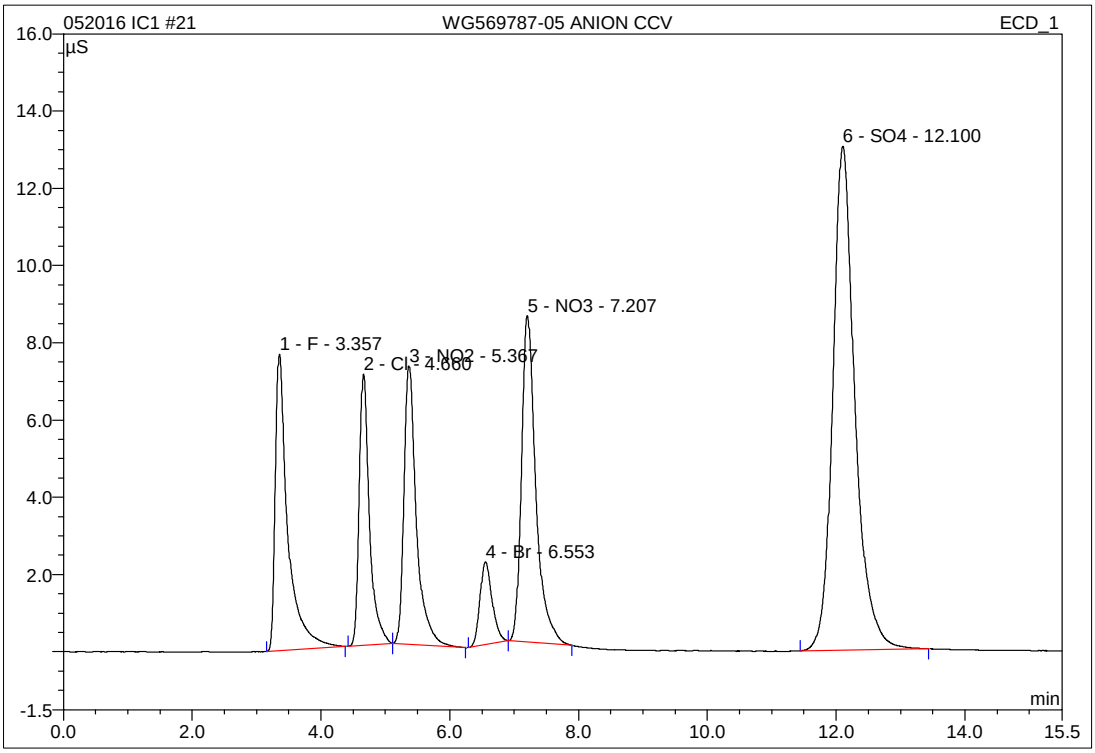
Sample Name:	**WG569787-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 19:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

WG569787-03 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	7.6781	-4.02	PASS
Cl	8.00	7.8957	-1.30	PASS
NO2-N	4.8714	4.7653	-2.18	PASS
Br	8.00	7.4501	-6.87	PASS
NO3-N	5.4216	5.2367	-3.41	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.5546	-1.11	PASS

21 WG569787-05 ANION CCV

1,1 ALS STD74524

Sample Name:	**WG569787-05 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 21:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	7.680	1.728	13.86	7.528	BMB
2	4.66	Cl	7.029	1.294	10.38	7.809	BMB
3	5.37	NO2	7.208	1.607	12.89	4.711	BMB
4	6.55	Br	2.145	0.470	3.77	7.314	BMb
5	7.21	NO3	8.457	2.164	17.36	5.143	bMB
6	12.10	SO4	13.045	5.203	41.74	38.820	BMB
Total:			45.564	12.467	100.00	71.325	

21 WG569787-05 ANION CCV

1,1 ALS STD74524

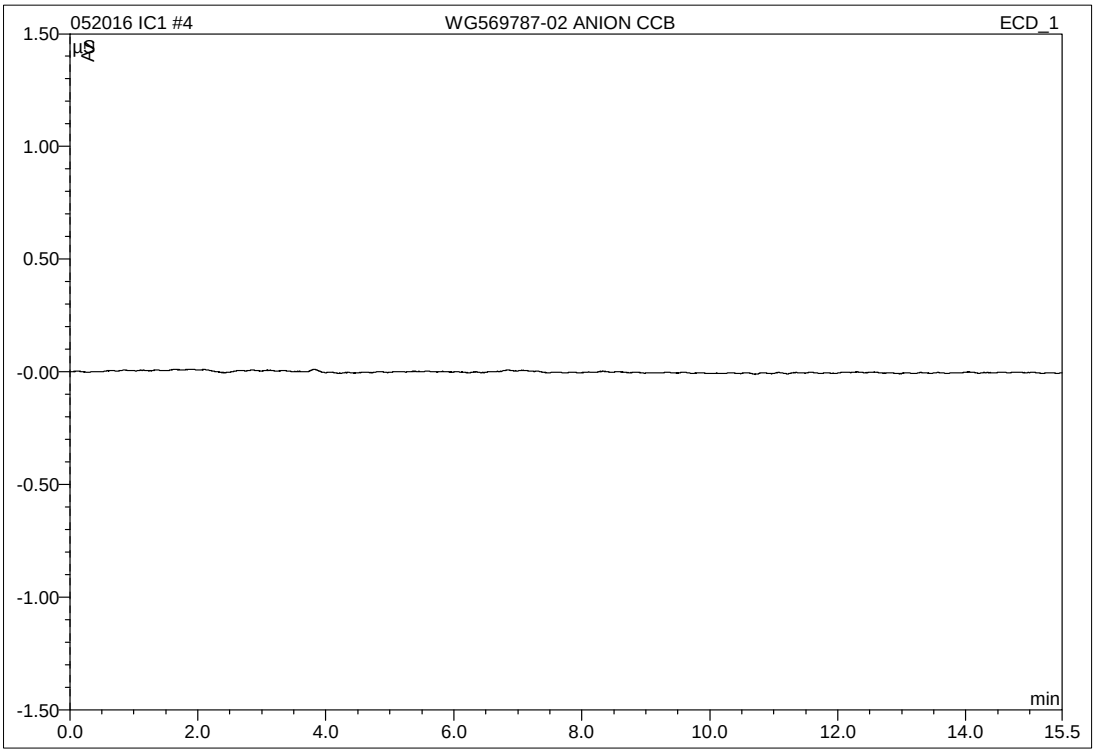
Sample Name:	**WG569787-05 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 21:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

WG569787-05 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	7.5277	-5.90	PASS
Cl	8.00	7.8093	-2.38	PASS
NO2-N	4.8714	4.7115	-3.28	PASS
Br	8.00	7.3137	-8.58	PASS
NO3-N	5.4216	5.1429	-5.14	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	38.8200	-2.95	PASS

4 WG569787-02 ANION CCB

1,1 ALS

Sample Name:	**WG569787-02 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 16:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

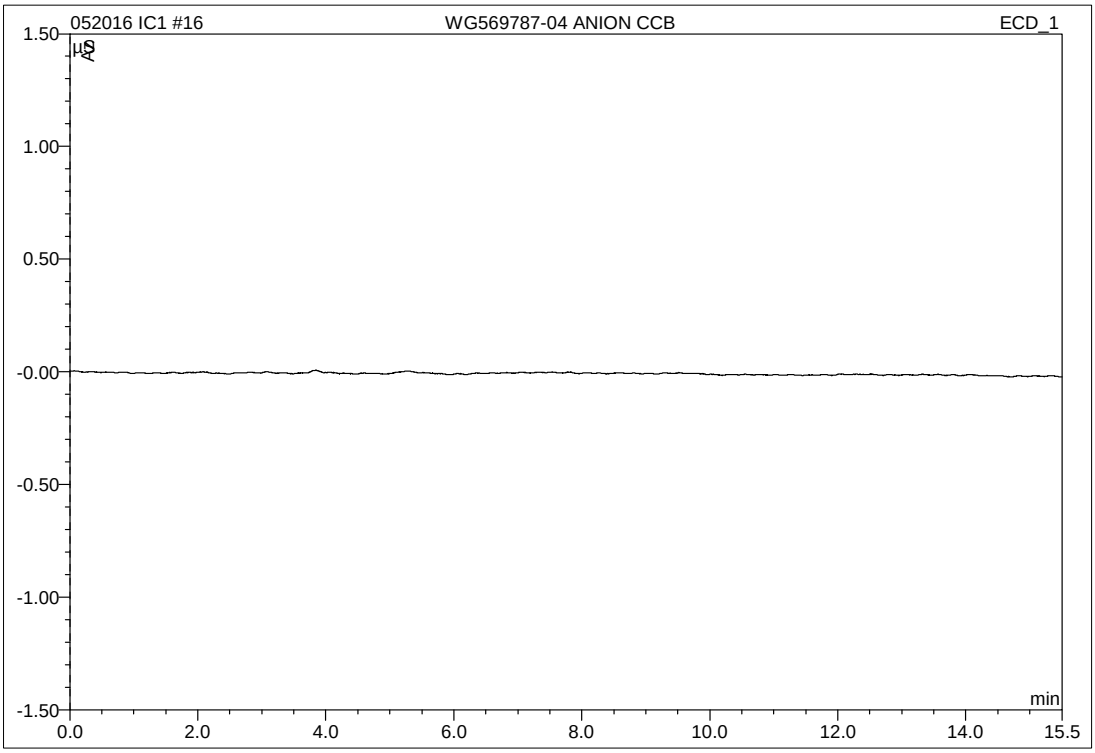


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

16 WG569787-04 ANION CCB

1,1 ALS

Sample Name:	**WG569787-04 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 19:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

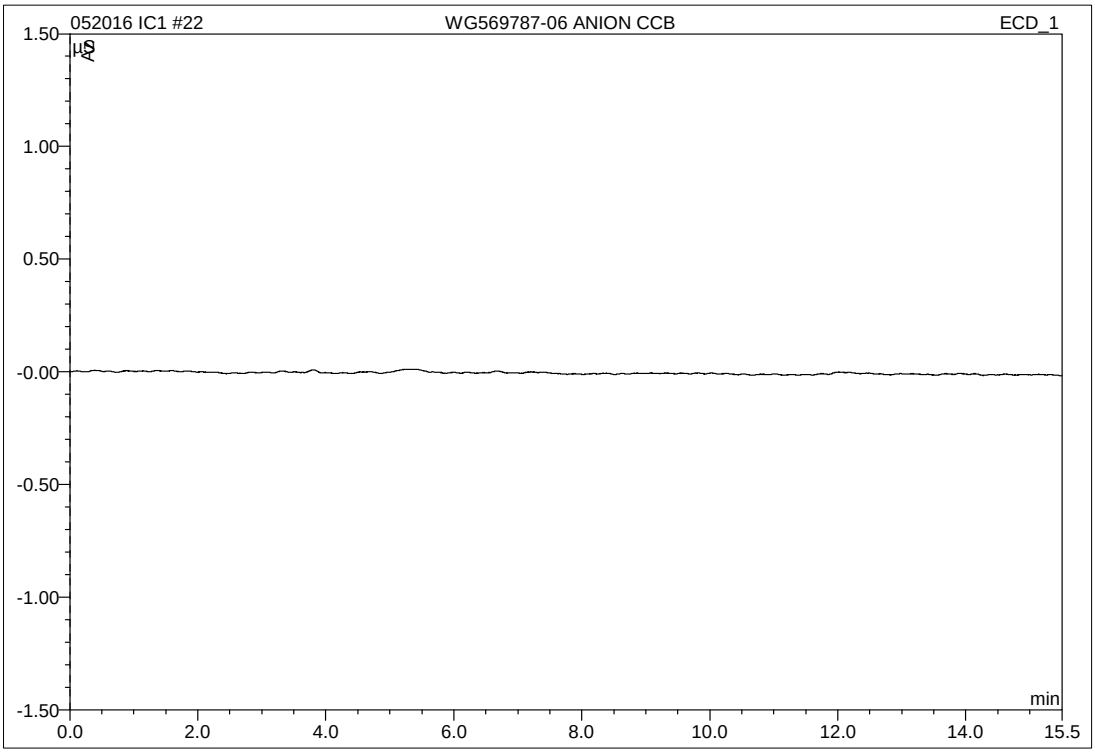


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

22 WG569787-06 ANION CCB

1,1 ALS

Sample Name:	**WG569787-06 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 21:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

RETENTION TIME WINDOWS

Lab Name: MICROBAC Laboratories, Inc.

Instrument ID: IC1

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	6/5/2013	6/5/2013	6/6/2013
File #	WG432976-05	WG432976-07	WG433275-01
Time	16:16	18:25	16:50

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.40	3.41	0.017
Cl	4.87	4.87	4.88	0.017
NO2-N	5.67	5.66	5.67	0.017
Br	7.01	6.99	7.02	0.046
NO3-N	7.76	7.74	7.77	0.046
SO4	13.35	13.35	13.35	0.000

Instrument ID: IC2

IC Column: AS14A-4mm

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	3/2/2015	3/4/2015	3/5/2015
File #	WG514023-02	WG514341-02	WG514431-02
Time	23:15	18:47	17:41

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.33	3.33	3.32	0.017
Cl	4.75	4.78	4.76	0.043
NO2-N	5.54	5.59	5.56	0.082
Br	6.86	6.98	6.93	0.180
NO3-N	7.59	7.73	7.67	0.222
SO4	12.42	12.38	12.34	0.116

Instrument ID: IC3

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	5/20/2014	5/21/2014	5/21/2014
File #	WG476910-05	WG476934-01	WG476934-03
Time	12:41	9:54	13:59

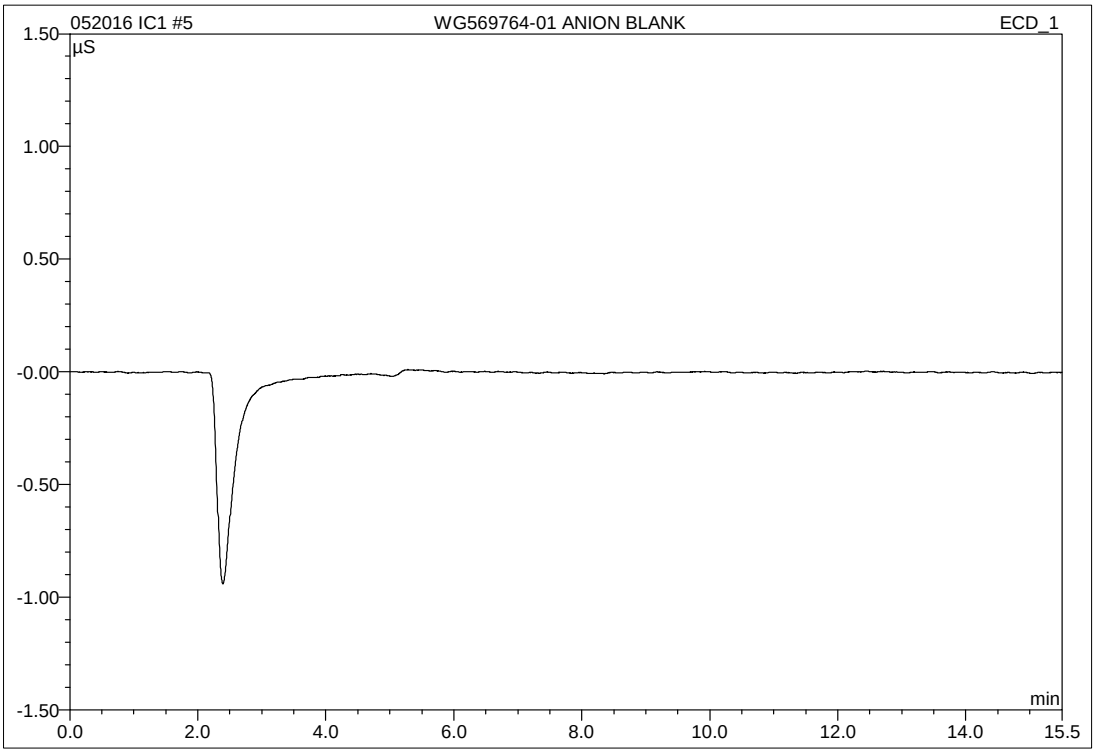
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

2.2.1.5 Raw QC Data

5 WG569764-01 ANION BLANK

1,1 ALS

Sample Name:	**WG569764-01 ANION BLANK**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 16:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

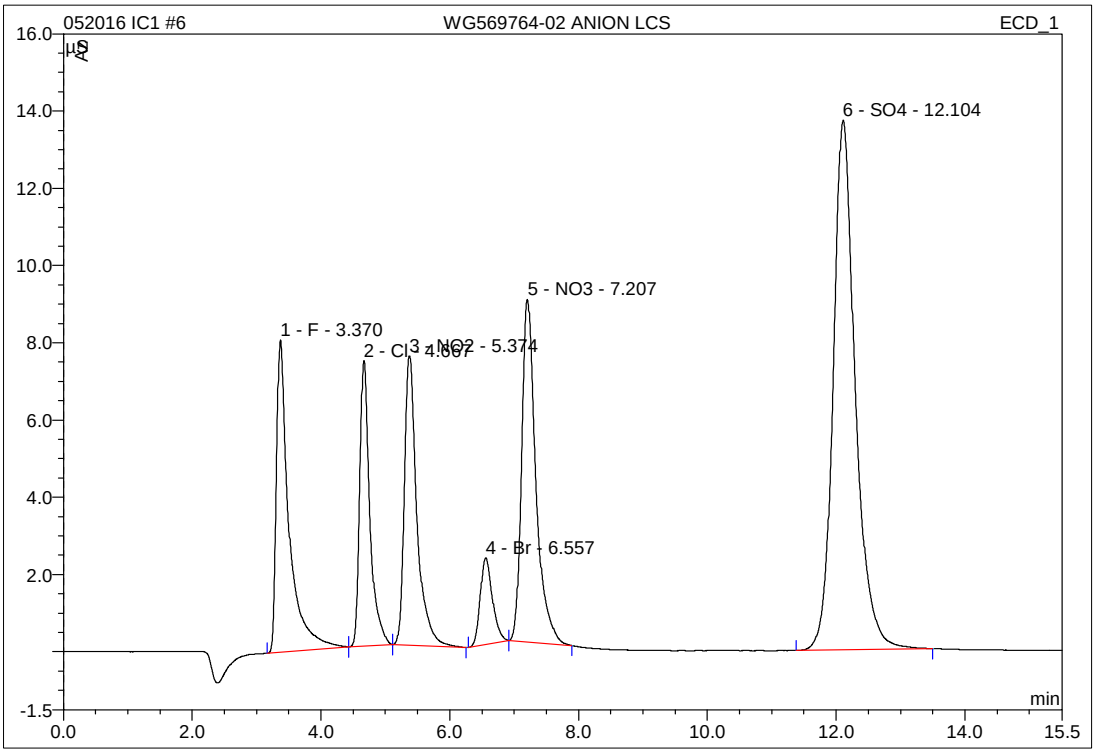


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

6 WG569764-02 ANION LCS

1,1 ALS

Sample Name:	**WG569764-02 ANION LCS**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 16:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**

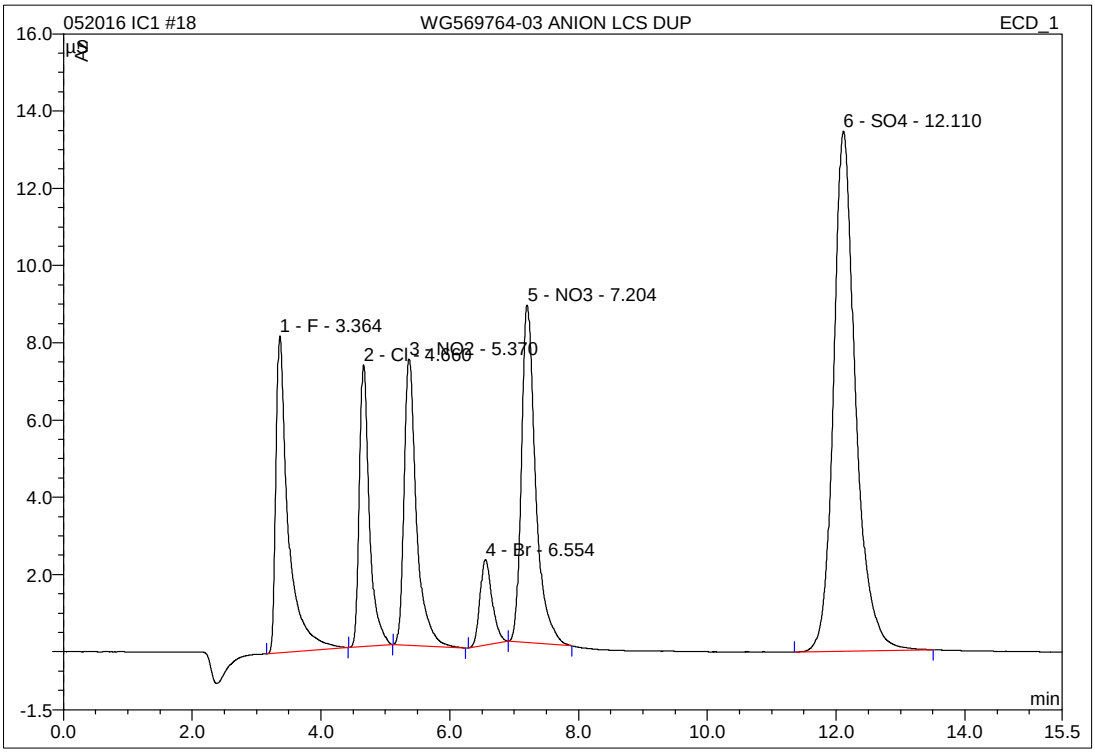


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	8.092	1.832	14.03	7.977	BMB
2	4.67	Cl	7.393	1.343	10.28	8.103	BMB
3	5.37	NO2	7.493	1.681	12.87	4.929	BMB
4	6.56	Br	2.244	0.493	3.77	7.665	BMb
5	7.21	NO3	8.866	2.261	17.31	5.371	bMB
6	12.10	SO4	13.714	5.449	41.73	40.642	BMB
Total:			47.802	13.059	100.00	74.688	

18 WG569764-03 ANION LCS DUP

1,1 ALS

Sample Name:	**WG569764-03 ANION LCS DUP**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**042916_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/20/2016 20:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	8.203	1.822	14.15	7.936	BMB
2	4.66	Cl	7.302	1.318	10.23	7.950	BMB
3	5.37	NO2	7.415	1.657	12.87	4.858	BMB
4	6.55	Br	2.219	0.483	3.75	7.520	BMb
5	7.20	NO3	8.738	2.223	17.27	5.282	bMB
6	12.11	SO4	13.476	5.372	41.72	40.072	BMB
Total:			47.353	12.875	100.00	73.619	

2.2.2 Ferrous Iron Data

2.2.2.1 Summary Data

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW11-051916	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	05/13/2016 11:00
Workgroup #:	WG570158	**Analyst:**	DCM	**Run Date:**	05/25/2016 09:10
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	00.1605250910-05
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW08-051916	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	05/13/2016 11:00
Workgroup #:	WG570158	**Analyst:**	DCM	**Run Date:**	05/25/2016 09:10
Collect Date:	05/19/2016 09:55	**Dilution:**	1	**File ID:**	00.1605250910-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0585		0.0400	0.0400	0.0200

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	67WW13-051916	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	05/13/2016 11:00
Workgroup #:	WG570158	**Analyst:**	DCM	**Run Date:**	05/25/2016 09:10
Collect Date:	05/19/2016 11:00	**Dilution:**	1	**File ID:**	00.1605250910-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.2.2.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 25-MAY-2016
Analyst: DCM
Analyst: NA
Method: FERROUS
Instrument: UV-2600
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG570158

Calibration/Linearity	05-13-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
26-MAY-2016

Secondary Reviewer:
26-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-26-2016 14:01:24

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM3500Fe-B-1997 AAB#: WG570158

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-051916	15	05/19/16					05/25/2016	6	7		05/25/16	6	7	
67WW08-051916	16	05/19/16					05/25/2016	6	7		05/25/16	6	7	
67WW13-051916	17	05/19/16					05/25/2016	5.9	7		05/25/16	5.9	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4781625
Report generated 05/26/2016 10:09

METHOD BLANK SUMMARY

Login Number:	L16051153	**Work Group:**	WG570158
Blank File ID:	00.1605250910-02	**Blank Sample ID:**	WG570158-01
Prep Date:	05/25/16 09:10	**Instrument ID:**	UV-2600
Analyzed Date:	05/25/16 09:10	**Method:**	SM3500Fe-B-1997
Analyst:	DCM		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG570158-02	00.1605250910-03	05/25/16 09:10	
LCS2	WG570158-03	00.1605250910-04	05/25/16 09:10	
67WW11-051916	L16051153-15	00.1605250910-05	05/25/16 09:10	
67WW08-051916	L16051153-16	00.1605250910-06	05/25/16 09:10	
67WW13-051916	L16051153-17	00.1605250910-07	05/25/16 09:10	
DUP	WG570158-05	00.1605250910-08	05/25/16 09:10	

Report Name: BLANK_SUMMARY
PDF File ID: 4781626
Report generated 05/26/2016 10:09

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/25/16 09:10 Sample ID: WG570158-01
Instrument ID: UV-2600 Run Date: 05/25/16 09:10 Prep Method: SM3500Fe-B-1997
File ID: 00.1605250910-02 Analyst: DCM Method: SM3500Fe-B-1997
Workgroup (AAB#): WG570158 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-260-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Ferrous - Laboratory	0.0200	0.0400	0.0200	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4781627
26-MAY-2016 10:09

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: DCM Prep Method: SM3500Fe-B-1997
Instrument ID: UV-2600 Matrix: Water Method: SM3500Fe-B-1997
Workgroup (AAB#): WG570158 Units: mg/L
QC Key: DOD4 Lot #: STD74624

Sample ID: WG570158-02 LCS File ID: 00.1605250910-03 Run Date: 05/25/2016 09:10
Sample ID: WG570158-03 LCS2 File ID: 00.1605250910-04 Run Date: 05/25/2016 09:10

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Iron, Ferrous - Laboratory	0.200	0.199	99.6	0.200	0.195	97.5	2.15	75 - 125	25	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4781628
Report generated: 05/26/2016 10:09

2.2.2.3 Raw Data

WG 568690

Curves

Parameter: Ferrous Iron

Spectrophotometer: UV-2600

Calibration (Curve) standard stock: Std 76129

Concentration: 100 mg/L

Recipe for preparation of curve standards found in:
SOP: 3500 Revision: 7 Page: 8

Second Source Stock: Std 74624 (concentration: 100 mg/L)

Daily Preparation: 2(100)/100

concentration = 0.2

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0	50	10 cm	510	0.001
0.04	50	10	510	0.046
0.08	50	10	510	0.078
0.2	50	10	510	0.197
0.4	50	10	510	0.384
0.6	50	10	510	0.570
			510	
2nd Source 0.2	50	10	510	0.208

Analyst: David Herbold

Date/Time: 5/13/16 1100

DCN#118466

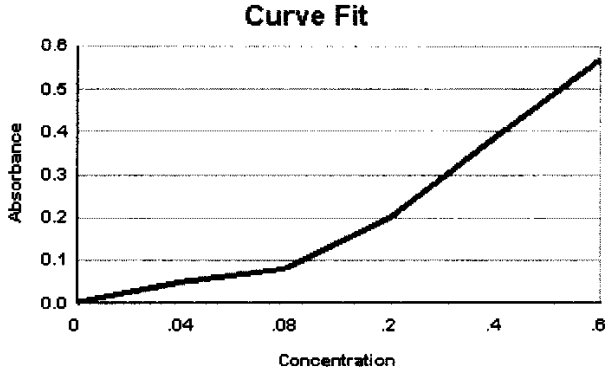
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup:WG568690
Analytical Method:FERROUS
Instrument ID:UV-2600

Analyst:DCM
Initial Calibration Date:05/13/2016

Analyte: FERROUS IRON
Number of Points: 6
Slope: 0.945101
Y-Intercept: 0.00474448
Coef. Of Correlation (R^2): 0.999812
Coef. Of Correlation (R): 0.999906

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	0.00474448
0.0400	0.0460	0.00160	0.00184	0.0425485
0.0800	0.0780	0.00640	0.00624	0.0803525
0.200	0.197	0.0400	0.0394	0.193765
0.400	0.384	0.160	0.154	0.382785
0.600	0.570	0.360	0.342	0.571805



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 05/13/2016 11:03

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG568690
File ID: 00.1605131100-07
CCV ID: WG568690-07
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 05/13/2016
Run Time: 11:00
Analyst: DCM
Cal ID: UV-260 - 13-MAY-16 11:00:06

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.2	0.215	1.04	7.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 05/13/2016 11:03

[redacted]

WORKGROUP: WG570158

Ferrous Iron

SM 3500Fe-B

SOP K3500 Revision # 8

Instrument: ~~UV-120-1V~~ UV-2600

Curve Reference: 5/13/16

CCV: Std 76129
Daily Dilution: 3(100)/1000
Daily Dilution: 0.3

RGTS: 35657
RGTS: 36789
RGTS: 35655

LCS: Std 74624
Daily Dilution: 2(100)/1000
Daily Dilution: 0.2

Spike: Std 74624
Daily Dilution: 0.1(100)/50
Daily Dilution: 0.2

Sample	Blank	Volume (mL)	Dilution	Cell Size (nm)	Absorbance
CCV: 0.3 mg/L		50		10	0.287
BLANK		50		10	0.002
LCS: 0.2 mg/L		50		10	0.193
LCS DUP: (0.2 mg/L)		50		10	0.189
05-1153-15		50		10	0.605
16		50		10	0.068
17		50		10	0.000
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
DUP: 05-1153-17		50		10	0.001
MS: ( ) 05-1153-17		50		10	0.185
MSD: ( )		50			
CCV: ( ) 0.3		50		10	0.285

Analyst: David Merkle Date/Time: 5/25/16 0910

*Samples were analyzed in the laboratory and not immediately in the field.

DCN#118692

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG570158 **Analyst:** DCM
Analyte: FERROUS IRON **Date:** 05/25/2016

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG570158-01	50	50	0.00200	0.9451	0.004744	-0.0029039	-0.0029039	1	mg/L
WG570158-02	50	50	0.193	0.9451	0.004744	0.19919	0.19919	1	mg/L
WG570158-03	50	50	0.189	0.9451	0.004744	0.19496	0.19496	1	mg/L
L16051153-15	50	50	0.00500	0.9451	0.004744	0.00027037	ND	1	mg/L
L16051153-16	50	50	0.0600	0.9451	0.004744	0.058465	0.058465	1	mg/L
WG570158-04	50	50	0	0.9451	0.004744	-0.0050201	-0.0050201	1	mg/L
L16051153-17	50	50	0	0.9451	0.004744	-0.0050201	ND	1	mg/L
WG570158-05	50	50	0.00100	0.9451	0.004744	-0.0039620	-0.0039620	1	mg/L
WG570158-06	50	50	0.185	0.9451	0.004744	0.19073	0.19073	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 05/26/2016 09:38

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG570350
File ID: 00.1605250910-01
CCV ID: WG570350-01
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 05/25/2016
Run Time: 09:10
Analyst: DCM
Cal ID: UV-260 - 13-MAY-16

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.299	0.957	0.3	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 05/26/2016 09:39

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG570350
File ID: 00,1605250910-10
CCV ID: WG570350-02
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 05/25/2016
Run Time: 09:10
Analyst: DCM
Cal ID: UV-260 - 13-MAY-16

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.297	0.950	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 05/26/2016 09:39

[redacted]

2.2.3 Sulfide Data

2.2.3.1 Summary Data

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW11-051916	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG569927	**Analyst:**	TB	**Run Date:**	05/23/2016 15:00
Collect Date:	05/19/2016 08:50	**Dilution:**	1	**File ID:**	ET.1605231500-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW08-051916	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG569927	**Analyst:**	TB	**Run Date:**	05/23/2016 15:00
Collect Date:	05/19/2016 09:55	**Dilution:**	1	**File ID:**	ET.1605231500-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	67WW13-051916	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG569927	**Analyst:**	TB	**Run Date:**	05/23/2016 15:00
Collect Date:	05/19/2016 11:00	**Dilution:**	1	**File ID:**	ET.1605231500-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

2.2.3.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

[mL Iodine * N Iodide) - (mL titrant * N titrant)] * 16000/(volume * dilution) = mg/L Sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = mL of titrant used
N titrant = normality of titrant
16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide
volume = mL filtered of mL titrated(if not filtered)
dilution = dilution in decimal form (1/5 = 0.2)

Example Total Sulfide(Soil) Calculations

[(mL Iodine * N Iodine) - (mL titrant * N titrant)] * 16.03/weight = mg/kg sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = normality of titrant
16.03 = 32.06 grams per 2 equivalents
weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 23-MAY-2016
Analyst: TB
Analyst: NA
Method: S
Instrument: BURET
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG569927

Calibration/Linearity	05/23/2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	TB
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
24-MAY-2016

Secondary Reviewer:
25-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-25-2016 14:38:52

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-S-(-2)-F- AAB#: WG569927

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-051916	15	05/19/16					05/23/2016	4.3	7		05/23/16	4.3	7	
67WW08-051916	16	05/19/16					05/23/2016	4.2	7		05/23/16	4.2	7	
67WW13-051916	17	05/19/16					05/23/2016	4.2	7		05/23/16	4.2	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4779594
Report generated 05/25/2016 11:01

METHOD BLANK SUMMARY

Login Number:	L16051153	**Work Group:**	WG569927
Blank File ID:	ET.1605231500-01	**Blank Sample ID:**	WG569927-01
Prep Date:	05/23/16 15:00	**Instrument ID:**	BURET
Analyzed Date:	05/23/16 15:00	**Method:**	SM4500-S-(-2)-F-
Analyst:	TB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569927-02	ET.1605231500-02	05/23/16 15:00	
LCS2	WG569927-03	ET.1605231500-03	05/23/16 15:00	
67WW11-051916	L16051153-15	ET.1605231500-08	05/23/16 15:00	
67WW08-051916	L16051153-16	ET.1605231500-09	05/23/16 15:00	
67WW13-051916	L16051153-17	ET.1605231500-10	05/23/16 15:00	

Report Name: BLANK_SUMMARY
PDF File ID: 4779595
Report generated 05/25/2016 11:01

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/23/16 15:00 Sample ID: WG569927-01
Instrument ID: BURET Run Date: 05/23/16 15:00 Prep Method: SM4500-S-(-2)-F
File ID: ET.1605231500-01 Analyst: TB Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG569927 Matrix: Water Units: mg/L
Contract #: Cal ID: BURET-

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Sulfide	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4779596
25-MAY-2016 11:01

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: TB Prep Method: SM4500-S-(-2)-F
Instrument ID: BURET Matrix: Water Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG569927 Units: mg/L
QC Key: DOD4 Lot #: STD76260

Sample ID: WG569927-02 LCS File ID: ET.1605231500-02 Run Date: 05/23/2016 15:00
Sample ID: WG569927-03 LCS2 File ID: ET.1605231500-03 Run Date: 05/23/2016 15:00

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	24.1	24.2	100	24.1	24.0	99.5	0.830	85 - 115	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4779597
Report generated: 05/25/2016 11:01

2.2.3.3 Raw Data

SULFIDE
(sulfide1)

WORKGROUP: WG569927

Water:
EPA 376.1 / SM4500-S(-2)-F
SOP K3761 Revision #: _____

Soil:
SM846 9030B/9034
SOP K9030 Revision #: _____

Instrument: Buret

LCS: Std 76260

Iodine standardization (0.025N) COA: 18575
mL 0.025N titrant: 10.0
Volume I: 10.0 mL
Normality I: 0.025

(0.1 N I) COA: 18745
mL 0.025 N titrant: 8.0
Volume I: 2.0 mL
Normality I: 0.10

Stock standardization (in duplicate) 5.0 mL stock
mL I 1) 10.0 2) 10.0
N I 1) 0.10 2) 0.10
mL 0.025 titrant 1) 19.9 2) 19.9
LCS daily dilution: 3(1608)/200 = 24.1 mg/L

1608 = stock conc (mg/L)

Titrant: T- 1775-02-03

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	0.025 N Sodium Thiosulfate (mL)
BLANK	200	15.0	0.025	15.0
LCS (mL)	200	15.0	0.025	2.9
LCSDUP (mL)	200	15.0	0.025	3.0
5-1023-01	510	15.0	0.025	14.4
02	520	15.0	0.025	15.0
03	510	15.0	0.025	15.0
04	520	15.0	0.025	14.5
1153-15	500	15.0	0.025	14.7
16	500	15.0	0.025	15.0
17	500	15.0	0.025	15.0

Analyst: Tom Boyle Date/Time: 1500 5/23/16

DCN#118650

Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#):WG569927
Product:EPA 376.1\9034
Analyte:Sulfide

Analyst:TB
Run Date:05/23/2016 15:00

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG569927-01	200.0	15	.025	15	.025	1	0	0	mg/L
WG569927-02	200.0	15	.025	2.9	.025	1	24.2	24.20	mg/L
WG569927-03	200.0	15	.025	3	.025	1	24.0	24.00	mg/L
L16051023-01	510.0	15	.025	14.4	.025	1	0.471	ND	mg/L
L16051023-02	520.0	15	.025	15	.025	1	0	ND	mg/L
L16051023-03	510.0	15	.025	15	.025	1	0	ND	mg/L
L16051023-04	520.0	15	.025	14.5	.025	1	0.385	ND	mg/L
L16051153-15	500.0	15	.025	14.7	.025	1	0.240	ND	mg/L
L16051153-16	500.0	15	.025	15	.025	1	0	ND	mg/L
L16051153-17	500.0	15	.025	15	.025	1	0	ND	mg/L

SULFIDE_REPORT - Modified 03/06/2008

Report generated 05/24/2016 12:17

[redacted]

2.2.4 Total Organic Carbon Data

2.2.4.1 Summary Data

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 13:59
Collect Date:	05/19/2016 08:50	**Dilution:**	3	**File ID:**	TC05242016.011
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		74.8		6.00	3.00	1.50

Certificate of Analysis

Sample #:	L16051153-15	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW11-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 13:59
Collect Date:	05/19/2016 08:50	**Dilution:**	3	**File ID:**	TC05242016.011
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	22.1		6.00	3.00	1.50

Certificate of Analysis

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 18:43
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	TC05242016.022
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	65.4		20.0	10.0	5.00

Certificate of Analysis

Microbac

Lab Report #: L16051153
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Sample #:	L16051153-16	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW08-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 18:43
Collect Date:	05/19/2016 09:55	**Dilution:**	10	**File ID:**	TC05242016.022
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		44.2		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW13-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 19:03
Collect Date:	05/19/2016 11:00	**Dilution:**	10	**File ID:**	TC05242016.023
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Inorganic Carbon		71.9		20.0	10.0	5.00

Certificate of Analysis

Sample #:	L16051153-17	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	67WW13-051916	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG569998	**Analyst:**	DCM	**Run Date:**	05/24/2016 19:03
Collect Date:	05/19/2016 11:00	**Dilution:**	10	**File ID:**	TC05242016.023
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	93.3		20.0	10.0	5.00

2.2.4.2 QC Summary Data

Total Organic Carbon Example Calculations
(Direct Readout Parameter)

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAY-2016
Analyst: DCM
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG569999 WG569998

Calibration/Linearity	10-31-2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
25-MAY-2016

Secondary Reviewer:
25-MAY-2016

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-25-2016 14:38:49

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 **AAB#:** WG569998

Login Number: L16051153

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
67WW11-051916	15	05/19/16					05/24/2016	5.2	28		05/24/16	5.2	28	
67WW08-051916	16	05/19/16					05/24/2016	5.4	28		05/24/16	5.4	28	
67WW13-051916	17	05/19/16					05/24/2016	5.3	28		05/24/16	5.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4780460
Report generated 05/25/2016 14:16

METHOD BLANK SUMMARY

Login Number: L16051153
Blank File ID: TC05242016.004
Prep Date: 05/24/16 10:16
Analyzed Date: 05/24/16 10:16
Analyst: DCM

Work Group: WG569998
Blank Sample ID: WG569998-01
Instrument ID: TOC-VWP
Method: 415.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569998-02	TC05242016.005	05/24/16 10:35	01
LCS2	WG569998-03	TC05242016.006	05/24/16 10:56	01
67WW11-051916	L16051153-15	TC05242016.011	05/24/16 13:59	DL01
67WW11-051916	L16051153-15	TC05242016.011	05/24/16 13:59	DL01
DUP	WG569998-05	TC05242016.016	05/24/16 15:31	01
67WW08-051916	L16051153-16	TC05242016.022	05/24/16 18:43	DL01
67WW08-051916	L16051153-16	TC05242016.022	05/24/16 18:43	DL01
67WW13-051916	L16051153-17	TC05242016.023	05/24/16 19:03	DL01
67WW13-051916	L16051153-17	TC05242016.023	05/24/16 19:03	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4780461
Report generated 05/25/2016 14:16

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16051153 Prep Date: 05/24/16 10:16 Sample ID: WG569998-01
Instrument ID: TOC-VWP Run Date: 05/24/16 10:16 Prep Method: 415.1
File ID: TC05242016.004 Analyst: DCM Method: 415.1
Workgroup (AAB#): WG569998 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-30-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4780462
25-MAY-2016 14:16

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16051153 Analyst: DCM Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG569998 Units: mg/L
QC Key: DOD4 Lot #: STD74954

Sample ID: WG569998-02 LCS File ID: TC05242016.005 Run Date: 05/24/2016 10:35
Sample ID: WG569998-03 LCS2 File ID: TC05242016.006 Run Date: 05/24/2016 10:56

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.9	107	25.0	26.9	108	0.260	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4780463
Report generated: 05/25/2016 14:16

2.2.4.3 Raw Data

Curve

wg545145

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____ (5/200)(1000) = 25mg/L

LCS (TOC): _____ (5/200)(1000) = 25mg/L

CCV (TIC): _____ (5/200)(1000) = 25mg/L See Below

MS (TOC): _____

Calibration Curve Date: _____

Reagent: RGT 34567, RGT 34459

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K 4151 Rev. 18

WG_____ Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☐ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TC Curve	
2	TIC Curve	
3	TC ICV	
4	TIC ICV	
5		
6		
7		
8		
9		
10		
11		
12		
13	All points	
14	analyzed	
15	in duplicate	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26	TC Curve	
27	Std 72153	
28		
29	TIC Curve	
30	Std 72165	
31		
32		
33	TOC (TC)	
34	ICV	
35	Std 72270	
36		
37	TIC ICV	
38	Std 72654	
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

See SOP for part preparation

5/200 (1000) = 25

Analyst: David Merkle Date/Time: 10/31/15

DCN#114406

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Cal. Curve

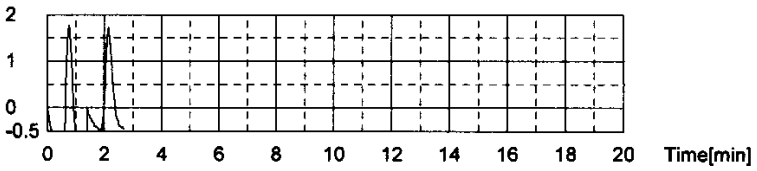
Sample Name: TCCURVE
Sample ID:
Cal. Curve: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.764	500uL	1	*******		10/30/2015 4:10:07 PM
2	3.607	500uL	1	*******		10/30/2015 4:13:33 PM

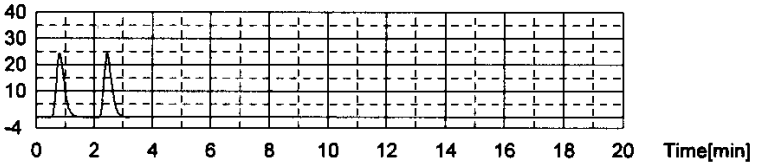
Acid Add. 0.000%
Mean Area 4.186



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.19	500uL	1	*******		10/30/2015 4:19:03 PM
2	46.28	500uL	1	*******		10/30/2015 4:22:56 PM

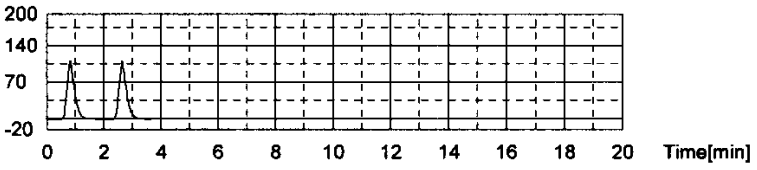
Acid Add. 0.000%
Mean Area 46.23



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	194.3	500uL	1	*******		10/30/2015 4:28:42 PM
2	193.1	500uL	1	*******		10/30/2015 4:32:47 PM

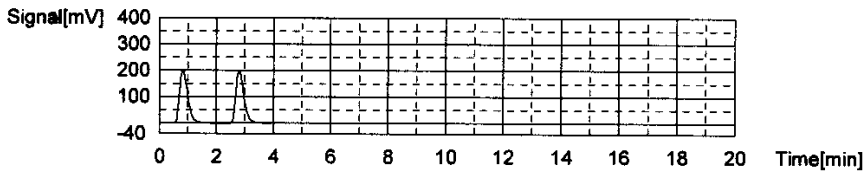
Acid Add. 0.000%
Mean Area 193.7



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	390.8	500uL	1	********		10/30/2015 4:38:42 PM
2	391.3	500uL	1	********		10/30/2015 4:42:54 PM

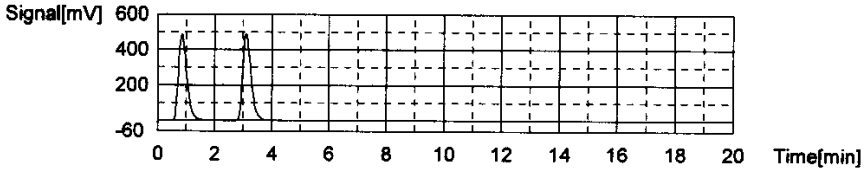
Acid Add. 0.000%
Mean Area 391.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	989.0	500uL	1	********		10/30/2015 4:49:06 PM
2	994.6	500uL	1	********		10/30/2015 4:53:33 PM

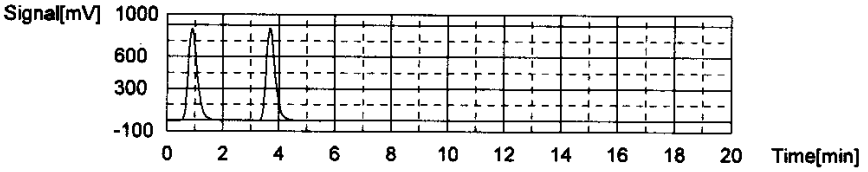
Acid Add. 0.000%
Mean Area 991.8



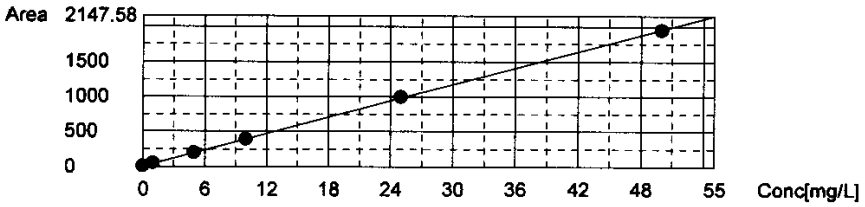
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1946	500uL	1	********		10/30/2015 5:00:24 PM
2	1948	500uL	1	********		10/30/2015 5:05:23 PM

Acid Add. 0.000%
Mean Area 1947



Slope: 38.95
Intercept 4.952
r^2 0.999910
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID:
Origin: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:25.93mg/L

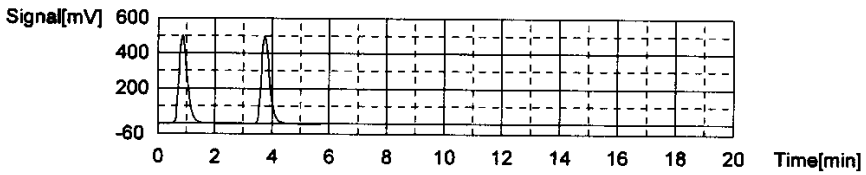
= 103.7%

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 9:56:57 AM
2	1010	25.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 10:02:17 AM

Mean Area 1015
Mean Conc. 25.93mg/L



Cal. Curve

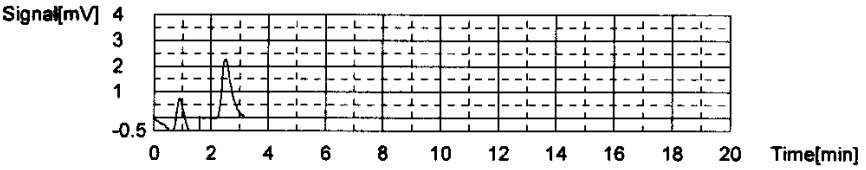
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-10-30-2015.2015_10_31_11_55_05.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	2.732	500uL	1	********		10/31/2015 12:00:21 PM
2	5.011	500uL	1	********		10/31/2015 12:04:52 PM

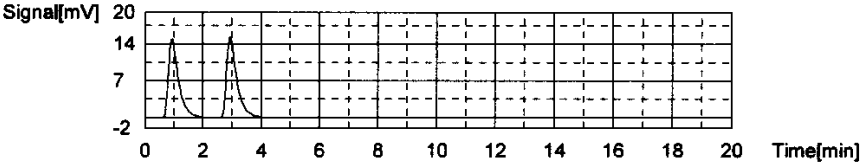
Acid Add. 10.00%
Mean Area 3.872



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.96	500uL	1	********		10/31/2015 12:12:47 PM
2	37.13	500uL	1	********		10/31/2015 12:17:43 PM

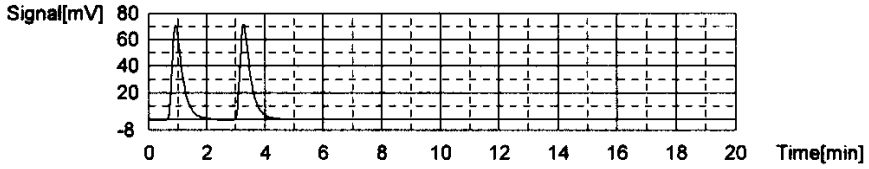
Acid Add. 10.00%
Mean Area 36.55



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	173.6	500uL	1	********		10/31/2015 12:26:14 PM
2	175.6	500uL	1	********		10/31/2015 12:31:38 PM

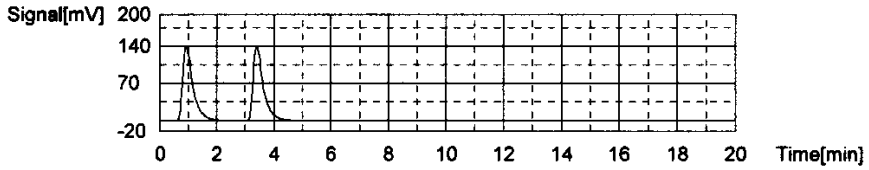
Acid Add. 10.00%
Mean Area 174.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	344.8	500uL	1	********		10/31/2015 12:40:18 PM
2	345.1	500uL	1	********		10/31/2015 12:45:49 PM

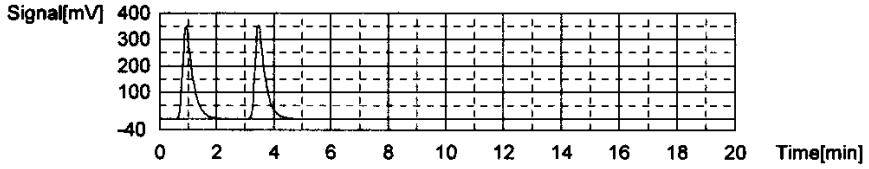
Acid Add. 10.00%
Mean Area 345.0



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	835.5	500uL	1	********		10/31/2015 12:54:43 PM
2	845.9	500uL	1	********		10/31/2015 1:00:42 PM

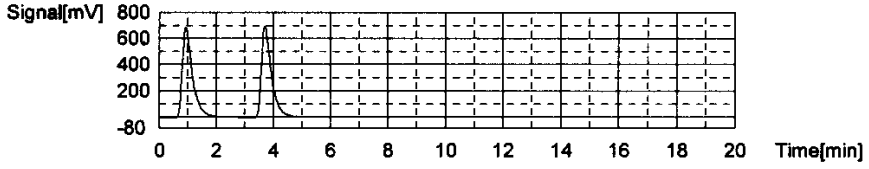
Acid Add. 10.00%
Mean Area 840.7



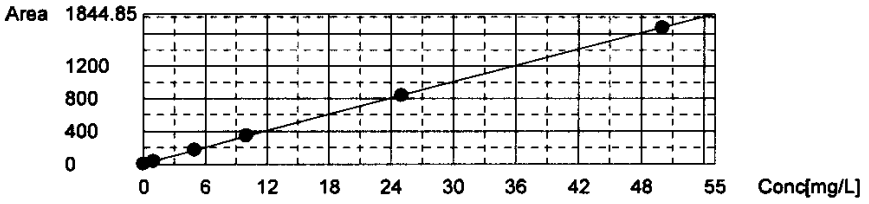
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1676	500uL	1	********		10/31/2015 1:09:51 PM
2	1677	500uL	1	********		10/31/2015 1:15:54 PM

Acid Add. 10.00%
Mean Area 1677



Slope: 33.42
Intercept 5.927
r^2 0.999982
Zero Shift No



Sample

Sample Name: TIC ICV
Sample ID: Untitled
Origin: TICCURVE-10-30-2015.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:25.37mg/L

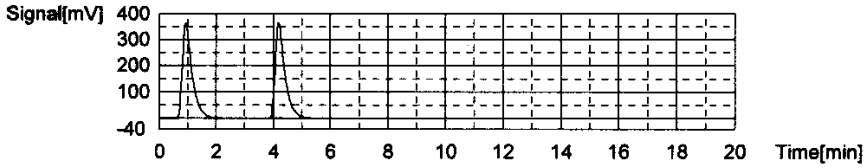
$= 101.5\%$

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	854.5	25.39mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:25:27 PM
2	853.1	25.35mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:31:33 PM

Mean Area 853.8
Mean Conc. 25.37mg/L



WORKGROUP: WG569998

569999

Total Organic Carbon

MAKE DAILY

CCV (TOC): Std 72133 (5/200)(1000) = 25mg/L

CCV (TIC): Std 75410 (5/200)(1000) = 25mg/L

Calibration Curve Date: 10/31/15

LCS (TOC): Std 74954 (5/200)(1000) = 25mg/L

MS (TOC): Std 74954 0.4(1000)/40 = 10

Reagent: RGT 36583 / RGA 36105

☑ SM5310-C : Matrix 2 WG 569998

☑ EPA 415.1/9060A(mod): Matrix 1 WG _____ 9060 A WG 569999

SOP: K 4151 Rev. 18

Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full
☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate
☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TIC	
2	TOC/TIC	
3	CCV	
4	Blk	
5	LCS	
6	LCSDup	
7	05-1101-C3	
8	05-1101-C3	1/2
9	05-1185-C1	
10	05-1218-C1	1/10,000
11	05-1153-15	1/3
12	16	1/3
13	17	1/5
14	CCV	
15	CCB	
16	Dup 05-1185-C1	
17	MS 05-1185-C1	
18	Blk	
19	LCS	
20	LCSDup	
21	05-1101-27	1/2
22	05-1153-16 16	1/10
23	dup 5/24/16 17	1/10
24	CCV	
25	CCB	

Position	Sample ID	Dilution
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: David Merkle

Date/Time: 5/24/16 0935

DCN#118667

C:\TOC3201\Data\05-24-2016-DCM-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:3.273mg/L TC:26.75mg/L IC:23.48mg/L	Complete	5/24/2016 9:39:24 AM	1
2	TOC	TOC/TIC	TOC:27.31mg/L TC:35.72mg/L IC:8.409mg/L	Complete	5/24/2016 9:51:58 AM	2
3	TOC	CCV	TOC:25.86mg/L TC:25.88mg/L IC:0.02358mg/L	Complete	5/24/2016 10:11:20 AM	3
4	TOC	WG569998-01 BLK	TOC:0.1096mg/L TC:0.2049mg/L IC:0.09536mg/L	Complete	5/24/2016 10:27:56 AM	0
5	TOC	WG569998-02 LCS	TOC:26.86mg/L TC:26.88mg/L IC:0.02451mg/L	Complete	5/24/2016 10:48:37 AM	5
6	TOC	WG569998-03 LCSDUP	TOC:26.93mg/L TC:26.93mg/L IC:0.00150mg/L	Complete	5/24/2016 11:09:24 AM	6
7	TOC	<Untitled>	TOC:62.38mg/L TC:62.44mg/L IC:0.06747mg/L	Complete	5/24/2016 11:30:47 AM	7
8	TOC	L16051101-03 (2)	TOC:30.75mg/L TC:30.82mg/L IC:0.07272mg/L	Complete	5/24/2016 11:51:31 AM	8
9	TOC	L16051185-01	TOC:0.3134mg/L TC:0.4022mg/L IC:0.08876mg/L	Complete	5/24/2016 12:10:50 PM	9
10	TOC	L16051218-01 (10000)	TOC:21.72mg/L TC:21.88mg/L IC:0.1648mg/L	Complete	5/24/2016 12:31:12 PM	10
11	TOC	L16051153-15 (3)	TOC:7.355mg/L TC:32.28mg/L IC:24.92mg/L	Complete	5/24/2016 2:15:13 PM	11
12	TOC	<Untitled>	TOC:5.383mg/L TC:55.77mg/L IC:50.38mg/L	Complete	5/24/2016 2:39:35 PM	12
13	TOC	<Untitled>	TOC:16.36mg/L TC:58.07mg/L IC:41.71mg/L	Complete	5/24/2016 3:03:19 PM	13
14	TOC	CCV	TOC:26.97mg/L TC:27.19mg/L IC:0.2263mg/L	Complete	5/24/2016 3:15:36 PM	14
15	TOC	CCB	TOC:0.1404mg/L TC:0.2680mg/L IC:0.1275mg/L	Complete	5/24/2016 3:24:39 PM	0
16	TOC	WG569998-05 DUP	TOC:0.2905mg/L TC:0.4110mg/L IC:0.1205mg/L	Complete	5/24/2016 3:43:59 PM	16
17	TOC	WG569998-06 MS	TOC:11.93mg/L TC:12.05mg/L IC:0.1175mg/L	Complete	5/24/2016 4:04:28 PM	17
18	TOC	WG569999-01 BLK	TOC:0.02272mg/L TC:0.1180mg/L IC:0.09525mg/L	Complete	5/24/2016 4:41:08 PM	0
19	TOC	WG569999-02 LCS	TOC:27.00mg/L TC:27.06mg/L IC:0.05871mg/L	Complete	5/24/2016 5:19:23 PM	19
20	TOC	WG569999-03 LCSDUP	TOC:26.89mg/L TC:26.95mg/L IC:0.05948mg/L	Complete	5/24/2016 5:57:28 PM	20
21	TOC	L16051101-27 (2)	TOC:30.76mg/L TC:30.88mg/L IC:0.1204mg/L	Complete	5/24/2016 6:35:34 PM	21
22	TOC	L16051153-16 (10)	TOC:6.538mg/L TC:10.96mg/L IC:4.424mg/L	Complete	5/24/2016 6:56:11 PM	22
23	TOC	L16051153-17 (10)	TOC:9.328mg/L TC:16.52mg/L IC:7.194mg/L	Complete	5/24/2016 7:17:04 PM	23
24	TOC	CCV	TOC:26.56mg/L TC:26.63mg/L IC:0.07109mg/L	Complete	5/24/2016 7:29:23 PM	24
25	TOC	CCB	TOC:0.02212mg/L TC:0.1158mg/L IC:0.09365mg/L	Complete	5/24/2016 7:38:19 PM	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

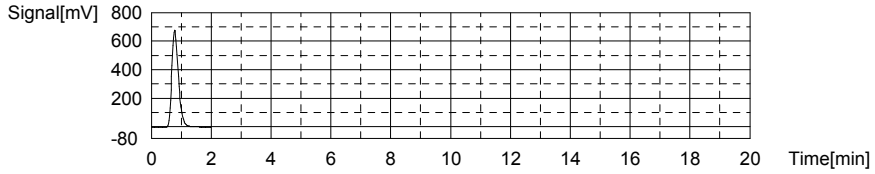
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.273mg/L TC:26.75mg/L IC:23.48mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1047	26.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 9:34:04 AM

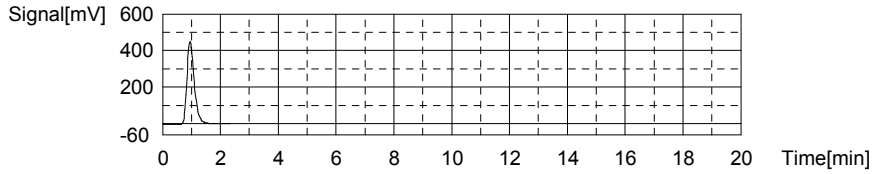
Mean Area 1047
Mean Conc. 26.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	790.8	23.48mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 9:39:24 AM

Mean Area 790.8
Mean Conc. 23.48mg/L



Sample

Sample Name: TOC/TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

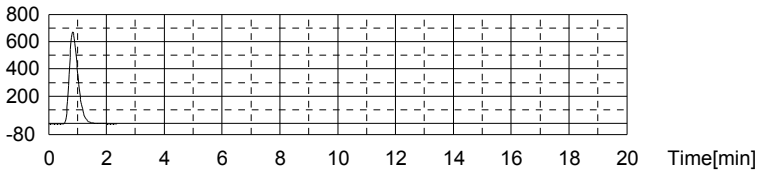
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.31mg/L TC:35.72mg/L IC:8.409mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1396	35.72mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 9:47:12 AM

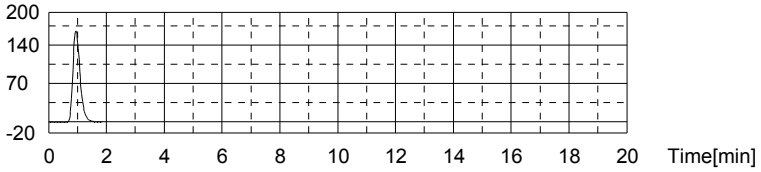
Mean Area 1396
Mean Conc. 35.72mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	287.0	8.409mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 9:51:58 AM

Mean Area 287.0
Mean Conc. 8.409mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

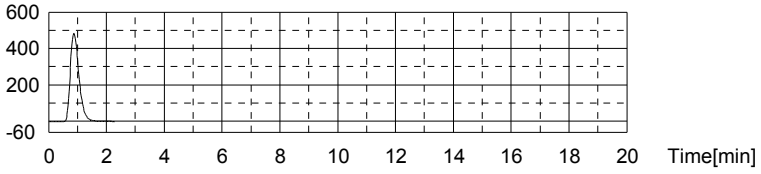
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.86mg/L TC:25.88mg/L IC:0.02358mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 10:06:55 AM

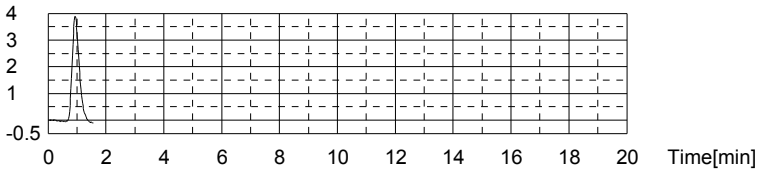
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.715	0.02358mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 10:11:20 AM

Mean Area 6.715
Mean Conc. 0.02358mg/L



Sample

Sample Name: WG569998-01 BLK
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

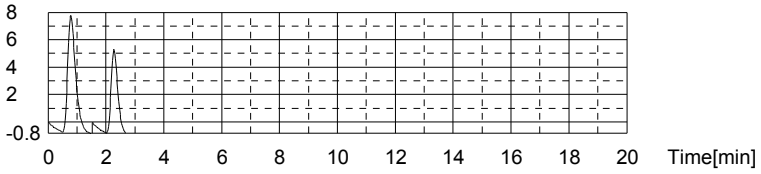
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.1096mg/L TC:0.2049mg/L IC:0.09536mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.11	0.2865mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 10:16:30 AM
2	9.757	0.1234mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 10:20:03 AM

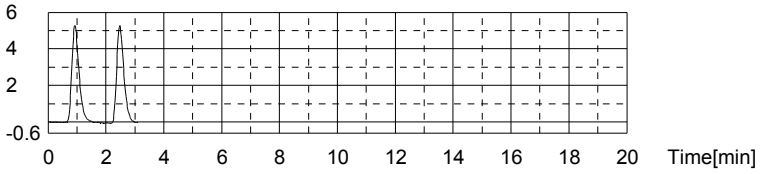
Mean Area 12.93
Mean Conc. 0.2049mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.133	0.09593mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 10:24:00 AM
2	9.095	0.09479mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 10:27:56 AM

Mean Area 9.114
Mean Conc. 0.09536mg/L



Sample

Sample Name: WG569998-02 LCS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

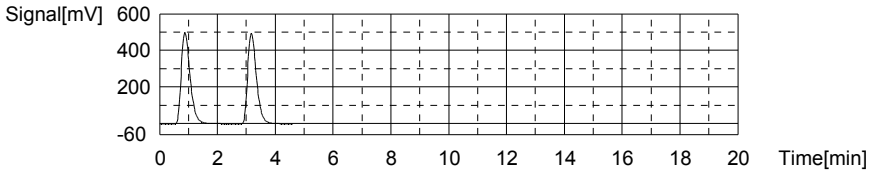
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.86mg/L TC:26.88mg/L IC:0.02451mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1064	27.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 10:35:41 AM
2	1040	26.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 10:40:15 AM

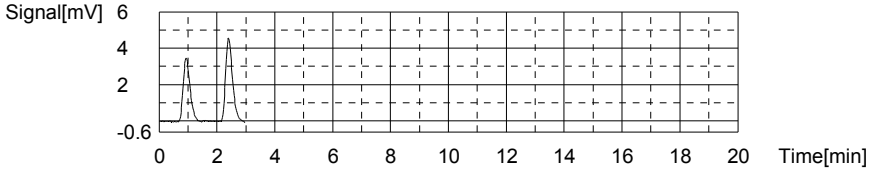
Mean Area 1052
Mean Conc. 26.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.925	-0.00005mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 10:44:32 AM
2	7.567	0.04907mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 10:48:37 AM

Mean Area 6.746
Mean Conc. 0.02451mg/L



Sample

Sample Name: WG569998-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

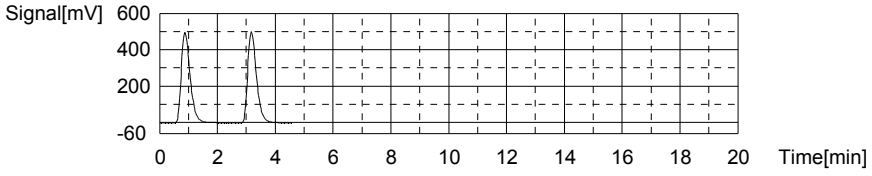
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.93mg/L TC:26.93mg/L IC:0.00150mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1057	27.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 10:56:22 AM
2	1051	26.86mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 11:00:54 AM

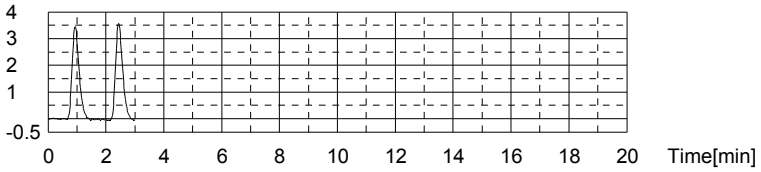
Mean Area 1054
Mean Conc. 26.93mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.882	-0.00134mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 11:05:16 AM
2	6.072	0.00435mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 11:09:24 AM

Mean Area 5.977
Mean Conc. 0.00150mg/L



Sample

Sample Name: <Untitled>
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

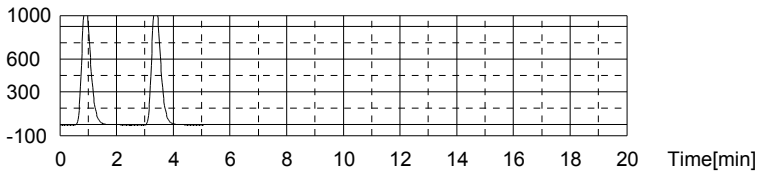
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:62.38mg/L TC:62.44mg/L IC:0.06747mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2433	62.34mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 11:17:19 AM
2	2441	62.55mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 11:22:15 AM

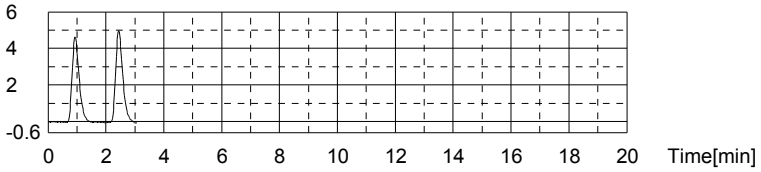
Mean Area 2437
Mean Conc. 62.44mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.878	0.05838mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 11:26:37 AM
2	8.486	0.07657mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 11:30:47 AM

Mean Area 8.182
Mean Conc. 0.06747mg/L



Sample

Sample Name: L16051101-03 (2)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

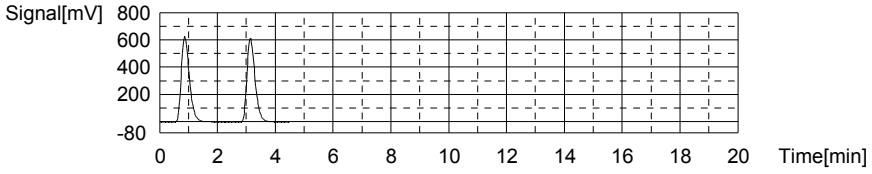
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:30.75mg/L TC:30.82mg/L IC:0.07272mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1220	31.20mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 11:38:29 AM
2	1191	30.45mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 11:42:58 AM

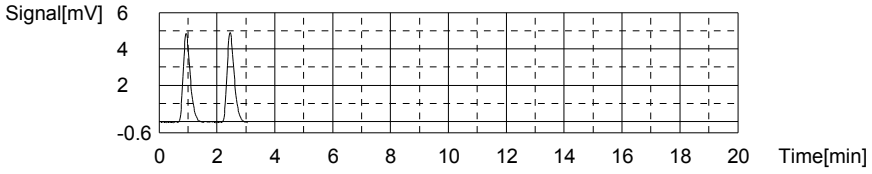
Mean Area 1206
Mean Conc. 30.82mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.287	0.07062mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 11:47:20 AM
2	8.428	0.07483mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 11:51:31 AM

Mean Area 8.358
Mean Conc. 0.07272mg/L



Sample

Sample Name: L16051185-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

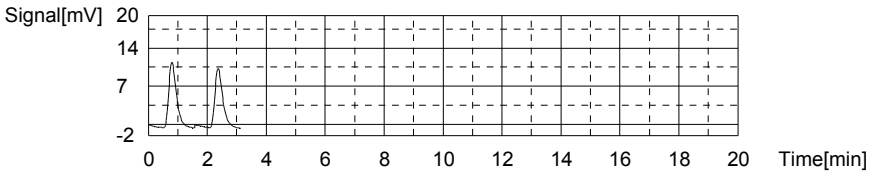
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.3134mg/L TC:0.4022mg/L IC:0.08876mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.36	0.4213mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 11:58:32 AM
2	19.87	0.3830mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 12:02:22 PM

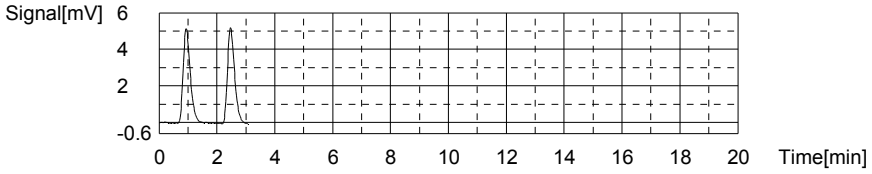
Mean Area 20.62
Mean Conc. 0.4022mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.873	0.08815mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 12:06:42 PM
2	8.914	0.08937mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 12:10:50 PM

Mean Area 8.893
Mean Conc. 0.08876mg/L



Sample

Sample Name: L16051218-01 (10000)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

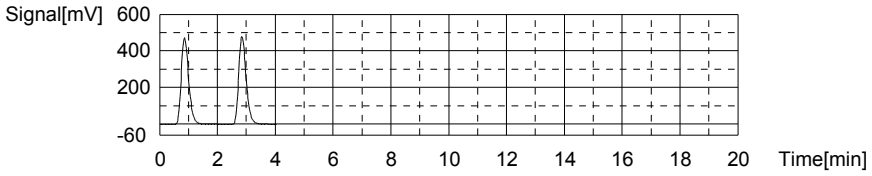
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:21.72mg/L TC:21.88mg/L IC:0.1648mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	844.1	21.55mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 12:18:16 PM
2	870.4	22.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 12:22:35 PM

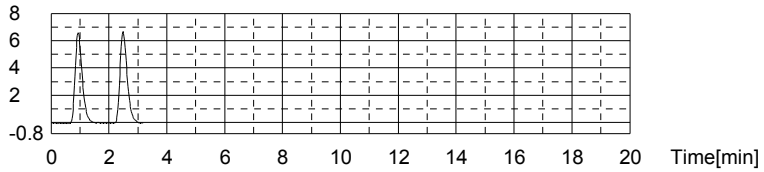
Mean Area 857.3
Mean Conc. 21.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.38	0.1632mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 12:26:57 PM
2	11.49	0.1664mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 12:31:12 PM

Mean Area 11.44
Mean Conc. 0.1648mg/L



Sample

Sample Name: L16051153-15 (3)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

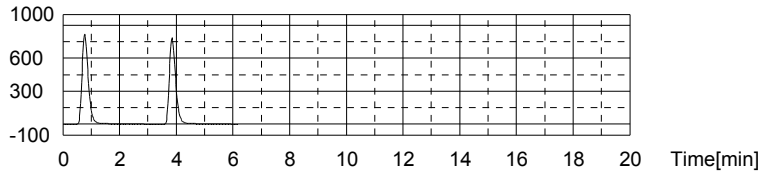
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.355mg/L TC:32.28mg/L IC:24.92mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1283	32.81mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 1:59:45 PM
2	1241	31.74mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 2:05:06 PM

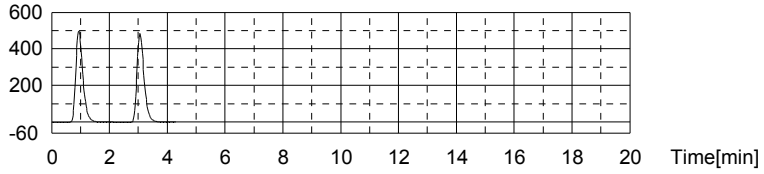
Mean Area 1262
Mean Conc. 32.28mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	850.3	25.26mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 2:10:16 PM
2	827.4	24.58mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 2:15:13 PM

Mean Area 838.9
Mean Conc. 24.92mg/L



Sample

Sample Name: <Untitled>
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

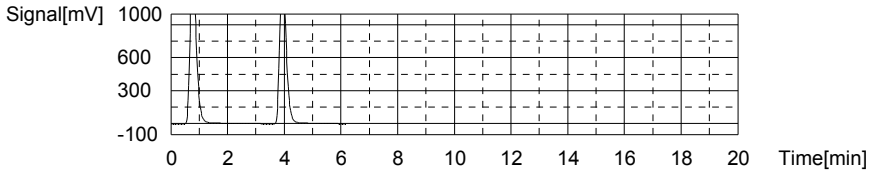
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.383mg/L TC:55.77mg/L IC:50.38mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2169	55.56mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 2:23:50 PM
2	2185	55.97mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 2:29:05 PM

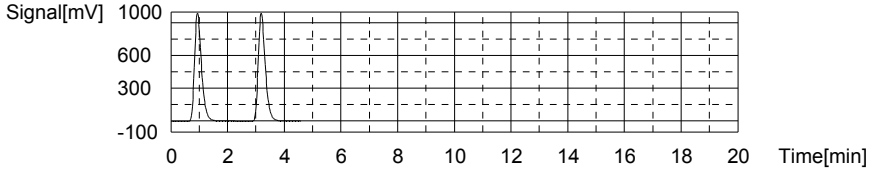
Mean Area 2177
Mean Conc. 55.77mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1691	50.41mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 2:34:22 PM
2	1689	50.35mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 2:39:35 PM

