

LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 10 of 19

2010

Bate Stamp Numbers

00090093– 00091096

Prepared for

**Department of the Army
Longhorn Army Ammunition Plant**

1976 – 2010

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

VOLUME 10 of 19

2010

A. Title: Report – (Continued) Final Feasibility Study, LHAAP-17, Burning Ground
 No. 2/Flashing Area, Group 2, Longhorn Army Ammunition Plant, Karnack,
 Texas, April 2010
 Author(s): US Army Corps of Engineers
 Recipient: USEPA
 Date: April 29, 2010
 Bate Stamp: 00090093 – 00091096

FINAL
FEASIBILITY STUDY
LHAAP-17, BURNING GROUND NO. 2/FLASHING AREA, GROUP 2
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS



APRIL 2010

Quick Facts



Microbac®

Look closer. Go further. Do more.

Corporate Information:

Microbac Laboratories, Inc.

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Federal Tax ID#: 25-1199-642

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Incorporated in the State of PA -- May 1, 1969

Employees Corporate-Wide: 467

Facilities Corporate -Wide: 18 Divisions, 28 locations across 15 states



Microbac®

Microbac Laboratories Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800-373-4071
Fax: 740-373-4835
Email: OVL@microbac.com



Please note these administrative changes for our Ohio Valley Division laboratory in Marietta, OH (formerly KEMRON Environmental Services, Inc.), in particular the address, which is a revised routing of remittances on our invoices. All invoices dated April 1, 2008 or later will reflect this change, and will be highlighted with an attention-getting sticker during our transition. Please adjust your records to ensure proper routing of payments.



158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L08100416

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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Jacqueline Parsons	<i>Team Assistant</i>	jparsons@microbac.com

This report was reviewed on October 29, 2008.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories.

This report was certified on October 29, 2008.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac (OVD) LQAP

This report contains a total of 244 pages.

Look closer. Go further. Do more.



Microbac REPORT L08100416
PREPARED FOR Shaw E I, Inc.
WORK ID:

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1.0 Introduction

Microbac Laboratories Inc.
REPORT NARRATIVE

Microbac Login No: L08100416

CHAIN OF CUSTODY: The chain of custody number was 5423.

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 0 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 20-OCT-08

<i>Stephanie Mossburg</i>

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

- ✓R1 Field chain-of-custody documentation;
- ✓R2 sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) Cleanup methods, and
 - e) If required for the project, tentatively identified compounds (TICs)
- ✓R4 Surrogate recovery data including:
 - a) Calculated recovery (%R) for each analyte, and
 - b) The laboratory's surrogate QC limits.
- ✓R5 Test reports/summary forms for blank samples;
- ✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amount,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %R and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ✓R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ✓R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ✓R10 Other problems or anomalies.
- ✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MIKE D. ALBERTSON



Volatiles Lab Supervisor

October 29, 2008

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L08100416
 Project Name: 798-LONGHORN
 Method: 8260B
 Prep Batch Number(s): 285612, 285680
 Reviewer Name: MIKE D. ALBERTSON
 LRC Date: October 29, 2008

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?	✓				
Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓			1
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?		✓			2
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓			3
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?		✓			3
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?		✓			5
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?	✓				
Were ion abundance data within the method-required QC limits?	✓				
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?	✓				
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

EXCEPTIONS REPORT

ER# - Description

- #1: Dibromofluoromethane was below the lower control limit in the analysis of sample 08. Toluene-d8 was below the lower control limit in the analysis of sample 06.
- #2: Chloromethane was detected in the method blanks analyzed 10/22/08 (WG285612, WG285680) on HPMS-11 at a concentration greater than the reporting limit.
- #3: The % recoveries for chloromethane and dichlorodifluoromethane and the RPD for chloromethane exceeded the upper advisory limits in the LCS/LCSD's analyzed 10/22/08 (WG285612, WG285680) on HPMS-11.
- #4: Trichlorofluoromethane was below the lower control limit in the CCV analyzed 10/22/08 on HPMS-11.
- #5: Vinyl chloride exceeded the upper control limit.

Footnotes:

- (1) NA = Not applicable to method or project
 (2) NR = Not reviewed
 (3) ER# = Exception report number

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- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

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MAREN M. BEERY



Metals Supervisor

October 17, 2008

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L08100416
 Project Name: 798-LONGHORN
 Method: 6020
 Prep Batch Number(s): WG285126
 Reviewer Name: MAREN M. BEERY
 LRC Date: October 17, 2008

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				ER1
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	NS(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L08100416
Project Name:	798-LONGHORN
Method:	6020
Prep Batch Number(s):	WG285126
Reviewer Name:	MAREN M. BEERY
LRC Date:	October 17, 2008

EXCEPTIONS REPORT

ER# 1- Client sample 07 required dilution analysis in order to obtain results for manganese and nickel within the linear range.

Footnotes:

- (1) NA = Not applicable to method or project**
- (2) NR = Not reviewed**
- (3) ER# = Exception report number**

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- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

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MAREN M. BEERY



Metals Supervisor

October 22, 2008

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L08100416
 Project Name: 798-LONGHORN
 Method: 6010
 Prep Batch Number(s): WG284943
 Reviewer Name: MAREN M. BEERY
 LRC Date: October 17, 2008

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		ER1
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				ER2
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L08100416
Project Name:	798-LONGHORN
Method:	6010
Prep Batch Number(s):	WG284943
Reviewer Name:	MAREN M. BEERY
LRC Date:	October 17, 2008

EXCEPTIONS REPORT

ER1 - Dilution analysis was performed on sample 07 in order to obtain a result for sodium within the linear range.

ER2 - Due to a noncompliant result on the negative side, vanadium for sample 07 was reported from a dilution analysis.

Footnotes:

- (1) NA = Not applicable to method or project**
- (2) NR = Not reviewed**
- (3) ER# = Exception report number**

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

SHERI L. PFALZGRAF



Chemist II

October 22, 2008

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
Laboratory Log Number: L08100416
Project Name: 798-LONGHORN
Method: 7471
Prep Batch Number(s): WG284950
Reviewer Name: SHERI L. PFALZGRAF
LRC Date: October 17, 2008

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)
Were MS/MSD RPDs within laboratory QC limits?			✓	
Analytical duplicate data				
Were appropriate analytical duplicates analyzed for each matrix?			✓	
Were analytical duplicates analyzed at the appropriate frequency?			✓	
Were RPDs or relative standard deviations within the laboratory QC limits?			✓	
Method quantitation limits (MQLs):				
Are the MQLs for each method analyte included in the laboratory data package?	✓			
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓			
Are unadjusted MQLs included in the laboratory data package?	✓			
Other problems/anomalies				
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓			
Were all necessary corrective actions performed for the reported data?	✓			
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓			
ICAL				
Were response factors and/or relative response factors for each analyte within QC limits?			✓	
Were percent RSDs or correlation coefficient criteria met?	✓			
Was the number of standards recommended in the method used for all analytes?	✓			
Were all points generated between the lowest and highest standard used to calculate the curve?	✓			
Are ICAL data available for all instruments used?	✓			
Has the initial calibration curve been verified using an appropriate second source standard?	✓			
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):				
Was the CCV analyzed at the method-required frequency?	✓			
Were percent differences for each analyte within the method-required QC limits?	✓			
Was the ICAL curve verified for each analyte?	✓			
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓			
Mass spectral tuning:				
Was the appropriate compound for the method used for tuning?			✓	
Were ion abundance data within the method-required QC limits?			✓	
Internal standards (IS):				
Were IS area counts and retention times within the method-required QC limits?			✓	
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)				
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓			
Were data associated with manual integrations flagged on the raw data?			✓	
Dual column confirmation				
Did dual column confirmation results meet the method-required QC?			✓	
Tentatively identified compounds (TICs):				
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓	
Interference Check Sample (ICS) results:				
Were percent recoveries within method QC limits?			✓	
Serial dilutions, post digestion spikes, and method of standard additions				
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓			
Method detection limit (MDL) studies				
Was a MDL study performed for each reported analyte?	✓			
Is the MDL either adjusted or supported by the analysis of DCSs?	✓			
Proficiency test reports:				
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓			

Description	Yes	No	NA(1)	NR(2)	NS(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L08100416
Project Name:	798-LONGHORN
Method:	7471
Prep Batch Number(s):	WG284950
Reviewer Name:	SHERI L. PFALZGRAF
LRC Date:	October 17, 2008

EXCEPTIONS REPORT

ER# - Description

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT**L08100416****00090121****10/29/08 15:56****Submitted By**

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW18-100808	L08100416-01	8260B	1	14-OCT-08
47WW36-100908	L08100416-02	8260B	1	14-OCT-08
47WW35-100908	L08100416-03	8260B	1	14-OCT-08
42WW35-100908-QA	L08100416-04	8260B	1	14-OCT-08
46WW05-100908	L08100416-05	8260B	1	14-OCT-08
46WW06-100908	L08100416-06	8260B	1	14-OCT-08
TRIP BLANK	L08100416-08	8260B	1	14-OCT-08



Sample Number: **L08100416-01**
Client ID: **17WW18-100808**
Matrix: **Water**
Workgroup Number: **WG285612**
Collect Date: **10/08/2008 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **WTD**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/22/2008 10:09**
Cal Date: **10/21/2008 21:12**
Run Date: **10/22/2008 10:09**
File ID: **11M54623**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	1.14		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3	1.33	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L08100416-01**
 Client ID: **17WW18-100808**
 Matrix: **Water**
 Workgroup Number: **WG285612**
 Collect Date: **10/08/2008 14:15**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 10:09**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 10:09**
 File ID: **11M54623**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	90.5	86	118		
1,2-Dichloroethane-d4	84.8	80	120		
Toluene-d8	95.7	88	110		
4-Bromofluorobenzene	90.3	86	115		

U Not detected at or above adjusted sample detection limit
 B Analyte present in method blank

Sample Number: **L08100416-02**
Client ID: **47WW36-100908**
Matrix: **Water**
Workgroup Number: **WG285612**
Collect Date: **10/09/2008 08:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **WTD**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/22/2008 10:40**
Cal Date: **10/21/2008 21:12**
Run Date: **10/22/2008 10:40**
File ID: **11M54624**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	12.5		10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	0.983	J	1.00	0.125
Chloromethane	74-87-3	1.63	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3	1.03		1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L08100416-02**
 Client ID: **47WW36-100908**
 Matrix: **Water**
 Workgroup Number: **WG285612**
 Collect Date: **10/09/2008 08:20**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 10:40**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 10:40**
 File ID: **11M54624**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	89.9	86	118		
1,2-Dichloroethane-d4	87.3	80	120		
Toluene-d8	96.2	88	110		
4-Bromofluorobenzene	90.8	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL
 B Analyte present in method blank

Sample Number: **L08100416-03**
Client ID: **47WW35-100908**
Matrix: **Water**
Workgroup Number: **WG285612**
Collect Date: **10/09/2008 11:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **WTD**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/22/2008 11:11**
Cal Date: **10/21/2008 21:12**
Run Date: **10/22/2008 11:11**
File ID: **11M54625**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	5.39	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4	0.254	J	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	1.49		1.00	0.125
Chloromethane	74-87-3	1.74	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L08100416**Report Date : **October 29, 2008**

00090127

Sample Number: **L08100416-03**
 Client ID: **47WW35-100908**
 Matrix: **Water**
 Workgroup Number: **WG285612**
 Collect Date: **10/09/2008 11:55**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 11:11**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 11:11**
 File ID: **11M54625**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	89.8	86	118		
1,2-Dichloroethane-d4	87.2	80	120		
Toluene-d8	97.8	88	110		
4-Bromofluorobenzene	93.3	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

B Analyte present in method blank

Sample Number: L08100416-04
 Client ID: 42WW35-100908-QA
 Matrix: Water
 Workgroup Number: WG285680
 Collect Date: 10/09/2008 11:55
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: WTD
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 10/22/2008 15:30
 Cal Date: 10/21/2008 21:12
 Run Date: 10/22/2008 15:30
 File ID: 11M54633A

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	0.573	J	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	1.61		1.00	0.125
Chloromethane	74-87-3	2.03	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L08100416-04**
 Client ID: **42WW35-100908-QA**
 Matrix: **Water**
 Workgroup Number: **WG285680**
 Collect Date: **10/09/2008 11:55**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 15:30**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 15:30**
 File ID: **11M54633A**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	90.7	86	118		
1,2-Dichloroethane-d4	88.9	80	120		
Toluene-d8	88.6	88	110		
4-Bromofluorobenzene	93.4	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL
 B Analyte present in method blank

Sample Number: **L08100416-05**
Client ID: **46WW05-100908**
Matrix: **Water**
Workgroup Number: **WG285680**
Collect Date: **10/09/2008 14:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **WTD**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/22/2008 16:01**
Cal Date: **10/21/2008 21:12**
Run Date: **10/22/2008 16:01**
File ID: **11M54634A**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	14.1		10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3	1.75	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	1.72		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	5.90		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L08100416-05**
 Client ID: **46WW05-100908**
 Matrix: **Water**
 Workgroup Number: **WG285680**
 Collect Date: **10/09/2008 14:05**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 16:01**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 16:01**
 File ID: **11M54634A**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	91.1	86	118		
1,2-Dichloroethane-d4	86.8	80	120		
Toluene-d8	89.1	88	110		
4-Bromofluorobenzene	91.8	86	115		

U Not detected at or above adjusted sample detection limit
 B Analyte present in method blank

Sample Number: **L08100416-06**
Client ID: **46WW06-100908**
Matrix: **Water**
Workgroup Number: **WG285680**
Collect Date: **10/09/2008 17:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **WTD**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/22/2008 16:32**
Cal Date: **10/21/2008 21:12**
Run Date: **10/22/2008 16:32**
File ID: **11M54635A**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	6.74	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	0.558	J	1.00	0.125
Chloromethane	74-87-3	1.77	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L08100416-06**
 Client ID: **46WW06-100908**
 Matrix: **Water**
 Workgroup Number: **WG285680**
 Collect Date: **10/09/2008 17:20**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 16:32**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 16:32**
 File ID: **11M54635A**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	88.6	86	118		
1,2-Dichloroethane-d4	86.3	80	120		
Toluene-d8	87.2	88	110	*	
4-Bromofluorobenzene	90.2	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL
 * Surrogate or spike compound out of range
 B Analyte present in method blank

Sample Number: **L08100416-08**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG285612**
Collect Date: **10/09/2008 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **WTD**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/22/2008 05:59**
Cal Date: **10/21/2008 21:12**
Run Date: **10/22/2008 05:59**
File ID: **11M54615**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	0.343	J	1.00	0.125
Chloromethane	74-87-3	2.52	B	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L08100416-08**
 Client ID: **TRIP BLANK**
 Matrix: **Water**
 Workgroup Number: **WG285612**
 Collect Date: **10/09/2008 00:01**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **10/22/2008 05:59**
 Cal Date: **10/21/2008 21:12**
 Run Date: **10/22/2008 05:59**
 File ID: **11M54615**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	85.8	86	118	*	
1,2-Dichloroethane-d4	82.8	80	120		
Toluene-d8	97.5	88	110		
4-Bromofluorobenzene	88.7	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

* Surrogate or spike compound out of range

B Analyte present in method blank

2.1.1.2 QC Summary Data

Example 8260 Calculations

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

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

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100

RF = Calculated Response Factor **1.0039**

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

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

Example

where:

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

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

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

Example

where:

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

Dry weight correction:

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

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

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

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

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

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 102108
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 26371

Internal Standard: NA Surrogate Standard: NA
 CCV: NA LCS: NA MS/MSD: NA
 Column 1 ID: _____ Column 2 ID: NA
 Workgroups: WG285582, WG285612

Comments: REANALYSIS REQUIRED. SEE NOTES

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M54582	VOCARB 3000 1 CHECK	NA	1	1		10/21/08 10:40
2	11M54583	VOCARB 3000 20 CHECK	NA	1	1		10/21/08 11:26
3	11M54584	VOCARB 3000 100 CHECK	NA	1	1		10/21/08 11:58
4	11M54585	VOCARB 3000 1 CHECK	NA	1	1		10/21/08 13:04
5	11M54586	WG285582-01 TUNE 50ng BFB	NA	1	1	STD29166	10/21/08 14:50
6	11M54587	WG285582-02 0.3 STD 8260	NA	1	1	STD29369	10/21/08 15:20
7	11M54588	WG285582-03 0.4 STD 8260	NA	1	1	STD29369	10/21/08 15:53
8	11M54589	WG285582-04 1 STD 8260	NA	1	1	STD29369	10/21/08 16:35
9	11M54590	WG285582-02 0.3 STD 8260	NA	1	1	STD29369	10/21/08 17:06
10	11M54591	WG285582-04 0.4 STD 8260	NA	1	1	STD29369	10/21/08 17:37
11	11M54592	WG285582-05 2 STD 8260	NA	1	1	STD29369	10/21/08 18:08
12	11M54593	WG285582-06 5 STD 8260	NA	1	1	STD29369	10/21/08 18:38
13	11M54594	WG285582-07 20 STD 8260	NA	1	1	STD29369	10/21/08 19:09
14	11M54595	WG285582-08 50 STD 8260	NA	1	1	STD29369	10/21/08 19:40
15	11M54596	WG285582-09 100 STD 8260	NA	1	1	STD29369	10/21/08 20:11
16	11M54597	WG285582-10 200 STD 8260	NA	1	1	STD29369	10/21/08 20:42
17	11M54598	WG285582-11 300 STD 8260	NA	1	1	STD29369	10/21/08 21:12
18	11M54599	SYSTEM BLANK	NA	1	1		10/21/08 21:43
19	11M54600	SYSTEM BLANK	NA	1	1		10/21/08 22:14
20	11M54601	WG285582-12 ICV 20ug/L	NA	1	1	STD29406	10/21/08 22:45
21	11M54602	SYSTEM BLANK	NA	1	1	STD29406	10/21/08 23:16
22	11M54603	WG285611-01 50ng BFB TUNE	NA	1	1	STD29166	10/21/08 23:45
23	11M54604	WG285611-01 50ng BFB TUNE	NA	1	1	STD29166	10/22/08 00:19
24	11M54605	WG285611-02 50ug/L CCV	NA	1	1	STD29369	10/22/08 00:47
25	11M54606	SYSTEM BLANK	NA	1	1		10/22/08 01:18
26	11M54607	WG285582-12 20ug/L ALT SOURCE	NA	1	1	STD29406	10/22/08 01:50
27	11M54608	WG285612-01 VBLK1021 BLANK 8260	NA	1	1		10/22/08 02:21
28	11M54609	WG285612-01 VBLK1021 BLANK 8260	NA	1	1		10/22/08 02:52
29	11M54610	WG285612-02 20ug/L LCS 8260	NA	1	1	STD29406	10/22/08 03:23
30	11M54611	WG285612-03 20ug/L LCSDUP 8260	NA	1	1	STD29406	10/22/08 03:54
31	11M54612	L08100255-03 A 10X 826-TC	NA	17	10		10/22/08 04:26
32	11M54613	L08100298-05 A 826-SPE1	<2	1	1		10/22/08 04:57
33	11M54614	L08100371-01 A 826-SPE	<2	1	1		10/22/08 05:28
34	11M54615	L08100416-08 A 826-SPE	<2	1	1		10/22/08 05:59

Approved:



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 102108
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 26371

Internal Standard: NA Surrogate Standard: NA
 CCV: NA LCS: NA MS/MSD: NA
 Column 1 ID: _____ Column 2 ID: NA
 Workgroups: WG285582, WG285612

Comments: REANALYSIS REQUIRED. SEE NOTES

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
35	11M54616	L08100298-01 A 826-SPE1	<2	1	1		10/22/08 06:30
36	11M54617	L08100298-02 A 826-SPE1	<2	1	1		10/22/08 07:01
37	11M54618	L08100298-03 A 826-SPE1	<2	1	1		10/22/08 07:32
38	11M54619	L08100298-04 A 826-SPE1	<2	1	1		10/22/08 08:02
39	11M54620	L08100371-02 B 826-SPE	<2	1	1		10/22/08 08:33
40	11M54621	L08100371-03 B 826-SPE	<2	1	1		10/22/08 09:08
41	11M54622	L08100255-04 A 10X 826-TC	NA	17	10		10/22/08 09:38
42	11M54623	L08100416-01 A 826-SPE	<2	1	1		10/22/08 10:09
43	11M54624	L08100416-02 B 826-SPE	<2	1	1		10/22/08 10:40
44	11M54625	L08100416-03 B 826-SPE	<2	1	1		10/22/08 11:11

Comments

Seq.	Rerun	Dil.	Reason	Analytes
32	X		Check Standard Failure	
File ID: 11M54613				
35	X		Check Standard Failure	
File ID: 11M54616				
36	X		Check Standard Failure	
File ID: 11M54617				
37	X		Check Standard Failure	
File ID: 11M54618				
38	X		Check Standard Failure	
File ID: 11M54619				

Approved:



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 102208
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 26376

Internal Standard: NA Surrogate Standard: NA
 CCV: STD29369 LCS: STD29369 MS/MSD: NA
 Column 1 ID: _____ Column 2 ID: NA
 Workgroups: WG285680

Comments: NO REANALYSIS REQUIRED.

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M54626A	WG285678-01 TUNE 50ng BFB	NA	1	1	STD29166	10/22/08 11:46
2	11M54627A	WG285678-02 50ug/L CCV	NA	1	1	STD29369	10/22/08 12:15
3	11M54628A	WG285680-01 BLANK 8260	NA	1	1		10/22/08 12:55
4	11M54629A	WG285680-01 BLANK 8260	NA	1	1		10/22/08 13:26
5	11M54630A	WG285680-02 LCS 20ug/L 8260	NA	1	1		10/22/08 13:57
6	11M54631A	WG285680-06 LCSD 20ug/L 8260	NA	1	1		10/22/08 14:28
7	11M54632A	SYSTEM BLANK	NA	1	1		10/22/08 14:59
8	11M54633A	L08100416-04 A 826-SPE	<2	1	1		10/22/08 15:30
9	11M54634A	L08100416-05 A 826-SPE	<2	1	1		10/22/08 16:01
10	11M54635A	L08100416-06 A 826-SPE	<2	1	1		10/22/08 16:32
11	11M54636A	L08100272-07 A 10X 826-SPLP	NA	18	10		10/22/08 17:03
12	11M54637A	L08100272-13 A 10X 826-SPLP	NA	18	10		10/22/08 17:34
13	11M54638A	L08100272-15 A 10X 826-SPLP	NA	18	10		10/22/08 18:05
14	11M54639A	L08100272-17 A 826-SPLP	NA	18	1		10/22/08 18:36
15	11M54640A	L08100272-19 A 826-SPLP	NA	18	1		10/22/08 19:07
16	11M54641A	L08100229-07 A 826-SPLP	NA	18	1		10/22/08 19:38
17	11M54642A	L08100229-09 A 826-SPLP	NA	18	1		10/22/08 20:09
18	11M54643A	L08100360-19 A 826-SPLP	NA	18	1		10/22/08 20:40
19	11M54644A	L08100360-21 A 826-SPLP	NA	18	1		10/22/08 21:11
20	11M54645A	L08100272-07 REF A 826-SPLP	NA	18	1		10/22/08 21:42
21	11M54646A	L08100272-09 MS A 826-SPLP	NA	18	1		10/22/08 22:13
22	11M54647A	L08100272-11 MSD A 826-SPLP	NA	18	1		10/22/08 22:43
23	11M54648A	SYSTEM BLANK	NA	1	1		10/22/08 23:14

Approved:



Microbac Laboratories Inc.

Data Checklist

Date: 21-OCT-2008

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 24897

Analytical Workgroups: WT285612, WG285582

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

Primary Reviewer:
29-OCT-2008

Secondary Reviewer:

Microbac Laboratories Inc.

Data Checklist

Date: 29-OCT-2008

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 24894

Analytical Workgroups: WG285680

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

Primary Reviewer:
29-OCT-2008

Secondary Reviewer:

Analytical Method: 8260B

AAB#: WG285612

Login Number: L08100416

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
47WW35-100908	10/09/08	10/14/08	10/22/08	14	13.0	10/22/08	14	13.0	
17WW18-100808	10/08/08	10/14/08	10/22/08	14	13.8	10/22/08	14	13.8	
47WW36-100908	10/09/08	10/14/08	10/22/08	14	13.1	10/22/08	14	13.1	
TRIP BLANK	10/09/08	10/14/08	10/22/08	14	13.2	10/22/08	14	13.2	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

Analytical Method: 8260B

AAB#: WG285680

Login Number: L08100416

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
46WW05-100908	10/09/08	10/14/08	10/22/08	14	13.1	10/22/08	14	13.1	
46WW06-100908	10/09/08	10/14/08	10/22/08	14	13.0	10/22/08	14	13.0	
42WW35-100908-QA	10/09/08	10/14/08	10/22/08	14	13.1	10/22/08	14	13.1	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

Login Number: L08100416
Instrument Id: HPMS11
Workgroup (AAB#): WG285612

Method: 8260
CAL ID: HPMS11 - 21-OCT-08
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L08100416-01	1.00	01	84.8	90.5	90.3	95.7
L08100416-02	1.00	01	87.3	89.9	90.8	96.2
L08100416-03	1.00	01	87.2	89.8	93.3	97.8
L08100416-08	1.00	01	82.8	85.8	88.7	97.5
WG285612-01	1.00	01	85.0	91.9	92.6	89.7
WG285612-02	1.00	01	87.6	89.4	87.4	91.7
WG285612-03	1.00	01	86.0	91.5	88.3	92.7

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

Login Number: L08100416
Instrument Id: HPMS11
Workgroup (AAB#): WG285680

Method: 8260
CAL ID: HPMS11 - 21-OCT-08
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L08100416-04	1.00	01	88.9	90.7	93.4	88.6
L08100416-05	1.00	01	86.8	91.1	91.8	89.1
L08100416-06	1.00	01	86.3	88.6	90.2	<u>87.2</u>
WG285680-01	1.00	01	87.0	90.7	92.2	90.3
WG285680-02	1.00	01	90.6	91.3	87.8	92.3
WG285680-06	1.00	01	87.9	88.3	87.8	91.2

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

METHOD BLANK SUMMARY

Login Number: L08100416
Blank File ID: 11M54609
Prep Date: 10/22/08 02:52
Analyzed Date: 10/22/08 02:52
Analyst: WTD

Work Group: WG285612
Blank Sample ID: WG285612-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG285612-02	11M54610	10/22/08 03:23	01
LCS2	WG285612-03	11M54611	10/22/08 03:54	01
TRIP BLANK	L08100416-08	11M54615	10/22/08 05:59	01
17WW18-100808	L08100416-01	11M54623	10/22/08 10:09	01
47WW36-100908	L08100416-02	11M54624	10/22/08 10:40	01
47WW35-100908	L08100416-03	11M54625	10/22/08 11:11	01

Report Name: BLANK_SUMMARY
PDF File ID: 1233847
Report generated 10/29/2008 14:02



METHOD BLANK SUMMARY

Login Number: L08100416
Blank File ID: 11M54629A
Prep Date: 10/22/08 13:26
Analyzed Date: 10/22/08 13:26
Analyst: WTD

Work Group: WG285680
Blank Sample ID: WG285680-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG285680-02	11M54630A	10/22/08 13:57	01
LCS2	WG285680-06	11M54631A	10/22/08 14:28	01
42WW35-100908-QA	L08100416-04	11M54633A	10/22/08 15:30	01
46WW05-100908	L08100416-05	11M54634A	10/22/08 16:01	01
46WW06-100908	L08100416-06	11M54635A	10/22/08 16:32	01

Report Name: BLANK_SUMMARY
PDF File ID: 1233847
Report generated 10/29/2008 14:02



Login Number: L08100416 Prep Date: 10/22/08 02:52 Sample ID: WG285612-01
 Instrument ID: HPMS11 Run Date: 10/22/08 02:52 Prep Method: 5030B
 File ID: 11M54609 Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG285612 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 21-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	2.47	1	*
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 1233854

29-OCT-2008 14:02



Login Number: L08100416 Prep Date: 10/22/08 02:52 Sample ID: WG285612-01
 Instrument ID: HPMS11 Run Date: 10/22/08 02:52 Prep Method: 5030B
 File ID: 11M54609 Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG285612 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 21-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	91.9	86 - 118	PASS
1,2-Dichloroethane-d4	85.0	80 - 120	PASS
Toluene-d8	89.7	88 - 110	PASS
4-Bromofluorobenzene	92.6	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1233854

29-OCT-2008 14:02



Login Number: L08100416 Prep Date: 10/22/08 13:26 Sample ID: WG285680-01
 Instrument ID: HPMS11 Run Date: 10/22/08 13:26 Prep Method: 5030B
 File ID: 11M54629A Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG285680 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 21-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	2.24	1	*
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 1233854

29-OCT-2008 14:02



Login Number: L08100416 Prep Date: 10/22/08 13:26 Sample ID: WG285680-01
 Instrument ID: HPMS11 Run Date: 10/22/08 13:26 Prep Method: 5030B
 File ID: 11M54629A Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG285680 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 21-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	90.7	86 - 118	PASS
1,2-Dichloroethane-d4	87.0	80 - 120	PASS
Toluene-d8	90.3	88 - 110	PASS
4-Bromofluorobenzene	92.2	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1233854

29-OCT-2008 14:02



Login Number: L08100416 Analyst: WTD Prep Method: 5030B
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG285612 Units: ug/L
QC Key: STD Lot #: STD29406

Sample ID: WG285612-02 LCS File ID: 11M54610 Run Date: 10/22/2008 03:23
Sample ID: WG285612-03 LCS2 File ID: 11M54611 Run Date: 10/22/2008 03:54

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	20.9	105	20.0	22.1	111	5.43	40 - 142	20	
Benzene	20.0	21.5	108	20.0	21.5	107	0.306	80 - 121	20	
Bromobenzene	20.0	18.8	93.9	20.0	19.8	99.1	5.31	80 - 120	20	
Bromochloromethane	20.0	19.4	97.2	20.0	20.9	105	7.35	65 - 130	20	
Bromodichloromethane	20.0	21.6	108	20.0	22.0	110	1.68	80 - 131	20	
Bromoform	20.0	19.1	95.7	20.0	19.7	98.4	2.77	70 - 130	20	
Bromomethane	20.0	16.1	80.3	20.0	17.1	85.3	6.05	30 - 145	20	
2-Butanone	20.0	16.8	84.2	20.0	19.4	96.9	14.0	30 - 150	20	
n-Butylbenzene	20.0	18.7	93.7	20.0	19.3	96.4	2.80	80 - 131	20	
sec-Butylbenzene	20.0	18.7	93.5	20.0	19.3	96.4	2.99	80 - 127	20	
tert-Butylbenzene	20.0	18.7	93.6	20.0	19.3	96.7	3.31	80 - 126	20	
Carbon disulfide	20.0	16.6	82.8	20.0	15.6	78.1	5.85	58 - 138	20	
Carbon tetrachloride	20.0	20.9	105	20.0	20.5	102	2.27	65 - 140	20	
Chlorobenzene	20.0	20.0	100	20.0	20.9	104	4.10	80 - 120	20	
Chlorodibromomethane	20.0	19.1	95.5	20.0	19.7	98.5	3.02	60 - 135	20	
Chloroethane	20.0	22.1	110	20.0	21.6	108	2.12	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	18.0	90.1	20.0	18.3	91.6	1.58	58 - 151	20	
Chloroform	20.0	19.4	96.8	20.0	20.1	100	3.56	80 - 125	20	
Chloromethane	20.0	16.5	82.3	20.0	26.5	133	47.0	40 - 125	20	*#
2-Chlorotoluene	20.0	18.0	89.9	20.0	18.3	91.4	1.66	80 - 127	20	
4-Chlorotoluene	20.0	18.4	91.9	20.0	19.0	95.1	3.38	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	18.9	94.5	20.0	19.1	95.6	1.21	50 - 130	20	
1,2-Dibromoethane	20.0	18.4	91.8	20.0	18.7	93.3	1.63	80 - 125	20	
Dibromomethane	20.0	20.8	104	20.0	21.2	106	1.92	75 - 125	20	
1,2-Dichlorobenzene	20.0	21.4	107	20.0	21.7	109	1.78	80 - 125	20	
1,3-Dichlorobenzene	20.0	21.3	107	20.0	21.8	109	2.08	80 - 120	20	
1,4-Dichlorobenzene	20.0	19.3	96.4	20.0	19.7	98.6	2.27	80 - 120	20	
Dichlorodifluoromethane	20.0	25.2	126	20.0	27.1	136	7.34	50 - 133	20	*
1,1-Dichloroethane	20.0	19.5	97.4	20.0	19.7	98.6	1.23	80 - 125	20	
1,2-Dichloroethane	20.0	20.7	104	20.0	20.8	104	0.334	80 - 129	20	
1,1-Dichloroethene	20.0	20.6	103	20.0	20.9	104	1.38	80 - 132	20	
cis-1,2-Dichloroethene	20.0	19.3	96.3	20.0	20.2	101	4.72	70 - 125	20	
trans-1,2-Dichloroethene	20.0	19.7	98.4	20.0	22.3	112	12.5	80 - 127	20	
1,2-Dichloropropane	20.0	20.9	105	20.0	20.7	103	1.17	80 - 120	20	
1,3-Dichloropropane	20.0	19.1	95.7	20.0	19.8	99.0	3.42	80 - 120	20	
2,2-Dichloropropane	20.0	18.4	92.0	20.0	19.0	95.0	3.22	80 - 133	20	
cis-1,3-Dichloropropene	20.0	19.1	95.6	20.0	18.7	93.3	2.39	70 - 130	20	
trans-1,3-Dichloropropene	20.0	16.1	80.7	20.0	17.0	84.9	5.05	80 - 130	20	
1,1-Dichloropropene	20.0	18.5	92.7	20.0	19.3	96.5	4.02	75 - 130	20	
Ethylbenzene	20.0	19.2	96.2	20.0	19.7	98.5	2.37	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1233855
Report generated: 10/29/2008 14:02



Login Number: L08100416 Analyst: WTD Prep Method: 5030B
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG285612 Units: ug/L
QC Key: STD Lot #: STD29406

Sample ID: WG285612-02 LCS File ID: 11M54610 Run Date: 10/22/2008 03:23
Sample ID: WG285612-03 LCS2 File ID: 11M54611 Run Date: 10/22/2008 03:54

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	19.0	94.8	20.0	18.9	94.7	0.0861	55 - 130	20	
Hexachlorobutadiene	20.0	19.2	95.8	20.0	19.7	98.4	2.73	72 - 132	20	
Isopropylbenzene	20.0	17.4	86.8	20.0	17.7	88.4	1.87	80 - 122	20	
p-Isopropyltoluene	20.0	18.0	90.2	20.0	18.7	93.4	3.53	80 - 122	20	
4-Methyl-2-pentanone	20.0	19.9	99.7	20.0	19.9	99.5	0.254	64 - 140	20	
Methylene chloride	20.0	23.4	117	20.0	23.3	117	0.540	80 - 123	20	
Naphthalene	20.0	18.6	93.0	20.0	19.5	97.3	4.54	59 - 149	20	
n-Propylbenzene	20.0	18.0	89.9	20.0	18.7	93.5	3.95	80 - 129	20	
Styrene	20.0	20.2	101	20.0	20.8	104	2.78	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	20.4	102	20.0	21.4	107	4.80	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	20.3	102	20.0	20.6	103	1.24	79 - 125	20	
Tetrachloroethene	20.0	18.6	93.0	20.0	19.3	96.3	3.46	80 - 124	20	
Toluene	20.0	19.4	96.9	20.0	19.7	98.3	1.42	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	18.6	93.0	20.0	19.7	98.6	5.80	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	18.2	91.1	20.0	19.2	96.1	5.29	65 - 135	20	
1,1,1-Trichloroethane	20.0	20.4	102	20.0	20.6	103	1.10	80 - 134	20	
1,1,2-Trichloroethane	20.0	20.1	100	20.0	21.0	105	4.34	80 - 125	20	
Trichloroethene	20.0	17.9	89.7	20.0	19.3	96.6	7.33	80 - 122	20	
Trichlorofluoromethane	20.0	22.4	112	20.0	22.0	110	2.03	62 - 151	20	
1,2,3-Trichloropropane	20.0	19.0	95.1	20.0	19.5	97.3	2.20	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	19.1	95.7	20.0	19.7	98.3	2.76	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	18.4	92.2	20.0	19.2	96.0	4.07	80 - 127	20	
Vinyl acetate	20.0	11.6	58.2	20.0	12.6	62.9	7.76	10 - 150	20	
Vinyl chloride	20.0	26.4	132	20.0	26.4	132	0.199	65 - 140	20	
o-Xylene	20.0	19.4	97.1	20.0	20.1	101	3.43	80 - 122	20	
m-, p-Xylene	40.0	38.5	96.2	40.0	39.4	98.4	2.22	80 - 122	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	87.6	86.0	80 - 120	PASS
Dibromofluoromethane	89.4	91.5	86 - 118	PASS
4-Bromofluorobenzene	87.4	88.3	86 - 115	PASS
Toluene-d8	91.7	92.7	88 - 110	PASS

* FAILS %REC LIMIT
FAILS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1233855
Report generated: 10/29/2008 14:02



Login Number: L08100416 Analyst: WTD Prep Method: 5030B
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG285680 Units: ug/L
QC Key: STD Lot #: STD29406

Sample ID: WG285680-02 LCS File ID: 11M54630A Run Date: 10/22/2008 13:57
Sample ID: WG285680-06 LCS2 File ID: 11M54631A Run Date: 10/22/2008 14:28

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	23.8	119	20.0	23.2	116	2.34	40 - 142	20	
Benzene	20.0	22.0	110	20.0	22.1	111	0.414	80 - 121	20	
Bromobenzene	20.0	19.3	96.7	20.0	19.7	98.3	1.60	80 - 120	20	
Bromochloromethane	20.0	19.9	99.3	20.0	20.2	101	1.66	65 - 130	20	
Bromodichloromethane	20.0	22.1	111	20.0	21.9	110	0.901	80 - 131	20	
Bromoform	20.0	20.1	100	20.0	19.2	96.2	4.16	70 - 130	20	
Bromomethane	20.0	19.1	95.4	20.0	23.3	116	19.7	30 - 145	20	
2-Butanone	20.0	20.9	104	20.0	20.9	104	0.0064	30 - 150	20	
n-Butylbenzene	20.0	18.9	94.7	20.0	19.4	97.1	2.54	80 - 131	20	
sec-Butylbenzene	20.0	18.7	93.6	20.0	19.4	97.2	3.73	80 - 127	20	
tert-Butylbenzene	20.0	19.0	94.9	20.0	19.5	97.7	2.86	80 - 126	20	
Carbon disulfide	20.0	16.0	80.0	20.0	16.6	83.1	3.75	58 - 138	20	
Carbon tetrachloride	20.0	20.9	104	20.0	21.0	105	0.592	65 - 140	20	
Chlorobenzene	20.0	20.6	103	20.0	20.8	104	1.18	80 - 120	20	
Chlorodibromomethane	20.0	19.2	96.1	20.0	19.2	95.9	0.219	60 - 135	20	
Chloroethane	20.0	23.8	119	20.0	25.7	128	7.69	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	18.5	92.6	20.0	18.3	91.6	1.02	58 - 151	20	
Chloroform	20.0	19.9	99.3	20.0	19.9	99.4	0.171	80 - 125	20	
Chloromethane	20.0	17.9	89.7	20.0	29.5	147	48.7	40 - 125	20	*#
2-Chlorotoluene	20.0	18.5	92.6	20.0	19.1	95.5	3.10	80 - 127	20	
4-Chlorotoluene	20.0	18.5	92.5	20.0	18.6	93.1	0.686	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	19.9	99.4	20.0	19.3	96.7	2.80	50 - 130	20	
1,2-Dibromoethane	20.0	18.8	93.8	20.0	18.9	94.6	0.821	80 - 125	20	
Dibromomethane	20.0	22.3	111	20.0	21.2	106	4.96	75 - 125	20	
1,2-Dichlorobenzene	20.0	22.2	111	20.0	21.7	108	2.39	80 - 125	20	
1,3-Dichlorobenzene	20.0	21.6	108	20.0	21.7	109	0.434	80 - 120	20	
1,4-Dichlorobenzene	20.0	19.7	98.5	20.0	19.7	98.5	0.0441	80 - 120	20	
Dichlorodifluoromethane	20.0	25.1	126	20.0	26.9	134	6.87	50 - 133	20	*
1,1-Dichloroethane	20.0	19.3	96.5	20.0	20.1	100	3.94	80 - 125	20	
1,2-Dichloroethane	20.0	21.3	106	20.0	20.9	105	1.66	80 - 129	20	
1,1-Dichloroethene	20.0	20.7	104	20.0	21.2	106	2.40	80 - 132	20	
cis-1,2-Dichloroethene	20.0	19.8	98.8	20.0	19.9	99.3	0.531	70 - 125	20	
trans-1,2-Dichloroethene	20.0	19.9	99.3	20.0	20.0	99.9	0.661	80 - 127	20	
1,2-Dichloropropane	20.0	21.3	107	20.0	21.4	107	0.148	80 - 120	20	
1,3-Dichloropropane	20.0	20.0	99.9	20.0	20.1	101	0.877	80 - 120	20	
2,2-Dichloropropane	20.0	19.4	96.9	20.0	19.5	97.4	0.482	80 - 133	20	
cis-1,3-Dichloropropene	20.0	19.5	97.5	20.0	19.3	96.3	1.18	70 - 130	20	
trans-1,3-Dichloropropene	20.0	16.8	84.2	20.0	17.0	84.9	0.844	80 - 130	20	
1,1-Dichloropropene	20.0	18.6	93.0	20.0	19.3	96.4	3.52	75 - 130	20	
Ethylbenzene	20.0	19.6	98.1	20.0	20.0	99.8	1.64	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1233855
Report generated: 10/29/2008 14:02