Mean Area 1690
Mean Conc. 50.38mg/L



Sample

Sample Name: <Untitled>
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

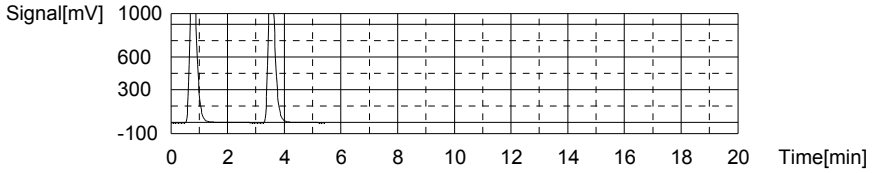
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:16.36mg/L TC:58.07mg/L IC:41.71mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2299	58.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 2:47:48 PM
2	2234	57.23mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 2:52:44 PM

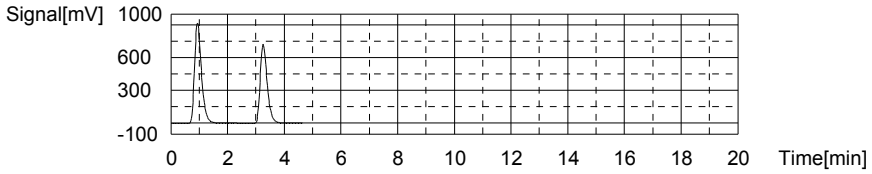
Mean Area 2267
Mean Conc. 58.07mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1563	46.59mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 2:58:07 PM
2	1237	36.83mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 3:03:19 PM

Mean Area 1400
Mean Conc. 41.71mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

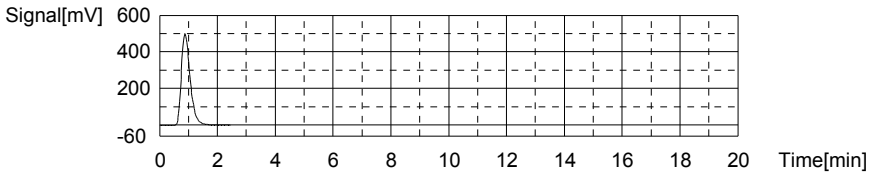
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.97mg/L TC:27.19mg/L IC:0.2263mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1064	27.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	5/24/2016 3:11:12 PM

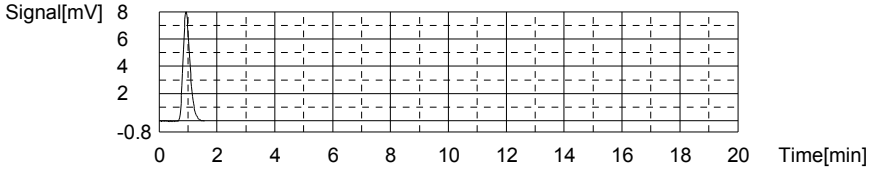
Mean Area 1064
Mean Conc. 27.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.49	0.2263mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 3:15:36 PM

Mean Area 13.49
Mean Conc. 0.2263mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

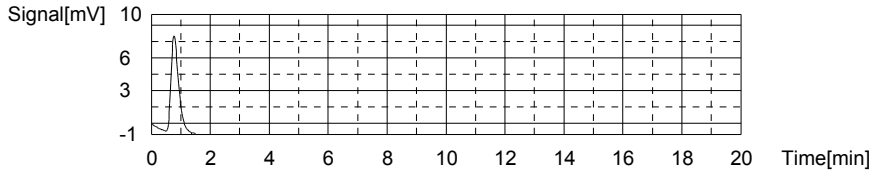
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.1404mg/L TC:0.2680mg/L IC:0.1275mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.39	0.2680mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 3:20:44 PM

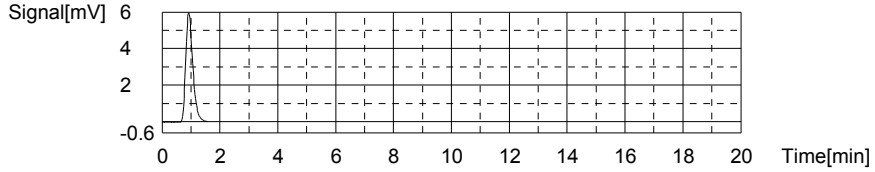
Mean Area 15.39
Mean Conc. 0.2680mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.19	0.1275mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 3:24:39 PM

Mean Area 10.19
Mean Conc. 0.1275mg/L



Sample

Sample Name: WG569998-05 DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

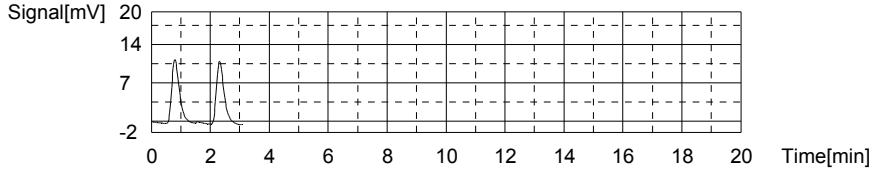
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2905mg/L TC:0.4110mg/L IC:0.1205mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.06	0.4136mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 3:31:38 PM
2	20.86	0.4084mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 3:35:27 PM

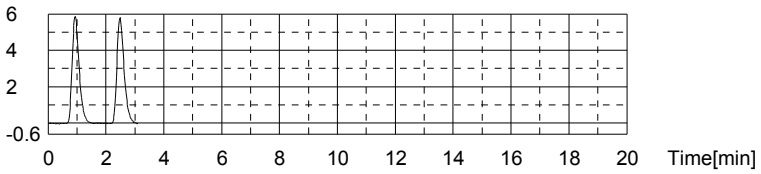
Mean Area 20.96
Mean Conc. 0.4110mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.940	0.1201mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 3:39:50 PM
2	9.969	0.1209mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 3:43:59 PM

Mean Area 9.955
Mean Conc. 0.1205mg/L



Sample

Sample Name: WG569998-06 MS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

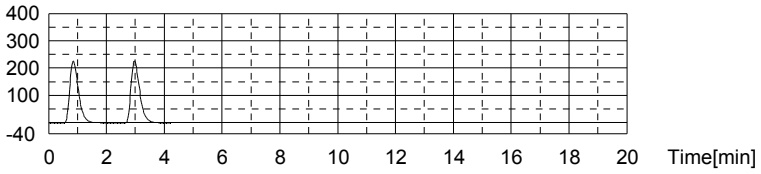
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.93mg/L TC:12.05mg/L IC:0.1175mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	472.9	12.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 3:51:33 PM
2	475.8	12.09mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 3:55:55 PM

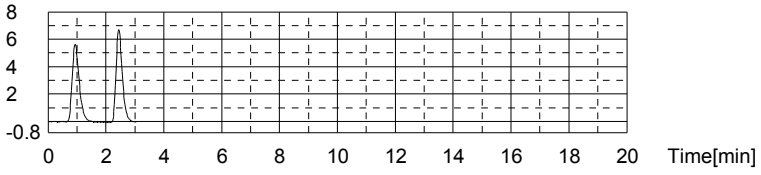
Mean Area 474.4
Mean Conc. 12.05mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.546	0.1083mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 4:00:20 PM
2	10.16	0.1267mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 4:04:28 PM

Mean Area 9.853
Mean Conc. 0.1175mg/L



Sample

Sample Name: WG569999-01 BLK
Sample ID: <Untitled>
Origin: TOC9060-10-31-2015.met
Status Completed
Chk. Result

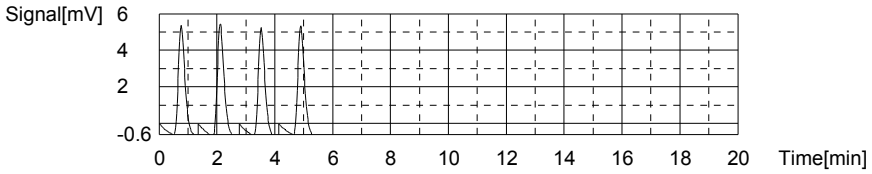
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02272mg/L TC:0.1180mg/L IC:0.09525mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.514	0.1171mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:14:45 PM
2	9.901	0.1271mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:18:19 PM
3	9.319	0.1121mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:21:50 PM
4	9.454	0.1156mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:25:21 PM

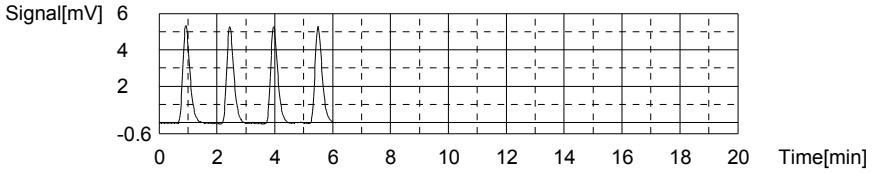
Mean Area 9.547
Mean Conc. 0.1180mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.143	0.09623mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 4:29:18 PM
2	9.069	0.09401mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 4:33:15 PM
3	9.109	0.09521mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 4:37:12 PM
4	9.121	0.09557mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 4:41:08 PM

Mean Area 9.111
Mean Conc. 0.09525mg/L



Sample

Sample Name: WG569999-02 LCS
Sample ID: <Untitled>
Origin: TOC9060-10-31-2015.met
Status Completed
Chk. Result

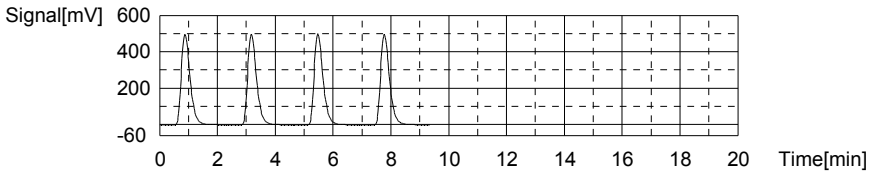
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.00mg/L TC:27.06mg/L IC:0.05871mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1054	26.93mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:48:50 PM
2	1055	26.96mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:53:24 PM
3	1065	27.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 4:57:58 PM
4	1062	27.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 5:02:41 PM

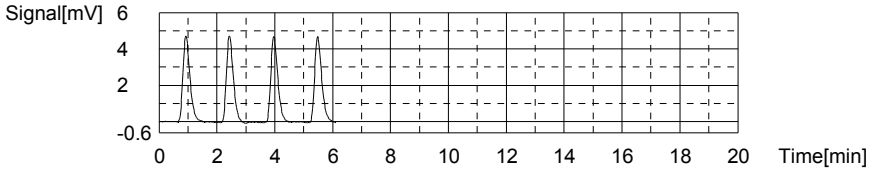
Mean Area 1059
Mean Conc. 27.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.795	0.05590mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:07:01 PM
2	7.947	0.06044mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:11:09 PM
3	7.829	0.05691mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:15:15 PM
4	7.985	0.06158mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:19:23 PM

Mean Area 7.889
Mean Conc. 0.05871mg/L



Sample

Sample Name: WG569999-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC9060-10-31-2015.met
Status Completed
Chk. Result

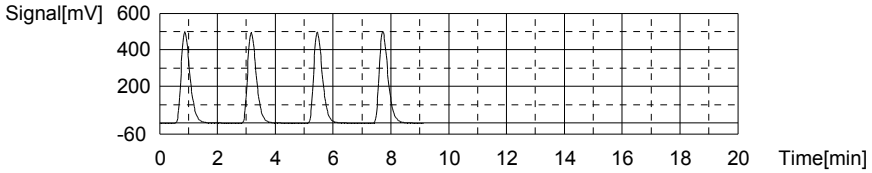
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.89mg/L TC:26.95mg/L IC:0.05948mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1064	27.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 5:27:08 PM
2	1044	26.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 5:31:42 PM
3	1049	26.81mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 5:36:14 PM
4	1061	27.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 5:40:46 PM

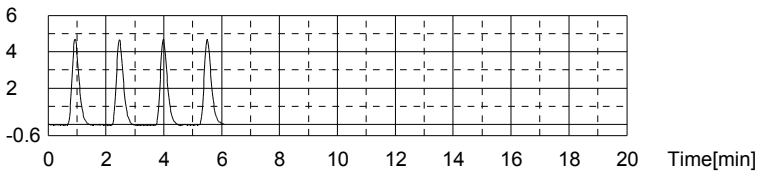
Mean Area 1055
Mean Conc. 26.95mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.976	0.06131mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:45:05 PM
2	7.855	0.05769mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:49:12 PM
3	7.937	0.06014mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:53:21 PM
4	7.891	0.05877mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 5:57:28 PM

Mean Area 7.915
Mean Conc. 0.05948mg/L



Sample

Sample Name: L16051101-27 (2)
Sample ID: <Untitled>
Origin: TOC9060-10-31-2015.met
Status Completed
Chk. Result

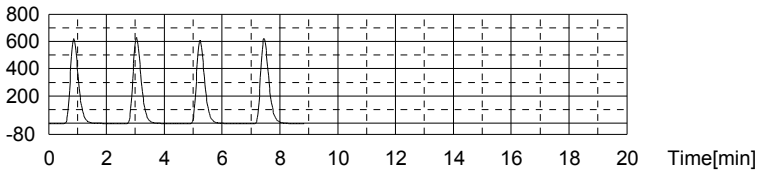
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:30.76mg/L TC:30.88mg/L IC:0.1204mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1197	30.61mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	5/24/2016 6:05:05 PM
2	1230	31.45mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	5/24/2016 6:09:36 PM
3	1178	30.12mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	5/24/2016 6:14:05 PM
4	1226	31.35mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	5/24/2016 6:18:36 PM

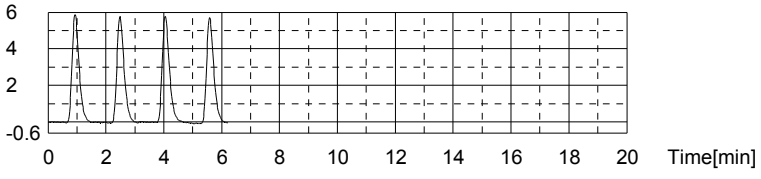
Mean Area 1208
Mean Conc. 30.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.07	0.1240mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_05	5/24/2016 6:22:57 PM
2	9.963	0.1208mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_05	5/24/2016 6:27:08 PM
3	9.906	0.1191mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_05	5/24/2016 6:31:20 PM
4	9.871	0.1180mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_05	5/24/2016 6:35:34 PM

Mean Area 9.953
Mean Conc. 0.1204mg/L



Sample

Sample Name: L16051153-16 (10)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

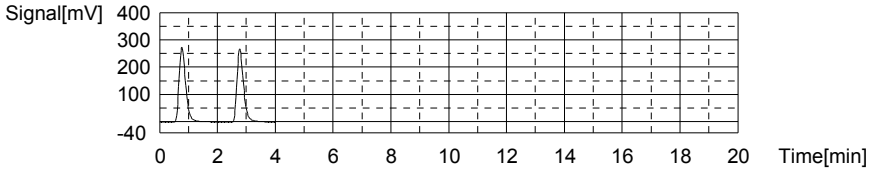
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.538mg/L TC:10.96mg/L IC:4.424mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	434.2	11.02mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 6:43:00 PM
2	429.6	10.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 6:47:16 PM

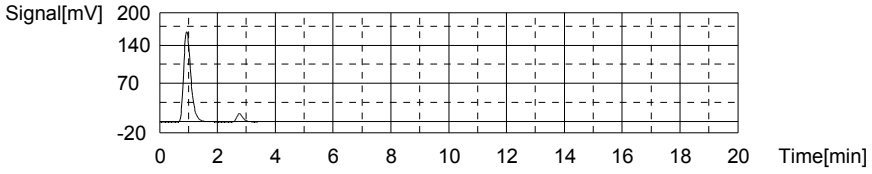
Mean Area 431.9
Mean Conc. 10.96mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	284.8	8.343mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 6:52:00 PM
2	22.76	0.5036mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 6:56:11 PM

Mean Area 153.8
Mean Conc. 4.424mg/L



Sample

Sample Name: L16051153-17 (10)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

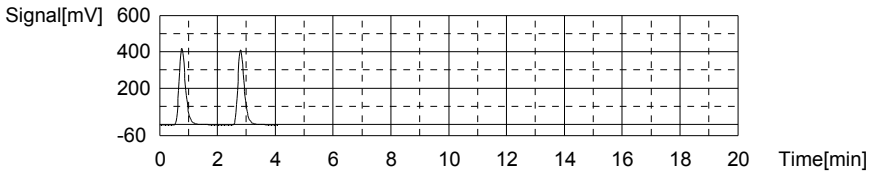
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.328mg/L TC:16.52mg/L IC:7.194mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	654.5	16.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 7:03:40 PM
2	642.4	16.37mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 7:07:59 PM

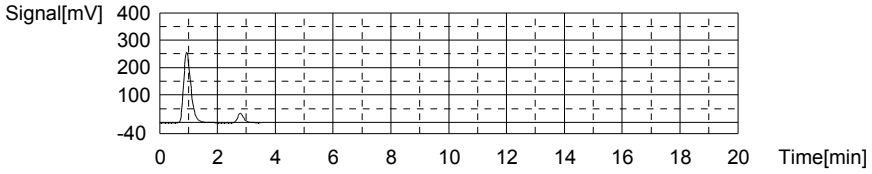
Mean Area 648.5
Mean Conc. 16.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	442.4	13.06mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 7:12:49 PM
2	50.38	1.330mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 7:17:04 PM

Mean Area 246.4
Mean Conc. 7.194mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

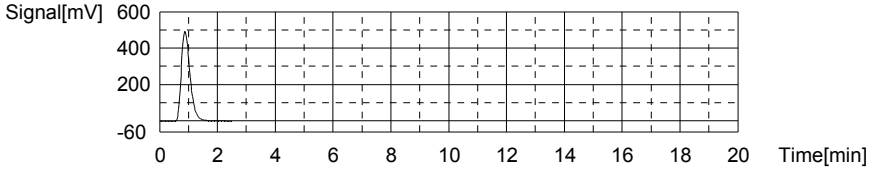
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.56mg/L TC:26.63mg/L IC:0.07109mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1042	26.63mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 7:25:01 PM

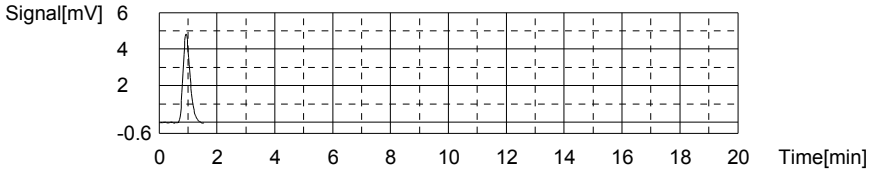
Mean Area 1042
Mean Conc. 26.63mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.303	0.07109mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 7:29:23 PM

Mean Area 8.303
Mean Conc. 0.07109mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

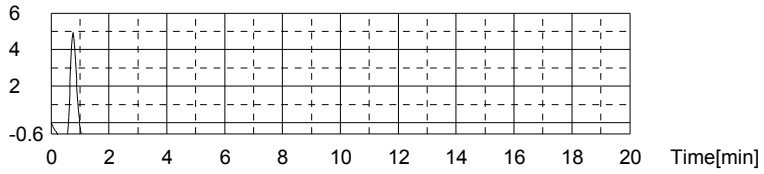
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02212mg/L TC:0.1158mg/L IC:0.09365mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.461	0.1158mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	5/24/2016 7:34:24 PM

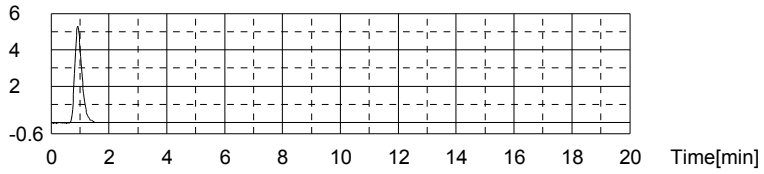
Mean Area 9.461
Mean Conc. 0.1158mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.057	0.09365mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	5/24/2016 7:38:19 PM

Mean Area 9.057
Mean Conc. 0.09365mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
May 31, 2016

---

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AMA – ALEXANDRA M. ALFRED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BKT – BRENDAN TORRENCE	BLG – BRENDA L. GREENWALT
BRG – BRENDA R. GREGORY	CAA – CASSIE A. AUGENSTEIN
CAF – CHERYL A. FLOWERS	CEB – CHAD E. BARNES
CJR – COURTNEY J. REXROAD	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CLW – CHARISSA L. WINTERS
CPD – CHAD P. DAVIS	CSH – CHRIS S. HILL
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DLW – DIANA L. WRIGHT	DSM – DAVID S. MOSSOR
ECL – ERIC C. LAWSON	EMW – ERIC M. WILKEN
ENY – EMILY N. YOAK	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JJS – JOHN J. STE MARIE	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KAT – KATHY A. TUCKER	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LEC – LAURA E. CARPENTER	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
MAP – MARLA A. PORTER	MBK – MORGAN B. KNOWLTON
MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MLB – MEGAN L. BACHE
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS
PIT – MICROBAC WARRENDALE	PRL – PAIGE R. LAMB
PSW – PEGGY S. WEBB	QX – QIN XU
RAH – ROY A. HALSTEAD	REK – BOB E. KYER
RLB – BOB BUCHANAN	RM – RAYMOND MALEKE
RNP – RICK N. PETTY	RST – ROBIN S. TURNER
SAV – SARAH A. VANDENBERG	SCB – SARAH C. BOGOLIN
SDC – SHALYN D. CONLEY	SLM – STEPHANIE L. MOSSBURG
SLP – SHERI L. PFALZGRAF	TB – TODD BOYLE
TGF – TIM G. FELTON	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WJB – WILL J. BEASLEY	WRR – WESLEY R. RICHARDS
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
May 31, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count

Microbac Laboratories Inc.
List of Valid Qualifiers
May 31, 2016

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L16051153 / Revision: 0 / 939 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400
Marietta, OH 45750	Sampler (print): Scott Beesinger	San Antonio, TX 78205
Phone: 1-800-373-4071		210-296-2000
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:
Address: 112 East Pecan Ste. 400		
San Antonio, TX 78205	pH:	Program:
Turn Around Time: STANDARD		
Project Name/Location: Longhorn		
Project Number: 60256135.0002JA		

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp	Grab	Matrix	Number of Containers	VOC	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 67	67WW14-051816			5/18/16	0830		✓	W	3	✓					
	67WW09-051816			5/18/16	0945		✓	W	3	✓					
	67WW09FD-051816			5/18/16	0945		✓	W	3	✓					
	67WW16-051816			5/18/16	1045		✓	W	3	✓					
	67WW12-051816			5/18/16	1615		✓	W	3	✓					
	67WW12MS-051816			5/18/16	1615		✓	W	3	✓					
	67WW12MSD-051816			5/18/16	1615		✓	W	3	✓					
	67WW10-051816			5/18/16	1710		✓	W	3	✓					
	67WW09A-051816			5/18/16	~~0830~~ 1805		✓	W	3	✓					
	67WW05-051916			5/19/16	0705		✓	W	3	✓					
	67WW02-051916			5/19/16	0720		✓	W	3	✓					
	67WW02FD-051916			5/19/16	0720		✓	W	3	✓					
	67WW03-051916			5/19/16	0735		✓	W	3	✓					
	67WW01-051916			5/19/16	0748		✓	W	3	✓					

ERPIMS REQUIRED FIELDS

Comments: **STANDARD TAT**

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Received by: (Signature)	Date	Time	Relinquished by: (Signature)
Scott Beesinger	5/19/16	1545					
Relinquished by: (Signature)	Date	Time	Received by: (Signature)		Time		Remarks:

Microbac OVD
Received: 05/20/2016 10:04
By: BRENDA GREGORY
221000086219
Brenda Gregory

•Homogenize all composite samples prior to analysis

anager, Pink QA/QC Manager

00749969

Generated: 05/31/2016 17:44

L16051153 / Revision: 0 / 939 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400
Marietta, OH 45750	Sampler (print): Scott Beesinger	San Antonio, TX 78205
Phone: 1-800-373-4071		210-296-2000
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:
Address: 112 East Pecan Ste. 400		
San Antonio, TX 78205		Program:
Turn Around Time: STANDARD		
Project Name/Location: Longhorn		
Project Number: 60256135.0002JA		

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp	Grab	Matrix	pH:	Number of Containers	VOC	Dissolved Gases	Sulfide	Nitrate / Nitrite Chloride / Sulfate	Inorganic Carbon	Total Organic Carbon	Ferrous Iron	ERPIMS REQUIRED FIELDS: SA CODE	Cooler ID	LOT CONTROL NUMBERS: ABLOT	EBLOT	TBLOT
SITE 67	67WW07-051916			5/19/16	0800		✓	W		3	✓											
	67WW11-051916			5/19/16	0850		✓	W		11	✓	✓	✓	✓	✓	✓	✓					
	67WW08-051916			5/19/16	0955		✓	W		11	✓	✓	✓	✓	✓	✓	✓					
	67WW13-051916			5/19/16	1100		✓	W		11	✓	✓	✓	✓	✓	✓	✓					
	67WW15-051916			5/19/16	1445		✓	W		3	✓											
	TRIP BLANK			5/19/16			✓	W		2	✓											

Comments: **STANDARD TAT**

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Received by: (Signature)	Date	Time	Relinquished by: (Signature)
Scott Beesinger	5/19/16	1545	Microbac OVD Received: 05/20/2016 10:04 By: BRENDA GREGORY 221000086219				
Relinquished by: (Signature)	Date	Time	Brenda Gregory		Time		Remarks:

•Homogenize all composite samples prior to analysis

Manager, Pink QA/QC Manager

Generated: 05/31/2016 17:44

00749970

L16051153 / Revision: 0 / 939 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe	
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400	
Marietta, OH 45750	Sampler (print): Scott Beesinger	San Antonio, TX 78205	
Phone: 1-800-373-4071		210-296-2000	
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:	
Address: 112 East Pecan Ste. 400			
San Antonio, TX 78205	pH:	Program:	
Turn Around Time: STANDARD			
Project Name/Location: Longhorn			
Project Number: 60256135.0002JA			

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp-	Grab	Matrix	Number of Containers	VOC	ERPIMS REQUIRED FIELDS: SA CODE	Cooler ID	LOT CONTROL NUMBERS: ABLOT	EBLOT	TBLOT
SITE 67	67WW07-051916			5/19/16	0800		✓	W	3	✓					
	TRIP BLANK			5/19/16			✓	W	2	✓					

Comments: STANDARD TAT

Microbac OVD Missing VOC Sample
Received: 05/20/2016 10:04
By: BRENDA GREGORY 221000086219
CHO 5/21/16

Relinquished by: (Signature)	Date	Time	Rec	Date	Time	Relinquished by: (Signature)
Scott Beesinger	5/20/16	1200				
Relinquished by: (Signature)	Date	Time	Rec (Sig)	Time	Remarks:	
			Brenda Gregory			

▪Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

Generated: 05/31/2016 17:44

00749971

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-01	747956	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Samplenum	Container ID	Products
L16051153-02	747957	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-03	747958	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Samplenum	Container ID	Products
L16051153-04	747959	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-05	747960	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Samplenum	Container ID	Products
L16051153-06	747961	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-07	747962	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Samplenum	Container ID	Products
L16051153-08	747963	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:19	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-09	747964	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Samplenum	Container ID	Products
L16051153-10	747965	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-11	747966	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Samplenum	Container ID	Products
L16051153-12	747967	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-13	747968	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Samplenum	Container ID	Products
L16051153-14	747969	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-15	747970	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-15	747971	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-15	747972	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	20-MAY-2016 13:17	BRG		
2	PREP	L1	SEM	20-MAY-2016 13:28	ALS	BRG	
3	STORE	SEM	A1	27-MAY-2016 08:50	BRG	ALS	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-15	747973	TIC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	24-MAY-2016 09:29	DCM	CLS	
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

Samplenum	Container ID	Products
L16051153-15	747974	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	24-MAY-2016 08:13	DCM	CLS	

Comments:Products cancelled.

3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-15	747975	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	W1	WET	24-MAY-2016 09:29	DCM	CLS	
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-15	747976	826-LOW 9056 FERROUS RSK175 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	23-MAY-2016 15:25	TB	CLS	
3	STORE	WET	A1	24-MAY-2016 16:00	BRG	TB	

Samplenum	Container ID	Products
L16051153-16	747977	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-16	747978	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-16	747979	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	20-MAY-2016 13:17	BRG		
2	PREP	L1	SEM	20-MAY-2016 13:28	ALS	BRG	
3	STORE	SEM	A1	27-MAY-2016 08:50	BRG	ALS	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-16	747980	TIC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	24-MAY-2016 09:29	DCM	CLS	
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-16	747981	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	24-MAY-2016 08:13	DCM	CLS	
Comments:Products cancelled.							
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	
Comments:Products cancelled.							

Samplenum	Container ID	Products
L16051153-16	747982	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	W1	WET	24-MAY-2016 09:29	DCM	CLS	
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

Samplenum	Container ID	Products
L16051153-16	747983	826-LOW 9056 FERROUS RSK175 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	23-MAY-2016 15:25	TB	CLS	
3	STORE	WET	A1	24-MAY-2016 16:00	BRG	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-17	747984	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-17	747985	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	V1	ORG1	23-MAY-2016 07:46	AWE	CLS	

Comments:Products cancelled.

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-17	747986	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	20-MAY-2016 13:17	BRG		
2	PREP	L1	SEM	20-MAY-2016 13:28	ALS	BRG	
3	STORE	SEM	A1	27-MAY-2016 08:50	BRG	ALS	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-17	747987	TIC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	24-MAY-2016 09:29	DCM	CLS	
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

Samplenum	Container ID	Products
L16051153-17	747988	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	24-MAY-2016 08:13	DCM	CLS	

Comments:Products cancelled.

3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

Comments:Products cancelled.

Samplenum	Container ID	Products
L16051153-17	747989	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		<2
2	ANALYZ	W1	WET	24-MAY-2016 09:29	DCM	CLS	
3	STORE	WET	A1	25-MAY-2016 14:34	BRG	BLR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-17	747990	826-LOW 9056 FERROUS RSK175 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	20-MAY-2016 13:17	BRG		
2	ANALYZ	W1	WET	23-MAY-2016 15:25	TB	CLS	
3	STORE	WET	A1	24-MAY-2016 16:00	BRG	TB	

Samplenum	Container ID	Products
L16051153-18	747991	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Samplenum	Container ID	Products
L16051153-19	747992	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	20-MAY-2016 13:17	BRG		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16051153
Account: 2551
Project: 2551.096
Samples: 21
Due Date: 31-MAY-2016

Samplenum	Container ID	Products
L16051153-20	748313	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	21-MAY-2016 10:35	CLS		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	21-MAY-2016 10:35	CLS		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	21-MAY-2016 10:35	CLS		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Samplenum	Container ID	Products
L16051153-21	748314	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	21-MAY-2016 10:35	CLS		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	21-MAY-2016 10:35	CLS		
2	ANALYZ	V1	ORG4	21-MAY-2016 12:20	FJB	AZH	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

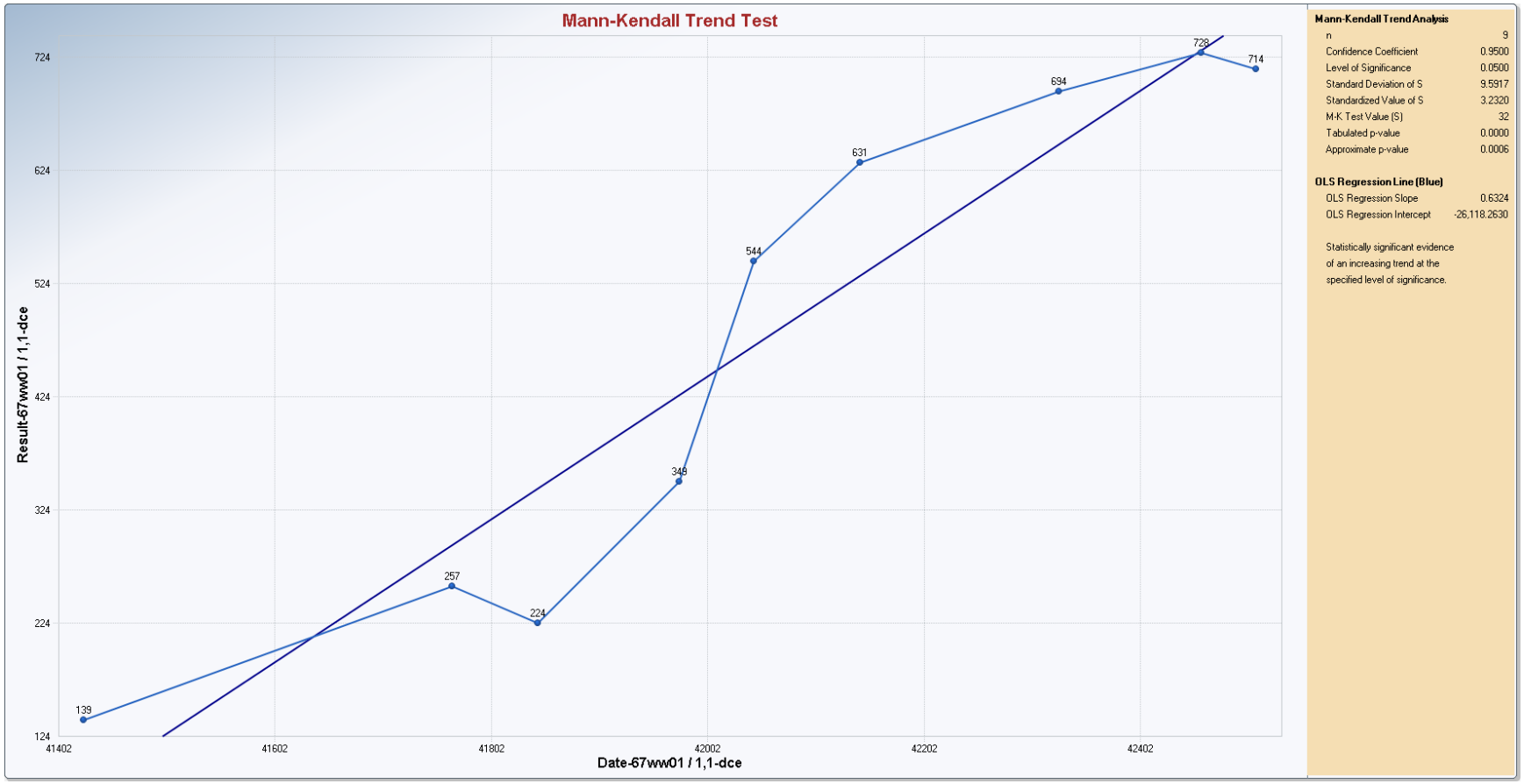
1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

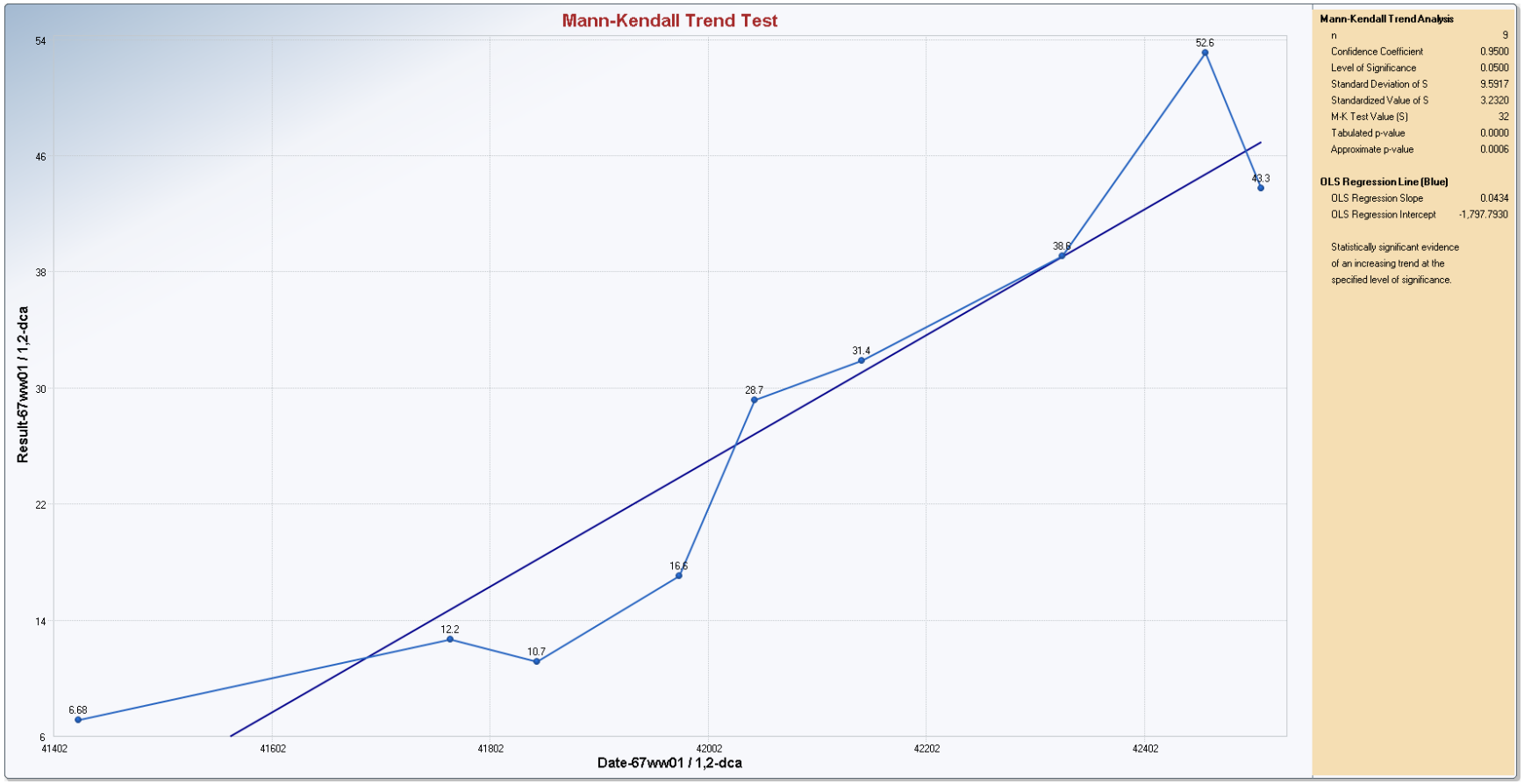
APPENDIX E: MANN-KENDALL TREND TEST RESULTS

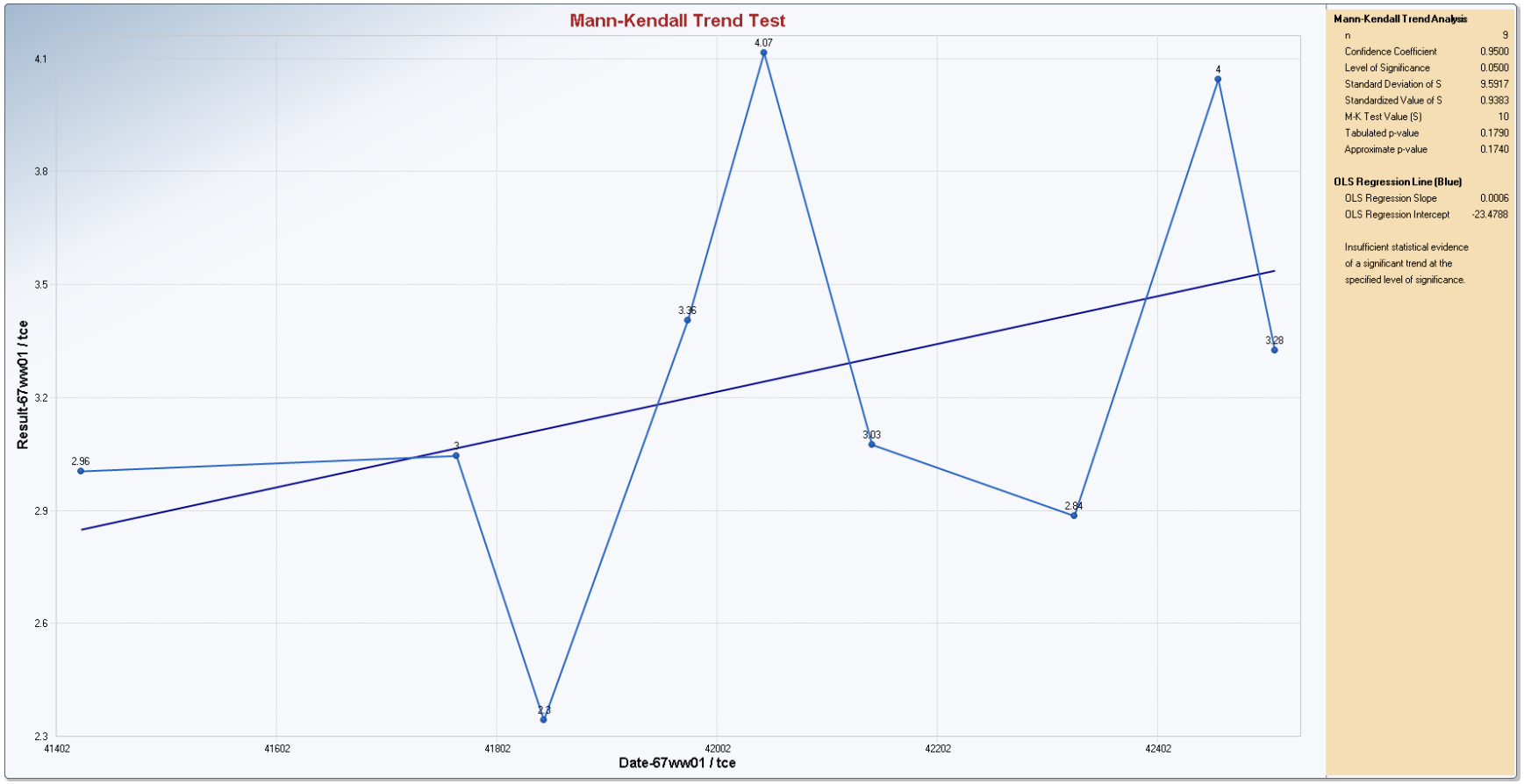
Mann-Kendall analysis for the data collected during the 3-year RA(O) period was completed for 1,1-DCE, 1,2-DCA, and TCE. The U.S. EPA's ProUCL version 5.0 was used for this analysis. The dates are displayed in numerical format rather than in a date format as required by the program. The concentration of COCs are presented on the data points on the graph in µg/L. Half of the detection limit was used for non-detects, where applicable. The level of significance was 5%. A summary table of the Mann-Kendall results is presented below, followed by the trend analysis for each well and analyte.

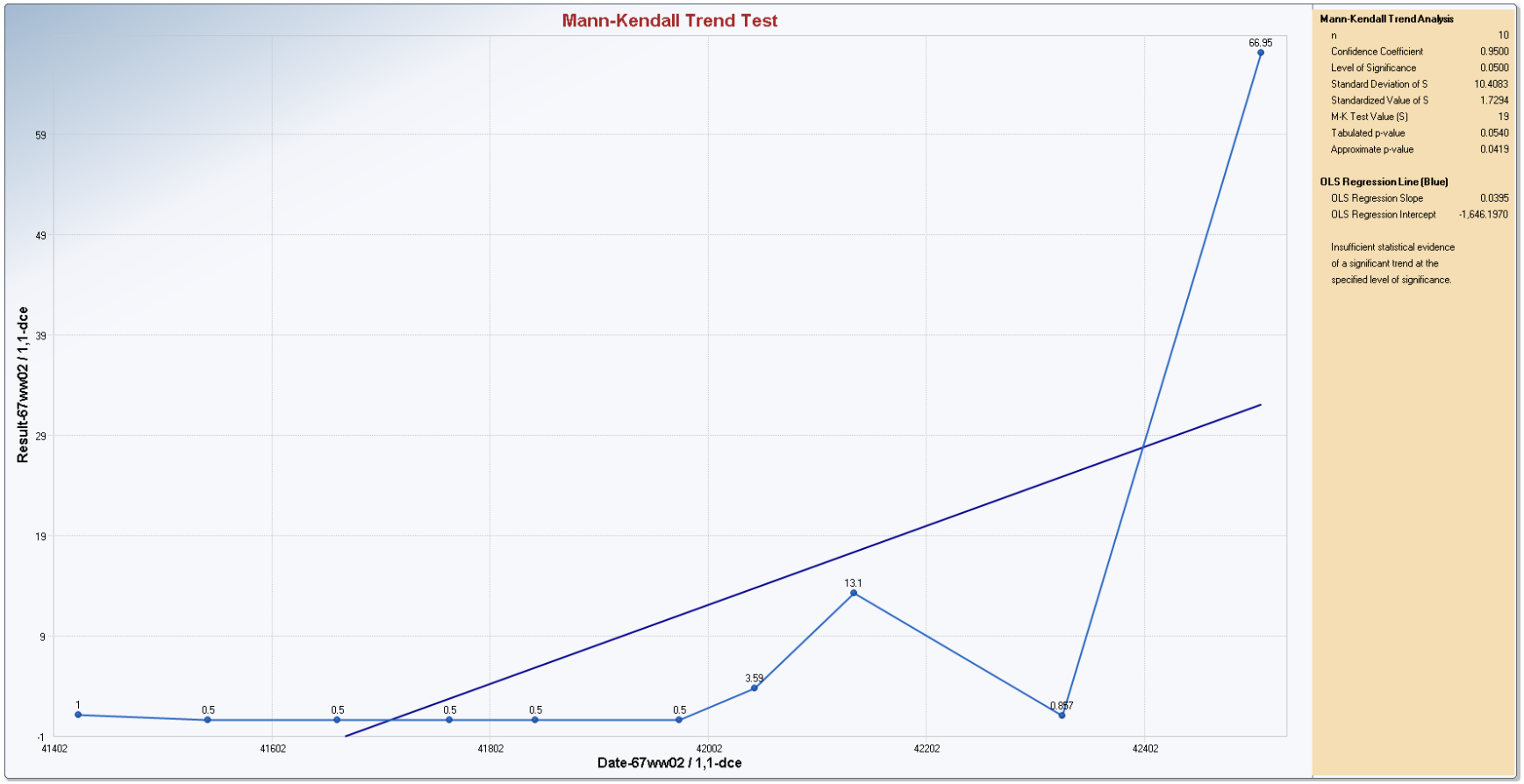
Mann-Kendall Trend Summary

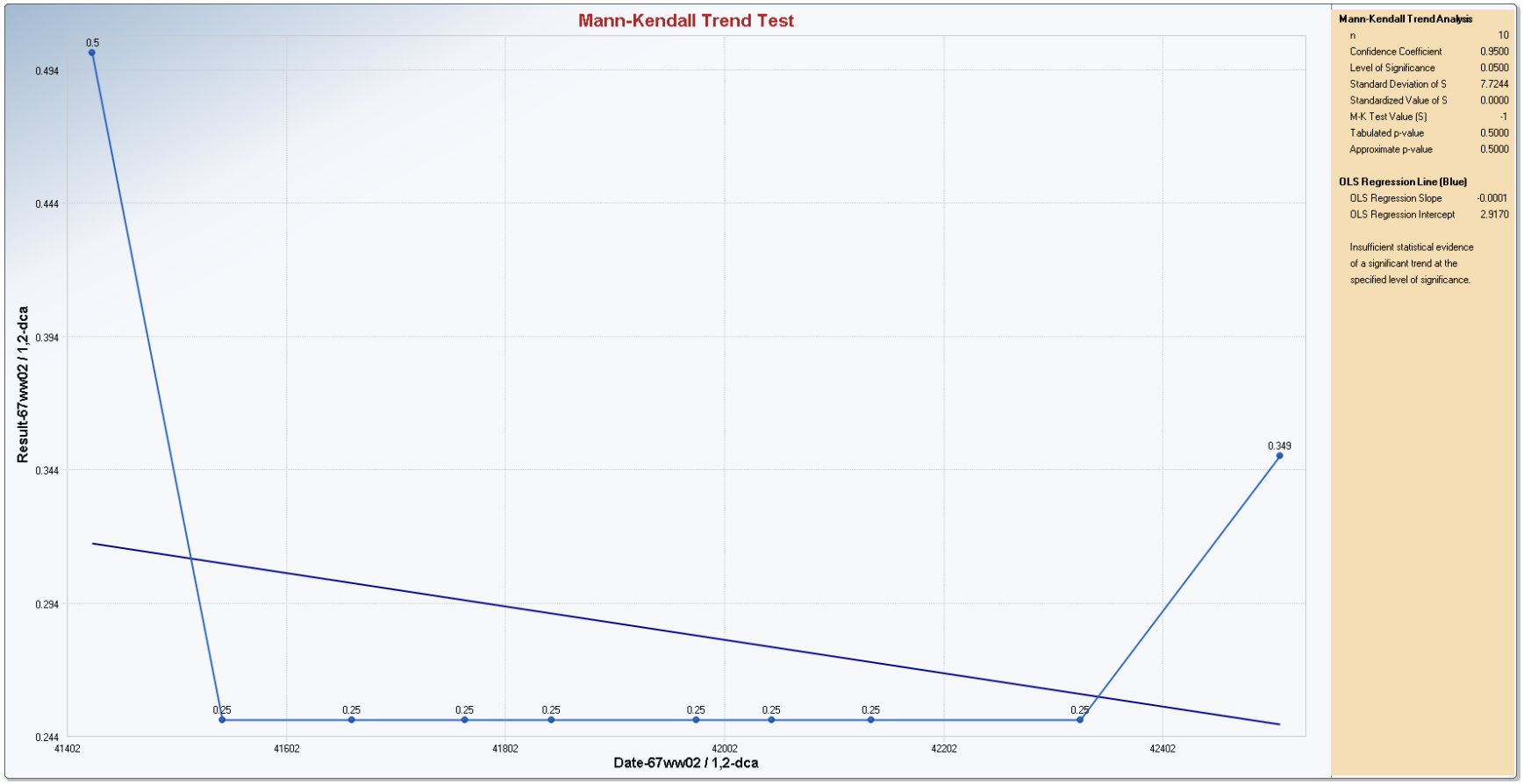
Monitoring Well	1,1-DCE	1,2-DCA	TCE
67WW01	**Significant Increase**	**Significant Increase**	No significant trend
67WW02	No significant trend	No significant trend	No significant trend
67WW08	No significant trend	No significant trend	No significant trend
67WW09	**Significant Decrease**	**Significant Decrease**	No significant trend
67WW11	**Significant Decrease**	**Significant Decrease**	No significant trend
67WW13	No significant trend	**Significant Increase**	No significant trend

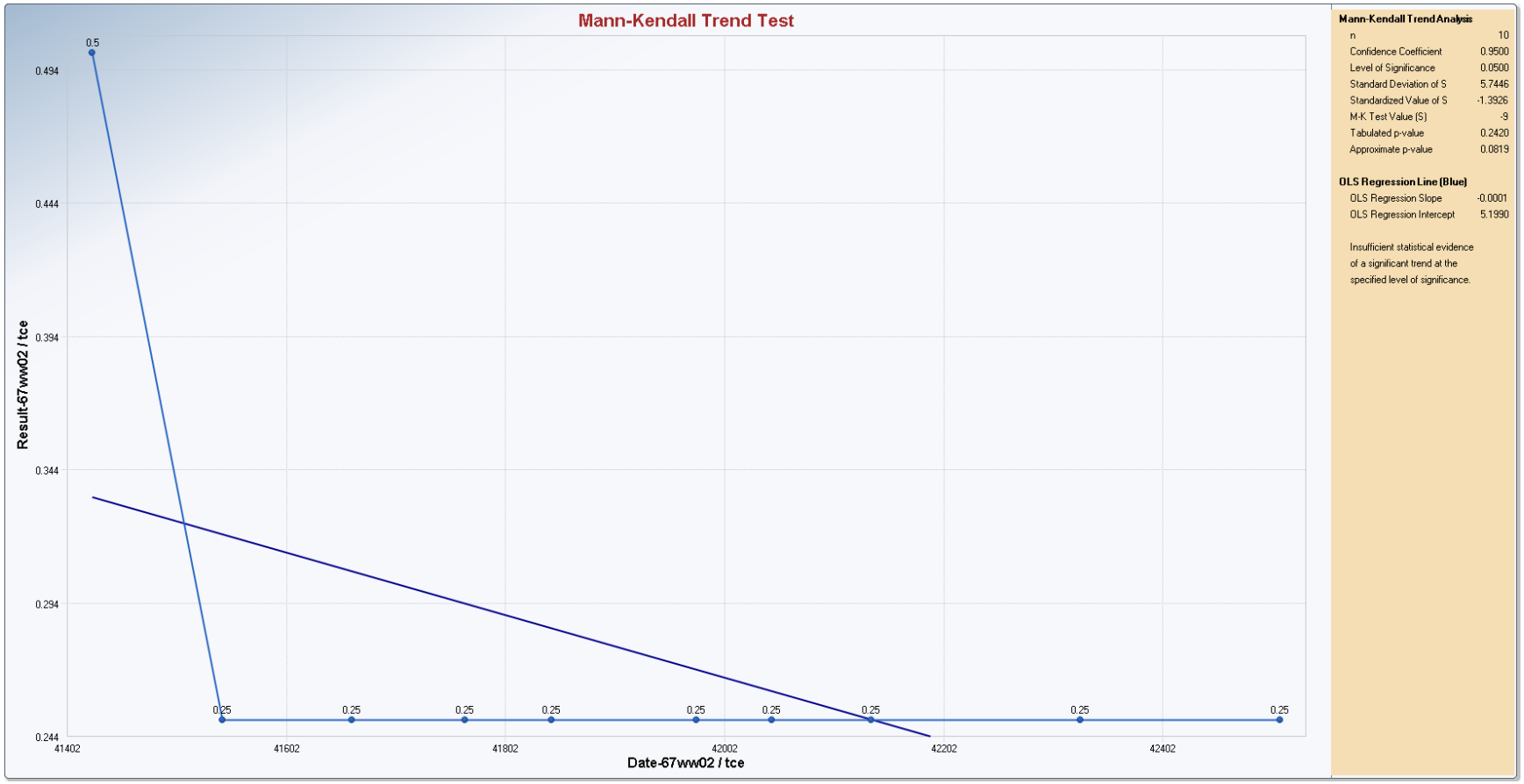

Mann-Kendall Trend Test
Result-67ww01 / 1,1-dce
Date-67ww01 / 1,1-dce
724
624
524
424
324
224
124
41402
41602
41802
42002
42202
42402
139
257
224
349
544
631
694
728
714
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 9.5917
Standardized Value of S 3.2320
M-K Test Value (S) 32
Tabulated p-value 0.0000
Approximate p-value 0.0006
OLS Regression Line (Blue)
OLS Regression Slope 0.6324
OLS Regression Intercept -26,118.2630
Statistically significant evidence of an increasing trend at the specified level of significance.

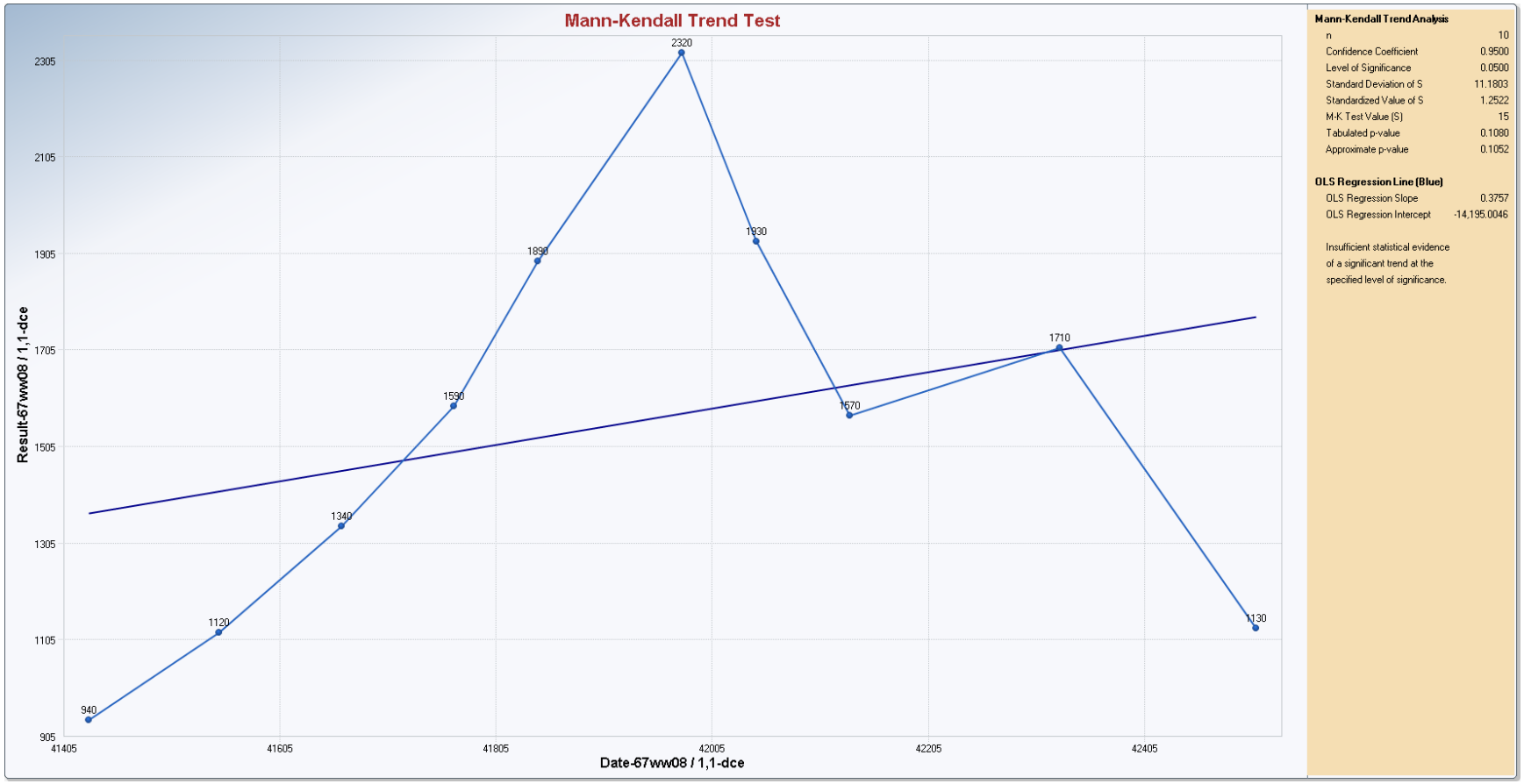

Mann-Kendall Trend Test
Result-67ww01 / 1,2-dca
Date-67ww01 / 1,2-dca
54
46
38
30
22
14
6
41402
41602
41802
42002
42202
42402
6.68
12.2
10.7
16.6
28.7
31.4
38.6
52.6
43.3
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 9.5917
Standardized Value of S 3.2320
M-K Test Value (S) 32
Tabulated p-value 0.0000
Approximate p-value 0.0006
OLS Regression Line (Blue)
OLS Regression Slope 0.0434
OLS Regression Intercept -1,797.7930
Statistically significant evidence of an increasing trend at the specified level of significance.

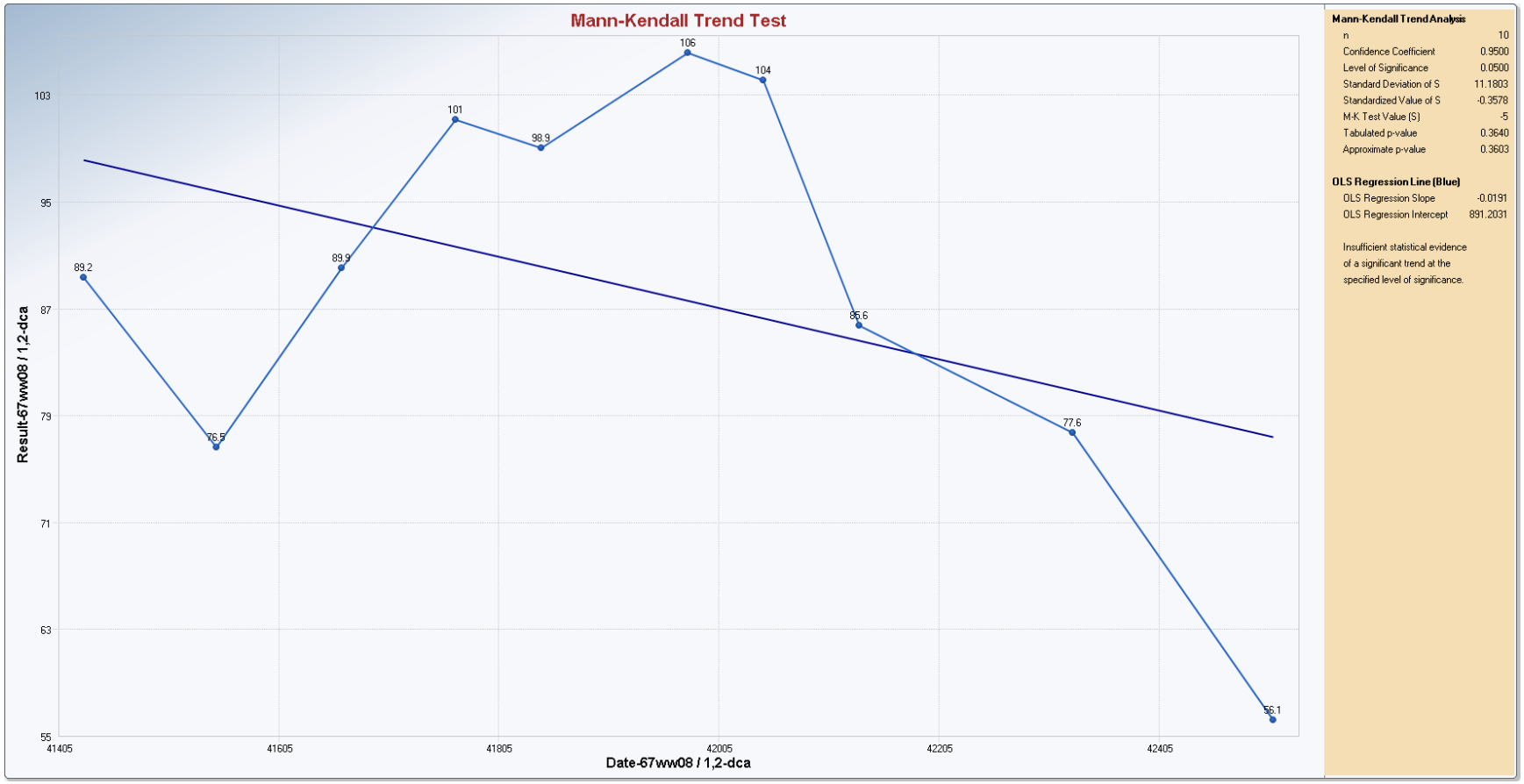

Mann-Kendall Trend Test
Result-67ww01 / tce
Date-67ww01 / tce
4.1
3.8
3.5
3.2
2.9
2.6
2.3
41402
41602
41802
42002
42202
42402
2.96
3
2.3
3.36
4.07
3.03
2.84
4
3.28
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 9.5917
Standardized Value of S 0.9383
M-K Test Value (S) 10
Tabulated p-value 0.1790
Approximate p-value 0.1740
OLS Regression Line (Blue)
OLS Regression Slope 0.0006
OLS Regression Intercept -23.4788
Insufficient statistical evidence of a significant trend at the specified level of significance.

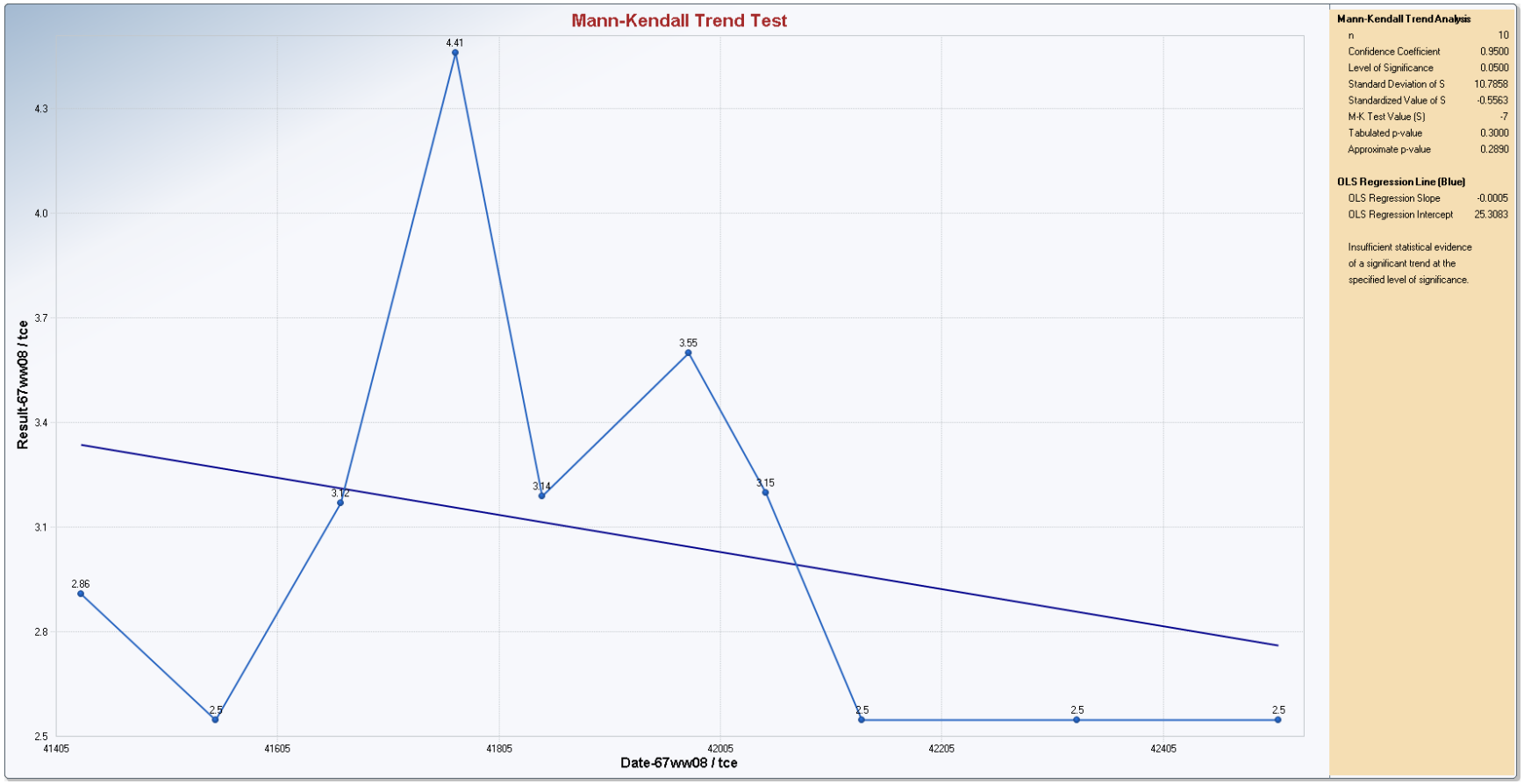

Mann-Kendall Trend Test
Result-67ww02 / 1,1-dce
Date-67ww02 / 1,1-dce
59
49
39
29
19
9
-1
41402
41602
41802
42002
42202
42402
1
0.5
0.5
0.5
0.5
0.5
3.59
13.1
0.857
66.95
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 10.4083
Standardized Value of S 1.7294
M-K Test Value (S) 19
Tabulated p-value 0.0540
Approximate p-value 0.0419
OLS Regression Line (Blue)
OLS Regression Slope 0.0395
OLS Regression Intercept -1,646.1970
Insufficient statistical evidence of a significant trend at the specified level of significance.

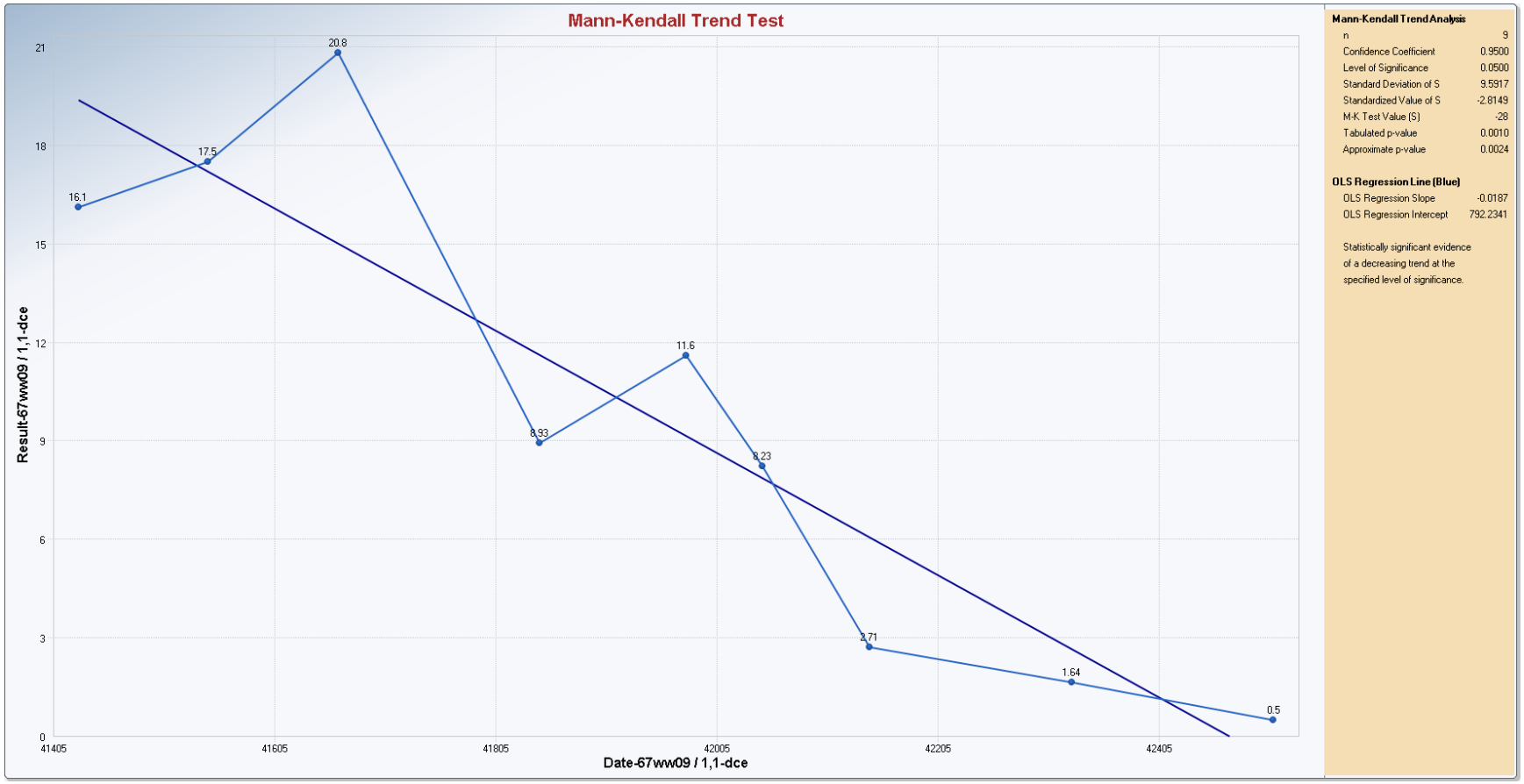

Mann-Kendall Trend Test
Result-67ww02 / 1,2-dca
Date-67ww02 / 1,2-dca
0.494
0.444
0.394
0.344
0.294
0.244
41402
41602
41802
42002
42202
42402
0.5
0.25
0.349
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 7.7244
Standardized Value of S 0.0000
M-K Test Value (S) -1
Tabulated p-value 0.5000
Approximate p-value 0.5000
OLS Regression Line (Blue)
OLS Regression Slope -0.0001
OLS Regression Intercept 2.9170
Insufficient statistical evidence of a significant trend at the specified level of significance.

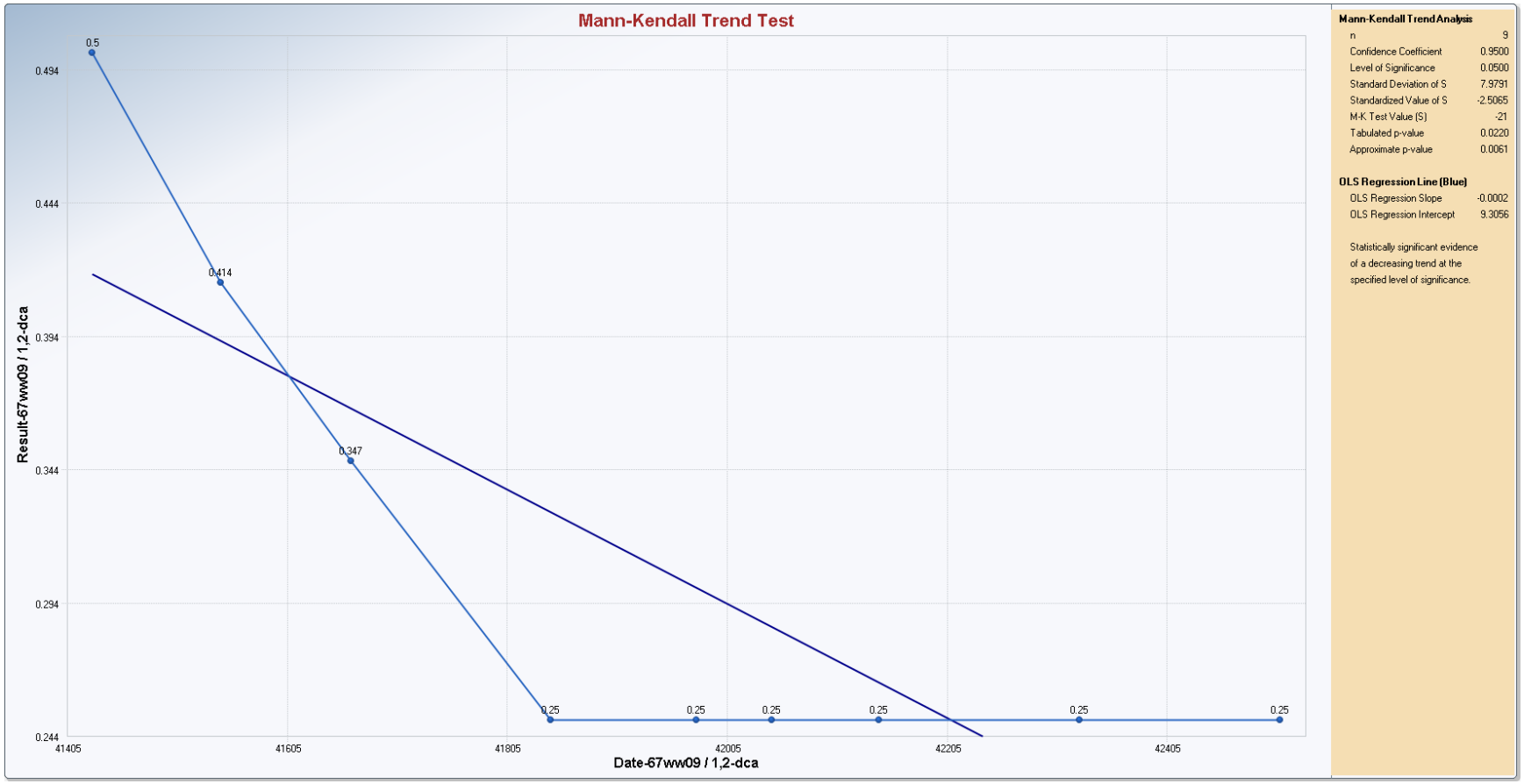

Mann-Kendall Trend Test
Result-67ww02 / tce
Date-67ww02 / tce
0.494
0.444
0.394
0.344
0.294
0.244
41402
41602
41802
42002
42202
42402
0.5
0.25
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 5.7446
Standardized Value of S -1.3926
M-K Test Value (S) -9
Tabulated p-value 0.2420
Approximate p-value 0.0819
OLS Regression Line (Blue)
OLS Regression Slope -0.0001
OLS Regression Intercept 5.1990
Insufficient statistical evidence of a significant trend at the specified level of significance.