Login Number: L08100416 Analyst: WTD Prep Method: 5030B
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG285680 Units: ug/L
QC Key: STD Lot #: STD29406

Sample ID: WG285680-02 LCS File ID: 11M54630A Run Date: 10/22/2008 13:57
Sample ID: WG285680-06 LCS2 File ID: 11M54631A Run Date: 10/22/2008 14:28

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	20.5	103	20.0	19.1	95.4	7.28	55 - 130	20	
Hexachlorobutadiene	20.0	19.6	97.9	20.0	19.5	97.4	0.493	72 - 132	20	
Isopropylbenzene	20.0	17.5	87.5	20.0	17.7	88.4	1.10	80 - 122	20	
p-Isopropyltoluene	20.0	18.2	91.2	20.0	18.7	93.7	2.63	80 - 122	20	
4-Methyl-2-pentanone	20.0	20.4	102	20.0	20.3	102	0.462	64 - 140	20	
Methylene chloride	20.0	23.7	119	20.0	23.9	119	0.551	80 - 123	20	
Naphthalene	20.0	19.4	97.1	20.0	18.8	94.0	3.23	59 - 149	20	
n-Propylbenzene	20.0	18.2	90.9	20.0	18.9	94.6	3.94	80 - 129	20	
Styrene	20.0	20.6	103	20.0	20.5	103	0.378	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	21.2	106	20.0	20.9	105	1.01	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	21.7	109	20.0	21.0	105	3.43	79 - 125	20	
Tetrachloroethene	20.0	18.7	93.5	20.0	19.1	95.5	2.11	80 - 124	20	
Toluene	20.0	18.7	93.6	20.0	19.0	94.9	1.41	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	19.1	95.5	20.0	18.5	92.6	3.05	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	19.0	95.0	20.0	18.5	92.6	2.58	65 - 135	20	
1,1,1-Trichloroethane	20.0	21.1	105	20.0	21.1	106	0.0879	80 - 134	20	
1,1,2-Trichloroethane	20.0	21.2	106	20.0	21.1	105	0.768	80 - 125	20	
Trichloroethene	20.0	18.2	91.2	20.0	18.6	92.8	1.75	80 - 122	20	
Trichlorofluoromethane	20.0	22.1	111	20.0	22.3	111	0.676	62 - 151	20	
1,2,3-Trichloropropane	20.0	20.4	102	20.0	20.3	101	0.602	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	19.2	95.9	20.0	19.6	97.9	2.09	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	18.9	94.6	20.0	19.4	97.1	2.57	80 - 127	20	
Vinyl acetate	20.0	12.9	64.4	20.0	13.2	66.2	2.78	10 - 150	20	
Vinyl chloride	20.0	24.2	121	20.0	25.2	126	4.08	65 - 140	20	
o-Xylene	20.0	19.8	98.9	20.0	20.0	100	1.08	80 - 122	20	
m-, p-Xylene	40.0	39.5	98.7	40.0	39.6	98.9	0.239	80 - 122	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	90.6	87.9	80 - 120	PASS
Dibromofluoromethane	91.3	88.3	86 - 118	PASS
4-Bromofluorobenzene	87.8	87.8	86 - 115	PASS
Toluene-d8	92.3	91.2	88 - 110	PASS

* FAILS %REC LIMIT
FAILS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1233855
Report generated: 10/29/2008 14:02



BFB

Login Number: L08100416
Instrument: HPMS11
Analyst: WTD
Workgroup: WG285582

Tune ID: WG285582-01
Run Date: 10/21/2008
Run Time: 14:50
File ID: 11M54586

Cal ID: HPMS11-21-OCT-08

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	18.7	6276	PASS
75.0	95.0	30.0	60.0	49.2	16559	PASS
95.0	95.0	100	100	100	33624	PASS
96.0	95.0	5.00	9.00	6.70	2253	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	72.2	24276	PASS
175	174	5.00	9.00	7.46	1810	PASS
176	174	95.0	101	95.5	23194	PASS
177	176	5.00	9.00	7.00	1624	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG285582-02	STD	01	10/21/2008 15:20	
WG285582-03	STD	01	10/21/2008 15:53	
WG285582-04	STD	01	10/21/2008 16:35	
WG285582-02	STD	02	10/21/2008 17:06	
WG285582-04	STD	02	10/21/2008 17:37	
WG285582-05	STD	01	10/21/2008 18:08	
WG285582-06	STD	01	10/21/2008 18:38	
WG285582-07	STD	01	10/21/2008 19:09	
WG285582-08	STD-CCV	01	10/21/2008 19:40	
WG285582-09	STD	01	10/21/2008 20:11	
WG285582-10	STD	01	10/21/2008 20:42	
WG285582-11	STD	01	10/21/2008 21:12	

* Sample past 12 hour tune limit

BFB

Login Number: L08100416

Instrument: HPMS11

Analyst: WTD

Workgroup: WG285611

Tune ID: WG285611-01

Run Date: 10/22/2008

Run Time: 00:19

File ID: 11M54604

Cal ID: HPMS11-

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.2	4461	PASS
75.0	95.0	30.0	60.0	50.5	13111	PASS
95.0	95.0	100	100	100	25955	PASS
96.0	95.0	5.00	9.00	6.61	1715	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	75.0	19476	PASS
175	174	5.00	9.00	7.53	1466	PASS
176	174	95.0	101	97.6	19015	PASS
177	176	5.00	9.00	6.70	1274	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG285611-02	CCV	01	10/22/2008 00:47	
WG285582-12	SSCV	01	10/22/2008 01:50	
WG285612-01	BLANK	01	10/22/2008 02:52	
WG285612-02	LCS	01	10/22/2008 03:23	
WG285612-03	LCS2	01	10/22/2008 03:54	
L08100416-08	TRIP BLANK	01	10/22/2008 05:59	
L08100416-01	17WW18-100808	01	10/22/2008 10:09	
L08100416-02	47WW36-100908	01	10/22/2008 10:40	
L08100416-03	47WW35-100908	01	10/22/2008 11:11	

* Sample past 12 hour tune limit

BFB

Login Number: L08100416
Instrument: HPMS11
Analyst: WTD
Workgroup: WG285678

Tune ID: WG285678-01
Run Date: 10/22/2008
Run Time: 11:46
File ID: 11M54626A

Cal ID: HPMS11-21-OCT-08

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.6	2292	PASS
75.0	95.0	30.0	60.0	51.9	6062	PASS
95.0	95.0	100	100	100	11689	PASS
96.0	95.0	5.00	9.00	6.73	787	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	71.2	8327	PASS
175	174	5.00	9.00	6.74	561	PASS
176	174	95.0	101	95.7	7971	PASS
177	176	5.00	9.00	6.80	542	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG285678-02	CCV	01	10/22/2008 12:15	
WG285680-01	BLANK	01	10/22/2008 13:26	
WG285680-02	LCS	01	10/22/2008 13:57	
WG285680-06	LCS2	01	10/22/2008 14:28	
L08100416-04	42WW35-100908-QA	01	10/22/2008 15:30	
L08100416-05	46WW05-100908	01	10/22/2008 16:01	
L08100416-06	46WW06-100908	01	10/22/2008 16:32	
WG285680-03	REF	DL01	10/22/2008 17:03	
WG285680-03	REF	01	10/22/2008 21:42	
WG285680-04	MS	01	10/22/2008 22:13	
WG285680-05	MSD	01	10/22/2008 22:43	

* Sample past 12 hour tune limit

Calibration Table Report

Method: 8260WTR.M

Title: Method 8260B/624 Water Analysis 10/20/08 HPMS 11

Last Calibration: Tue Oct 21 08:57:22 2008

Calibration Files

	0.3	0.4	1	2	5	20	50	100	200	300		
	11M54564.D	11M54564.D	11M54565.D	11M54567.D	11M54568.D	11M54569.D	11M54570.D	11M54571.D	11M54572.D	11M54573.D		
Compound	Avg										%RSD	
Fluorobenzene	ISTD											
Dichlorodifluoromethane			0.095	0.080	0.113	0.208	0.234	0.247	0.263		0.177	44.155
Chloromethane			0.133	0.075	0.076	0.085	0.180	0.261	0.286		0.157	56.432
Vinyl Chloride	0.181		0.150	0.141	0.161	0.175	0.150	0.140			0.157	10.243
1,3-Butadiene				0.183	0.177	0.152	0.008	0.112	0.003		0.106	77.280
Bromomethane			0.008	0.008	0.013	0.015	0.035	0.088	0.142		0.044	117.188
Chloroethane			0.040	0.030	0.027	0.031	0.031	0.025	0.066		0.036	39.357
Trichlorofluoromethane	0.414		0.452	0.405	0.461	0.473	0.379	0.319	0.258		0.395	18.863
Diethyl ether			0.159	0.160	0.158	0.160	0.157	0.156		0.158	0.158	0.952
Isoprene			0.295	0.307	0.284	0.295	0.293	0.288	0.289		0.293	2.471
Acrolein				0.016	0.014	0.012	0.010	0.012	0.013	0.013	0.013	13.068
1,1,2-Trichloro-1,2,2-Trifluoroet			0.227	0.208	0.226	0.241	0.232	0.222	0.220		0.225	4.671
Acetone					0.053	0.044	0.039	0.040	0.044	0.036	0.043	13.486
1,1-Dichloroethene	0.422		0.392	0.419	0.430	0.382	0.361	0.349	0.332		0.386	9.468
Tert-Butyl Alcohol			0.020	0.012	0.010	0.012	0.011	0.011			0.013	28.467
Dimethyl Sulfide			0.219	0.245	0.239	0.262	0.250	0.249	0.254		0.245	5.458
Iodomethane				0.037	0.015	0.066	0.190	0.262	0.308		0.146	84.792
Methyl acetate				0.068	0.065	0.082	0.106	0.133	0.151		0.101	34.923
Methylene Chloride	0.317		0.216	0.181	0.162	0.148	0.148	0.148	0.159		0.185	31.469
Carbon Disulfide			0.796	0.648	0.580	0.555	0.563	0.589	0.625		0.622	13.437
Acrylonitrile					0.039	0.047	0.044	0.045	0.051	0.047	0.045	8.906
Methyl Tert Butyl Ether			0.483	0.536	0.539	0.570	0.532	0.545	0.540		0.535	4.882
trans-1,2-Dichloroethene			0.188	0.212	0.235	0.223	0.221	0.222	0.223		0.218	6.710
n-Hexane			0.238	0.250	0.225	0.246	0.239	0.231	0.230		0.237	3.784
Diisopropyl ether			0.560	0.577	0.574	0.586	0.586	0.584		0.578	0.578	1.553
Vinyl Acetate					0.122	0.115	0.100	0.157	0.148	0.266	0.151	39.517
1,1-Dichloroethane	0.375		0.322	0.376	0.410	0.395	0.353	0.386	0.326		0.368	8.603
Ethyl-Tert-Butyl ether			0.316	0.422	0.496	0.603	0.601	0.621		0.610	0.524	22.454
2-Butanone					0.052	0.053	0.050	0.051	0.052	0.053	0.052	2.685
Propionitrile			0.011	0.015	0.014	0.016	0.015	0.015		0.018	0.015	13.577
2,2-Dichloropropane	0.074		0.124	0.303	0.345	0.363	0.274	0.343	0.318		0.268	40.554
cis-1,2-Dichloroethene	0.233		0.197	0.221	0.240	0.232	0.228	0.234	0.237		0.228	5.966
Chloroform	0.624		0.468	0.382	0.415	0.454	0.439	0.425	0.428	0.423	0.451	15.367
Bromochloromethane			0.100	0.108	0.130	0.144	0.125	0.102	0.104	0.108	0.115	13.993
Tetrahydrofuran			0.031	0.030	0.030	0.032	0.030	0.030		0.032	0.031	2.904
Dibromofluoromethane				0.199	0.235	0.251	0.233	0.243	0.245		0.234	7.973
1,1,1-Trichloroethane	0.266		0.272	0.394	0.438	0.431	0.412	0.411	0.390		0.377	18.171
Cyclohexane			0.259	0.272	0.261	0.288	0.288	0.284	0.280		0.276	4.362
1,1-Dichloropropene	0.247		0.252	0.292	0.321	0.314	0.313	0.310	0.300		0.294	9.762
Carbon Tetrachloride	0.080		0.144	0.292	0.356	0.366	0.341	0.342			0.274	41.797
Tert-Amyl-Methyl ether			0.278	0.382	0.438	0.523	0.522	0.535		0.535	0.459	21.559
1,2-Dichloroethane-d4				0.31	0.288	0.301	0.278	0.272	0.265		0.28574	6.05085
1,2-Dichloroethane	0.297		0.302	0.319	0.342	0.335	0.317	0.311	0.3		0.31554	5.21905
Benzene	1.061		0.799	0.807	0.837	0.815	0.803	0.825	0.807		0.84426	10.4741
Trichloroethene	0.221		0.2	0.221	0.246	0.238	0.233	0.234	0.227		0.22733	6.18501
Methylcyclohexane				0.315	0.304	0.34	0.336	0.325	0.325		0.32433	4.09107
1,2-Dichloropropane	0.162		0.149	0.179	0.197	0.195	0.192	0.196	0.197		0.18334	10.0045
1,4-Dioxane				0.001	0.001	0.001	0.001	0.001		0.001	0.00092	15.2429
Bromodichloromethane	0.209		0.207	0.295	0.316	0.325	0.315	0.318	0.321		0.28842	17.4153
Dibromomethane	0.107		0.093	0.114	0.123	0.124	0.118	0.12	0.123		0.11528	9.31671
2-Chloroethyl Vinyl Ether			0.06	0.07	0.082	0.095	0.093	0.095	0.099	0.103	0.08709	17.5773
4-Methyl-2-Pentanone					0.039	0.049	0.048	0.047	0.052	0.056	0.04834	11.886
cis-1,3-Dichloropropene	0.124		0.167	0.275	0.314	0.34	0.326	0.339	0.343		0.27842	30.7735
Dimethyl Disulfide				0.104	0.113	0.168	0.181	0.189	0.196		0.15835	25.3209
Chlorobenzene-d5	ISTD											
Toluene-d8												
Toluene	1.254		1.058	1.082	1.055	1.075	1.047	1.088	1.019		1.06102	2.45073
Ethyl Methacrylate			0.184	0.206	0.234	0.278	0.281	0.283	0.283		1.17261	5.52116
											0.24992	16.6499

trans-1,3-Dichloropropene	0.106	0.153	0.293	0.383	0.423	0.401	0.434	0.395	0.32353	39.4948	
1,1,2-Trichloroethane	0.146	0.171	0.204	0.223	0.213	0.207	0.21	0.196	0.19623	12.9197	
2-Hexanone				0.088	0.106	0.106	0.102	0.099	0.102	0.10048	6.60784
1,3-Dichloropropane	0.348	0.311	0.368	0.393	0.389	0.371	0.377	0.348	0.36326	7.35593	
Tetrachloroethene	0.202	0.204	0.238	0.252	0.245	0.24	0.244	0.22	0.23057	8.34356	
Dibromochloromethane	0.026	0.092	0.178	0.25	0.299	0.292	0.305	0.284	0.21588	49.3089	
1,2-Dibromoethane	0.161	0.175	0.204	0.221	0.227	0.213	0.219	0.206	0.20309	11.5637	
1-Chlorohexane	0.251	0.331	0.351	0.357	0.4	0.397	0.399	0.384	0.35876	14.0705	
Chlorobenzene	1.002	0.749	0.791	0.849	0.799	0.786	0.789	0.755	0.81507	10.0066	
1,1,1,2-Tetrachloroethane	0.026	0.075	0.148	0.217	0.265	0.279	0.281	0.255	0.1932	51.2902	
Ethylbenzene	0.429	0.344	0.407	0.438	0.431	0.423	0.43	0.41	0.414	7.33697	
m-, p-Xylene	0.554	0.427	0.51	0.551	0.529	0.521	0.527	0.497	0.51445	7.80201	
o-Xylene	0.538	0.379	0.466	0.518	0.515	0.513	0.509	0.496	0.49168	10.1506	
Styrene	0.903	0.663	0.763	0.88	0.889	0.911	0.891	0.868	0.84612	10.31	
Bromoform		0.019	0.065	0.097	0.15	0.171	0.181	0.18	0.12329	51.7328	
Isopropylbenzene	1.17	1.083	1.247	1.415	1.39	1.396	1.377	1.315	1.29917	9.36899	
1,4-Dichlorobenzene-d4	ISTD										
1,1,2,2-Tetrachloroethane	0.242	0.278	0.381	0.411	0.43	0.413	0.438	0.428	0.37771	19.933	
p-Bromofluorobenzene			0.901	0.786	0.858	0.799	0.845	0.838	0.83761	4.94708	
1,2,3-Trichloropropane		0.169	0.159	0.16	0.157	0.146	0.152	0.145	0.15519	5.53337	
trans-1,4-Dichloro-2-Butene				0.055	0.058	0.055	0.057	0.055	0.05614	2.63816	
n-Propylbenzene	2.896	2.675	2.807	3.121	3.088	2.908	3.126	3.071	2.96158	5.617	
Bromobenzene	0.858	0.644	0.612	0.605	0.668	0.641	0.607	0.631	0.621	0.65405	12.0976
1,3,5-Trimethylbenzene	2.107	1.859	1.991	2.203	2.198	2.072	2.175	2.136	2.09266	5.64601	
2-Chlorotoluene	2.128	1.81	1.93	2.163	2.083	1.959	2.019	1.821	1.98908	6.69107	
4-Chlorotoluene	2.042	1.663	1.785	1.94	1.867	1.808	1.895	1.896	1.86179	6.0736	
a-Methylstyrene			1.081	1.096	1.202	1.161	1.17	1.177	1.14795	4.21068	
tert-Butylbenzene	0.334	0.362	0.412	0.461	0.441	0.419	0.431	0.422	0.41029	10.1636	
1,2,4-Trimethylbenzene	2.311	1.939	2.094	2.344	2.296	2.172	2.232	2.175	2.19541	6.0541	
sec-Butylbenzene	2.18	2.212	2.436	2.734	2.675	2.563	2.676	2.633	2.51351	8.59167	
p-Isopropyltoluene	2.036	1.942	2.201	2.449	2.432	2.327	2.386	2.334	2.26338	8.28431	
1,3-Dichlorobenzene	1.335	1.068	1.208	1.287	1.233	1.206	1.209	1.177	1.21549	6.45299	
1,4-Dichlorobenzene	1.928	1.446	1.161	1.217	1.319	1.281	1.236	1.239	1.199	1.33604	17.7182
n-Butylbenzene	1.927	1.81	2.019	2.196	2.222	2.178	2.2	2.159	2.08896	7.30661	
1,2-Dichlorobenzene	1.621	1.216	1.01	1.109	1.174	1.178	1.127	1.122	1.071	1.18086	14.9066
1,2-Dibromo-3-Chloropropane			0.058	0.053	0.079	0.098	0.089	0.089	0.07984	22.1723	
1,2,4-Trichlorobenzene	0.912	0.809	0.904	0.942	0.956	0.878	0.897	0.854	0.89404	5.27121	
Hexachlorobutadiene	0.227	0.292	0.361	0.38	0.388	0.375	0.379	0.364	0.3458	16.3807	
Naphthalene	1.789	1.529	1.731	1.815	1.885	1.695	1.739	1.657	1.72994	6.24988	
1,2,3-Trichlorobenzene	1.164	0.873	0.753	0.803	0.855	0.864	0.782	0.798	0.762	0.85028	14.783

Tue Oct 21 08:58:11 2008

Login Number: L08100416 Run Date: 10/22/2008 Sample ID: WG285582-12
Instrument ID: HPMS11 Run Time: 01:50 Method: 8260B
File ID: 11M54607 Analyst: WTD QC Key: STD
ICal Workgroup: WG285582 Cal ID: HPMS11 - 21-OCT-08

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	20.0	20.3	ug/L	0.501	1.50	30	
1,1-Dichloroethene	CCC	20.0	20.2	ug/L	0.341	1.20	30	
1,2-Dichloropropane	CCC	20.0	20.5	ug/L	0.184	2.70	30	
Ethylbenzene	CCC	20.0	19.5	ug/L	0.446	2.60	30	
Toluene	CCC	20.0	19.8	ug/L	1.25	0.800	30	
Vinyl Chloride	CCC	20.0	26.1	ug/L	0.388	30.3	30	*
Bromoform	SPCC	20.0	20.1	ug/L	0.216	0.600	30	
Chlorobenzene	SPCC	20.0	20.5	ug/L	0.838	2.70	30	
Chloromethane	SPCC	20.0	17.5	ug/L	0.131	12.4	30	
1,1-Dichloroethane	SPCC	20.0	20.4	ug/L	0.453	2.10	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	20.4	ug/L	0.391	2.20	30	
Acetone		20.0	20.2	ug/L	0.0455	1.00	30	
Benzene		20.0	21.5	ug/L	0.816	7.60	30	
Bromobenzene		20.0	19.4	ug/L	0.578	3.20	30	
Bromochloromethane		20.0	21.1	ug/L	0.148	5.30	30	
Bromodichloromethane		20.0	21.7	ug/L	0.379	8.40	30	
Bromomethane		20.0	16.0	ug/L	0.136	20.0	30	
2-Butanone		20.0	20.4	ug/L	0.0559	2.00	30	
n-Butylbenzene		20.0	19.5	ug/L	2.24	2.60	30	
sec-Butylbenzene		20.0	19.4	ug/L	2.62	3.20	30	
tert-Butylbenzene		20.0	19.8	ug/L	0.426	1.20	30	
Carbon Disulfide		20.0	16.8	ug/L	0.635	15.9	30	
Carbon Tetrachloride		20.0	19.6	ug/L	0.458	2.20	30	
Dibromochloromethane		20.0	19.9	ug/L	0.341	0.600	30	
Chloroethane		20.0	21.7	ug/L	0.120	8.40	30	
2-Chloroethyl Vinyl Ether		20.0	18.3	ug/L	0.0819	8.40	30	
2-Chlorotoluene		20.0	18.6	ug/L	2.11	6.90	30	
4-Chlorotoluene		20.0	19.1	ug/L	1.84	4.40	30	
1,2-Dibromo-3-Chloropropane		20.0	17.8	ug/L	0.0852	10.9	30	
1,2-Dibromoethane		20.0	19.6	ug/L	0.217	2.10	30	
Dibromomethane		20.0	20.9	ug/L	0.132	4.40	30	
1,2-Dichlorobenzene		20.0	21.1	ug/L	1.08	5.70	30	
1,3-Dichlorobenzene		20.0	21.9	ug/L	1.21	9.60	30	
1,4-Dichlorobenzene		20.0	19.4	ug/L	1.22	3.20	30	
Dichlorodifluoromethane		20.0	25.0	ug/L	0.503	25.1	30	
1,2-Dichloroethane		20.0	20.4	ug/L	0.404	2.00	30	
cis-1,2-Dichloroethene		20.0	20.4	ug/L	0.243	2.20	30	
trans-1,2-Dichloroethene		20.0	23.0	ug/L	0.245	15.0	30	
1,3-Dichloropropane		20.0	19.9	ug/L	0.389	0.300	30	
2,2-Dichloropropane		20.0	19.5	ug/L	0.429	2.30	30	
cis-1,3-Dichloropropene		20.0	18.7	ug/L	0.322	6.30	30	
trans-1,3-Dichloropropene		20.0	16.9	ug/L	0.432	15.5	30	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 1233857
Report generated 10/29/2008 15:27



Login Number: L08100416 Run Date: 10/22/2008 Sample ID: WG285582-12
Instrument ID: HPMS11 Run Time: 01:50 Method: 8260B
File ID: 11M54607 Analyst: WTD QC Key: STD
ICal Workgroup: WG285582 Cal ID: HPMS11 - 21-OCT-08

Analyte	Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloropropene	20.0	19.2	ug/L	0.311	3.80	30	
2-Hexanone	20.0	20.3	ug/L	0.104	1.30	30	
Hexachlorobutadiene	20.0	19.5	ug/L	0.345	2.50	30	
Isopropylbenzene	20.0	18.0	ug/L	1.32	10.2	30	
p-Isopropyltoluene	20.0	18.9	ug/L	2.30	5.70	30	
4-Methyl-2-Pentanone	20.0	20.7	ug/L	0.0457	3.50	30	
Methylene Chloride	20.0	23.8	ug/L	0.239	19.2	30	
Naphthalene	20.0	18.1	ug/L	1.52	9.40	30	
n-Propylbenzene	20.0	18.6	ug/L	2.89	7.20	30	
Styrene	20.0	20.7	ug/L	0.960	3.40	30	
1,1,1,2-Tetrachloroethane	20.0	21.2	ug/L	0.355	5.90	30	
Tetrachloroethene	20.0	18.9	ug/L	0.229	5.40	30	
1,2,3-Trichlorobenzene	20.0	18.4	ug/L	0.710	7.90	30	
1,2,4-Trichlorobenzene	20.0	17.7	ug/L	0.740	11.5	30	
1,1,1-Trichloroethane	20.0	20.6	ug/L	0.496	3.10	30	
1,1,2-Trichloroethane	20.0	20.8	ug/L	0.235	3.80	30	
Trichloroethene	20.0	19.6	ug/L	0.224	2.00	30	
Trichlorofluoromethane	20.0	21.7	ug/L	0.418	8.70	30	
1,2,3-Trichloropropane	20.0	19.9	ug/L	0.155	0.600	30	
1,2,4-Trimethylbenzene	20.0	19.9	ug/L	2.35	0.500	30	
1,3,5-Trimethylbenzene	20.0	19.0	ug/L	2.08	4.90	30	
Vinyl Acetate	20.0	13.4	ug/L	0.181	32.8	40	
o-Xylene	20.0	20.1	ug/L	0.531	0.500	30	
m-,p-Xylene	40.0	39.6	ug/L	0.569	1.00	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L08100416	Run Date: 10/22/2008	Sample ID: WG285611-02
Instrument ID: HPMS11	Run Time: 00:47	Method: 8260B
File ID: 11M54605	Analyst: WTD	QC Key: STD
Workgroup (AAB#): WG285612	Cal ID: HPMS11 - 21-OCT-08	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.3	ug/L	0.497	0.605	20	
1,1-Dichloroethene	CCC	50.0	52.2	ug/L	0.352	4.36	20	
1,2-Dichloropropane	CCC	50.0	51.8	ug/L	0.186	3.53	20	
Ethylbenzene	CCC	50.0	47.7	ug/L	0.437	4.52	20	
Toluene	CCC	50.0	48.5	ug/L	1.18	3.04	20	
Vinyl Chloride	CCC	50.0	52.2	ug/L	0.311	4.43	20	
Bromoform	SPCC	50.0	49.2	ug/L	0.206	1.55	40	
Chlorobenzene	SPCC	50.0	49.7	ug/L	0.812	0.533	40	
Chloromethane	SPCC	50.0	44.1	ug/L	0.159	11.7	40	
1,1-Dichloroethane	SPCC	50.0	50.3	ug/L	0.447	0.641	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.5	ug/L	0.355	7.05	40	
Acetone		50.0	49.2	ug/L	0.0443	1.64	40	
Benzene		50.0	52.5	ug/L	0.795	4.91	40	
Bromobenzene		50.0	49.6	ug/L	0.580	0.785	40	
Bromochloromethane		50.0	50.2	ug/L	0.141	0.461	40	
Bromodichloromethane		50.0	51.6	ug/L	0.361	3.24	40	
Bromomethane		50.0	55.7	ug/L	0.153	11.4	40	
2-Butanone		50.0	42.9	ug/L	0.0470	14.2	40	
n-Butylbenzene		50.0	48.7	ug/L	2.23	2.64	40	
sec-Butylbenzene		50.0	48.2	ug/L	2.61	3.67	40	
tert-Butylbenzene		50.0	48.3	ug/L	0.415	3.38	40	
Carbon Disulfide		50.0	49.6	ug/L	0.749	0.875	40	
Carbon Tetrachloride		50.0	51.0	ug/L	0.477	2.04	40	
Dibromochloromethane		50.0	47.3	ug/L	0.322	5.36	40	
Chloroethane		50.0	55.4	ug/L	0.108	10.8	40	
2-Chloroethyl Vinyl Ether		50.0	44.2	ug/L	0.0892	11.5	40	
2-Chlorotoluene		50.0	44.7	ug/L	2.02	10.6	40	
4-Chlorotoluene		50.0	47.0	ug/L	1.89	6.09	40	
1,2-Dibromo-3-Chloropropane		50.0	44.3	ug/L	0.0847	11.4	40	
1,2-Dibromoethane		50.0	45.0	ug/L	0.203	10.1	40	
Dibromomethane		50.0	49.8	ug/L	0.126	0.441	40	
1,2-Dichlorobenzene		50.0	52.0	ug/L	1.07	4.03	40	
1,3-Dichlorobenzene		50.0	54.0	ug/L	1.19	7.96	40	
1,4-Dichlorobenzene		50.0	48.4	ug/L	1.22	3.12	40	
Dichlorodifluoromethane		50.0	51.1	ug/L	0.411	2.12	40	
1,2-Dichloroethane		50.0	49.9	ug/L	0.396	0.118	40	
cis-1,2-Dichloroethene		50.0	48.2	ug/L	0.238	3.60	40	
trans-1,2-Dichloroethene		50.0	55.2	ug/L	0.236	10.4	40	
1,3-Dichloropropane		50.0	46.0	ug/L	0.361	7.93	40	
2,2-Dichloropropane		50.0	50.9	ug/L	0.447	1.71	40	
cis-1,3-Dichloropropene		50.0	46.1	ug/L	0.342	7.88	40	
trans-1,3-Dichloropropene		50.0	46.9	ug/L	0.468	6.13	40	

CCV - Modified 03/05/2008

PDF File ID: 1233859

Report generated 10/29/2008 14:02



Login Number: L08100416 Run Date: 10/22/2008 Sample ID: WG285611-02
Instrument ID: HPMS11 Run Time: 00:47 Method: 8260B
File ID: 11M54605 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG285612 Cal ID: HPMS11 - 21-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	48.3	ug/L	0.324	3.48	40	
2-Hexanone	50.0	45.8	ug/L	0.0933	8.35	40	
Hexachlorobutadiene	50.0	48.3	ug/L	0.341	3.38	40	
Isopropylbenzene	50.0	51.1	ug/L	1.50	2.17	40	
p-Isopropyltoluene	50.0	49.0	ug/L	2.39	1.92	40	
4-Methyl-2-Pentanone	50.0	45.8	ug/L	0.0431	8.48	40	
Methylene Chloride	50.0	58.3	ug/L	0.217	16.6	40	
Naphthalene	50.0	42.3	ug/L	1.47	15.3	40	
n-Propylbenzene	50.0	48.1	ug/L	2.93	3.73	40	
Styrene	50.0	50.7	ug/L	0.956	1.45	40	
1,1,1,2-Tetrachloroethane	50.0	50.7	ug/L	0.340	1.44	40	
Tetrachloroethene	50.0	48.1	ug/L	0.227	3.82	40	
1,2,3-Trichlorobenzene	50.0	44.8	ug/L	0.697	10.5	40	
1,2,4-Trichlorobenzene	50.0	45.4	ug/L	0.780	9.21	40	
1,1,1-Trichloroethane	50.0	52.1	ug/L	0.501	4.11	40	
1,1,2-Trichloroethane	50.0	47.2	ug/L	0.210	5.64	40	
Trichloroethene	50.0	46.9	ug/L	0.220	6.14	40	
Trichlorofluoromethane	50.0	54.2	ug/L	0.417	8.39	40	
1,2,3-Trichloropropane	50.0	46.0	ug/L	0.139	8.02	40	
1,2,4-Trimethylbenzene	50.0	49.5	ug/L	2.30	0.942	40	
1,3,5-Trimethylbenzene	50.0	49.8	ug/L	2.12	0.422	40	
Vinyl Acetate	50.0	43.4	ug/L	0.233	13.3	40	
o-Xylene	50.0	50.0	ug/L	0.538	0.0366	40	
m-,p-Xylene	100	96.8	ug/L	0.558	3.17	40	
1,2-Dichloroethene	100	103	ug/L	0.237	3.43	40	
Xylenes	150	147	ug/L	0.548	2.12	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L08100416	Run Date: 10/22/2008	Sample ID: WG285678-02
Instrument ID: HPMS11	Run Time: 12:15	Method: 8260B
File ID: 11M54627A	Analyst: WTD	QC Key: STD
Workgroup (AAB#): WG285680	Cal ID: HPMS11 - 21-OCT-08	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	48.9	ug/L	0.483	2.11	20	
1,1-Dichloroethene	CCC	50.0	48.5	ug/L	0.328	2.91	20	
1,2-Dichloropropane	CCC	50.0	51.2	ug/L	0.184	2.31	20	
Ethylbenzene	CCC	50.0	47.8	ug/L	0.437	4.49	20	
Toluene	CCC	50.0	48.4	ug/L	1.18	3.19	20	
Vinyl Chloride	CCC	50.0	47.7	ug/L	0.284	4.62	20	
Bromoform	SPCC	50.0	47.6	ug/L	0.200	4.73	40	
Chlorobenzene	SPCC	50.0	49.0	ug/L	0.800	2.01	40	
Chloromethane	SPCC	50.0	44.9	ug/L	0.163	10.2	40	
1,1-Dichloroethane	SPCC	50.0	46.8	ug/L	0.416	6.43	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.1	ug/L	0.368	3.81	40	
Acetone		50.0	46.8	ug/L	0.0421	6.47	40	
Benzene		50.0	52.4	ug/L	0.795	4.87	40	
Bromobenzene		50.0	47.6	ug/L	0.557	4.79	40	
Bromochloromethane		50.0	47.6	ug/L	0.134	4.80	40	
Bromodichloromethane		50.0	50.2	ug/L	0.351	0.409	40	
Bromomethane		50.0	61.3	ug/L	0.167	22.5	40	
2-Butanone		50.0	41.8	ug/L	0.0457	16.5	40	
n-Butylbenzene		50.0	47.9	ug/L	2.20	4.19	40	
sec-Butylbenzene		50.0	47.0	ug/L	2.55	5.93	40	
tert-Butylbenzene		50.0	46.5	ug/L	0.400	6.92	40	
Carbon Disulfide		50.0	44.6	ug/L	0.673	10.9	40	
Carbon Tetrachloride		50.0	48.8	ug/L	0.456	2.47	40	
Dibromochloromethane		50.0	46.1	ug/L	0.314	7.72	40	
Chloroethane		50.0	58.2	ug/L	0.113	16.4	40	
2-Chloroethyl Vinyl Ether		50.0	44.7	ug/L	0.0902	10.6	40	
2-Chlorotoluene		50.0	42.9	ug/L	1.94	14.1	40	
4-Chlorotoluene		50.0	46.4	ug/L	1.87	7.27	40	
1,2-Dibromo-3-Chloropropane		50.0	44.1	ug/L	0.0844	11.7	40	
1,2-Dibromoethane		50.0	44.9	ug/L	0.203	10.2	40	
Dibromomethane		50.0	48.8	ug/L	0.123	2.49	40	
1,2-Dichlorobenzene		50.0	51.4	ug/L	1.06	2.79	40	
1,3-Dichlorobenzene		50.0	52.6	ug/L	1.16	5.23	40	
1,4-Dichlorobenzene		50.0	47.4	ug/L	1.19	5.11	40	
Dichlorodifluoromethane		50.0	52.2	ug/L	0.420	4.45	40	
1,2-Dichloroethane		50.0	48.5	ug/L	0.384	3.08	40	
cis-1,2-Dichloroethene		50.0	45.6	ug/L	0.225	8.82	40	
trans-1,2-Dichloroethene		50.0	49.5	ug/L	0.211	0.930	40	
1,3-Dichloropropane		50.0	46.4	ug/L	0.363	7.23	40	
2,2-Dichloropropane		50.0	50.0	ug/L	0.440	0.0936	40	
cis-1,3-Dichloropropene		50.0	45.9	ug/L	0.341	8.18	40	
trans-1,3-Dichloropropene		50.0	47.2	ug/L	0.470	5.66	40	

CCV - Modified 03/05/2008
 PDF File ID: 1233859
 Report generated 10/29/2008 14:02



Login Number: L08100416 Run Date: 10/22/2008 Sample ID: WG285678-02
Instrument ID: HPMS11 Run Time: 12:15 Method: 8260B
File ID: 11M54627A Analyst: WTD QC Key: STD
Workgroup (AAB#): WG285680 Cal ID: HPMS11 - 21-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	47.1	ug/L	0.316	5.74	40	
2-Hexanone	50.0	48.5	ug/L	0.0988	2.91	40	
Hexachlorobutadiene	50.0	47.4	ug/L	0.335	5.30	40	
Isopropylbenzene	50.0	50.0	ug/L	1.47	0.0686	40	
p-Isopropyltoluene	50.0	47.7	ug/L	2.32	4.65	40	
4-Methyl-2-Pentanone	50.0	46.2	ug/L	0.0435	7.60	40	
Methylene Chloride	50.0	54.0	ug/L	0.202	8.07	40	
Naphthalene	50.0	40.8	ug/L	1.41	18.4	40	
n-Propylbenzene	50.0	47.5	ug/L	2.89	5.07	40	
Styrene	50.0	49.9	ug/L	0.940	0.201	40	
1,1,1,2-Tetrachloroethane	50.0	49.1	ug/L	0.329	1.88	40	
Tetrachloroethene	50.0	47.7	ug/L	0.225	4.56	40	
1,2,3-Trichlorobenzene	50.0	42.4	ug/L	0.660	15.1	40	
1,2,4-Trichlorobenzene	50.0	44.3	ug/L	0.761	11.5	40	
1,1,1-Trichloroethane	50.0	49.9	ug/L	0.480	0.182	40	
1,1,2-Trichloroethane	50.0	46.7	ug/L	0.208	6.59	40	
Trichloroethene	50.0	45.2	ug/L	0.212	9.66	40	
Trichlorofluoromethane	50.0	14.1	ug/L	0.108	71.8	40	*
1,2,3-Trichloropropane	50.0	46.2	ug/L	0.140	7.51	40	
1,2,4-Trimethylbenzene	50.0	47.8	ug/L	2.22	4.39	40	
1,3,5-Trimethylbenzene	50.0	48.6	ug/L	2.07	2.87	40	
Vinyl Acetate	50.0	48.7	ug/L	0.262	2.52	40	
o-Xylene	50.0	49.2	ug/L	0.530	1.59	40	
m-,p-Xylene	100	96.4	ug/L	0.556	3.58	40	
1,2-Dichloroethene	100	95.1	ug/L	0.218	4.87	40	
Xylenes	150	146	ug/L	0.543	2.92	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L08100416
Instrument ID: HPMS11
Workgroup (AAB#): WG285612

CCV Number: WG285611-02
CAL ID: HPMS11 - 21-OCT-08
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG285611-02	NA	NA	210743	323118	403021
Upper Limit	NA	NA	421486	646236	806042
Lower Limit	NA	NA	105372	161559	201511
<u>L08100416-01</u>	<u>1.00</u>	<u>01</u>	<u>149745</u>	<u>258188</u>	<u>388369</u>
L08100416-02	1.00	01	147641	258172	385835
L08100416-03	1.00	01	137655	266931	391368
L08100416-08	1.00	01	146592	267228	395774
WG285612-01	1.00	01	146649	262267	369886
WG285612-02	1.00	01	207765	311922	381707
WG285612-03	1.00	01	199716	304401	403548

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

Underline = Response outside limits

Login Number: L08100416
Instrument ID: HPMS11
Workgroup (AAB#): WG285680

CCV Number: WG285678-02
CAL ID: HPMS11 - 21-OCT-08
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG285678-02	NA	NA	244282	376541	469725
Upper Limit	NA	NA	488564	753082	939450
Lower Limit	NA	NA	122141	188271	234863
<u>L08100416-04</u>	<u>1.00</u>	<u>01</u>	<u>142364</u>	<u>262964</u>	<u>346429</u>
L08100416-05	1.00	01	150347	265527	346427
L08100416-06	1.00	01	142705	254827	338492
WG285680-01	1.00	01	145405	264108	357126
WG285680-02	1.00	01	217039	327814	399043
WG285680-03	1.00	01	146808	261444	338827
WG285680-04	1.00	01	210159	334711	397315
WG285680-05	1.00	01	212988	346427	414594
WG285680-06	1.00	01	225319	351623	435264

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

Underline = Response outside limits

Login Number: L08100416
Instrument ID: HPMS11
Workgroup (AAB#): WG285612

CCV Number: WG285611-02
CAL ID: HPMS11 - 21-OCT-08
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG285611-02	NA	NA	16.52	13.72	10.11
Upper Limit	NA	NA	17.02	14.22	10.61
Lower Limit	NA	NA	16.02	13.22	9.61
L08100416-01	1.00	01	16.523	13.721	10.102
L08100416-02	1.00	01	16.523	13.721	10.102
L08100416-03	1.00	01	16.523	13.721	10.102
L08100416-08	1.00	01	16.523	13.721	10.102
WG285612-01	1.00	01	16.523	13.721	10.102
WG285612-02	1.00	01	16.523	13.721	10.102
WG285612-03	1.00	01	16.523	13.721	10.112