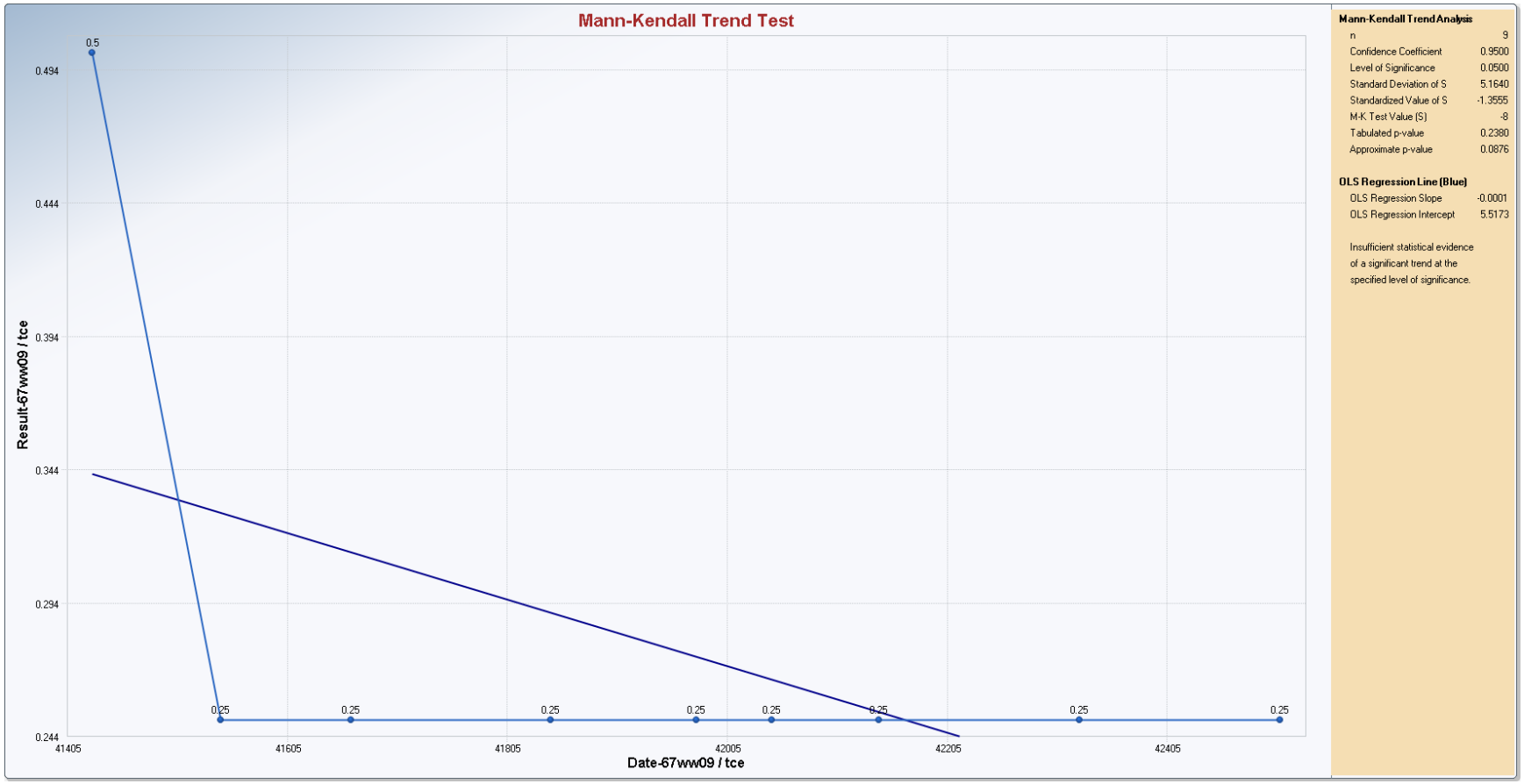

Mann-Kendall Trend Test
Result-67ww08 / 1,1-dce
Date-67ww08 / 1,1-dce
2305
2105
1905
1705
1505
1305
1105
905
41405
41605
41805
42005
42205
42405
940
1120
1340
1590
1890
2320
1930
1670
1710
1130
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 11.1803
Standardized Value of S 1.2522
M-K Test Value (S) 15
Tabulated p-value 0.1080
Approximate p-value 0.1052
OLS Regression Line (Blue)
OLS Regression Slope 0.3757
OLS Regression Intercept -14,195.0046
Insufficient statistical evidence of a significant trend at the specified level of significance.

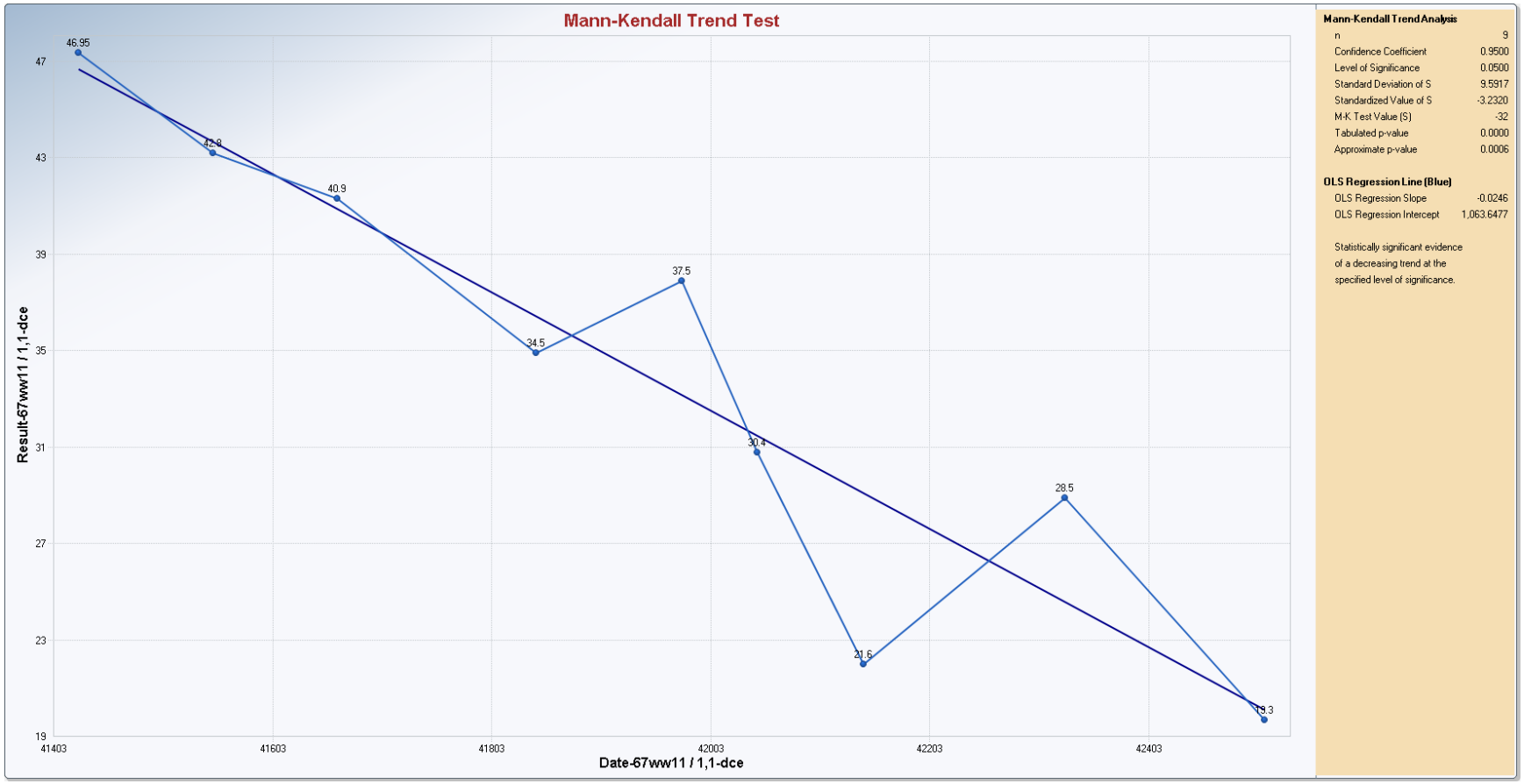

Mann-Kendall Trend Test
Result-67ww08 / 1,2-dca
Date-67ww08 / 1,2-dca
103
95
87
79
71
63
55
41405
41605
41805
42005
42205
42405
89.2
76.5
89.9
101
98.9
106
104
86.6
77.6
56.1
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 11.1803
Standardized Value of S -0.3578
M-K Test Value (S) -5
Tabulated p-value 0.3640
Approximate p-value 0.3603
OLS Regression Line (Blue)
OLS Regression Slope -0.0191
OLS Regression Intercept 891.2031
Insufficient statistical evidence of a significant trend at the specified level of significance.

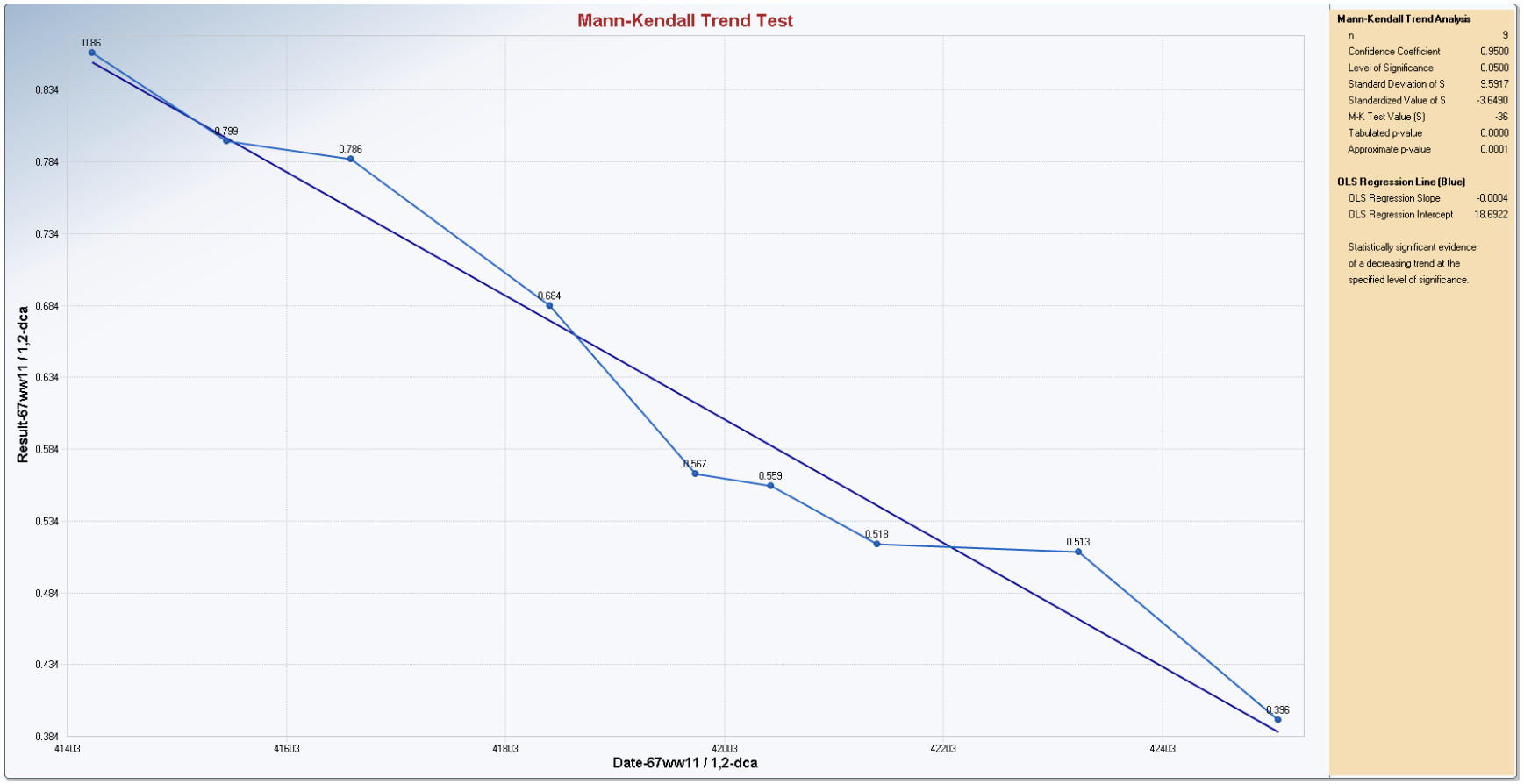

Mann-Kendall Trend Test
Result-67ww08 / tce
Date-67ww08 / tce
4.3
4.0
3.7
3.4
3.1
2.8
2.5
41405
41605
41805
42005
42205
42405
2.86
2.5
3.12
4.41
3.14
3.55
3.15
2.5
2.5
2.5
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 10.7858
Standardized Value of S -0.5563
M-K Test Value (S) -7
Tabulated p-value 0.3000
Approximate p-value 0.2890
OLS Regression Line (Blue)
OLS Regression Slope -0.0005
OLS Regression Intercept 25.3083
Insufficient statistical evidence of a significant trend at the specified level of significance.

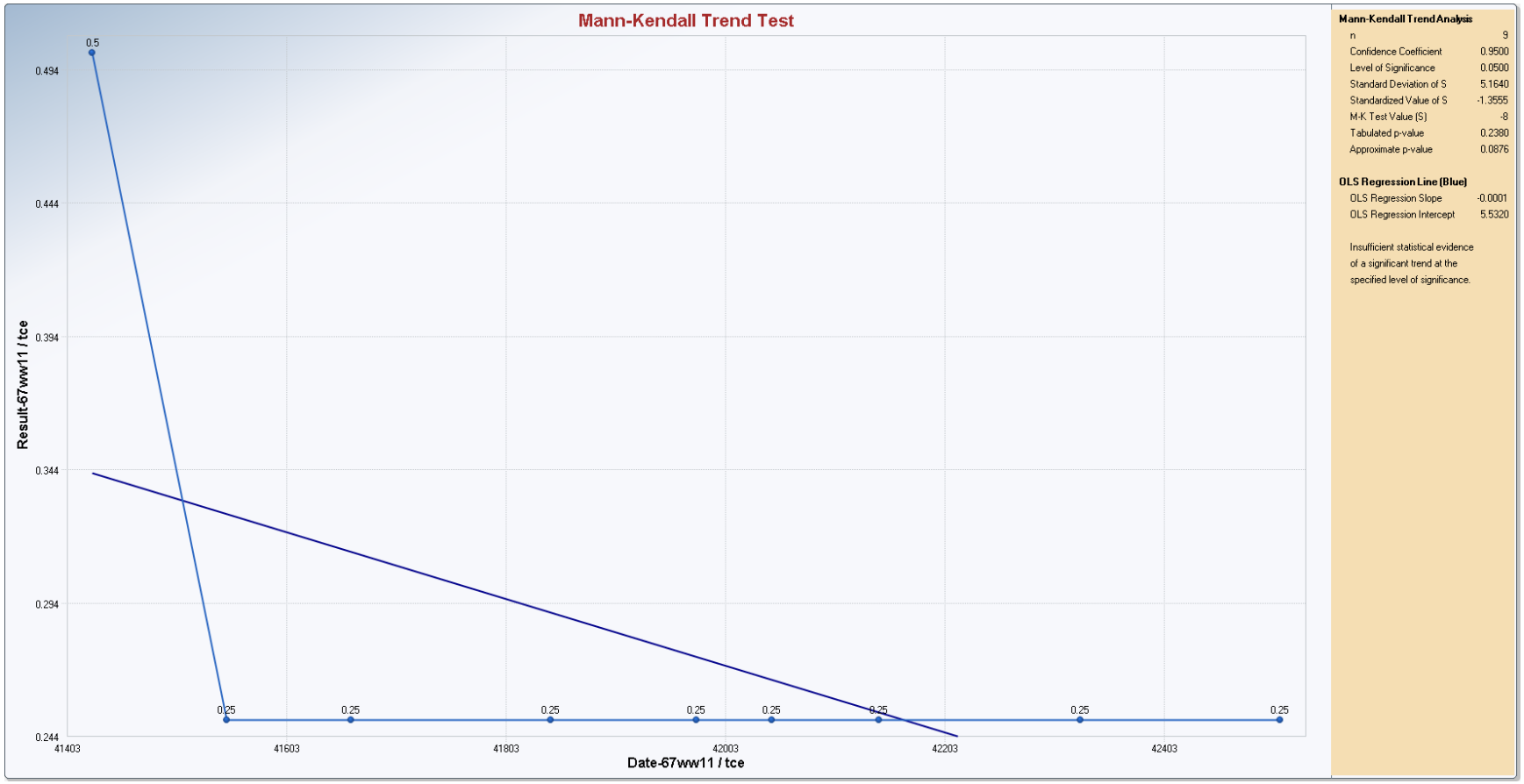

Mann-Kendall Trend Test
Result-67ww09 / 1,1-dce
Date-67ww09 / 1,1-dce
21
18
15
12
9
6
3
0
41405
41605
41805
42005
42205
42405
16.1
17.5
20.8
8.93
11.6
8.23
2.71
1.64
0.5
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 9.5917
Standardized Value of S -2.8149
M-K Test Value (S) -28
Tabulated p-value 0.0010
Approximate p-value 0.0024
OLS Regression Line (Blue)
OLS Regression Slope -0.0187
OLS Regression Intercept 792.2341
Statistically significant evidence of a decreasing trend at the specified level of significance.

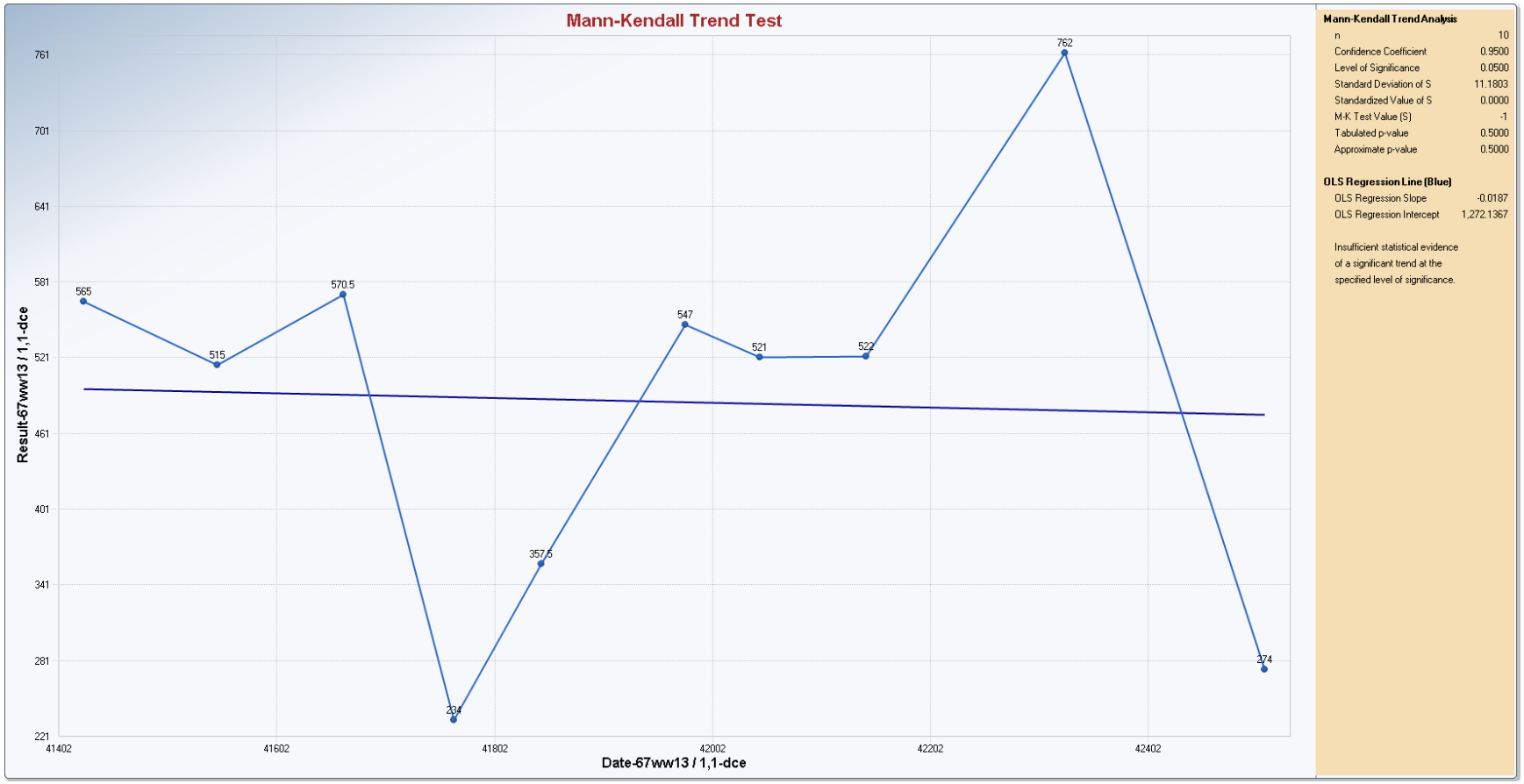

Mann-Kendall Trend Test
Result-67ww09 / 1,2-dca
Date-67ww09 / 1,2-dca
0.494
0.444
0.394
0.344
0.294
0.244
41405
41605
41805
42005
42205
42405
0.5
0.414
0.347
0.25
0.25
0.25
0.25
0.25
0.25
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 7.9791
Standardized Value of S -2.5065
M-K Test Value (S) -21
Tabulated p-value 0.0220
Approximate p-value 0.0061
OLS Regression Line (Blue)
OLS Regression Slope -0.0002
OLS Regression Intercept 9.3056
Statistically significant evidence of a decreasing trend at the specified level of significance.

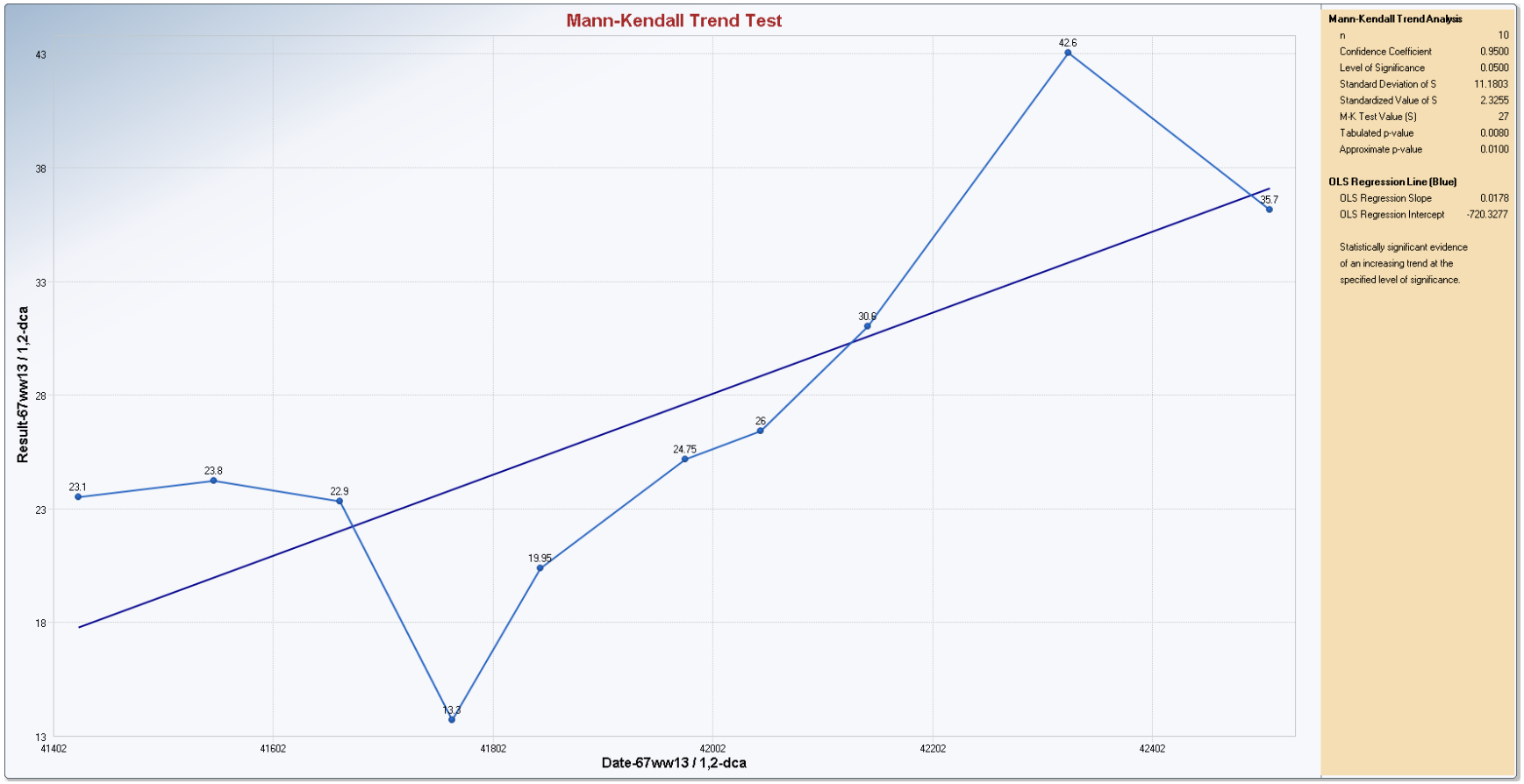

Mann-Kendall Trend Test
Result-67ww09 / tce
Date-67ww09 / tce
0.494
0.444
0.394
0.344
0.294
0.244
41405
41605
41805
42005
42205
42405
0.5
0.25
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 5.1640
Standardized Value of S -1.3555
M-K Test Value (S) -8
Tabulated p-value 0.2380
Approximate p-value 0.0876
OLS Regression Line (Blue)
OLS Regression Slope -0.0001
OLS Regression Intercept 5.5173
Insufficient statistical evidence of a significant trend at the specified level of significance.

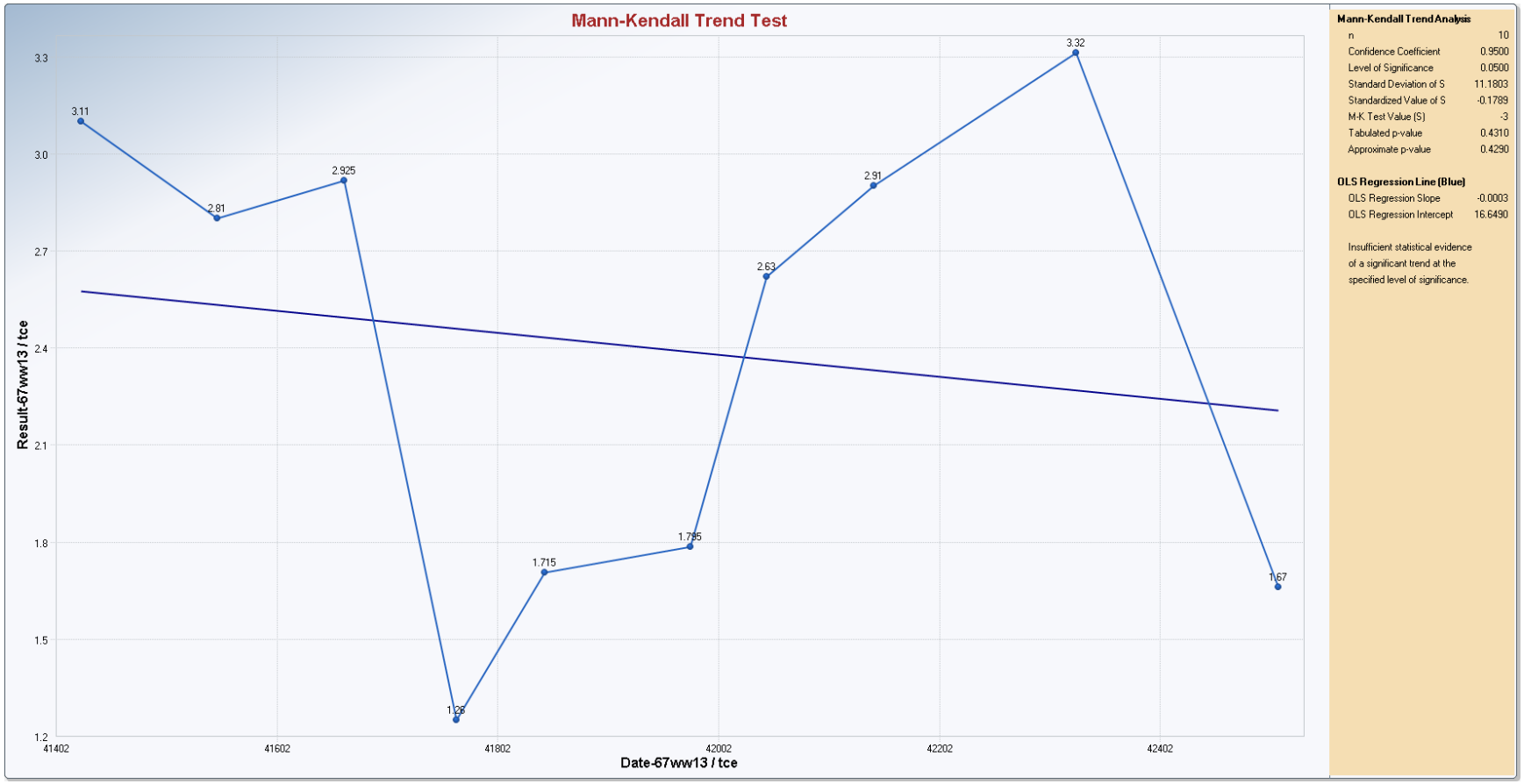

Mann-Kendall Trend Test
Result-67ww11 / 1,1-dce
Date-67ww11 / 1,1-dce
46.95
42.9
40.9
34.5
37.5
30.4
21.6
28.5
19.3
47
43
39
35
31
27
23
19
41403
41603
41803
42003
42203
42403
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 9.5917
Standardized Value of S -3.2320
M-K Test Value (S) -32
Tabulated p-value 0.0000
Approximate p-value 0.0006
OLS Regression Line (Blue)
OLS Regression Slope -0.0246
OLS Regression Intercept 1,063.6477
Statistically significant evidence of a decreasing trend at the specified level of significance.


Mann-Kendall Trend Test
Result-67ww11 / 1,2-dca
Date-67ww11 / 1,2-dca
0.86
0.799
0.786
0.684
0.567
0.559
0.518
0.513
0.396
0.834
0.784
0.734
0.684
0.634
0.584
0.534
0.484
0.434
0.384
41403
41603
41803
42003
42203
42403
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 9.5917
Standardized Value of S -3.6490
M-K Test Value (S) -36
Tabulated p-value 0.0000
Approximate p-value 0.0001
OLS Regression Line (Blue)
OLS Regression Slope -0.0004
OLS Regression Intercept 18.6922
Statistically significant evidence of a decreasing trend at the specified level of significance.


Mann-Kendall Trend Test
Result-67ww11 / tce
Date-67ww11 / tce
0.494
0.444
0.394
0.344
0.294
0.244
41403
41603
41803
42003
42203
42403
0.5
0.25
Mann-Kendall Trend Analysis
n 9
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 5.1640
Standardized Value of S -1.3555
M-K Test Value (S) -8
Tabulated p-value 0.2380
Approximate p-value 0.0876
OLS Regression Line (Blue)
OLS Regression Slope -0.0001
OLS Regression Intercept 5.5320
Insufficient statistical evidence of a significant trend at the specified level of significance.


Mann-Kendall Trend Test
Result-67ww13 / 1,1-dce
Date-67ww13 / 1,1-dce
761
701
641
581
521
461
401
341
281
221
41402
41602
41802
42002
42202
42402
565
515
570.5
234
357.5
547
521
522
762
274
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 11.1803
Standardized Value of S 0.0000
M-K Test Value (S) -1
Tabulated p-value 0.5000
Approximate p-value 0.5000
OLS Regression Line (Blue)
OLS Regression Slope -0.0187
OLS Regression Intercept 1,272.1367
Insufficient statistical evidence of a significant trend at the specified level of significance.


Mann-Kendall Trend Test
Result-67ww13 / 1,2-dca
Date-67ww13 / 1,2-dca
43
38
33
28
23
18
13
41402
41602
41802
42002
42202
42402
23.1
23.8
22.9
13.3
19.95
24.75
26
30.6
42.6
35.7
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 11.1803
Standardized Value of S 2.3255
M-K Test Value (S) 27
Tabulated p-value 0.0080
Approximate p-value 0.0100
OLS Regression Line (Blue)
OLS Regression Slope 0.0178
OLS Regression Intercept -720.3277
Statistically significant evidence of an increasing trend at the specified level of significance.

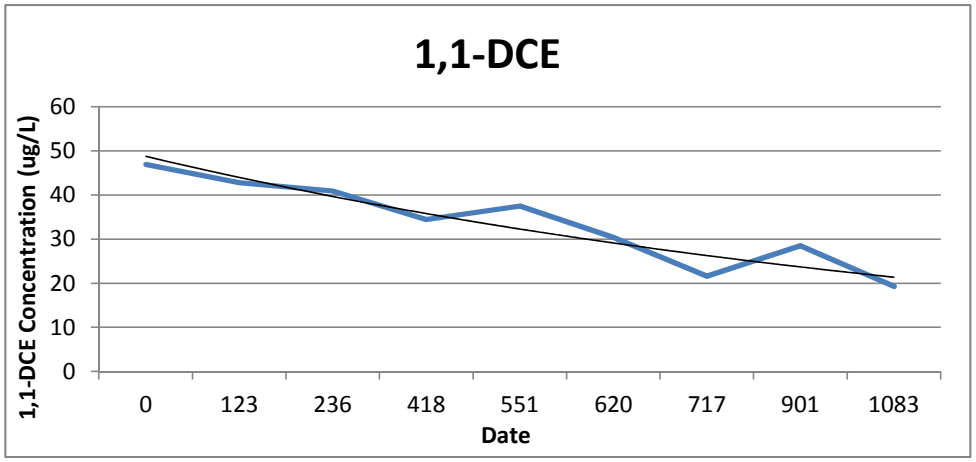

Mann-Kendall Trend Test
Result-67ww13 / tce
Date-67ww13 / tce
3.3
3.0
2.7
2.4
2.1
1.8
1.5
1.2
41402
41602
41802
42002
42202
42402
3.11
2.81
2.925
1.26
1.715
1.795
2.63
2.91
3.32
1.67
Mann-Kendall Trend Analysis
n 10
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 11.1803
Standardized Value of S -0.1789
M-K Test Value (S) -3
Tabulated p-value 0.4310
Approximate p-value 0.4290
OLS Regression Line (Blue)
OLS Regression Slope -0.0003
OLS Regression Intercept 16.6490
Insufficient statistical evidence of a significant trend at the specified level of significance.

APPENDIX F: FIRST ORDER RATE CALCULATIONS

Appendix F: First Order Rate Calculations

1,1-DCE at 67WW11

Date	Jun-13	Oct-13	Jan-14	Jul-14	Dec-14	Feb-15	May-15	Nov-15	May-16
Time	0	123	236	418	551	620	717	901	1083
1,1-DCE	46.95	42.8	40.9	34.5	37.5	30.4	21.6	28.5	19.3



1,1-DCE MCL 7 ug/L

Ln(C/C0) = -Kt
C = concentration at any time
C0 = initial concentration at time zero
t = time in days
K = first order rate constant in 1/day
t1/2 = half life of compound

C =	19.3	mg/L		
C0 =	46.95	mg/L		
t=	1083	days		
K =	0.000821	d^{-1}	0.2996	$year^{-1}$
t1/2 =	844	days	2.31	years

Extrapolating to C =	7	ug/L	
t =	1236	days	time to achieve MCL
	3.4	years	

Note:
1). 1,1-DCE concentrations used for June 2013 and January 2014 are based on an average concentration of the normal sample and its duplicate collected at 67WW11.

APPENDIX G: DRILLING, CONSTRUCTION, AND DEVELOPMENT LOGS, AND SURVEY DATA FOR MONITORING WELLS INSTALLED IN 2016

AECOM

Client: USACE			BORING ID: 67WW16I
Project Number: 60256135			
Site Location: LHAAP Site 67			
Coordinates:	Elevation		Sheet 1 of 5
Drilling Method: Sonic			Monitoring Well Installed: yes
Sample Type(s): Core Barrel	Boring Diameter: 8" to 50' + 3" to 50'-		Screened Interval:
Weather: Sunny, 80s	Logged By: KW, SH	Date/Time Started: 1430 4/28/16	Depth of Boring: 80'
Drilling Contractor: AEI	Ground Elevation:	Date/Time Finished: 5/3/16	Water Level:

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
							0.0' Sandy silt, brown, damp, plant material & roots, fades to lt. gray w/ black streaks ~ 0.25'		
1						MS	0.5' - silty clay, mottled lt. gray & yellowish brown, medium stiff, damp, low plasticity		
						CL	1.75' - clayey silt/silty clay, mottled lt. gray, yellowish brown, & reddish brown, damp, medium stiff, low plasticity		
2						ML/CL	2.5' - clay, mottled gray & reddish brown, moist, stiff, high plasticity		
3				5'/5'	0.0	CH			
4							-4.0' - SAA, reddish brown to brown, hard, moist		
						ML	4.5' - silt, mottled reddish brown, brown, light gray, & dark gray, dry		
5					0.0	ML/CL	4.75' - clay/silty clay, mottled lt. brown & reddish brown, dry		
							5.0' - clayey silt/silty clay, pale brown, wet, soft, low plasticity		
6						ML/CL			
7				5'/5'			7.25' - silty sand, yellowish brown, wet to moist		
					0.2	SM	7.75' - fine sand, pale brown, dry, unconsolidated/no lithification		
8						SP	8.8' - silty fine sand, mottled gray & reddish brown, w/ minor clay, damp		
9									
					0.2	SM	-9.4' - SAA w/ clay, lt. gray, dry		
10							-10.0' - SAA, light yellowish brown, damp		
11							11.25' - fine sand, very pale brown fading to mottled light yellowish brown & yellowish brown, dry		
					0.2	SP			
12									
13									
14				10'/10'					
					2.0		14.75' - clayey sand, mottled lt. gray, reddish brown, & yellowish brown, damp		
15						SC	15.30' - fine sand, lt. gray, damp to dry		
						SP	15.8' - silty fine sand, mottled brownish yellow & lt. gray, damp		
16						SM	-16.25' - SAA w/ some clay to around 16.5', damp		
17					1.1		17.5' - sandy silt, mottled lt. gray & yellowish brown, damp		
						MS	18.0' - silty clay, mottled gray & yellowish brown, damp, stiff, low plasticity		
18						CL			
19									
20					0.3				

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: LHAAP Site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s): Core Barrel
Boring Diameter: 8" to 50' & 4" to 50'-
Weather: Sunny 80's
Logged By: KW, SH
Drilling Contractor: AEI
Ground Elevation:
Date/Time Started: 1430 4/28/16
Date/Time Finished: 5/3/16

BORING ID: 67WW16I
Sheet 2 of 5
Monitoring Well Installed: yes
Screened Interval:
Depth of Boring: 80'
Water Level:

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
							20.0' - SAA		
21									
22					0.3	SM	22.0' - sandy silt mottled gray + reddish brown, moist		
23									
24							- 23.5' SAA, reddish brown, moist		
25				10'/10'	1.1		25.0' fine sand, pale brown, moist		
26						SP	26.0' - silty fine sand, brown, moist to wet		
27					1.0	SM	- 27.5' - SAA, yellowish brown, wet		
28									
29							- 29.5' - SAA, mottled brown, yellowish brown, + lt. gray, wet		
30					0.8				
31							- 31.75' - SAA, yellowish brown, wet		
32					0.3				
33							- 33.0' - SAA, mottled gray + yellowish brown, moist		
34				10'/10'					
35					0.0				
36							- 36.5 - SAA, yellowish brown, moist		
37					0.2				
38									
39							- 39.5' - SAA, w/ some reddish brown mottling, moist		
40					0.7				

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: UMAAP Site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s):
Boring Diameter: 8" to 50' ± 7" 50'-
Logged By: KWS
Ground Elevation:
Date/Time Started: 1430 4/28/16
Date/Time Finished: 5/3/16

BORING ID: 67WW16I
Sheet 3 of 5
Monitoring Well Installed: yes
Screened Interval:
Depth of Boring: 80'
Water Level:

Weather: Sunny, 80's
Drilling Contractor: AEI

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
41									
42					0.0		42.0'-SAA, dark gray w/ some brown staining, wet		
43									
44									
45					0.0		45.75'-silt w/ silty clay laminations, dark gray (Silt is lt gray), damp		
46				10'/10'		SM/CL	46.0'-silty fine sand, yellowish brown, wet		
47						SM	46.5'-clayey silt, dark gray, wet		
48					0.0	ML/CL	47.75'-silty clay, dark gray, moist & then dry around 48.75'		
49									
50					0.1	ML	50.0'-clayey silt, dark gray, damp		
51									
52					0.0	CL	52.25'-silty clay, dark gray, moist, soft, low plasticity w/ lignite chunks starting ~ 33' (black)		
53						Pt	53.25'-lignite, black, dry		
54				10'/10'					
55					0.0	CL	55.0'-Silty clay w/ lignite decreasing w/ depth, black, dry, hard, low plasticity, shaley		
56									
57									
58					0.0				
59									
60									

NOTES:
8" diameter (inner) surface casing set @ 50' - temporary

Date	Time	Depth to groundwater while drilling

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: LHAAP Site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s):
Boring Diameter: 8" to 50'+ 7" 50'-
Weather: Cloudy, humid, ~75°
Logged By: KW, SH
Drilling Contractor: AEI
Ground Elevation:
Date/Time Started: 1430 4/28/16
Date/Time Finished: 5/3/16

BORING ID: 67WW16I
Sheet 4 of 5
Monitoring Well Installed: yes
Screened Interval:
Depth of Boring: 80'
Water Level:

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
							60.0'-SAA, mottled very dark gray & brown, w/ minor to no lignite, medium stiff, low to medium plasticity, wet		
61					0.1				
62					0.0				
63						SM	63.0'-silty fine sand, mottled olive gray & gray w/ some black streaks & clay laminations, moist		
64									
65				10'/10'	0.2				
66									
67					0.1				
68									
69									
70					0.0		-70.0'-SAA, wet		
71									
72					0.0				
73									
74				10'/10'					
75					0.1				
76									
77					0.0				
78							-78.5'-SAA, wet		
79						CL	79.0'-silty clay, mottled gray, dark gray, & some brownish gray, medium stiff, low plasticity, damp to moist		
80					0.0				

Date	Time	Depth to groundwater while drilling

NOTES:

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: LHAAP Site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s): Core Barrel
Boring Diameter: 8" to 50' - 5" 50'+
Weather:
Logged By: KW, SH
Drilling Contractor:
Ground Elevation:
Date/Time Started: 1430 4/28/16
Date/Time Finished: 5/3/16

BORING ID: 67WW16I
Sheet 5 of 5
Monitoring Well Installed: yes
Screened Interval:
Depth of Boring: 80'
Water Level:

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
81							80.0' - SAA		
82									
83									
84									
85									
86									
87									
88									
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: LHAAP site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s): Boring Diameter: 7"
Weather: clear, 80s Logged By: SH Date/Time Started: 1/17/5/3/16 Depth of Boring 45'
Drilling Contractor: AEI Ground Elevation: Date/Time Finished: 1/26/5/3/16 Water Level:

BORING ID: 67WW15
Sheet 1 of 3
Monitoring Well Installed: yes
Screened Interval

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
1				4.75/5'		CL	0.0'-silty clay, brown w/ abundant leaf litter & straw, wet 0.75'-clay, mottled lt. brownish gray + yellowish gray, moist, medium stiff, low to medium plasticity		
2					0.0		1.8'-SAA, mottled brown, very dark grayish brown, + yellowish brown, damp, stiff, low plasticity 2.3'-SAA, mottled grayish brown + yellowish brown, damp		
3							2.7'-SAA, mottled reddish brown + yellowish brown, damp 3.6'-silty clay w/ some fine sand, mottled lt. gray + reddish brown, damp, hard, low plasticity		
4									
5					0.3		4.5'-silty clay, mottled gray, brown, + yellowish brown, damp, medium stiff, low to medium plasticity		
6							5.8'-SAA, mottled lt. gray + yellowish brown, w/ some black streaks, soft, low plasticity, damp		
7				5'/5'	0.0	CL/ML	7.0'-interbedded silty clay + silt, silt is lt. gray, clay is reddish brown, damp, soft, low plasticity		
8						CL	7.9'-silty clay, mottled lt. gray + yellowish brown, damp, soft, low plasticity		
9					0.0				
10						SP	10.0'-fine sand, mottled very pale brown + yellowish brown, damp to dry		
11							10.5'-SAA, white, damp to dry		
12					0.0		12.2'-SAA, very pale brown, damp		
13				7.5'/10'					
14					0.1		15.1'-SAA w/ some clay, mottled very pale brown + yellowish brown, damp		
15							16.25-SAA, w/ some clay laminations up to 1/8" thick, moist		
16							16.6'-silty fine sand, mottled lt. gray + very pale brown, w/ some gray clay laminations up to 1/8" thick, moist		
17					0.1	SM SP SM	17.0'-fine sand, lt. gray, damp to moist 17.25'-interbedded silty sand + clay, laminations up to 1/8" thick, sand is lt. gray, clay is gray, moist		
18									
19						NR			
20									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: LHAAP Site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s):
Boring Diameter: 7"
Weather: Clear, 80s
Logged By: SH
Drilling Contractor: AEI
Ground Elevation:
Date/Time Started: 1412/5/3/16
Date/Time Finished: 1646/5/3/16

BORING ID: 67WW15
Sheet 2 of 3
Monitoring Well Installed: yes
Screened Interval:
Depth of Boring: 45'
Water Level:

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
21				10'/10'	0.0	CL	20.0' - silty clay, mottled lt. gray & yellowish brown, moist, medium stiff, low plasticity		
						SM	20.4' - silty sand, lt. gray, fine grains, wet, mottled w/ yellowish brown @ 20.5'		
						ML	20.6' - sandy silt, mottled lt. gray & yellowish brown, wet		
22					0.6	SM	22.0' - silty fine sand, mottled lt. gray & yellowish brown, wet		
23						CL	23.0' - sandy clay, color SAA, wet, soft, low plasticity		
						SM	23.5' - [redacted] silty fine sand, color SAA, wet		
24						CL	23.7' - sandy clay, color SAA, wet, soft, low plasticity		
					0.5	SM	24.5 - silty fine sand, color SAA, wet		
25						CL	24.8 - sandy clay, color SAA, wet, soft, low plasticity		
26							26.5' - fine sand, mottled lt. gray & yellowish brown, wet		
27					2.2	SP	27.5' - SAA, lt. gray, wet		
28									
29									
30					0.1	CL	30.0' - sandy clay, mottled lt. gray & yellowish brown, moist, medium stiff, low plasticity w/ some black streaks		
31							30.75' - silty clay w/ some fine sand, color SAA, moist, medium stiff, low plasticity, w/ some black streaks		
32					0.1		32.5' - sandy silt, lt. gray, moist, sand's fine grains		
33				10'/10'		ML	32.7' - silty clay w/ some sand, mottled lt. gray & yellowish brown, moist, medium stiff, low plasticity, w/ some black streaks		
						CL			
34					0.3	SC	34.0' - clayey sand, fine grains, yellowish brown, moist		
35						SM	34.9' - silty fine sand, mottled lt. gray & yellowish brown, moist		
36									
37					0.0				
38						CL	38.0' - sandy clay, yellowish brown, damp, medium stiff, low plasticity		
39									
40									

Date	Time	Depth to groundwater while drilling

NOTES:

Checked by: Date:

AECOM

Client: USACE
Project Number: 60256135
Site Location: LHAAP Site 67
Coordinates: Elevation
Drilling Method: Sonic
Sample Type(s): Boring Diameter: 7"

BORING ID: 67WW15
Sheet 3 of 3
Monitoring Well Installed: yes
Screened Interval:

Weather: Clear, 80s
Logged By: SH
Date/Time Started: 4/2/5/3/16 Depth of Boring: 45'
Drilling Contractor: AET
Ground Elevation:
Date/Time Finished: 16 46 5/3/16 Water Level:

Depth (ft)	Geologic Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (inches)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (if known)	Lab Sample ID	Lab Sample Depth (ft)
41					0.1	ML/CL	40.0' - finely interbedded sandy clay & sandy silt, mostly yellowish brown w/ some gray mottling (@ 40') and reddish brown streaks, sand is fine grains, moist		
42				5'/5'	0.1	CL	42.1' - silty clay, mottled reddish brown, yellowish brown, & gray, moist, medium stiff, low to medium plasticity		
43									
44						ML	43.8' - silt, reddish brown, moist		
45					0.1	CL/ML	44.1' - silty clay w/ silt laminations up to ½" thick, mottled gray & yellowish brown, silt is reddish brown, damp to moist, clay is medium stiff, low plasticity		
46						ML	44.5' - silt, reddish brown, moist		
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

NOTES:

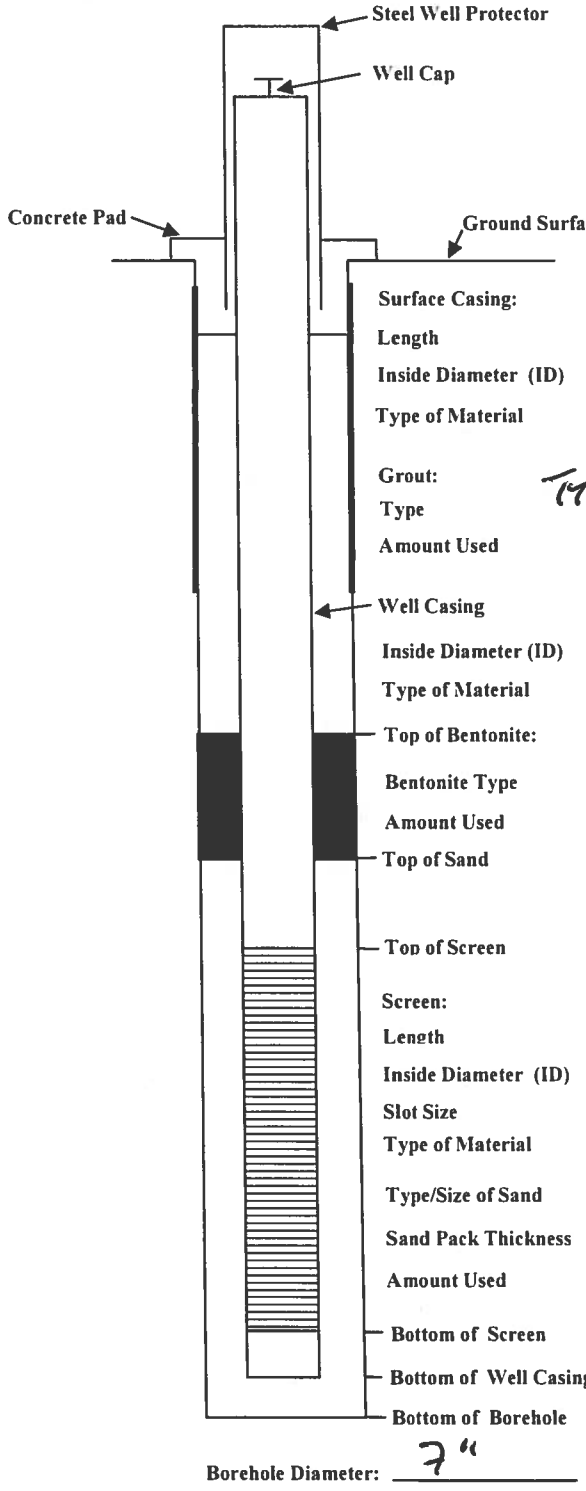
Date	Time	Depth to groundwater while drilling

Checked by: Date:

00750022

AECOM	Client: USACE	WELL ID: 67WW15
	Project Number: 60256135	
	Site Location: LHAAP SITE 67	Date Installed: 5/3/14
	Well Location: Coords:	Borehole Diameter: 7"
	Method: SONIC DRILLING	Contractor: AE1

MONITORING WELL CONSTRUCTION DETAIL



Depth from G.S. (feet)

Surface Casing:
- Length: N/A
- Inside Diameter (ID): NA
- Type of Material: NA

Grout:
- Type: TYPE I/II PORTLAND CEMENT + BENTONITE GEL
- Amount Used: 30 GALLONS

Well Casing:
- Inside Diameter (ID): 4"
- Type of Material: SCH. 40 PVC

Top of Bentonite: 29.6
- Bentonite Type: 3/8" CHIPS
- Amount Used: 1 BAG

Top of Sand: 32.6

Top of Screen: 34.2

Screen:
- Length: 9.7'
- Inside Diameter (ID): 4"
- Slot Size: 0.01"
- Type of Material: SCH. 40 PVC
- Type/Size of Sand: 12/20 SILICA SAND
- Sand Pack Thickness: 12.0'
- Amount Used: 4 BAGS

Bottom of Screen: 43.9'

Bottom of Well Casing: 44.6'

Bottom of Borehole: 45.0'

Borehole Diameter: 7"

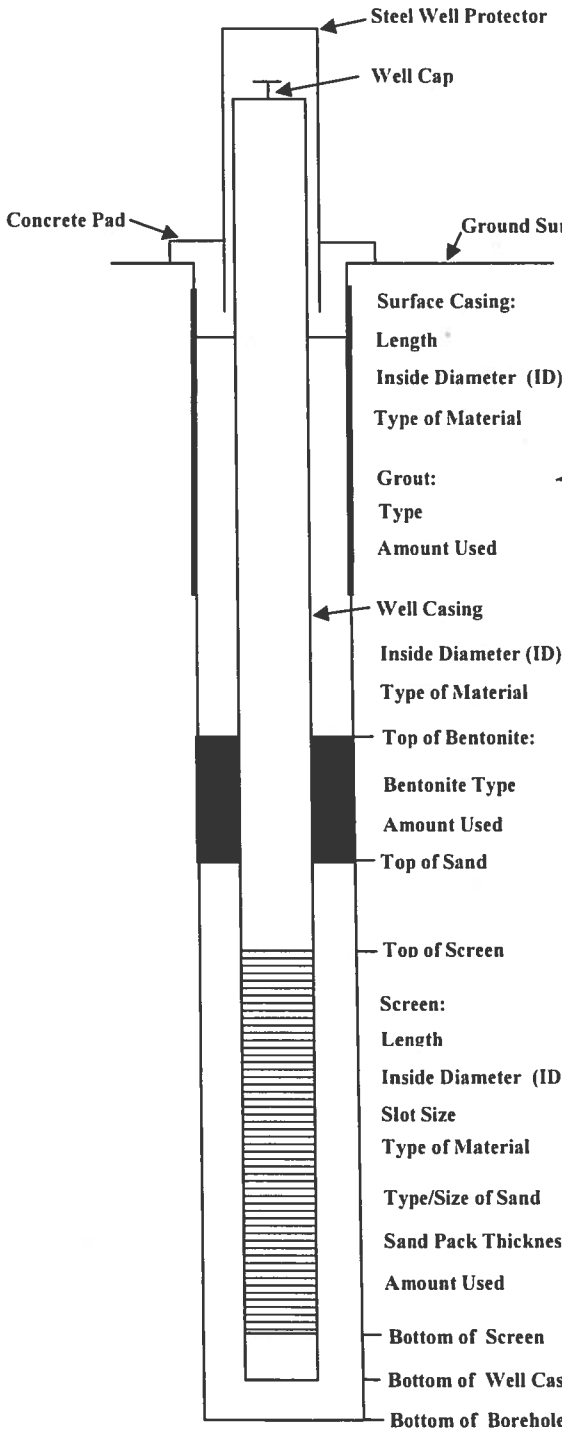
Comments:

Installation Observed By: S. HARRIS

00750023

AECOM	Client: USACE	WELL ID: 67WW16I
	Project Number: 60256135	
	Site Location: LHAAP SITE 67	Date Installed: 5/3/14
	Well Location: Coords:	Borehole Diameter: 8" TO 50', 7" 50-80'
	Method: SONIC DRILLING	Contractor: AE1

MONITORING WELL CONSTRUCTION DETAIL



Depth from G.S. (feet)

Surface Casing:
- Length: 50'
- Inside Diameter (ID): 8"
- Type of Material: STEEL

} TEMPORARY - REMOVED AFTER WELL SET

Grout:
- Type: TYPE I/II PORTLAND CEMENT w/ BENTONITE GEL
- Amount Used: ~150 GALLONS

Well Casing:
- Inside Diameter (ID): 4"
- Type of Material: SCH 40 PVC

Top of Bentonite: 63.2
- Bentonite Type: 3/8" CHIPS
- Amount Used: 0.75 BAGS

Top of Sand: 66.2

Top of Screen: 67.7

Screen:
- Length: 9.7'
- Inside Diameter (ID): 4"
- Slot Size: 0.01"
- Type of Material: SCH. 40 PVC
- Type/Size of Sand: 12/20 SAND
- Sand Pack Thickness: 12.8'
- Amount Used: 3.75 BAGS

Bottom of Screen: 77.4

Bottom of Well Casing: 78.1

Bottom of Borehole: 80.0'

Borehole Diameter: 8" 0-50'
7" 50-80'

Comments: 79'-80' = 3/8" BENTONITE CHIPS

Installation Observed By: S. HARRIS

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: 67	LocID: 67WW15	Date: 5/17/16		
	Project Name: Longhorn Army Ammunition Plant	Project #: 60256135	Recorded By: Beesinger	Checked By:	
EQUIPMENT	Water Quality Meter Type/ID #: U-52 HORIBA 21099		Water Level Indicator Type/ID #: Solinst 101		
	Equipment Group: NA		Equpment Group: NA		
	Development Equipment: Surge block, bailer, Hurricane Pump		Equipment Decon.: Liquinox & DI WATER		
WELL INFO	Casing I.D. (in) [a]: 4"	Unit Casing Volume (gal/lin ft) [b]: 0.65	Initial Depth to Water (ft) [c]: 22.15		
	Total Well Depth (ft) [d]: 47.53	Water Column Thickness (ft) [d-c]: 25.38	Well Volume (gal) {[d-c] x b}: 16.50		
	Ground Condition of Well:		Remarks:		

CASING INFO											
Casing I.D. (in) [a]:	1.5	**2.0**	2.2	3.0	**4.0**	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.09	**0.16**	0.20	0.37	**0.65**	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Method (pump, surge, bail)	Water Level (FTOC)	Volume Removed (gal)	Pumping Rate (gpm)	Temp. (C)	pH	Conduc-tivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Radiation ( )	Remarks (odor, clarity, etc.)
5/17/16	1305	Pump	28.45	10	1	19.54	7.38	0.563	5.06	1000+	152		
5/17/16	1315	Pump	32.82	10	1	19.72	7.00	0.657	4.17	779	159		
5/17/16	1325	Pump	36.47	10	1	19.61	6.83	0.963	3.19	650	110		
5/17/16	1335	Pump	38.02	10	1	19.69	6.69	1.05	2.75	549	8.91		
5/17/16	1345	Pump	38.90	10	1	19.76	6.65	1.51	1.76	833	64		
5/17/16	1355	Pump	39.40	10	1	19.81	6.46	1.71	1.41	817	51		
5/17/16	1405	Pump	39.81	10	1	19.97	6.43	2.05	2.27	803	63		
5/17/16	1415	Pump	41.90	10	1	19.49	6.44	2.11	3.32	789	78		
5/17/16	1425	Pump	43.72	10	1	19.81	6.44	1.76	3.36	821	84		
5/17/16	1435	Pump	45.20	10	1	19.83	6.47	1.91	4.54	779	98		
5/17/16	1445	Pump	47.10	10	1	19.82	6.45	1.91	4.96	760	105		
5/17/16	1530	Pump	35.82	5	.5	20.17	6.22	1.93	4.16	322	126		

Development Criteria: **1)** sediment <0.75 mL/L, **2)** turbidity within 10 NTU range for 30 minutes, **3)** +/- 0.5 C, +/- 0.1 pH, +/- 3 % conductivity, +/- 10% DO for 3 consecutive readings, **AND** **4)** remove water added during drilling and construction

00750025

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: 67	LocID: 67WW15
	Project Name: Longhorn Army Ammunition Plant	Project #: 60256135

Date	Time (24 hr)	Method (pump, surge, bail)	Water Level (FTOC)	Volume Removed (gal)	Pumping Rate (gpm)	Temp. (C)	pH	Conduc-tivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Radiation ( )	Remarks (odor, clarity, etc.)
5/17/16	1540	Pump	36.52	5	.5	20.12	6.18	2.20	3.24	129	115		
5/17/16	1550	Pump	37.25	5	.5	20.11	6.18	2.42	2.46	38.5	106		
5/17/16	1600	Pump	37.77	5	.5	20.12	6.19	2.43	2.20	9.8	103		
5/17/16	1610	Pump	38.05	5	.5	20.12	6.20	2.44	2.17	7.9	102		
5/17/16	1620	Pump	38.31	5	.5	20.14	6.21	2.45	2.15	6.9	101		
				Amount Removed with pump						-	140	gallons	
				Amount Bailed						-	15	gallons	
				TOTAL Removed							155	gallons	

Development Criteria: **1)** sediment <0.75 mL/L, **2)** turbidity within 10 NTU range for 30 minutes, **3)** +/- 0.5 C, +/- 0.1 pH, +/- 3 % conductivity, +/- 10% DO for 3 consecutive readings, **AND** **4)** remove water added during drilling and construction

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: 67	LocID: 67WW16	Date: 5/14/16		
	Project Name: Longhorn Army Ammunition Plant	Project #: 60256135	Recorded By: Beesinger Checked By:		
EQUIPMENT	Water Quality Meter Type/ID #: ~~Solinst 101~~ U-52 HORIBA 21099		Water Level Indicator Type/ID #: Solinst 101		
	Equipment Group: NA		Equpment Group: NA		
	Development Equipment: Surgeblock, Bailer, HURRICANE Pump		Equipment Decon.: Liquinox & DI WATER		
WELL INFO	Casing I.D. (in) [a]: 4"	Unit Casing Volume (gal/lin ft) [b]: 0.65	Initial Depth to Water (ft) [c]: 21.91		
	Total Well Depth (ft) [d]: 80.43	Water Column Thickness (ft) [d-c]: 58.52	Well Volume (gal) {[d-c] x b}: 38.04		
	Ground Condition of Well: Soft & Silty		Remarks:		

CASING INFO											
Casing I.D. (in) [a]:	1.5	**2.0**	2.2	3.0	**4.0**	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.09	**0.16**	0.20	0.37	**0.65**	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Method (pump, surge, bail)	Water Level (FTOC)	Volume Removed (gal)	Pumping Rate (gpm)	Temp. (C)	pH	Conduc-tivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Radiation ( )	Remarks (odor, clarity, etc.)
5/14/16	0950	Pump	35.65	10	1	19.62	6.85	0.562	2.70	1000+	-157		
5/14/16	1000	Pump	37.50	10	1	19.74	7.23	0.560	4.38	1000+	-194		
5/14/16	1010	Pump	40.81	10	1	19.86	7.09	0.616	3.97	1000+	-180		
5/14/16	1020	Pump	42.45	10	1	19.92	6.84	0.767	3.38	473	-157		
5/14/16	1030	Pump	43.21	10	1	19.98	6.68	0.903	2.98	360	-144		
5/14/16	1040	Pump	43.28	10	1	20.29	6.59	1.04	2.59	276	-134		
5/14/16	1050	Pump	48.50	10	1	19.86	6.68	0.889	2.89	322	-145		
5/14/16	1100	Pump	51.39	10	1	20.02	6.67	1.07	0.74	285	-139		
5/14/16	1110	Pump	52.61	10	1	20.12	6.54	1.18	0.51	264	-125		
5/14/16	1120	Pump	53.22	10	1	20.11	6.44	1.28	0.44	256	-115		
5/14/16	1250	Pump	42.35	10	1	19.71	6.24	1.50	0.40	77.1	-73		
5/14/16	1300	Pump	45.02	10	1	19.87	6.20	1.51	0.37	20.2	-75		

Development Criteria: **1)** sediment <0.75 mL/L, **2)** turbidity within 10 NTU range for 30 minutes, **3)** +/- 0.5 C, +/- 0.1 pH, +/- 3 % conductivity, +/- 10% DO for 3 consecutive readings, **AND**
4) remove water added during drilling and construction

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: 67	LocID: 67WW16
	Project Name: Longhorn Army Ammunition Plant	Project #: 60256135

Date	Time (24 hr)	Method (pump, surge, bail)	Water Level (FTOC)	Volume Removed (gal)	Pumping Rate (gpm)	Temp. (C)	pH	Conduc-tivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Radiation ( )	Remarks (odor, clarity, etc.)
5/14/16	1310	Pump	46.79	10	1	19.85	6.19	1.51	0.35	8.8	-76		
5/14/16	1320	Pump	48.06	10	1	19.94	6.18	1.50	0.35	7.7	-77		
5/14/16	1330	Pump	48.85	10	1	19.88	6.18	1.51	0.33		-78		

150 gallons Removed with Pump
30 gallons Removed with Bailer
180 TOTAL Removed

Development Criteria: **1)** sediment <0.75 mL/L, **2)** turbidity within 10 NTU range for 30 minutes, **3)** +/- 0.5 C, +/- 0.1 pH, +/- 3 % conductivity, +/- 10% DO for 3 consecutive readings, **AND** **4)** remove water added during drilling and construction

00750028

NOTES

1. COORDINATES ARE BASED UPON THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), NORTH CENTRAL ZONE.
2. ELEVATIONS ARE BASED UPON EXISTING MONITORING WELL ELEVATIONS PROVIDED TO US BY CLIENT.
3. ELEVATION = TOP OF CASING NORTH EDGE
4. C.P. = CONTROL POINT

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

CONCERNING MW67WW02 WE FIND THE TOP OF CASING ADJUSTED ELEVATION TO BE 199.69 COMPARED TO THE EXISTING ELEVATION OF 200.02 SUPPLIED TO US BY AECOM. THIS IS INCONSISTENT WITH THE ELEVATIONS OF THE OTHER THREE EXISTING MONITORING WELLS.

MONITORING WELL COORDINATE TABLE		
DESCRIPTION	TOP OF CONCRETE	NATURAL GROUND
MW 67WW15	197.40'	197.24'
MW 67WW16	197.05'	197.12'

MONITORING WELL COORDINATE TABLE						
DESCRIPTION	NORTHING	EASTING	LATITUDE	LONGITUDE	JPI ADJUSTED ELEVATION	EXISTING ELEVATION
MW 67WW15	6,956,869.70'	3,311,305.97'	32.6762521'	-94.1345440'	199.82'	NEW WELL
MW 67WW16	6,956,883.86'	3,311,484.83'	32.6762706'	-94.1339613'	199.51'	NEW WELL
MW 67WW01					200.92'	200.89'
MW 67WW08					200.02'	200.04'
MW 67WW11					199.64'	199.64'

STATE OF TEXAS
REGISTERED
TROY MAXWELL
5585
PROFESSIONAL
LAND SURVEYOR

SURVEY OF
AECOM ENVIRONMENT
LONGHORN ARMY AMMUNITION PLANT
SITE 67
HARRISON COUNTY, TEXAS

JOHNSON & PACE INCORPORATED
1201 NW LOOP 281, SUITE 100, LONGVIEW, TEXAS 75604
(903)753-0663 FAX (903)753-8803
WWW.JOHNSONPACE.COM
TBPLS 10025400
TBPE F-4691

REVISED DATE:
SEPT 15, 2016
SEPT 16, 2016

SEPT 14, 2016	BOOK 895, PG 31	DRAWN BY: JBR	JOB #3721-010

Filename: F:\Surveying\3721\3721-010 AECOM - Longhorn Army Ammo Monitoring Well\CAD\SURVEY\DRAWINGS\Adjusted Elevations.dwg

DRAFT
QUARTERLY EVALUATION REPORT
2ND QUARTER (April - June) 2016
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers
Tulsa District

Prepared By:

AECOM Technical Services

April 2017

QUARTERLY EVALUATION REPORT
2ND QUARTER (April - June) 2016
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared For:

U.S. Army Corps of Engineers

Tulsa District

Prepared By:

AECOM Technical Services, Inc.

Contract No. W912DY-09-D-0059

Task Order No. DS01

April 2017

Table of Contents

EXECUTIVE SUMMARY ..... ***viii***

1 EVALUATION OF GWTP ***1-1***

1.1 Treatment Configuration **1-1**

1.2 Work Performed at the GWTP **1-3**

1.2.1 Major Maintenance 1-3

1.2.2 Emergency Responses 1-3

1.2.3 Routine Maintenance 1-3

1.2.3.1 Safety 1-3

1.2.3.2 Lubrication 1-3

1.2.3.3 Air Compressors 1-3

1.2.3.4 Belt Press and Waste Disposal 1-3

1.2.3.5 Catalytic Oxidation & Continuous Emission Monitor System 1-3

1.2.3.6 Sand Filter 1-3

1.2.3.7 Well Field at LHAAP-18/24 1-4

1.2.3.8 Miscellaneous Activities 1-4

1.2.4 Routine Maintenance at LHAAP-16 1-5

1.2.5 Routine Maintenance (Potable Water Wells) 1-5

1.3 Filter Cake Operations and Management **1-5**

1.4 Fluidized Bed Reactor Operations **1-5**

1.5 Process Chemical Usage at GWTP **1-5**

2 EVALUATION OF LHAAP-18/24 ICT EFFECTIVENESS ***2-1***

2.1 Sampling Activities **2-1**

2.2 Performance of Plume Capture **2-1**

2.3 Quantity of Water Extracted from LHAAP-18/24 ..... **2-5**

2.4 Groundwater Treatment Plant Sampling and Analysis **2-5**

2.4.1 Perchlorate Sampling 2-6

2.4.2 VOC Sampling 2-6

2.4.3 Monthly Metals Sampling 2-6

2.4.4 Quarterly Sampling 2-6

3 EVALUATION OF LHAAP-16 EXTRACTION SYSTEM ***3-1***

3.1 Quantity of Groundwater Extracted from LHAAP-16 ..... **3-1**

3.2 Groundwater Elevation **3-1**

4 GROUNDWATER MONITORING AT LHAAP-18/24 ..... ***4-1***

5 QUALITY CONTROL 5-1

6 TREATED GROUNDWATER USED FOR REINJECTION 6-1

7 AIR MONITORING 7-1

7.1 Summary of Air Monitoring Approach 7-1

7.2 Air Monitoring Results for the 2nd Quarter 2016 7-2

7.2.1 Summa Canister Monitoring Results 7-2

7.2.1.1 Ambient Air Results 7-2

7.2.1.2 Air Stripper Effluent Results 7-3

7.2.2 PID Results 7-3

8 COMMENTS AND RESPONSES 8-1

List of Figures

Figure ES-1: Groundwater Recovery Between January 2012 & June 2016 – LHAAP-18/24 & LHAAP-16

Figure ES-2: Treated Water Injected in LHAAP-18/24 from January 2008 through June 2016

Figure ES-3: Water Treated Monthly from January 2009 through June 2016

Figure 2-1: Quarterly Extraction Rate

List of Tables

Table 1-1: Process Chemicals Delivered and Used

Table 2-1: Monthly Groundwater Extraction Quantities (gallons)

Table 2-2: Weekly Perchlorate Sample Results

Table 2-3: Bi-Weekly GWTP Analytical Sampling Results for April 2016

Table 2-4: Bi-Weekly GWTP Analytical Sampling Results for May 2016

Table 2-5: Bi-Weekly GWTP Analytical Sampling Results for June 2016

Table 2-6: Quarterly GWTP Analytical Sampling Results for 2nd Quarter 2016

Table 3-1: Groundwater Extraction Quantities at LHAAP-16

Table 3-2: Groundwater Elevations at LHAAP-16 Piezometers and Monitoring Wells

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers and Monitoring Wells

Table 4-2: Monitoring Well Analytical Results for LHAAP-18/24

List of Appendixes

APPENDIX A: ICT Layout & GWTP Process Flow Diagram

APPENDIX B: Groundwater Elevation Contour Maps

APPENDIX C: Isoconcentration Maps

APPENDIX D: Trend Analysis

APPENDIX E: Data Validation and Analytical Data – 2nd Quarter 2016

APPENDIX F: Air Monitoring Data – 2nd Quarter 2016

Acronyms and Abbreviations

AECOM	AECOM Technical Services, Inc.
AMCV	Air Monitoring Concentration Value
bgs	Below Ground Surface
cfm	Cubic Feet Per Minute
CD	Compact Disc
CoC	Chemical of Concern
COD	Chemical Oxygen Demand
ESD	Explanation of Significant Difference
ESL	Effects Screening Level
FBR	Fluidized Bed Reactor
ft	Feet or foot
gpd	Gallons Per Day
gph	Gallons Per Hour
gpm	Gallons Per Minute
GWTP	Ground Water Treatment Plant
HDPE	High Density Polyethylene
HCl	Hydrochloric Acid
ICT	Interception-Collection Trench
IRA	Interim Remedial Action
lbs/hr	Pounds Per Hour
L	Liters
LHAAP	Longhorn Army Ammunition Plant
MC	Methylene Chloride
MCL	Maximum Contaminant Level
mg/L	Milligrams Per Liter
$Mg(OH)_2$	Magnesium Hydroxide
mV	Millivolt
NA	Not Applicable
NaOH	Sodium Hydroxides
ORP	Oxidation-Reduction Potential
pH	Negative logarithm of hydrogen ion concentration
PID	Photoionization Detector
PLC	Programmable logic controller
ppmv	Parts Per Million by Volume

psi	Pounds Per Square Inch
ROD	Record of Decision
Shaw	Shaw Environmental, Inc.
TAC	Texas Administrative Code
TCE	Trichloroethylene
TCEQ	Texas Commission On Environmental Quality
tpy	Tons Per Year
U	Non-Detect
UEP	Unlined Evaporation Pond
ug/L	Microgram Per Liter
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

EXECUTIVE SUMMARY

The operation of the Groundwater Treatment Plant (GWTP) is part of the Interim Remedial Action (IRA) at Burning Ground No. 3, also referred to as Longhorn Army Ammunition Plant (LHAAP)-18/24. A historical pilot test for nearby landfill LHAAP-16 resulted in the installation of eight extraction wells which also contribute groundwater to the GWTP. Groundwater extraction, treatment, and monitoring activities consist of:

- Continuous extraction of groundwater from multiple interception-collection trenches (ICTs) and extraction wells at both LHAAP-18/24 and LHAAP-16;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring;
- Monitoring of treated water to ensure compliance with the discharge limitations; and
- Discharge of treated water to Harrison Bayou (if flowing), or to the INF Pond (if no flow in Harrison Bayou), or release of treated water as irrigation water on LHAAP-18/24 (if INF Pond is full).

The location of the extraction wells and ICTs are included in **Figure A-1** of **Appendix A**. The process flow diagram of the GWTP is also included in **Figure A-2** of **Appendix A**.

Figure ES-1 depicts the monthly total volume of groundwater extracted from the ICTs and extraction wells at LHAAP-18/24 and LHAAP-16 between March 2012 and June 2016.

The GWTP was not operational during June, July, and August 2012 when the scrubber system associated with the catalytic oxidizer melted due to system overheating. Overheating occurred when the blower became inoperable after the bearing on the scrubber blower unit was shattered and damaged the blower. This occurred around 1:00 PM on May 21, 2012.

After developing an interim air monitoring plan and obtaining concurrence from the Texas Commission on Environmental Quality (TCEQ) and the United States Environmental Protection Agency (USEPA) to operate the GWTP without use of air abatement equipment, a pilot run of the GWTP was conducted on September 6, 2012. In that first pilot run, 85,170 gallons of water that had been stored in the influent tank (TK-140) were treated. The treated water was re-circulated through the fluidized bed reactor (FBR) to revive the FBR after three months of dormancy. Treated groundwater and air samples were collected and analyzed respectively for perchlorate, metals, and volatile organic compounds (VOCs); and VOCs only. On September 19, 2012, a second pilot run was performed at the GWTP and 107,264 gallons of water were treated. Based on the successful re-start of the GWTP, continuous groundwater extraction began again on September 24, 2012. While groundwater extraction occurs on a continuous basis, operation of the GWTP occurs intermittently due to the low volume of water available for treatment with respect to the design capacity of the GWTP. During the 3rd quarter 2012, groundwater extraction occurred only from LHAAP-18/24. Groundwater extraction from LHAAP-16 was not performed due to equipment failure. However, extraction from LHAAP-16 began in October 2012 and the extraction volumes increased steadily throughout the 4th quarter

2012, as pumping equipment was gradually repaired/replaced. The GWTP operated under normal conditions until September 2015.