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

Underline = Response outside limits

Login Number: L08100416
Instrument ID: HPMS11
Workgroup (AAB#): WG285680

CCV Number: WG285678-02
CAL ID: HPMS11 - 21-OCT-08
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG285678-02	NA	NA	16.52	13.73	10.12
Upper Limit	NA	NA	17.02	14.23	10.62
Lower Limit	NA	NA	16.02	13.23	9.62
L08100416-04	1.00	01	16.523	13.721	10.102
L08100416-05	1.00	01	16.523	13.721	10.112
L08100416-06	1.00	01	16.523	13.721	10.102
WG285680-01	1.00	01	16.523	13.721	10.112
WG285680-02	1.00	01	16.523	13.721	10.102
WG285680-03	1.00	01	16.523	13.721	10.112
WG285680-04	1.00	01	16.523	13.721	10.112
WG285680-05	1.00	01	16.523	13.721	10.102
WG285680-06	1.00	01	16.523	13.721	10.102

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

Underline = Response outside limits

2.2 Metals Data

2.2.1 Metals I C P Data

2.2.1.1 Summary Data

LABORATORY REPORT

L08100416

00090176

10/29/08 15:56

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
49WW03-100808	L08100416-07	6010B	20	14-OCT-08
49WW03-100808	L08100416-07	6010B	5	14-OCT-08
49WW03-100808	L08100416-07	6010B	1	14-OCT-08



Report Number: **L08100416**Report Date : **October 29, 2008**

00090177

Sample Number: **L08100416-07**
Client ID: **49WW03-100808**
Matrix: **Water**
Workgroup Number: **WG284990**
Collect Date: **10/08/2008 12:45**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3005A**
Analytical Method: **6010B**
Analyst: **JYH**
Dilution: **20**
Units: **mg/L**

Instrument: **PE-ICP2**
Prep Date: **10/15/2008 07:38**
Cal Date: **10/21/2008 09:53**
Run Date: **10/21/2008 12:25**
File ID: **P2.102108.122506**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Vanadium, Total	7440-62-2		U	0.200	0.100

U Not detected at or above adjusted sample detection limit

Report Number: **L08100416**Report Date : **October 29, 2008**

00090178

Sample Number: **L08100416-07**
Client ID: **49W03-100808**
Matrix: **Water**
Workgroup Number: **WG284990**
Collect Date: **10/08/2008 12:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3005A**
Analytical Method: **6010B**
Analyst: **JYH**
Dilution: **5**
Units: **mg/L**

Instrument: **PE-ICP2**
Prep Date: **10/15/2008 07:38**
Cal Date: **10/17/2008 09:23**
Run Date: **10/17/2008 18:20**
File ID: **P2.101708.182030**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sodium, Total	7440-23-5	554		2.50	1.25

Sample Number: **L08100416-07**
 Client ID: **49WW03-100808**
 Matrix: **Water**
 Workgroup Number: **WG284990**
 Collect Date: **10/08/2008 12:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **3005A**
 Analytical Method: **6010B**
 Analyst: **JYH**
 Dilution: **1**
 Units: **mg/L**

Instrument: **PE-ICP2**
 Prep Date: **10/15/2008 07:38**
 Cal Date: **10/16/2008 14:35**
 Run Date: **10/16/2008 22:57**
 File ID: **P2.101608.225705**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Aluminum, Total	7429-90-5	0.0774	J	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.000500
Calcium, Total	7440-70-2	422		0.200	0.100
Cobalt, Total	7440-48-4	0.0155		0.00500	0.00250
Iron, Total	7439-89-6	1.24		0.100	0.0250
Magnesium, Total	7439-95-4	314		0.500	0.250
Potassium, Total	7440-09-7	7.32		1.00	0.250
Zinc, Total	7440-66-6	0.0205		0.0200	0.00500

J The analyte was positively identified, but the quantitation was below the RL
 U Not detected at or above adjusted sample detection limit

2.2.1.2 QC Summary Data

Example 6010 Calculations
Perkin Elmer Optima 4300 DV

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Example 6010 Calculations
Thermo Scientific IRIS Advantage

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Example 6010 Calculations
Thermo Scientific iCAP 6500

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and four standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Workgroup: WG284943

Analyst: REK

Method: 3005A

Run Date: 10/15/2008 07:38

Hotblock Start Temp: 95 @ 05:50

Hotblock End Temp: 95.1 @ 09:50

SOP: ME401 Revision 13

Spike Solution: STD27613

Spike Witness: SDL

HN03 Lot #: COA13347

hcl Lot #: COA13324

Digest tubes Lot #: COA13407

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG284943-02	BLANK	1	50 mL	50 mL		
2	WG284699-01	FBLK	18	50 mL	50 mL		
3	WG284943-03	LCS	1	50 mL	50 mL	5 mL	
4	L08100272-03	SAMP	18	50 mL	50 mL		10/20/08
5	L08100272-05	SAMP	18	50 mL	50 mL		10/20/08
6	WG284943-01	REF	18	50 mL	50 mL		
7	L08100272-07	RS02	18	50 mL	50 mL		10/20/08
8	WG284943-04	MS	18	50 mL	50 mL	5 mL	
9	L08100272-09	MS02	18	50 mL	50 mL	5 mL	10/20/08
10	WG284943-05	MSD	18	50 mL	50 mL	5 mL	
11	L08100272-11	SD02	18	50 mL	50 mL	5 mL	10/20/08
12	L08100272-13	SAMP	18	50 mL	50 mL		10/20/08
13	L08100272-15	SAMP	18	50 mL	50 mL		10/20/08
14	L08100272-17	SAMP	18	50 mL	50 mL		10/20/08
15	L08100272-19	SAMP	18	50 mL	50 mL		10/20/08
16	L08100408-01	SAMP	1	50 mL	50 mL		10/22/08
17	L08100408-02	SAMP	1	50 mL	50 mL		10/22/08
18	L08100408-03	SAMP	1	50 mL	50 mL		10/22/08
19	L08100408-04	SAMP	1	50 mL	50 mL		10/22/08
20	L08100408-05	SAMP	1	50 mL	50 mL		10/22/08
21	L08100409-01	SAMP	1	50 mL	50 mL		10/21/08
22	L08100410-01	SAMP	1	50 mL	50 mL		10/21/08
23	L08100416-07	SAMP	1	50 mL	50 mL		10/21/08
24	L08100419-04	SAMP	1	50 mL	50 mL		10/28/08

Analyst: REK

Reviewer: Veeha Collins

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101608HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26222

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044
 Workgroups: 284976,284956,285149,284990,284877

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.101608.141027	WG285233-01	Calibration Point		1		10/16/08 14:10
2	P2.101608.141647	WG285233-02	Calibration Point		1		10/16/08 14:16
3	P2.101608.142258	WG285233-03	Calibration Point		1		10/16/08 14:22
4	P2.101608.142911	WG285233-04	Calibration Point		1		10/16/08 14:29
5	P2.101608.143527	WG285233-05	Calibration Point		1		10/16/08 14:35
6	P2.101608.144047	WG285233-06	Initial Calibration Verification		1		10/16/08 14:40
7	P2.101608.144701	WG285233-07	Initial Calib Blank		1		10/16/08 14:47
8	P2.101608.145312	WG285233-08	Interference Check		1		10/16/08 14:53
9	P2.101608.145827	WG285233-09	Interference Check		1		10/16/08 14:58
10	P2.101608.150343	WG285233-10	CCV		1		10/16/08 15:03
11	P2.101608.150957	WG285233-11	CCB		1		10/16/08 15:09
12	P2.101608.152649	WG284942-02	Method/Prep Blank	50/50	1		10/16/08 15:26
13	P2.101608.153302	WG284942-03	Laboratory Control S	50/50	1		10/16/08 15:33
14	P2.101608.153916	L08100389-01	0810-150-001	50/50	1		10/16/08 15:39
15	P2.101608.154528	L08100389-02	0810-150-002	50/50	1		10/16/08 15:45
16	P2.101608.155142	L08100390-01	0810-181-001	50/50	1		10/16/08 15:51
17	P2.101608.155803	L08100390-02	0810-164-002	50/50	1		10/16/08 15:58
18	P2.101608.160417	L08100390-03	0810-163-002	50/50	1		10/16/08 16:04
19	P2.101608.161035	L08100390-04	0810-162-001	50/50	1		10/16/08 16:10
20	P2.101608.161652	L08100390-05	0810-158-002	50/50	1		10/16/08 16:16
21	P2.101608.162309	L08100394-01	001 TANK 8 START	50/50	1	WG285117-04	10/16/08 16:23
22	P2.101608.162927	WG285233-12	CCV		1		10/16/08 16:29
23	P2.101608.163540	WG285233-13	CCB		1		10/16/08 16:35
24	P2.101608.164151	WG284942-01	Reference Sample		1	L08100395-01	10/16/08 16:41
25	P2.101608.164808	WG284976-01	Post Digestion Spike		1	L08100395-01	10/16/08 16:48
26	P2.101608.165423	WG284976-02	Serial Dilution		5	L08100395-01	10/16/08 16:54
27	P2.101608.170037	WG284942-04	Matrix Spike	50/50	1	L08100395-01	10/16/08 17:00
28	P2.101608.170651	WG284942-05	Matrix Spike Duplica	50/50	1	L08100395-01	10/16/08 17:06
29	P2.101608.171305	L08100399-01	C-004	50/50	1		10/16/08 17:13
30	P2.101608.171922	WG284932-02	Method/Prep Blank	50/50	1		10/16/08 17:19
31	P2.101608.172535	WG284932-03	Laboratory Control S	50/50	1		10/16/08 17:25
32	P2.101608.173149	WG284898-01	Fluid Blank		1		10/16/08 17:31
33	P2.101608.173806	WG284932-01	Reference Sample		1	L08100383-01	10/16/08 17:38
34	P2.101608.174423	WG285233-14	CCV		1		10/16/08 17:44
35	P2.101608.175036	WG285233-15	CCB		1		10/16/08 17:50
36	P2.101608.175647	WG284956-01	Post Digestion Spike		1	L08100383-01	10/16/08 17:56
37	P2.101608.180302	WG284956-02	Serial Dilution		5	L08100383-01	10/16/08 18:03

Page: 1 Approved: October 17, 2008

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101608HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26222

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612

ICSA: STD29188 ICSAB: STD29044

Workgroups: 284976,284956,285149,284990,284877

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	P2.101608.180919	WG284932-04	Matrix Spike	5/50	1	L08100383-01	10/16/08 18:09
39	P2.101608.181535	WG284932-05	Matrix Spike Duplica	5/50	1	L08100383-01	10/16/08 18:15
40	P2.101608.182151	L08100386-01	COMPOSITE	5/50	1		10/16/08 18:21
41	P2.101608.182821	WG285103-02	Method/Prep Blank	50/50	1		10/16/08 18:28
42	P2.101608.183446	WG285103-03	Laboratory Control S	50/50	1		10/16/08 18:34
43	P2.101608.184107	WG285014-01	Fluid Blank		1		10/16/08 18:41
44	P2.101608.184720	L08100229-19	AV-NCB-AS-ZNC-RR20-4-6-	50/50	1		10/16/08 18:47
45	P2.101608.185333	L08100360-03	AV-NCB-AS-SAN-RR02-21-2	50/50	1		10/16/08 18:53
46	P2.101608.185950	WG285233-16	CCV		1		10/16/08 18:59
47	P2.101608.190604	WG285233-17	CCB		1		10/16/08 19:06
48	P2.101608.191215	L08100360-05	AV-NCB-AS-SEW-RR11-17.5	50/50	1	WG285145-01	10/16/08 19:12
49	P2.101608.191832	L08100360-13	AV-NCB-AS-SEW-RR11-19.5	50/50	1		10/16/08 19:18
50	P2.101608.192445	WG285103-01	Reference Sample		1	L08100360-15	10/16/08 19:24
51	P2.101608.193102	WG285149-01	Post Digestion Spike		1	L08100360-15	10/16/08 19:31
52	P2.101608.193716	WG285149-02	Serial Dilution		5	L08100360-15	10/16/08 19:37
53	P2.101608.194330	WG285103-04	Matrix Spike	50/50	1	L08100360-15	10/16/08 19:43
54	P2.101608.194946	WG285103-05	Matrix Spike Duplica	50/50	1	L08100360-15	10/16/08 19:49
55	P2.101608.195600	L08100360-19	AV-NCB-AS-VIS-RR09-18-19	50/50	1		10/16/08 19:56
56	P2.101608.200217	L08100360-21	AV-NCB-AS-AC1-RR07-16.3	50/50	1		10/16/08 20:02
57	P2.101608.200831	WG284943-02	Method/Prep Blank	50/50	1		10/16/08 20:08
58	P2.101608.201444	WG285233-18	CCV		1		10/16/08 20:14
59	P2.101608.202058	WG285233-19	CCB		1		10/16/08 20:20
60	P2.101608.202709	WG284943-03	Laboratory Control S	50/50	1		10/16/08 20:27
61	P2.101608.203323	WG284699-01	Fluid Blank		1		10/16/08 20:33
62	P2.101608.203936	L08100272-03	AV-NCB-AS-STO-RR12-17.5	50/50	1		10/16/08 20:39
63	P2.101608.204550	L08100272-05	AV-NCB-AS-STO-RR12-19.5	50/50	1		10/16/08 20:45
64	P2.101608.205204	WG284943-01	Reference Sample		1	L08100272-07	10/16/08 20:52
65	P2.101608.205818	WG284990-01	Post Digestion Spike		1	L08100272-07	10/16/08 20:58
66	P2.101608.210433	WG284990-02	Serial Dilution		5	L08100272-07	10/16/08 21:04
67	P2.101608.211047	WG284943-04	Matrix Spike	50/50	1	L08100272-07	10/16/08 21:10
68	P2.101608.211702	WG284943-05	Matrix Spike Duplica	50/50	1	L08100272-07	10/16/08 21:17
69	P2.101608.212317	L08100272-13	AV-NCB-AS-VIS-RR10-18.5-	50/50	1		10/16/08 21:23
70	P2.101608.212931	WG285233-20	CCV		1		10/16/08 21:29
71	P2.101608.213545	WG285233-21	CCB		1		10/16/08 21:35
72	P2.101608.214156	L08100272-15	AV-NCB-AS-VIS-RR10-25-D	50/50	1		10/16/08 21:41
73	P2.101608.214810	L08100272-17	AV-NCB-AS-AC1-RR08-17-1	50/50	1		10/16/08 21:48
74	P2.101608.215424	L08100272-19	AV-NCB-AS-AC1-RR08-19-1	50/50	1		10/16/08 21:54

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101608HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26222

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044
 Workgroups: 284976,284956,285149,284990,284877

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	P2.101608.220038	L08100408-01	0810-160-1	50/50	1		10/16/08 22:00
76	P2.101608.220652	L08100408-02	0810-164-1	50/50	1		10/16/08 22:06
77	P2.101608.221312	L08100408-03	0810-164-2	50/50	1		10/16/08 22:13
78	P2.101608.221931	L08100408-04	0810-164-3	50/50	1		10/16/08 22:19
79	P2.101608.222551	L08100408-05	0810-164-4	50/50	1		10/16/08 22:25
80	P2.101608.223210	L08100409-01	SE-3026P	50/50	1	WG284920-01	10/16/08 22:32
81	P2.101608.223825	L08100410-01	SE-3005P	50/50	1		10/16/08 22:38
82	P2.101608.224440	WG285233-22	CCV		1		10/16/08 22:44
83	P2.101608.225054	WG285233-23	CCB		1		10/16/08 22:50
84	P2.101608.225705	L08100416-07	49WW03-100808	50/50	1	WG284950-01	10/16/08 22:57
85	P2.101608.230324	L08100419-04	FB001 (101308)	50/50	1		10/16/08 23:03
86	P2.101608.230938	WG284797-01	Method/Prep Blank	50/50	1		10/16/08 23:09
87	P2.101608.231552	WG284797-02	Laboratory Control S	50/50	1		10/16/08 23:15
88	P2.101608.232208	WG284797-03	Laboratory Control S	50/50	1		10/16/08 23:22
89	P2.101608.232824	L08100352-01	A1	50/50	5		10/16/08 23:28
90	P2.101608.233443	WG284877-01	Post Digestion Spike		5	L08100352-01	10/16/08 23:34
91	P2.101608.234103	WG284877-02	Serial Dilution		25	L08100352-01	10/16/08 23:41
92	P2.101608.234721	L08100352-02	A2	50/50	5		10/16/08 23:47
93	P2.101608.235340	L08100352-03	A3	50/50	5		10/16/08 23:53
94	P2.101608.235959	WG285233-24	CCV		1		10/16/08 23:59
95	P2.101708.000613	WG285233-25	CCB		1		10/17/08 00:06
96	P2.101708.001224	L08100352-04	A4	50/50	5		10/17/08 00:12
97	P2.101708.001843	L08100352-05	A5	50/50	5		10/17/08 00:18
98	P2.101708.002503	L08100352-06	A6	50/50	5		10/17/08 00:25
99	P2.101708.003123	L08100352-07	10/7 A	50/50	5		10/17/08 00:31
100	P2.101708.003743	L08100352-08	10/7 B	50/50	5		10/17/08 00:37
101	P2.101708.004403	L08100352-09	10/7 C	50/50	5		10/17/08 00:44
102	P2.101708.005023	L08100352-10	10/7 D	50/50	5		10/17/08 00:50
103	P2.101708.005643	L08100352-11	10/7 E	50/50	5		10/17/08 00:56
104	P2.101708.010303	L08100352-12	10/7 F	50/50	5		10/17/08 01:03
105	P2.101708.010922	L08100352-13	10/7 G	50/50	5		10/17/08 01:09
106	P2.101708.011541	WG285233-26	CCV		1		10/17/08 01:15
107	P2.101708.012154	WG285233-27	CCB		1		10/17/08 01:21
108	P2.101708.012805	L08100352-14	10/7 H	50/50	5		10/17/08 01:28
109	P2.101708.013425	L08100352-15	10/7 K	50/50	5		10/17/08 01:34
110	P2.101708.014045	L08100352-16	10/8 A	50/50	10		10/17/08 01:40
111	P2.101708.014704	L08100352-17	10/8 B	50/50	10		10/17/08 01:47

Page: 3 Approved: October 17, 2008

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101608HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26222

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044
 Workgroups: 284976,284956,285149,284990,284877

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
112	P2.101708.015323	L08100352-18	10/8 C	50/50	10		10/17/08 01:53
113	P2.101708.015942	L08100352-19	10/8 D	50/50	10		10/17/08 01:59
114	P2.101708.020602	L08100352-20	10/8 E	50/50	5		10/17/08 02:06
115	P2.101708.021222	WG285233-28	CCV		1		10/17/08 02:12
116	P2.101708.021835	WG285233-29	CCB		1		10/17/08 02:18

Page: 4 Approved: October 17, 2008

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101708HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26237

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044

Workgroups: 284874,284956,285257,285258,284990,285260,284987,285125

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.101708.085827	WG285322-01	Calibration Point		1		10/17/08 08:58
2	P2.101708.090439	WG285322-02	Calibration Point		1		10/17/08 09:04
3	P2.101708.091055	WG285322-03	Calibration Point		1		10/17/08 09:10
4	P2.101708.091710	WG285322-04	Calibration Point		1		10/17/08 09:17
5	P2.101708.092326	WG285322-05	Calibration Point		1		10/17/08 09:23
6	P2.101708.092855	WG285322-06	Initial Calibration Verification		1		10/17/08 09:28
7	P2.101708.093513	WG285322-07	Initial Calib Blank		1		10/17/08 09:35
8	P2.101708.094129	WG285322-08	Interference Check		1		10/17/08 09:41
9	P2.101708.094651	WG285322-09	Interference Check		1		10/17/08 09:46
10	P2.101708.095213	WG285322-10	CCV		1		10/17/08 09:52
11	P2.101708.095833	WG285322-11	CCB		1		10/17/08 09:58
12	P2.101708.101300	WG284796-02	Method/Prep Blank	50/50	1		10/17/08 10:13
13	P2.101708.101913	WG284796-03	Laboratory Control S	50/50	1		10/17/08 10:19
14	P2.101708.102529	WG284796-01	Reference Sample		1	L08100363-01	10/17/08 10:25
15	P2.101708.103150	WG284874-01	Post Digestion Spike		1	L08100363-01	10/17/08 10:31
16	P2.101708.103804	WG284874-02	Serial Dilution		5	L08100363-01	10/17/08 10:38
17	P2.101708.104424	WG284796-04	Matrix Spike	50/50	1	L08100363-01	10/17/08 10:44
18	P2.101708.105044	WG284796-05	Matrix Spike Duplica	50/50	1	L08100363-01	10/17/08 10:50
19	P2.101708.105658	L08100362-01	MW301AB-NF	50/50	2		10/17/08 10:56
20	P2.101708.110323	L08100362-02	MW322B2-NF	50/50	5		10/17/08 11:03
21	P2.101708.110946	L08100362-03	MW437B-NF	50/50	5		10/17/08 11:09
22	P2.101708.111607	WG285322-12	CCV		1		10/17/08 11:16
23	P2.101708.112227	WG285322-13	CCB		1		10/17/08 11:22
24	P2.101708.112844	L08100362-04	MW322B1-NF	50/50	5		10/17/08 11:28
25	P2.101708.113347	L08100362-05	MW321B1-DF	50/50	5		10/17/08 11:33
26	P2.101708.114011	L08100362-06	MW321B1-NF	50/50	5		10/17/08 11:40
27	P2.101708.114732	L08100362-07	MW321B2-NF	50/50	5		10/17/08 11:47
28	P2.101708.115358	WG284932-02	Method/Prep Blank		1		10/17/08 11:53
29	P2.101708.120019	WG284932-03	Laboratory Control S		1		10/17/08 12:00
30	P2.101708.120640	WG284898-01	Fluid Blank		1		10/17/08 12:06
31	P2.101708.121257	WG284932-01	Reference Sample		1	L08100383-01	10/17/08 12:12
32	P2.101708.121921	WG284932-04	Matrix Spike		1	L08100383-01	10/17/08 12:19
33	P2.101708.122543	WG284932-05	Matrix Spike Duplica		1	L08100383-01	10/17/08 12:25
34	P2.101708.123201	WG285322-14	CCV		1		10/17/08 12:32
35	P2.101708.123827	WG285322-15	CCB		1		10/17/08 12:38
36	P2.101708.124445	L08100386-01	COMPOSITE		1		10/17/08 12:44
37	P2.101708.125103	WG284956-03	L0810038601PS WG284956		1		10/17/08 12:51