On September 14, 2015 at 11:15 am, the blower on the air stripper (BL-340) malfunctioned during routine operation. The wiring on the blower was repaired and the blower operated for less than 2 hours on September 17, 2015, when the blower malfunctioned again. It was determined that the blower needed to be replaced, and groundwater extraction and operation of the GWTP ceased beginning September 18, 2015, as the influent equalization tank (TK-130) became full. Beginning on October 2, 2015 it was determined that the GWTP could operate without the blower at a reduced extraction rate. The operation of the GWTP allowed extraction of groundwater from ICTs 12E, 13A, 13B and 13C (13C was changed to ICT 13E on October 12, 2015), which were considered critical ICTs to prevent migration of contaminants to Harrison Bayou. Groundwater extraction was switched frequently between ICTs 12E, 13A, 13B and 13E and ICTs 14B, 14C and 14D beginning December 14, 2015.

As indicated in **Figure ES-1**, groundwater extraction from LHAAP-18/24 ranged between approximately 1,085,700 and 1,297,000 gallons per month and extraction from LHAAP-16 ranged between 78,700 gallons and 85,600 gallons per month during the 2nd quarter 2016. These extraction volumes were notably higher than volumes extracted in the previous quarter and are primarily influenced by substantial cumulative rainfall during the quarter. A total of approximately 3,735,000 gallons of groundwater from LHAAP-18/24 and 16 were extracted during the 2nd quarter of 2016 compared to approximately 2,709,000 gallons during the 1st quarter 2016. The extracted groundwater volume was measured on a monthly basis as the sum of the ICTs flow meter totalizers' differences between the beginning and end of each month.

The average discharged volume from the GWTP was estimated at 21.86 gallons per minute (gpm) during the 2nd quarter 2016. Grab perchlorate samples from the GWTP influent were collected on April 27th, May 9th, and June 6th, 2016 and the following perchlorate concentrations were reported: 9,850 micrograms per liter (µg/L), 11,100 µg/L and 14,000 µg/L, respectively. The average perchlorate concentration in the influent to the GWTP during the quarter was 11,650 µg/L. Perchlorate concentrations in several samples exceeded the effluent (TK650) limits during the quarter. Samples that did not meet the discharge limit for perchlorate were collected on April 4, 11, 18 and 25, 2016 and May 4 and 9, 2016 with reported effluent concentrations of 810, 131, 174, 36.1, 264 and 131 ug/L, respectively. The cause of these exceedances is likely in relation to failure of the nutrient feed pump (P-103) that occurred on April 5, 2016 which hindered FBR performance. A temporary pump was used until the permanent replacement was installed on April 19, 2016. No discharge to Harrison Bayou occurred during the 2nd quarter 2016.

No treated water was returned to ICTs 6 and 9 during the 2nd quarter of 2016, because this practice was discontinued after system restart in September 2012. The treated water quantities returned to LHAAP-18/24 through the injection system each month since January 2008 are shown on **Figure ES-2**.

Approximately 2,833,000 gallons of treated water was returned to LHAAP-18/24 through the sprinkler system during the 2nd quarter 2016. No discharge from the GWTP to Harrison Bayou or the INF pond occurred during this quarter.

The groundwater volume processed at the GWTP ranged from high of approximately 1,224,000 gallons in April 2016 to a low of approximately 792,000 gallons in June 2016. Total water processed for the quarter was approximately 3,110,000 gallons. The three month average was approximately 1,037,000 gallons per month. The water quantities treated each month since June 2012 are shown on **Figure ES-3**. The volume of water processed (3,110,000 gallons) is higher than the volume of water discharged (2,833,000 gallons). The reason for the difference is the change in volume stored in/released from the GWTP, inaccuracies associated with flow measurements, the amount of water lost with the removed metals precipitation sludge, the amount of evaporative water lost in the air stripper (which is counted in the volume extracted but not the volume discharged), and the amount of water returned to TK-140 directly from rain water, filter press water, thickeners' decant water, decontamination water on the decon pad, and from any potential plant water losses captured within the containment area that might occur after the process water volume is measured (these sources are captured in the water discharged but not in the volume extracted). Additionally, there is an internal system recirculation loop that adds to the total measured volume of processed water compared to the total volume discharged.

The difference between the volume of water extracted, 3,735,000 gallons, and the water volume returned to 18/24, approximately 2,833,000 gallons, is associated with the cumulative errors associated with the individual flow meters at the various ICTs. When comparing the total volume of water extracted as measured by FIT-140 (influent flow meter) and FIT-686 (effluent flow meter), the flows appear comparable. The total flow measured by FIT-140 was approximately 2,695,000 gallons and the total flow measured by FIT-686 was approximately 3,042,000 gallons, which are comparable to each other with a difference of 12%.

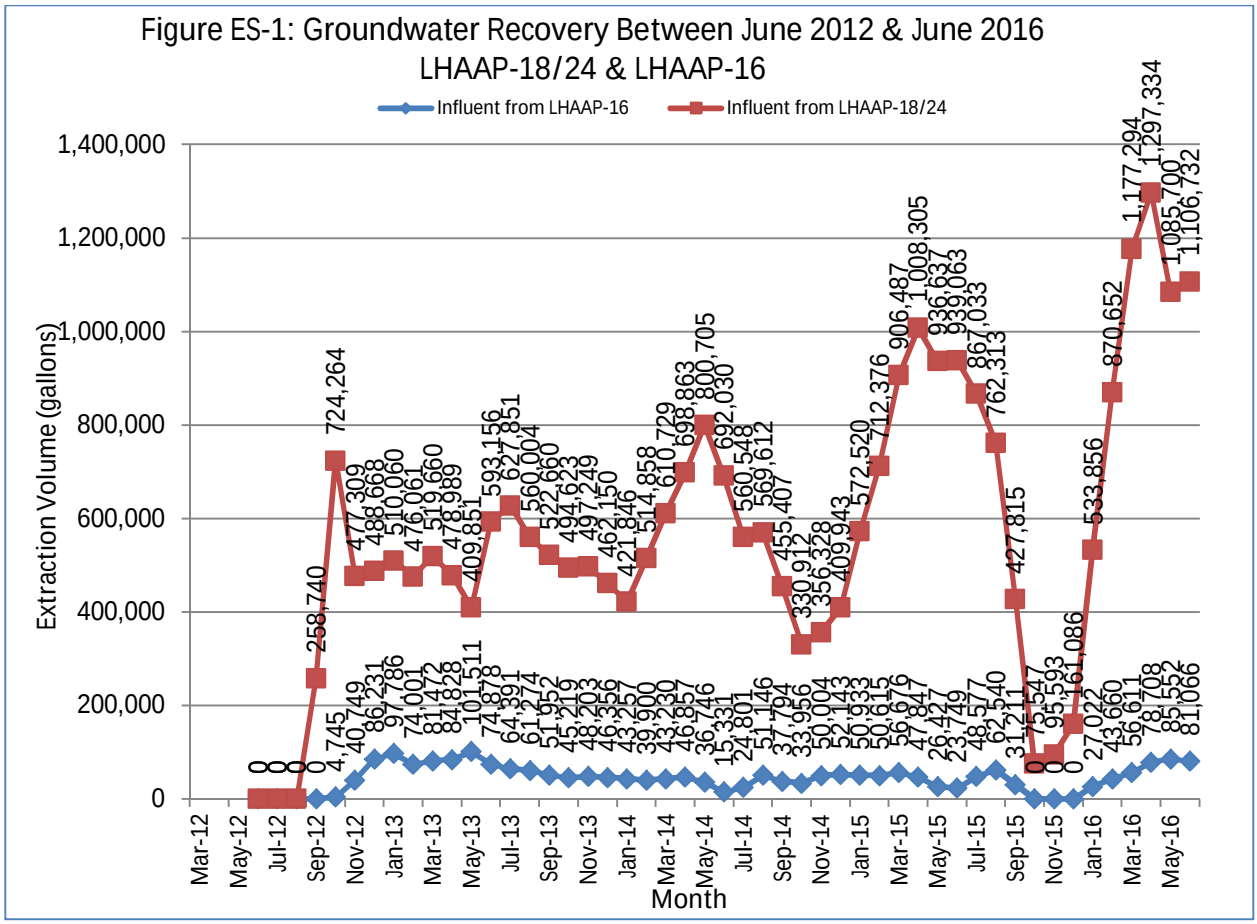


Figure ES-1: Groundwater Recovery Between June 2012 & June 2016
LHAAP-18/24 & LHAAP-16
Influent from LHAAP-16
Influent from LHAAP-18/24
Extraction Volume (gallons)
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Mar-12
May-12
Jul-12
Sep-12
Nov-12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Month

Figure ES-2: Treated Water Injected in LHAAP-18/24 from January 2008 through June 2016

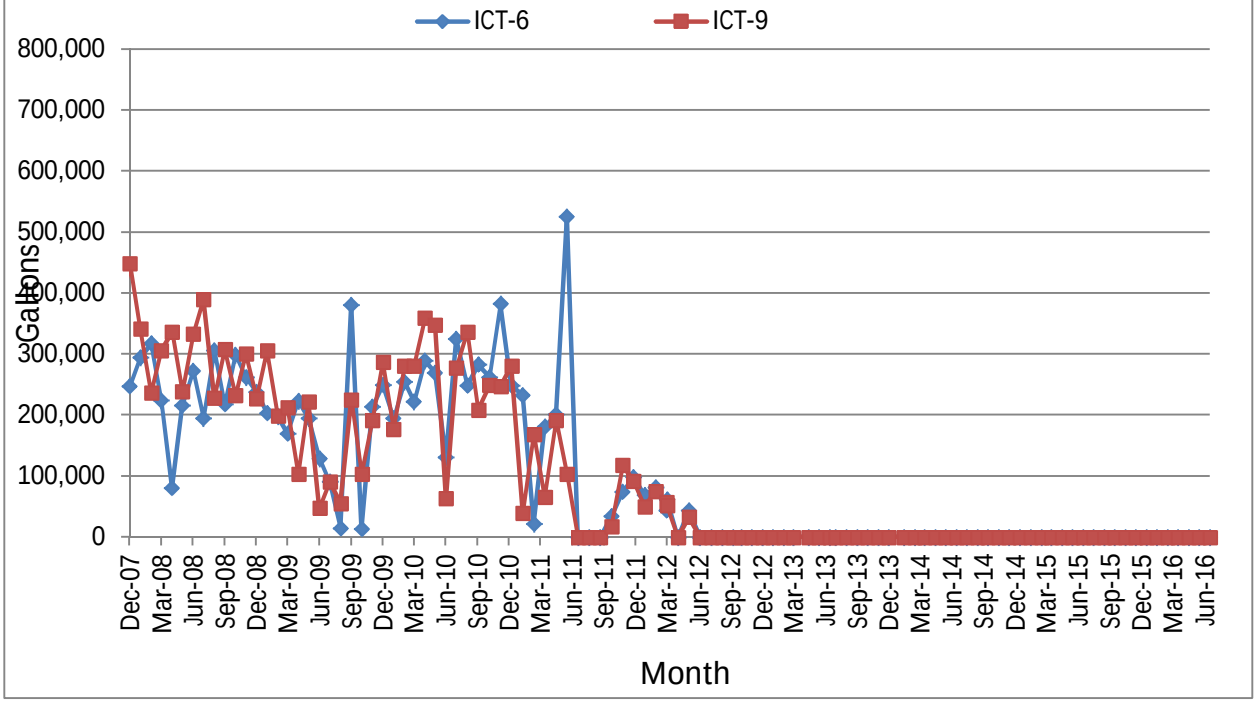
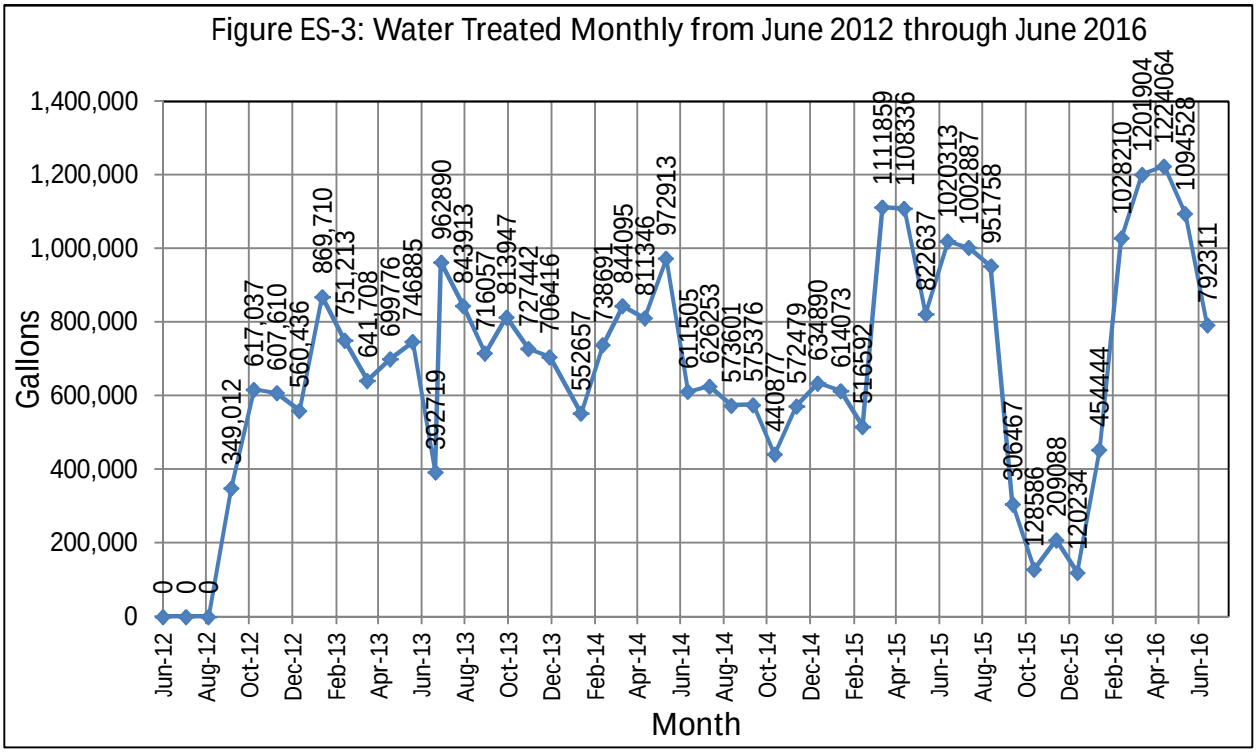


Figure ES-3: Water Treated Monthly from June 2012 through June 2016



1 EVALUATION OF GWTP

The groundwater contamination at LHAAP-18/24 is believed to be the result of infiltration from an Unlined Evaporation Pond (UEP) that was used to store manufacturing wastewater, and from burning trenches, and other industrial processes used to flash pyrotechnic, propellant, and explosive waste streams. The GWTP was constructed as part of the Interim Remedial Action (IRA) at Burning Ground No. 3, also referred to as LHAAP-18/24, to treat groundwater extracted from interception-collection trenches (ICTs) and extraction wells. The groundwater at LHAAP-18/24 is contaminated primarily with chlorinated ethenes and perchlorate, with lesser concentrations of 1,4-dioxane.

The GWTP also receives flow from eight extraction wells installed at LHAAP-16 as part of a historical treatability study. The extraction wells were installed in 1996 and 1997. The wells are located between the landfill at LHAAP-16 and Harrison Bayou. The groundwater at LHAAP-16 is also contaminated primarily with chlorinated ethenes and perchlorate.

1.1 Treatment Configuration

The GWTP was not operational between May 24, 2012 and September 6, 2012, due to malfunction of the scrubber unit associated with the catalytic oxidizer. Since September 6, 2012, the GWTP has operated without air abatement equipment. Although major repairs were conducted to the GWTP (e.g., replacement of level alarms, repair of the hydrochloric acid tank, replacement of TK-650, replacement of malfunctioning valves and flow meters, replacement of metering pumps, repair or replacement of various system pumps, rust removal and repainting of various tanks, and replacement and repair of various extraction pumps, motors, and level switches), the GWTP treatment configuration remained unchanged.

Malfunction of the blower on the air stripper (BL-340) on September 14, 2015 and on September 17, 2015 disrupted continuous extraction and routine operations of the GWTP, which lasted through January 7, 2016. Prior to this occurrence, the GWTP performed as designed and the GWTP was operated on an as needed basis (i.e., on semi-continuous operational basis). During the 4th quarter 2015, groundwater was extracted from a limited number of ICTs (ICTs 12E, 13A, 13B, 13C, and/or 13E, or ICTs 14B, 14C and 14D). Operation of the GWTP occurred on a batch basis through the FBR. After replacement of the blower, attempts were made to restore continuous operations to the FBR but remained predominantly on a batch basis throughout January 2016.

In general, the GWTP performed as designed during the 2nd quarter 2016 but the FBR performance remained challenged as discussed previously. While groundwater extraction occurred continuously since January 7, 2016, operation of the GWTP occurred on the following days: April 1, 4, 7, 11, 14, 18, 21, 22, 25, 27, and 29, 2016, May 4, 6, 9, 12, 15, 16, 19, 20, 25, and 27, 2016, and June 2, 3, 8, 10, 20, 23, and 27, 2016. Flow rates for the treatment processes for metals and VOCs ranged between 111 and 225 gpm with an average of approximately 200 gpm for the operating hours (i.e., this flow rate does not represent continuous flows). The GWTP operated for 259 hours during the quarter. The process flow diagram is included as **Figure A-2** of **Appendix A**. The treatment configuration of the plant at these rates (with minor variations) is as follows:

GWTP Metals Precipitation Operating Parameters

Pretreatment Settings	Tank 200-A $Mg(OH)_2$ Mixing	Tank 200-B NaOH Mixing	Tank 200-C Polymer Mixing	Tank 300 feed line to Air Stripper
pH Adjustment	9.0	10.5	NA	5.0 to meet ≤ 8.0 release from stripper
Feed Pump Settings	Speed 100% Stroke 100% 10 gph $Mg(OH)_2$	Speed 100% Stroke 100% 9.0 gph NaOH	Speed 90% Stroke 100% 40 gph water	Speed 80% Stroke 80% 10 gph HCl

Notes:

gph gallons per hour
HCl hydrochloric acid
$Mg(OH)_2$ magnesium hydroxide
NaOH sodium hydroxide
NA not applicable

GWTP Air Compressors Operating Parameters

Air Compressors	K-700A	K-700B	K-701
Air Pressure Settings	88 psi	88 psi	105 psi

Notes:

psi pounds per square inch

GWTP Stripper Operating Parameters

Stripper Tower	
pH Settings	7.4
Inlet Pressure Gauge	2 inches of water
Stripper Pressure Gauge	3 inches of water
Air Flow Rate	4,285 to 4,690 cfm

Notes:

cfm cubic feet per minute

GWTP Fluidized Bed Reactor (FBR) Operating Parameters

Fluidized Bed Reactor	
Carbon Bed Height	12 feet 1 inch
Recycle Flow Rate	23 to 36% of influent
pH	7.1 to 7.4
Recycle oxidation-reduction potential (ORP)	-430 mV to -452 mV

Notes:

gpm gallons per minute
mV millivolts
ORP oxidation reduction potential

Pump pressures and valve settings are not listed as they are changed regularly based on pH, flow rate, and water quality changes. The ORP was within the specified range.

1.2 Work Performed at the GWTP

Work performed at the GWTP during the 2nd quarter of 2016 is described in the following subsections.

1.2.1 Major Maintenance

- Glenmount Global was on site on 4/21/2016 to restore communication between the computer and the programmable logic controller (PLC).
- AEI was on site for drilling activities at LHAAP-18/24, LHAAP-37, and LHAAP-67.

1.2.2 Emergency Responses

- There were no call outs during this quarter.

1.2.3 Routine Maintenance

The following routine maintenance and improvement activities were completed during the reporting period:

- Replaced nutrient pump P-103 on FBR.
- Tightened belts and greased bearings on blower.
- Removed plug from suction piping of P-320.
- Replaced coupling in P-710 at TK-700.
- Repaired clarifier pump P-170.

1.2.3.1 Safety

- No safety equipment maintenance or purchases were made during the reporting period.

1.2.3.2 Lubrication

- No lubrication activities were reported during this period.

1.2.3.3 Air Compressors

- No maintenance was performed on the air compressors during this period.

1.2.3.4 Belt Press and Waste Disposal

- Collected filter cake samples.

1.2.3.5 Catalytic Oxidation & Continuous Emission Monitor System

- Catalytic oxidizer was not operated during the reporting period.

1.2.3.6 Sand Filter

- No maintenance or repairs were conducted on the sand filter.

1.2.3.7 Well Field at LHAAP-18/24

- Collected monthly ICT flowmeter readings.
- Collected monthly groundwater levels in all wells.
- Performed grounds maintenance around wells.
- Cleared downed trees blocking access to wells 18WW19, 18WW20 & 18CPTMW16.
- Completed semi-annual sampling.
- Repaired sprinkler heads on the North and West sprinkler lines.
- Re-developed monitoring wells 18CPTMW22SW, 18CPTMW03SW, 18CPTMW10DW, 18CPTMW08DW, 18CPTMW06, and 18CPTMW12DW.
- Developed wells 18WW25, 18CPTMW26, 18CPTMW19SW, 18CPTMW22R, 18CPTMW23SW 18CPTMW22DW, and 18CPTMW26SW.
- Performed clearing operations around perimeter wells.
- Cleaned and adjusted level probes on ICT's 12D and 14C.
- Installed new low level probe on ICT 13D, 14B, and 14E.
- Installed new mechanical flow meter on ICT 12B.

1.2.3.8 Miscellaneous Activities

- Performed housekeeping in GWTP office, GWTP Shop, containment area and Army trailer.
- Performed mowing operations around GWTP, Army trailer, decon pad, connexes, around all directional signs and around TK-700, pump house & extraction wells at LHAAP-16.
- Installed "Concealed Guns Prohibited" & "Open Carry Prohibited" signs on the entrance gate.
- Installed new blades and deck wheels on lawn mower.
- Performed grounds maintenance around wells at LHAAP-50.
- Collected quarterly sample from 35AWW13 at LHAAP-02.
- Completed semi-annual sampling at LHAAP-50.
- Developed monitoring well 67WW16 and 67WW15 at LHAAP-67.
- Completed semi-annual sampling at LHAAP-67.
- Collected quarterly surface water samples.
- Collected annual perimeter well samples.
- Staged one rolloff bin at LHAAP-37 and one rolloff bin at LHAAP-18/24.
- Cleared brush and trees at new well locations at LHAAP-37 and LHAAP-67.

1.2.4 Routine Maintenance at LHAAP-16

- Checked site on a daily basis.
- Collected monthly groundwater levels in all wells.
- Performed mowing operations around TK-700.

1.2.5 Routine Maintenance (Potable Water Wells)

- Flushed potable water lines.

1.3 Filter Cake Operations and Management

- No filter cake operations were performed during this period.

1.4 Fluidized Bed Reactor Operations

The FBR operated well during this reporting period. However, several samples exceeded the discharge criteria throughout April 2016 and on two occasions in May 2016. These high concentrations are primarily associated with failure of the nutrient feed pump (P-103) in the FBR. The pump was removed on April 5, 2016 and a temporary pump was used until a new unit was installed on April 19, 2016. The oxidation reduction potential ranged between -393 and -460 mV, ammonia-nitrogen concentrations ranged between 0.919 mg/L and 13.5 mg/L, ortho-phosphorous concentrations ranged between <0.05 mg/L and 3.19 mg/L, and total organic compound concentrations ranged between 15.9 mg/L and 66.3 mg/L. No release of treated groundwater occurred during the reporting period.

The average perchlorate concentration in the GWTP influent during the 2nd quarter 2016 was 11,650 µg/L.

1.5 Process Chemical Usage at GWTP

Approximate chemical consumption and the quantity delivered are shown on **Table 1-1**.

Table 1-1: Process Chemicals Delivered and Used

Chemical	Usage 2nd Quarter 2016	Quantity Delivered 2nd Quarter 2016
Hydrochloric acid	1,200 gallons	0
Sodium hydroxide (35%)	1,450 gallons	3,500 gallons
Acetic acid (50%)	825 gallons	1,100 gallons
Phosphoric acid (75%)	21.8 liters	0
Magnesium hydroxide	650 gallons	0
Urea	161.9 lbs	500 lbs
Polymer (magnafloc 110-L)	24.5 liters	0

Note(s):
L – liters

lbs - pounds

2 EVALUATION OF LHAAP-18/24 ICT EFFECTIVENESS

The ICT system at Burning Ground No. 3 is composed of 14 sections ranging in length from 100 feet to 1,300 feet. A total of approximately 5,000 linear feet of trench were installed within and around three sides of Burning Ground No. 3. The trench sections extend approximately 22 to 45 feet below ground surface (bgs). The majority but not all of the trenches are as deep as the confining clay layer of the shallow groundwater zone. High density polyethylene (HDPE) liners were installed in ICTs 12 and 13 located on the western and northern boundaries of LHAAP-18/24, respectively. The location of the liners is shown on **Figure A-1** in **Appendix A**. **Table A-1** in **Appendix A** presents the depths of the ICTs.

2.1 Sampling Activities

No ICT sumps were sampled during the 2nd quarter 2016. Monitoring wells were sampled during this reporting quarter. The results are presented in **Section 4**.

2.2 Performance of Plume Capture

The intent of the ICTs is to control groundwater gradients, prevent off-site migration of contaminated groundwater, and to extract highly contaminated groundwater and reduce the mass of contaminants in groundwater. Liners were installed in the ICTs on the northern (ICT 13) and western (ICT 12) site boundaries to limit migration of contaminated water from the site towards Harrison Bayou. At the same time, the liners reduce and prevent removal of contaminated groundwater that is outside the containment zone, between the site and Harrison Bayou. The ICTs are installed within the shallow formation at the site and capture primarily shallow groundwater zone (e.g., < 40 feet below ground surface).

In 2007 and 2008, in consultation with TCEQ/USEPA, the Army ceased operations of ICTs 1, 3, 5, 10, and 12A for groundwater extraction (note that extraction from ICT 12A was resumed after pump replacement in December 2012). Two other ICTs (ICT 6 and ICT 9) were changed from extraction ICTs to re-injection ICTs. **Table B-1** in **Appendix B** presents a summary of extraction equipment replacement since 2011 as dictated by poor extraction performance (malfunctioning pumps, poor pump positioning with respect to groundwater, non-operational level probes, scale build up, etc.). Further discussions of the extraction performance of various ICTs and extraction wells are presented in **Section 2.3**.

Potentiometric surface maps for the Shallow Zone in the vicinity of LHAAP-18/24 were developed based on depth to groundwater levels measured in April 8, May 13, and June 9, 2016. The corresponding groundwater surface elevations are shown on **Figures B-1, B-2, and B-3 in Appendix B**, respectively.

The potentiometric surface maps for April, May, and June 2016 continue to reflect the presence of a Shallow Zone groundwater high in the northern/northwestern portion of the site, with groundwater flowing radially from the highest point at monitor well 123, inside the containment. Rainfall amounts recorded at the GWTP were 8.47 inches in April 2016, 1.92 inches in May 2016, and 4.71 inches in June 2016. The anomalously high rainfall in April 2016 resulted in increased groundwater elevations across the LHAAP-18/24 site, especially in the northern/northwestern area of the site.

During the reporting period, treated groundwater was returned to LHAAP-18/24 with no discharge to Harrison Bayou or the INF pond. Approximately 2,833,000 gallons of treated water were returned to LHAAP-18/24 through the irrigation system.

The average daily extraction rates from the ICTs were approximately 43,000 gallons per day (gpd) in April, approximately 35,000 gpd in May, and approximately 37,000 gpd in June. Due to the increase in groundwater elevation at the site and the operation of all ICTs, the volume of overall extracted groundwater averaged more in the 2nd quarter compared to the 1st quarter.

Groundwater levels in the Wilcox Formation (generally occurring below 40 to 50 feet below ground surface) were measured during the 2nd quarter 2016 gauging events. Wilcox Formation wells correspond generally with those wells previously identified as "Intermediate" and "Deep" wells. "Intermediate" wells are designated as Upper Wilcox Formation wells and "Deep" wells are designated as Lower Wilcox Formation wells. Generally, the Upper and Lower Wilcox Formation wells are in communication and can be mapped as a single hydraulic unit. The Upper Wilcox groundwater elevations are used for contouring the potentiometric surface of the Wilcox Formation. **Figures B-4, B-5, and B-6** of **Appendix B** identify the Wilcox Formation monitoring wells and the potentiometric surfaces developed from the April, May, and June 2016 water level gauging events, respectively. There is a groundwater high on the Wilcox Formation potentiometric surface in the vicinity of MW-14 that in near, but slightly west of the location of the Shallow Zone groundwater high. Wilcox Formation groundwater flows radially off of the groundwater high in the vicinity of MW-14 to the northeast, northwest, and southwest in the directions of Harrison Bayou, Saunders Branch, and Caddo Lake. Similar to shallow groundwater, the groundwater levels in the Wilcox Formation remained stable between April and June 2016.

Compliance sampling was conducted between June 7 and June 29, 2016. Groundwater chemicals of concern (CoC) maps depicting the results of the June 2016 groundwater sampling event for perchlorate, trichloroethene (TCE), and methylene chloride (MC) are presented as figures in **Appendix C**. The time series plots of CoC concentrations from various monitoring wells are included in **Appendix D**.

The highest perchlorate concentrations in the shallow zone are observed in 120, MW-7, MW-5, MW-21, MW-23, MW-1, MW-3, and 18WW17 with concentrations in these wells ranging between 14,800 mg/L and 82,900 µg/L (**Figure C-1**). Perchlorate in groundwater has migrated off-site in all directions. The perchlorate concentration in 18CPTMW23 was reported at 2,310 mg/L in June 2016 after a concentration of 456 mg/L was reported in December 2015. This well has a history of order of magnitude fluctuations in perchlorate concentrations. For example, a two orders of magnitude increase was observed between December 2014 and June 2015, a four orders of magnitude decrease was observed between June 2014 and December 2014, a four orders of magnitude increase was observed between December 2013 and June 2014, and a four fold decrease was observed between May 2013 and December 2013. These changes in concentration are likely influenced by to groundwater level fluctuations, rain amounts, and performance of the ICTs.

Perchlorate in the Wilcox Formation was detected in monitoring well 18CPTMW08SW at a concentration of 35,000 µg/L (**Figure C-2**), which is in the same order of magnitude as the concentration reported in December 2015 of 41,800 and June 2015 of 43,800 µg/L. Perchlorate

concentration decreases rapidly away from this well. Another area where perchlorate in the Wilcox Formation was identified at a very high concentration is in MW-14(B), with a reported concentration of 229,000 mg/L. Six new Wilcox wells were installed and sampled during the 2nd quarter 2016; 18CPTMW19SW, 18CPTMW22DW, 18CPTMW23SW, 18CPTMW26, 18CPTMW26SW and 18WW25 with reported perchlorate concentrations of 1.25, 0.917, 0.407, NS (dry), 6.42 and 0.2 µg/L, respectively. **Figure C-2** presents the concentrations of perchlorate in the Wilcox Formation.

TCE concentrations in the shallow zone remained consistent with the concentrations reported in December 2015 with the highest TCE concentration in June 2016 occurring in well 120 at a concentration of 17,100 mg/L decreased slightly from a concentration of 17,200 mg/L in December 2015 (**Figure C-3**). The greatest increase of TCE in the shallow zone occurred in 123 with a concentration of 80.1 µg/L in June 2016 compared to 0.5 µg/L in December 2015. This increase is likely due to fluctuations in groundwater elevations and rainfall amounts. The greatest decrease in TCE in the shallow zone occurred in MW12 with a reported concentration of 294 µg/L in June 2016 compared to 2000 µg/L in December 2015. This is attributed to increased ICT extraction during the 2nd quarter 2016 compared to intermittent ICT extraction during the 4th quarter 2015. The trend of TCE concentrations is such that the highest concentrations occur within the containment area and decrease moving outwardly (**Figure C-3**).

TCE in the Wilcox Formation is present at low concentrations with the highest concentration of 15,900 mg/L identified in MW-14. This concentration has increased slightly from a concentration of 15,500 mg/L in December 2015. A concentration of 46.5 µg/L was reported in 18CPTMW01SW in June 2016. This is a sharp decrease from 368 µg/L in December 2015 but is similar to the decrease from 1,210 µg/L identified in 18CPTMW01SW in December 2014 to a concentration of 473 mg/L in June 2015 (**Figure C-4**). The concentration of TCE in the Wilcox Formation in the vicinity of 18CPTMW03SW at 153µg/L in June 2016 decreased from 561 mg/L in June 2015. No detections of TCE were observed in new wells 18CPTMW19SW, 18CPTMW22DW, 18CPTMW23SW, 18CPTMW26SW or 18WW25.

The concentrations of MC in the shallow zone remains centered on MW-2 with a concentration of 21,300µg/L measured in June 2016 which is significantly less than the concentration of 130,000 µg/L reported in June 2015. Methylene chloride in the shallow formation extent is depicted on **Figure C-5**.

MC in the Wilcox Formation is present at a concentration of 746 µg/L identified in 18CPTMW01SW which is lower than concentration reported in December 2015 of 5,900 µg/L. MC was also detected in MW-14 with a concentration of 53.5 mg/L. Methylene chloride in the Wilcox Formation extent is depicted on **Figure C-6**.

Time-series graphs for the shallow zone and Wilcox Formation wells are presented in **Appendix D**. Graphs for shallow zone wells C8, MW-02, MW-07, MW-08, MW-16, MW-17, MW-20, MW-21, MW-22, MW-23, 18WW08, 18WW10, 109, 120, 126, 129, AWD-1, and AWD-3 are included. Graphs for Wilcox wells C3, C4, MW-14, and 18WW09 are also included. The following observations were made, based on the June 2016 groundwater monitoring results:

- Concentrations of perchlorate, TCE, and MC in MW-02, located inside the containment in the shallow zone, increased after an unexplained decrease in December 2015. Previous similar fluctuations in MC, TCE and perchlorate concentration have been observed.
- Concentrations of TCE, MC, and perchlorate in MW-22 inside the containment in the shallow zone remained similar to previous results. Perchlorate concentration in MW-23 decreased since December of 2015. Perchlorate concentration increased, but TCE concentrations decreased slightly in shallow zone monitoring well 120 inside the containment.
- MC remained below the detection limits in samples from C-08, to the northeast of the containment area. TCE decreased to 5.61 ug/L after a slight increase was observed during the December 2015 sampling event which was likely related to the limited groundwater extraction that occurred during the 4th quarter of 2015. The other two northeastern wells, MW-21 and 109, showed a significant decrease in TCE and perchlorate concentrations.
- Wells to the southwest of the containment area include MW-07, MW-08, MW-17, and 129. MW-07, which had a slight increase in perchlorate, a slight decrease in TCE, and were non-detect for MC. A decreasing perchlorate trend was observed in MW-08. The TCE concentrations in MW-08 also continued to decrease, along with low levels of MC that were below the maximum contaminant level (MCL). Perchlorate concentrations in MW-17 decreased to below the detection limit after an increase from a period of declining concentrations to 24.4µg/L during the December 2015 sampling event.
- CoC concentrations in samples from wells MW-16 and 18WW08 in the shallow zone to the northwest of the containment area were graphed. Concentrations of TCE in MW-16 increased in June 2016 compared to December 2015, remaining higher than typical historical levels. MC remained below the detection limit. Perchlorate concentrations decreased considerably from concentrations in December 2015. Concentrations of TCE, perchlorate and MC decreased in 18WW08 between December 2015 and June 2016. Decreasing concentrations in these wells likely reflects increased extraction from the ICTs after a period of partial extraction during the 4th quarter 2015.
- Wilcox well C-04 to the northeast of the containment area remained non-detect for TCE and MC. Perchlorate concentrations were below the detection limit in C-04 after a low concentration of 0.351µg/L was reported in December 2015. C-03, also located northeast of the containment area, remained non-detect for TCE and MC but showed a slight increase in perchlorate to 5.48µg/L after a reported concentration of 1.35µg/L in December 2015.
- Concentrations of TCE and perchlorate in Wilcox well MW-14 began increasing after May 2006, with most recent June 2016 concentrations of 15,900µg/L and 229,000µg/L, respectively. MC concentration decreased below the detection limit in June 2016. The concentrations of TCE in monitoring well 120 are similar to the concentrations observed in MW-14. These co-located wells are in an area where the Wilcox clay is absent, so the increase in TCE concentrations in MW-14 over time is probably attributable to natural vertical dispersion effects.

- Concentrations of TCE and MC in Wilcox well 18WW09 to the northwest of the site remained non-detect. Perchlorate decreased to below the detection limit after a reported concentration of 0.134µg/L in December 2015.

In general, other than the changes observed above in perchlorate and TCE concentrations, the CoC concentration trends indicate that the plumes are stable, suggesting that the extraction system is effective in containing the plumes. The exception is the generally higher concentrations of TCE and perchlorate in MW-16 compared to data collected prior to 2014. Discovery of CoCs in various new monitoring wells installed in the spring of 2013 and in 2014 is not an indication of plume expansion. The new data reflect existing conditions in areas that could not be assessed until the new monitoring wells were installed and sampled. Future changes in concentrations over time will allow identification of any CoC trends, if present.

2.3 Quantity of Water Extracted from LHAAP-18/24

The average daily extraction rates from the ICTs as measured by the sum of individual ICT flowmeters were approximately 43,200 gpd in April, approximately 35,000 gpd in May, and approximately 37,000 gpd in June 2016. The extraction rates were higher than the 1st quarter 2016 due primarily to operation of all ICTs in opposed to partial operation in January 2016 and significant cumulative rainfall throughout the quarter.

The volume of groundwater removed from LHAAP-18/24 and LHAAP-16 during the quarter was approximately 2,700,000 gallons based on total flow measured at the GWTP headwork through flowmeter FIT-140. **Figure 2-1** shows the historical trends of extracted volumes by quarter. After a historical low extraction volume in the 3rd quarter 2012 due to equipment malfunction, extraction rates were restored in the 4th quarter 2012 and remained at steady levels only influenced by formation limitations (i.e., rain-controlled flows) and occasional pump fouling. During the 4th quarter 2015 due to malfunction of the air stripper blower, partial groundwater extraction was implemented and the total volume extracted was low. In contrast to the volume above, the total estimated volume based on individual flow meter readings from LHAAP-18/24 and LHAAP-16 was approximately 3,735,000 gallons. The difference is approximately 32% with flow volumes measured at the headwork of the GWTP considered more representative of the extracted groundwater volume.

As indicated by **Table 2-1**, 24 ICTs (including vertical extraction wells EW-01 and 18WW17) out of 28 produced water during the current quarter, compared to 21 of 28 ICTs which produced water during the 1st quarter of 2016.

2.4 Groundwater Treatment Plant Sampling and Analysis

As part of the GWTP operations, samples from various water streams were collected and analyzed for the parameters cited in the Interim Record of Decision (ROD) and the TCEQ letter dated January 8, 2002. Besides the ROD sampling requirement, additional analyses were performed on the influent and effluent samples to monitor the effectiveness of the FBR process. **Sections 2.4.1** through **2.4.4** present the results of analyses conducted during the current quarter. The complete laboratory results are provided on a compact disk (CD) (**Appendix E**).

2.4.1 Perchlorate Sampling

Table 2-2 presents the perchlorate results for the 2nd quarter of 2016. The perchlorate concentrations in the effluent (TK650) were above the discharge criteria of 6 µg/L for daily average and 13 µg/L for daily maximum in several of the collected samples. 4 (four) samples did not meet the discharge limit in April with reported effluent concentrations of 810, 131, 174, and 36.1 µg/L respectively (note that discharge did not occur during the current quarter). Two samples also did not meet the discharge limit in May with reported effluent concentrations of 264 and 131 µg/L, respectively. The increase in perchlorate concentration was a result of low concentrations of nutrients, a condition which was corrected during the current quarter.

Three grab samples from the influent to the GWTP (Tank 140) were collected. The perchlorate concentrations in these samples were 9,850, 11,100, and 14,000µg/L.

2.4.2 VOC Sampling

Tables 2-3 through 2-5 present the effluent VOC results for April, May, and June 2016. Sampling of the effluent for VOCs was conducted on a biweekly basis, and the results, where applicable, were below the discharge limits. The results also provide monthly influent concentrations for VOCs and perchlorate.

2.4.3 Monthly Metals Sampling

As per the revised sampling and analysis plan (Shaw, 2007), the monthly metals sampling is reported in **Tables 2-3 through 2-5**. None of the metals exceeded the effluent discharge limits. Selenium reporting limit of 10 mg/L exceeded the daily average limit of 5.7 mg/L but was below the daily maximum concentration of 12 mg/L.

2.4.4 Quarterly Sampling

Sampling of the effluent for VOCs, anions, chemical oxygen demand (COD), oil and grease, perchlorate, and metals was conducted during this quarter and summarized in **Table 2-6**.

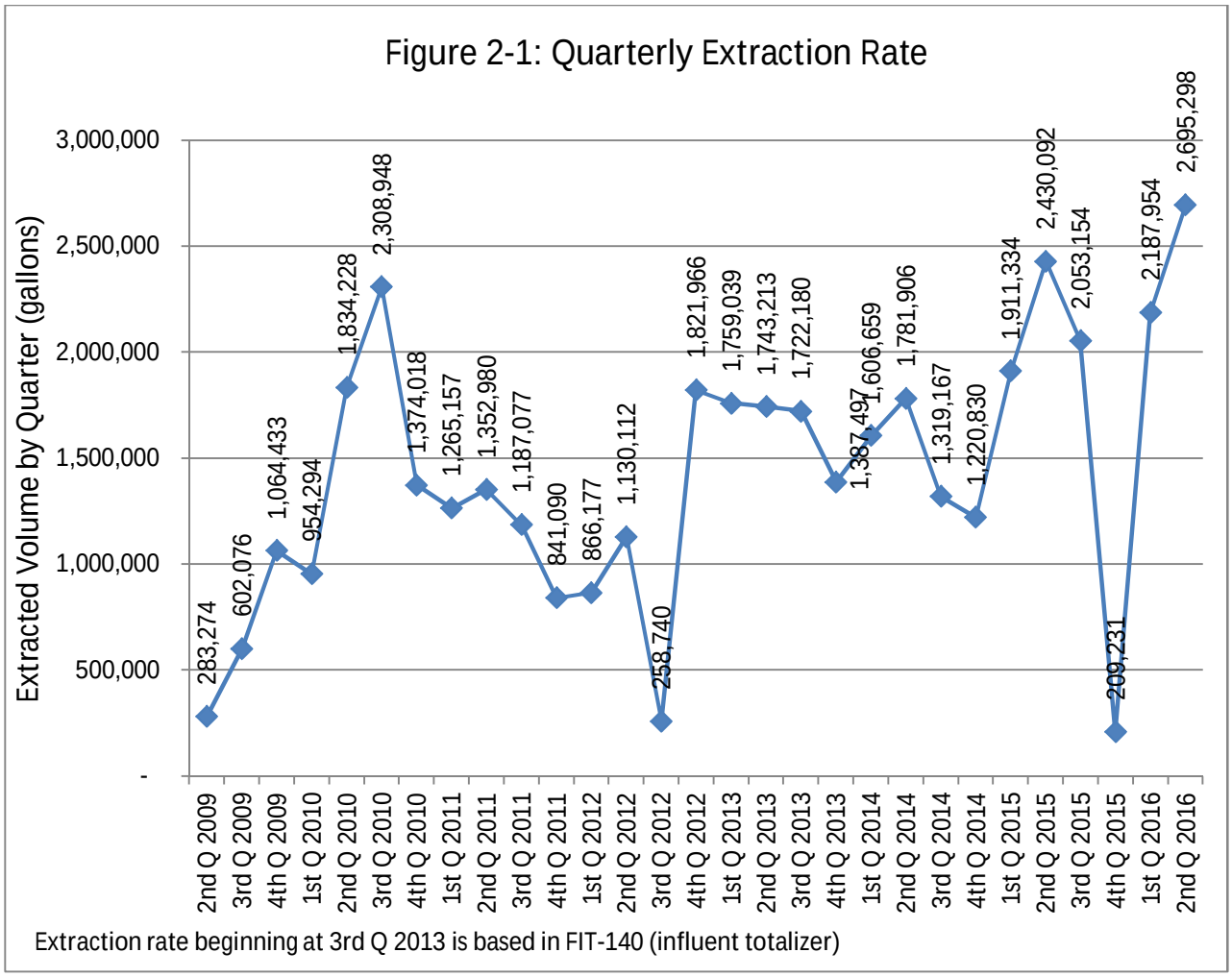


Figure 2-1: Quarterly Extraction Rate
Extracted Volume by Quarter (gallons)
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
283,274
602,076
1,064,433
954,294
1,834,228
2,308,948
1,374,018
1,265,157
1,352,980
1,187,077
841,090
866,177
1,130,112
258,740
1,821,966
1,759,039
1,743,213
1,722,180
1,387,497
1,606,659
1,781,906
1,319,167
1,220,830
1,911,334
2,430,092
2,053,154
209,231
2,187,954
2,695,298
2nd Q 2009
3rd Q 2009
4th Q 2009
1st Q 2010
2nd Q 2010
3rd Q 2010
4th Q 2010
1st Q 2011
2nd Q 2011
3rd Q 2011
4th Q 2011
1st Q 2012
2nd Q 2012
3rd Q 2012
4th Q 2012
1st Q 2013
2nd Q 2013
3rd Q 2013
4th Q 2013
1st Q 2014
2nd Q 2014
3rd Q 2014
4th Q 2014
1st Q 2015
2nd Q 2015
3rd Q 2015
4th Q 2015
1st Q 2016
2nd Q 2016
Extraction rate beginning at 3rd Q 2013 is based in FIT-140 (influent totalizer)

Table 2-1: Monthly Groundwater Extraction Quantities (Gallons)

Well #	Apr-16	May-16	Jun-16	Total
1	0	0	0	0
2	106,910	120,305	194,258	421,473
3	0	0	0	0
4	143,932	122,353	135,708	401,993
5	0	0	0	0
EW-01	3,430	2,618	2,203	8,250
7	20,207	16,989	10,638	47,833
8	153,028	135,183	116,862	405,073
18WW17	7,757	8,566	9,087	25,409
10	0	0	0	0
11	64,096	71,707	119,148	254,951
12A	12,747	13,022	12,322	38,091
12B	7,803	4,603	15,944	28,349
12C	40,857	30,401	21,864	93,122
12D	57,593	52,739	43,375	153,707
12E	33,788	28,856	18,394	81,037
13A	110,813	112,298	111,097	334,207
13B	136,534	132,893	135,068	404,494
13C	146,742	1,158	1,158	149,057
13D	12,202	10,765	483	23,450
13E	13,790	10,975	3,050	27,814
13F	16,402	12,997	4,464	33,862
14A	3,250	3,200	3,109	9,559
14B	49,238	54,012	24,311	127,561
14C	59,528	47,570	44,640	151,738
14D	85,143	82,759	74,988	242,890
14E	11,549	9,737	4,567	25,853
Total LHAAP-18/24	***1,297,334***	***1,085,700***	***1,106,732***	***3,489,766***
LHAAP-16	78,708	85,552	81,066	245,325
Total LHAAP-16	***78,708***	***85,552***	***81,066***	***245,325***
TOTAL	***1,376,041***	***1,171,252***	***1,187,798***	**3,735,091**

Table 2-2: Weekly Perchlorate Sample Results

Sample ID	Date Sampled	Sample Location	Effluent Limitation for Discharge (ug/L)		MAL	Influent	Effluent		Does Concentration Meet Discharge Limit? (Yes/No)
			Daily Average Concentration	Daily Maximum Concentration		Result (ug/L)	Result (ug/L)	DVQ	
LH18/24-SP650-6348-grab	4/4/2016	TK650	6	13	2	NA	**755**		**No**
LH18/24-SP650-6349-grab*	4/4/2016	TK650	6	13	2	NA	**810**		**No**
LH18/24-SP650-6351-grab*	4/11/2016	TK650	6	13	2	NA	**131**		**No**
LH18/24-SP140-7350-grab	4/11/2016	TK140	NA	NA	2	14,300	NA		NA
LH18/24-SP650-6352-grab	4/18/2016	TK650	6	13	2	NA	**172**		**No**
LH18/24-SP650-6353-grab*	4/18/2016	TK650	6	13	2	NA	**174**		**No**
LH18/24-SP650-6354-grab*	4/25/2016	TK650	6	13	2	NA	**36.1**		**No**
LH18/24-SP650-6356-grab*	4/27/2016	TK650	6	13	2	NA	**156**		**No**
LH18/24-SP103-7355-grab*	4/27/2016	TK140	NA	NA	2	9,850	NA		NA
LH18/24-SP650-6357-grab	5/4/2016	TK650	6	13	2	NA	**267**		**No**
LH18/24-SP650-6358-grab*	5/4/2016	TK650	6	13	2	NA	**248**		**No**
LH18/24-SP650-6360-grab*	5/9/2016	TK650	6	13	2	NA	**131**		**No**
LH18/24-SP650-6361-grab	5/16/2016	TK650	6	13	2	NA	1.04		Yes
LH18/24-SP650-6362-grab*	5/16/2016	TK650	6	13	2	NA	0.847		Yes
LH18/24-SP140-7359-grab	5/9/2016	TK140	NA	NA	2	11,100	NA		NA
LH18/24-SP650-6352-grab	5/16/2016	TK650	6	13	2	NA	0.847		Yes
LH18/24-SP650-6364-grab*	5/26/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6366-grab	5/31/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6367-grab*	5/31/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6370-grab*	6/6/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP140-7369-grab	6/6/2016	TK140	NA	NA	2	14,000	NA		NA
LH18/24-SP650-6371-grab	6/13/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6372-grab*	6/13/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6373-grab*	6/20/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6374-grab	6/27/2016	TK650	6	13	2	NA	0.2	U	Yes
LH18/24-SP650-6375-grab*	6/27/2016	TK650	6	13	2	NA	0.2	U	Yes

Notes:

No discharge to Harrison Bayou occurred unless perchlorate concentration was below detection

SP140 samples are influent samples

µg/L - micrograms per liter

DVQ - data validation qualifier

MAL - minimum analytical level

J - Estimated concentration

U - non detect

* - special intermittent grab sample

Table 2-3: Bi-Weekly GWTP Analytical Sampling Results for April 2016

	Effluent Limitation for Discharge (ug/L) per Table 2 of ROD																														Does Concentration Meet Effluent Discharge Limits? (Yes/No)
Sample Location				EFFLUENT		EFFLUENT		EFFLUENT		INFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		INFLUENT		
Sample Identification				LH18/24-SP650-6348		LH18/24-SP650-6348		LH18/24-SP650-6349		LH18/24-SP140-7350		LH18/24-SP650-6350		LH18/24-SP650-6351		LH18/24-SP650-6352		LH18/24-SP650-6352		LH18/24-SP650-6353		LH18/24-SP650-6354		LH18/24-SP650-6356		LH18/24-SP103-7355		
Sample Date				4-Apr-16		4-Apr-16		4-Apr-16		11-Apr-16		11-Apr-16		11-Apr-16		18-Apr-16		18-Apr-16		18-Apr-16		25-Apr-16		27-Apr-16		27-Apr-16		
Sample Type				COMP		GRAB		GRAB		GRAB		GRAB		GRAB		COMP		GRAB		GRAB		GRAB		GRAB		GRAB		
	Daily Average Concentration	Daily Maximum Concentration	MAL	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	
VOLATILES	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
1,1,1-Trichloroethane	3,417	7,230	10	NA		0.500	U	NA		25.000	U	NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
1,1,2-Trichloroethane	102.5	216.9	10	NA		0.500	U	NA		25.000	U	NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
1,1-Dichloroethane	6,633	14,032	10	NA		0.250	U	NA		10.200	J	NA		NA		NA		0.250	U	NA		NA		NA		NA		Yes
1,1-Dichloroethene	119	253	NA	NA		1.000	U	NA		92.600	J	NA		NA		NA		1.000	U	NA		NA		NA		NA		NA
1,2-Dichloroethane	85	181	10	NA		0.386	J	NA		78.100		NA		NA		NA		0.509	J	NA		NA		NA		NA		Yes
cis-1,2-Dichloroethene	NA	NA	NA	NA		18.600		NA		95.000		NA		NA		NA		19.200		NA		NA		NA		NA		NA
trans-1,2-Dichloroethene	NA	NA	NA	NA		0.500	U	NA		14.300	J	NA		NA		NA		0.500	U	NA		NA		NA		NA		NA
o-Xylene	39.5	83.6	NA	NA		0.500	U	NA		25.000	U	NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
Acetone	1,132	2,395	NA	NA		0.500	U	NA		250.000	U	NA		NA		NA		8.950	J	NA		NA		NA		NA		NA
Benzene	85	181	10	NA		0.250	U	NA		12.500	U	NA		NA		NA		0.250	U	NA		NA		NA		NA		Yes
Carbon Tetrachloride	85	181	10	NA		0.500	U	NA		25.000	U	NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
Chlorobenzene	22,300	47,180	50	NA		0.250	U	NA		12.500	U	NA		NA		NA		0.250	U	NA		NA		NA		NA		Yes
Chloroform	1,708	3,615	10	NA		0.250	U	NA		0.250	U	NA		NA		NA		0.250	U	NA		NA		NA		NA		Yes
Ethylbenzene	26,954	57,025	10	NA		0.500	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
m,p-Xylenes	39.5	83.6	NA	NA		1.000	U	NA		50.000	U	NA		NA		NA		1.000	U	NA		NA		NA		NA		NA
Methylene Chloride	803	1,699	20	NA		0.294	J	NA		11,500.000		NA		NA		NA		0.522	J	NA		NA		NA		NA		Yes
Styrene	2,829	5,987	NA	NA		0.250	U	NA		12.500	U	NA		NA		NA		0.250	U	NA		NA		NA		NA		NA
Tetrachloroethene	85.4	180.7	10	NA		0.500	U	NA		59.200		NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
Toluene	1,980	4,189	10	NA		0.500	U	NA		25.000	U	NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
Trichloroethene	85	181	10	NA		5.500		NA		9,170.000		NA		NA		NA		5.680		NA		NA		NA		NA		Yes
Vinyl Chloride	34	72	10	NA		0.500	U	NA		82.500		NA		NA		NA		0.500	U	NA		NA		NA		NA		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Chloride	NA	NA	NA	535		520		NA		NA		NA		NA		514		494		NA		NA		NA		NA		NA
Sulfate	NA	NA	NA	83.1	J	71.9	J	NA		NA		NA		NA		106.0		75.8	J	NA		NA		138.0		189.0		NA
PERCHLORATE	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
Perchlorate	6	13	2	**755**		**820**		**810**		**14,300**		**NA**		**131**		**172**		**166**		**174**		**36.1**		**156**		**9,850**		**No**
METALS	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
Hexavalent Chromium	58	124	10	10.0	UJ	10.0	UJ	NA		NA		NA		NA		10.0	U	10.0	U	NA		NA		NA		NA		NA
Lead	2.2	4.6	5	1.0	U	1.0	U	NA		NA		NA		NA		1.0	U	1.0	U	NA		NA		NA		NA		NA
Selenium	5.7	12	5	10.0	U	10.0	U	NA		NA		10.0	U	NA		10.0	U	10.0	U	NA		NA		NA		NA		NA
Silver	1.4	3	2	1.0	U	1.0	U	NA		NA		NA		NA		1.0	U	1.0	U	NA		NA		NA		NA		NA
Antimony	NA	NA	NA	NA		NA		NA		NA		1	J	NA		NA		NA		NA		NA		NA		NA		NA
Arsenic	365	772	10	NA		NA		NA		NA		3.1700		NA		NA		NA		NA		NA		NA		NA		NA
Barium	1,000	2,000	10	NA		NA		NA		NA		256.0000		NA		NA		NA		NA		NA		NA		NA		NA
Chromium	355	752	5	NA		NA		NA		NA		1.4900	J	NA		NA		NA		NA		NA		NA		NA		NA
Manganese	7,323	15,494	NA	NA		NA		NA		NA		66.9000		NA		NA		NA		NA		NA		NA		NA		NA
Nickel	87	184	10	NA		NA		NA		NA		3.3700	J	NA		NA		NA		NA		NA		NA		NA		NA
Thallium	NA	NA	NA	NA		NA		NA		NA		1.4200	J	NA		NA		NA		NA		NA		NA		NA		NA

Notes:
µg/L - micrograms per liter
DVQ - data validation qualifier
MAL - minimum analytical level
mg/L - milligrams per liter
NA - not applicable
ROD - Record of Decision
J - Estimated concentration
U - non detect
Grab samples are compared to the daily maximum and composite samples to the daily average

Table 2-4: Bi-Weekly GWTP Analytical Sampling Results for May 2016

	Sample Location			EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		INFLUENT		EFFLUENT		EFFLUENT	
	Sample Identification			LH18/24-SP650-6357		LH18/24-SP650-6357		LH18/24-SP650-6358		LH18/24-SP650-6359		LH18/24-SP650-6360		LH18/24-SP140-7359		LH18/24-SP650-6361		LH18/24-SP650-6361	
	Sample Date			4-May-16		4-May-16		4-May-16		9-May-16		9-May-16		9-May-16		16-May-16		16-May-16	
	Sample Type			COMP		GRAB		GRAB		GRAB		GRAB		GRAB		COMP		GRAB	
	Effluent Limitation for Discharge (ug/L) per Table 2 of ROD																		
	Daily Average Concentration	Daily Maximum Concentration	MAL	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ
VOLATILES	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,1-Trichloroethane	3,417	7,230	10	NA		0.500	U	NA		NA		NA		25	U	NA		0.500	U
1,1,2-Trichloroethane	102.5	216.9	10	NA		0.500	U	NA		NA		NA		25	U	NA		0.500	U
1,1-Dichloroethane	6,633	14,032	10	NA		0.250	U	NA		NA		NA		8.95	J	NA		0.250	U
1,1-Dichloroethene	119	253	NA	NA		1.00	U	NA		NA		NA		95.9	J	NA		1.00	U
1,2-Dichloroethane	85	181	10	NA		0.484	J	NA		NA		NA		78.1		NA		0.511	J
cis-1,2-Dichloroethene	NA	NA	NA	NA		21.7		NA		NA		NA		3,830		NA		21.6	
trans-1,2-Dichloroethene	NA	NA	NA	NA		0.500	U	NA		NA		NA		16.5	J	NA		0.500	U
o-Xylene	39.5	83.6	NA	NA		0.500	U	NA		NA		NA		25	U	NA		0.500	U
Acetone	1,132	2,395	NA	NA		5.00	U	NA		NA		NA		250	U	NA		5.00	U
Benzene	85	181	10	NA		0.250	U	NA		NA		NA		12.5	U	NA		0.250	U
Carbon Tetrachloride	85	181	10	NA		0.500	U	NA		NA		NA		25	U	NA		0.500	U
Chlorobenzene	22,300	47,180	50	NA		0.250	U	NA		NA		NA		12.5	U	NA		0.250	U
Chloroform	1,708	3,615	10	NA		0.250	U	NA		NA		NA		19.8	J	NA		0.250	U
Ethylbenzene	26,954	57,025	10	NA		0.500	U	NA		NA		NA		0.500	U	NA		0.500	U
m,p-Xylenes	39.5	83.6	NA	NA		1.00	U	NA		NA		NA		50.00	U	NA		1.00	U
Methylene Chloride	803	1,699	20	NA		0.500	U	NA		NA		NA		11,000		NA		0.288	J
Styrene	2,829	5,987	NA	NA		0.250	U	NA		NA		NA		12.5	U	NA		0.250	U
Tetrachloroethene	85.4	180.7	10	NA		0.500	U	NA		NA		NA		52.1		NA		0.500	U
Toluene	1,980	4,189	10	NA		0.500	U	NA		NA		NA		25	U	NA		0.500	U
Trichloroethene	85	181	10	NA		6.05		NA		NA		NA		9,010		NA		5.18	
Vinyl Chloride	34	72	10	NA		0.500	U	NA		NA		NA		80.1		NA		0.500	U
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**	
Chloride	NA	NA	NA	464		439		NA		NA		NA		NA		535		537	
Sulfate	NA	NA	NA	58.5	J	49.7	J	NA		NA		NA		NA		84.5	J	72.8	J
PERCHLORATE	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
Perchlorate	6	13	2	**267**		**248**		**264**		NA		**131**		**11,100**		0.661		1.04	
METALS	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
Hexavalent Chromium	58	124	10	10.00	U	10.0	U	NA		NA		NA		NA		10.00	U	10.0	U
Lead	2.2	4.6	5	1.0	U	1.0	U	NA		1.0	U	NA		NA		1.0	U	1.0	U
Selenium*	5.7	12	5	8.65	J	10.0	U	NA		10.0	U	NA		NA		10.0	U	10.0	U
Silver	1.4	3	2	1.0	U	1.0	U	NA		1.0	U	NA		NA		1.0	U	1.0	U
Antimony	NA	NA	NA	NA		NA		NA		NA		NA		NA		1.0	U	NA	
Arsenic	365	772	10	NA		NA		NA		NA		NA		NA		2.83		NA	
Barium	1,000	2,000	10	NA		NA		NA		NA		NA		NA		152		NA	
Chromium	355	752	5	NA		NA		NA		NA		NA		NA		2.48	J	NA	
Manganese	7,323	15,494	NA	NA		NA		NA		NA		NA		NA		38.3		NA	
Nickel	87	184	10	NA		NA		NA		NA		NA		NA		3.1	J	NA	
Thallium	NA	NA	NA	NA		NA		NA		NA		NA		NA		0.2	U	NA	

Notes:
µg/L - micrograms per liter
DVQ - data validation qualifier
MAL - minimum analytical level
mg/L - milligrams per liter
NA - not applicable
ROD - Record of Decision
J - Estimated concentration
U - non detect
Grab samples are compared to the daily maximum and composite samples to the daily average
* Selenium reporting limit exceeds the daily average discharge limit.

Table 2-4: Bi-Weekly GWTP Analytical Sampling Results for May 2016

	Sample Location	EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		Does Concentration Meet Effluent Discharge Limits? (Yes/No)
	Sample Identification	LH18/24-SP650-6362		LH18/24-SP650-6364		LH18/24-SP650-6366		LH18/24-SP650-6366		LH18/24-SP650-6367		
	Sample Date	16-May-16		26-May-16		31-May-16		31-May-16		31-May-16		
	Sample Type	GRAB		GRAB		COMP		GRAB		GRAB		
	Effluent Limitation for Discharge (ug/L) per Table 2 of ROD											
	Daily Average Concentration	Daily Maximum Concentration	MAL	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	
VOLATILES	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
1,1,1-Trichloroethane	3,417	7,230	10	NA		NA		NA		0.500	U	NA		Yes
1,1,2-Trichloroethane	102.5	216.9	10	NA		NA		NA		0.500	U	NA		Yes
1,1-Dichloroethane	6,633	14,032	10	NA		NA		NA		0.250	U	NA		Yes
1,1-Dichloroethene	119	253	NA	NA		NA		NA		1.00	U	NA		Yes
1,2-Dichloroethane	85	181	10	NA		NA		NA		0.594	J	NA		Yes
cis-1,2-Dichloroethene	NA	NA	NA	NA		NA		NA		22.7		NA		NA
trans-1,2-Dichloroethene	NA	NA	NA	NA		NA		NA		0.500	U	NA		NA
o-Xylene	39.5	83.6	NA	NA		NA		NA		0.500	U	NA		Yes
Acetone	1,132	2,395	NA	NA		NA		NA		7.49	J	NA		Yes
Benzene	85	181	10	NA		NA		NA		0.250	U	NA		Yes
Carbon Tetrachloride	85	181	10	NA		NA		NA		0.500	U	NA		Yes
Chlorobenzene	22,300	47,180	50	NA		NA		NA		0.250	U	NA		Yes
Chloroform	1,708	3,615	10	NA		NA		NA		0.250	U	NA		Yes
Ethylbenzene	26,954	57,025	10	NA		NA		NA		0.500	U	NA		Yes
m,p-Xylenes	39.5	83.6	NA	NA		NA		NA		1.00	U	NA		NA
Methylene Chloride	803	1,699	20	NA		NA		NA		0.291	J	NA		Yes
Styrene	2,829	5,987	NA	NA		NA		NA		0.250	U	NA		NA
Tetrachloroethene	85.4	180.7	10	NA		NA		NA		0.500	U	NA		Yes
Toluene	1,980	4,189	10	NA		NA		NA		0.500	U	NA		Yes
Trichloroethene	85	181	10	NA		NA		NA		5.18		NA		Yes
Vinyl Chloride	34	72	10	NA		NA		NA		0.254	J	NA		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Chloride	NA	NA	NA	NA		NA		483	J	562	J	NA		NA
Sulfate	NA	NA	NA	NA		NA		93.9	J	33.1	J	NA		NA
PERCHLORATE	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
Perchlorate	6	13	2	0.847		0.200	U	0.200	U	0.200	U	0.200	U	**No**
METALS	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
Hexavalent Chromium	58	124	10	NA		NA		10.0	UJ	0.01	UJ	NA		Yes
Lead	2.2	4.6	5	NA		NA		1.0	U	0.001	U	NA		Yes
Selenium*	5.7	12	5	NA		NA		10.0	U	0.01	U	NA		Yes
Silver	1.4	3	2	NA		NA		1.0	U	0.001	U	NA		Yes
Antimony	NA	NA	NA	NA		NA		NA		NA		NA		NA
Arsenic	365	772	10	NA		NA		NA		NA		NA		Yes
Barium	1,000	2,000	10	NA		NA		NA		NA		NA		Yes
Chromium	355	752	5	NA		NA		NA		NA		NA		Yes
Manganese	7,323	15,494	NA	NA		NA		NA		NA		NA		Yes
Nickel	87	184	10	NA		NA		NA		NA		NA		Yes
Thallium	NA	NA	NA	NA		NA		NA		NA		NA		NA

Notes:
µg/L - micrograms per liter
DVQ - data validation qualifier
MAL - minimum analytical level
mg/L - milligrams per liter
NA - not applicable
ROD - Record of Decision
J - Estimated concentration
U - non detect
Grab samples are compared to the daily maximum and composite samples to the daily average
* Selenium reporting limit exceeds the daily average discharge limit.

Table 2-5: Bi-Weekly Analytical GWTP Sampling Results for June 2016

			Sample Location	INFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT	
			Sample Identification	LH18/24-SP140-7369		LH18/24-SP650-6368		LH18/24-SP650-6368		LH18/24-SP650-6369		LH18/24-SP650-6370		LH18/24-SP650-6371		LH18/24-SP650-6371		LH18/24-SP650-6372		LH18/24-SP650-6373		
			Sample Date	6-Jun-16		6-Jun-16		6-Jun-16		6-Jun-16		6-Jun-16		13-Jun-16		13-Jun-16		13-Jun-16		20-Jun-16		
			Sample Type	GRAB		COMP		GRAB		GRAB		GRAB		COMP		GRAB		GRAB		GRAB		
	Effluent Limitation for Discharge (ug/L) per Table 2 of ROD			Result	DVQ					Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	MAL																			
VOLATILES	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
1,1,1-Trichloroethane	3,417	7,230	10	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
1,1,2-Trichloroethane	102.5	216.9	10	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
1,1-Dichloroethane	6,633	14,032	10	8.88	J	NA		0.250	U	NA		NA		NA		0.250	U	NA		NA		
1,1-Dichloroethene	119	253	NA	101		NA		1.00	U	NA		NA		NA		1.00	U	NA		NA		
1,2-Dichloroethane	85	181	10	78.1		NA		0.250	U	NA		NA		NA		0.676	J	NA		NA		
cis-1,2-Dichloroethene	NA	NA	NA	6,600		NA		20.9		NA		NA		NA		24.1		NA		NA		
trans-1,2-Dichloroethene	NA	NA	NA	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
o-Xylene	39.5	83.6	NA	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
Acetone	1,132	2,395	NA	250	U	NA		7.09	J	NA		NA		NA		5.00	U	NA		NA		
Benzene	85	181	10	12.5	U	NA		0.250	U	NA		NA		NA		0.250	U	NA		NA		
Carbon Tetrachloride	85	181	10	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
Chlorobenzene	22,300	47,180	50	12.5	U	NA		0.250	U	NA		NA		NA		0.250	U	NA		NA		
Chloroform	1,708	3,615	10	21.3	J	NA		0.250	U	NA		NA		NA		0.250	U	NA		NA		
Ethylbenzene	26,954	57,025	10	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
m,p-Xylenes	39.5	83.6	NA	50.0	U	NA		1.00	U	NA		NA		NA		1.00	U	NA		NA		
Methylene Chloride	803	1,699	20	7,160		NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
Styrene	2,829	5,987	NA	12.5	U	NA		0.250	U	NA		NA		NA		0.250	U	NA		NA		
Tetrachloroethene	85.4	180.7	10	48.2	J	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
Toluene	1,980	4,189	10	25.0	U	NA		0.500	U	NA		NA		NA		0.500	U	NA		NA		
Trichloroethene	85	181	10	12,100		NA		5.36		NA		NA		NA		6.31		NA		NA		
Vinyl Chloride	34	72	10	102.0		NA		0.500	U	NA		NA		NA		0.337	J	NA		NA		
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Chloride	NA	NA	NA	NA		536		584		NA		NA		551	J	549	J	NA		NA		
Sulfate	NA	NA	NA	NA		109.0		153.0		NA		NA		94.8	J	104	J	NA		NA		
PERCHLORATE	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
Perchlorate	6	13	2	**14,000**		0.200	U	0.200	U	NA		0.200	U	0.200	U	0.200	U	0.200	U	0.200	U	
METALS	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		
Hexavalent Chromium	58	124	10	NA		10.0	U	10.0	U	NA		NA		10.0	U	10.0	U	NA		NA		
Lead	2.2	4.6	5	NA		1.00	U	1.00	U	NA		NA		1.0	U	1.0	U	NA		NA		
Selenium*	5.7	12	5	NA		10.0	U	10.0	U	10.0	U	NA		10.0	U	10.0	U	NA		NA		
Silver	1.4	3	2	NA		1.00	U	1.00	U	NA		NA		1.0	U	1.0	U	NA		NA		
Antimony	NA	NA	NA	NA		1	U	1	U	1	U	NA		NA		NA		NA		NA		
Arsenic	365	772	10	NA		3.21		2.95		2.59		NA		NA		NA		NA		NA		
Barium	1,000	2,000	10	NA		6	U	6	U	324		NA		NA		NA		NA		NA		
Chromium	355	752	5	NA		2.03	J	1.58	J	2.04	J	NA		NA		NA		NA		NA		
Manganese	7,323	15,494	NA	NA		70.6		67.2		68.7		NA		NA		NA		NA		NA		
Nickel	87	184	10	NA		3.85	J	3.36	J	3.73	J	NA		NA		NA		NA		NA		
Thallium	NA	NA	NA	NA		0.2	U	0.2	U	0.2	U	NA		NA		NA		NA		NA		

Notes:
µg/L - micrograms per liter
DVQ - data validation qualifier
MAL - minimum analytical level
mg/L - milligrams per liter
NA - not applicable
ROD - Record of Decision
J - Estimated concentration
U - non detect
Q - one or more quality control criteria failed
Grab samples are compared to the daily maximum and composite samples to the daily average
* Selenium reporting limit exceeds the daily average discharge limit.

Table 2-5: Bi-Weekly Analytical GWTP Sampling Results for June 2016

				Sample Location	EFFLUENT		EFFLUENT		EFFLUENT		Does Concentration Meet Effluent Discharge Limits? (Yes/No)
				Sample Identification	LH18/24-SP650-6374		LH18/24-SP650-6374		LH18/24-SP650-6375		
				Sample Date	27-Jun-16		27-Jun-16		27-Jun-16		
				Sample Type	COMP		GRAB		GRAB		
	Effluent Limitation for Discharge (ug/L) per Table 2 of ROD			Result	DVQ	Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	MAL							
VOLATILES	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		
1,1,1-Trichloroethane	3,417	7,230	10	NA		0.500	U	NA		Yes
1,1,2-Trichloroethane	102.5	216.9	10	NA		0.500	U	NA		Yes
1,1-Dichloroethane	6,633	14,032	10	NA		0.250	U	NA		Yes
1,1-Dichloroethene	119	253	NA	NA		1.00	U	NA		NA
1,2-Dichloroethane	85	181	10	NA		0.641	J	NA		Yes
cis-1,2-Dichloroethene	NA	NA	NA	NA		26.2		NA		NA
trans-1,2-Dichloroethene	NA	NA	NA	NA		0.500	U	NA		NA
o-Xylene	39.5	83.6	NA	NA		0.500	U	NA		Yes
Acetone	1,132	2,395	NA	NA		5.00	U	NA		Yes
Benzene	85	181	10	NA		0.250	U	NA		Yes
Carbon Tetrachloride	85	181	10	NA		0.500	U	NA		Yes
Chlorobenzene	22,300	47,180	50	NA		0.250	U	NA		Yes
Chloroform	1,708	3,615	10	NA		0.250	U	NA		Yes
Ethylbenzene	26,954	57,025	10	NA		0.500	U	NA		Yes
m,p-Xylenes	39.5	83.6	NA	NA		1.00	U	NA		NA
Methylene Chloride	803	1,699	20	NA		0.500	U	NA		Yes
Styrene	2,829	5,987	NA	NA		0.250	U	NA		NA
Tetrachloroethene	85.4	180.7	10	NA		0.500	U	NA		Yes
Toluene	1,980	4,189	10	NA		0.500	U	NA		Yes
Trichloroethene	85	181	10	NA		5.83		NA		Yes
Vinyl Chloride	34	72	10	NA		0.500	U	NA		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		
Chloride	NA	NA	NA	596		562		NA		NA
Sulfate	NA	NA	NA	73.5	J	60.8	J	NA		NA
PERCHLORATE	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		
Perchlorate	6	13	2	0.200	U	0.200	U	0.200	U	Yes
METALS	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		**ug/L**		
Hexavalent Chromium	58	124	10	10.0	U	10.0	U	NA		Yes
Lead	2.2	4.6	5	1.0	U	1.0	U	NA		Yes
Selenium*	5.7	12	5	10.0	U	10.0	U	NA		Yes
Silver	1.4	3	2	1.0	U	1.0	U	NA		Yes
Antimony	NA	NA	NA	NA		NA		NA		NA
Arsenic	365	772	10	NA		NA		NA		Yes
Barium	1,000	2,000	10	NA		NA		NA		Yes
Chromium	355	752	5	NA		NA		NA		Yes
Manganese	7,323	15,494	NA	NA		NA		NA		Yes
Nickel	87	184	10	NA		NA		NA		Yes
Thallium	NA	NA	NA	NA		NA		NA		NA

Notes:
µg/L - micrograms per liter
DVQ - data validation qualifier
MAL - minimum analytical level
mg/L - milligrams per liter
NA - not applicable
ROD - Record of Decision
J - Estimated concentration
U - non detect
Q - one or more quality control criteria failed
Grab samples are compared to the daily maximum and composite samples to
* Selenium reporting limit exceeds the daily average discharge limit.

Table 2-6: Quarterly GWTP Analytical Sampling Results for the 2nd Quarter 2016

				Sample Location	EFFLUENT		EFFLUENT		
				Sample Identification	LH18/24-SP650-6368		LH18/24-SP650-6368		
				Sample Date	6-Jun-16		6-Jun-16		
				Sample Type	GRAB		COMP		Does Concentration Meet Discharge Limits? (Yes/No)
	Effluent Limitation for Discharge (ug/L) per Table 2 of ROD			Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	MAL					
VOLATILES	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		
1,1,1-Trichloroethane	3,417	7,230	10	0.500	U	NA		Yes
1,1,2-Trichloroethane	102.5	216.9	10	0.500	U	NA		Yes
1,1-Dichloroethane	6,633	14,032	10	0.250	U	NA		Yes
1,1-Dichloroethene	119	253	NA	1.00	U	NA		Yes
1,2-Dichloroethane	85	181	10	0.49	J	NA		Yes
cis-1,2-Dichloroethene	NA	NA	NA	20.9		NA		NA
trans-1,2-Dichloroethene	NA	NA	NA	0.500	U	NA		NA
o-Xylene	39.5	83.6	NA	0.500	U	NA		Yes
Acetone	1,132	2,395	NA	5.000	U	NA		Yes
Benzene	85	181	10	0.250	U	NA		Yes
Carbon Tetrachloride	85	181	10	0.500	U	NA		Yes
Chlorobenzene	22,300	47,180	50	0.250	U	NA		Yes
Chloroform	1,708	3,615	10	0.250	U	NA		Yes
Ethylbenzene	26,954	57,025	10	0.500	U	NA		Yes
m,p-Xylenes	39.5	83.6	NA	1.00	U	NA		Yes
Methylene Chloride	803	1,699	20	0.500	U	NA		Yes
Styrene	2,829	5,987	NA	0.250	U	NA		Yes
Tetrachloroethene	85.4	180.7	10	0.500	U	NA		Yes
Toluene	1,980	4,189	10	0.500	U	NA		Yes
Trichloroethene	85	181	10	5.36		NA		Yes
Vinyl Chloride	34	72	10	0.500	U	NA		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Chloride	NA	NA	NA	584		536		NA
Sulfate	NA	NA	NA	153		109		NA
PERCHLORATE	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		
Perchlorate	6	13	2	0.200	U	0.200	U	Yes
METALS	**ug/L**	**ug/L**	**ug/L**	**ug/L**		**ug/L**		
Aluminum	777	1,644	20	100	J	100	J	Yes
Antimony	NA	NA	NA	1	U	1	U	NA
Arsenic	365	772	10	2.95		3.21		Yes
Barium	1,000	2,000	10	324		323		Yes
Cadmium	1.6	3.4	1	0.6	U	0.6	U	Yes
Chromium	355	752	5	1.58	J	2.03	J	Yes
Hexavalent Chromium	58	124	10	10	U	10	U	Yes
Cobalt	5,433	11,495	NA	1.21	J	1.26	J	Yes
Iron	1,132	2,395	NA	160	J	236		Yes
Lead	2.2	4.6	5	1	U	1	U	Yes
Manganese	7,323	15,494	NA	67.2		70.6		Yes
Nickel	87	184	10	3.36	J	3.85	J	Yes
Selenium*	5.7	12	5	10	U	10	U	Yes
Silver	1.4	3	2	1	U	1	U	Yes
Thallium	NA	NA	NA	0.2	U	0.2	U	NA
Vanadium	1,698	3,592	NA	0.575	J	0.6	J	Yes
Zinc	146	310	5	25	U	25	U	Yes
	mg/L	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Chemical Oxygen Demand	NA	200	NA	73.5		59.3		NA
Oil and Grease	NA	15	NA	8.5		7.6		NA

Notes:

µg/L - micrograms per liter
DVQ - data validation qualifier
MAL - minimum analytical level
mg/L - milligrams per liter
NA - not applicable
ROD - Record of Decision
J - Estimated concentration
U - non detect
Grab samples are compared to the daily maximum and composite samples to the daily average
* Selenium reporting limit exceeds the daily average concentration but below the daily maximum concentration

3 EVALUATION OF LHAAP-16 EXTRACTION SYSTEM

The extraction system at LHAAP-16 produced approximately 245,000 gallons of water in the 2nd quarter of 2016 based on the sum of individual well head flow meters. The volume extracted from LHAAP-16 during the 2nd quarter 2016 was higher than the typical average volume of groundwater extracted from this site due to high cumulative rainfall throughout the quarter. The reported volume is based on the sum of individual flow meter readings. The volume of extracted groundwater from LHAAP-16 is shown in **Figure ES-1**.

3.1 Quantity of Groundwater Extracted from LHAAP-16

The quantity of groundwater extracted on a monthly basis is presented on **Table 3-1**. These flows are based on the sum of individual flow meter readings.

3.2 Groundwater Elevation

The groundwater elevations in the piezometers and monitoring wells at LHAAP-16 for April, May, and June 2016 are presented on **Table 3-2**. The potentiometric surface maps for the shallow and Upper Wilcox (intermediate) groundwater zones at LHAAP-16 for April, May, and June 2016 are presented in **Figures B-7 through B-12** in **Appendix B**.

Table 3-1: Groundwater Extraction Quantities from LHAAP-16 (gallons)

Apr-16	May-16	Jun-16
79,945	77,470	93,633

Table 3-2: Groundwater Elevations at LHAAP-16 Piezometers and Monitoring Wells

PIEZOMETER LEVELS

Piezometers	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
16PZ-1	04/06/2016	199.44	27.07	172.37
16PZ-2	04/06/2016	199.75	27.98	171.77
16PZ-3	04/06/2016	198.61	26.25	172.36
16PZ-4	04/06/2016	198.81	26.84	171.97
16PZ-5	04/06/2016	198.31	25.87	172.44
16PZ-6	04/06/2016	198.61	26.56	172.05
16PZ-7	04/06/2016	200.10	27.90	172.20
16PZ-8	04/06/2016	199.93	27.65	172.28
16PZ-9	04/06/2016	196.49	24.21	172.28
16PZ-10	04/06/2016	196.65	24.66	171.99
16PZ-11	04/06/2016	198.88	26.44	172.44
16PZ-12	04/06/2016	199.00	26.88	172.12
16PZ-13	04/06/2016	196.58	24.19	172.39
16PZ-14	04/06/2016	196.09	23.98	172.11
16PZ-15	04/06/2016	191.93	19.48	172.45
16PZ-16	04/06/2016	190.79	18.62	172.17
16PZ-17	04/06/2016	186.67	14.36	172.31
16PZ-18	04/06/2016	185.99	14.08	171.91
16PZ-19	04/06/2016	183.98	11.71	172.27
16PZ-20	04/06/2016	183.12	11.00	172.12

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
16WW12	04/06/2016	188.81	16.66	172.15
16WW14	04/06/2016	198.87	25.49	173.38
16WW22	04/06/2016	200.13	27.46	172.67
16WW25	04/06/2016	188.77	15.97	172.80
16WW26	04/06/2016	188.83	15.30	173.53
16WW29	04/06/2016	178.24	5.67	172.57
16WW30	04/06/2016	178.47	5.93	172.54
16WW31	04/06/2016	202.78	29.77	173.01
16WW33	04/06/2016	203.09	29.96	173.13
16WW35	04/06/2016	191.23	18.15	173.08
16WW36	04/06/2016	190.94	17.63	173.31

Table 3-2: Groundwater Elevations at LHAAP-16 Piezometers and Monitoring Wells

PIEZOMETER LEVELS

Piezometers	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
16PZ-1	05/13/2016	199.44	26.83	172.61
16PZ-2	05/13/2016	199.75	27.74	172.01
16PZ-3	05/13/2016	198.61	26.02	172.59
16PZ-4	05/13/2016	198.81	26.64	172.17
16PZ-5	05/13/2016	198.31	25.64	172.67
16PZ-6	05/13/2016	198.61	26.37	172.24
16PZ-7	05/13/2016	200.10	27.69	172.41
16PZ-8	05/13/2016	199.93	27.42	172.51
16PZ-9	05/13/2016	196.49	24.01	172.48
16PZ-10	05/13/2016	196.65	24.47	172.18
16PZ-11	05/13/2016	198.88	26.24	172.64
16PZ-12	05/13/2016	199.00	26.68	172.32
16PZ-13	05/13/2016	196.58	23.98	172.60
16PZ-14	05/13/2016	196.09	23.78	172.31
16PZ-15	05/13/2016	191.93	19.27	172.66
16PZ-16	05/13/2016	190.79	18.44	172.35
16PZ-17	05/13/2016	186.67	14.07	172.60
16PZ-18	05/13/2016	185.99	14.20	171.79
16PZ-19	05/13/2016	183.98	11.37	172.61
16PZ-20	05/13/2016	183.12	12.21	170.91

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
16WW12	05/13/2016	188.81	16.29	172.52
16WW14	05/13/2016	198.87	25.33	173.54
16WW22	05/13/2016	200.13	27.15	172.98
16WW25	05/13/2016	188.77	15.57	173.20
16WW26	05/13/2016	188.83	15.05	173.78
16WW29	05/13/2016	178.24	5.26	172.98
16WW30	05/13/2016	178.47	5.54	172.93
16WW31	05/13/2016	202.78	29.56	173.22
16WW33	05/13/2016	203.09	29.76	173.33
16WW35	05/13/2016	191.23	17.99	173.24
16WW36	05/13/2016	190.94	17.47	173.47

Table 3-2: Groundwater Elevations at LHAAP-16 Piezometers and Monitoring Wells

PIEZOMETER LEVELS

Piezometers	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
16PZ-1	06/10/2016	199.44	27.28	172.16
16PZ-2	06/10/2016	199.75	28.31	171.44
16PZ-3	06/10/2016	198.61	26.63	171.98
16PZ-4	06/10/2016	198.81	27.14	171.67
16PZ-5	06/10/2016	198.31	26.10	172.21
16PZ-6	06/10/2016	198.61	26.90	171.71
16PZ-7	06/10/2016	200.10	28.19	171.91
16PZ-8	06/10/2016	199.93	27.97	171.96
16PZ-9	06/10/2016	196.49	24.66	171.83
16PZ-10	06/10/2016	196.65	24.99	171.66
16PZ-11	06/10/2016	198.88	26.77	172.11
16PZ-12	06/10/2016	199.00	27.29	171.71
16PZ-13	06/10/2016	196.58	24.47	172.11
16PZ-14	06/10/2016	196.09	24.24	171.85
16PZ-15	06/10/2016	191.93	19.81	172.12
16PZ-16	06/10/2016	190.79	18.90	171.89
16PZ-17	06/10/2016	186.67	14.70	171.97
16PZ-18	06/10/2016	185.99	14.89	171.10
16PZ-19	06/10/2016	183.98	11.95	172.03
16PZ-20	06/10/2016	183.12	12.77	170.35

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
16WW12	06/10/2016	188.81	16.81	172.00
16WW14	06/10/2016	198.87	25.96	172.91
16WW22	06/10/2016	200.13	27.63	172.50
16WW25	06/10/2016	188.77	16.09	172.68
16WW26	06/10/2016	188.83	15.68	173.15
16WW29	06/10/2016	178.24	6.22	172.02
16WW30	06/10/2016	178.47	6.41	172.06
16WW31	06/10/2016	202.78	30.12	172.66
16WW33	06/10/2016	203.09	30.21	172.88
16WW35	06/10/2016	191.23	18.55	172.68
16WW36	06/10/2016	190.94	17.92	173.02

4 GROUNDWATER MONITORING AT LHAAP-18/24

Water levels from 65 monitoring wells and 11 piezometers (piezometer 12 was damaged and plugged and abandoned in May 2013) are measured monthly to generate potentiometric surface maps that assist in monitoring the effectiveness of the groundwater extraction system on plume containment. The groundwater contours are generated using the water levels from the shallow zone and Wilcox Formation wells. The water level data are presented in **Table 4-1**. No re-injection of treated groundwater occurred during the 2nd quarter of 2016. Treated water was returned to LHAAP-18/24 grounds via the existing irrigation system (sprinkler heads) during the current quarter, with no discharge to Harrison Bayou occurring during the quarter. Potentiometric surface maps are presented in **Appendix B** and groundwater elevations from the 2nd quarter of 2016 are discussed in **Section 2.2**.

The ICT sumps and vertical extraction wells were not sampled during this quarter. Monitoring wells were sampled during the current quarter at LHAAP-18/24 and analytical results are shown in **Table 4-2**.

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

PIEZOMETER LEVELS

Piezometers	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
BGPZ-1	04/08/2016	184.99	5.72	179.27
BGPZ-2	04/08/2016	184.39	12.44	171.95
BGPZ-3	04/08/2016	180.35	8.95	171.40
BGPZ-4	04/08/2016	177.77	5.38	172.39
BGPZ-5	04/08/2016	180.76	8.71	172.05
BGPZ-6	04/08/2016	197.82	26.82	171.00
BGPZ-7	04/08/2016	195.96	27.23	168.73
BGPZ-8	04/08/2016	197.08	30.17	166.91
BGPZ-9	04/08/2016	196.45	27.83	168.62
BGPZ-10	04/08/2016	197.00	27.24	169.76
BGPZ-11	04/08/2016	196.99	26.59	170.40
BGPZ-12	04/08/2016	188.17	NA	Plugged

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
AWD-1	04/08/2016	182.27	9.04	173.23
AWD-2	04/08/2016	186.78	14.00	172.78
AWD-3	04/08/2016	200.13	27.30	172.83
AWD-4	04/08/2016	193.89	22.53	171.36
MW-1	04/08/2016	199.22	26.50	172.72
MW-2	04/08/2016	196.73	26.81	169.92
MW-3	04/08/2016	196.54	26.05	170.49
MW-4	04/08/2016	197.27	25.79	171.48
MW-5	04/08/2016	194.97	24.41	170.56
MW-6	04/08/2016	192.18	21.71	170.47
MW-7	04/08/2016	188.47	18.81	169.66
MW-8	04/08/2016	187.13	15.69	171.44
MW-9	04/08/2016	184.73	13.13	171.60
MW-10	04/08/2016	178.12	7.46	170.66
MW-11	04/08/2016	184.65	13.02	171.63
MW-12	04/08/2016	178.33	8.23	170.10
MW-13	04/08/2016	176.72	6.02	170.70
MW-14	04/08/2016	186.19	12.58	173.61
MW-16	04/08/2016	178.59	7.55	171.04
MW-17	04/08/2016	179.03	8.26	170.77
MW-18	04/08/2016	178.58	7.90	170.68
MW-19	04/08/2016	178.60	8.05	170.55
MW-20	04/08/2016	186.64	9.91	176.73
MW-21	04/08/2016	198.70	32.15	166.55
MW-22	04/08/2016	197.51	27.57	169.94
MW-23	04/08/2016	198.79	27.31	171.48
101	04/08/2016	197.53	6.10	191.43
102	04/08/2016	193.94	21.30	172.64
109	04/08/2016	197.02	28.61	168.41
120	04/08/2016	184.19	11.60	172.59
123	04/08/2016	186.21	12.97	173.24
125	04/08/2016	196.28	24.54	171.74
126	04/08/2016	199.37	29.15	170.22
129	04/08/2016	197.24	25.78	171.46

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
130	04/08/2016	177.73	6.40	171.33
C-01	04/08/2016	193.89	23.62	170.27
C-02	04/08/2016	175.95	4.67	171.28
C-03	04/08/2016	196.34	26.15	170.19
C-04	04/08/2016	194.64	24.54	170.10
C-04A	04/08/2016	194.61	24.20	170.41
C-05	04/08/2016	180.74	10.82	169.92
C-06	04/08/2016	192.22	23.51	168.71
C-07	04/08/2016	196.80	27.21	169.59
C-08	04/08/2016	193.10	24.18	168.92
C-09	04/08/2016	202.35	32.73	169.62
C-10	04/08/2016	201.86	32.09	169.77
17WW08	04/08/2016	179.72	9.57	170.15
18WW01	04/08/2016	201.31	31.07	170.24
18WW02	04/08/2016	179.30	8.44	170.86
18WW03	04/08/2016	195.59	25.94	169.65
18WW04	04/08/2016	183.74	14.03	169.71
18WW05	04/08/2016	189.59	19.77	169.82
18WW06	04/08/2016	179.70	9.23	170.47
18WW07	04/08/2016	183.67	14.12	169.55
18WW08	04/08/2016	177.77	7.80	169.97
18WW09	04/08/2016	177.51	7.01	170.50
18WW10	04/08/2016	182.26	9.70	172.56
18WW11	04/08/2016	182.29	11.19	171.10
18WW14	04/08/2016	186.47	16.79	169.68
18WW15	04/08/2016	186.24	16.18	170.06
18WW16	04/08/2016	201.88	31.96	169.92
18WW18	04/08/2016	196.82	26.91	169.91
18WW19	04/08/2016	179.56	9.05	170.51
18WW20	04/08/2016	180.42	9.91	170.51
18WW21	04/08/2016	195.20	25.80	169.40
18WW22	04/08/2016	195.37	25.42	169.95
18WW24	04/08/2016	176.40	4.61	171.79
18CPTMW01SW	04/08/2016	198.20	27.03	171.17
18CPTMW01DW	04/08/2016	197.92	27.27	170.65
18CPTMW03SW	04/08/2016	198.53	28.35	170.18
18CPTMW04	04/08/2016	196.60	23.56	173.04
18CPTMW04SW	04/08/2016	196.42	26.16	170.26
18CPTMW06	04/08/2016	198.12	27.98	170.14
18CPTMW07	04/08/2016	197.32	27.27	170.05
18CPTMW08SW	04/08/2016	196.38	26.04	170.34
18CPTMW08DW	04/08/2016	196.59	26.20	170.39
18CPTMW10SW	04/08/2016	186.98	16.63	170.35
18CPTMW10DW	04/08/2016	187.38	17.08	170.30
18CPTMW12SW	04/08/2016	190.90	20.73	170.17
18CPTMW12DW	04/08/2016	190.25	20.03	170.22
18CPTMW14	04/08/2016	196.69	27.09	169.60

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
18CPTMW15	04/08/2016	179.79	8.35	171.44
18CPTMW16	04/08/2016	175.37	4.53	170.84
18CPTMW18	04/08/2016	194.53	27.26	167.27
18CPTMW19	04/08/2016	193.59	23.25	170.34
18CPTMW22SW	04/08/2016	187.79	18.00	169.79
18CPTMW23	04/08/2016	177.47	6.06	171.41
18CPTMW24	04/08/2016	194.89	26.67	168.22

HARRISON BAYOU SURFACE WATER ELEVATION

Harrison Bayou	Date	Reference Elevation (feet amsl)	Staff Reading (water depth) (feet)	Surface Water Elevation (feet amsl)
1824HBSW1	04/08/2016	167.92	1.83	169.75

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

PIEZOMETER LEVELS

Piezometers	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
BGPZ-1	05/13/2016	184.99	5.97	179.02
BGPZ-2	05/13/2016	184.39	12.12	172.27
BGPZ-3	05/13/2016	180.35	8.11	172.24
BGPZ-4	05/13/2016	177.77	4.95	172.82
BGPZ-5	05/13/2016	180.76	8.27	172.49
BGPZ-6	05/13/2016	197.82	25.12	172.70
BGPZ-7	05/13/2016	195.96	26.96	169.00
BGPZ-8	05/13/2016	197.08	30.27	166.81
BGPZ-9	05/13/2016	196.45	27.76	168.69
BGPZ-10	05/13/2016	197.00	27.11	169.89
BGPZ-11	05/13/2016	196.99	26.68	170.31
BGPZ-12	05/13/2016	188.17	NA	Plugged

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
AWD-1	05/13/2016	182.27	8.71	173.56
AWD-2	05/13/2016	186.78	12.69	174.09
AWD-3	05/13/2016	200.13	27.18	172.95
AWD-4	05/13/2016	193.89	22.19	171.70
MW-1	05/13/2016	199.22	26.33	172.89
MW-2	05/13/2016	196.73	26.84	169.89
MW-3	05/13/2016	196.54	25.55	170.99
MW-4	05/13/2016	197.27	25.23	172.04
MW-5	05/13/2016	194.97	23.67	171.30
MW-6	05/13/2016	192.18	21.02	171.16
MW-7	05/13/2016	188.47	18.08	170.39
MW-8	05/13/2016	187.13	15.39	171.74
MW-9	05/13/2016	184.73	12.94	171.79
MW-10	05/13/2016	178.12	7.27	170.85
MW-11	05/13/2016	184.65	12.75	171.90
MW-12	05/13/2016	178.33	7.66	170.67
MW-13	05/13/2016	176.72	5.87	170.85
MW-14	05/13/2016	186.19	11.94	174.25
MW-16	05/13/2016	178.59	6.92	171.67
MW-17	05/13/2016	179.03	7.95	171.08
MW-18	05/13/2016	178.58	7.61	170.97
MW-19	05/13/2016	178.60	7.75	170.85
MW-20	05/13/2016	186.64	9.47	177.17
MW-21	05/13/2016	198.70	32.28	166.42
MW-22	05/13/2016	197.51	27.59	169.92
MW-23	05/13/2016	198.79	27.26	171.53
101	05/13/2016	197.53	6.21	191.32
102	05/13/2016	193.94	19.58	174.36
109	05/13/2016	197.02	28.59	168.43
120	05/13/2016	184.19	11.19	173.00
123	05/13/2016	186.21	10.68	175.53
125	05/13/2016	196.28	23.66	172.62
126	05/13/2016	199.37	28.86	170.51
129	05/13/2016	197.24	25.87	171.37

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
130	05/13/2016	177.73	6.05	171.68
C-01	05/13/2016	193.89	23.10	170.79
C-02	05/13/2016	175.95	4.55	171.40
C-03	05/13/2016	196.34	25.59	170.75
C-04	05/13/2016	194.64	23.69	170.95
C-04A	05/13/2016	194.61	23.55	171.06
C-05	05/13/2016	180.74	10.02	170.72
C-06	05/13/2016	192.22	22.58	169.64
C-07	05/13/2016	196.80	26.68	170.12
C-08	05/13/2016	193.10	24.01	169.09
C-09	05/13/2016	202.35	32.56	169.79
C-10	05/13/2016	201.86	31.90	169.96
17WW08	05/13/2016	179.72	9.19	170.53
18WW01	05/13/2016	201.31	30.91	170.40
18WW02	05/13/2016	179.30	8.15	171.15
18WW03	05/13/2016	195.59	25.48	170.11
18WW04	05/13/2016	183.74	13.23	170.51
18WW05	05/13/2016	189.59	18.52	171.07
18WW06	05/13/2016	179.70	8.91	170.79
18WW07	05/13/2016	183.67	13.85	169.82
18WW08	05/13/2016	177.77	7.51	170.26
18WW09	05/13/2016	177.51	6.73	170.78
18WW10	05/13/2016	182.26	9.42	172.84
18WW11	05/13/2016	182.29	10.89	171.40
18WW14	05/13/2016	186.47	16.13	170.34
18WW15	05/13/2016	186.24	15.56	170.68
18WW16	05/13/2016	201.88	31.85	170.03
18WW18	05/13/2016	196.82	26.36	170.46
18WW19	05/13/2016	179.56	8.86	170.70
18WW20	05/13/2016	180.42	9.70	170.72
18WW21	05/13/2016	195.20	25.23	169.97
18WW22	05/13/2016	195.37	24.70	170.67
18WW24	05/13/2016	176.40	4.52	171.88
18CPTMW01SW	05/13/2016	198.20	26.41	171.79
18CPTMW01DW	05/13/2016	197.92	27.02	170.90
18CPTMW03SW	05/13/2016	198.53	27.74	170.79
18CPTMW04	05/13/2016	196.60	23.02	173.58
18CPTMW04SW	05/13/2016	196.42	25.49	170.93
18CPTMW06	05/13/2016	198.12	27.40	170.72
18CPTMW07	05/13/2016	197.32	27.00	170.32
18CPTMW08SW	05/13/2016	196.38	25.32	171.06
18CPTMW08DW	05/13/2016	196.59	25.47	171.12
18CPTMW10SW	05/13/2016	186.98	16.03	170.95
18CPTMW10DW	05/13/2016	187.38	16.47	170.91
18CPTMW12SW	05/13/2016	190.90	20.15	170.75
18CPTMW12DW	05/13/2016	190.25	19.47	170.78
18CPTMW14	05/13/2016	196.69	26.85	169.84

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
18CPTMW15	05/13/2016	179.79	7.98	171.81
18CPTMW16	05/13/2016	175.37	4.45	170.92
18CPTMW18	05/13/2016	194.53	26.91	167.62
18CPTMW19	05/13/2016	193.59	21.57	172.02
18CPTMW22SW	05/13/2016	187.79	17.48	170.31
18CPTMW23	05/13/2016	177.47	5.39	172.08
18CPTMW24	05/13/2016	194.89	26.57	168.32

HARRISON BAYOU SURFACE WATER ELEVATION

Harrison Bayou	Date	Reference Elevation (feet amsl)	Staff Reading (water depth) (feet)	Surface Water Elevation (feet amsl)
1824HBSW7	05/13/2016	167.92	2.10	170.02

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

PIEZOMETER LEVELS

Piezometers	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
BGPZ-1	06/09/2016	184.99	7.09	177.90
BGPZ-2	06/09/2016	184.39	12.61	171.78
BGPZ-3	06/09/2016	180.35	9.05	171.30
BGPZ-4	06/09/2016	177.77	6.63	171.14
BGPZ-5	06/09/2016	180.76	9.11	171.65
BGPZ-6	06/09/2016	197.82	25.71	172.11
BGPZ-7	06/09/2016	195.96	27.49	168.47
BGPZ-8	06/09/2016	197.08	30.80	166.28
BGPZ-9	06/09/2016	196.45	28.20	168.25
BGPZ-10	06/09/2016	197.00	27.59	169.41
BGPZ-11	06/09/2016	196.99	27.17	169.82
BGPZ-12	06/09/2016	188.17	NA	Plugged

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
AWD-1	06/09/2016	182.27	9.64	172.63
AWD-2	06/09/2016	186.78	13.05	173.73
AWD-3	06/09/2016	200.13	27.71	172.42
AWD-4	06/09/2016	193.89	21.55	172.34
MW-1	06/09/2016	199.22	27.15	172.07
MW-2	06/09/2016	196.73	27.44	169.29
MW-3	06/09/2016	196.54	26.15	170.39
MW-4	06/09/2016	197.27	25.55	171.72
MW-5	06/09/2016	194.97	24.25	170.72
MW-6	06/09/2016	192.18	21.61	170.57
MW-7	06/09/2016	188.47	18.63	169.84
MW-8	06/09/2016	187.13	15.56	171.57
MW-9	06/09/2016	184.73	13.57	171.16
MW-10	06/09/2016	178.12	7.77	170.35
MW-11	06/09/2016	184.65	13.19	171.46
MW-12	06/09/2016	178.33	8.58	169.75
MW-13	06/09/2016	176.72	6.77	169.95
MW-14	06/09/2016	186.19	12.53	173.66
MW-16	06/09/2016	178.59	7.91	170.68
MW-17	06/09/2016	179.03	8.81	170.22
MW-18	06/09/2016	178.58	8.59	169.99
MW-19	06/09/2016	178.60	8.45	170.15
MW-20	06/09/2016	186.64	10.59	176.05
MW-21	06/09/2016	198.70	32.53	166.17
MW-22	06/09/2016	197.51	27.69	169.82
MW-23	06/09/2016	198.79	27.44	171.35
101	06/09/2016	197.53	7.09	190.44
102	06/09/2016	193.94	21.13	172.81
109	06/09/2016	197.02	28.50	168.52
120	06/09/2016	184.19	12.31	171.88
123	06/09/2016	186.21	12.60	173.61
125	06/09/2016	196.28	24.08	172.20
126	06/09/2016	199.37	28.85	170.52
129	06/09/2016	197.24	25.95	171.29

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
130	06/09/2016	177.73	6.30	171.43
C-01	06/09/2016	193.89	23.68	170.21
C-02	06/09/2016	175.95	5.89	170.06
C-03	06/09/2016	196.34	26.22	170.12
C-04	06/09/2016	194.64	24.12	170.52
C-04A	06/09/2016	194.61	23.97	170.64
C-05	06/09/2016	180.74	10.65	170.09
C-06	06/09/2016	192.22	23.06	169.16
C-07	06/09/2016	196.80	27.18	169.62
C-08	06/09/2016	193.10	23.95	169.15
C-09	06/09/2016	202.35	33.05	169.30
C-10	06/09/2016	201.86	32.49	169.37
17WW08	06/09/2016	179.72	9.31	170.41
18WW01	06/09/2016	201.31	31.14	170.17
18WW02	06/09/2016	179.30	8.76	170.54
18WW03	06/09/2016	195.59	25.90	169.69
18WW04	06/09/2016	183.74	13.70	170.04
18WW05	06/09/2016	189.59	19.10	170.49
18WW06	06/09/2016	179.70	9.52	170.18
18WW07	06/09/2016	183.67	14.67	169.00
18WW08	06/09/2016	177.77	8.21	169.56
18WW09	06/09/2016	177.51	7.39	170.12
18WW10	06/09/2016	182.26	10.08	172.18
18WW11	06/09/2016	182.29	11.44	170.85
18WW14	06/09/2016	186.47	16.67	169.80
18WW15	06/09/2016	186.24	15.98	170.26
18WW16	06/09/2016	201.88	31.63	170.25
18WW18	06/09/2016	196.82	26.86	169.96
18WW19	06/09/2016	179.56	9.91	169.65
18WW20	06/09/2016	180.42	10.79	169.63
18WW21	06/09/2016	195.20	25.78	169.42
18WW22	06/09/2016	195.37	25.29	170.08
18WW24	06/09/2016	176.40	5.32	171.08
18CPTMW01SW	06/09/2016	198.20	27.03	171.17
18CPTMW01DW	06/09/2016	197.92	27.70	170.22
18CPTMW03SW	06/09/2016	198.53	28.55	169.98
18CPTMW04	06/09/2016	196.60	24.12	172.48
18CPTMW04SW	06/09/2016	196.42	26.33	170.09
18CPTMW06	06/09/2016	198.12	27.95	170.17
18CPTMW07	06/09/2016	197.32	27.48	169.84
18CPTMW08SW	06/09/2016	196.38	25.98	170.40
18CPTMW08DW	06/09/2016	196.59	26.40	170.19
18CPTMW10SW	06/09/2016	186.98	16.57	170.41
18CPTMW10DW	06/09/2016	187.38	16.95	170.43
18CPTMW12SW	06/09/2016	190.90	20.60	170.30
18CPTMW12DW	06/09/2016	190.25	19.98	170.27
18CPTMW14	06/09/2016	196.69	27.05	169.64

Table 4-1: Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells and Surface Water

MONITORING WELL LEVELS

Monitoring Wells	Date	Reference Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
18CPTMW15	06/09/2016	179.79	9.78	170.01
18CPTMW16	06/09/2016	175.37	5.41	169.96
18CPTMW18	06/09/2016	194.53	27.43	167.10
18CPTMW19	06/09/2016	193.59	21.89	171.70
18CPTMW19SW	06/09/2016	NS	22.96	NS
18CPTMW22SW	06/09/2016	187.79	17.92	169.87
18CPTMW22R	06/09/2016	NS	9.14	NS
18CPTMW22DW	06/09/2016	NS	17.72	NS
18CPTMW23	06/09/2016	177.47	7.39	170.08
18CPTMW23SW	06/09/2016	NS	7.07	NS
18CPTMW24	06/09/2016	194.89	26.58	168.31
18CPTMW26	06/09/2016	NS	15.72	NS
18CPTMW26SW	06/09/2016	NS	11.71	NS

HARRISON BAYOU SURFACE WATER ELEVATION

Harrison Bayou	Date	Reference Elevation (feet amsl)	Staff Reading (water depth) (feet)	Surface Water Elevation (feet amsl)
1824HBSW7	06/10/2016	167.92	0.67	168.59

amsl - above mean sea level

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	102-061616 6/16/2016	109-062216 6/22/2016	120-061616 6/16/2016	120F-061616 6/16/2016	123-061616 6/16/2016	125-062216 6/22/2016	126-061416 6/14/2016	126F-061416 6/14/2016	129-061616 6/16/2016	130-061016 6/10/2016	130FD-061016 6/10/2016	18CPTMW01DW-062416 6/24/2016	18CPTMW01SW-062416 6/24/2016	18CPTMW03SW-060816 6/8/2016
Metals (6010C)																
ALUMINUM	mg/L	100	NA	3.62	NA	1.53	1.42	NA	NA	<0.1 U	0.644	NA	NA	NA	<0.1 U	NA
BERYLLIUM	mg/L	0.004	NA	<0.01 U	NA	<0.01 U	<0.01 U	NA	NA	<0.01 U	<0.01 U	NA	NA	NA	<0.01 U	NA
CALCIUM	mg/L		NA	2.3	NA	6.89	8.16	NA	NA	296	13.2	NA	NA	NA	29.4	NA
IRON	mg/L		NA	3.98	NA	2.04	1.66	NA	NA	5.93	1.18	NA	NA	NA	54	NA
MAGNESIUM	mg/L		NA	1.9	NA	7.27	4.83	NA	NA	235	10.4	NA	NA	NA	20.1	NA
POTASSIUM	mg/L		NA	0.692 J	NA	1.55 J	0.713 J	NA	NA	4.36	0.716 J	NA	NA	NA	4.98	NA
SELENIUM	mg/L	0.05	NA	0.00538 J	NA	<0.01 U	<0.01 U	NA	NA	<0.01 U	<0.01 U	NA	NA	NA	<0.01 U	NA
SODIUM	mg/L		NA	33.8	NA	303	26	NA	NA	829	146	NA	NA	NA	102	NA
Metals (6020A)																
ANTIMONY	mg/L	0.006	NA	<0.001 U	NA	<0.001 U	<0.001 U	NA	NA	<0.001 U	<0.001 U	NA	NA	NA	<0.001 U	NA
ARSENIC	mg/L	0.01	NA	0.00137 J	NA	0.00356	0.000767 J	NA	NA	0.0147	0.0011 J	NA	NA	NA	0.0173	NA
BARIUM	mg/L	2	NA	0.0812	NA	0.0452	0.136	NA	NA	9.33	0.293	NA	NA	NA	0.894	NA
CADMIUM	mg/L	0.005	NA	<0.0006 U	NA	<0.0006 U	<0.0006 U	NA	NA	<0.0006 U	0.000383 J	NA	NA	NA	<0.0006 U	NA
CHROMIUM	mg/L	0.1	NA	0.00387 J	NA	0.012	0.00177 J	NA	NA	0.00231 J	0.00415	NA	NA	NA	0.00204 J	NA
COBALT	mg/L	6.1	NA	0.00149 J	NA	0.0151	0.0025	NA	NA	0.0656	0.00182 J	NA	NA	NA	0.00176 J	NA
COPPER	mg/L	1.3	NA	0.00212 J	NA	0.00476	0.00142 J	NA	NA	0.00314 J	0.00173 J	NA	NA	NA	<0.002 U	NA
LEAD	mg/L	0.015	NA	0.00176 J	NA	0.00162 J	0.00104 J	NA	NA	<0.001 U	0.000875 J	NA	NA	NA	<0.001 U	NA
MANGANESE	mg/L	1.1	NA	0.028	NA	0.186	0.0161	NA	NA	1.07	0.0478	NA	NA	NA	0.589	NA
NICKEL	mg/L	0.49	NA	0.00389 J	NA	0.0755	0.00319 J	NA	NA	0.0313	0.00956	NA	NA	NA	0.00341 J	NA
SILVER	mg/L	0.51	NA	<0.001 U	NA	<0.001 U	<0.001 U	NA	NA	<0.001 U	<0.001 U	NA	NA	NA	<0.001 U	NA
THALLIUM	mg/L	0.002	NA	<0.0002 U	NA	<0.0002 U	<0.0002 U	NA	NA	<0.0002 U	<0.0002 U	NA	NA	NA	<0.0002 U	NA
VANADIUM	mg/L	0.72	NA	0.00678	NA	0.0105	0.00241	NA	NA	0.000584 J	0.00246	NA	NA	NA	0.00094 J	NA
ZINC	mg/L	31	NA	0.0126 J	NA	0.0659	<0.025 U	NA	NA	0.0168 J	<0.025 U	NA	NA	NA	<0.025 U	NA
Perchlorate (6850)																
PERCHLORATE	ug/L	17	107	1810	32700	NA	105	935	0.14 J	NA	8950	64.5	62.5	<0.2 U	<0.2 U	260
Mercury (7470A)																
MERCURY	mg/L	0.002	NA	<0.0002 U	NA	<0.0002 U	<0.0002 U	NA	NA	<0.0002 U	<0.0002 U	NA	NA	NA	<0.0002 U	NA
Volatile Organic Compounds (8260B)																
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<2 U	<40 U	NA	<0.4 U	<0.4 U	<0.4 UJ	NA	<2 U	<0.4 U	<0.4 U	<0.4 U	<4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	0.884 J	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	0.304 J
1,1-DICHLOROETHENE	ug/L	7	<1 U	<5 U	134 J	NA	<1 U	<1 UJ	<1 UJ	NA	<5 U	<1 U	<1 U	<1 UJ	<10 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<1.5 U	<30 U	NA	<0.3 U	<0.3 U	<0.3 UJ	NA	<1.5 U	<0.3 U	<0.3 U	<0.3 U	<3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	<1 U	<10 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<2 U	<40 U	NA	<0.4 U	<0.4 U	<0.4 UJ	NA	<2 U	<0.4 U	<0.4 U	<0.4 U	<4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<10 UJ	<200 U	NA	<2 U	<2 U	<2 UJ	NA	<10 U	<2 U	<2 U	<2 U	<20 U	<2 UJ
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<2.5 U	32.1 J	NA	1.2	<0.5 U	<0.5 UJ	NA	25.4	<0.5 U	<0.5 U	<0.5 U	<5 U	13
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<2 U	<40 U	NA	<0.4 U	<0.4 U	<0.4 UJ	NA	<2 U	<0.4 U	<0.4 U	<0.4 U	<4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<2 U	<40 U	NA	<0.4 U	<0.4 U	<0.4 UJ	NA	<2 U	<0.4 U	<0.4 U	<0.4 U	<4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<2.5 UJ	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<25 U	<500 U	NA	<5 U	<5 UJ	<5 UJ	NA	<25 U	<5 U	<5 U	<5 UJ	<50 U	<5 UJ
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
2-HEXANONE	ug/L	120	<5 UJ	<25 UJ	<500 UJ	NA	<5 UJ	<5 U	<5 UJ	NA	<25 UJ	<5 U	<5 U	<5 U	<50 UJ	<5 UJ
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<25 U	<500 U	NA	<5 U	<5 U	<5 UJ	NA	<25 U	<5 U	<5 U	<5 U	<50 U	<5 U
ACETONE	ug/L	22000	<5 U	<25 UJ	<500 U	NA	<5 U	<5 UJ	<5 UJ	NA	<25 U	<5 U	<5 U	<5 UJ	<50 U	7.3 J
BENZENE	ug/L	5	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	5.49 J	6.13
BROMOBENZENE	ug/L	200	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<2 U	<40 U	NA	<0.4 U	<0.4 U	<0.4 UJ	NA	<2 U	<0.4 U	<0.4 U	<0.4 U	<4 U	<0.4 U

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	102-061616 6/16/2016	109-062216 6/22/2016	120-061616 6/16/2016	120F-061616 6/16/2016	123-061616 6/16/2016	125-062216 6/22/2016	126-061416 6/14/2016	126F-061416 6/14/2016	129-061616 6/16/2016	130-061016 6/10/2016	130FD-061016 6/10/2016	18CPTMW01DW-062416 6/24/2016	18CPTMW01SW-062416 6/24/2016	18CPTMW03SW-060816 6/8/2016
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	<1 U	<10 U	<1 U
BROMOMETHANE	ug/L	34	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	<1 U	<10 U	<1 U
CARBON DISULFIDE	ug/L	2400	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	1.27 J	<10 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	<1 U	<10 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	1.61 J	38 J	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	3.28 J	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<5 U	<100 U	NA	<1 U	<1 UJ	<1 UJ	NA	<5 U	<1 U	<1 U	<1 UJ	<10 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	149	1510	NA	14.4	<0.5 U	<0.5 UJ	NA	5.02	<0.5 U	<0.5 U	0.331 J	2.99 J	19.4
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 UJ	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 UJ	<5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	<1 U	<10 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	1.14	746	1.83
NAPHTHALENE	ug/L	490	<0.4 U	<2 U	<40 U	NA	<0.4 U	<0.4 U	<0.4 UJ	NA	<2 U	<0.4 U	<0.4 U	<0.4 U	<4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<1.25 U	<25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	NA	<1.25 U	<0.25 U	<0.25 U	<0.25 U	<2.5 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	4.07 J	0.457 J
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	1.69 J	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	4.5
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<5 U	<100 U	NA	<1 U	<1 U	<1 UJ	NA	<5 U	<1 U	<1 U	<1 U	<10 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	670	17100	NA	80.1	0.844 J	<0.5 UJ	NA	1630	1.17	1.19	0.63 J	46.5	153
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<2.5 U	<50 U	NA	<0.5 U	<0.5 U	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 U	22.5	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<2.5 U	88.7 J	NA	<0.5 U	<0.5 UJ	<0.5 UJ	NA	<2.5 U	<0.5 U	<0.5 U	<0.5 UJ	<5 U	1.12
1,4-Dioxane (8270D-SIM)																
1,4-DIOXANE	ug/L	9.1	NA	<1 U	220	NA	0.587 J	NA	<1 U	NA	6.52	NA	NA	<1 U	<1 U	1.15 J

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	18CPTMW04-061416 6/14/2016	18CPTMW04FD-061416 6/14/2016	18CPTMW04SW-061416 6/14/2016	18CPTMW06-060816 6/8/2016	18CPTMW07-062216 6/22/2016	18CPTMW08DW-060816 6/8/2016	18CPTMW08SW-060816 6/8/2016	18CPTMW10SW-062216 6/22/2016	18CPTMW12DW-062416 6/24/2016	18CPTMW12SW-062416 6/24/2016	18CPTMW14-061316 6/13/2016	18CPTMW14FD-061316 6/13/2016	18CPTMW15B-060716 6/7/2016
Metals (6010C)															
ALUMINUM	mg/L	100	NA	NA	0.0639 J	NA	NA	NA	NA	NA	NA	0.0712 J	0.4	0.377	NA
BERYLLIUM	mg/L	0.004	NA	NA	<0.01 U	NA	NA	NA	NA	NA	NA	<0.01 U	<0.01 U	<0.01 U	NA
CALCIUM	mg/L		NA	NA	38.2	NA	NA	NA	NA	NA	NA	45.3	490	477	NA
IRON	mg/L		NA	NA	6.72	NA	NA	NA	NA	NA	NA	3.46	0.0599 J	0.0756 J	NA
MAGNESIUM	mg/L		NA	NA	19.1	NA	NA	NA	NA	NA	NA	32.8	12.5	13.5	NA
POTASSIUM	mg/L		NA	NA	64.8	NA	NA	NA	NA	NA	NA	82	33.5	33.6	NA
SELENIUM	mg/L	0.05	NA	NA	<0.01 U	NA	NA	NA	NA	NA	NA	<0.01 U	<0.01 U	<0.01 U	NA
SODIUM	mg/L		NA	NA	117	NA	NA	NA	NA	NA	NA	235	378	373	NA
Metals (6020A)															
ANTIMONY	mg/L	0.006	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U	<0.001 U	NA
ARSENIC	mg/L	0.01	NA	NA	0.00407	NA	NA	NA	NA	NA	NA	0.00647	0.00659	0.00731	NA
BARIUM	mg/L	2	NA	NA	0.936	NA	NA	NA	NA	NA	NA	0.667	2.42	2.47	NA
CADMIUM	mg/L	0.005	NA	NA	<0.0006 U	NA	NA	NA	NA	NA	NA	<0.0006 U	<0.0006 U	<0.0006 U	NA
CHROMIUM	mg/L	0.1	NA	NA	0.0095	NA	NA	NA	NA	NA	NA	0.00727	0.0803	0.0794	NA
COBALT	mg/L	6.1	NA	NA	0.00368	NA	NA	NA	NA	NA	NA	0.00964	0.00346	0.00333	NA
COPPER	mg/L	1.3	NA	NA	<0.002 U	NA	NA	NA	NA	NA	NA	<0.002 U	0.00404	0.0042	NA
LEAD	mg/L	0.015	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U	<0.001 U	NA
MANGANESE	mg/L	1.1	NA	NA	0.213	NA	NA	NA	NA	NA	NA	0.893	0.00644	0.00655	NA
NICKEL	mg/L	0.49	NA	NA	0.00574 J	NA	NA	NA	NA	NA	NA	0.00744 J	0.0116	0.0113	NA
SILVER	mg/L	0.51	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U	<0.001 U	NA
THALLIUM	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	NA	<0.0002 U	<0.0002 U	<0.0002 U	NA
VANADIUM	mg/L	0.72	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	0.000779 J	0.00697	0.00668	NA
ZINC	mg/L	31	NA	NA	<0.025 U	NA	NA	NA	NA	NA	NA	0.0132 J	<0.025 U	<0.025 U	NA
Perchlorate (6850)															
PERCHLORATE	ug/L	17	1360	1380	0.186 J	30.3	0.634	672	35000	<0.2 U	NA	3.92	505	520	555
Mercury (7470A)															
MERCURY	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	NA	<0.0002 U	<0.0002 U	<0.0002 U	NA
Mercury (7470A)															
MERCURY	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	NA	<0.0002 U	<0.0002 U	<0.0002 U	NA
Volatile Organic Compounds (8260B)															
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	0.314 J	0.311 J	<0.25 U	<0.25 U	<0.25 U	NA	4.43	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	5.87	5.76	<1 U	<1 U	<1 U	NA	0.989 J	<1 UJ	NA	<1 UJ	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	NA	<0.3 U	<0.3 U	NA	<0.3 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 U	<2 U	<2 UJ	NA	<2 UJ	<2 U	NA	<2 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	4.87	4.84	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	1.66	1.52	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	0.491 J	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 U	<5 U	<5 U	NA	<5 UJ	<5 U	NA	<5 UJ	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 U	<5 U	<5 UJ	NA	<5 UJ	<5 U	NA	<5 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 U	<5 U	<5 U	NA	<5 U	<5 U	NA	<5 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 U	<5 U	<5 UJ	NA	<5 UJ	<5 U	NA	<5 UJ	<5 U	<5 U	<5 U
BENZENE	ug/L	5	0.618 J	0.612 J	<0.25 U	<0.25 U	<0.25 U	NA	0.173 J	<0.25 U	NA	<0.25 U	0.524 J	0.509 J	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	18CPTMW04-061416 6/14/2016	18CPTMW04FD-061416 6/14/2016	18CPTMW04SW-061416 6/14/2016	18CPTMW06-060816 6/8/2016	18CPTMW07-062216 6/22/2016	18CPTMW08DW-060816 6/8/2016	18CPTMW08SW-060816 6/8/2016	18CPTMW10SW-062216 6/22/2016	18CPTMW12DW-062416 6/24/2016	18CPTMW12SW-062416 6/24/2016	18CPTMW14-061316 6/13/2016	18CPTMW14FD-061316 6/13/2016	18CPTMW15B-060716 6/7/2016
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 U	<1 U	<1 U
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 UJ	<1 UJ	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	3.39	3.33	<0.25 U	<0.25 U	<0.25 U	NA	0.508 J	<0.25 U	NA	<0.25 U	2.2	2.13	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 UJ	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	76.9	76.2	<0.5 U	<0.5 U	<0.5 U	NA	17.4	<0.5 U	NA	<0.5 U	25.7	25.1	0.532 J
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 U	2.04	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	0.494 J	0.528 J	<0.5 U	<0.5 U	<0.5 U	NA	0.29 J	<0.5 U	NA	<0.5 U	0.422 J	0.464 J	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	0.593 J	0.671 J	<0.5 U	<0.5 U	<0.5 U	NA	0.347 J	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	NA	<1 U	<1 U	NA	<1 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	2030	1960	<0.5 U	1.02	0.34 J	NA	74.2	<0.5 U	NA	1.7	212	208	3.22
TRICHLOROFLUOROMETHANE	ug/L	7300	1.09	1.1	<0.5 U	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	0.617 J	0.631 J	<0.5 U	<0.5 U	<0.5 U	NA	8.97	<0.5 U	NA	<0.5 UJ	<0.5 U	<0.5 U	0.319 J
1,4-Dioxane (8270D-SIM)															
1,4-DIOXANE	ug/L	9.1	1.67 J	2.01	<1 U	<1 U	<1 U	<1 U	1.39 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	18CPTMW15T-060716 6/7/2016	18CPTMW16-062116 6/21/2016	18CPTMW18-062116 6/21/2016	18CPTMW19-061516 6/15/2016	18CPTMW19SW-061516 6/15/2016	18CPTMW22DW-060916 6/9/2016	18CPTMW22DW FD-060916 6/9/2016	18CPTMW22R-060916 6/9/2016	18CPTMW22SW-060916 6/9/2016	18CPTMW23-061516 6/15/2016	18CPTMW23SW-061516 6/15/2016	18CPTMW24-061316 6/13/2016	18CPTMW26SW-060916 6/9/2016
Metals (6010C)															
ALUMINUM	mg/L	100	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA	NA	NA	0.109 J	0.158 J
BERYLLIUM	mg/L	0.004	NA	NA	<0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	<0.01 U
CALCIUM	mg/L		NA	NA	337	NA	NA	NA	NA	NA	NA	NA	NA	431	61.4
IRON	mg/L		NA	NA	2.44	NA	NA	NA	NA	NA	NA	NA	NA	9.62	72.2
MAGNESIUM	mg/L		NA	NA	203	NA	NA	NA	NA	NA	NA	NA	NA	265	34.1
POTASSIUM	mg/L		NA	NA	7.88	NA	NA	NA	NA	NA	NA	NA	NA	5.86	3.46
SELENIUM	mg/L	0.05	NA	NA	0.0077 J	NA	NA	NA	NA	NA	NA	NA	NA	<0.01 U	0.00586 J
SODIUM	mg/L		NA	NA	849	NA	NA	NA	NA	NA	NA	NA	NA	1090	320
Metals (6020A)															
ANTIMONY	mg/L	0.006	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U
ARSENIC	mg/L	0.01	NA	NA	0.0161	NA	NA	NA	NA	NA	NA	NA	NA	0.0161	0.0064
BARIUM	mg/L	2	NA	NA	0.713	NA	NA	NA	NA	NA	NA	NA	NA	10.3	0.635
CADMIUM	mg/L	0.005	NA	NA	<0.0006 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.0006 U	<0.0006 U
CHROMIUM	mg/L	0.1	NA	NA	0.013	NA	NA	NA	NA	NA	NA	NA	NA	0.00409	0.00237 J
COBALT	mg/L	6.1	NA	NA	0.0229	NA	NA	NA	NA	NA	NA	NA	NA	0.00662	0.000803 J
COPPER	mg/L	1.3	NA	NA	0.00266 J	NA	NA	NA	NA	NA	NA	NA	NA	0.00296 J	0.00116 J
LEAD	mg/L	0.015	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U
MANGANESE	mg/L	1.1	NA	NA	2.81	NA	NA	NA	NA	NA	NA	NA	NA	0.563	1.7
NICKEL	mg/L	0.49	NA	NA	0.027	NA	NA	NA	NA	NA	NA	NA	NA	0.0163	0.00238 J
SILVER	mg/L	0.51	NA	NA	<0.001 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.001 U	<0.001 U
THALLIUM	mg/L	0.002	NA	NA	0.000115 J	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002 U	<0.0002 U
VANADIUM	mg/L	0.72	NA	NA	0.00313	NA	NA	NA	NA	NA	NA	NA	NA	0.00192 J	0.00101 J
ZINC	mg/L	31	NA	NA	0.0175 J	NA	NA	NA	NA	NA	NA	NA	NA	<0.025 U	<0.025 U
Perchlorate (6850)															
PERCHLORATE	ug/L	17	1630	<0.2 U	<0.2 U	5.31	1.25	1.21 J	0.473 J	0.917	10200	2310	0.407	99	6.42
Mercury (7470A)															
MERCURY	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002 U	<0.0002 U
Mercury (7470A)															
MERCURY	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002 U	<0.0002 U
Volatile Organic Compounds (8260B)															
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.858 J	<0.5 U	<0.5 UJ	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	1.06	<0.25 U	<0.25 UJ	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	10.1	<1 U	<1 UJ	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	NA	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 UJ	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 UJ	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	214	<0.5 U	<0.5 UJ	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
2-HEXANONE	ug/L	120	<5 U	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U
ACETONE	ug/L	22000	<5 U	NA	3.39 J	<5 U	<5 U	<5 U	<5 U	<5 U	15.4	<5 U	9.67 J	<5 UJ	7.39 J
BENZENE	ug/L	5	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	1.59	<0.25 U	<0.25 UJ	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	NA	<0.4 U	<0.4 U	0.388 J	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	18CPTMW15T-060716 6/7/2016	18CPTMW16-062116 6/21/2016	18CPTMW18-062116 6/21/2016	18CPTMW19-061516 6/15/2016	18CPTMW19SW-061516 6/15/2016	18CPTMW22DW-060916 6/9/2016	18CPTMW22DW FD-060916 6/9/2016	18CPTMW22R-060916 6/9/2016	18CPTMW22SW-060916 6/9/2016	18CPTMW23-061516 6/15/2016	18CPTMW23SW-061516 6/15/2016	18CPTMW24-061316 6/13/2016	18CPTMW26SW-060916 6/9/2016
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
BROMOFORM	ug/L	120	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
BROMOMETHANE	ug/L	34	<1 UJ	NA	<1 U	<1 UJ	<1 U	<1 UJ	<1 UJ	<1 UJ	<1 UJ	<1 U	<1 U	<1 UJ	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	NA	<1 U	<1 U	0.599 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
CHLOROFORM	ug/L	240	<0.25 U	NA	<0.25 U	<0.25 U	0.25 J	<0.25 U	<0.25 U	<0.25 U	<0.25 U	5.45	<0.25 U	<0.25 UJ	<0.25 U
CHLOROMETHANE	ug/L	70	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	0.566 J	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	232	<0.5 U	<0.5 UJ	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	NA	<0.5 U	<0.5 U	0.506 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.534 J	0.256 J	<0.5 UJ	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 UJ	NA	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
STYRENE	ug/L	100	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	1.22	<0.5 U	<0.5 UJ	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	4.09	<0.5 U	<0.5 UJ	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 UJ	<1 U
TRICHLOROETHENE	ug/L	5	3.23	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.633 J	3820	<0.5 U	<0.5 UJ	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	NA	<0.5 U	<0.5 U	0.484 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U
VINYL CHLORIDE	ug/L	2	0.311 J	NA	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	5.89	<0.5 U	<0.5 UJ	<0.5 U
1,4-Dioxane (8270D-SIM)															
1,4-DIOXANE	ug/L	9.1	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	8.02 J	<1 U	<1 U	<1 U

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	17WW08-061016 6/10/2016	18WW02-062216 6/22/2016	18WW02F-062216 6/22/2016	18WW03-061416 6/14/2016	18WW03F-061416 6/14/2016	18WW06-062016 6/20/2016	18WW06FD-062016 6/20/2016	18WW08-062016 6/20/2016	18WW09-062016 6/20/2016	18WW16-061616 6/16/2016	18WW16F-061616 6/16/2016	18WW17-062116 6/21/2016	18WW18-062116 6/21/2016	18WW19-062016 6/20/2016
Metals (6010C)																
ALUMINUM	mg/L	100	1.01	NA	1.12	NA	<0.1 U	NA	NA	NA	NA	NA	0.331	NA	<0.1 U	NA
BERYLLIUM	mg/L	0.004	<0.01 U	NA	<0.01 U	NA	<0.01 U	NA	NA	NA	NA	NA	<0.01 U	NA	<0.01 U	NA
CALCIUM	mg/L		20.5	NA	7.09	NA	8.25	NA	NA	NA	NA	NA	195	NA	49.5	NA
IRON	mg/L		12.8	NA	1.61	NA	2.77	NA	NA	NA	NA	NA	21.5	NA	78	NA
MAGNESIUM	mg/L		12.3	NA	1.34	NA	5.84	NA	NA	NA	NA	NA	146	NA	34	NA
POTASSIUM	mg/L		1.94 J	NA	2.24	NA	2.16	NA	NA	NA	NA	NA	13	NA	3.75	NA
SELENIUM	mg/L	0.05	<0.01 U	NA	<0.01 U	NA	<0.01 U	NA	NA	NA	NA	NA	<0.01 U	NA	<0.01 U	NA
SODIUM	mg/L		136	NA	14.1	NA	109	NA	NA	NA	NA	NA	587	NA	146	NA
Metals (6020A)																
ANTIMONY	mg/L	0.006	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	NA	NA	NA	NA	0.00134 J	NA	<0.001 U	NA
ARSENIC	mg/L	0.01	0.00435	NA	0.000926 J	NA	0.000919 J	NA	NA	NA	NA	NA	0.00894	NA	0.00541	NA
BARIUM	mg/L	2	0.148	NA	0.0479	NA	0.173	NA	NA	NA	NA	NA	0.186	NA	1.01	NA
CADMIUM	mg/L	0.005	0.00131	NA	<0.0006 U	NA	<0.0006 U	NA	NA	NA	NA	NA	0.00645	NA	<0.0006 U	NA
CHROMIUM	mg/L	0.1	0.507	NA	0.00315 J	NA	<0.002 U	NA	NA	NA	NA	NA	4.62	NA	0.00126 J	NA
COBALT	mg/L	6.1	0.00709	NA	<0.001 U	NA	<0.001 U	NA	NA	NA	NA	NA	0.355	NA	<0.001 U	NA
COPPER	mg/L	1.3	0.017	NA	0.00608	NA	<0.002 U	NA	NA	NA	NA	NA	0.828	NA	0.00107 J	NA
LEAD	mg/L	0.015	0.00133 J	NA	0.00127 J	NA	<0.001 U	NA	NA	NA	NA	NA	<0.001 U	NA	<0.001 U	NA
MANGANESE	mg/L	1.1	0.422	NA	0.0851	NA	0.096	NA	NA	NA	NA	NA	3.12	NA	1.55	NA
NICKEL	mg/L	0.49	0.111	NA	0.00419 J	NA	<0.004 U	NA	NA	NA	NA	NA	14.3	NA	0.0497	NA
SILVER	mg/L	0.51	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	NA	NA	NA	NA	<0.001 U	NA	<0.001 U	NA
THALLIUM	mg/L	0.002	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	NA	NA	NA	NA	<0.0002 U	NA	<0.0002 U	NA
VANADIUM	mg/L	0.72	<0.001 U	NA	0.00226	NA	<0.001 U	NA	NA	NA	NA	NA	<0.02 U	NA	<0.001 U	NA
ZINC	mg/L	31	0.0388 J	NA	<0.025 U	NA	<0.025 U	NA	NA	NA	NA	NA	0.158	NA	<0.025 U	NA
Perchlorate (6850)																
PERCHLORATE	ug/L	17	7.13	<0.2 U	NA	<0.2 U	NA	<0.2 U	<0.2 U	<0.2 U	<0.2 U	5.76	NA	82900	<0.2 U	<0.2 U
Mercury (7470A)																
MERCURY	mg/L	0.002	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	NA	NA	NA	NA	<0.0002 U	NA	<0.0002 U	NA
Mercury (7470A)																
MERCURY	mg/L	0.002	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	NA	NA	NA	NA	<0.0002 U	NA	<0.0002 U	NA
Volatile Organic Compounds (8260B)																
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	NA	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 UJ	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	NA	<0.3 U	NA	<0.3 U	<0.3 U	<0.3 UJ	<0.3 UJ	<0.3 U	NA	<0.3 U	<0.3 U	<0.3 UJ
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	NA	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	NA	<2 U	NA	<2 U	<2 U	<2 UJ	<2 UJ	<2 U	NA	<2 U	<2 U	<2 UJ
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	NA	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	NA	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
2-BUTANONE	ug/L	15000	<5 U	<5 U	NA	<5 U	NA	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	NA	<5 U	<5 U	<5 UJ
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
2-HEXANONE	ug/L	120	<5 U	<5 U	NA	<5 U	NA	<5 U	<5 U	<5 UJ	<5 UJ	<5 UJ	NA	<5 U	<5 U	<5 UJ
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	NA	<5 U	NA	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	NA	<5 U	<5 U	<5 UJ
ACETONE	ug/L	22000	<5 U	4.31 J	NA	<5 U	NA	<5 U	<5 U	<5 UJ	<5 UJ	<5 U	NA	<5 U	4.41 J	<5 UJ
BENZENE	ug/L	5	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	NA	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	17WW08-061016 6/10/2016	18WW02-062216 6/22/2016	18WW02F-062216 6/22/2016	18WW03-061416 6/14/2016	18WW03F-061416 6/14/2016	18WW06-062016 6/20/2016	18WW06FD-062016 6/20/2016	18WW08-062016 6/20/2016	18WW09-062016 6/20/2016	18WW16-061616 6/16/2016	18WW16F-061616 6/16/2016	18WW17-062116 6/21/2016	18WW18-062116 6/21/2016	18WW19-062016 6/20/2016
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
BROMOFORM	ug/L	120	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
BROMOMETHANE	ug/L	34	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
CHLOROETHANE	ug/L	98000	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	0.275 J	<0.25 U	<0.25 UJ
CHLOROMETHANE	ug/L	70	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	0.605 J	NA	<1 U	<1 U	<1 UJ
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	0.703 J	<0.5 U	<0.5 UJ
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
M,P-XYLENE	ug/L	10000	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	NA	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ	<0.4 U	NA	<0.4 U	<0.4 U	<0.4 UJ
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
STYRENE	ug/L	100	<0.25 U	<0.25 U	NA	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ	<0.25 UJ	<0.25 U	NA	<0.25 U	<0.25 U	<0.25 UJ
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	<1 U	NA	<1 U	<1 U	<1 UJ
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	46.3	<0.5 U	<0.5 UJ
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	NA	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 U	NA	<0.5 U	<0.5 U	<0.5 UJ
1,4-Dioxane (8270D-SIM)																
1,4-DIOXANE	ug/L	9.1	NA	<1 U	NA	<1 U	NA	<1 U	<1 U	<1 UJ	<1 UJ	NA	NA	NA	<1 U	NA

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	18WW19F-062016 6/20/2016	18WW19FD-062016 6/20/2016	18WW19FFD-062016 6/20/2016	18WW20-062016 6/20/2016	18WW22-062116 6/21/2016	18WW24-061016 6/10/2016	18WW24F-061016 6/10/2016	18WW25-062916 6/29/2016	18WW25F-062916 6/29/2016	AWD1B-060716 6/7/2016	AWD1T-060716 6/7/2016	AWD4B-060716 6/7/2016	AWD4T-060716 6/7/2016	C01-061716 6/17/2016
Metals (6010C)																
ALUMINUM	mg/L	100	0.342	NA	0.369	0.0733 J	2.57	NA	0.466	NA	0.12 J	NA	NA	5.34	5.71	<0.1 U
BERYLLIUM	mg/L	0.004	<0.01 U	NA	<0.01 U	<0.01 U	<0.01 U	NA	<0.01 U	NA	<0.01 U	NA	NA	<0.01 U	<0.01 U	<0.01 U
CALCIUM	mg/L		8.66	NA	8.45	2.78	193	NA	6.94	NA	32	NA	NA	8.65	8.62	91
IRON	mg/L		4.86	NA	4.92	5.75	<0.1 U	NA	0.284	NA	19.6	NA	NA	4.64	5.13	0.189 J
MAGNESIUM	mg/L		1.59	NA	1.46	2.14	1.09	NA	4.4	NA	19.6	NA	NA	5.75	5.98	68.5
POTASSIUM	mg/L		1.85 J	NA	1.74 J	1.32 J	8.42	NA	1.58 J	NA	2.44	NA	NA	<1 U	<1 U	2.11
SELENIUM	mg/L	0.05	<0.01 U	NA	<0.01 U	<0.01 U	0.00528 J	NA	<0.01 U	NA	<0.01 U	NA	NA	<0.01 U	<0.01 U	<0.01 U
SODIUM	mg/L		5.07	NA	4.86	24.6	60.6	NA	131	NA	44	NA	NA	72	70.6	334
Metals (6020A)																
ANTIMONY	mg/L	0.006	<0.001 U	NA	<0.001 U	<0.001 U	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	NA	<0.001 U	<0.001 U	<0.001 U
ARSENIC	mg/L	0.01	0.000865 J	NA	0.00091 J	<0.001 U	0.00523	NA	0.00248	NA	0.00243	NA	NA	0.00124 J	0.0017 J	0.00438
BARIUM	mg/L	2	0.0557	NA	0.0588	0.0918	0.353	NA	0.0968	NA	0.391 J	NA	NA	0.195	0.205	0.441
CADMIUM	mg/L	0.005	<0.0006 U	NA	<0.0006 U	<0.0006 U	<0.0006 U	NA	<0.0006 U	NA	<0.0006 U	NA	NA	<0.0006 U	<0.0006 U	0.000345 J
CHROMIUM	mg/L	0.1	0.00184 J	NA	0.00219 J	0.00274 J	0.114	NA	0.00142 J	NA	<0.002 U	NA	NA	0.0892	0.0946	0.00251 J
COBALT	mg/L	6.1	0.00116 J	NA	0.00119 J	0.00808	0.0011 J	NA	0.00207	NA	0.0135	NA	NA	0.00687	0.0065	0.00101 J
COPPER	mg/L	1.3	0.00117 J	NA	0.00131 J	<0.002 U	0.00449	NA	0.002 J	NA	<0.002 U	NA	NA	0.00717	0.00851	0.00135 J
LEAD	mg/L	0.015	<0.001 U	NA	<0.001 U	<0.001 U	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	NA	0.00258	0.00305	<0.001 U
MANGANESE	mg/L	1.1	0.221	NA	0.221	0.279	0.00227 J	NA	0.609	NA	5.29 J	NA	NA	0.0529	0.0466	0.0324
NICKEL	mg/L	0.49	0.00429 J	NA	0.00449 J	0.00996	0.00569 J	NA	0.022	NA	0.00596 J	NA	NA	0.283	0.23	0.00428 J
SILVER	mg/L	0.51	<0.001 U	NA	<0.001 U	<0.001 U	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	NA	<0.001 U	<0.001 U	<0.001 U
THALLIUM	mg/L	0.002	<0.0002 U	NA	<0.0002 U	<0.0002 U	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	NA	<0.0002 U	0.00012 J	<0.0002 U
VANADIUM	mg/L	0.72	0.0017 J	NA	0.00184 J	<0.001 U	0.0767	NA	0.00093 J	NA	<0.001 U	NA	NA	0.0124	0.0174	0.00242
ZINC	mg/L	31	<0.025 U	NA	<0.025 U	<0.025 U	<0.025 U	NA	0.075	NA	<0.025 U	NA	NA	0.026 J	0.0348 J	<0.025 U
Perchlorate (6850)																
PERCHLORATE	ug/L	17	NA	<0.2 U	NA	<0.2 U	1.53	0.228 J	NA	<0.2 U	NA	4.92	<0.2 U	726	712	3.15
Mercury (7470A)																
MERCURY	mg/L	0.002	<0.0002 U	NA	<0.0002 U	<0.0002 U	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	NA	<0.0002 U	<0.0002 U	<0.0002 U
Volatile Organic Compounds (8260B)																
1,1,1,2-TETRACHLOROETHANE	ug/L	35	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	NA	<0.4 U	NA	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<40 U	<40 U	<0.4 U	<0.4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	113	90.5 J	<0.25 U	<0.25 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	158 J	114 J	<1 U	<1 U	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	NA	<0.3 U	NA	<0.3 U	<0.3 UJ	<0.3 U	NA	<0.3 U	NA	<30 U	<30 U	<0.3 U	<0.3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	NA	<0.4 U	NA	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<40 U	<40 U	<0.4 U	<0.4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	NA	<2 U	NA	<2 U	<2 UJ	<2 U	NA	<2 U	NA	<200 U	<200 U	<2 U	<2 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	158	143	<0.5 U	<0.5 U	<0.5 U
1,2-DICHLOROPROPANE	ug/L	5	NA	<0.4 U	NA	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<40 U	<40 U	<0.4 U	<0.4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	NA	<0.4 U	NA	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<40 U	<40 U	<0.4 U	<0.4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
2-BUTANONE	ug/L	15000	NA	<5 U	NA	<5 U	<5 UJ	<5 U	NA	<5 U	NA	<500 U	<500 U	<5 U	<5 U	<5 U
2-CHLOROTOLUENE	ug/L	490	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
2-HEXANONE	ug/L	120	NA	<5 U	NA	<5 U	<5 UJ	<5 U	NA	<5 U	NA	<500 U	<500 U	<5 U	<5 U	<5 U
4-CHLOROTOLUENE	ug/L	490	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	NA	<5 U	NA	<5 U	<5 UJ	<5 U	NA	<5 U	NA	<500 U	<500 U	<5 U	<5 U	<5 U
ACETONE	ug/L	22000	NA	<5 U	NA	<5 U	<5 UJ	<5 U	NA	2.89 J	NA	<500 U	<500 U	<5 U	<5 U	<5 U
BENZENE	ug/L	5	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
BROMOBENZENE	ug/L	200	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	NA	<0.4 U	NA	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<40 U	<40 U	<0.4 U	<0.4 U	<0.4 U

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	18WW19F-062016 6/20/2016	18WW19FD-062016 6/20/2016	18WW19FFD-062016 6/20/2016	18WW20-062016 6/20/2016	18WW22-062116 6/21/2016	18WW24-061016 6/10/2016	18WW24F-061016 6/10/2016	18WW25-062916 6/29/2016	18WW25F-062916 6/29/2016	AWD1B-060716 6/7/2016	AWD1T-060716 6/7/2016	AWD4B-060716 6/7/2016	AWD4T-060716 6/7/2016	C01-061716 6/17/2016
BROMODICHLOROMETHANE	ug/L	15	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
BROMOFORM	ug/L	120	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
BROMOMETHANE	ug/L	34	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 UJ	NA	<100 U	<100 U	<1 UJ	<1 UJ	<1 U
CARBON DISULFIDE	ug/L	2400	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
CHLOROBENZENE	ug/L	100	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROETHANE	ug/L	98000	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
CHLOROFORM	ug/L	240	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	0.45 J	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
CHLOROMETHANE	ug/L	70	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	14100	12000	0.338 J	0.274 J	<0.5 U
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
ETHYLBENZENE	ug/L	700	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
M,P-XYLENE	ug/L	10000	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
METHYLENE CHLORIDE	ug/L	5	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	95.1 J	<50 U	<0.5 U	<0.5 U	<0.5 U
NAPHTHALENE	ug/L	490	NA	<0.4 U	NA	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<40 U	<40 U	<0.4 UJ	<0.4 UJ	<0.4 U
N-BUTYLBENZENE	ug/L	1200	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
O-XYLENE	ug/L	10000	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
STYRENE	ug/L	100	NA	<0.25 U	NA	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<25 U	<25 U	<0.25 U	<0.25 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
TOLUENE	ug/L	1000	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	NA	<1 U	NA	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<100 U	<100 U	<1 U	<1 U	<1 U
TRICHLOROETHENE	ug/L	5	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	7120	6300	2.4	2.21	<0.5 U
TRICHLOROFLUOROMETHANE	ug/L	7300	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<50 U	<50 U	<0.5 U	<0.5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	NA	<0.5 U	NA	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	256	177	<0.5 U	<0.5 U	<0.5 U
1,4-Dioxane (8270D-SIM)																
1,4-DIOXANE	ug/L	9.1	NA	NA	NA	<1 UJ	<1 U	NA	NA	<1 U	NA	7.14	5.74	<1 U	<1 U	NA

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	C01FD-061716 6/17/2016	C02-061716 6/17/2016	C03-061416 6/14/2016	C04-062116 6/21/2016	C04F-062116 6/21/2016	C04FD-062116 6/21/2016	C04FFD-062116 6/21/2016	C08-061416 6/14/2016	MW1-061016 6/10/2016	MW2-062416 6/24/2016	MW3-061016 6/10/2016	MW5-060816 6/8/2016	MW7-062416 6/24/2016	MW8-060916 6/9/2016
Metals (6010C)																
ALUMINUM	mg/L	100	<0.1 U	NA	<0.1 U	NA	<0.1 U	NA	<0.1 U	0.114 J	0.0763 J	<0.1 U	<0.1 U	0.0635 J	NA	0.122 J
BERYLLIUM	mg/L	0.004	<0.01 U	NA	<0.01 U	NA	<0.01 U	NA	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	NA	<0.01 U
CALCIUM	mg/L		90.3	NA	55.4	NA	13.9	NA	14	239	47.2	41.9	30.2	24.9	NA	8.3
IRON	mg/L		0.18 J	NA	101	NA	7.76	NA	7.21	0.627	20.2	4.01	0.418	1	NA	0.888
MAGNESIUM	mg/L		66.6	NA	35.8	NA	7.73	NA	7.47	143	41.4	30.2	20.3	26.1	NA	7.45
POTASSIUM	mg/L		2.16	NA	4.01	NA	1.89 J	NA	1.89 J	2.18	3.24	3.43	2.1	2.42	NA	0.503 J
SELENIUM	mg/L	0.05	<0.01 U	NA	<0.01 U	NA	<0.01 U	NA	0.00539 J	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	NA	0.00533 J
SODIUM	mg/L		336	NA	169	NA	27.9	NA	27.5	761	299	118	260	124	NA	191
Metals (6020A)																
ANTIMONY	mg/L	0.006	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA	<0.001 U
ARSENIC	mg/L	0.01	0.00431	NA	0.00684	NA	0.000967 J	NA	0.000991 J	0.00829	<0.001 U	0.0121	<0.001 U	0.00122 J	NA	<0.001 U
BARIUM	mg/L	2	0.471	NA	1.56	NA	0.311	NA	0.288	5.12	1.35	2.64	0.445	0.96	NA	0.144
CADMIUM	mg/L	0.005	0.00034 J	NA	<0.0006 U	NA	<0.0006 U	NA	<0.0006 U	0.000385 J	0.000424 J	<0.0006 U	<0.0006 U	0.000758 J	NA	0.000344 J
CHROMIUM	mg/L	0.1	0.00247 J	NA	<0.002 U	NA	0.00355 J	NA	0.00186 J	0.00247 J	1.32	0.0145	0.00398 J	0.126	NA	0.278
COBALT	mg/L	6.1	0.000974 J	NA	0.000578 J	NA	<0.001 U	NA	<0.001 U	0.00683	0.0563	0.0571	0.00108 J	0.00267	NA	0.0414
COPPER	mg/L	1.3	0.00128 J	NA	<0.002 U	NA	<0.002 U	NA	<0.002 U	0.00295 J	0.00432	0.00159 J	0.00151 J	0.00218 J	NA	0.0107
LEAD	mg/L	0.015	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA	<0.001 U
MANGANESE	mg/L	1.1	0.0318	NA	1.85	NA	0.287	NA	0.247	3.15	1.69	2.04	0.52	0.102	NA	0.35
NICKEL	mg/L	0.49	0.00424 J	NA	<0.004 U	NA	<0.004 U	NA	<0.004 U	0.0138	2.2	0.0432	0.00463 J	0.0777	NA	0.447
SILVER	mg/L	0.51	<0.001 U	NA	<0.001 U	NA	<0.001 U	NA	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	NA	<0.001 U
THALLIUM	mg/L	0.002	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	NA	0.000105 J
VANADIUM	mg/L	0.72	0.00266	NA	<0.001 U	NA	<0.001 U	NA	<0.001 U	0.00101 J	0.00922	0.00185 J	<0.001 U	0.00158 J	NA	<0.001 U
ZINC	mg/L	31	<0.025 U	NA	0.0153 J	NA	<0.025 U	NA	<0.025 U	<0.025 U	<0.025 U	0.127	<0.025 U	0.0231 J	NA	0.0267 J
Perchlorate (6850)																
PERCHLORATE	ug/L	17	3.02	<0.2 U	5.48	<0.2 U	NA	<0.2 U	NA	<0.2 U	14800	33.3	15400	31300	22200	8290
Mercury (7470A)																
MERCURY	mg/L	0.002	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	NA	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	NA	<0.0002 U
Volatile Organic Compounds (8260B)																
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<0.4 U	<4 U	<100 U	<1 U	<0.4 U	<4 U	<0.4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,1-DICHLOROETHANE	ug/L	4900	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	4.57	3.44	<2.5 U	<0.25 U
1,1-DICHLOROETHENE	ug/L	7	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	7.5 J	505	32.8	1.01 J	5.8 J	<1 U
1,1-DICHLOROPROPENE	ug/L	9.1	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<0.3 U	<0.3 U	<0.3 UJ	<0.3 U	NA	<0.3 U	NA	<0.3 U	<3 U	<75 U	<0.75 U	<0.3 U	<3 U	<0.3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<0.4 U	<4 U	<100 U	<1 U	<0.4 U	<4 U	<0.4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<2 U	<2 U	<2 UJ	<2 U	NA	<2 U	NA	<2 U	<20 U	<500 U	<5 U	<2 UJ	<20 U	<2 U
1,2-DIBROMOETHANE	ug/L	0.05	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,2-DICHLOROBENZENE	ug/L	600	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
1,2-DICHLOROETHANE	ug/L	5	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	138	<125 U	<1.25 U	<0.5 U	28	0.592 J
1,2-DICHLOROPROPANE	ug/L	5	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<0.4 U	<4 U	<100 U	<1 U	<0.4 U	<4 U	<0.4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
1,3-DICHLOROBENZENE	ug/L	730	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	0.565 J	<5 U	<0.5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<0.4 U	<4 U	<100 U	<1 U	<0.4 U	<4 U	<0.4 U
1,4-DICHLOROBENZENE	ug/L	75	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
2,2-DICHLOROPROPANE	ug/L	13	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
2-BUTANONE	ug/L	15000	<5 U	<5 U	<5 UJ	<5 U	NA	<5 U	NA	<5 U	<50 U	<1250 U	<12.5 U	<5 UJ	<50 UJ	<5 U
2-CHLOROTOLUENE	ug/L	490	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
2-HEXANONE	ug/L	120	<5 U	<5 U	<5 UJ	<5 U	NA	<5 U	NA	<5 U	<50 UJ	<1250 UJ	<12.5 UJ	<5 UJ	<50 U	<5 U
4-CHLOROTOLUENE	ug/L	490	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
4-METHYL-2-PENTANONE	ug/L	2000	<5 U	<5 U	<5 UJ	<5 U	NA	<5 U	NA	<5 U	<50 U	<1250 U	<12.5 U	<5 U	<50 U	<5 U
ACETONE	ug/L	22000	<5 U	<5 U	<5 UJ	3.24 J	NA	<5 U	NA	<5 U	<50 U	<1250 U	48.4	<5 UJ	<50 UJ	<5 U
BENZENE	ug/L	5	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	2.09 J	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
BROMOBENZENE	ug/L	200	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
BROMOCHLOROMETHANE	ug/L	980	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<0.4 U	<4 U	<100 U	<1 U	<0.4 U	<4 U	<0.4 U