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101708HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26237

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044

Workgroups: 284874,284956,285257,285258,284990,285260,284987,285125

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	P2.101708.125727	WG284956-04	L0810038601DL WG284956-		5		10/17/08 12:57
39	P2.101708.130351	L08100386-01	COMPOSITE		2		10/17/08 13:03
40	P2.101708.131009	WG284956-03	L0810038601PS WG284956-		2		10/17/08 13:10
41	P2.101708.131628	WG284956-04	L0810038601DL WG284956-		10		10/17/08 13:16
42	P2.101708.132248	WG285201-02	Method/Prep Blank	50/50	1		10/17/08 13:22
43	P2.101708.132901	WG285201-03	Laboratory Control S	50/50	1		10/17/08 13:29
44	P2.101708.133523	L08100427-01	CLARIFIER/COMP/EFF.	50/50	1		10/17/08 13:35
45	P2.101708.134146	L08100434-01	012	50/50	1		10/17/08 13:41
46	P2.101708.134812	WG285322-16	CCV		1		10/17/08 13:48
47	P2.101708.135429	WG285322-17	CCB		1		10/17/08 13:54
48	P2.101708.140045	L08100434-02	016	50/50	1		10/17/08 14:00
49	P2.101708.140707	WG285201-01	Reference Sample		1	L08100460-01	10/17/08 14:07
50	P2.101708.141237	WG285257-01	Post Digestion Spike		1	L08100460-01	10/17/08 14:12
51	P2.101708.141801	WG285257-02	Serial Dilution		5	L08100460-01	10/17/08 14:18
52	P2.101708.142318	WG285201-04	Matrix Spike	50/50	1	L08100460-01	10/17/08 14:23
53	P2.101708.142844	WG285201-05	Matrix Spike Duplica	50/50	1	L08100460-01	10/17/08 14:28
54	P2.101708.143410	L08100478-02	OUTFALL 001/COMP	50/50	1		10/17/08 14:34
55	P2.101708.144024	L08100478-04	OUTFALL 002/COMP	50/50	1		10/17/08 14:40
56	P2.101708.144645	L08100479-02	OUTFALL 102 / COMP	50/50	1		10/17/08 14:46
57	P2.101708.145305	L08100484-01	001/COMP.	50/50	1		10/17/08 14:53
58	P2.101708.145931	WG285322-18	CCV		1		10/17/08 14:59
59	P2.101708.150549	WG285322-19	CCB		1		10/17/08 15:05
60	P2.101708.151101	L08100500-04	OUTFALL 003/COMP	50/50	1	WG285235-04	10/17/08 15:11
61	P2.101708.151726	L08100500-06	OUTFALL 800/COMP	50/50	1		10/17/08 15:17
62	P2.101708.152351	L08100503-01	OUTFALL 002/COMP	50/50	1	WG285267-02	10/17/08 15:23
63	P2.101708.153015	L08100505-01	0810-168-001		1		10/17/08 15:30
64	P2.101708.153632	L08100505-02	0810-168-002		1		10/17/08 15:36
65	P2.101708.154256	L08100505-03	0810-168-003		1		10/17/08 15:42
66	P2.101708.154920	WG285202-02	Method/Prep Blank	50/50	1		10/17/08 15:49
67	P2.101708.155533	WG285202-03	Laboratory Control S	50/50	1		10/17/08 15:55
68	P2.101708.160155	L08100483-01	MW-9	50/50	1		10/17/08 16:01
69	P2.101708.160816	WG285322-20	CCV		1		10/17/08 16:08
70	P2.101708.161435	WG285322-21	CCB		1		10/17/08 16:14
71	P2.101708.162050	L08100483-02	MW-3	50/50	1		10/17/08 16:20
72	P2.101708.162711	L08100483-03	MW-4	50/50	1		10/17/08 16:27
73	P2.101708.163327	L08100483-04	MW-5	50/50	1		10/17/08 16:33
74	P2.101708.163944	L08100483-05	MW-6	50/50	1		10/17/08 16:39

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101708HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26237

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044

Workgroups: 284874,284956,285257,285258,284990,285260,284987,285125

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	P2.101708.164604	L08100483-06	MW-1	50/50	1		10/17/08 16:46
76	P2.101708.165239	WG285202-01	Reference Sample		1	L08100489-01	10/17/08 16:52
77	P2.101708.165904	WG285258-01	Post Digestion Spike		1	L08100489-01	10/17/08 16:59
78	P2.101708.170528	WG285258-02	Serial Dilution		5	L08100489-01	10/17/08 17:05
79	P2.101708.171150	WG285202-04	Matrix Spike	50/50	1	L08100489-01	10/17/08 17:11
80	P2.101708.171805	WG285202-05	Matrix Spike Duplica	50/50	1	L08100489-01	10/17/08 17:18
81	P2.101708.172427	WG285322-22	CCV		1		10/17/08 17:24
82	P2.101708.173045	WG285322-23	CCB		1		10/17/08 17:30
83	P2.101708.173701	L08100489-04	MW07-101508	50/50	1		10/17/08 17:37
84	P2.101708.174326	L08100489-05	MW05I-101508	50/50	1		10/17/08 17:43
85	P2.101708.174945	L08100489-06	MW06-101508	50/50	1		10/17/08 17:49
86	P2.101708.175607	L08100489-07	MW08-101508	50/50	1		10/17/08 17:56
87	P2.101708.180132	L08100490-01	C-34SW008 (101508)	50/50	1		10/17/08 18:01
88	P2.101708.180747	L08100490-06	FB003 (101508)	50/50	1		10/17/08 18:07
89	P2.101708.181408	L08100492-01	EQT 821	50/50	1		10/17/08 18:14
90	P2.101708.182030	L08100416-07	49WW03-100808	50/50	5		10/17/08 18:20
91	P2.101708.182655	WG285220-02	Method/Prep Blank	50/50	1		10/17/08 18:26
92	P2.101708.183310	WG285220-03	Laboratory Control S	50/50	1		10/17/08 18:33
93	P2.101708.183931	WG285322-24	CCV		1		10/17/08 18:39
94	P2.101708.184552	WG285322-25	CCB		1		10/17/08 18:45
95	P2.101708.185208	WG285167-01	Fluid Blank		1		10/17/08 18:52
96	P2.101708.185831	WG285220-01	Reference Sample		1	L08100444-01	10/17/08 18:58
97	P2.101708.190449	WG285260-01	Post Digestion Spike		1	L08100444-01	10/17/08 19:04
98	P2.101708.191116	WG285260-02	Serial Dilution		5	L08100444-01	10/17/08 19:11
99	P2.101708.191739	WG285220-04	Matrix Spike	5/50	1	L08100444-01	10/17/08 19:17
100	P2.101708.192405	WG285220-05	Matrix Spike Duplica	5/50	1	L08100444-01	10/17/08 19:24
101	P2.101708.193023	L08100444-02	101308-20-27	5/50	1		10/17/08 19:30
102	P2.101708.193647	L08100444-03	101308-20-21	5/50	1		10/17/08 19:36
103	P2.101708.194312	L08100444-04	101508-PPP	5/50	1		10/17/08 19:43
104	P2.101708.194936	L08100446-01	GC081475	5/50	1		10/17/08 19:49
105	P2.101708.195600	WG285322-26	CCV		1		10/17/08 19:56
106	P2.101708.200219	WG285322-27	CCB		1		10/17/08 20:02
107	P2.101708.200834	L08100446-02	GC081476	5/50	1		10/17/08 20:08
108	P2.101708.201458	L08100446-03	GC081477	5/50	1		10/17/08 20:14
109	P2.101708.202122	L08100446-04	GC081478	5/50	1		10/17/08 20:21
110	P2.101708.202742	WG284949-01	Method/Prep Blank	50/50	1		10/17/08 20:27
111	P2.101708.203402	WG284949-02	Laboratory Control S	50/50	1		10/17/08 20:34

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 101708HR.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26237

Calibration Std: STD29127 ICV/CCV Std: STD29146 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29044

Workgroups: 284874,284956,285257,285258,284990,285260,284987,285125

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
112	P2.101708.204024	WG284949-03	Laboratory Control S	50/50	1		10/17/08 20:40
113	P2.101708.204641	L08100352-21	10/8 F	50/50	5		10/17/08 20:46
114	P2.101708.205309	L08100352-22	10/8 G	50/50	5		10/17/08 20:53
115	P2.101708.205935	L08100352-23	10/8 H	50/50	5		10/17/08 20:59
116	P2.101708.210556	L08100352-24	10/8 I	50/50	5		10/17/08 21:05
117	P2.101708.211221	WG285322-28	CCV		1		10/17/08 21:12
118	P2.101708.211842	WG285322-29	CCB		1		10/17/08 21:18
119	P2.101708.212500	L08100352-25	10/8 J	50/50	5		10/17/08 21:25
120	P2.101708.213125	L08100352-26	10/8 K	50/50	5		10/17/08 21:31
121	P2.101708.213751	L08100352-27	10/8 L	50/50	5		10/17/08 21:37
122	P2.101708.214412	L08100399-02	C-004	50/50	1		10/17/08 21:44
123	P2.101708.215037	WG284987-01	Post Digestion Spike		1	L08100399-02	10/17/08 21:50
124	P2.101708.215702	WG284987-02	Serial Dilution		5	L08100399-02	10/17/08 21:57
125	P2.101708.220318	L08100414-01	AF10-13MBBRIF	50/50	5		10/17/08 22:03
126	P2.101708.220943	L08100414-02	AF10-13MBBREF	50/50	5		10/17/08 22:09
127	P2.101708.221609	WG285089-02	Method/Prep Blank	50/50	1		10/17/08 22:16
128	P2.101708.222225	WG285089-03	Laboratory Control S	50/50	1		10/17/08 22:22
129	P2.101708.222851	WG285322-30	CCV		1		10/17/08 22:28
130	P2.101708.223512	WG285322-31	CCB		1		10/17/08 22:35
131	P2.101708.224123	WG285022-01	Fluid Blank		1		10/17/08 22:41
132	P2.101708.224746	L08100385-01	2010 SLUDGE	5/50	1		10/17/08 22:47
133	P2.101708.225405	WG285089-01	Reference Sample		1	L08100424-01	10/17/08 22:54
134	P2.101708.230028	WG285125-01	Post Digestion Spike		1	L08100424-01	10/17/08 23:00
135	P2.101708.230648	WG285125-02	Serial Dilution		5	L08100424-01	10/17/08 23:06
136	P2.101708.231307	WG285089-04	Matrix Spike	5/50	1	L08100424-01	10/17/08 23:13
137	P2.101708.231927	WG285089-05	Matrix Spike Duplica	5/50	1	L08100424-01	10/17/08 23:19
138	P2.101708.232549	L08100425-01	DRUM COMPOSITE	5/50	1		10/17/08 23:25
139	P2.101708.233208	WG285322-32	CCV		1		10/17/08 23:32
140	P2.101708.233821	WG285322-33	CCB		1		10/17/08 23:38

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Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 102108H2R.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26271

Calibration Std: STD29127 ICV/CCV Std: STD29409 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29411

Workgroups: 284874,284990,285547,285259,284988,285262,285258,285136

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.102108.092807	WG285578-01	Calibration Point		1		10/21/08 09:28
2	P2.102108.093417	WG285578-02	Calibration Point		1		10/21/08 09:34
3	P2.102108.094035	WG285578-03	Calibration Point		1		10/21/08 09:40
4	P2.102108.094652	WG285578-04	Calibration Point		1		10/21/08 09:46
5	P2.102108.095308	WG285578-05	Calibration Point		1		10/21/08 09:53
6	P2.102108.095840	WG285578-06	Initial Calibration Verification		1		10/21/08 09:58
7	P2.102108.100500	WG285578-07	Initial Calib Blank		1		10/21/08 10:05
8	P2.102108.101117	WG285578-08	Interference Check		1		10/21/08 10:11
9	P2.102108.101637	WG285578-09	Interference Check		1		10/21/08 10:16
10	P2.102108.102157	WG285578-10	CCV		1		10/21/08 10:21
11	P2.102108.102815	WG285578-11	CCB		1		10/21/08 10:28
12	P2.102108.103712	WG284874-03	Louisville Chem Requ		1		10/21/08 10:37
13	P2.102108.104335	WG284796-02	Method/Prep Blank	50/50	1		10/21/08 10:43
14	P2.102108.104956	WG284796-03	Laboratory Control S	50/50	1		10/21/08 10:49
15	P2.102108.105615	L08100362-01	MW301AB-NF	50/50	2		10/21/08 10:56
16	P2.102108.110232	WG284874-04	Post Digestion Spike		2	L08100362-01	10/21/08 11:02
17	P2.102108.110854	WG284874-05	Serial Dilution		10	L08100362-01	10/21/08 11:08
18	P2.102108.111513	L08100362-02	MW322B2-NF	50/50	5		10/21/08 11:15
19	P2.102108.112130	L08100362-03	MW437B-NF	50/50	5		10/21/08 11:21
20	P2.102108.112751	L08100362-04	MW322B1-NF	50/50	5		10/21/08 11:27
21	P2.102108.113414	L08100362-05	MW321B1-DF	50/50	5		10/21/08 11:34
22	P2.102108.114036	WG285578-12	CCV		1		10/21/08 11:40
23	P2.102108.114656	WG285578-13	CCB		1		10/21/08 11:46
24	P2.102108.115312	L08100362-06	MW321B1-NF	50/50	5		10/21/08 11:53
25	P2.102108.115957	L08100362-07	MW321B2-NF	50/50	5		10/21/08 11:59
26	P2.102108.120613	WG284796-01	Reference Sample		1	L08100363-01	10/21/08 12:06
27	P2.102108.121230	WG284796-04	Matrix Spike	50/50	1	L08100363-01	10/21/08 12:12
28	P2.102108.121851	WG284796-05	Matrix Spike Duplica	50/50	1	L08100363-01	10/21/08 12:18
29	P2.102108.122506	L08100416-07	49WW03-100808	50/50	20		10/21/08 12:25
30	P2.102108.123227	WG285578-14	CCV		1		10/21/08 12:32
31	P2.102108.123848	WG285578-15	CCB		1		10/21/08 12:38
32	P2.102108.124315	WG285509-02	Method/Prep Blank	50/50	1		10/21/08 12:43
33	P2.102108.124928	WG285509-03	Laboratory Control S	50/50	1		10/21/08 12:49
34	P2.102108.125550	WG285454-01	Fluid Blank		1		10/21/08 12:55
35	P2.102108.130212	WG285509-01	Reference Sample		1	L08100508-01	10/21/08 13:02
36	P2.102108.130829	WG285547-01	Post Digestion Spike		1	L08100508-01	10/21/08 13:08
37	P2.102108.131451	WG285547-02	Serial Dilution		5	L08100508-01	10/21/08 13:14

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Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 102108H2R.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26271

Calibration Std: STD29127 ICV/CCV Std: STD29409 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29411

Workgroups: 284874,284990,285547,285259,284988,285262,285258,285136

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	P2.102108.132115	WG285509-04	Matrix Spike	5/50	1	L08100508-01	10/21/08 13:21
39	P2.102108.132730	WG285509-05	Matrix Spike Duplica	5/50	1	L08100508-01	10/21/08 13:27
40	P2.102108.133353	L08100508-02	1080 TANK	5/50	1		10/21/08 13:33
41	P2.102108.134017	L08100513-01	AM1-1-01	5/50	1		10/21/08 13:40
42	P2.102108.134642	WG285578-16	CCV		1		10/21/08 13:46
43	P2.102108.135300	WG285578-17	CCB		1		10/21/08 13:53
44	P2.102108.135918	L08100532-01	0810311-01	5/50	1		10/21/08 13:59
45	P2.102108.140531	L08100555-13	WS-001-S	5/50	1		10/21/08 14:05
46	P2.102108.141151	L08100555-15	WS-002-C	5/50	1		10/21/08 14:11
47	P2.102108.141816	WG285578-18	CCV		1		10/21/08 14:18
48	P2.102108.142434	WG285578-19	CCB		1		10/21/08 14:24
49	P2.102108.143152	L08100454-01	10/9 A	50/50	10		10/21/08 14:31
50	P2.102108.143810	WG285259-01	Post Digestion Spike		10	L08100454-01	10/21/08 14:38
51	P2.102108.144500	WG285259-02	Serial Dilution		50	L08100454-01	10/21/08 14:45
52	P2.102108.145124	L08100454-02	10/9 B	50/50	10		10/21/08 14:51
53	P2.102108.145553	L08100454-06	10/9 F	50/50	1		10/21/08 14:55
54	P2.102108.150212	L08100454-07	10/9 G	50/50	1		10/21/08 15:02
55	P2.102108.150839	L08100454-08	10/9 H	50/50	1		10/21/08 15:08
56	P2.102108.151505	L08100454-12	10/9 L	50/50	1		10/21/08 15:15
57	P2.102108.152125	L08100454-18	10/10 F	50/50	1		10/21/08 15:21
58	P2.102108.152750	L08100356-01	8002	50/50	2		10/21/08 15:27
59	P2.102108.153409	WG285578-20	CCV		1		10/21/08 15:34
60	P2.102108.154027	WG285578-21	CCB		1		10/21/08 15:40
61	P2.102108.154643	L08100356-02	8911U	50/50	2		10/21/08 15:46
62	P2.102108.155330	L08100356-05	8714P	50/50	5		10/21/08 15:53
63	P2.102108.155947	L08100356-06	8716P	50/50	5		10/21/08 15:59
64	P2.102108.160612	L08100356-07	8902U	50/50	1		10/21/08 16:06
65	P2.102108.161233	L08100356-08	8902L	50/50	1		10/21/08 16:12
66	P2.102108.161847	L08100356-09	8905U	50/50	2		10/21/08 16:18
67	P2.102108.162514	L08100356-10	8905L	50/50	5		10/21/08 16:25
68	P2.102108.163138	L08100356-11	8906L	50/50	1		10/21/08 16:31
69	P2.102108.163752	L08100356-12	8907U	50/50	1		10/21/08 16:37
70	P2.102108.164406	L08100356-13	8908L	50/50	5		10/21/08 16:44
71	P2.102108.165020	WG285578-22	CCV		1		10/21/08 16:50
72	P2.102108.165634	WG285578-23	CCB		1		10/21/08 16:56
73	P2.102108.170245	L08100356-14	8004 DUPLICATE	50/50	1		10/21/08 17:02
74	P2.102108.170859	L08100356-15	8910P-R	50/50	1		10/21/08 17:08

Page: 2 Approved: October 22, 2008

Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 102108H2R.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26271

Calibration Std: STD29127 ICV/CCV Std: STD29409 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29411