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	C01FD-061716 6/17/2016	C02-061716 6/17/2016	C03-061416 6/14/2016	C04-062116 6/21/2016	C04F-062116 6/21/2016	C04FD-062116 6/21/2016	C04FFD-062116 6/21/2016	C08-061416 6/14/2016	MW1-061016 6/10/2016	MW2-062416 6/24/2016	MW3-061016 6/10/2016	MW5-060816 6/8/2016	MW7-062416 6/24/2016	MW8-060916 6/9/2016
BROMODICHLOROMETHANE	ug/L	15	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
BROMOFORM	ug/L	120	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 U
BROMOMETHANE	ug/L	34	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 UJ	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 UJ
CARBON DISULFIDE	ug/L	2400	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 U
CARBON TETRACHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	2.77 J	<0.5 U
CHLOROBENZENE	ug/L	100	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
CHLOROETHANE	ug/L	98000	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 U
CHLOROFORM	ug/L	240	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	5.62 J	58.1 J	1.96 J	0.43 J	14.1	0.607 J
CHLOROMETHANE	ug/L	70	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 UJ	<1 U
CIS-1,2-DICHLOROETHENE	ug/L	70	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	1120	43600	85.2	13.4	13.8	0.867 J
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
DIBROMOCHLOROMETHANE	ug/L	11	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
DIBROMOMETHANE	ug/L	120	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	2.56	<0.5 U	<5 UJ	<0.5 U
ETHYLBENZENE	ug/L	700	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	159 J	<1.25 U	<0.5 U	<5 U	<0.5 U
HEXACHLOROBUTADIENE	ug/L	12	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
ISOPROPYLBENZENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
M,P-XYLENE	ug/L	10000	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 U
METHYLENE CHLORIDE	ug/L	5	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	21300	<1.25 U	<0.5 U	<5 U	<0.5 U
NAPHTHALENE	ug/L	490	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	NA	<0.4 U	NA	<0.4 U	<4 U	<100 U	<1 U	<0.4 U	<4 U	<0.4 U
N-BUTYLBENZENE	ug/L	1200	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
N-PROPYLBENZENE	ug/L	980	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
O-XYLENE	ug/L	10000	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
SEC-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
STYRENE	ug/L	100	<0.25 U	<0.25 U	<0.25 UJ	<0.25 U	NA	<0.25 U	NA	<0.25 U	<2.5 U	<62.6 U	<0.626 U	<0.25 U	<2.5 U	<0.25 U
TERT-BUTYLBENZENE	ug/L	980	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
TETRACHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	85.1 J	0.992 J	<0.5 U	<5 U	<0.5 U
TOLUENE	ug/L	1000	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<5 U	<125 U	<1.25 U	<0.5 U	<5 U	<0.5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	3.11 J	80.2 J	3.3	0.254 J	<5 U	<0.5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<1 U	<1 U	<1 UJ	<1 U	NA	<1 U	NA	<1 U	<10 U	<250 U	<2.5 U	<1 U	<10 U	<1 U
TRICHLOROETHENE	ug/L	5	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	5.61	3620	15500	491	53.7	1740	247
TRICHLOROFLUOROMETHANE	ug/L	7300	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	<10 U	<125 U	0.74 J	<0.5 U	<5 U	<0.5 U
VINYL CHLORIDE	ug/L	2	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	NA	<0.5 U	NA	<0.5 U	6.08 J	<125 U	10.2	4.91	<5 UJ	<0.5 U
1,4-Dioxane (8270D-SIM)																
1,4-DIOXANE	ug/L	9.1	NA	NA	<1 U	NA	NA	NA	NA	<1 U	NA	7.58	NA	0.819 J	13.4	0.649 J

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	MW9- 062216 6/22/2016	MW10- 060916 6/9/2016	MW10F- 060916 6/9/2016	MW12- 061016 6/10/2016	MW13- 061716 6/17/2016	MW14B- 060716 6/7/2016	MW14T- 060716 6/7/2016	MW16- 062116 6/21/2016	MW16F- 062116 6/21/2016	MW17- 062016 6/20/2016	MW18- 061716 6/17/2016	MW18F- 061716 6/17/2016	MW19- 061716 6/17/2016	MW19F- 061716 6/17/2016
Metals (6010C)																
ALUMINUM	mg/L	100	NA	NA	0.0804 J	NA	NA	NA	NA	NA	<0.1 U	NA	NA	1.91	NA	35.6
BERYLLIUM	mg/L	0.004	NA	NA	<0.01 U	NA	NA	NA	NA	NA	<0.01 U	NA	NA	<0.01 U	NA	0.00575 J
CALCIUM	mg/L		NA	NA	7.72	NA	NA	NA	NA	NA	23.7	NA	NA	14.1	NA	18.9
IRON	mg/L		NA	NA	5.73	NA	NA	NA	NA	NA	38.8	NA	NA	12.6	NA	50
MAGNESIUM	mg/L		NA	NA	2.22	NA	NA	NA	NA	NA	17.3	NA	NA	6.42	NA	9.83
POTASSIUM	mg/L		NA	NA	2.09	NA	NA	NA	NA	NA	4.1	NA	NA	2.19	NA	3.84
SELENIUM	mg/L	0.05	NA	NA	<0.01 U	NA	NA	NA	NA	NA	0.00641 J	NA	NA	<0.01 U	NA	<0.01 U
SODIUM	mg/L		NA	NA	9.56	NA	NA	NA	NA	NA	142	NA	NA	249 J	NA	20.5
Metals (6020A)																
ANTIMONY	mg/L	0.006	NA	NA	<0.001 U	NA	NA	NA	NA	NA	<0.001 U	NA	NA	0.00149 J	NA	<0.001 U
ARSENIC	mg/L	0.01	NA	NA	<0.001 U	NA	NA	NA	NA	NA	0.0156	NA	NA	0.00583	NA	0.013
BARIUM	mg/L	2	NA	NA	0.0526	NA	NA	NA	NA	NA	0.411	NA	NA	0.157 J	NA	0.695
CADMIUM	mg/L	0.005	NA	NA	0.000376 J	NA	NA	NA	NA	NA	0.000563 J	NA	NA	0.00225	NA	0.00495
CHROMIUM	mg/L	0.1	NA	NA	0.00283 J	NA	NA	NA	NA	NA	0.00236 J	NA	NA	0.0138 J	NA	0.116
COBALT	mg/L	6.1	NA	NA	0.00127 J	NA	NA	NA	NA	NA	0.00976	NA	NA	0.00915	NA	0.0274
COPPER	mg/L	1.3	NA	NA	0.00144 J	NA	NA	NA	NA	NA	<0.002 U	NA	NA	0.00447	NA	0.127
LEAD	mg/L	0.015	NA	NA	<0.001 U	NA	NA	NA	NA	NA	<0.001 U	NA	NA	0.00227	NA	0.0706
MANGANESE	mg/L	1.1	NA	NA	0.3	NA	NA	NA	NA	NA	0.659	NA	NA	0.36 J	NA	1.09
NICKEL	mg/L	0.49	NA	NA	0.00494 J	NA	NA	NA	NA	NA	0.0181	NA	NA	0.063	NA	0.0997
SILVER	mg/L	0.51	NA	NA	<0.001 U	NA	NA	NA	NA	NA	<0.001 U	NA	NA	<0.001 U	NA	<0.001 U
THALLIUM	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	<0.0002 U	NA	NA	0.000127 J	NA	0.000821
VANADIUM	mg/L	0.72	NA	NA	<0.001 U	NA	NA	NA	NA	NA	0.000902 J	NA	NA	0.0105	NA	0.152
ZINC	mg/L	31	NA	NA	<0.025 U	NA	NA	NA	NA	NA	0.0293 J	NA	NA	0.0491 J	NA	1.09
Perchlorate (6850)																
PERCHLORATE	ug/L	17	263	0.492	NA	0.2 J	<0.2 U	229000	177000	0.615	NA	<0.2 U	<0.2 U	NA	11.4	NA
Mercury (7470A)																
MERCURY	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	<0.0002 U	NA	NA	<0.0002 U	NA	0.000381 J
Mercury (7470A)																
MERCURY	mg/L	0.002	NA	NA	<0.0002 U	NA	NA	NA	NA	NA	<0.0002 U	NA	NA	<0.0002 U	NA	0.000381 J
Volatile Organic Compounds (8260B)																
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,1,1-TRICHLOROETHANE	ug/L	200	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<4 U	<0.4 U	NA	<0.8 U	<0.4 U	<40 U	<40 U	<1 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	NA
1,1,2-TRICHLOROETHANE	ug/L	5	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,1-DICHLOROETHANE	ug/L	4900	<2.5 U	<0.25 U	NA	1.71 J	<0.25 U	37.3 J	34.7 J	1.73 J	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
1,1-DICHLOROETHENE	ug/L	7	<10 UJ	<1 U	NA	3.41 J	<1 U	195 J	154 J	9	NA	<1 U	<1 U	NA	<1 U	NA
1,1-DICHLOROPROPENE	ug/L	9.1	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,2,3-TRICHLOROBENZENE	ug/L	73	<3 U	<0.3 U	NA	<0.6 U	<0.3 U	<30 U	<30 U	<0.75 U	NA	<0.3 U	<0.3 U	NA	<0.3 U	NA
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
1,2,4-TRICHLOROBENZENE	ug/L	70	<4 U	<0.4 U	NA	<0.8 U	<0.4 U	<40 U	<40 U	<1 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	NA
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<20 U	<2 U	NA	<4 U	<2 U	<200 U	<200 U	<5 UJ	NA	<2 U	<2 U	NA	<2 U	NA
1,2-DIBROMOETHANE	ug/L	0.05	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,2-DICHLOROBENZENE	ug/L	600	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
1,2-DICHLOROETHANE	ug/L	5	<5 U	<0.5 U	NA	1.82 J	<0.5 U	140	114	<1.25 UJ	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,2-DICHLOROPROPANE	ug/L	5	<4 U	<0.4 U	NA	<0.8 U	<0.4 U	<40 U	<40 U	<1 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	NA
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,3-DICHLOROBENZENE	ug/L	730	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,3-DICHLOROPROPANE	ug/L	9.1	<4 U	<0.4 U	NA	<0.8 U	<0.4 U	<40 U	<40 U	<1 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	NA
1,4-DICHLOROBENZENE	ug/L	75	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
2,2-DICHLOROPROPANE	ug/L	13	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 UJ	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
2-BUTANONE	ug/L	15000	<50 U	<5 U	NA	<10 U	<5 U	<500 U	<500 U	<12.5 UJ	NA	<5 U	<5 U	NA	<5 U	NA
2-CHLOROTOLUENE	ug/L	490	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
2-HEXANONE	ug/L	120	<50 U	<5 U	NA	<10 U	<5 U	<500 U	<500 U	<12.5 UJ	NA	<5 U	<5 U	NA	<5 U	NA
4-CHLOROTOLUENE	ug/L	490	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
4-METHYL-2-PENTANONE	ug/L	2000	<50 U	<5 U	NA	<10 U	<5 U	<500 U	<500 U	<12.5 U	NA	<5 U	<5 U	NA	<5 U	NA
ACETONE	ug/L	22000	<50 U	<5 U	NA	<10 U	<5 U	<500 U	<500 U	<12.5 UJ	NA	<5 U	<5 U	NA	<5 U	NA
BENZENE	ug/L	5	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	0.352 J	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
BROMOBENZENE	ug/L	200	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
BROMOCHLOROMETHANE	ug/L	980	<4 U	<0.4 U	NA	<0.8 U	<0.4 U	<40 U	<40 U	<1 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	NA

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	MW9-062216 6/22/2016	MW10-060916 6/9/2016	MW10F-060916 6/9/2016	MW12-061016 6/10/2016	MW13-061716 6/17/2016	MW14B-060716 6/7/2016	MW14T-060716 6/7/2016	MW16-062116 6/21/2016	MW16F-062116 6/21/2016	MW17-062016 6/20/2016	MW18-061716 6/17/2016	MW18F-061716 6/17/2016	MW19-061716 6/17/2016	MW19F-061716 6/17/2016
BROMODICHLOROMETHANE	ug/L	15	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
BROMOFORM	ug/L	120	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
BROMOMETHANE	ug/L	34	<10 U	<1 UJ	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
CARBON DISULFIDE	ug/L	2400	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
CARBON TETRACHLORIDE	ug/L	5	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
CHLOROBENZENE	ug/L	100	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
CHLOROETHANE	ug/L	98000	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
CHLOROFORM	ug/L	240	3.97 J	<0.25 U	NA	<0.5 U	<0.25 U	13.2 J	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
CHLOROMETHANE	ug/L	70	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
CIS-1,2-DICHLOROETHENE	ug/L	70	64.7	<0.5 U	NA	42.6	<0.5 U	2550	2600	31.2	NA	0.41 J	1.11	NA	0.345 J	NA
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
DIBROMOCHLOROMETHANE	ug/L	11	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
DIBROMOMETHANE	ug/L	120	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
DICHLORODIFLUOROMETHANE	ug/L	4900	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
ETHYLBENZENE	ug/L	700	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
HEXACHLOROBUTADIENE	ug/L	12	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
ISOPROPYLBENZENE	ug/L	2400	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
M,P-XYLENE	ug/L	10000	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
METHYLENE CHLORIDE	ug/L	5	<5 U	<0.5 U	NA	<1 U	<0.5 U	53.5 J	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
NAPHTHALENE	ug/L	490	<4 U	<0.4 U	NA	<0.8 U	<0.4 U	<40 U	<40 U	<1 U	NA	<0.4 U	<0.4 U	NA	<0.4 U	NA
N-BUTYLBENZENE	ug/L	1200	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
N-PROPYLBENZENE	ug/L	980	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
O-XYLENE	ug/L	10000	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
P-ISOPROPYLTOLUENE	ug/L	2400	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
SEC-BUTYLBENZENE	ug/L	980	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
STYRENE	ug/L	100	<2.5 U	<0.25 U	NA	<0.5 U	<0.25 U	<25 U	<25 U	<0.626 U	NA	<0.25 U	<0.25 U	NA	<0.25 U	NA
TERT-BUTYLBENZENE	ug/L	980	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
TETRACHLOROETHENE	ug/L	5	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	0.786 J	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
TOLUENE	ug/L	1000	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
TRANS-1,2-DICHLOROETHENE	ug/L	100	<5 U	<0.5 U	NA	0.758 J	<0.5 U	<50 U	<50 U	0.747 J	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<10 U	<1 U	NA	<2 U	<1 U	<100 U	<100 U	<2.5 U	NA	<1 U	<1 U	NA	<1 U	NA
TRICHLOROETHENE	ug/L	5	1460	0.796 J	NA	294	<0.5 U	15900	12700	922	NA	<0.5 U	14.1	NA	1.82	NA
TRICHLOROFLUOROMETHANE	ug/L	7300	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
VINYL CHLORIDE	ug/L	2	<5 U	<0.5 U	NA	<1 U	<0.5 U	<50 U	<50 U	<1.25 U	NA	<0.5 U	<0.5 U	NA	<0.5 U	NA
1,4-Dioxane (8270D-SIM)																
1,4-DIOXANE	ug/L	9.1	1.77 J	<1 U	NA	NA	NA	412	390	18	NA	<1 U	NA	NA	NA	NA

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	MW21-062216 6/22/2016	MW22-060816 6/8/2016	MW23-061716 6/17/2016
Metals (6010C)					
ALUMINUM	mg/L	100	<0.1 U	NA	NA
BERYLLIUM	mg/L	0.004	<0.01 U	NA	NA
CALCIUM	mg/L		213	NA	NA
IRON	mg/L		1.03	NA	NA
MAGNESIUM	mg/L		163	NA	NA
POTASSIUM	mg/L		2.61	NA	NA
SELENIUM	mg/L	0.05	<0.01 U	NA	NA
SODIUM	mg/L		580	NA	NA
Metals (6020A)					
ANTIMONY	mg/L	0.006	<0.001 U	NA	NA
ARSENIC	mg/L	0.01	0.00812	NA	NA
BARIUM	mg/L	2	5.91	NA	NA
CADMIUM	mg/L	0.005	0.00132	NA	NA
CHROMIUM	mg/L	0.1	0.195	NA	NA
COBALT	mg/L	6.1	0.0569	NA	NA
COPPER	mg/L	1.3	0.0261	NA	NA
LEAD	mg/L	0.015	<0.001 U	NA	NA
MANGANESE	mg/L	1.1	1.81	NA	NA
NICKEL	mg/L	0.49	0.76	NA	NA
SILVER	mg/L	0.51	<0.001 U	NA	NA
THALLIUM	mg/L	0.002	<0.0002 U	NA	NA
VANADIUM	mg/L	0.72	0.00262	NA	NA
ZINC	mg/L	31	0.023 J	NA	NA
Perchlorate (6850)					
PERCHLORATE	ug/L	17	26100	615	65200
Mercury (7470A)					
MERCURY	mg/L	0.002	<0.0002 U	NA	NA
Volatile Organic Compounds (8260B)					
1,1,1,2-TETRACHLOROETHANE	ug/L	35	<25 U	<1.25 U	<5 U
1,1,1-TRICHLOROETHANE	ug/L	200	<25 U	<1.25 U	<5 U
1,1,2,2-TETRACHLOROETHANE	ug/L	4.6	<20 U	<1 U	<4 U
1,1,2-TRICHLOROETHANE	ug/L	5	<25 U	<1.25 U	<5 U
1,1-DICHLOROETHANE	ug/L	4900	<12.5 U	<0.626 U	<2.5 U
1,1-DICHLOROETHENE	ug/L	7	<50 UJ	1.37 J	<10 U
1,1-DICHLOROPROPENE	ug/L	9.1	<25 U	<1.25 U	<5 U
1,2,3-TRICHLOROBENZENE	ug/L	73	<15 U	<0.75 U	<3 U
1,2,3-TRICHLOROPROPANE	ug/L	0.03	<50 U	<2.5 U	<10 U
1,2,4-TRICHLOROBENZENE	ug/L	70	<20 U	<1 U	<4 U
1,2,4-TRIMETHYLBENZENE	ug/L	1200	<25 U	<1.25 U	<5 U
1,2-DIBROMO-3-CHLOROPROPANE	ug/L	0.2	<100 U	<5 U	<20 U
1,2-DIBROMOETHANE	ug/L	0.05	<25 U	<1.25 U	<5 U
1,2-DICHLOROBENZENE	ug/L	600	<12.5 U	<0.626 U	<2.5 U
1,2-DICHLOROETHANE	ug/L	5	35.2 J	5.5	50.5
1,2-DICHLOROPROPANE	ug/L	5	<20 U	<1 U	<4 U
1,3,5-TRIMETHYLBENZENE	ug/L	1200	<25 U	<1.25 U	<5 U
1,3-DICHLOROBENZENE	ug/L	730	<25 U	<1.25 U	<5 U
1,3-DICHLOROPROPANE	ug/L	9.1	<20 U	<1 U	<4 U
1,4-DICHLOROBENZENE	ug/L	75	<12.5 U	<0.626 U	<2.5 U
2,2-DICHLOROPROPANE	ug/L	13	<25 U	<1.25 U	<5 U
2-BUTANONE	ug/L	15000	<250 U	<12.5 U	<50 U
2-CHLOROTOLUENE	ug/L	490	<12.5 U	<0.626 U	<2.5 U
2-HEXANONE	ug/L	120	<250 U	<12.5 U	<50 U
4-CHLOROTOLUENE	ug/L	490	<25 U	<1.25 U	<5 U
4-METHYL-2-PENTANONE	ug/L	2000	<250 U	<12.5 U	<50 U
ACETONE	ug/L	22000	<250 U	<12.5 U	<50 U
BENZENE	ug/L	5	<12.5 U	2.51	<2.5 U
BROMOBENZENE	ug/L	200	<12.5 U	<0.626 U	<2.5 U
BROMOCHLOROMETHANE	ug/L	980	<20 U	<1 U	<4 U

Table 4-2: LHAAP-18/24 Semi-Annual Sampling Results - June 2016

Location ID: / Sample Date:	Units	MCL/ PCL	MW21-062216 6/22/2016	MW22-060816 6/8/2016	MW23-061716 6/17/2016
BROMODICHLOROMETHANE	ug/L	15	<25 U	<1.25 U	<5 U
BROMOFORM	ug/L	120	<50 U	<2.5 U	<10 U
BROMOMETHANE	ug/L	34	<50 U	<2.5 U	<10 U
CARBON DISULFIDE	ug/L	2400	<50 U	<2.5 U	<10 U
CARBON TETRACHLORIDE	ug/L	5	<25 U	<1.25 U	<5 U
CHLOROBENZENE	ug/L	100	<12.5 U	<0.626 U	<2.5 U
CHLOROETHANE	ug/L	98000	<50 U	<2.5 U	<10 U
CHLOROFORM	ug/L	240	13.5 J	4.77	4.78 J
CHLOROMETHANE	ug/L	70	<50 U	<2.5 U	<10 U
CIS-1,2-DICHLOROETHENE	ug/L	70	112	5.7	7.33 J
CIS-1,3-DICHLOROPROPENE	ug/L	1.7	<25 U	<1.25 U	<5 U
DIBROMOCHLOROMETHANE	ug/L	11	<25 U	<1.25 U	<5 U
DIBROMOMETHANE	ug/L	120	<25 U	<1.25 U	<5 U
DICHLORODIFLUOROMETHANE	ug/L	4900	<25 U	<1.25 U	<5 U
ETHYLBENZENE	ug/L	700	<25 U	<1.25 U	<5 U
HEXACHLOROBUTADIENE	ug/L	12	<25 U	<1.25 U	<5 U
ISOPROPYLBENZENE	ug/L	2400	<25 U	<1.25 U	<5 U
M,P-XYLENE	ug/L	10000	<50 U	<2.5 U	<10 U
METHYLENE CHLORIDE	ug/L	5	<25 U	<1.25 U	<5 U
NAPHTHALENE	ug/L	490	<20 U	<1 U	<4 U
N-BUTYLBENZENE	ug/L	1200	<25 U	<1.25 U	<5 U
N-PROPYLBENZENE	ug/L	980	<12.5 U	<0.626 U	<2.5 U
O-XYLENE	ug/L	10000	<25 U	<1.25 U	<5 U
P-ISOPROPYLTOLUENE	ug/L	2400	<25 U	<1.25 U	<5 U
SEC-BUTYLBENZENE	ug/L	980	<25 U	<1.25 U	<5 U
STYRENE	ug/L	100	<12.5 U	<0.626 U	<2.5 U
TERT-BUTYLBENZENE	ug/L	980	<25 U	<1.25 U	<5 U
TETRACHLOROETHENE	ug/L	5	<25 U	<1.25 U	<5 U
TOLUENE	ug/L	1000	<25 U	<1.25 U	<5 U
TRANS-1,2-DICHLOROETHENE	ug/L	100	<25 U	<1.25 U	<5 U
TRANS-1,3-DICHLOROPROPENE	ug/L	9.1	<50 U	<2.5 U	<10 U
TRICHLOROETHENE	ug/L	5	6080	488	1170
TRICHLOROFLUOROMETHANE	ug/L	7300	<25 U	<1.25 U	<5 U
VINYL CHLORIDE	ug/L	2	46.2 J	<1.25 U	<5 U
1,4-Dioxane (8270D-SIM)					
1,4-DIOXANE	ug/L	9.1	1.55 J	NA	NA

Location IDs containing "F" indicate sample filtered in the field with 10 micron filter.

Location IDs containing "FD" indicate duplicate samples.

Location IDs containing "B" indicate sample taken at bottom of screened interval and "T" indicate sample taken at top of screened interval.

Blue Highlighting Indicates Analyte Detected Above MCL/PCL

Note: Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

NA - not analyzed

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

U - Undetected: The analyte was analyzed for, but not detected.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

ug/L - micrograms per liter

5 QUALITY CONTROL

This report summarizes the data for samples collected during April, May, and June 2016. The samples were collected in accordance with the Sampling and Analysis Plan for the GWTP (USACE, July 2007) that treats water from LHAAP-18/24 and LHAAP-16. The purpose of the sampling program is to evaluate the effectiveness of the groundwater pump and treat system, assess water quality within the capture zone, and assure compliance with the effluent discharge requirements of the Interim ROD. Quality control and quality assurance problems noted in the case narratives received from the laboratory are minor and do not affect the usability of the data for compliance at the GWTP. No sample results from the 2nd quarter of 2016 were rejected due to quality control problems.

Microbac analyzed the compliance samples collected from the GWTP. Independent data verification and validation was performed by the AECOM project chemist. The laboratory reports for the 2nd quarter of 2016 are included in **Appendix E** on a CD.

6 TREATED GROUNDWATER USED FOR REINJECTION

Reinjection of groundwater in ICT 6 and ICT 9 was discontinued as of July 15, 2012. The last injection occurred on May 24, 2012, immediately prior to the scrubber system malfunction which caused GWTP operation to cease temporarily.

7 AIR MONITORING

7.1 Summary of Air Monitoring Approach

Operation of the GWTP without air abatement was approved by the TCEQ and USEPA conditioned on collection of air monitoring data to determine the effect on GWTP operation on ambient air quality with respect to potential human health exposure risk. An Interim Air Monitoring Plan was developed by AECOM in August 2012 and used to implement the air monitoring program. The air monitoring program included sampling emission concentrations from the air stripper, ambient air at the GWTP, and ambient air downwind of the GWTP. Collection of air data occurred on a weekly basis between September 2012 and September 2013, on a monthly basis between September 2013 and September 2014, and on a quarterly basis since that time. The sampling program includes use of Summa canisters and a photoionization detector (PID) to collect vapor phase concentrations. The air stripper emission sample is collected as a grab sample, while the ambient air samples are collected as composite samples. The GWTP sample is collected over 8 hours to represent a work day and the downwind sample is collected over 24 hours to represent potential exposure to an off-site receptor[1]. The downwind sample is collected at the closest downwind property boundary based on prevailing wind direction.

PID data (after system calibration) are collected each time the GWTP is operated and serves as a real-time indicator of ambient air conditions at the GWTP and downwind. Correlations between analytical air data and PID measurements were established and a means to calculate contaminant concentration from PID measurements was developed. A PID threshold of 0.4 parts per million by volume (ppmv) in ambient air was established, such that Summa canister measurements would take place when the PID threshold is exceeded.

The Summa canister samples are analyzed for VOCs using EPA Method TO-15. The PID results are collected after instrument calibration. The air sampling results are summarized and any exceedances communicated to the USEPA and TCEQ within the first 2 weeks of the ensuing month after air samples were collected using unvalidated sampling data in order to shorten the lead time between sampling and reporting to the agencies. The information includes a summary of analytical results (when collected) and PID readings, calculations of emission rates from the emission point, comparison of ambient air concentrations with TCEQ Air Monitoring Comparison Values (AMCVs) or the short-term Effects Screening Levels (ESLs) for chemicals with no published AMCVs, and a compilation of PID results and calibration records. The air monitoring results to date indicate that all ambient air concentrations are lower than the AMCVs or ESLs. The stripper stack sample concentrations are used to calculate emission rates in pounds per hour (lbs/hr) and tons per year (tpy). The calculated emission rates in lbs/hr are then compared to the allowable emission rates per 30 Texas Administrative Code (TAC)

[1] Off-site receptor--Any recreational area, residence, commercial/industrial facility, or other normally occupied structures not used solely by the owner or operator of the facilities or the owner of the site upon which the facilities are located. Measurements of distances to determine compliance with this distance restriction must be taken toward structures that are in use as of the date that a notification is filed with the commission.

106.533(f)(1). All emission rates have been lower than the allowable emission rates to the conservatively-selected off-site receptor[1]. The calculated emission rate in tpy is compared to the allowable limit of 5 tpy per chemical. All emission rates have been lower than the allowable emission rates.

The air monitoring results from the first few months of operation between September and November 2012 were compiled and submitted in a separate report (December 2012, along with validated data) to TCEQ to demonstrate compliance with Texas Permit By Rule emission standards. Approval of the analytical results and concurrence that the site will continue to meet Title 30 TAC §106.533 without the use of air abatement using a catalytic oxidation system was obtained from the TCEQ via email on February 22, 2013.

On February 18, 2013, AECOM presented analysis of the approach applicable to obtaining a variance for operating the GWTP without air abatement equipment to the TCEQ and EPA. The analysis indicated that the use of Explanation of Significant Difference (ESD) is the appropriate approach for the site. Approval of use of ESD was obtained from the EPA via email on March 21, 2013. The ESD was developed, reviewed, and accepted by EPA and TCEQ. The ESD was signed by the designated parties on April 3, 2014 and concurrence from the TCEQ was obtained in a letter dated April 16, 2014.

7.2 Air Monitoring Results for the 2nd Quarter 2016

A summary of the air sampling results is presented in **Appendix F**. Air samples during the 2nd quarter were collected on May 23, 2016. All results met the criteria described in **Section 7.1**.

7.2.1 Summa Canister Monitoring Results

One sampling event was conducted during the 2nd quarter 2016 using Summa canisters. The samples were collected and analyzed as described in **Section 7.1** and per the approved air monitoring plan dated August 2012. The analytical results were then compiled in spreadsheets where calculations were completed and comparisons to applicable criteria were made as described in **Section 7.1**.

7.2.1.1 Ambient Air Results

Acetone, acetonitrile, benzene, 2-butanone, carbon disulfide, 4-methyl-2-pentanone, ethanol, ethyl acetate, ethylbenzene, d-limonene, methylene chloride, trichloroethene, n-hexane, n-heptane, naphthalene, n-nonane, alpha-pinene, tetrahydrofuran, toluene, dichlorodifluoromethane, trichlorofluoromethane, trichlorotrifluoroethane, 1,2,4-trimethylbenzene, m,p-xylenes, and o-xylene were detected in May 2016 in ambient air downwind of the GWTP.

Compounds originating at the GWTP would be expected to have lower concentrations in the downwind sampling location than at the GWTP sampling location. Likewise, compounds like benzene and trichlorofluoromethane with similar concentrations in both GWTP ambient air and downwind ambient air are suspected to be present in the ambient (background) air. Outside sources of contamination are indicated by compounds such as alpha-Pinene that are not present at the GWTP or compounds with ambient air concentrations lower than the downwind concentrations.

All ambient air results during the quarter met the ambient air criteria.

7.2.1.2 Air Stripper Effluent Results

The VOCs present in groundwater that are removed via the air stripper include 1,1-dichloroethene, 1,2-dichloroethane, cis-1,2-dichloroethene, methylene chloride, tetrachloroethene, trichloroethene, and trichlorotrifluoroethane. The highest reported concentrations are for cis-1,2-dichloroethene, methylene chloride, trichloroethene, and trichlorotrifluoroethane. These compounds are frequently reported in groundwater at the site, with the exception of trichlorotrifluoroethane which is not typically a groundwater analyte at Longhorn. Trichlorotrifluoroethane, however, appears to be present in groundwater as indicated by limited analysis conducted in December 2013, where it was detected in several wells, and from historical accounts. Many of the chemicals that are reported in ambient air are not detected in the air stripper effluent. This is likely because the reporting limit for the air stripper effluent is higher than the reporting limit for the ambient air samples or the source for some of these chemicals are extraneous to groundwater.

All air stripper effluent concentrations were below the emission criteria.

7.2.2 PID Results

Along with collection of Summa canister air samples, PID measurements from the same sources/areas are collected and recorded. These simultaneous measurements allowed establishing a correlation between PID readings and VOC concentrations in the Summa canister air samples. Conversion from PID to compound concentrations was established by TCEQ in 30 TAC §106.533(h). The TCEQ equation allows use of a PID to determine individual compound concentrations if the distribution of chemicals in the ambient air is known or assumed. This allows the use of a PID as a tool to measure VOC concentrations and convert the PID results to estimates of compound concentrations. All ambient air PID measurements during this quarter at the GWTP were reported at 0.0 ppmv. The results of the PID readings collected during GWTP operations are presented in **Appendix F**.

8 COMMENTS AND RESPONSES

Comments were received from the TCEQ on the 1st 2016 Quarterly Report via email dated December 21, 2016.

TCEQ Comments on the 1st Quarter 2016 Report

1. *TCEQ is concerned with the levels of perchlorate remaining in some of the treated water reapplied to the site through irrigation. TCEQ is also concerned with the use of extended irrigation as standard practice at 18/24. In particular, the January 19 and 25 sample results show 3,980 and 3,530 micrograms/liter. Applying such contaminated water back to the site is not consistent with the intended use of irrigation. Irrigation is intended to allow plant operation during times of low flow in Harrison Bayou. Furthermore, looking back to the 2005 approval of irrigation, the INF pond should also be used as part of the complete treatment and holding system. Irrigation was intended for use during dry months when the INF pond was full. This seasonal use has expanded through time to use almost all year. The year round use is because the system often isn't able to meet effluent limits. Irrigation approval was originally based on seasonal lack of flow in Harrison Bayou. Use of the INF pond as a holding tank has been discontinued but additional effluent holding capacity, and possible recirculation through treatment system, should be part of the strategy to allow more discharge to Harrison Bayou.*

Response: Concur. The report has been edited to reflect the order of preference for GWTP effluent discharge: Harrison Bayou (if flowing), INF Pond (if no flow in Harrison Bayou), and irrigation onto LHAAP-18/24 (if INF Pond is full).

EPA Comments on the 1st Quarter 2016 Report via email dated December 21, 2016.

1. *EPA concurs with the comment above from TCEQ. EPA also would add that the site be monitored more closely for runoff during irrigation per the August 2005 Memo from William Corrigan to Rose Zeiler.*

Response: Concur. AECOM is putting the following steps in place to eliminate run-off. While irrigating, site inspections will be performed to ensure pooling and runoff are not occurring. During the irrigation activities, inspections will be performed twice a day and documented in an inspection log. If ponding or runoff is observed, irrigation at that sprinkler line will cease, and irrigation at another sprinkler line will be started if possible. There are three main sprinkler lines. To avoid pooling and runoff of irrigation water, only one line will be used for half a day at a time, with a separate line being used the second half of the day. The three lines will be used in an alternating fashion five days a week, with only one line at a time used for a maximum of half a day at a time. The irrigation will occur 5 days a week for 8 hours each day (using 3 sprinklers in each line). If conditions are wet due to rain events, irrigation will not be conducted to avoid ponding and potential runoff.

APPENDIX A: ICT Layout & GWTP Process Flow Diagram

Table A-1: ICTs Completion Depths

ICT	TOC Elevation	Total Depth	Sump Elevation	Comment
1	186.07	22.5	163.57	Taken out of service in 2007
2	185.02	29.5	155.52	
3	192.27	37.75	154.52	Taken out of service in 2007
4	193.51	37.5	156.01	
5	192.67	35	157.67	Taken out of service in 2007
6	197.30	40.75	156.55	Converted to infiltration in 2007. Ceased reinjection in July 2012.
7	198.03	32.33	165.7	
8	198.97	44.5	154.47	
9	197.64	45.5	152.14	Converted to infiltration in 2007. Ceased reinjection in July 2012.
10	198.07	45.42	152.65	Taken out of service in 2007
11	198.01	43.33	154.68	
12A	189.06	31.5	157.56	Taken out of service in 2007. Reinstituted in December 2012.
12B	191.97	36.25	155.72	
12C	193.90	34.33	159.57	
12D	185.64	33.75	151.89	
12E	183.38	32.25	151.13	
13A	182.59	28.17	154.42	
13B	184.72	29.58	155.14	
13C	186.13	28.17	157.96	
13D	186.72	26.17	160.55	
13E	191.79	27.08	164.71	
13F	197.81	32.33	165.48	
13G	197.03	27.25	169.78	
14A	196.8	43.00	153.8	
14B	197.61	43.42	154.19	
14C	197.86	41.33	156.53	
14D	198.47	44.25	154.22	
14E	198.47	43.08	155.39	

Note(s):

Sump elevation calculated by subtracting total depth from TOC elevation.

ICTs were installed in 1998.

Elevations are reported as feet above mean sea level.

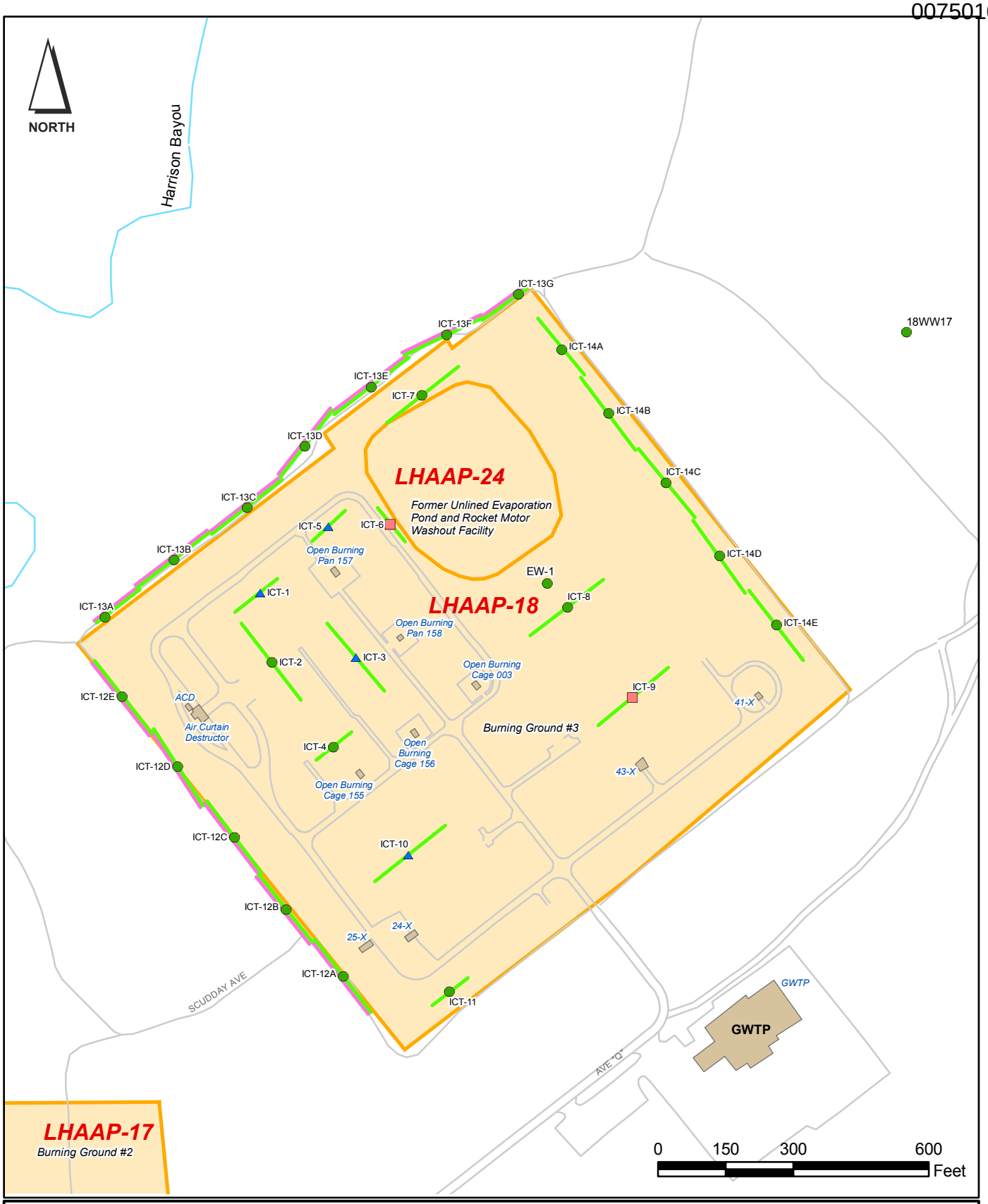
Total depths are reported as feet below TOC.

ICT interceptor collection trench

TOC top of casing, measuring point for groundwater elevations

TOC Elevations and total depth measured in October 2003, 4th Quarter 2003, GWTP Report.

ICT 12A was replaced on December 5,2012 and extraction has resumed.



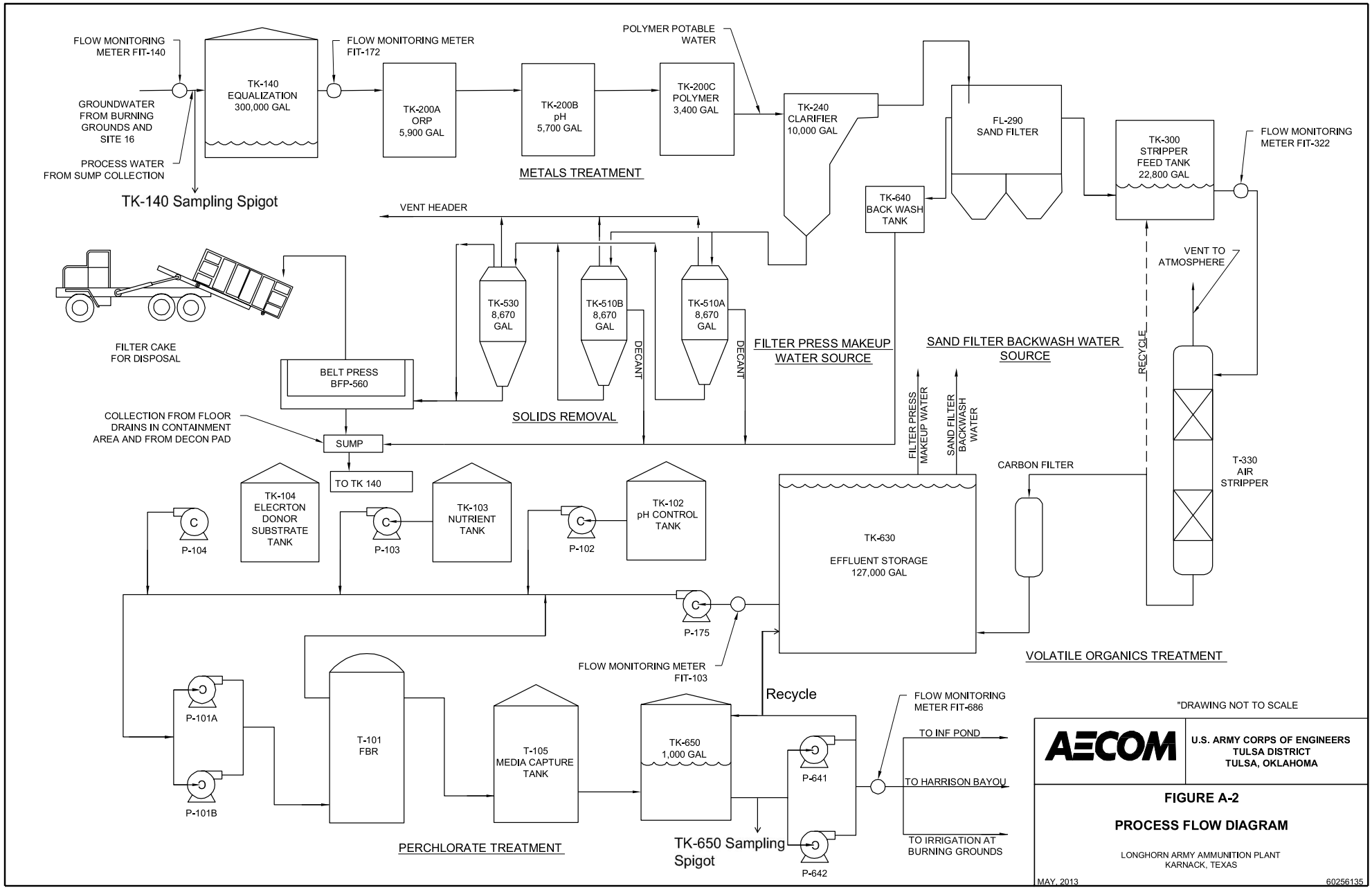
LEGEND

- Extraction Location
- Deactivated ICT Sump
- Injection Point – inactive since May 24, 2012
- ICT Location
- HDPE Liner Installed on the Outside of the ICT
- Stream
- Road
- Building or Pad
- Site

AECOM

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE A-1
SITE VICINITY MAP
LHAAP-18/24


FLOW MONITORING METER FIT-140
GROUNDWATER FROM BURNING GROUNDS AND SITE 16
PROCESS WATER FROM SUMP COLLECTION
TK-140 EQUALIZATION 300,000 GAL
TK-140 Sampling Spigot
FLOW MONITORING METER FIT-172
TK-200A ORP 5,900 GAL
TK-200B pH 5,700 GAL
POLYMER POTABLE WATER
TK-200C POLYMER 3,400 GAL
METALS TREATMENT
TK-240 CLARIFIER 10,000 GAL
FL-290 SAND FILTER
TK-640 BACK WASH TANK
TK-300 STRIPPER FEED TANK 22,800 GAL
FLOW MONITORING METER FIT-322
VENT TO ATMOSPHERE
VENT HEADER
FILTER CAKE FOR DISPOSAL
BELT PRESS BFP-560
TK-530 8,670 GAL
TK-510B 8,670 GAL
TK-510A 8,670 GAL
DECANT
DECANT
SOLIDS REMOVAL
FILTER PRESS MAKEUP WATER SOURCE
SAND FILTER BACKWASH WATER SOURCE
RECYCLE
FILTER PRESS MAKEUP WATER
SAND FILTER BACKWASH WATER
COLLECTION FROM FLOOR DRAINS IN CONTAINMENT AREA AND FROM DECON PAD
SUMP
TO TK 140
CARBON FILTER
T-330 AIR STRIPPER
TK-104 ELECRTON DONOR SUBSTRATE TANK
TK-103 NUTRIENT TANK
TK-102 pH CONTROL TANK
P-104
P-103
P-102
TK-630 EFFLUENT STORAGE 127,000 GAL
P-175
VOLATILE ORGANICS TREATMENT
FLOW MONITORING METER FIT-103
Recycle
FLOW MONITORING METER FIT-686
"DRAWING NOT TO SCALE
P-101A
P-101B
T-101 FBR
T-105 MEDIA CAPTURE TANK
TK-650 1,000 GAL
P-641
P-642
TO INF POND
TO HARRISON BAYOU
TO IRRIGATION AT BURNING GROUNDS
PERCHLORATE TREATMENT
TK-650 Sampling Spigot
AECOM
U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA
FIGURE A-2
PROCESS FLOW DIAGRAM
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
MAY, 2013
60256135

APPENDIX B: Groundwater Elevation Contour Maps

Table B-1: Extraction Equipment Maintenance Since 2011

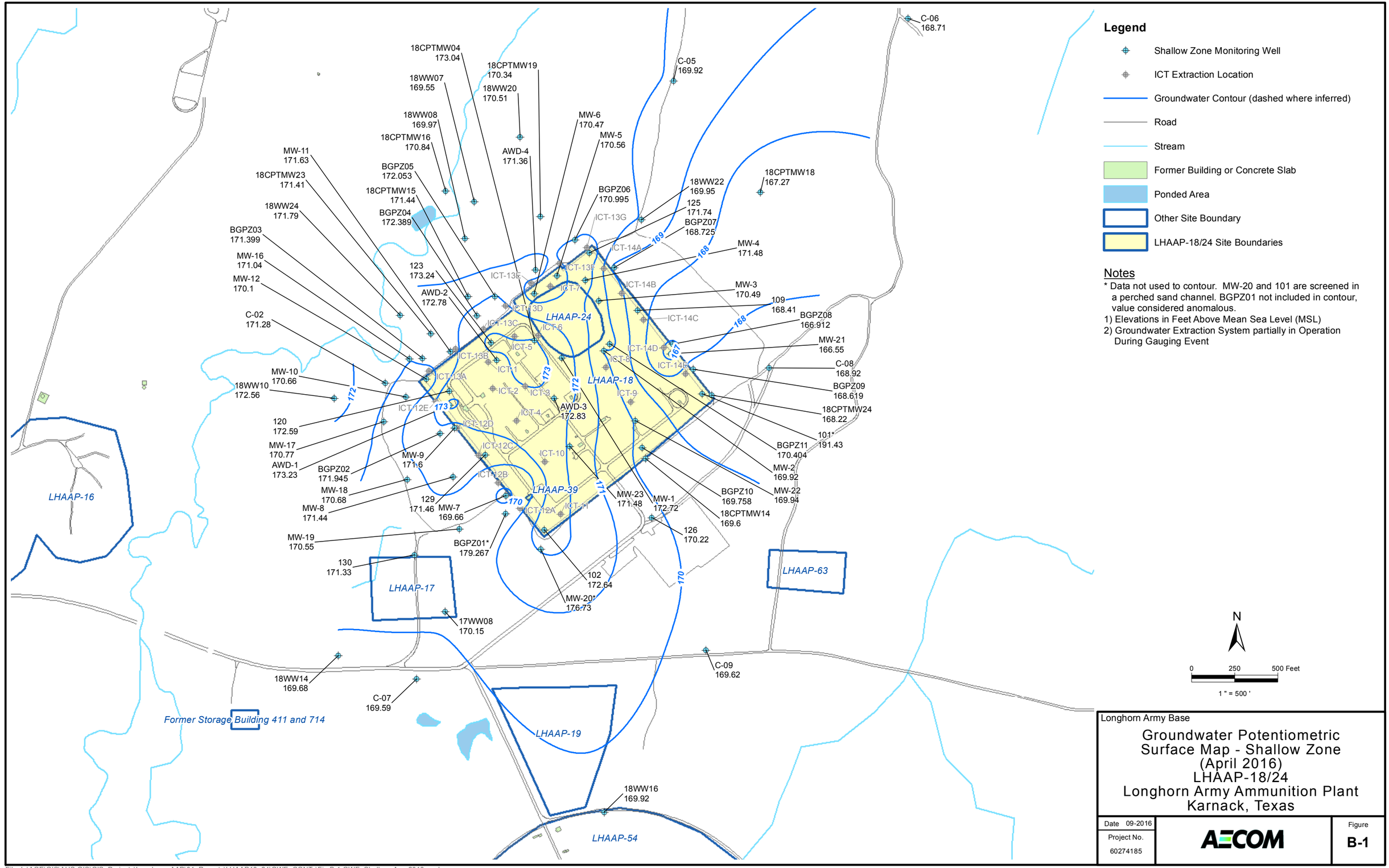
LHAAP-18/24			
Well I.D.	**Replaced Parts**	**Date**	**Contractor**
ICT 14E	pump	3/15/2012	Shaw
ICT 14D	pump, motor, level probes	3/16/2012	Shaw
ICT 14B	pump, level probes, level probe wire	3/16/2012	Shaw
ICT 14A	pump, motor, level probes, level probe wire	3/17/2012	Shaw
ICT 2	pump, motor	3/17/2012	Shaw
ICT 13D	pump	3/19/2012	Shaw
ICT 13B	pump	3/20/2012	Shaw
ICT 14E	pump, motor, broken piping	11/19/2012	AECOM
ICT 13C	pump	11/20/2012	AECOM
ICT13E	Pump	11/20/2012	AECOM
ICT 12A	pump, motor, wiring harness, level probes, level probe wire	12/5/2012	AECOM
ICT 7	pump, motor, wiring harness, level probes	12/6/2012	AECOM
ICT2	pump	6/10/2013	AECOM
ICT 13C	pump	6/11/2013	AECOM
ICT 13D	pump	6/12/2013	AECOM
ICT 14E	pump rebuilt	6/15/2013	AECOM
ICT 14E	Replaced low level switch	6/19/2013	AECOM
ICT 13C	pump, wiring harness, flow meter	4/15/2014	AECOM
ICT 14D	Repaired level probes	6/24/2014	AECOM
ICT 14E	Repaired level probes	6/24/2014	AECOM
ICT 14E	pump and motor troubleshooting	6/26/2014	AECOM
ICT2, 13F, 14C, 14D, 14E	Repaired level probes	7/7/2014	AECOM
ICT 12E	pump, motor	10/2/2014	AECOM
ICT 12E	wiring harness, fixed leak	10/8/2014	AECOM
ICT 12E	level probes	10/9/2014	AECOM
ICT13A	pump, piping	10/15/2014	AECOM
ICT 12E	Repaired leaking fittings	10/16/2014	AECOM
ICT 11	1" tee and 1" elbow	1/13/2015	AECOM
ICT 12B	Flow meter	1/13/2015	AECOM
ICT 7	1" tee, repaired 1" pipe	1/13/2015	AECOM
ICT 13A	Flow meter	1/15/2015	AECOM
ICT 13B	Pump	1/15/2015	AECOM
ICT 13C	Pump	1/16/2015	AECOM
ICT 7	Low level probe	1/16/2015	AECOM
ICT 13D	Pump, level probes	1/17/2015	AECOM
ICT 14C	Low level probe	1/17/2015	AECOM
ICT 14C	Low level probe	1/29/2015	AECOM
ICT 14D	Low level probe	1/29/2015	AECOM
ICT 13D	Level probes	1/29/2015	AECOM
ICT 2	Pump	1/30/2015	AECOM
ICT 8	Fuse	3/2/2015	AECOM
ICT 8	Fuse	3/9/2015	AECOM
ICT 12E	Flow meter	3/13/2015	AECOM
ICT 13D	Union	3/13/2015	AECOM

Table B-1: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 14C	Cleaned level probes	4/1/2015	AECOM
ICT 14D	Cleaned level probes	4/1/2015	AECOM
ICT 13A	Cleaned level probes	4/21/2015	AECOM
ICT 14C	Cleaned level probes	4/21/2015	AECOM
ICT 8	Low level probe	7/24/2015	AECOM
ICT 13C	Installed New Pump	7/28/2015	AECOM
ICT 14C	Installed New Pump and Electric Motor	7/29/2015	AECOM
ICT 14E	Installed New Pump and Electric Motor	7/31/2015	AECOM
ICT 12E	Repaired wiring	8/12/2015	AECOM
ICT 13E	Replaced high and low level probes	8/12/2015	AECOM
ICT 2	Installed Rebuilt Pump	9/9/2015	AECOM
ICT 12 E, ICT 14E	Replaced high level probe and wiring	9/15/2015	AECOM
ICT 13A	Installed new pump	12/23/2015	AECOM
ICT 13B	Installed new pump	12/24/2015	AECOM
ICT 13D	Replaced high level probe	2/11/2016	Aerotek
ICT 14C	Replace low level probe on ICT 14C	2/15/2016	Aerotek
ICT 8	Installed new pump and electric motor	2/19/2016	Aerotek
ICT 14C	Repaired piping leak	3/10/2016	Aerotek
ICT 14E	Installed high and low level probes, level probe wire	3/22/2016	Aerotek
ICT 13D, ICT 14B	Installed high and low level probes, level probe wire	3/24/2016	Aerotek
ICT 14B	Installed new pump and electric motor	3/31/2016	Aerotek
ICT 14C	Intalled new low level probe	4/20/2016	Aerotek
ICT 12B	Installed new mechanical flow meter	6/16/2016	Aerotek

LHAAP-16

Well I.D.	Replaced Parts	Date	Contractor
EW08	New pump	2/28/2011	Shaw
EW01	Rebuild pump	8/25/2011	Shaw
EW06	Rebuild pump	8/25/2011	Shaw
EW02	Rebuild pump	2/12/2012	Shaw
EW03	Rebuild pump	2/12/2012	Shaw
EW08	Rebuild pump	11/8/2012	AECOM
EW01	Rebuild pump	11/8/2012	AECOM
EW04	Repair pump	11/13/2012	AECOM
EW07	Rebuild pump	11/13/2012	AECOM
EW04	Installed New Pump	11/28/2012	AECOM
EW06	Installed New Pump	11/28/2012	AECOM
EW02	Installed New Pump	12/4/2012	AECOM
EW03	Installed New Pump	12/4/2012	AECOM
EW01	Installed New Pump	12/17/2012	AECOM
EW01	Replaced Low level probe	1/17/2015	AECOM



Legend

- Shallow Zone Monitoring Well
- ICT Extraction Location
- Groundwater Contour (dashed where inferred)
- Road
- Stream
- Former Building or Concrete Slab
- Ponded Area
- Other Site Boundary
- LHAAP-18/24 Site Boundaries

Notes

* Data not used to contour. MW-20 and 101 are screened in a perched sand channel. BGPZ01 not included in contour, value considered anomalous.

1) Elevations in Feet Above Mean Sea Level (MSL)
2) Groundwater Extraction System partially in Operation During Gauging Event

N

0 250 500 Feet

1 " = 500 '

Longhorn Army Base

Groundwater Potentiometric Surface Map - Shallow Zone (April 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-1
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\GWE_CONTs\Fig B-1 GWE_Shallow_Apr_2016.mxd
Date: Monday, September 19, 2016 1:53:55 PM

Legend

- Shallow Zone Monitoring Well
- ICT Extraction Location
- Groundwater Contour (dashed where inferred)
- Road
- Stream
- Former Building or Concrete Slab
- Ponded Area
- Other Site Boundary
- LHAAP-18/24 Site Boundaries

Notes

* Data not used to contour. MW-20 and 101 are screened in a perched sand channel. BGPZ01 not included in contour, value considered anomalous.

1) Elevations in Feet Above Mean Sea Level (MSL)
2) Groundwater Extraction System partially in Operation During Gauging Event

N

0 250 500 Feet

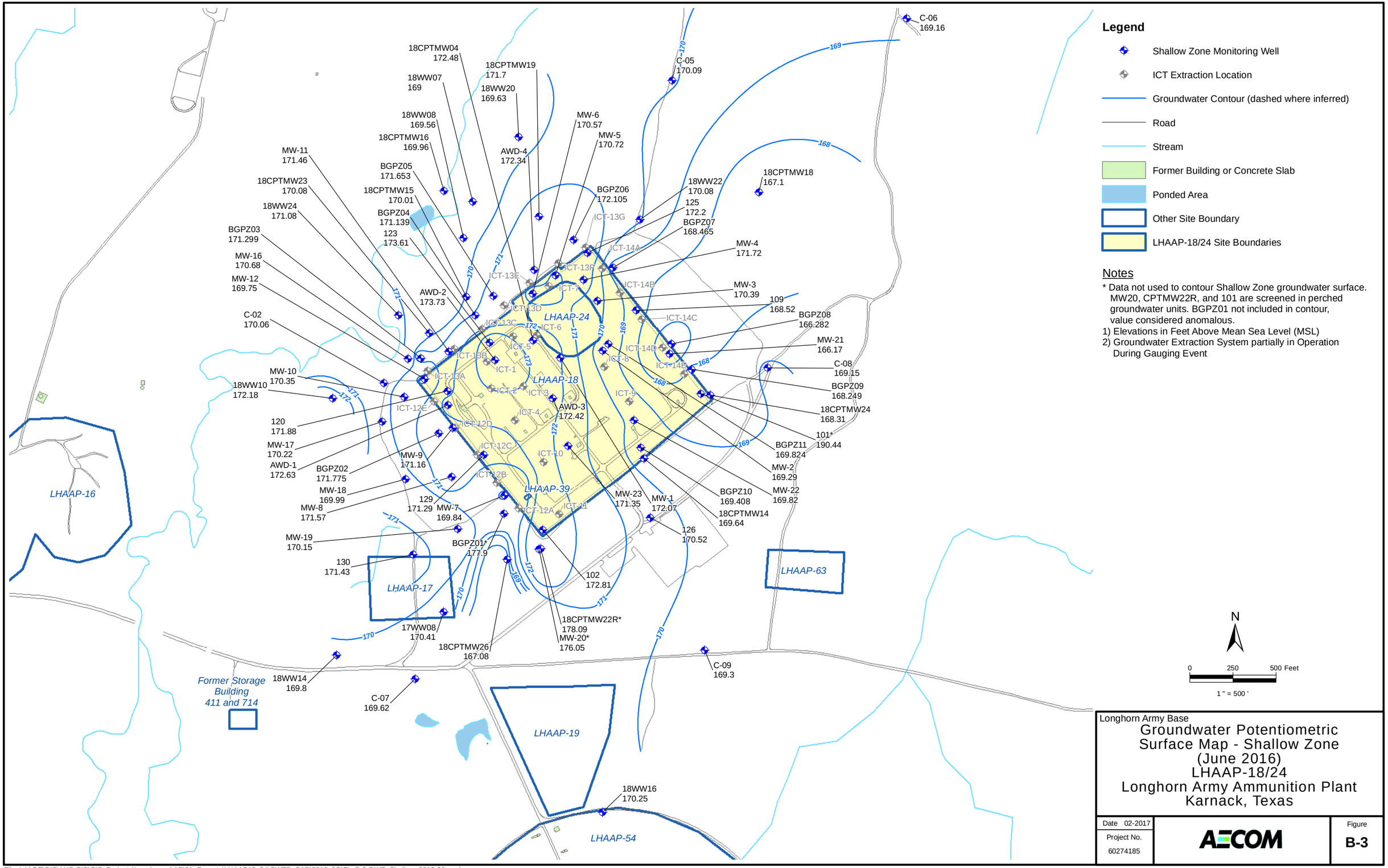
1 " = 500 '

Longhorn Army Base

Groundwater Potentiometric Surface Map - Shallow Zone (May 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-2
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\GWE_CONTs\Fig B-2 GWE_Shallow_May_2016.mxd
Date: Friday, September 16, 2016 12:41:14 PM



Legend

- Shallow Zone Monitoring Well
- ICT Extraction Location
- Groundwater Contour (dashed where inferred)
- Road
- Stream
- Former Building or Concrete Slab
- Ponded Area
- Other Site Boundary
- LHAAP-18/24 Site Boundaries

Notes

* Data not used to contour Shallow Zone groundwater surface. MW20, CPTMW22R, and 101 are screened in perched groundwater units. BGPZ01 not included in contour, value considered anomalous.

1) Elevations in Feet Above Mean Sea Level (MSL)
2) Groundwater Extraction System partially in Operation During Gauging Event

N

0 250 500 Feet

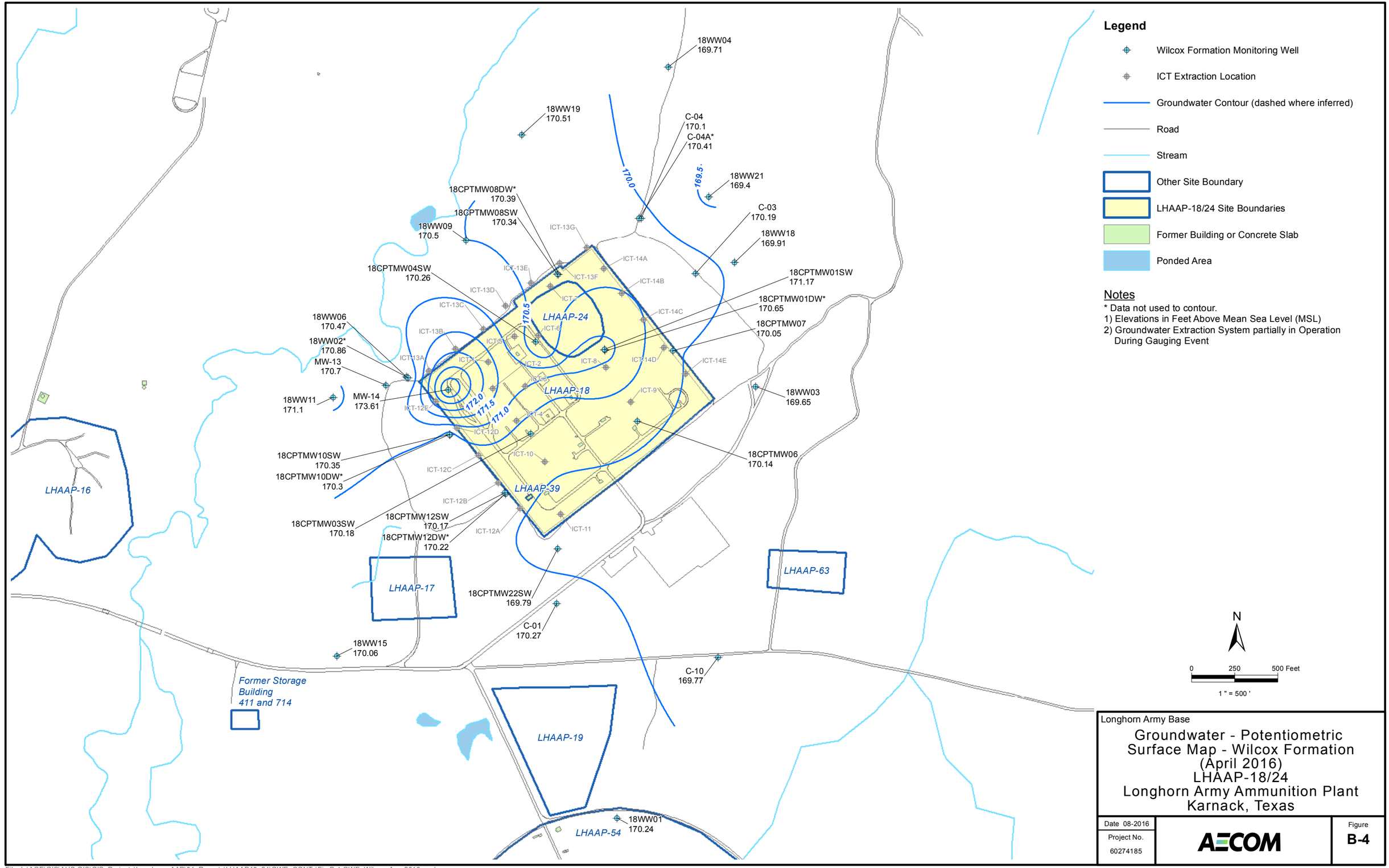
1 " = 500 '

Longhorn Army Base

Groundwater Potentiometric Surface Map - Shallow Zone (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 02-2017	AECOM	Figure B-3
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\GWTP_SAP\2016_3Q\Fig B-3 GWE_Shallow_2016-06.mxd
Date: Wednesday, February 15, 2017 3:02:02 PM



Legend

- Wilcox Formation Monitoring Well
- ICT Extraction Location
- Groundwater Contour (dashed where inferred)
- Road
- Stream
- Other Site Boundary
- LHAAP-18/24 Site Boundaries
- Former Building or Concrete Slab
- Ponded Area

Notes

* Data not used to contour.
1) Elevations in Feet Above Mean Sea Level (MSL)
2) Groundwater Extraction System partially in Operation During Gauging Event

N

0 250 500 Feet

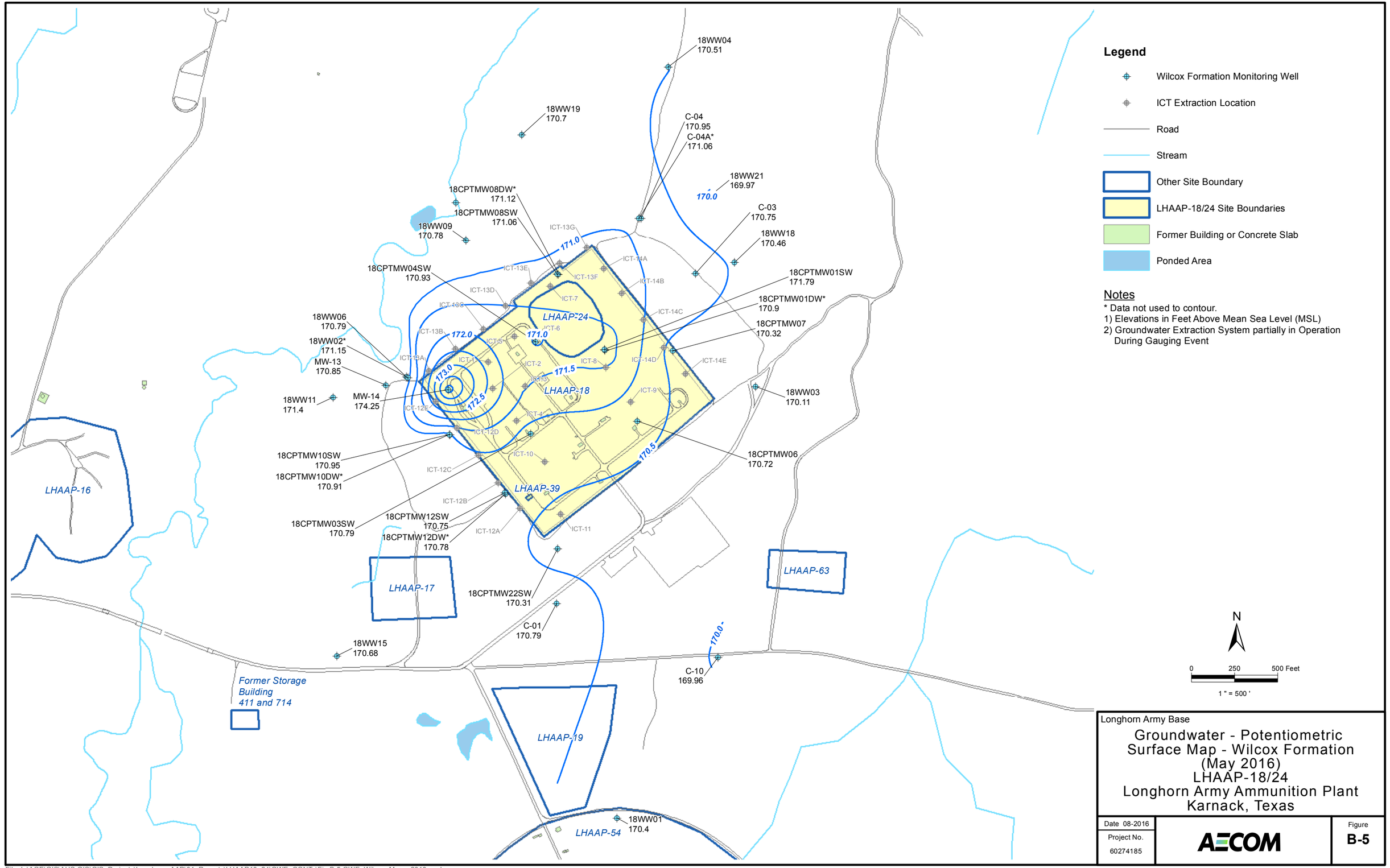
1 " = 500 '

Longhorn Army Base

Groundwater - Potentiometric Surface Map - Wilcox Formation (April 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 08-2016	AECOM	Figure B-4
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\GWE_CONTs\Fig B-4 GWE_Wilcox_Apr_2016.mxd
Date: Friday, September 16, 2016 12:56:11 PM

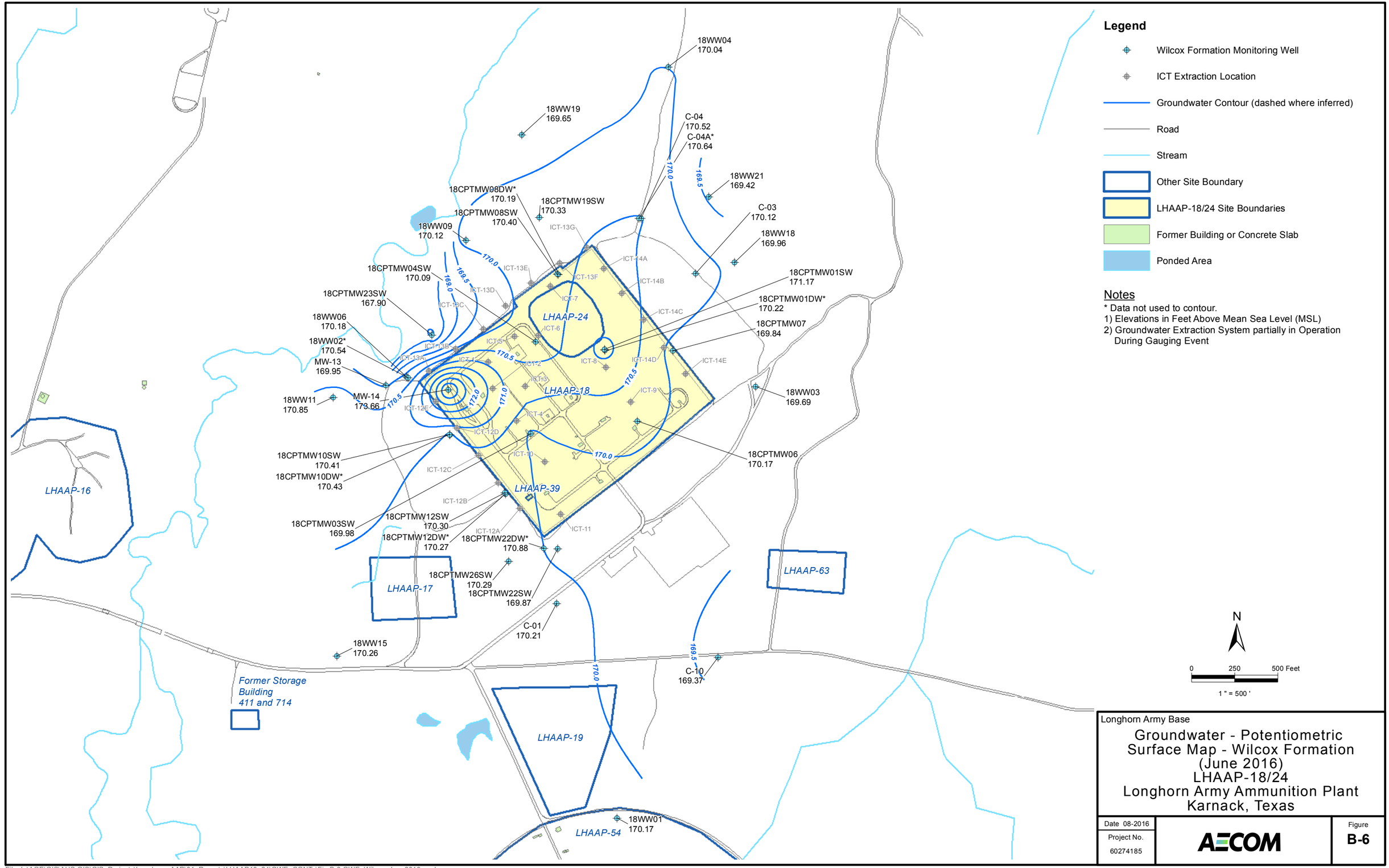


Longhorn Army Base

Groundwater - Potentiometric Surface Map - Wilcox Formation (May 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 08-2016	AECOM	Figure B-5
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\GWE_CONTs\Fig B-5 GWE_Wilcox_Maay_2016.mxd
Date: Monday, September 19, 2016 3:16:10 PM



Legend

- Wilcox Formation Monitoring Well
- ICT Extraction Location
- Groundwater Contour (dashed where inferred)
- Road
- Stream
- Other Site Boundary
- LHAAP-18/24 Site Boundaries
- Former Building or Concrete Slab
- Ponded Area