Workgroups: 284874,284990,285547,285259,284988,285262,285258,285136

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	P2.102108.171513	L08100356-16	8912U	50/50	5		10/21/08 17:15
76	P2.102108.172134	L08100356-17	8912L	50/50	1		10/21/08 17:21
77	P2.102108.172749	L08100356-18	RIVER W#2	50/50	1		10/21/08 17:27
78	P2.102108.173403	L08100356-19	RIVER W#4	50/50	1		10/21/08 17:34
79	P2.102108.174020	L08100356-20	RIVER W#5	50/50	1		10/21/08 17:40
80	P2.102108.174641	L08100454-24	10/10 L	50/50	10		10/21/08 17:46
81	P2.102108.175259	L08100454-25	10/13 A	50/50	10		10/21/08 17:52
82	P2.102108.175917	L08100454-28	10/13 D	50/50	10		10/21/08 17:59
83	P2.102108.180535	WG285578-24	CCV		1		10/21/08 18:05
84	P2.102108.181149	WG285578-25	CCB		1		10/21/08 18:11
85	P2.102108.181804	L08100489-07	MW08-101508	50/50	5		10/21/08 18:18
86	P2.102108.182421	WG285073-02	Method/Prep Blank	50/50	1		10/21/08 18:24
87	P2.102108.183035	WG285073-03	Laboratory Control S	50/50	1		10/21/08 18:30
88	P2.102108.183650	L08100435-16	AV-NCB-AS-EQB	50/50	1		10/21/08 18:36
89	P2.102108.184305	L08100440-01	CRP 3051	50/50	1		10/21/08 18:43
90	P2.102108.184825	L08100440-02	CRP 3043	50/50	1		10/21/08 18:48
91	P2.102108.185355	L08100440-03	CRP 3037	50/50	1		10/21/08 18:53
92	P2.102108.185921	L08100440-04	CRP 3039	50/50	1		10/21/08 18:59
93	P2.102108.190440	WG285073-01	Reference Sample		1	L08100440-05	10/21/08 19:04
94	P2.102108.191059	WG285136-01	Post Digestion Spike		1	L08100440-05	10/21/08 19:10
95	P2.102108.191723	WG285578-26	CCV		1		10/21/08 19:17
96	P2.102108.192336	WG285578-27	CCB		1		10/21/08 19:23
97	P2.102108.192947	WG285136-02	Serial Dilution		5	L08100440-05	10/21/08 19:29
98	P2.102108.193604	WG285073-04	Matrix Spike	50/50	1	L08100440-05	10/21/08 19:36
99	P2.102108.194223	WG285073-05	Matrix Spike Duplica	50/50	1	L08100440-05	10/21/08 19:42
100	P2.102108.194743	L08100440-08	CRP 3042	50/50	1		10/21/08 19:47
101	P2.102108.195307	L08100440-09	CRP 3046	50/50	1		10/21/08 19:53
102	P2.102108.195831	L08100440-10	CRP 3049	50/50	1		10/21/08 19:58
103	P2.102108.200450	L08100440-11	CRP 3038	50/50	1		10/21/08 20:04
104	P2.102108.201011	L08100440-12	CRP 3052	50/50	1		10/21/08 20:10
105	P2.102108.201630	L08100440-13	CRP 3045	50/50	1		10/21/08 20:16
106	P2.102108.202156	L08100440-14	CRP 3044	50/50	1		10/21/08 20:21
107	P2.102108.202729	WG285578-28	CCV		1		10/21/08 20:27
108	P2.102108.203342	WG285578-29	CCB		1		10/21/08 20:33
109	P2.102108.203953	L08100440-15	CRP 3047	50/50	1		10/21/08 20:39
110	P2.102108.204513	L08100440-16	CRP 3048	50/50	1		10/21/08 20:45
111	P2.102108.205034	L08100440-17	CRP 3041	50/50	1		10/21/08 20:50

Page: 3 Approved: October 22, 2008

Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 102108H2R.CSV
 Analyst1: JYH Analyst2: ED
 Method: 6010B SOP: ME600E Rev: 8
 Maintenance Log ID: 26271

Calibration Std: STD29127 ICV/CCV Std: STD29409 Post Spike: STD27612
 ICSA: STD29188 ICSAB: STD29411

Workgroups: 284874,284990,285547,285259,284988,285262,285258,285136

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
112	P2.102108.205654	L08100457-13	FB002 (101408)	50/50	1		10/21/08 20:56
113	P2.102108.210309	WG285578-30	CCV		1		10/21/08 21:03
114	P2.102108.210926	WG285578-31	CCB		1		10/21/08 21:09

Page: 4 Approved: October 22, 2008

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 16-OCT-2008

Analyst: JYH

Analyst: ED

Method: 6010B

Instrument: PE-ICP2

Curve Workgroup: WG285233

Runlog ID: 24746

Analytical Workgroups: 284976,284956,285149,284990,284877

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	389,390,395,399,386,229,360,272 408,409,410,416,419,352
Client Forms	X
Level X	
Level 3	416
Level 4	229,360,272,419,352
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ED
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
17-OCT-2008

Emily Decker

Secondary Reviewer:
17-OCT-2008

Maren Beery

Microbac Laboratories Inc.

Data Checklist

Date: 17-OCT-2008

Analyst: JYH

Analyst: ED

Method: 6010B

Instrument: PE-ICP2

Curve Workgroup: WG258322

Runlog ID: 24768

Analytical Workgroups: 284874,285257,285258,254990,285260,284987,285125

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	362,363,427,500,505,483,489,490
	492,416,446,352,399,414
Client Forms	X
Level X	
Level 3	362,489,416
Level 4	483,490,352,414
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ED
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
20-OCT-2008

Emily Decker

Secondary Reviewer:
20-OCT-2008

Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 21-OCT-2008

Analyst: JYH

Analyst: ED

Method: 6010B

Instrument: PE-ICP2

Curve Workgroup: WG285578

Runlog ID: 24817

Analytical Workgroups: 284874,284990,285547,285259,284988,285262,285258,285136

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	362,416,532,555,454,356,489,435
	440,457
Client Forms	X
Level X	
Level 3	362,416
Level 4	555,454,435,440,457
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ED
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
21-OCT-2008

Emily Decker

Secondary Reviewer:
22-OCT-2008

Shari L. Bahgat

Analytical Method: 6010B

AAB#: WG284990

Login Number: L08100416

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
49WW03-100808	10/08/08	10/14/08	10/15/08	180	6.79	10/21/08	180	6.20	
49WW03-100808	10/08/08	10/14/08	10/15/08	180	6.79	10/17/08	180	2.45	
49WW03-100808	10/08/08	10/14/08	10/15/08	180	6.79	10/16/08	180	1.64	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L08100416
Blank File ID: P2.101608.200831
Prep Date: 10/15/08 07:38
Analyzed Date: 10/16/08 20:08
Analyst: JYH

Work Group: WG284990
Blank Sample ID: WG284943-02
Instrument ID: PE-ICP2
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG284943-03	P2.101608.202709	10/16/08 20:27	01
49WW03-100808	L08100416-07	P2.101608.225705	10/16/08 22:57	01
49WW03-100808	L08100416-07	P2.101708.182030	10/17/08 18:20	DL01
49WW03-100808	L08100416-07	P2.102108.122506	10/21/08 12:25	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 1224418
Report generated 10/21/2008 14:13



Login Number: L08100416 Prep Date: 10/15/08 07:38 Sample ID: WG284943-02
Instrument ID: PE-ICP2 Run Date: 10/16/08 20:08 Prep Method: 3005A
File ID: P2.101608.200831 Analyst: JYH Method: 6010B
Workgroup (AAB#): WG284990 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: PE-ICP - 16-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.000500	0.00200	0.000500	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Cobalt, Total	0.00250	0.00500	0.00250	1	U
Iron, Total	0.0250	0.100	0.0250	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.250	1.00	0.250	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.00500	0.0200	0.00500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1224419
21-OCT-2008 16:38



Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG284943-03
Instrument ID: PE-ICP2 Run Time: 20:27 Prep Method: 3005A
File ID: P2.101608.202709 Analyst: JYH Method: 6010B
Workgroup (AAB#): WG284990 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD27613 Cal ID: PE-ICP - 16-OCT-08

Analytes	Expected	Found	% Rec	LCS Limits			Q
Aluminum, Total	5.00	5.12	102	85	-	115	
Beryllium, Total	0.0250	0.0258	103	85	-	115	
Calcium, Total	5.00	5.24	105	85	-	115	
Cobalt, Total	0.100	0.105	105	85	-	115	
Iron, Total	2.00	2.08	104	85	-	115	
Magnesium, Total	5.00	5.02	100	85	-	115	
Potassium, Total	25.0	25.8	103	85	-	115	
Sodium, Total	25.0	26.0	104	85	-	115	
Vanadium, Total	0.500	0.519	104	85	-	115	
Zinc, Total	0.500	0.528	106	85	-	115	

Loginnum: L08100416 Cal ID: PE-ICP2 - Worknum: WG284990
 Instrument ID: PE-ICP2 Contract #: DACA56-94-D-0020 Method: 6010B
 Parent ID: WG284943-01 File ID: P2.101608.205204 Dil: 1 Matrix: WATER
 Sample ID: WG284943-04 MS File ID: P2.101608.211047 Dil: 1 Units: mg/L
 Sample ID: WG284943-05 MSD File ID: P2.101608.211702 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum	4.97	5.00	9.36	87.8	5.00	21.1	323	77.2	80 - 120	20	*#
Beryllium	ND	0.0250	0.0258	103	0.0250	0.0270	108	4.43	80 - 120	20	
Calcium	5.48	5.00	10.1	92.8	5.00	12.5	141	21.1	80 - 120	20	*#
Cobalt	ND	0.100	0.107	107	0.100	0.109	109	2.00	80 - 120	20	
Iron	2.69	2.00	3.89	59.9	2.00	9.87	359	86.9	80 - 120	20	*#
Magnesium	0.441	5.00	5.64	104	5.00	5.92	110	4.98	80 - 120	20	
Potassium	0.604	25.0	26.6	104	25.0	27.5	108	3.31	80 - 120	20	
Sodium	31.5	25.0	63.0	126	25.0	82.3	203	26.6	80 - 120	20	*#
Vanadium	ND	0.500	0.529	106	0.500	0.559	112	5.57	80 - 120	20	
Zinc	0.00804	0.500	0.548	108	0.500	0.553	109	1.04	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

00090205

Login: L08100416 Worknum: WG284990
Instrument: PE-ICP2 Method: 6010B
Serial Dil: WG284990-02 File ID: P2.101608.210433 Dil: 5 Units: mg/L
Sample: L08100272-07 File ID: P2.101608.205204 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	4.97		5.2		4.63	
Beryllium	ND	U	ND	U		
Calcium	5.48		5.55		1.28	
Cobalt	ND	U	ND	U		
Iron	2.69		2.825		5.02	
Magnesium	.441	F	ND	U		
Potassium	.604	F	ND	U		
Sodium	31.5		32.9		4.44	
Vanadium	ND	U	ND	U		
Zinc	.00804	F	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 50 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 1224415

10/17/2008 09:09



Sample Login ID: L08100416
Instrument ID: PE-ICP2
Post Spike ID: WG284990-01
Sample ID: L08100272-07

Worknum: WG284990
Method: 6010B
Units: mg/L
Matrix: Water
File ID: P2.101608.205818 Dil: 1
File ID: P2.101608.205204 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	9.65		4.97		5	103.4	75 - 125	
BERYLLIUM	0.0254		0	U	.025	101.7	75 - 125	
CALCIUM	10.3		5.48		5	106.4	75 - 125	
COBALT	0.106		0	U	.1	105.6	75 - 125	
IRON	4.48		2.69		2	102.8	75 - 125	
MAGNESIUM	5.40		0.441	F	5	100.0	75 - 125	
POTASSIUM	26.5		0.604	F	25	104.0	75 - 125	
SODIUM	54.4		31.5		25	104.3	75 - 125	
VANADIUM	0.520		0	U	.5	104.1	75 - 125	
ZINC	0.531		0.00804	F	.5	104.7	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

Microbac Laboratories Inc.
Initial Calibration Summary

00090207

Login:	<u>L08100416</u>	Workgroup (AAB#):	<u>WG284990</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG285233</u>	Initial Calibration Date:	<u>16-OCT-2008 14:35</u>

	WG285233-01		WG285233-02		WG285233-03		WG285233-04		WG285233-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	-50.4	.1	733	.2	1380	10	62800	20	127000	.999991	
BERYLLIUM	0	-858	.0005	186	.001	371	.05	17900	.1	35100	.999946	
CALCIUM	0	-65.7	.1	2.86	.2	17.3	10	1050	20	2120	.999989	
COBALT	0	-48.6	.002	44.1	.004	88.8	.1	4010	.4	7900	.999974	
IRON	0	-1.19	.04	37.9	.08	69.4	4	3400	8	6860	.999991	
MAGNESIUM	0	26.6	.1	52.9	.2	98.8	10	4740	20	9650	.999958	
POTASSIUM	0	-550	.5	1220	1	2440	50	117000	100	235000	1	
SODIUM	0	94.6	.5	1080	1	2120	50	98600	100	197000	1	
VANADIUM	0	4930	.01	841	.02	1620	1	76700	2	151000	.999962	
ZINC	0	-0.776	.01	85.4	.02	158	1	7680	2	15000	.999932	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

00090208

Login:	<u>L08100416</u>	Workgroup (AAB#):	<u>WG284990</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG285322</u>	Initial Calibration Date:	<u>17-OCT-2008 09:23</u>

	WG285322-01		WG285322-02		WG285322-03		WG285322-04		WG285322-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	-58.2	.1	782	.2	1420	10	63100	20	126000	.999999	
BERYLLIUM	0	-888	.0005	204	.001	418	.05	17600	.1	35900	.999959	
CALCIUM	0	-71.1	.1	11.0	.2	16.6	10	1040	20	2160	.999873	
COBALT	0	-49.8	.002	41.7	.004	86.0	.1	3950	.4	8040	.999964	
IRON	0	-0.790	.04	32.8	.08	61.7	4	3130	8	6200	.999985	
MAGNESIUM	0	18.4	.1	47.4	.2	90.2	10	4380	20	8710	.999995	
POTASSIUM	0	-539	.5	1280	1	2510	50	118000	100	238000	1	
SODIUM	0	119	.5	1120	1	2170	50	99500	100	197000	1	
VANADIUM	0	4800	.01	798	.02	1550	1	74700	2	154000	.999905	
ZINC	0	-1.02	.01	80.7	.02	159	1	7440	2	15300	.999923	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

00090209

Login:	<u>L08100416</u>	Workgroup (AAB#):	<u>WG284990</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG285578</u>	Initial Calibration Date:	<u>21-OCT-2008 09:53</u>

	WG285578-01		WG285578-02		WG285578-03		WG285578-04		WG285578-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	43.7	.1	623	.2	1270	10	58600	20	118000	.999993	
BERYLLIUM	0	-857	.0005	150	.001	339	.05	15600	.1	32200	.999895	
CALCIUM	0	-64.7	.1	9.52	.2	18.2	10	916	20	1890	.999875	
COBALT	0	-42.6	.002	33.1	.004	68.2	.1	3400	.4	6950	.999945	
IRON	0	3.78	.04	36.6	.08	71.2	4	3460	8	7150	.999881	
MAGNESIUM	0	14.1	.1	57.9	.2	108	10	5090	20	10500	.999903	
POTASSIUM	0	-340	.5	1110	1	2130	50	103000	100	207000	1	
SODIUM	0	300	.5	984	1	1900	50	88700	100	177000	1	
VANADIUM	0	4550	.01	710	.02	1280	1	65800	2	136000	.999866	
ZINC	0	17.1	.01	70.1	.02	128	1	6280	2	12800	.999961	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-07
Instrument ID: PE-ICP2 Run Time: 14:47 Method: 6010
File ID: P2.101608.144701 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP2 - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.0005	.002	.0005	U
CALCIUM	.1	.2	.1	U
COBALT	.0025	.005	.0025	U
IRON	.025	.1	.025	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.25	1	.25	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.005	.02	.005	U

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-07
Instrument ID: PE-ICP2 Run Time: 09:35 Method: 6010
File ID: P2.101708.093513 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP2 - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.0005	.002	.0005	U
CALCIUM	.1	.2	.1	U
COBALT	.0025	.005	.0025	U
IRON	.025	.1	.025	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.25	1	.25	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.005	.02	.005	U

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-07
Instrument ID: PE-ICP2 Run Time: 10:05 Method: 6010
File ID: P2.102108.100500 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP2 - 21-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.0005	.002	.0005	U
CALCIUM	.1	.2	.1	U
COBALT	.0025	.005	.0025	U
IRON	.025	.1	.025	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.25	1	.25	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.005	.02	.005	U

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-11
Instrument ID: PE-ICP2 Run Time: 15:09 Method: 6010B
File ID: P2.101608.150957 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-17
Instrument ID: PE-ICP2 Run Time: 19:06 Method: 6010B
File ID: P2.101608.190604 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-19
Instrument ID: PE-ICP2 Run Time: 20:20 Method: 6010B
File ID: P2.101608.202058 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-21
Instrument ID: PE-ICP2 Run Time: 21:35 Method: 6010B
File ID: P2.101608.213545 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-23
Instrument ID: PE-ICP2 Run Time: 22:50 Method: 6010B
File ID: P2.101608.225054 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285233-25
Instrument ID: PE-ICP2 Run Time: 00:06 Method: 6010B
File ID: P2.101708.000613 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-11
Instrument ID: PE-ICP2 Run Time: 09:58 Method: 6010B
File ID: P2.101708.095833 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-23
Instrument ID: PE-ICP2 Run Time: 17:30 Method: 6010B
File ID: P2.101708.173045 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-25
Instrument ID: PE-ICP2 Run Time: 18:45 Method: 6010B
File ID: P2.101708.184552 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.106	F
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-11
Instrument ID: PE-ICP2 Run Time: 10:28 Method: 6010B
File ID: P2.102108.102815 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00556	F
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-13
Instrument ID: PE-ICP2 Run Time: 11:46 Method: 6010B
File ID: P2.102108.114656 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-15
Instrument ID: PE-ICP2 Run Time: 12:38 Method: 6010B
File ID: P2.102108.123848 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.000500	0.00200	0.000500	U
Calcium	0.100	0.200	0.100	U
Cobalt	0.00250	0.00500	0.00250	U
Iron	0.0250	0.100	0.0250	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.250	1.00	0.250	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00715	F
Zinc	0.00500	0.0200	0.00500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-06
 Instrument ID: PE-ICP2 Run Time: 14:40 Method: 6010B
 File ID: P2.101608.144047 Analyst: JYH Units: mg/L
 Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	9.96	99.6	90 - 110	
Beryllium	.05	0.0508	102	90 - 110	
Calcium	10	10.6	106	90 - 110	
Cobalt	.2	0.203	102	90 - 110	
Iron	4	4.01	100	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Potassium	50	50.7	101	90 - 110	
Sodium	50	51.0	102	90 - 110	
Vanadium	1	1.00	100	90 - 110	
Zinc	1	1.01	101	90 - 110	

* Exceeds LIMITS Limit

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-06
 Instrument ID: PE-ICP2 Run Time: 09:28 Method: 6010B
 File ID: P2.101708.092855 Analyst: JYH Units: mg/L
 Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Beryllium	.05	0.0514	103	90 - 110	
Calcium	10	10.7	107	90 - 110	
Cobalt	.2	0.205	103	90 - 110	
Iron	4	4.11	103	90 - 110	
Magnesium	10	10.3	103	90 - 110	
Potassium	50	51.4	103	90 - 110	
Sodium	50	51.5	103	90 - 110	
Vanadium	1	1.01	101	90 - 110	
Zinc	1	1.02	102	90 - 110	

* Exceeds LIMITS Limit

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-06
 Instrument ID: PE-ICP2 Run Time: 09:58 Method: 6010B
 File ID: P2.102108.095840 Analyst: JYH Units: mg/L
 Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.2	102	90 - 110	
Beryllium	.05	0.0519	104	90 - 110	
Calcium	10	10.7	107	90 - 110	
Cobalt	.2	0.210	105	90 - 110	
Iron	4	4.11	103	90 - 110	
Magnesium	10	10.4	104	90 - 110	
Potassium	50	51.7	103	90 - 110	
Sodium	50	51.9	104	90 - 110	
Vanadium	1	1.03	103	90 - 110	
Zinc	1	1.05	105	90 - 110	