Notes

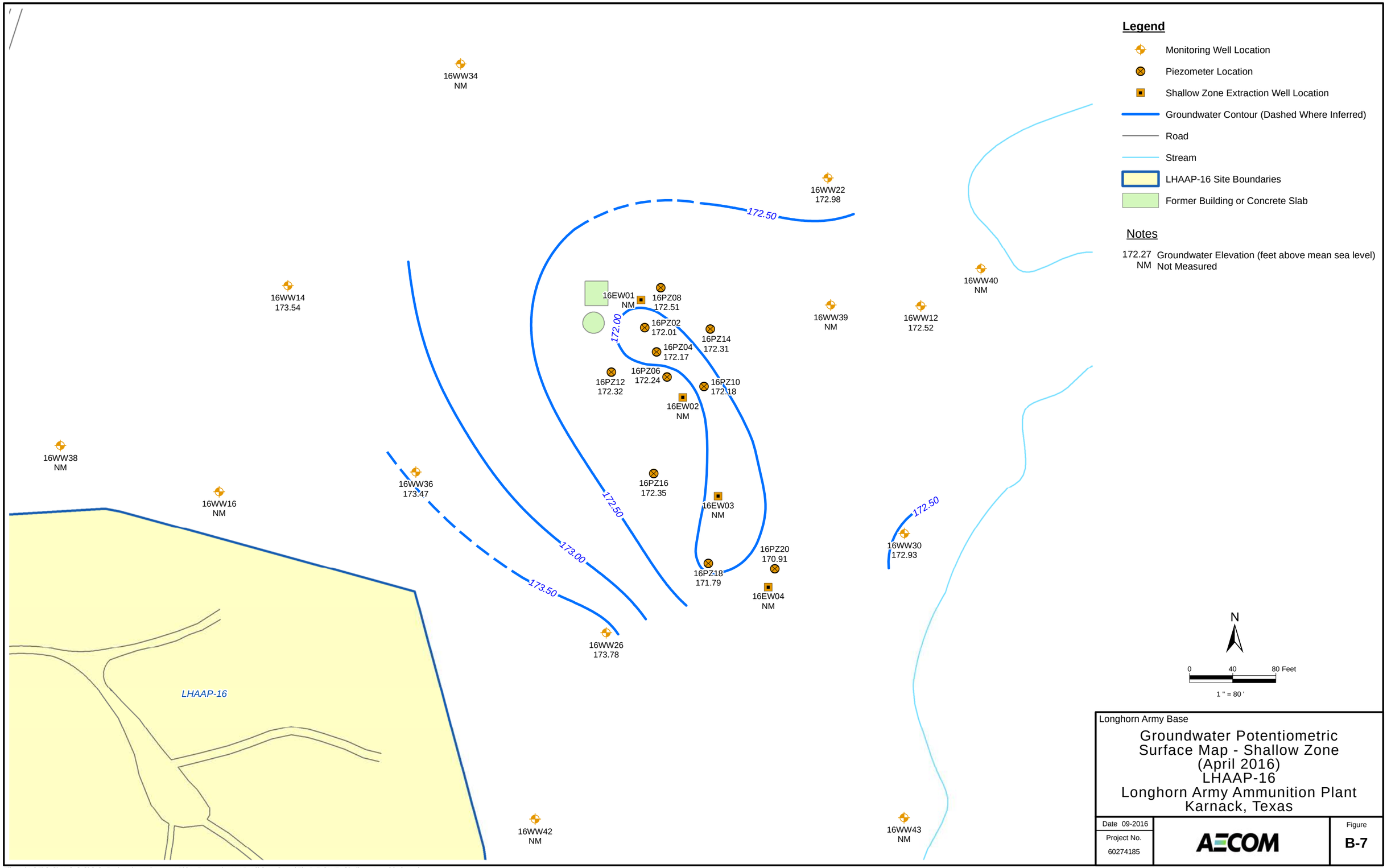
* Data not used to contour.
1) Elevations in Feet Above Mean Sea Level (MSL)
2) Groundwater Extraction System partially in Operation During Gauging Event

Longhorn Army Base

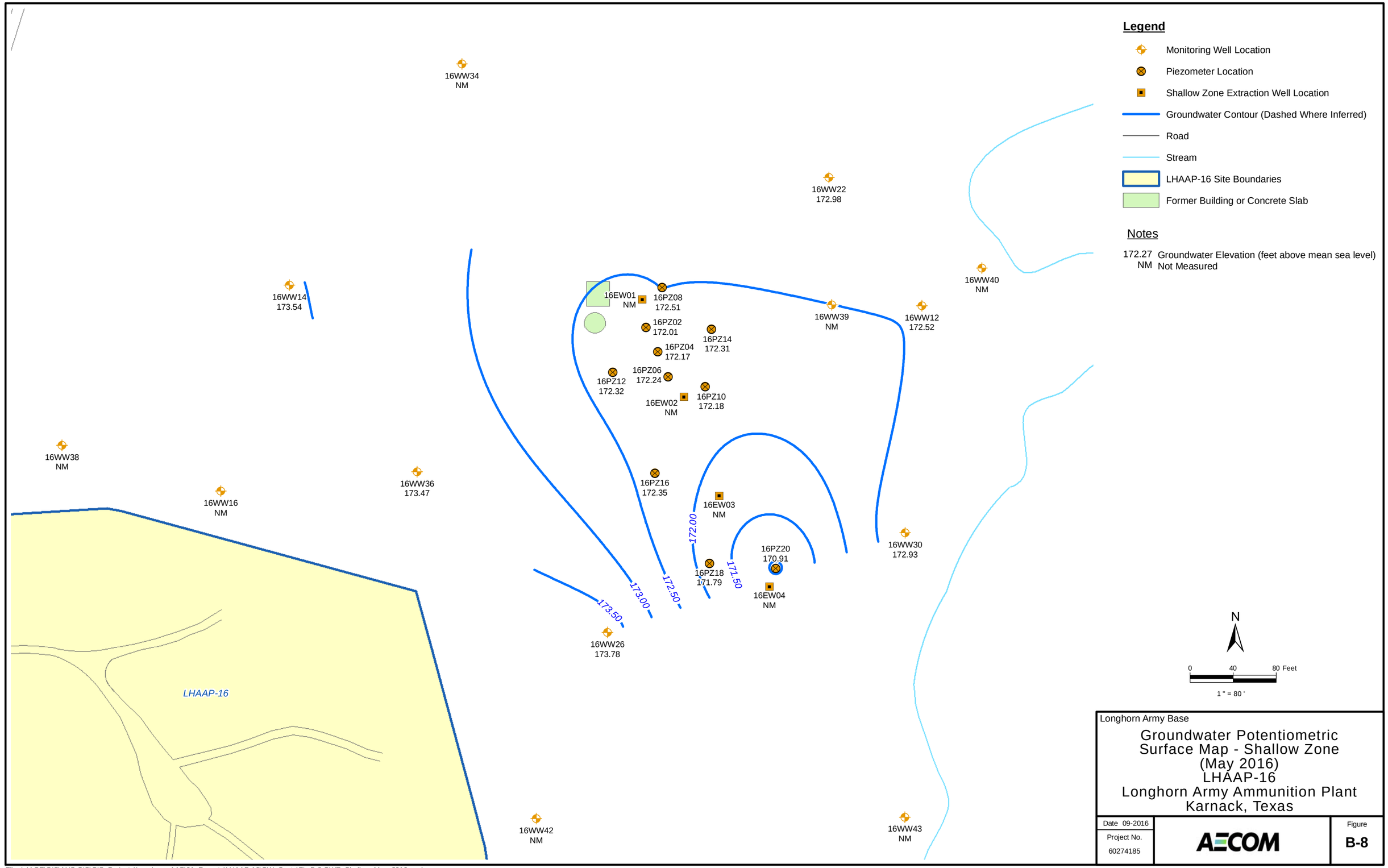
Groundwater - Potentiometric Surface Map - Wilcox Formation (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 08-2016	AECOM	Figure B-6
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\GWE_CONTs\Fig B-6 GWE_Wilcox_Jun_2016.mxd
Date: Thursday, September 22, 2016 5:00:46 PM



File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-16\GW_Conts\Fig B-7 GWE_Shallow_Apr_2016.mxd
Date: Tuesday, September 20, 2016 11:32:57 AM

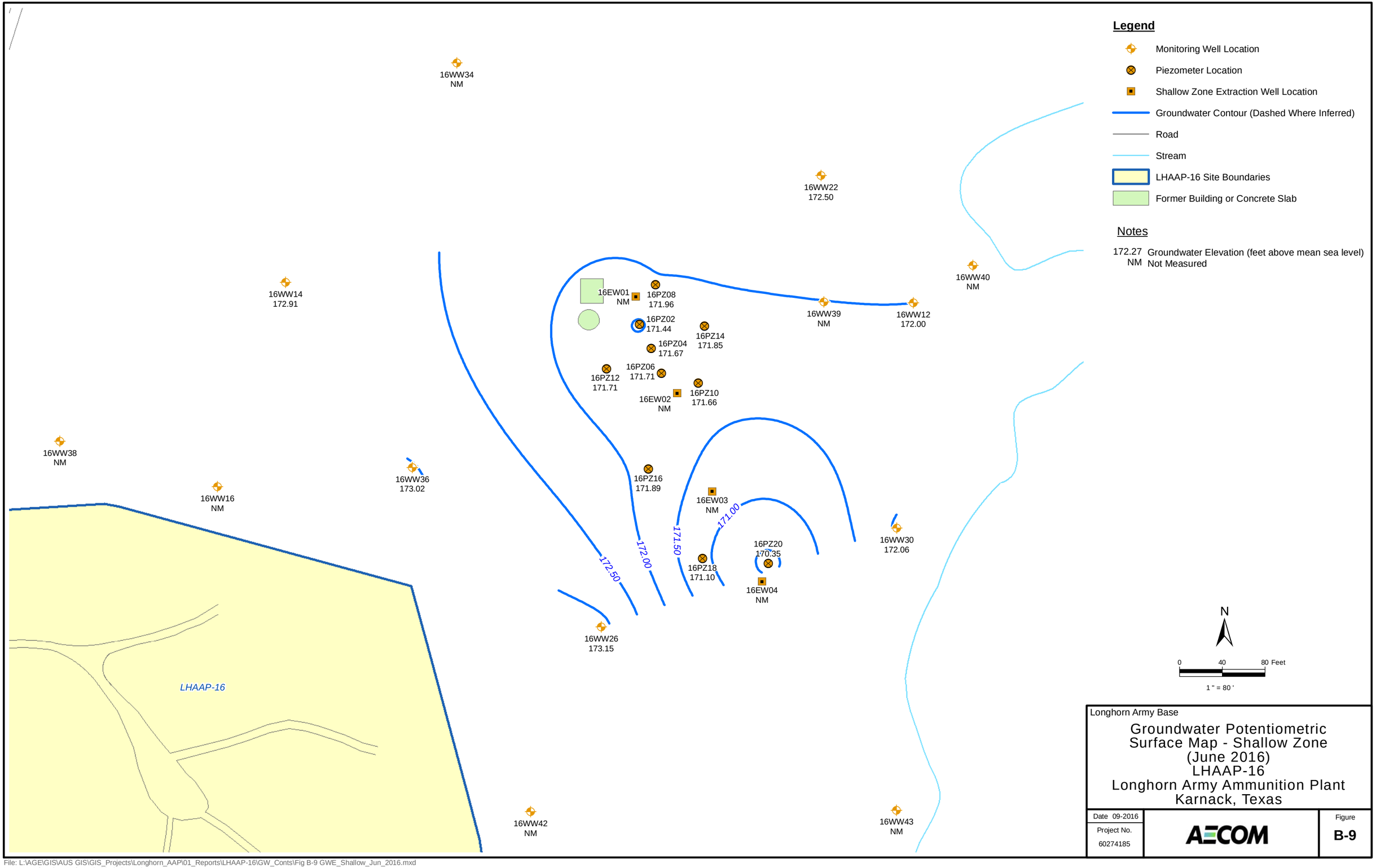


Longhorn Army Base

Groundwater Potentiometric Surface Map - Shallow Zone (May 2016) LHAAP-16 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-8
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-16\GW_Conts\Fig B-8 GWE_Shallow_May_2016.mxd
Date: Monday, September 12, 2016 2:36:58 AM

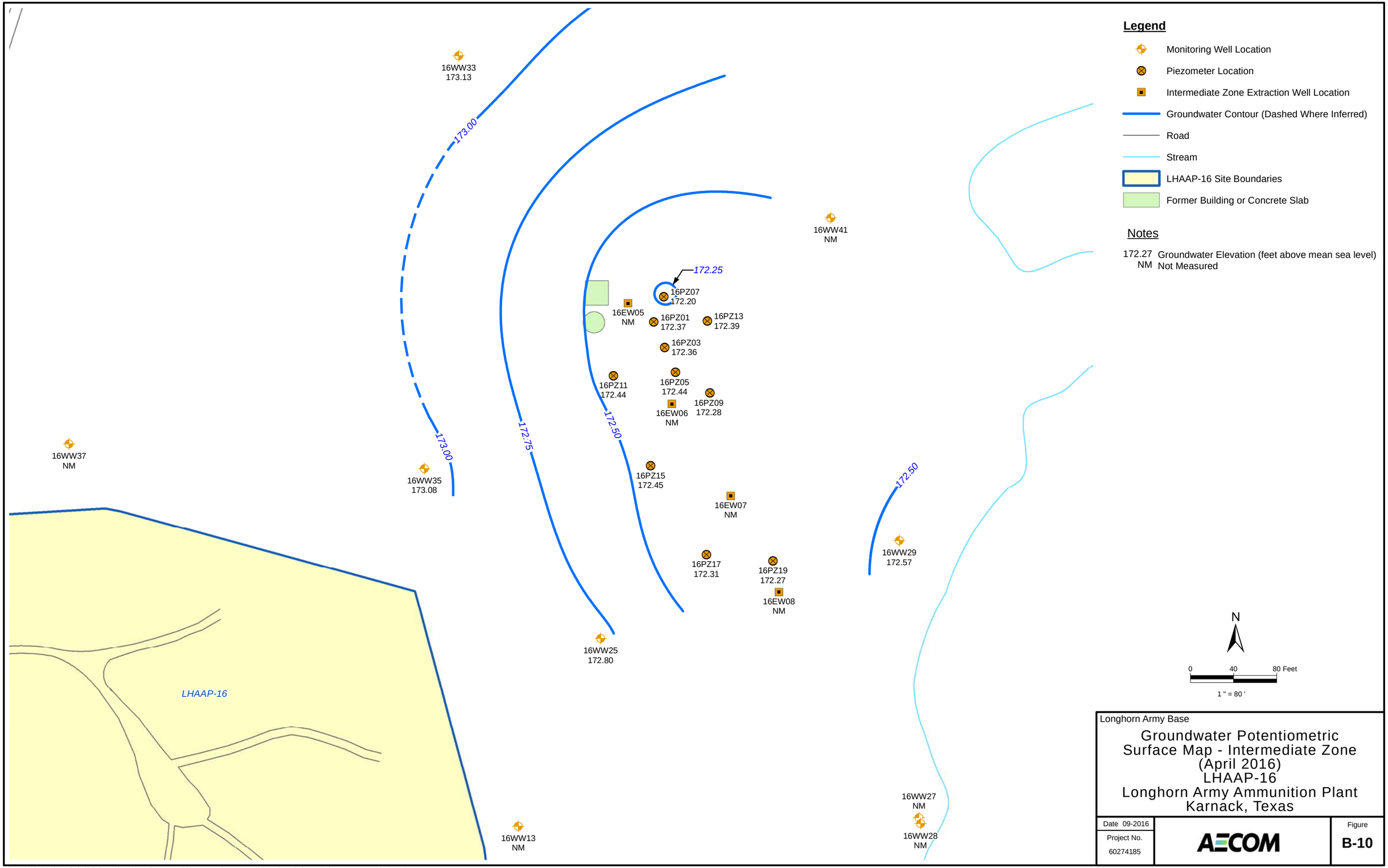


Longhorn Army Base

Groundwater Potentiometric Surface Map - Shallow Zone (June 2016) LHAAP-16 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-9
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-16\GW_Conts\Fig B-9 GWE_Shallow_Jun_2016.mxd
Date: Monday, September 12, 2016 2:41:13 AM

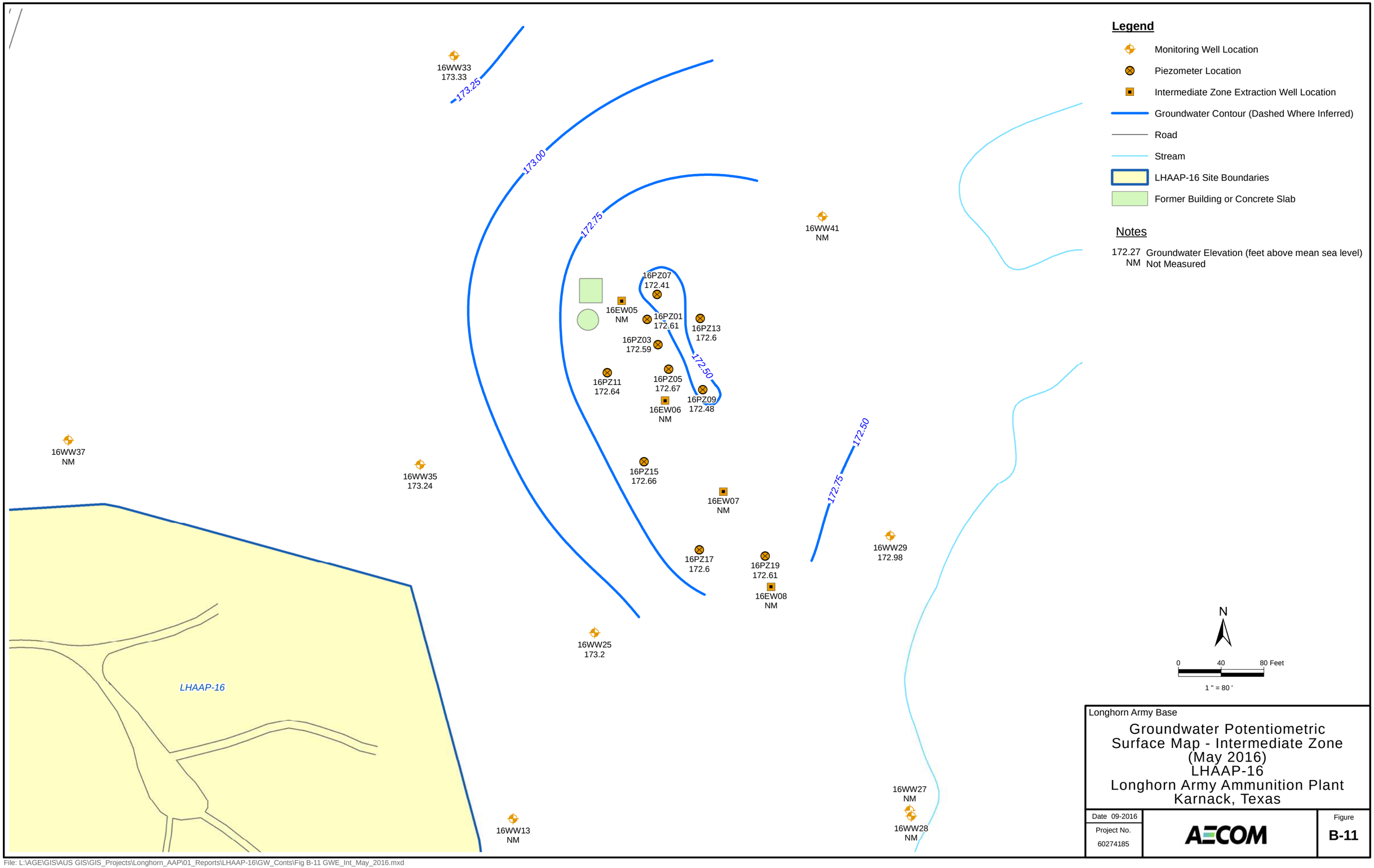


Longhorn Army Base

Groundwater Potentiometric Surface Map - Intermediate Zone (April 2016) LHAAP-16 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-10
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-16\GW_Conts\Fig B-10 GWE_Int_Apr_2016.mxd
Date: Tuesday, September 20, 2016 12:04:58 PM

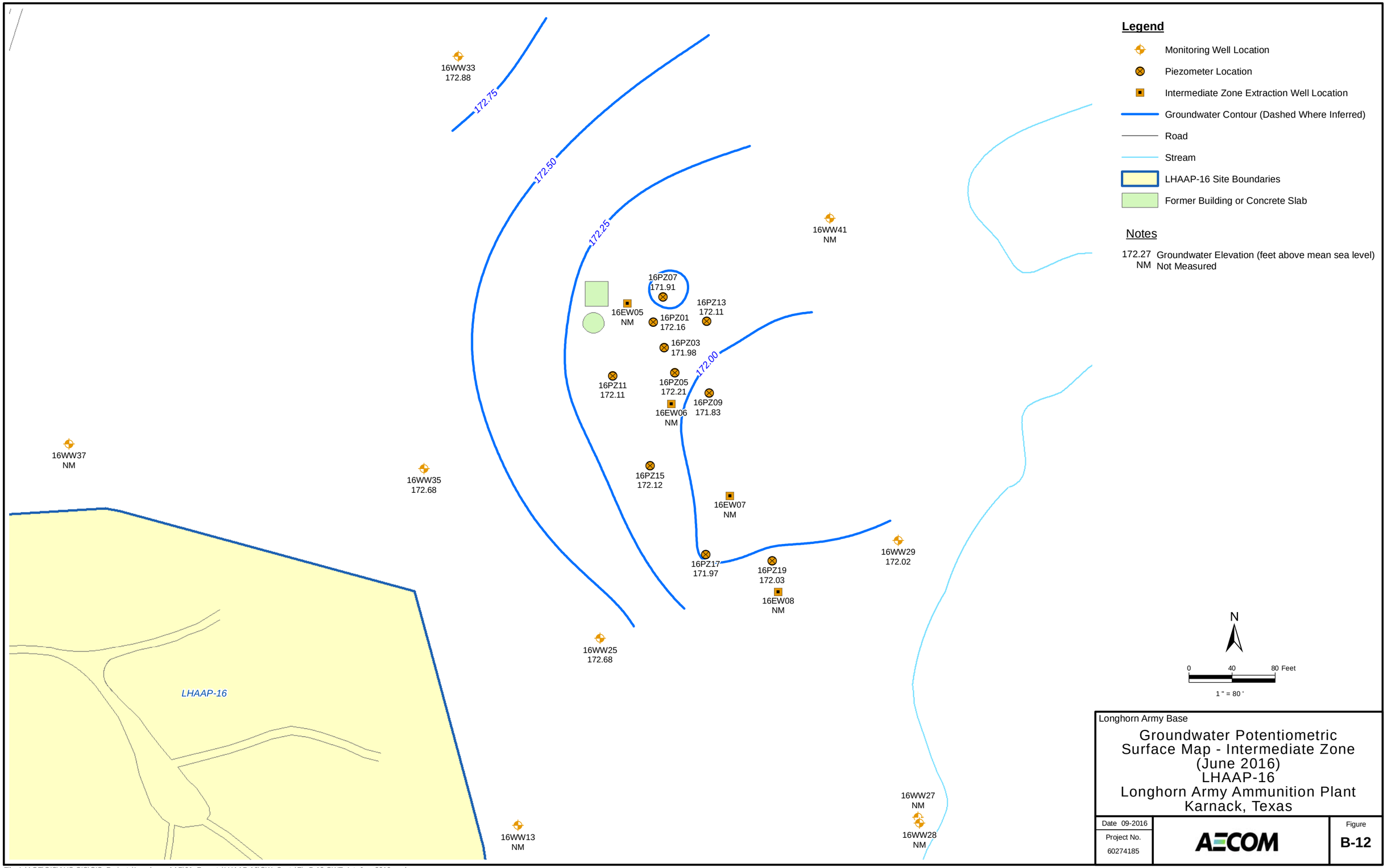


Longhorn Army Base

Groundwater Potentiometric Surface Map - Intermediate Zone (May 2016) LHAAP-16 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-11
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-16\GW_Conts\Fig B-11 GWE_Int_May_2016.mxd
Date: Tuesday, September 20, 2016 12:43:45 PM



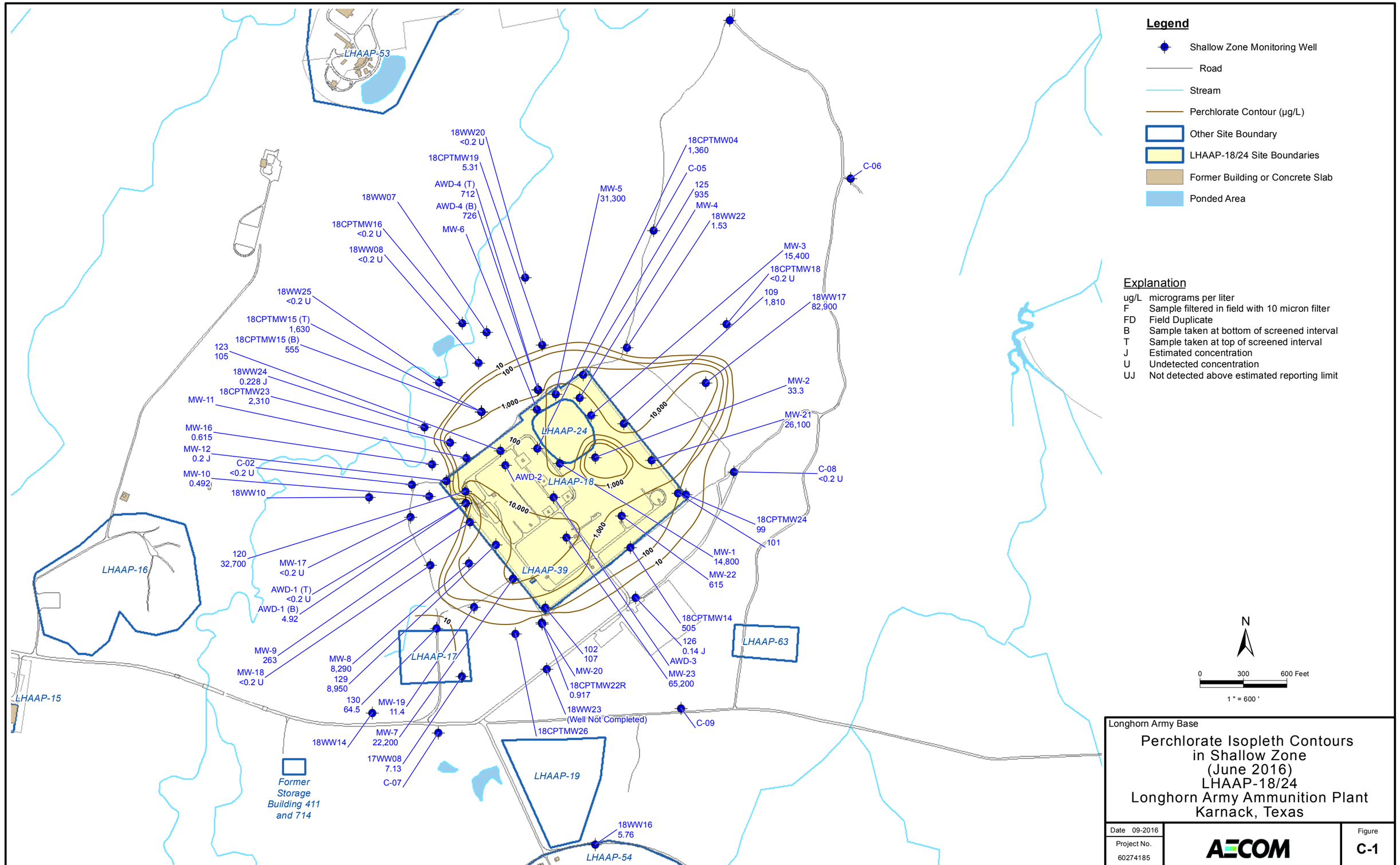
Longhorn Army Base

Groundwater Potentiometric Surface Map - Intermediate Zone (June 2016) LHAAP-16 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure B-12
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP-16\GW_Conts\Fig B-12 GWE_Int_Jun_2016.mxd
Date: Monday, September 12, 2016 4:01:34 AM

APPENDIX C: Isoconcentration Maps



Legend

- Shallow Zone Monitoring Well
- Road
- Stream
- Perchlorate Contour (µg/L)
- Other Site Boundary
- LHAAP-18/24 Site Boundaries
- Former Building or Concrete Slab
- Ponded Area

Explanation

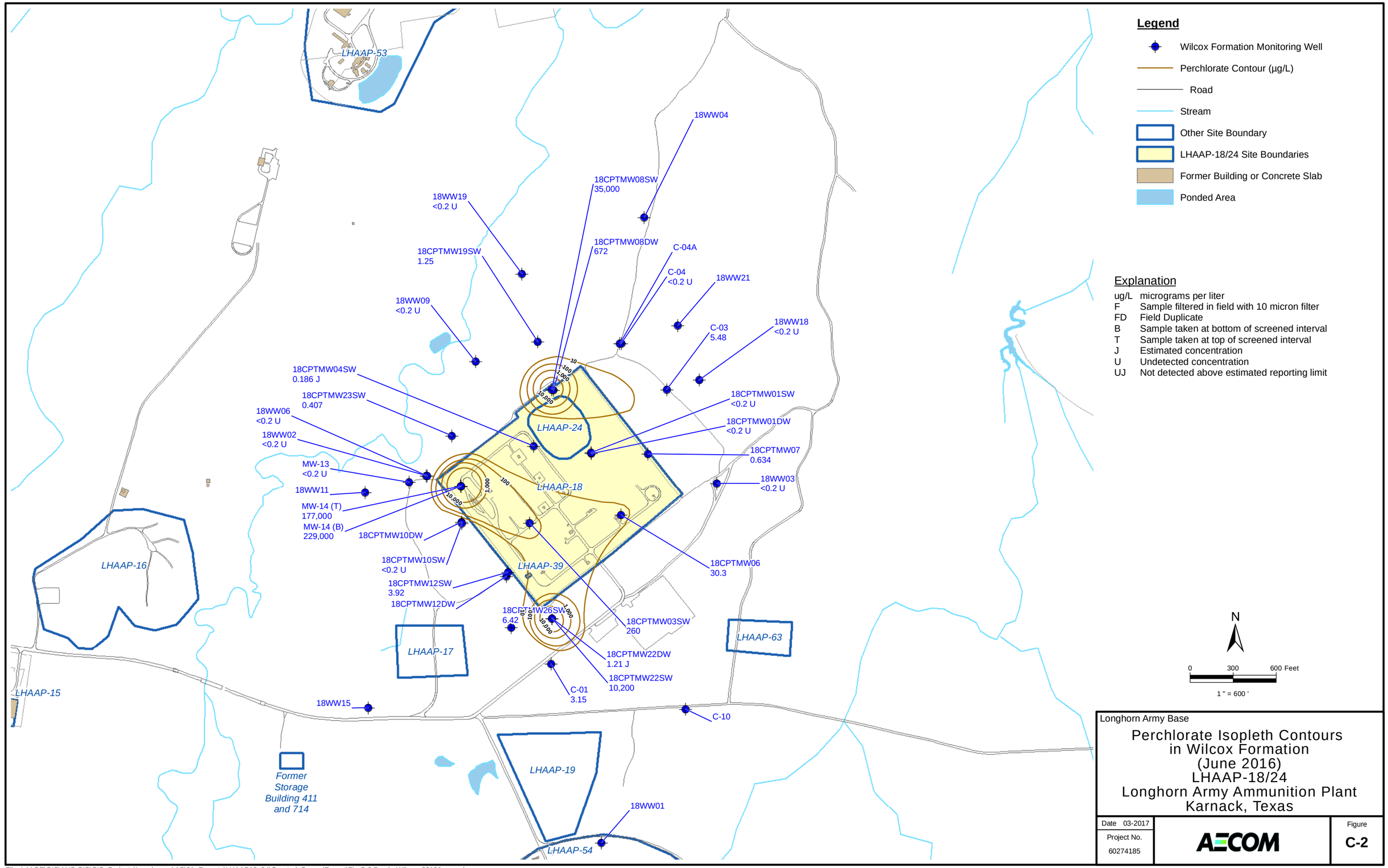
ug/L	micrograms per liter
F	Sample filtered in field with 10 micron filter
FD	Field Duplicate
B	Sample taken at bottom of screened interval
T	Sample taken at top of screened interval
J	Estimated concentration
U	Undetected concentration
UJ	Not detected above estimated reporting limit

Longhorn Army Base

Perchlorate Isopleth Contours in Shallow Zone (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure C-1
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\PSI_Addendum\Fig C-1 Perch_Shallow_2016Jun.mxd
Date: Monday, September 26, 2016 9:22:24 PM

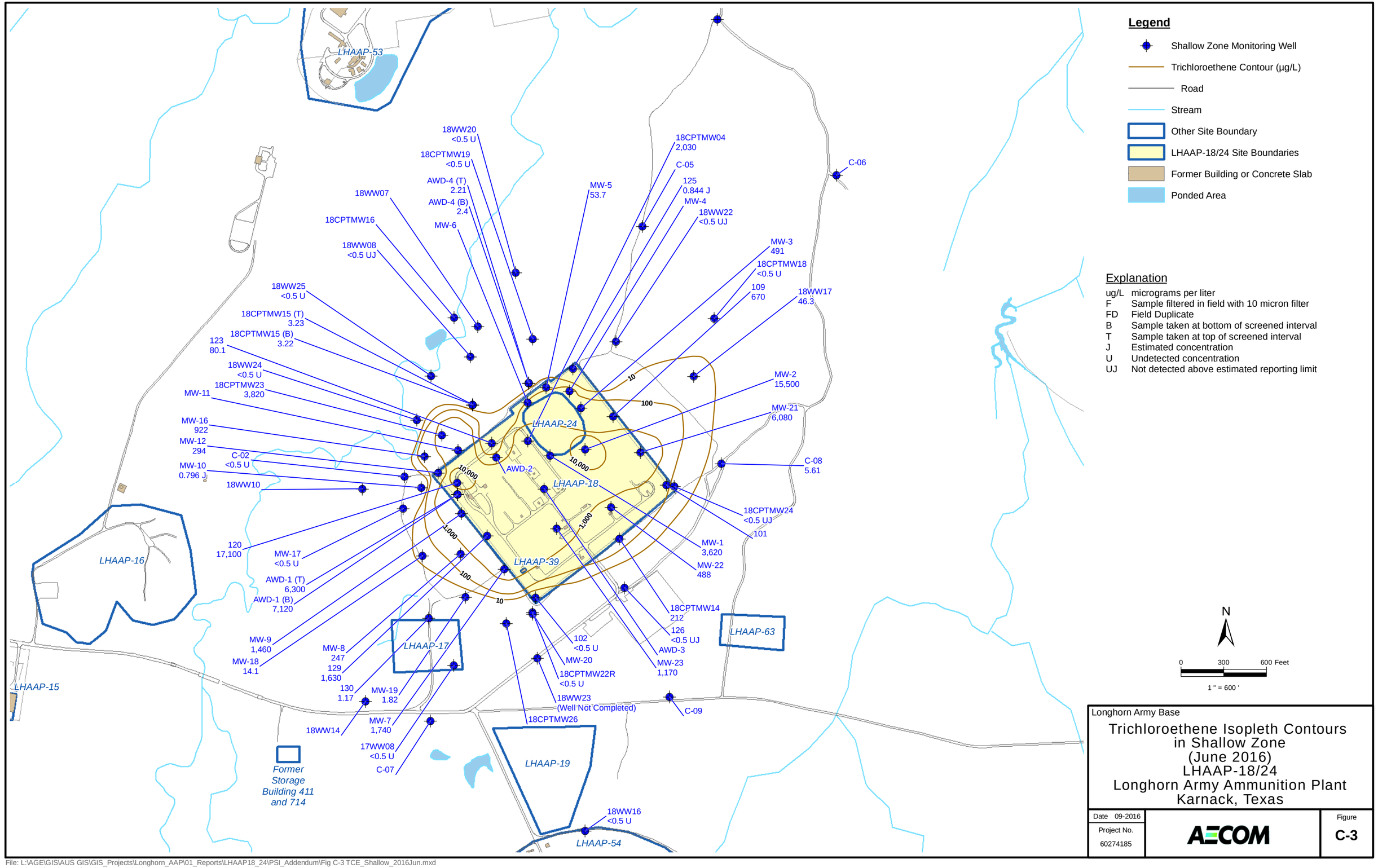


Longhorn Army Base

Perchlorate Isopleth Contours in Wilcox Formation (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 03-2017	AECOM	Figure C-2
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\QuarterlyGroundReport\Fig C-2 Perch_Wilcox_2016Jun.mxd
Date: Friday, March 10, 2017 2:37:41 PM



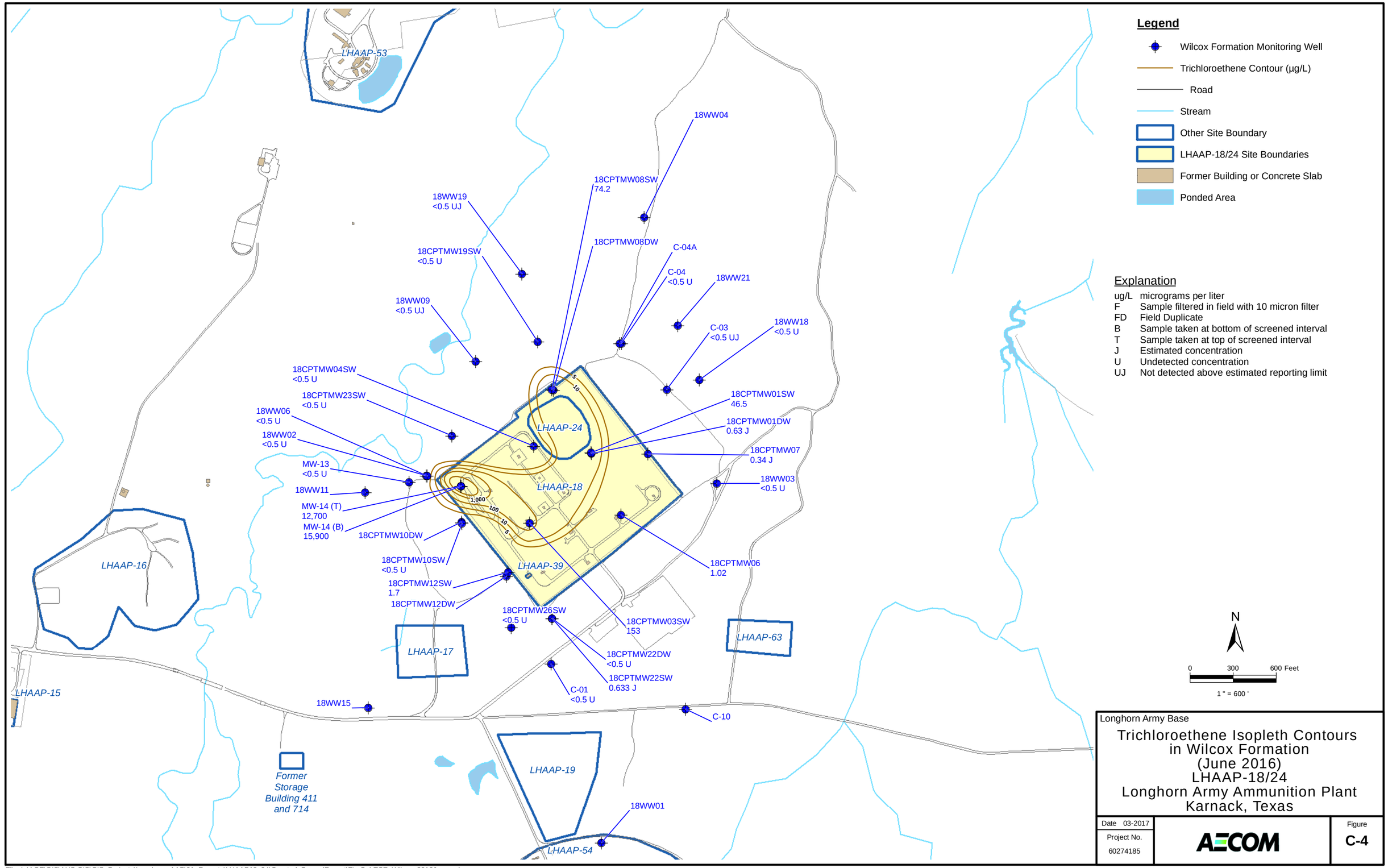
Longhorn Army Base

Trichloroethene Isopleth Contours in Shallow Zone (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date	Project No.	Figure
09-2016	60274185	C-3

AECOM

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\PSI_Addendum\Fig C-3 TCE_Shallow_2016Jun.mxd
Date: Saturday, September 24, 2016 9:34:04 PM

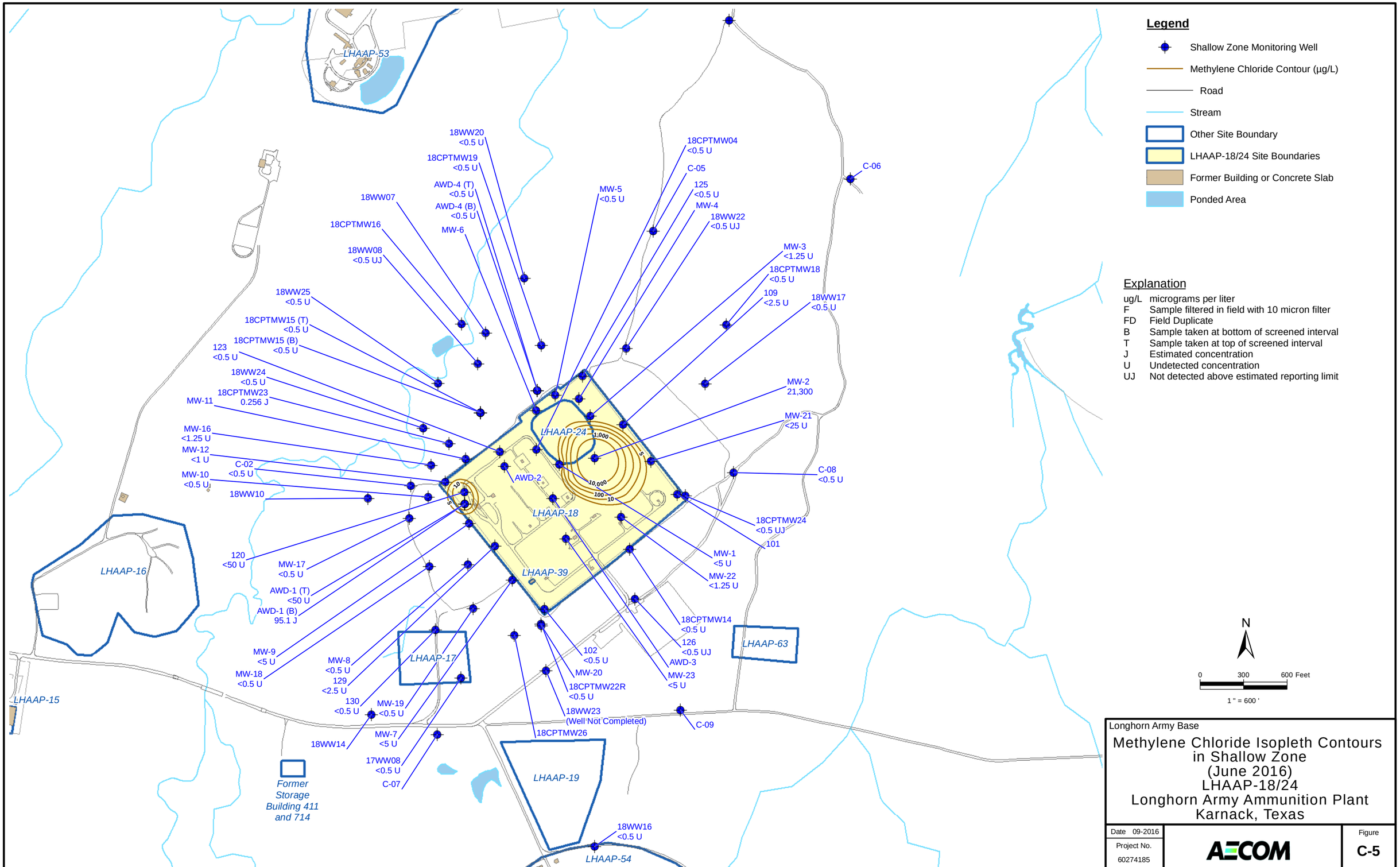


Longhorn Army Base

Trichloroethene Isopleth Contours in Wilcox Formation (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 03-2017	AECOM	Figure C-4
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\QuarterlyGroundReport\Fig C-4 TCE_Wilcox_2016Jun.mxd
Date: Friday, March 10, 2017 2:40:41 PM



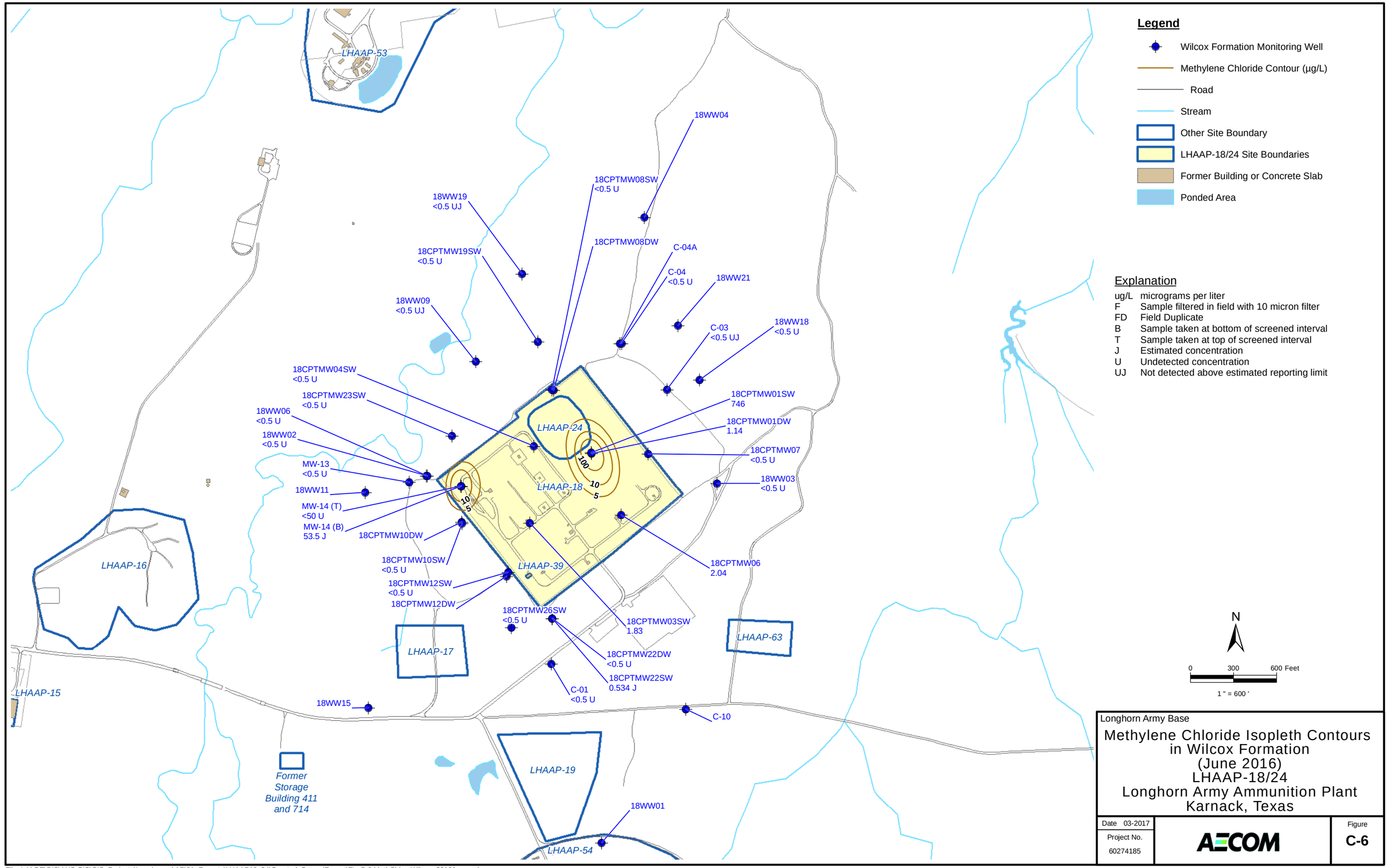
Longhorn Army Base

Methylene Chloride Isopleth Contours in Shallow Zone (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date	Project No.	Figure
09-2016	60274185	C-5

AECOM

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\PSI_Addendum\Fig C-5 MethChlor_Shallow_2016Jun.mxd
Date: Saturday, September 24, 2016 9:37:02 PM



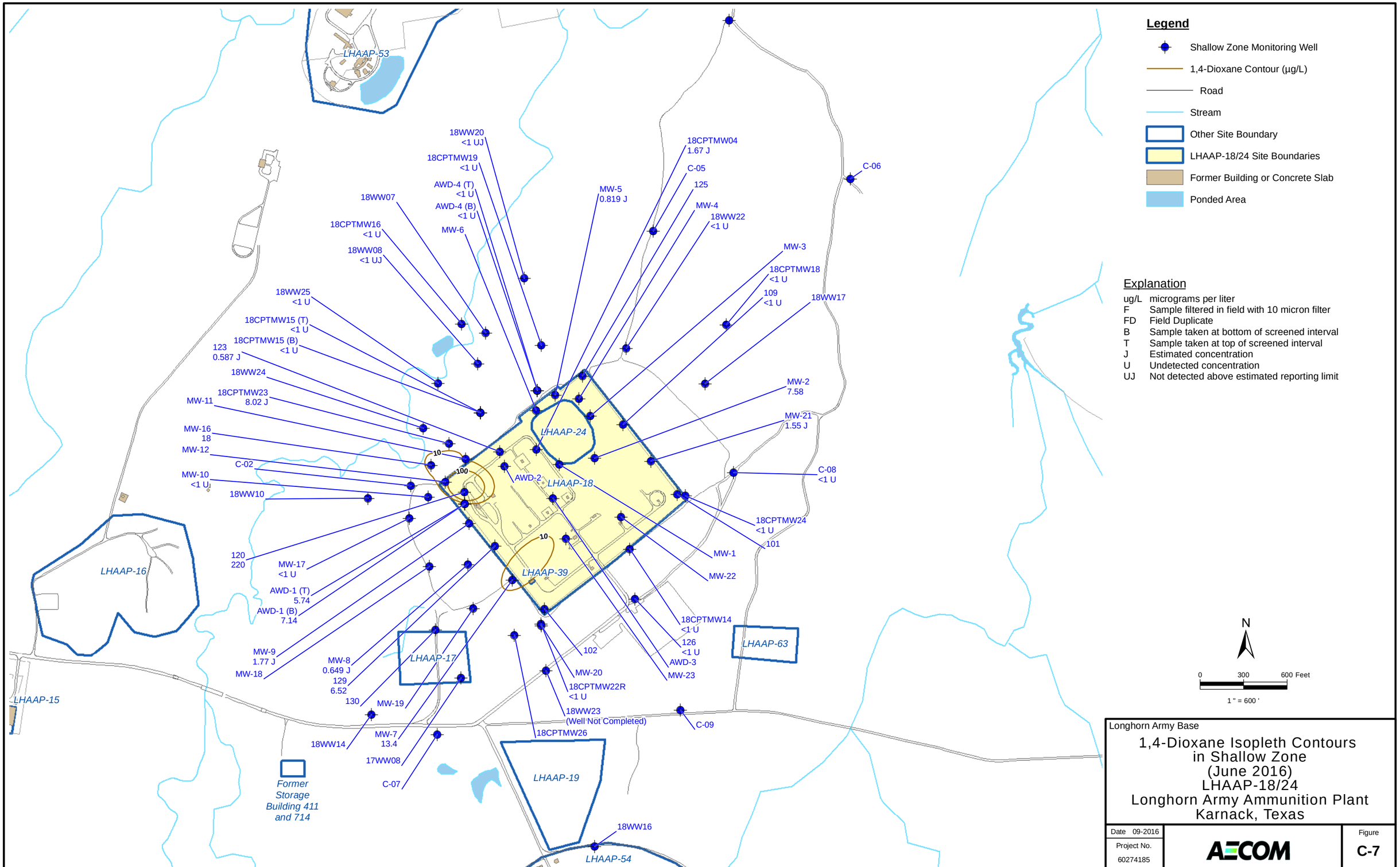
Longhorn Army Base

Methylene Chloride Isopleth Contours in Wilcox Formation (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 03-2017	AECOM	Figure C-6
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\QuarterlyGroundReport\Fig C-6 MethChlor_Wilcox_2016Jun.mxd
Date: Friday, March 10, 2017 2:42:36 PM

00750124

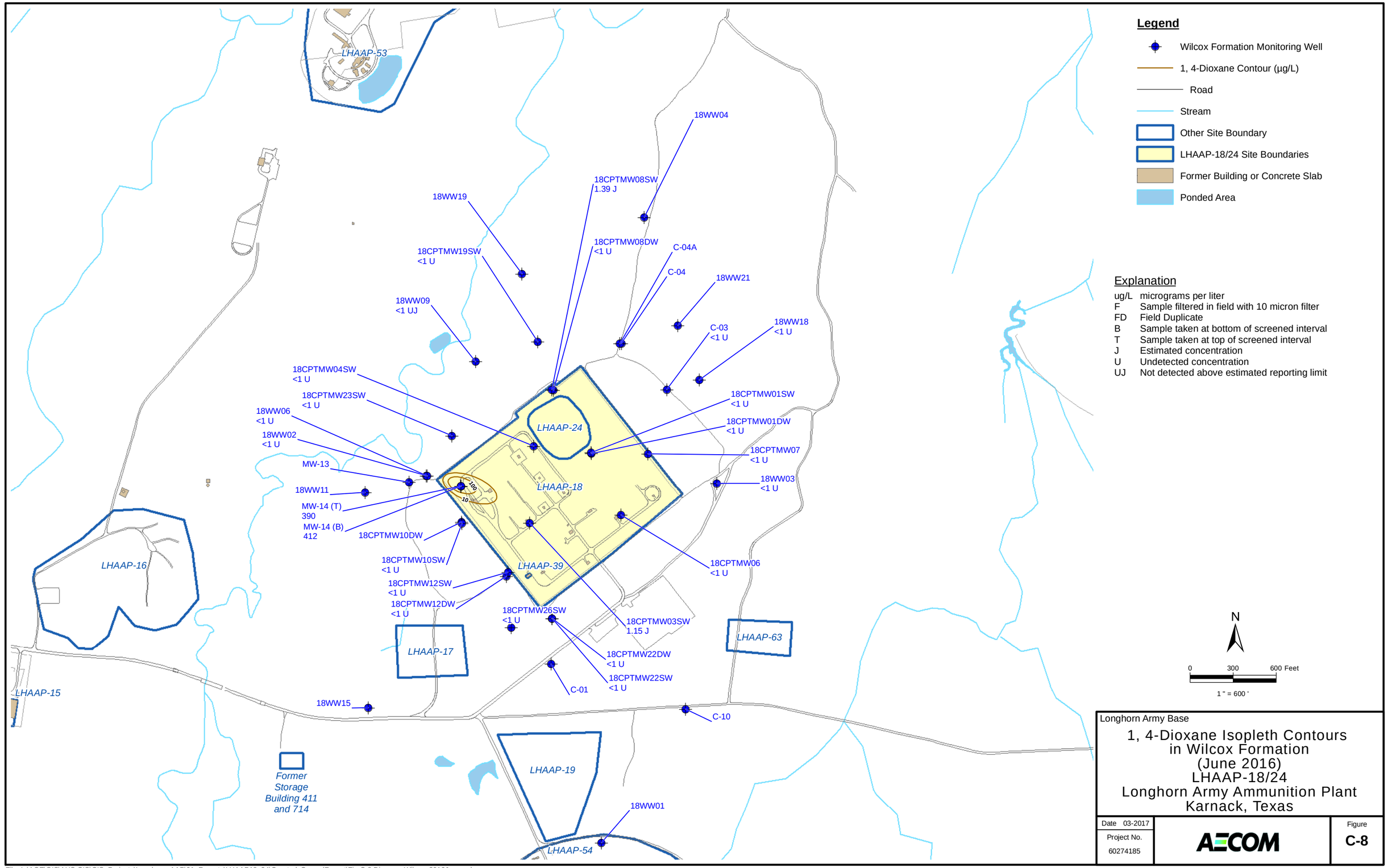


Longhorn Army Base

1,4-Dioxane Isopleth Contours in Shallow Zone (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

Date 09-2016	AECOM	Figure C-7
Project No. 60274185		

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\PSI_Addendum\Fig C-7 Dioxane_Shallow_2016Jun.mxd
Date: Saturday, September 24, 2016 9:38:48 PM



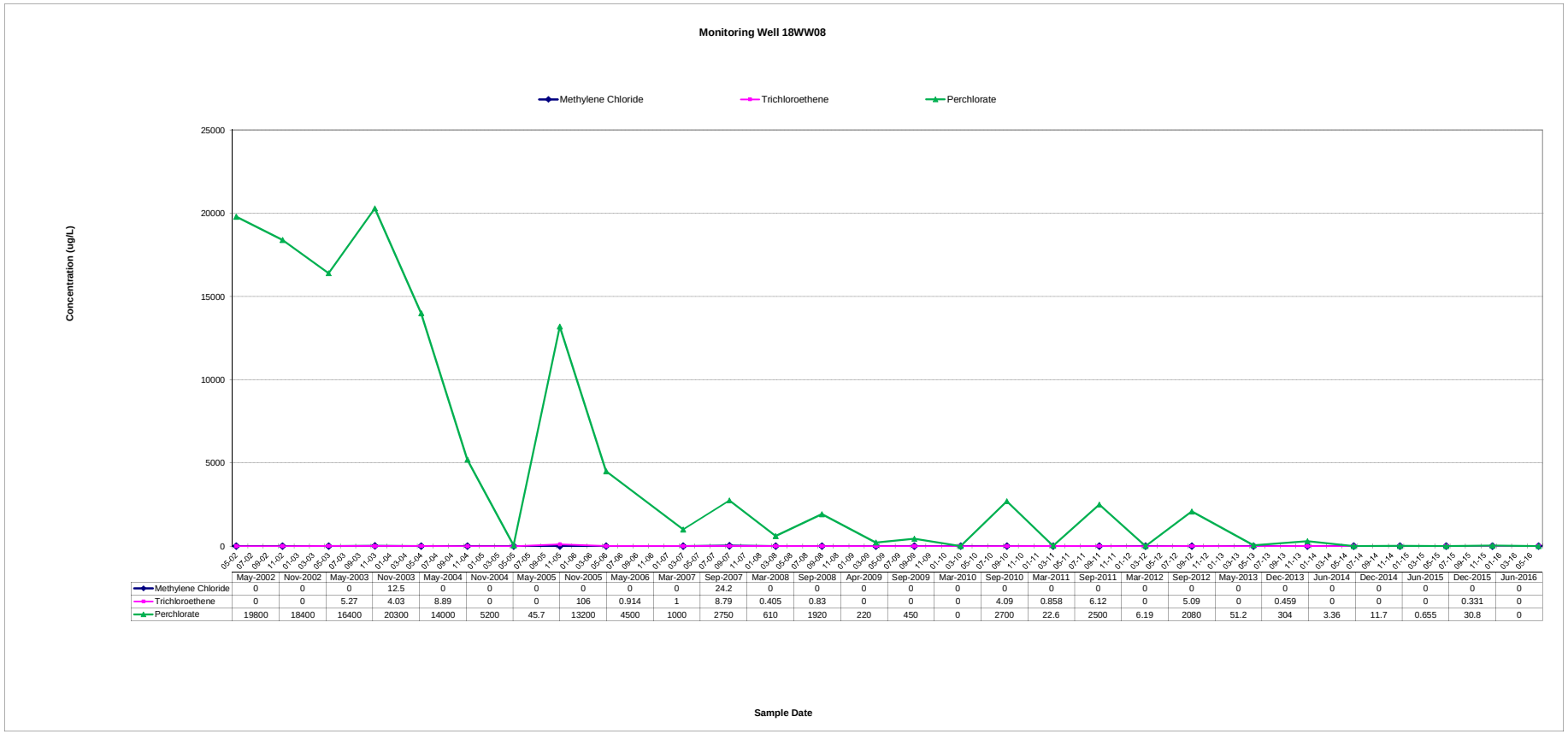
Longhorn Army Base

1, 4-Dioxane Isopleth Contours in Wilcox Formation (June 2016) LHAAP-18/24 Longhorn Army Ammunition Plant Karnack, Texas

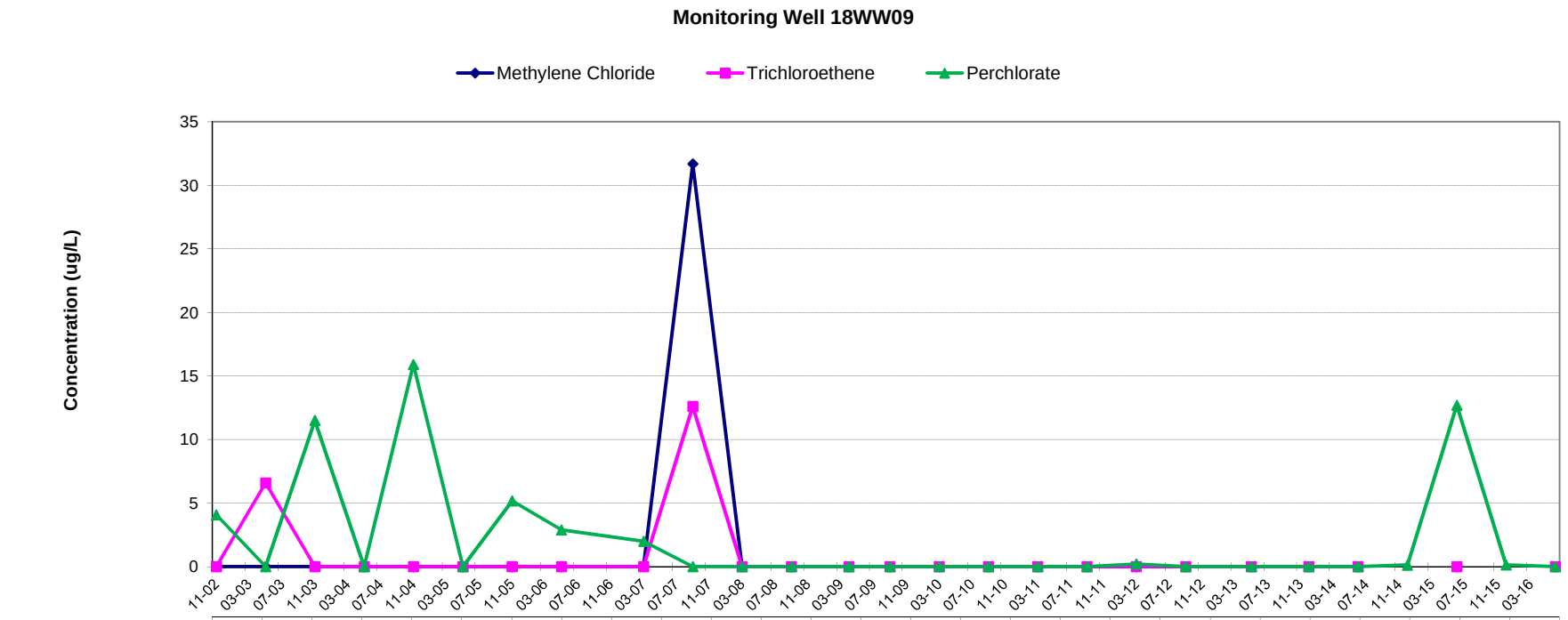
Date 03-2017		Figure
Project No. 60274185	AECOM	C-8

File: L:\AGE\GIS\AUS GIS\GIS_Projects\Longhorn_AAP\01_Reports\LHAAP18_24\QuarterlyGroundReport\Fig C-8 Dioxane_Wilcox_2016Jun.mxd
Date: Friday, March 10, 2017 2:44:56 PM

APPENDIX D: Trend Analysis

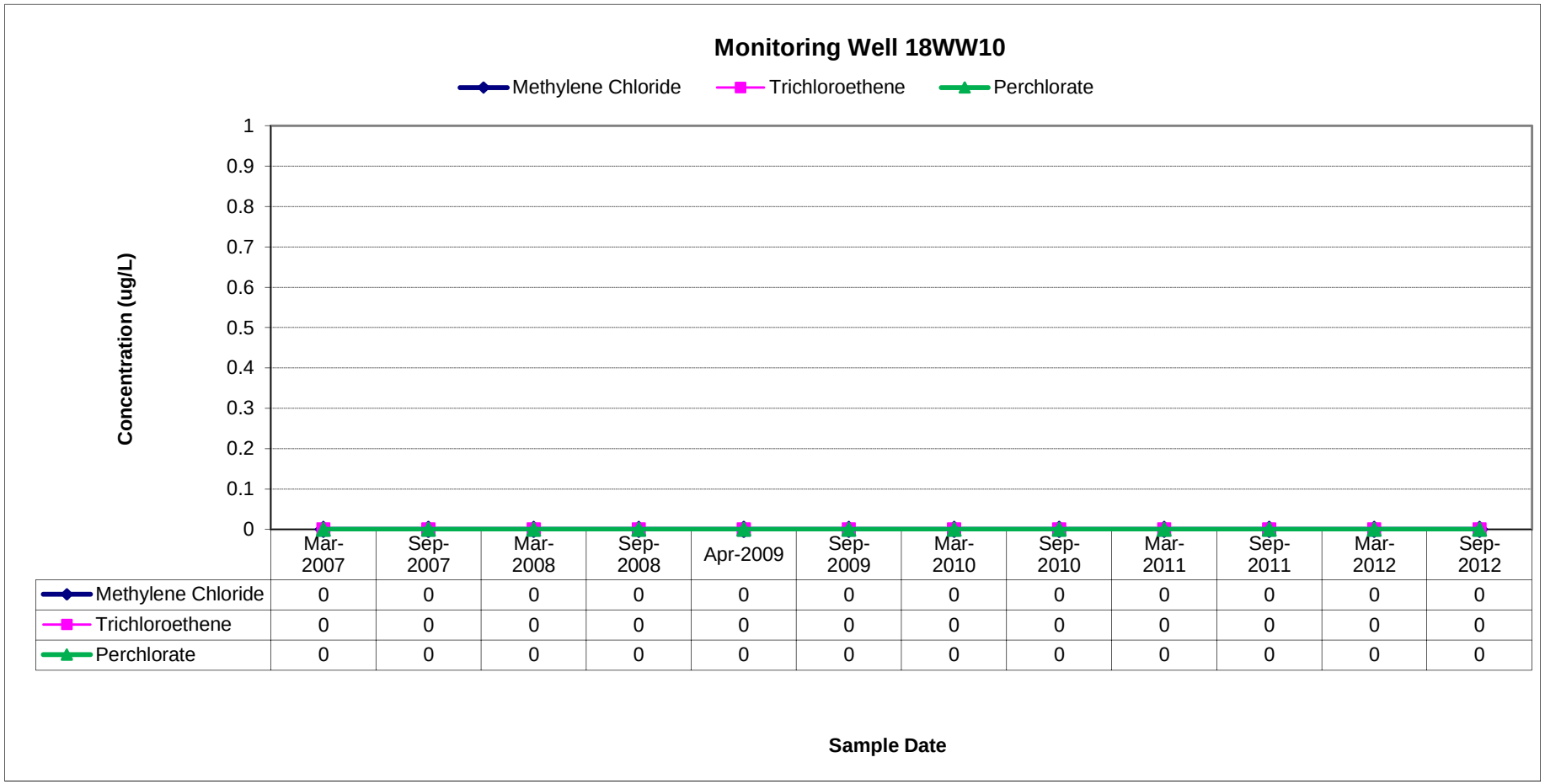


	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Mar-2007	Sep-2007	Mar-2008	Sep-2008	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	0	0	0	12.5	0	0	0	0	0	0	24.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	0	0	5.27	4.03	8.89	0	0	106	0.914	1	8.79	0.405	0.83	0	0	0	4.09	0.858	6.12	0	5.09	0	0.459	0	0	0	0.331	0
Perchlorate	19800	18400	16400	20300	14000	5200	45.7	13200	4500	1000	2750	610	1920	220	450	0	2700	22.6	2500	6.19	2080	51.2	304	3.36	11.7	0.655	30.8	0

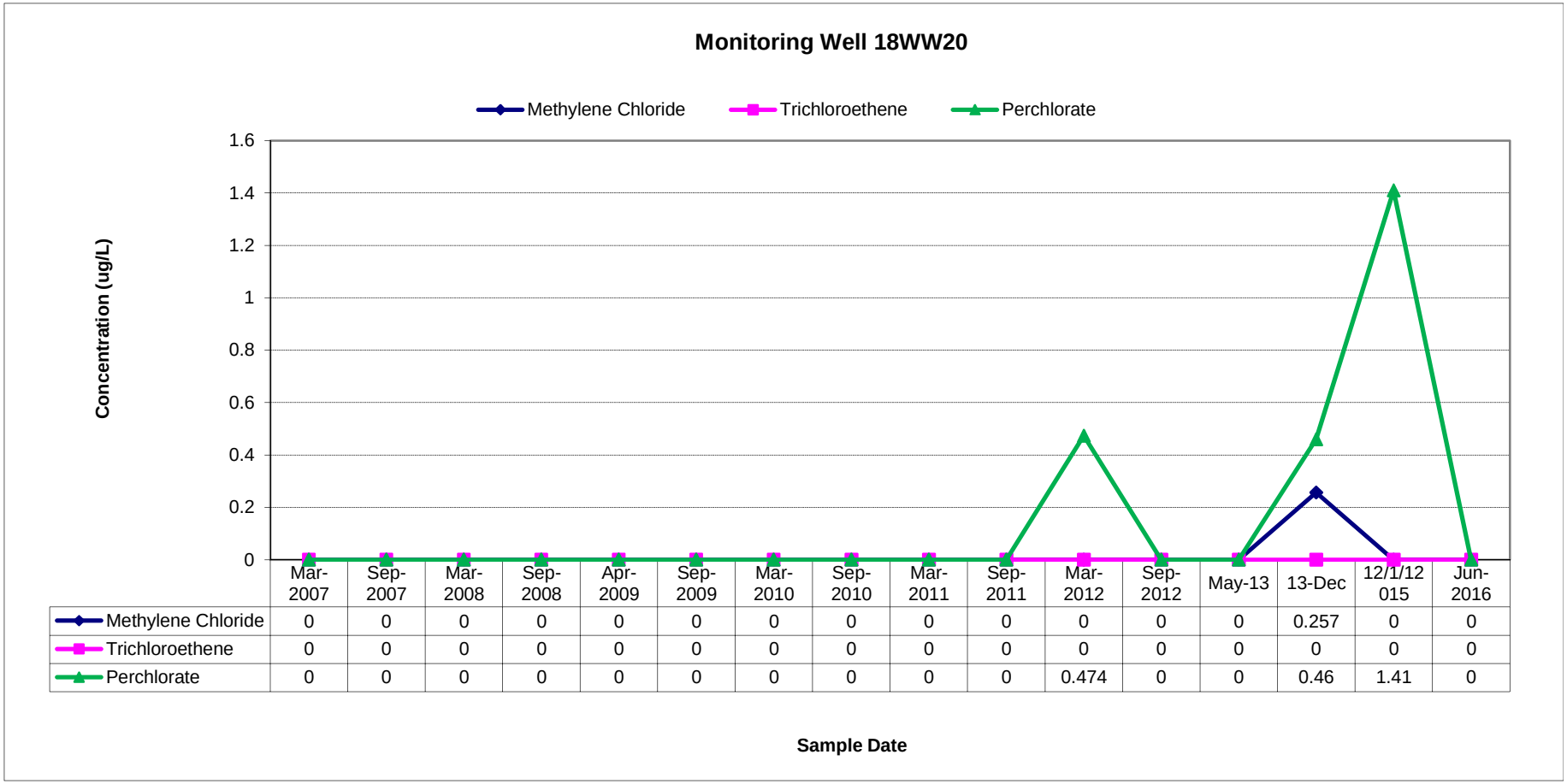


	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Mar-2007	Sep-2007	Mar-2008	Sep-2008	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	0	0	0	0	0	0	0	0	0	31.7	0	0	0	0	0	0	0	0	0	0	0	0	0		0		0
Trichloroethene	0	6.59	0	0	0	0	0	0	0	12.6	0	0	0	0	0	0	0	0	0	0	0	0	0		0		0
Perchlorate	4.07	0	11.5	0	15.9	0	5.17	2.89	2	0	0	0	0	0	0	0	0	0	0.21	0	0	0	0	0.13	12.7	0.13	0

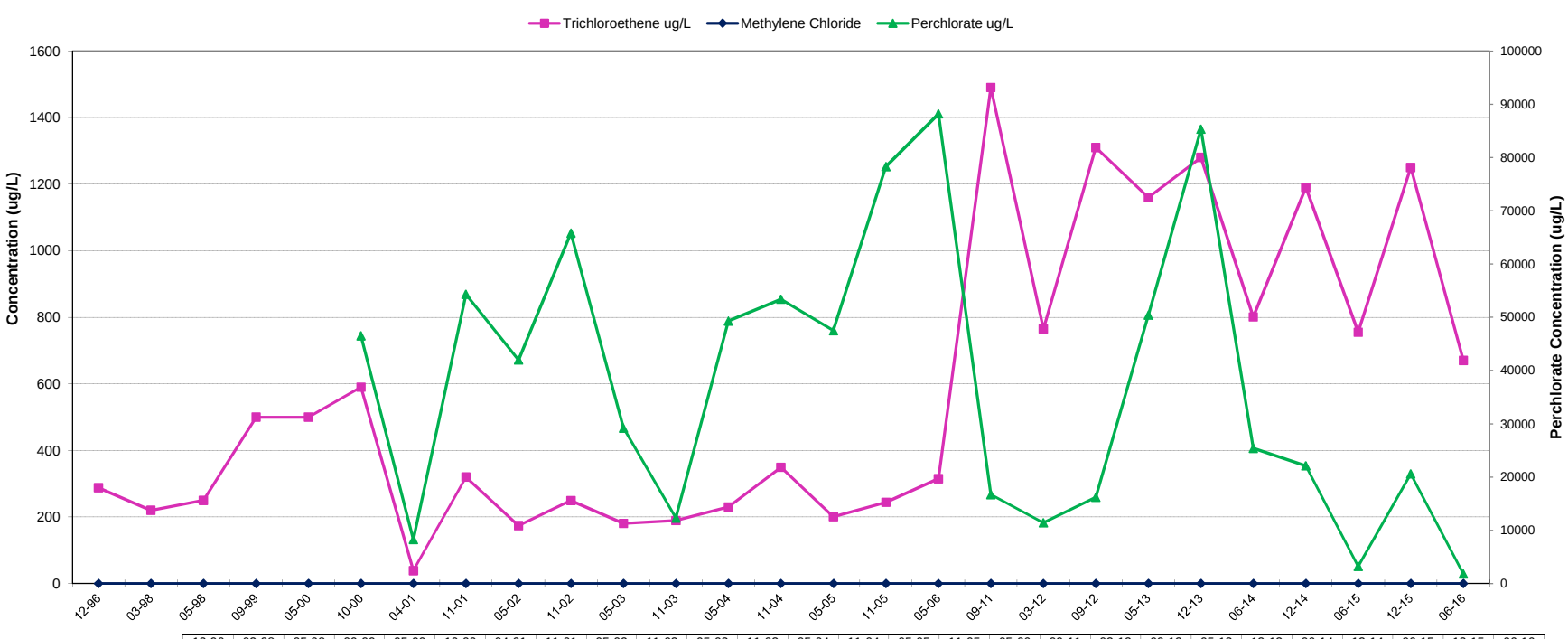
Sample Date



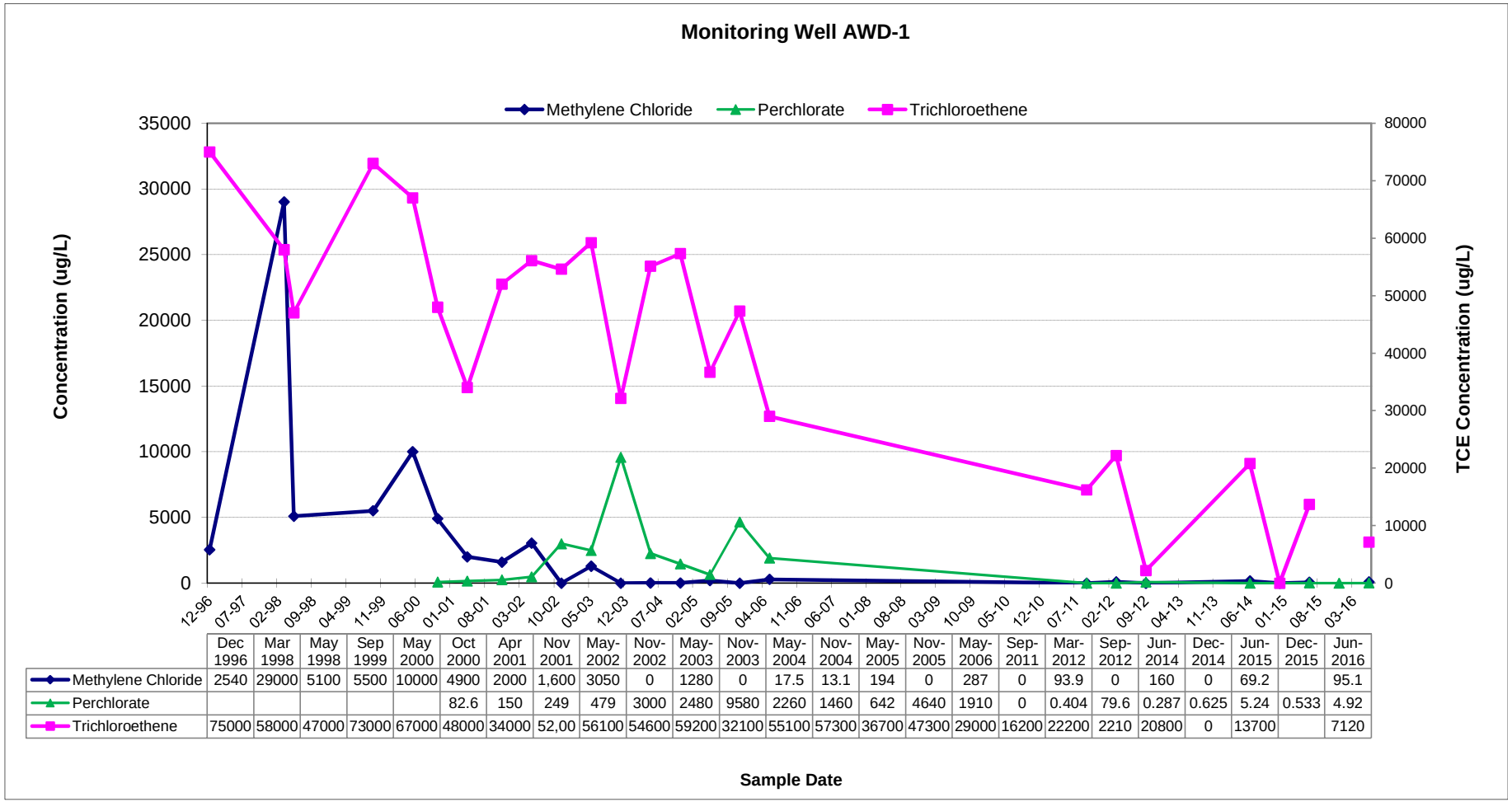
	Mar-2007	Sep-2007	Mar-2008	Sep-2008	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	0	0	0	0	0	0	0	0	0	0	0	0
Perchlorate	0	0	0	0	0	0	0	0	0	0	0	0



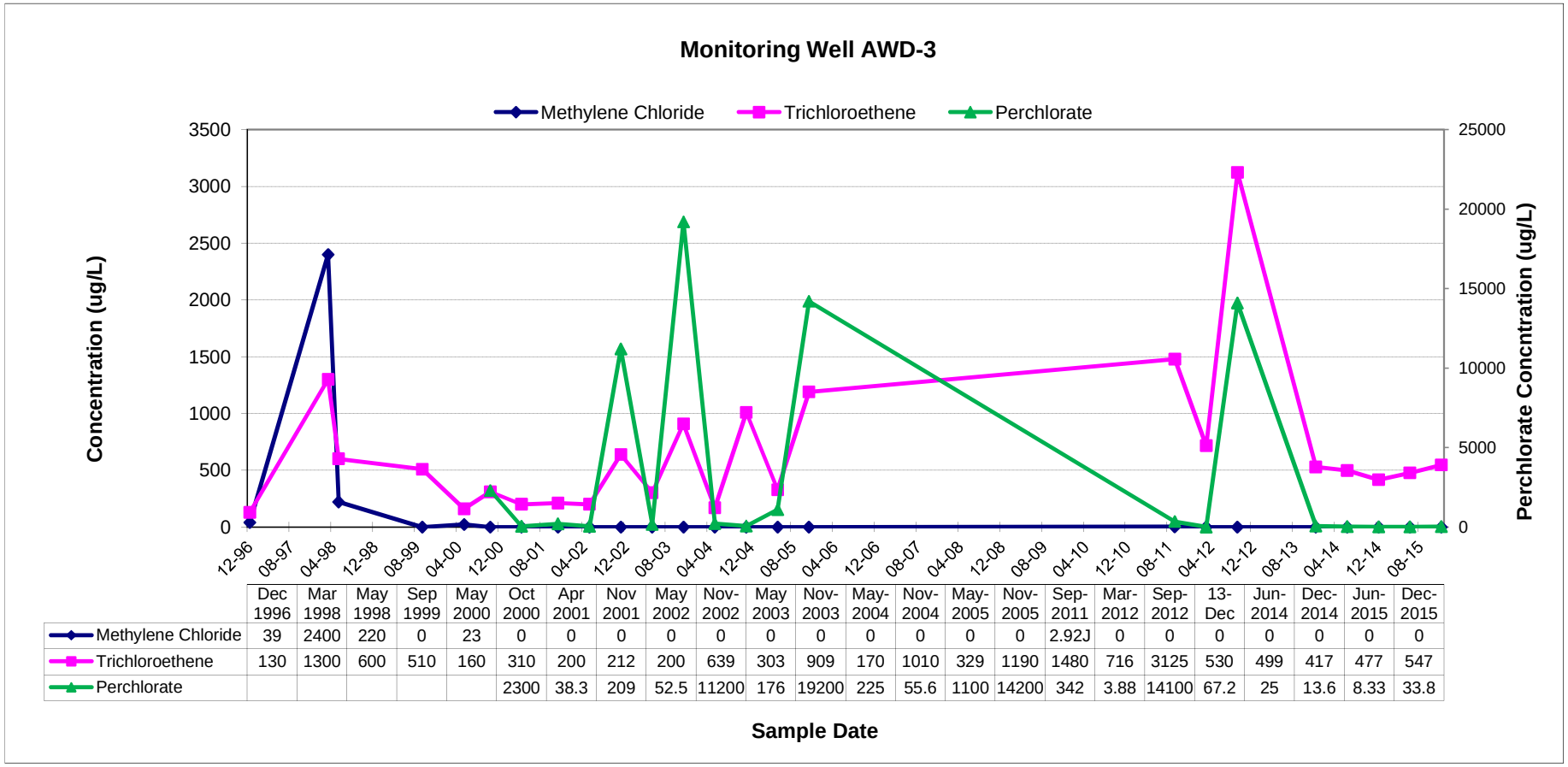
	Mar-2007	Sep-2007	Mar-2008	Sep-2008	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-13	13-Dec	12/1/12015	Jun-2016
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0.257	0	0
Trichloroethene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perchlorate	0	0	0	0	0	0	0	0	0	0	0.474	0	0	0.46	1.41	0



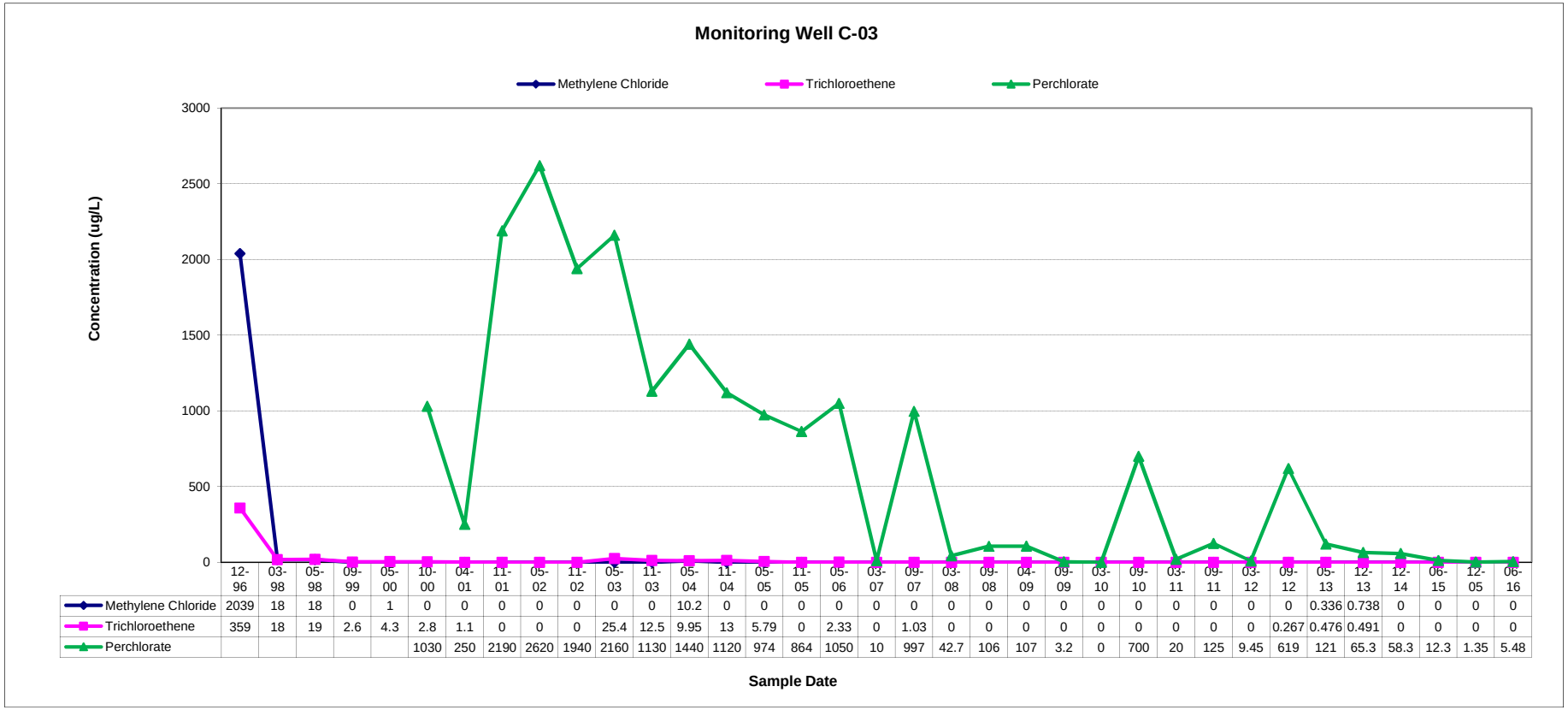
	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	09-11	03-12	09-12	05-13	12-13	06-14	12-14	06-15	12-15	06-16
Trichloroethene ug/L	288	220	250	500	500	590	39	320	174	249	181	189	230	349	201	244	315	1490	765	1310	1160	1280	801	1190	755	1250	670
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perchlorate ug/L						46500	8270	54300	42000	65800	29200	12300	49300	[illegible]	[illegible]	78300	88200	16700	11400	16200	50400	85300	25400	22100	3220	20600	1810



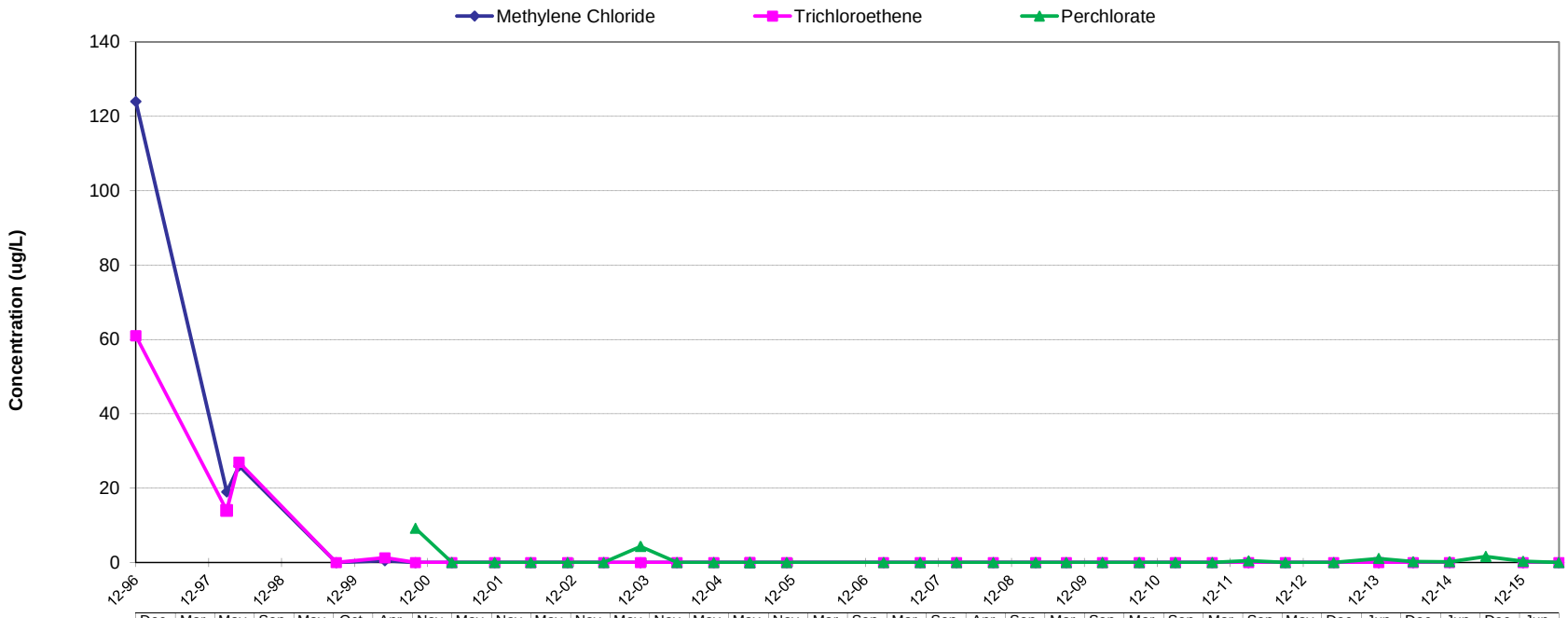
	Dec 1996	Mar 1998	May 1998	Sep 1999	May 2000	Oct 2000	Apr 2001	Nov 2001	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Sep-2011	Mar-2012	Sep-2012	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	2540	29000	5100	5500	10000	4900	2000	1,600	3050	0	1280	0	17.5	13.1	194	0	287	0	93.9	0	160	0	69.2		95.1
Perchlorate						82.6	150	249	479	3000	2480	9580	2260	1460	642	4640	1910	0	0.404	79.6	0.287	0.625	5.24	0.533	4.92
Trichloroethene	75000	58000	47000	73000	67000	48000	34000	52,00	56100	54600	59200	32100	55100	57300	36700	47300	29000	16200	22200	2210	20800	0	13700		7120



	Dec 1996	Mar 1998	May 1998	Sep 1999	May 2000	Oct 2000	Apr 2001	Nov 2001	May 2002	Nov-2002	May 2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	Sep-2011	Mar-2012	Sep-2012	13-Dec	Jun-2014	Dec-2014	Jun-2015	Dec-2015
Methylene Chloride	39	2400	220	0	23	0	0	0	0	0	0	0	0	0	0	0	2.92J	0	0	0	0	0	0	0
Trichloroethene	130	1300	600	510	160	310	200	212	200	639	303	909	170	1010	329	1190	1480	716	3125	530	499	417	477	547
Perchlorate						2300	38.3	209	52.5	11200	176	19200	225	55.6	1100	14200	342	3.88	14100	67.2	25	13.6	8.33	33.8

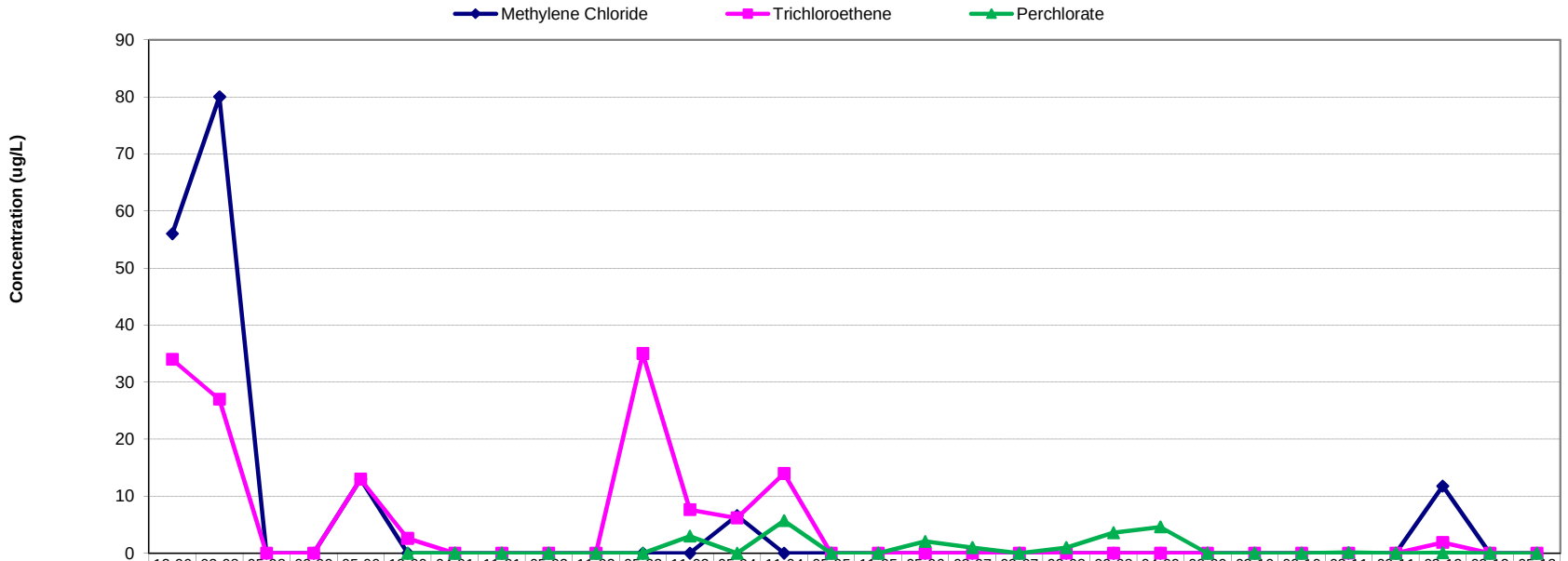


	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	03-07	09-07	03-08	09-08	04-09	09-09	03-10	09-10	03-11	09-11	03-12	09-12	05-13	12-13	12-14	06-15	12-05	06-16
Methylene Chloride	2039	18	18	0	1	0	0	0	0	0	0	0	10.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.336	0.738	0	0	0	0
Trichloroethene	359	18	19	2.6	4.3	2.8	1.1	0	0	0	25.4	12.5	9.95	13	5.79	0	2.33	0	1.03	0	0	0	0	0	0	0	0	0	0.267	0.476	0.491	0	0	0	0
Perchlorate						1030	250	2190	2620	1940	2160	1130	1440	1120	974	864	1050	10	997	42.7	106	107	3.2	0	700	20	125	9.45	619	121	65.3	58.3	12.3	1.35	5.48

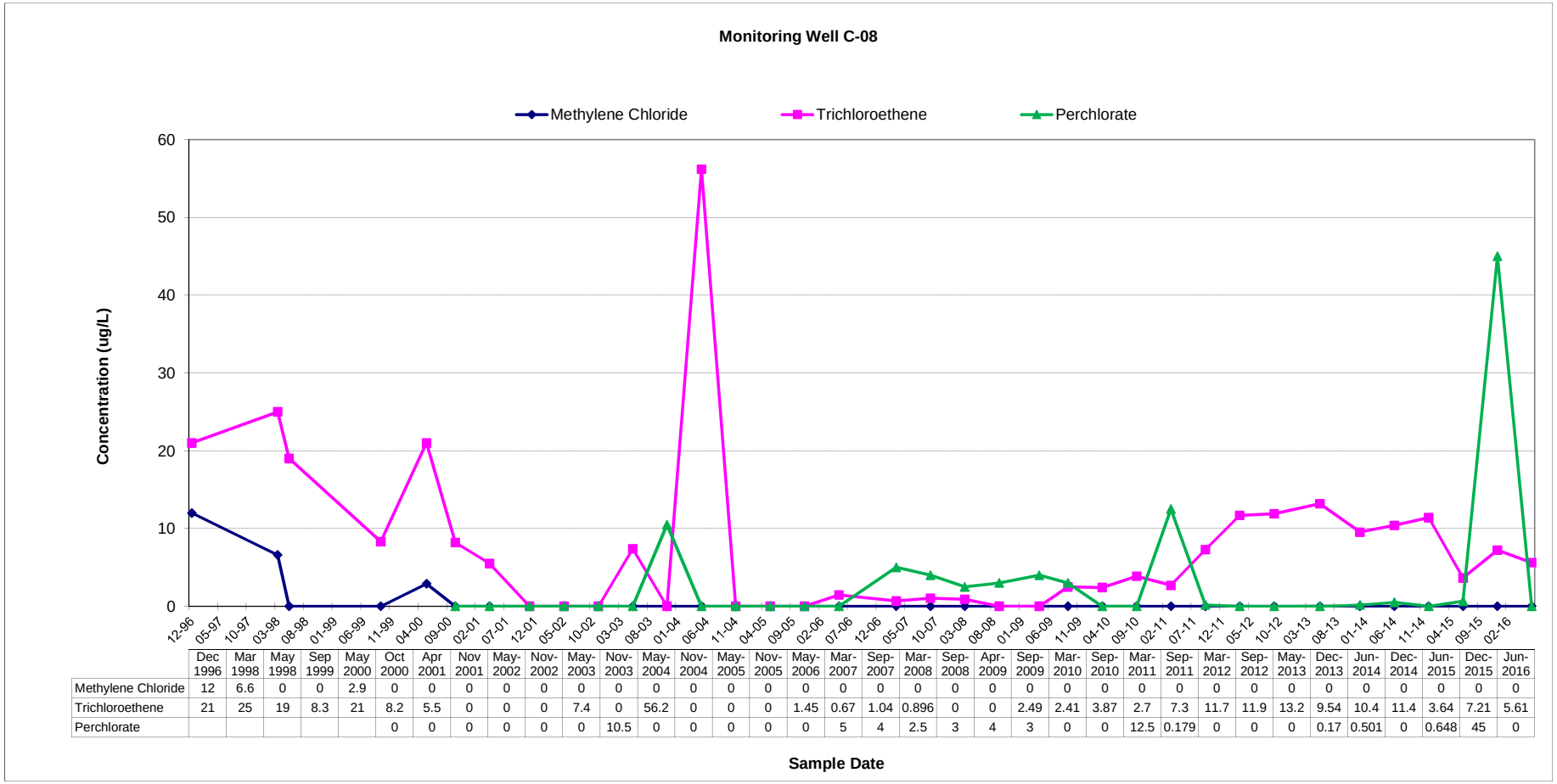


	Dec-96	Mar-98	May-98	Sep-99	May-00	Oct-00	Apr-01	Nov-01	May-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	May-05	Nov-05	Mar-07	Sep-07	Mar-08	Sep-08	Apr-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Sep-12	May-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16
Methylene Chloride	124	19	26	0	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Trichloroethene	61	14	27	0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Perchlorate						9.21	0	0	0	0	0	4.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.48	0	0	1.1	0.24	0.23	1.66	0.35	0

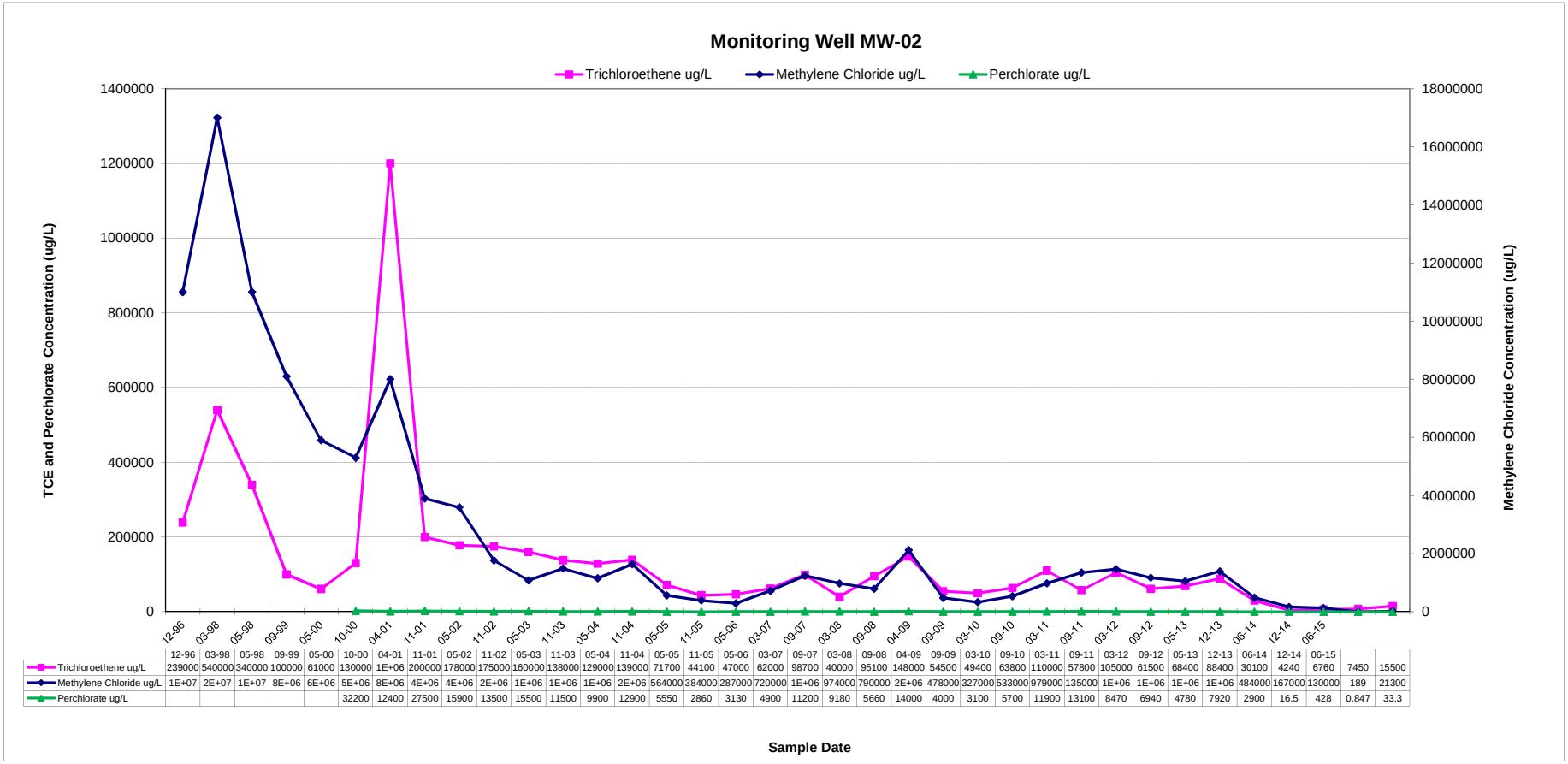
Monitoring Well C-06



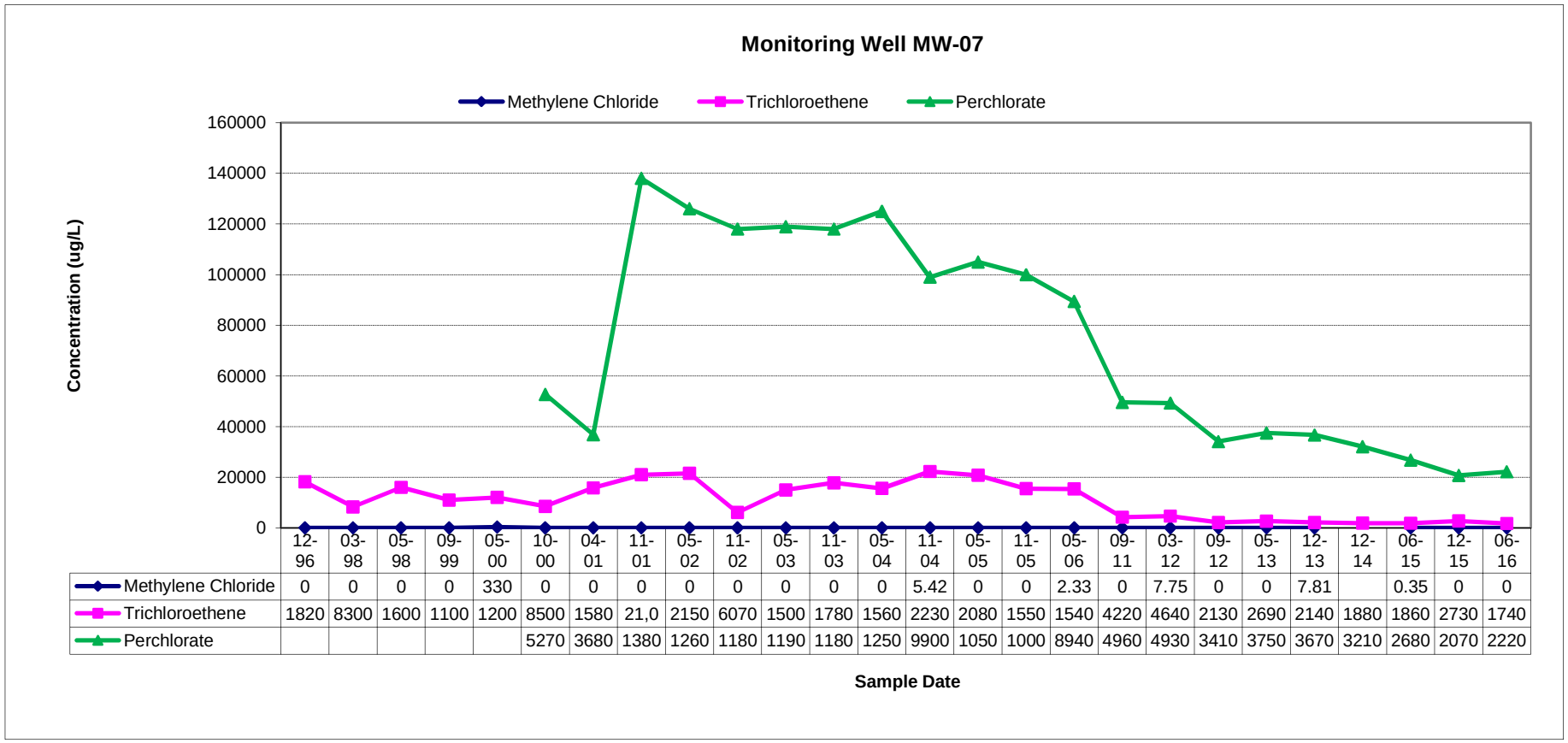
	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	03-07	09-07	03-08	09-08	04-09	09-09	03-10	09-10	03-11	09-11	03-12	09-12	05-13
Methylene Chloride	56	80	0	0	13	0	0	0	0	0	0	0	6.61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.8	0	0
Trichloroethene	34	27	0	0	13	2.6	0	0	0	0	35	7.64	6.19	14	0	0	0	0	0	0	0	0	0	0	0	0	0	1.91	0	0
Perchlorate						0	0	0	0	0	0	3	0	5.7	0	0	2.09	1	0	1	3.62	4.62	0	0	0	0.147	0	0.107	0	0



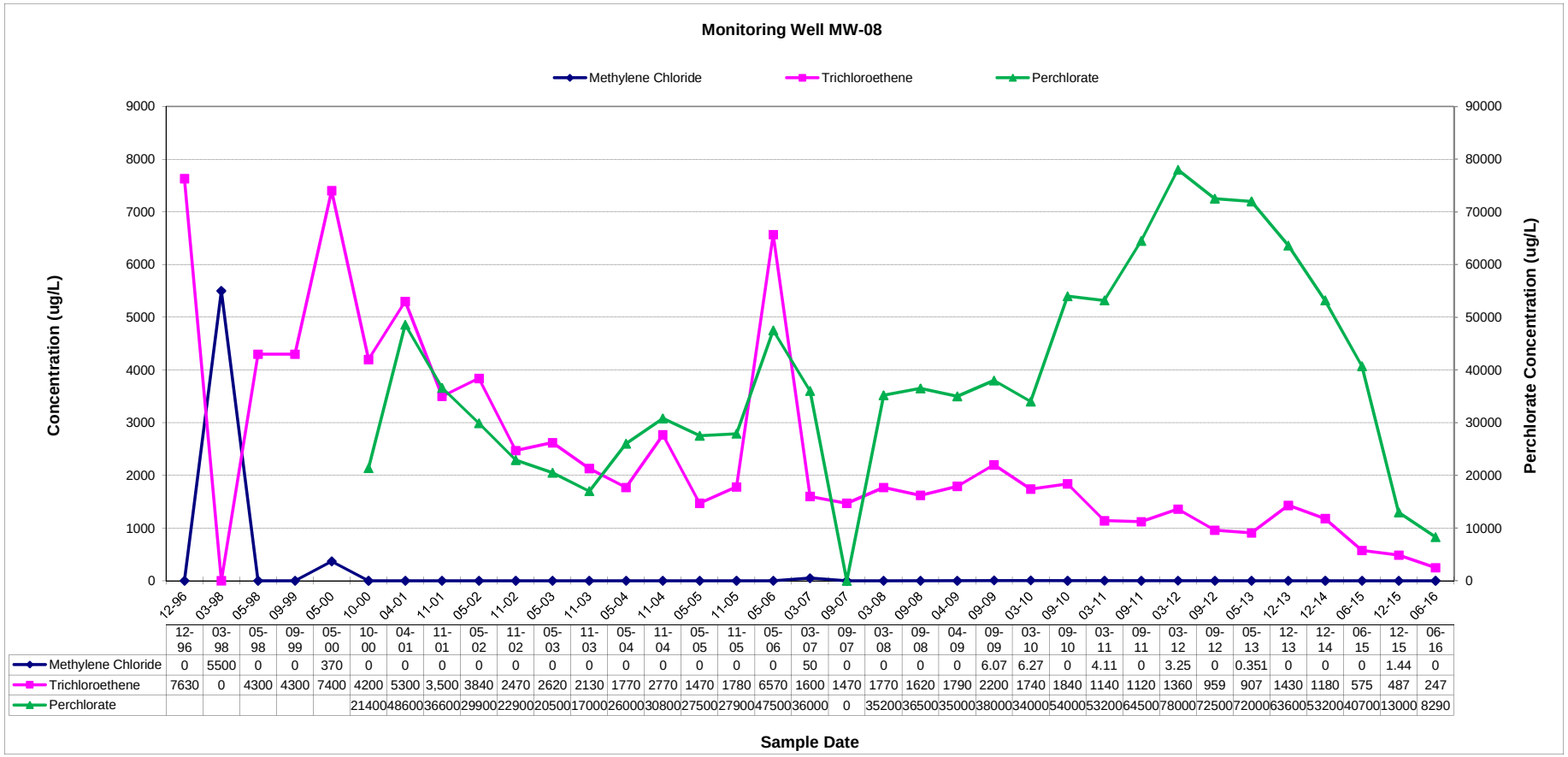
	Dec 1996	Mar 1998	May 1998	Sep 1999	May 2000	Oct 2000	Apr 2001	Nov 2001	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Mar-2007	Sep-2007	Mar-2008	Sep-2008	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	12	6.6	0	0	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	21	25	19	8.3	21	8.2	5.5	0	0	0	7.4	0	56.2	0	0	0	1.45	0.67	1.04	0.896	0	0	2.49	2.41	3.87	2.7	7.3	11.7	11.9	13.2	9.54	10.4	11.4	3.64	7.21	5.61
Perchlorate						0	0	0	0	0	0	10.5	0	0	0	0	0	5	4	2.5	3	4	3	0	0	12.5	0.179	0	0	0	0.17	0.501	0	0.648	45	0



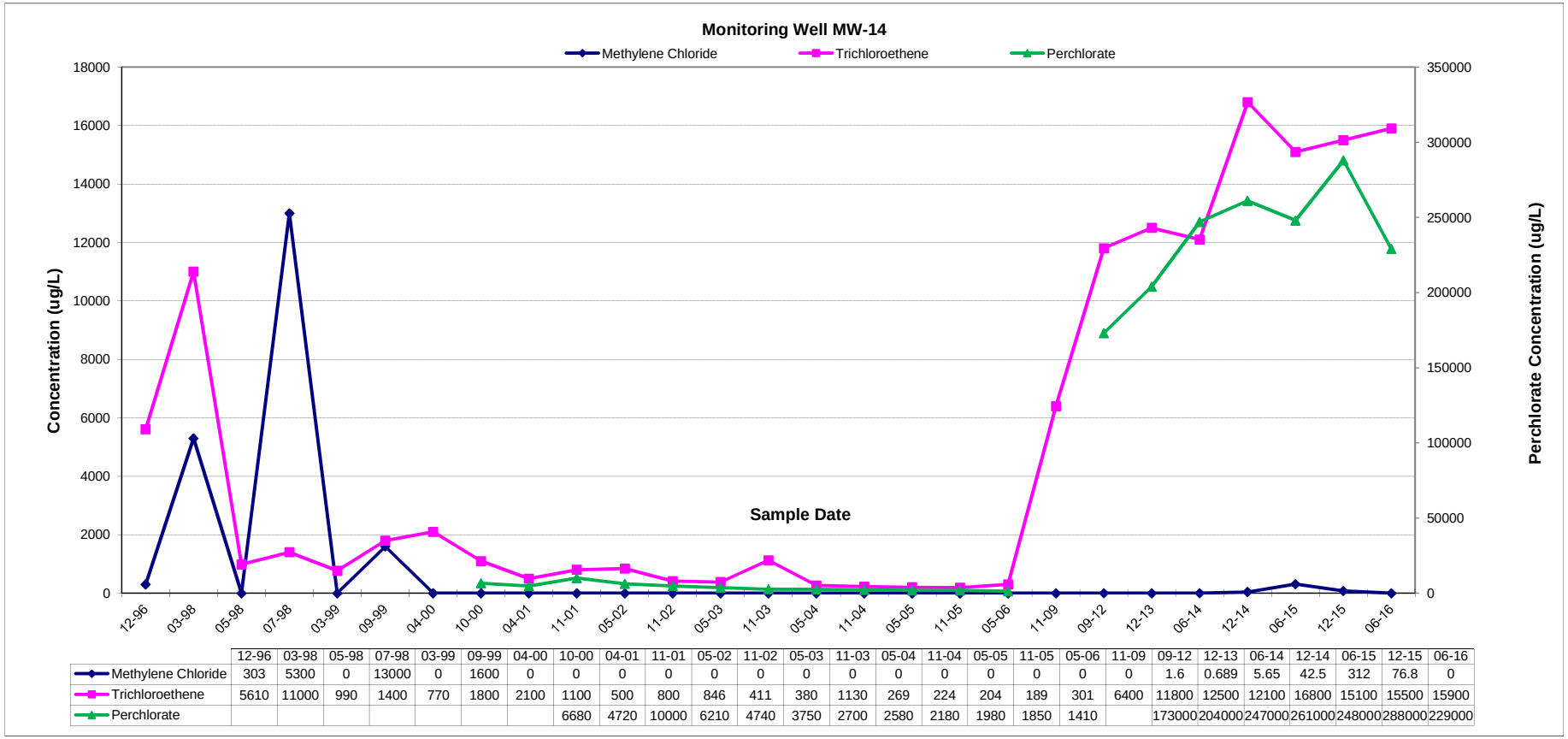
	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	03-07	09-07	03-08	09-08	04-09	09-09	03-10	09-10	03-11	09-11	03-12	09-12	05-13	12-13	06-14	12-14	06-15		
Trichloroethene ug/L	239000	540000	340000	100000	61000	130000	1E+06	200000	178000	175000	160000	138000	129000	139000	71700	44100	47000	62000	98700	40000	95100	148000	54500	49400	63800	110000	57800	105000	61500	68400	88400	30100	4240	6760	7450	15500
Methylene Chloride ug/L	1E+07	2E+07	1E+07	8E+06	6E+06	5E+06	8E+06	4E+06	4E+06	2E+06	1E+06	1E+06	1E+06	2E+06	564000	384000	287000	720000	1E+06	974000	790000	2E+06	478000	327000	533000	979000	135000	1E+06	1E+06	1E+06	1E+06	484000	167000	130000	189	21300
Perchlorate ug/L						32200	12400	27500	15900	13500	15500	11500	9900	12900	5550	2860	3130	4900	11200	9180	5660	14000	4000	3100	5700	11900	13100	8470	6940	4780	7920	2900	16.5	428	0.847	33.3



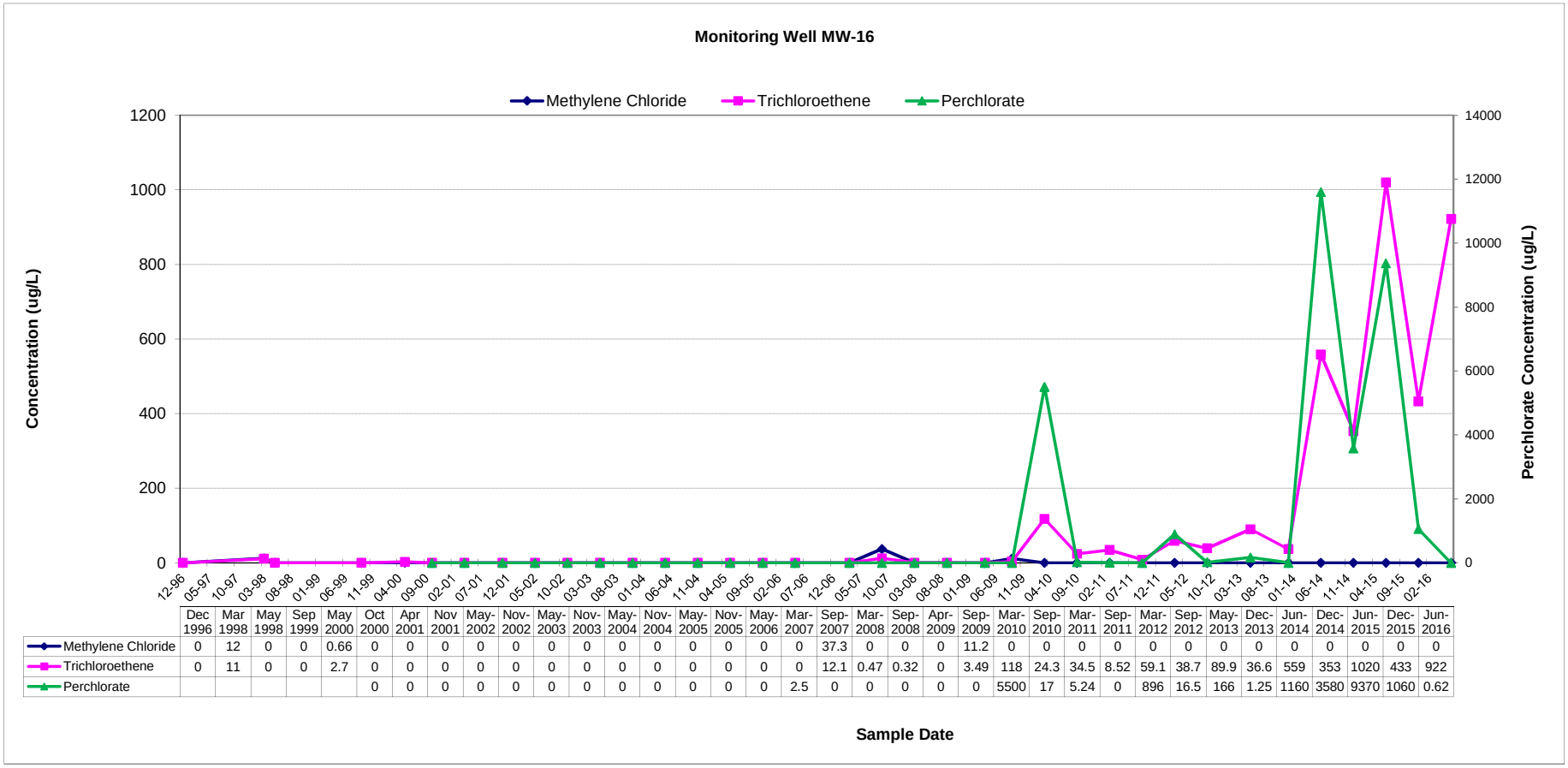
	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	09-11	03-12	09-12	05-13	12-13	12-14	06-15	12-15	06-16
Methylene Chloride	0	0	0	0	330	0	0	0	0	0	0	0	0	5.42	0	0	2.33	0	7.75	0	0	7.81		0.35	0	0
Trichloroethene	1820	8300	1600	1100	1200	8500	1580	21,0	2150	6070	1500	1780	1560	2230	2080	1550	1540	4220	4640	2130	2690	2140	1880	1860	2730	1740
Perchlorate						5270	3680	1380	1260	1180	1190	1180	1250	9900	1050	1000	8940	4960	4930	3410	3750	3670	3210	2680	2070	2220



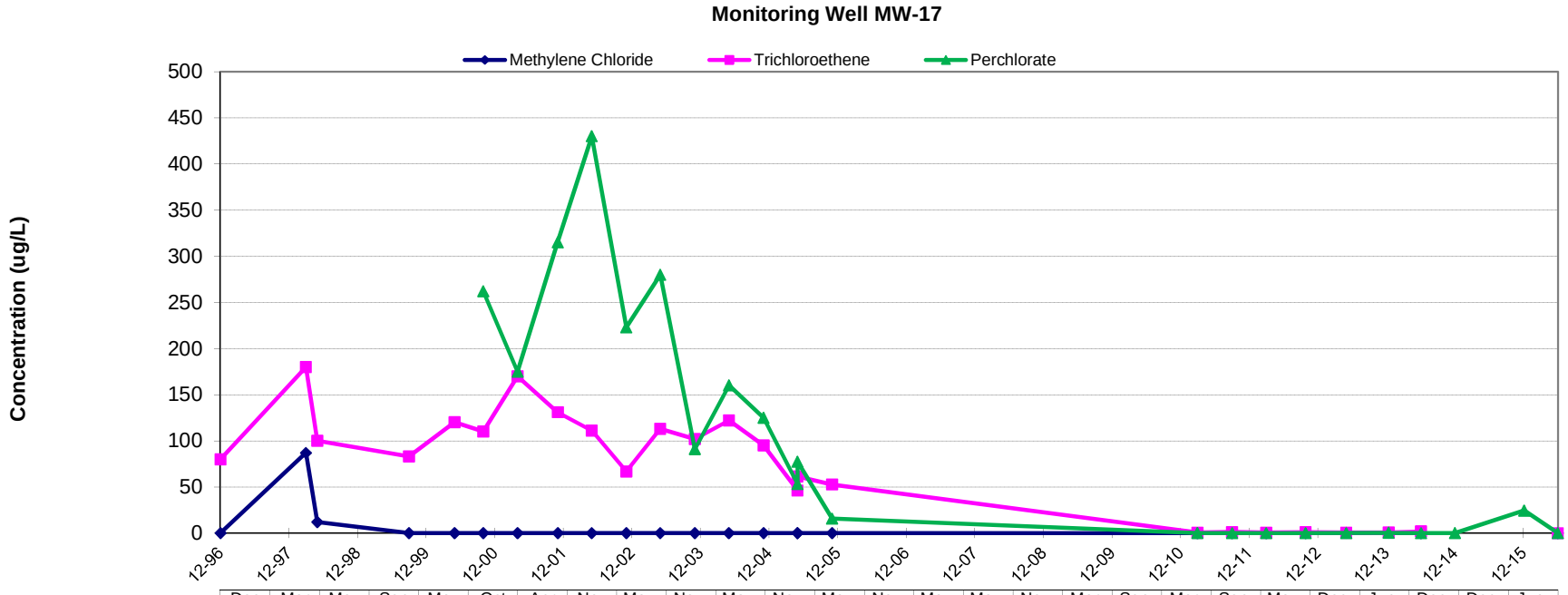
	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	03-07	09-07	03-08	09-08	04-09	09-09	03-10	09-10	03-11	09-11	03-12	09-12	05-13	12-13	12-14	06-15	12-15	06-16
Methylene Chloride	0	5500	0	0	370	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	6.07	6.27	0	4.11	0	3.25	0	0.351	0	0	0	1.44	0
Trichloroethene	7630	0	4300	4300	7400	4200	5300	3,500	3840	2470	2620	2130	1770	2770	1470	1780	6570	1600	1470	1770	1620	1790	2200	1740	1840	1140	1120	1360	959	907	1430	1180	575	487	247
Perchlorate						21400	48600	36600	29900	22900	20500	17000	26000	30800	27500	27900	47500	36000	0	35200	36500	35000	38000	34000	54000	53200	64500	78000	72500	72000	63600	53200	40700	13000	8290



	12-96	03-98	05-98	07-98	03-99	09-99	04-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	11-09	09-12	12-13	06-14	12-14	06-15	12-15	06-16
Methylene Chloride	303	5300	0	13000	0	1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	0.689	5.65	42.5	312	76.8	0
Trichloroethene	5610	11000	990	1400	770	1800	2100	1100	500	800	846	411	380	1130	269	224	204	189	301	6400	11800	12500	12100	16800	15100	15500	15900
Perchlorate								6680	4720	10000	6210	4740	3750	2700	2580	2180	1980	1850	1410		173000	204000	247000	261000	248000	288000	229000

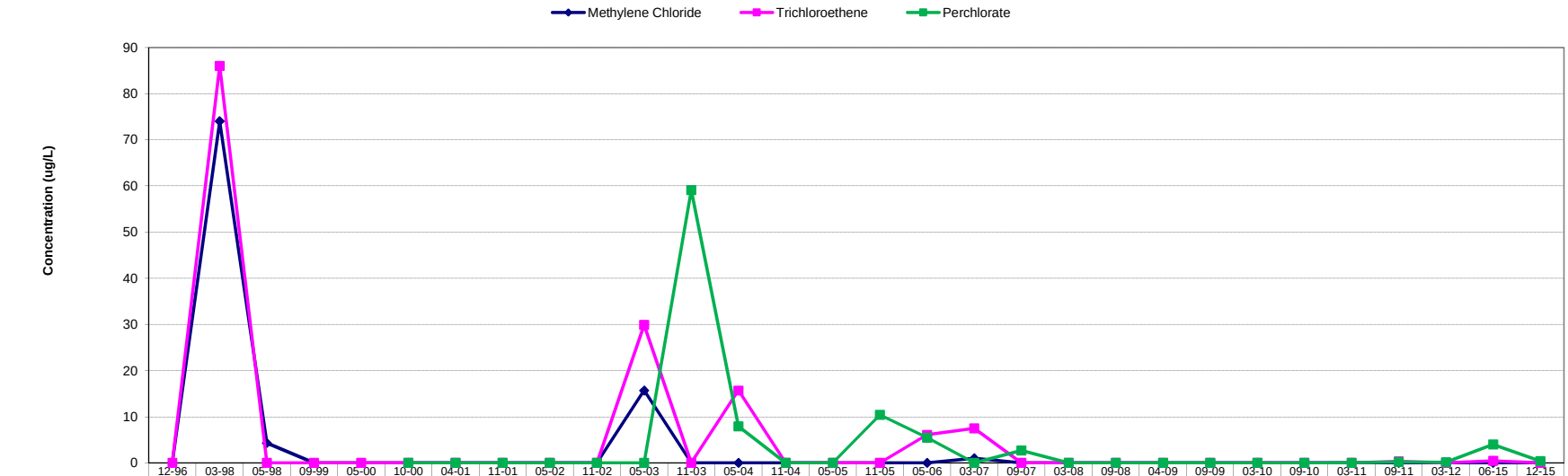


	Dec 1996	Mar 1998	May 1998	Sep 1999	May 2000	Oct 2000	Apr 2001	Nov 2001	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Mar-2007	Sep-2007	Mar-2008	Sep-2008	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	0	12	0	0	0.66	0	0	0	0	0	0	0	0	0	0	0	0	0	37.3	0	0	0	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	0	11	0	0	2.7	0	0	0	0	0	0	0	0	0	0	0	0	0	12.1	0.47	0.32	0	3.49	118	24.3	34.5	8.52	59.1	38.7	89.9	36.6	559	353	1020	433	922
Perchlorate						0	0	0	0	0	0	0	0	0	0	0	0	2.5	0	0	0	0	0	5500	17	5.24	0	896	16.5	166	1.25	1160	3580	9370	1060	0.62



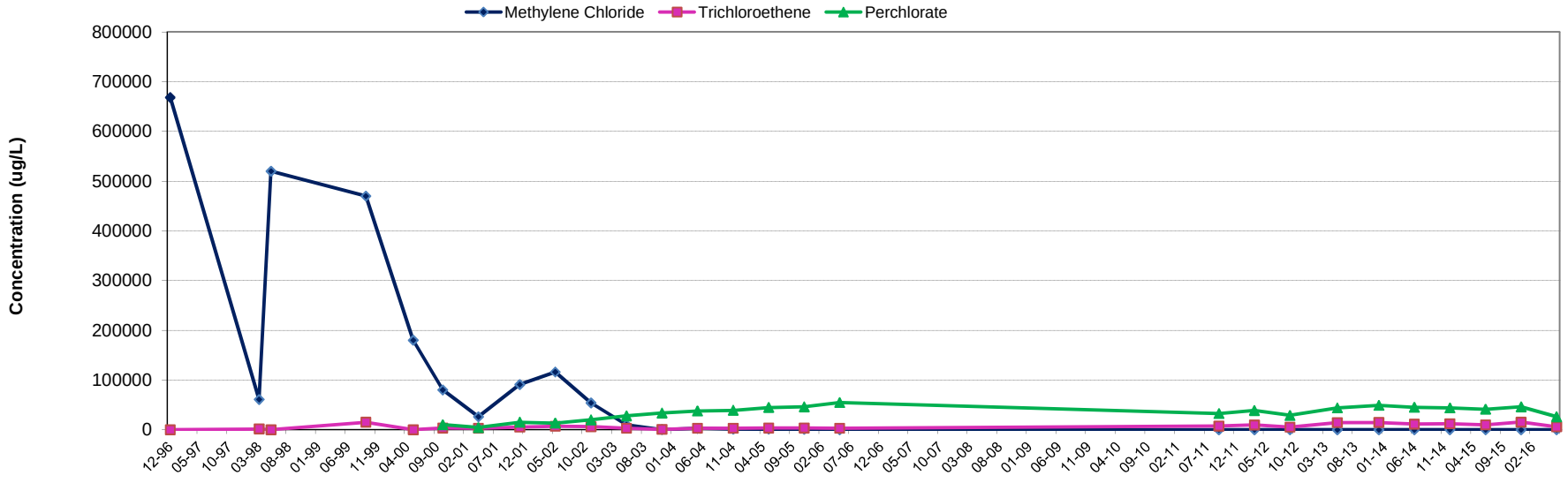
	Dec 1996	Mar 1998	May 1998	Sep 1999	May 2000	Oct 2000	Apr 2001	Nov 2001	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	May-2005	Nov-2005	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Dec-2015	Jun-2016
Methylene Chloride	0	87	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.335	0.346	0			0
Trichloroethene	80	180	100	83	120	110	170	131	111	66.8	113	102	122	95.1	46.1	52.7	61.4	0.551	1.14	0.537	0.943	0.519	0.656	1.69			0
Perchlorate						262	175	315	430	223	280	91	160	125	53.2	15.6	77.3	0.179	0	0	0	0	0.376	0	0.143	24.4	0

Monitoring Well MW-20



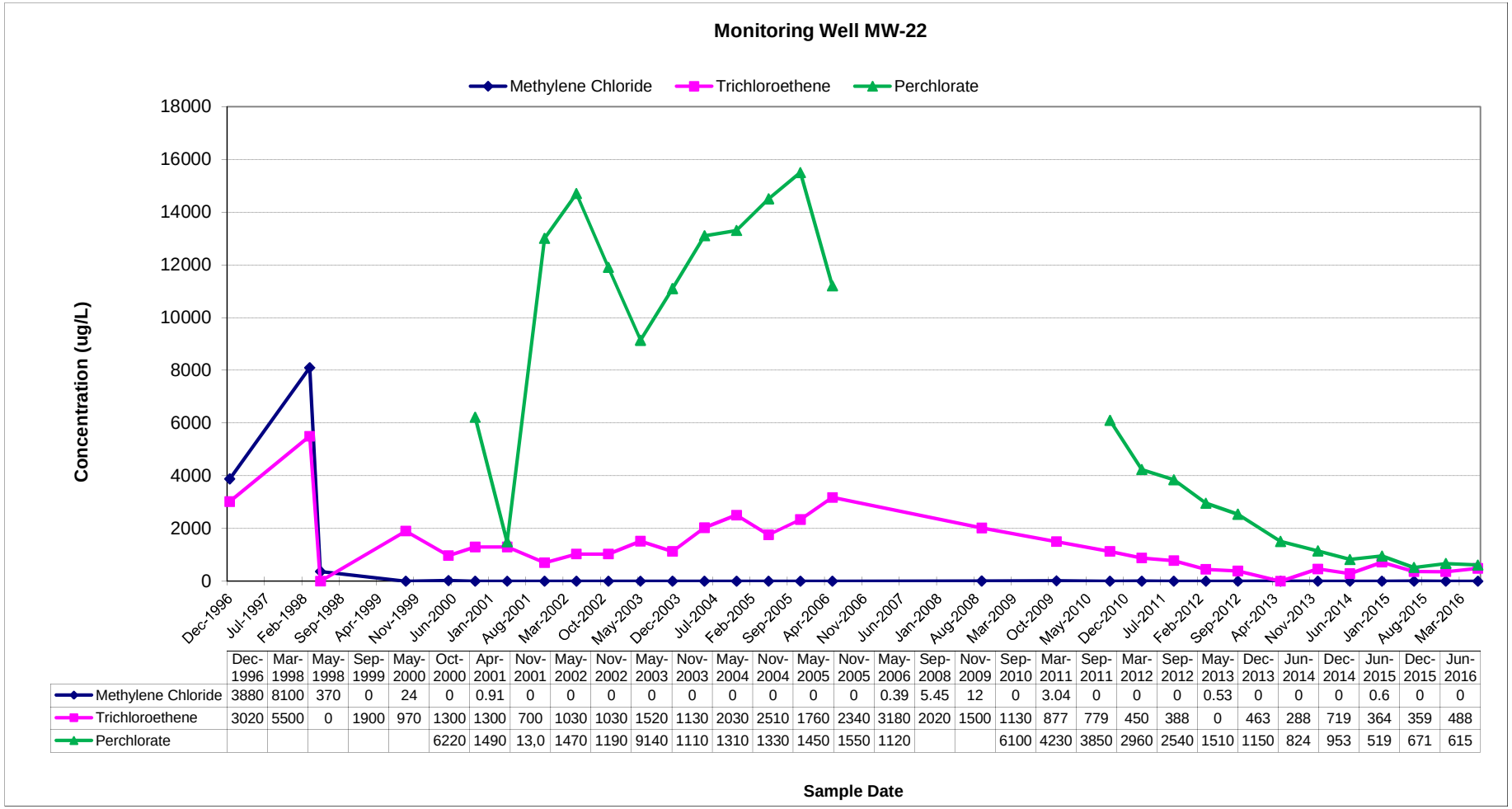
	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	03-07	09-07	03-08	09-08	04-09	09-09	03-10	09-10	03-11	09-11	03-12	06-15	12-15
Methylene Chloride	0	74	4.3	0	0	0	0	0	0	0	15.7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	0	86	0	0	0	0	0	0	0	0	29.9	0	15.7	0	0	0	6.09	7.5	0	0	0	0	0	0	0	0	0.355J	0	0.441	0
Perchlorate						0	0	0	0	0	0	59.1	7.9	0	0	10.4	5.47	0	2.67	0	0	0	0	0	0	0	0.216	0.148	4	0.398

Monitoring Well MW-21

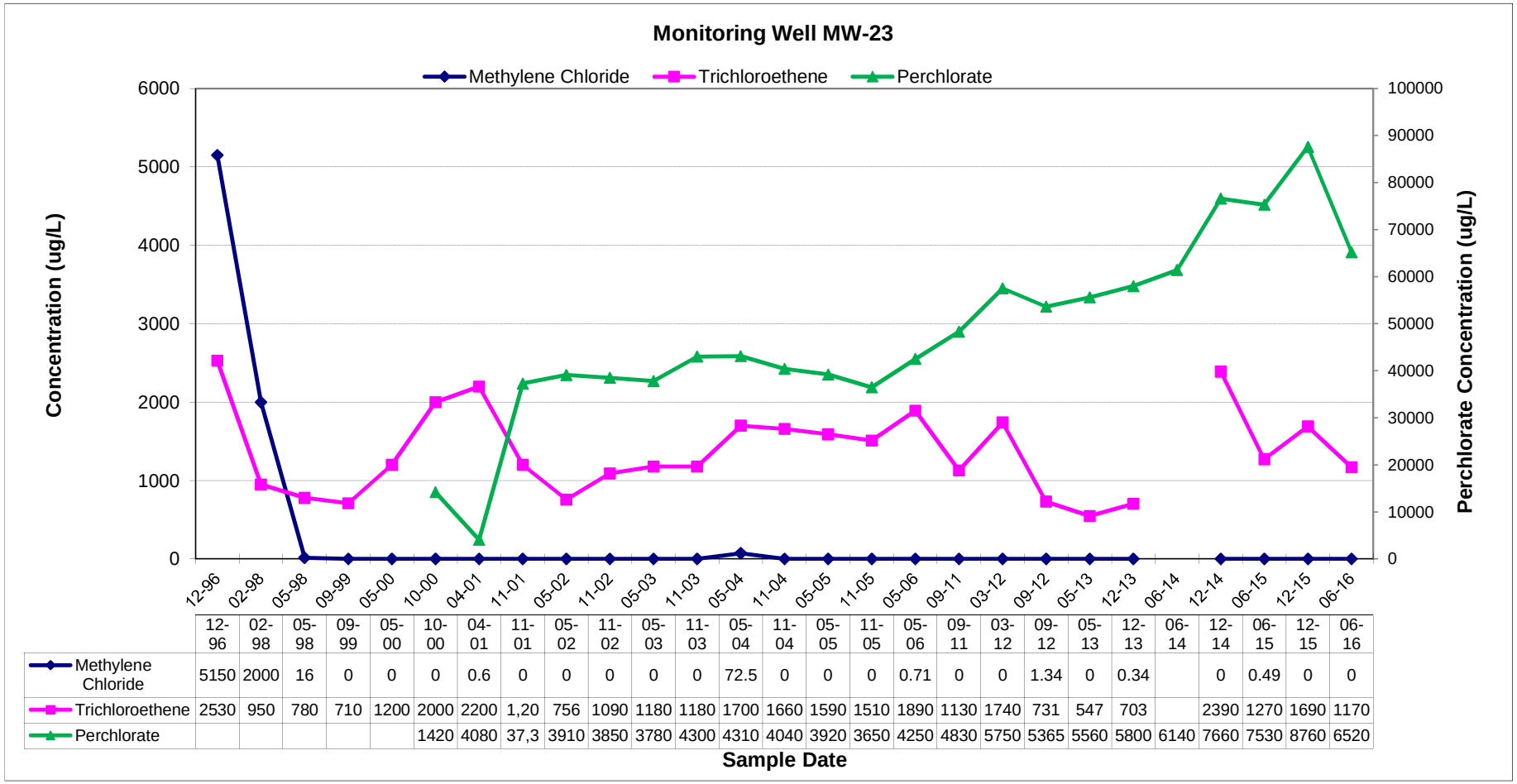


	Dec 1996	Mar 1998	May 1998	Sep 1999	May 2000	Oct 2000	Apr 2001	Nov 2001	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	668000	61000	520000	470000	180000	80000	26000	91,000	116000	54000	9770	320	2740	1490	1370	816	59.5	18.3J	12.5	11.9	0	0	0	0	0	0	0
Trichloroethene	0	1500	0	15000	0	3300	3000	5,000	6730	6260	3200	965	2830	3110	3540	3330	3090	7470	9760	4980	14400	14600	11500	12200	9910	15400	6080
Perchlorate						10100	4510	15,200	13400	20000	27800	33600	37700	39000	44700	45900	54800	32500	38800	28900	43700	49200	45000	43800	41200	46200	26100

Sample Date

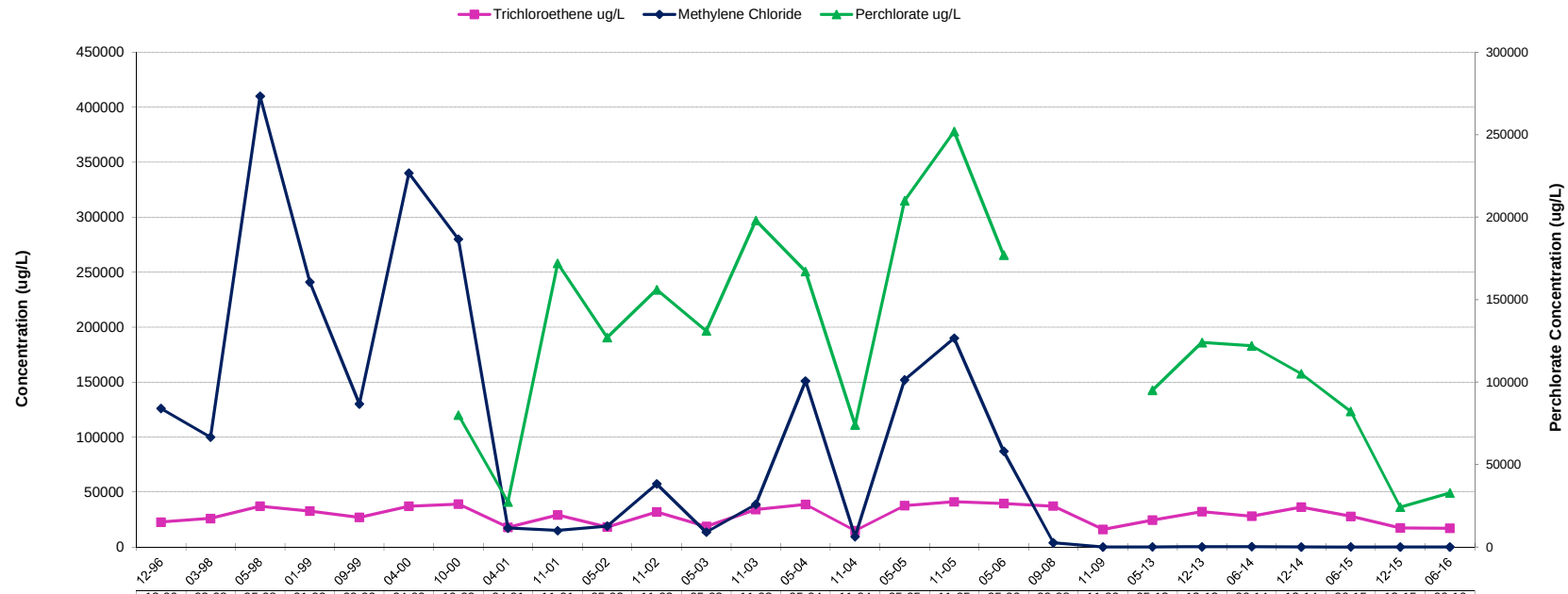


	Dec-1996	Mar-1998	May-1998	Sep-1999	May-2000	Oct-2000	Apr-2001	Nov-2001	May-2002	Nov-2002	May-2003	Nov-2003	May-2004	Nov-2004	May-2005	Nov-2005	May-2006	Sep-2008	Nov-2009	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016
Methylene Chloride	3880	8100	370	0	24	0	0.91	0	0	0	0	0	0	0	0	0	0.39	5.45	12	0	3.04	0	0	0	0.53	0	0	0	0.6	0	0
Trichloroethene	3020	5500	0	1900	970	1300	1300	700	1030	1030	1520	1130	2030	2510	1760	2340	3180	2020	1500	1130	877	779	450	388	0	463	288	719	364	359	488
Perchlorate						6220	1490	13,0	1470	1190	9140	1110	1310	1330	1450	1550	1120			6100	4230	3850	2960	2540	1510	1150	824	953	519	671	615



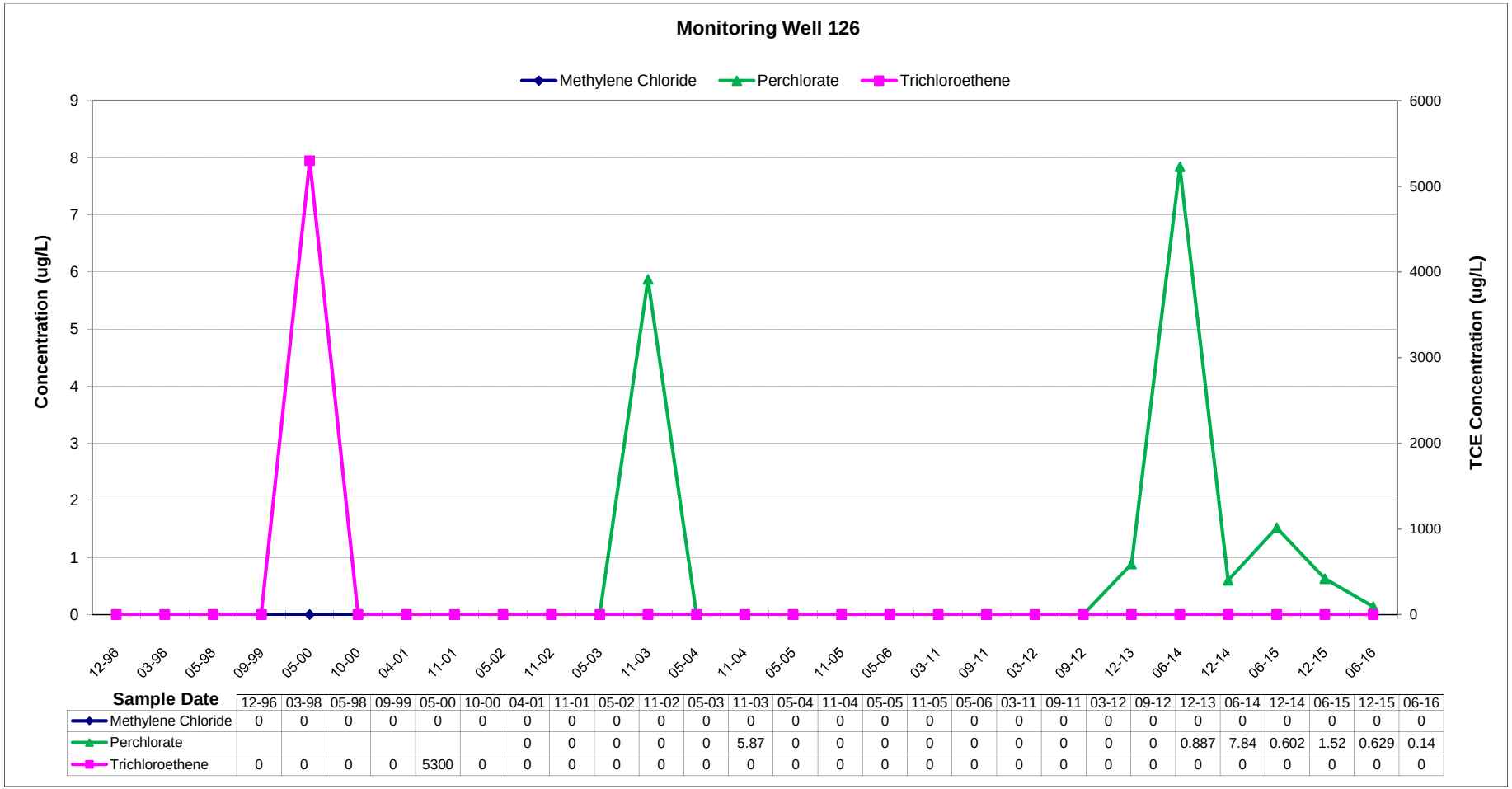
	12-96	02-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	09-11	03-12	09-12	05-13	12-13	06-14	12-14	06-15	12-15	06-16
Methylene Chloride	5150	2000	16	0	0	0	0.6	0	0	0	0	0	72.5	0	0	0	0.71	0	0	1.34	0	0.34		0	0.49	0	0
Trichloroethene	2530	950	780	710	1200	2000	2200	1,20	756	1090	1180	1180	1700	1660	1590	1510	1890	1130	1740	731	547	703		2390	1270	1690	1170
Perchlorate						1420	4080	37,3	3910	3850	3780	4300	4310	4040	3920	3650	4250	4830	5750	5365	5560	5800	6140	7660	7530	8760	6520

Monitoring Well 120



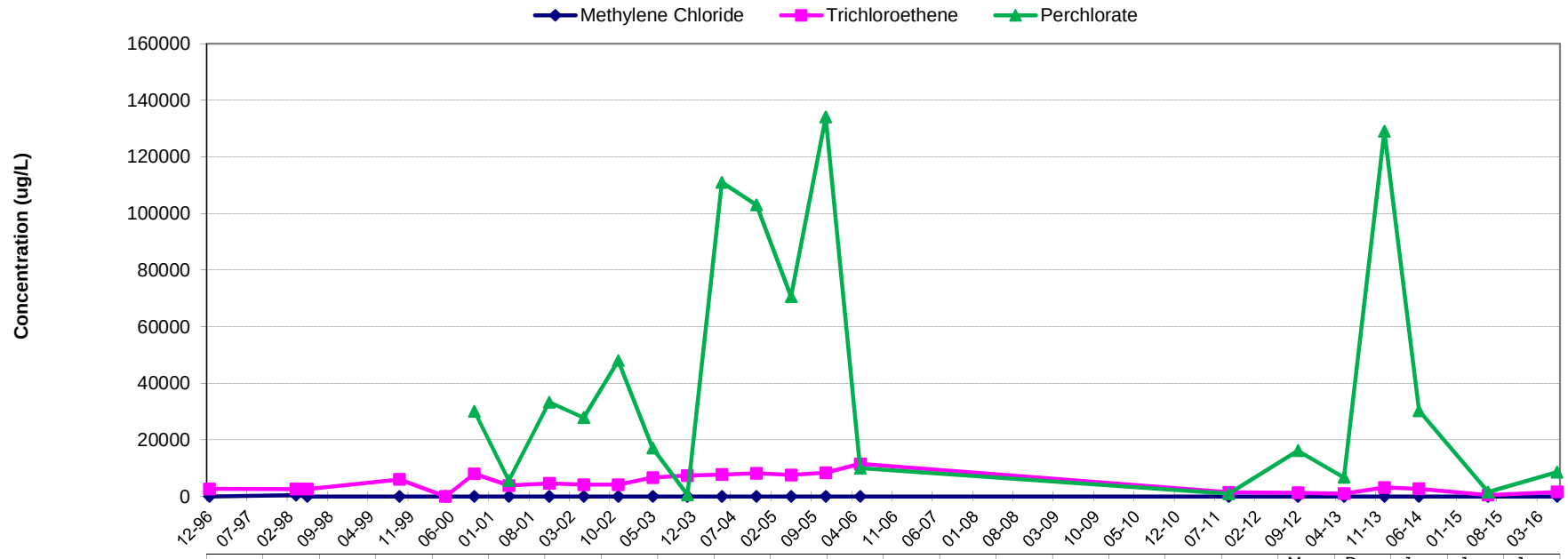
	12-96	03-98	05-98	01-99	09-99	04-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	09-08	11-09	05-13	12-13	06-14	12-14	06-15	12-15	06-16
Trichloroethene ug/L	22700	26000	37000	32700	27000	37000	39000	17900	29000	18100	31900	18700	34100	38600	14900	37700	41100	39600	37200	16000	24600	32200	28100	36200	27900	17200	17100
Methylene Chloride	126000	100000	410000	241000	130000	340000	280000	17200	15000	18900	57400	13600	38800	151000	9380	152000	190000	87100	3810	0	170	214	363	71.1	125	0	0
Perchlorate ug/L							80000	27300	172000	127000	156000	131000	198000	167000	74000	210000	252000	177000			95000	124000	122000	105000	82200	24100	32700

Sample Date



Sample Date	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	03-11	09-11	03-12	09-12	12-13	06-14	12-14	06-15	12-15	06-16
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perchlorate							0	0	0	0	0	5.87	0	0	0	0	0	0	0	0	0	0.887	7.84	0.602	1.52	0.629	0.14
Trichloroethene	0	0	0	0	5300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Monitoring Well 129



	12-96	03-98	05-98	09-99	05-00	10-00	04-01	11-01	05-02	11-02	05-03	11-03	05-04	11-04	05-05	11-05	05-06	09-11	09-12	May-2013	Dec-2013	Jun-2014	Jun-2015	Jun-2016
Methylene Chloride	0	480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.64J	4.14	3.37	0	0	0	0
Trichloroethene	2640	2600	2600	6000	0	8000	3900	4,600	4160	4150	6710	7380	7760	8180	7570	8380	11500	1460	1310	1030	3170	2730	509	1630
Perchlorate						30100	5650	33,30	27800	48000	17100	557	1E+05	1E+05	70600	1E+05	10000	959	16200	6750	1E+05	30300	1570	8590

Sample Date