* Exceeds LIMITS Limit

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-10
Instrument ID: PE-ICP2 Run Time: 15:03 Method: 6010B
File ID: P2.101608.150343 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.84	mg/L	98.4	90 - 110		
Beryllium		0.0500	0.0504	mg/L	101	90 - 110		
Calcium		10.0	10.4	mg/L	104	90 - 110		
Cobalt		0.200	0.203	mg/L	101	90 - 110		
Iron		4.00	3.95	mg/L	98.9	90 - 110		
Magnesium		10.0	9.96	mg/L	99.6	90 - 110		
Potassium		50.0	49.9	mg/L	99.8	90 - 110		
Sodium		50.0	50.4	mg/L	101	90 - 110		
Vanadium		1.00	0.993	mg/L	99.3	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-16
Instrument ID: PE-ICP2 Run Time: 18:59 Method: 6010B
File ID: P2.101608.185950 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0513	mg/L	103	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Cobalt		0.200	0.207	mg/L	103	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Potassium		50.0	51.6	mg/L	103	90 - 110		
Sodium		50.0	51.8	mg/L	104	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-18
Instrument ID: PE-ICP2 Run Time: 20:14 Method: 6010B
File ID: P2.101608.201444 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0518	mg/L	104	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Cobalt		0.200	0.210	mg/L	105	90 - 110		
Iron		4.00	4.02	mg/L	101	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Potassium		50.0	51.7	mg/L	103	90 - 110		
Sodium		50.0	51.6	mg/L	103	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.06	mg/L	106	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-20
Instrument ID: PE-ICP2 Run Time: 21:29 Method: 6010B
File ID: P2.101608.212931 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0520	mg/L	104	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Cobalt		0.200	0.211	mg/L	106	90 - 110		
Iron		4.00	4.08	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	51.9	mg/L	104	90 - 110		
Sodium		50.0	51.7	mg/L	103	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.05	mg/L	105	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-22
Instrument ID: PE-ICP2 Run Time: 22:44 Method: 6010B
File ID: P2.101608.224440 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.2	mg/L	102	90 - 110	
Beryllium	0.0500	0.0519	mg/L	104	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Cobalt	0.200	0.211	mg/L	106	90 - 110	
Iron	4.00	4.06	mg/L	101	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Potassium	50.0	52.1	mg/L	104	90 - 110	
Sodium	50.0	51.8	mg/L	104	90 - 110	
Vanadium	1.00	1.05	mg/L	105	90 - 110	
Zinc	1.00	1.05	mg/L	105	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285233-24
Instrument ID: PE-ICP2 Run Time: 23:59 Method: 6010B
File ID: P2.101608.235959 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 16-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.1	mg/L	101	90 - 110	
Beryllium	0.0500	0.0519	mg/L	104	90 - 110	
Calcium	10.0	10.7	mg/L	107	90 - 110	
Cobalt	0.200	0.209	mg/L	105	90 - 110	
Iron	4.00	4.04	mg/L	101	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Potassium	50.0	51.9	mg/L	104	90 - 110	
Sodium	50.0	51.4	mg/L	103	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.05	mg/L	105	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-10
Instrument ID: PE-ICP2 Run Time: 09:52 Method: 6010B
File ID: P2.101708.095213 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.91	mg/L	99.1	90 - 110		
Beryllium		0.0500	0.0511	mg/L	102	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Cobalt		0.200	0.206	mg/L	103	90 - 110		
Iron		4.00	4.02	mg/L	100	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	50.3	mg/L	101	90 - 110		
Sodium		50.0	50.1	mg/L	100	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-22
Instrument ID: PE-ICP2 Run Time: 17:24 Method: 6010B
File ID: P2.101708.172427 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.91	mg/L	99.1	90 - 110	
Beryllium	0.0500	0.0500	mg/L	100	90 - 110	
Calcium	10.0	10.4	mg/L	104	90 - 110	
Cobalt	0.200	0.203	mg/L	102	90 - 110	
Iron	4.00	3.94	mg/L	98.4	90 - 110	
Magnesium	10.0	9.87	mg/L	98.7	90 - 110	
Potassium	50.0	50.0	mg/L	100	90 - 110	
Sodium	50.0	50.5	mg/L	101	90 - 110	
Vanadium	1.00	0.988	mg/L	98.8	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285322-24
Instrument ID: PE-ICP2 Run Time: 18:39 Method: 6010B
File ID: P2.101708.183931 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 17-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0524	mg/L	105	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Cobalt		0.200	0.210	mg/L	105	90 - 110		
Iron		4.00	3.98	mg/L	99.5	90 - 110		
Magnesium		10.0	9.94	mg/L	99.4	90 - 110		
Potassium		50.0	50.8	mg/L	102	90 - 110		
Sodium		50.0	51.2	mg/L	102	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.05	mg/L	105	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-10
Instrument ID: PE-ICP2 Run Time: 10:21 Method: 6010B
File ID: P2.102108.102157 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.2	mg/L	102	90 - 110	
Beryllium	0.0500	0.0518	mg/L	104	90 - 110	
Calcium	10.0	10.7	mg/L	107	90 - 110	
Cobalt	0.200	0.209	mg/L	105	90 - 110	
Iron	4.00	4.11	mg/L	103	90 - 110	
Magnesium	10.0	10.4	mg/L	104	90 - 110	
Potassium	50.0	51.6	mg/L	103	90 - 110	
Sodium	50.0	51.6	mg/L	103	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.05	mg/L	105	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-12
Instrument ID: PE-ICP2 Run Time: 11:40 Method: 6010B
File ID: P2.102108.114036 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.0	mg/L	100	90 - 110	
Beryllium	0.0500	0.0501	mg/L	100	90 - 110	
Calcium	10.0	10.4	mg/L	104	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Potassium	50.0	50.9	mg/L	102	90 - 110	
Sodium	50.0	50.7	mg/L	101	90 - 110	
Vanadium	1.00	0.991	mg/L	99.1	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/21/2008 Sample ID: WG285578-14
Instrument ID: PE-ICP2 Run Time: 12:32 Method: 6010B
File ID: P2.102108.123227 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG284990 Cal ID: PE-ICP - 21-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.0	mg/L	100	90 - 110	
Beryllium	0.0500	0.0502	mg/L	100	90 - 110	
Calcium	10.0	10.4	mg/L	104	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Iron	4.00	4.04	mg/L	101	90 - 110	
Magnesium	10.0	10.2	mg/L	102	90 - 110	
Potassium	50.0	50.9	mg/L	102	90 - 110	
Sodium	50.0	50.8	mg/L	102	90 - 110	
Vanadium	1.00	0.995	mg/L	99.5	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria

Login number: L08100416
Instrument ID: PE-ICP2
Sol. A : WG285233-08
Sol. AB : WG285233-09

File ID: P2.101608.145312
File ID: P2.101608.145827

Workgroup (AAB#): WG284990
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	235	94.0	250	251	100	
Beryllium	NS	0.0000100	NS	0.250	0.259	104	
Calcium	250	258	103	250	280	112	
Cobalt	NS	-0.000870	NS	0.250	0.243	97.2	
Iron	100	91.7	91.7	100	97.2	97.2	
Magnesium	250	235	94.0	250	249	99.6	
Potassium	NS	-0.0121	NS	5.00	5.14	103	
Sodium	NS	-0.0200	NS	5.00	5.26	105	
Vanadium	NS	-0.000140	NS	0.250	0.267	107	
Zinc	NS	-0.000270	NS	0.500	0.467	93.4	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login number: L08100416
Instrument ID: PE-ICP2
Sol. A : WG285322-08
Sol. AB : WG285322-09

File ID: P2.101708.094129
File ID: P2.101708.094651

Workgroup (AAB#): WG284990
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	234	93.6	250	253	101	
Beryllium	NS	-0.0000300	NS	0.250	0.252	101	
Calcium	250	252	101	250	267	107	
Cobalt	NS	0.000340	NS	0.250	0.238	95.2	
Iron	100	90.7	90.7	100	98.1	98.1	
Magnesium	250	234	93.6	250	253	101	
Potassium	NS	-0.0341	NS	5.00	5.10	102	
Sodium	NS	-0.0396	NS	5.00	5.11	102	
Vanadium	NS	0.00666	NS	0.250	0.265	106	
Zinc	NS	0.00517	NS	0.500	0.462	92.4	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login number: L08100416
Instrument ID: PE-ICP2
Sol. A : WG285578-08
Sol. AB : WG285578-09

File ID: P2.102108.101117
File ID: P2.102108.101637

Workgroup (AAB#): WG284990
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	233	93.2	250	247	98.8	
Beryllium	NS	-0.000490	NS	0.250	0.258	103	
Calcium	250	254	102	250	281	112	
Cobalt	NS	0.000420	NS	0.250	0.243	97.2	
Iron	100	89.7	89.7	100	97.8	97.8	
Magnesium	250	232	92.8	250	252	101	
Potassium	NS	-0.0173	NS	5.00	5.15	103	
Sodium	NS	-0.0314	NS	5.00	5.24	105	
Vanadium	NS	-0.00250	NS	0.250	0.265	106	
Zinc	NS	0.00510	NS	0.500	0.481	96.2	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login Number: L08100416
Instrument ID: PE-ICP2

Date: 01/16/2008
Method: 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.206	0	0
ANTIMONY	206.84	0	0	-0.740	0	0
ARSENIC	188.98	0	0.0499	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	-0.000200	0.0000100	0	0
CALCIUM	227.55	0	-0.370	0.0414	0	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	-0.0647
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	0	-0.104	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-0.185	0	-0.231	-0.0949	-0.230
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.0669	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0.200	0	-0.190
ZINC	206.20	0	0	0	0	0

Login Number: L08100416
Instrument ID: PE-ICP2

Date: 01/16/2008
Method: 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	0.274	0	0	0
ANTIMONY	206.84	0	0	0	0	19.8
ARSENIC	188.98	0	-0.00673	-0.0875	0	-3.78
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	-0.0105
BORON	249.68	0	0.0238	50.1	3.51	1.50
CADMIUM	228.80	0	0	0	-8.00	0
CALCIUM	227.55	0	0	0	174	-21.8
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	0.436
COPPER	327.39	0	-0.0137	0	0.380	-0.0467
IRON	239.56	0	0.0227	0	1.91	0.331
LEAD	220.35	0	-0.0188	0	0.666	-0.0700
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.638	0	0	0
MANGANESE	257.61	-1.04	-0.00790	-0.755	-0.0418	-0.110
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	1.20	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.117	0	-0.382	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	-0.0100	0	6.00	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.0233	0	0	0.297
VANADIUM	290.88	0	0.00100	0	0	0
ZINC	206.20	0	0.000000100	0	0	-5.00

Login Number: L08100416
Instrument ID: PE-ICP2

Date: 01/16/2008
Method: 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	0.108	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	-0.130	0	0	0
BARIUM	233.53	0	0.0211	0	0	0
BERYLLIUM	234.86	0	0.163	0	0	0
BORON	249.68	0	-4.02	0	0	0
CADMIUM	228.80	0	-0.00172	0	0	0
CALCIUM	227.55	-2.44	-8.15	0	0	0.104
CHROMIUM	267.72	0	-0.0180	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	-0.0128	0	0	0
IRON	239.56	0	0	0	0	0.0276
LEAD	220.35	0.341	0.0593	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.174	0	0	0
MANGANESE	257.61	-0.0457	-0.0659	-0.0181	-0.794	0.0147
MOLYBDENUM	202.03	0	-0.0342	0	11.9	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	3.00	0	0	0
SELENIUM	196.03	0	-0.700	0	0	-0.0113
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0.0717	-0.0248	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0.00120	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	-0.100	0	0	-0.0400
ZINC	206.20	-0.200	0.117	0	0	0

Login Number: L08100416
Instrument ID: PE-ICP2

Date: 01/16/2008
Method: 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	51.0	0	0	0
ANTIMONY	206.84	0	-17.4	0	0	0
ARSENIC	188.98	0	3.15	0	0	0
BARIUM	233.53	0	-0.740	0	0	0
BERYLLIUM	234.86	-0.131	-0.545	0	-0.00974	0
BORON	249.68	0	-2.08	0	0	0
CADMIUM	228.80	0	0	0	-0.0990	0
CALCIUM	227.55	0	-25.0	0	-1100	0
CHROMIUM	267.72	0.800	-0.00100	0	0	0
COBALT	228.62	0	-0.668	0	0.129	0
COPPER	327.39	0	-0.519	0	-0.0905	-0.0630
IRON	239.56	-1.38	0	0	0	0
LEAD	220.35	0.260	-2.35	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-5.58	0	0	0.0252
MANGANESE	257.61	0	-0.0482	-0.00916	-0.0340	-0.0413
MOLYBDENUM	202.03	-0.209	0	0	0.134	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	1.00	0	0
SELENIUM	196.03	1.11	0.199	0	-0.202	0
SILICON	251.61	0	12.9	0	0	0
SILVER	328.07	0.130	0.0781	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	-0.00100	1.20	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.578	0	0	0
ZINC	206.20	0	3.00	0	-0.200	-0.100

Login Number: L08100416
Instrument ID: PE-ICP2

Date: 01/16/2008
Method: 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	-7.64	0
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	2.79	0	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	-0.0100	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-0.0924	0	0	0
MANGANESE	257.61	-0.0505	-0.0281	-0.185	-0.0445	-0.625
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	-0.0500	-0.0100	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0.200
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	-0.300	0	0	0	0

Login Number: L08100416
Instrument ID: PE-ICP2

Date: 01/16/2008
Method: 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	0	0	0
ANTIMONY	206.84	0	0	-3.59	0
ARSENIC	188.98	0	0	0.0930	0
BARIUM	233.53	0	0	-2.27	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0.0940	0
CALCIUM	227.55	0	0	11.3	0
CHROMIUM	267.72	0	0	-0.300	-0.0400
COBALT	228.62	2.07	0	0	0
COPPER	327.39	-1.79	0	-0.842	-0.0613
IRON	239.56	0	0	0	0
LEAD	220.35	-0.750	0	-0.150	0
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	-0.0280	0
MANGANESE	257.61	-0.227	-0.0414	-0.0601	-0.0553
MOLYBDENUM	202.03	0	0	-0.288	0
NICKEL	231.60	0	0.150	0	0
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	0	0	0.593	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	-6.38	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	-4.00	0	0	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	0	0	0
VANADIUM	290.88	0	0	0	0
ZINC	206.20	0	0	-0.100	0

Login Number: L08100416

Date: 09/11/2008

Instrument ID: PE-ICP2

Method: 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	36.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	1.8
Boron	10.00	18.0
Cadmium	10.00	2.7
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	450.0
Lead	10.00	90.0
Lithium	10.00	1.6
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	72.0
Selenium	10.00	45.0
Silicon	10.00	9.0
Silver	10.00	9.0
Sodium	10.00	180.0
Strontium	10.00	4.5
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	45.0
Vanadium	10.00	45.0
Zinc	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

2.2.2 Metals ICP-MS Data

2.2.2.1 Summary Data

LABORATORY REPORT

00090252

L08100416

10/29/08 15:56

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
49WW03-100808	L08100416-07	6020	20	14-OCT-08
49WW03-100808	L08100416-07	6020	1	14-OCT-08



Report Number: **L08100416**Report Date : **October 29, 2008**

00090253

Sample Number: **L08100416-07**
Client ID: **49WW03-100808**
Matrix: **Water**
Workgroup Number: **WG285146**
Collect Date: **10/08/2008 12:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **20**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **10/16/2008 11:23**
Cal Date: **10/20/2008 11:50**
Run Date: **10/20/2008 16:17**
File ID: **EL.102008.161736**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Manganese, Total	7439-96-5	2.62		0.0400	0.0100
Nickel, Total	7440-02-0	0.964	B	0.0800	0.0200

B Analyte present in method blank

Report Number: **L08100416**Report Date : **October 29, 2008**

00090254

Sample Number: **L08100416-07**
 Client ID: **49WW03-100808**
 Matrix: **Water**
 Workgroup Number: **WG285146**
 Collect Date: **10/08/2008 12:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **3015**
 Analytical Method: **6020**
 Analyst: **JYH**
 Dilution: **1**
 Units: **mg/L**

Instrument: **ELAN-ICP**
 Prep Date: **10/16/2008 11:23**
 Cal Date: **10/16/2008 11:18**
 Run Date: **10/16/2008 17:24**
 File ID: **EL.101608.172443**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Silver, Total	7440-22-4		U	0.00100	0.000250
Arsenic, Total	7440-38-2	0.00823		0.00100	0.000250
Barium, Total	7440-39-3	0.0709		0.00300	0.000500
Cadmium, Total	7440-43-9	0.00100		0.000500	0.000125
Chromium, Total	7440-47-3	0.207		0.00200	0.000500
Copper, Total	7440-50-8	0.00814		0.00200	0.000500
Lead, Total	7439-92-1	0.000295	J	0.000500	0.000250
Antimony, Total	7440-36-0		U	0.00100	0.000250
Selenium, Total	7782-49-2	0.0348		0.00100	0.000500
Thallium, Total	7440-28-0	0.000223		0.000200	0.0000500

J The analyte was positively identified, but the quantitation was below the RL

U Not detected at or above adjusted sample detection limit

2.2.2.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer ELAN 6100

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer ELAN ICP/MS

STANDARDS KEY

QC Std 1 - ICV

QC Std 2 - ICB

QC Std 3 - CRI - Soil

QC Std 4 - CRI - Water

QC Std 5 - ICSA

QC Std 6 - ICSAB

QC Std 7 - CCV

QC Std 8 - CCB

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.0004	0.05	0.1
Sb	10	0	0.0004	0.05	0.1
As	10	0	0.0004	0.05	0.1
Ba	10	0	0.0004	0.05	0.1
Be	10	0	0.0004	0.05	0.1
Ca	1000	0	0.04	5	10
Cd	10	0	0.0004	0.05	0.1
Cr	10	0	0.0004	0.05	0.1
Co	10	0	0.0004	0.05	0.1
Cu	10	0	0.0004	0.05	0.1
Fe	1000	0	0.04	5	10
Pb	10	0	0.0004	0.05	0.1
Mg	1000	0	0.04	5	10
Mn	10	0	0.0004	0.05	0.1
Ni	10	0	0.0004	0.05	0.1
K	1000	0	0.04	5	10
Se	10	0	0.0004	0.05	0.1
Ag	10	0	0.0004	0.05	0.1
Na	1000	0	0.04	5	10
Tl	10	0	0.0004	0.05	0.1
V	10	0	0.0004	0.05	0.1
Zn	10	0	0.0004	0.05	0.1

Workgroup: WG285126

Analyst: VC

Run Date: 10/16/2008 11:23

Method: 3015

SOP: ME407 Revision 10

Spike Solution: STD27101

Spike Witness: SDL

HN03 Lot #: COA13347

Digest tubes Lot #: COA13407

SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
WG285126-02	BLANK	1	40 mL	100 mL	206.061 g	206.06 g		
WG285014-01	FBLK	18	40 mL	100 mL	206.735 g	206.726 g		
WG285126-03	LCS	1	40 mL	100 mL	209.028 g	209.022 g	.25 mL	
L08100229-19	SAMP	18	40 mL	100 mL	206.939 g	206.935 g		10/17/08
L08100360-03	SAMP	18	40 mL	100 mL	206.362 g	206.335 g		10/24/08
L08100360-05	RS02	18	40 mL	100 mL	206.567 g	206.566 g		10/24/08
L08100360-13	SAMP	18	40 mL	100 mL	205.011 g	205.009 g		10/24/08
WG285126-01	REF	18	40 mL	100 mL	206.215 g	206.215 g		
L08100360-15	RS03	18	40 mL	100 mL	206.215 g	206.215 g		10/24/08
WG285126-04	MS	18	40 mL	100 mL	207.296 g	207.305 g	.25 mL	
L08100360-16	MS03	18	40 mL	100 mL	207.296 g	207.305 g	.25 mL	10/24/08
WG285126-05	MSD	18	40 mL	100 mL	205.999 g	206.004 g	.25 mL	
L08100360-17	SD03	18	40 mL	100 mL	205.999 g	206.004 g	.25 mL	10/24/08
L08100360-19	SAMP	18	40 mL	100 mL	205.544 g	205.54 g		10/24/08
L08100360-21	SAMP	18	40 mL	100 mL	206.025 g	206.024 g		10/24/08
L08100416-07	SAMP	1	40 mL	100 mL	206.181 g	206.171 g		10/21/08
L08100419-04	SAMP	1	40 mL	100 mL	206.288 g	206.28 g		10/28/08
L08100435-16	SAMP	1	40 mL	100 mL	205.786 g	205.781 g		10/24/08
L08100439-01	SAMP	1	40 mL	100 mL	206.192 g	206.188 g		10/29/08
L08100439-02	SAMP	1	40 mL	100 mL	207.279 g	207.285 g		10/29/08
L08100439-03	SAMP	1	40 mL	100 mL	206.475 g	206.463 g		10/29/08
L08100439-04	SAMP	1	40 mL	100 mL	204.896 g	204.897 g		10/29/08
L08100439-05	SAMP	1	40 mL	100 mL	206.642 g	206.63 g		10/29/08
L08100439-06	SAMP	1	40 mL	100 mL	207.003 g	207.001 g		10/29/08
L08100457-13	SAMP	1	40 mL	100 mL	205.865 g	205.79 g		10/29/08

Analyst: Vicki Collier

Reviewer: Shelly Dent

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 101608B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD28972 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300
 Workgroups: 284895,285031,285146,285034,285032

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	EL.101608.105531	Blank	Blank		1		10/16/08 10:55
2	EL.101608.110111	WG285219-01	Calibration Point		1		10/16/08 11:01
3	EL.101608.110651	WG285219-02	Calibration Point		1		10/16/08 11:06
4	EL.101608.111232	WG285219-03	Calibration Point		1		10/16/08 11:12
5	EL.101608.111814	WG285219-04	Calibration Point		1		10/16/08 11:18
6	EL.101608.112356	WG285219-05	Initial Calibration Verification		1		10/16/08 11:23
7	EL.101608.112937	WG285219-06	Initial Calib Blank		1		10/16/08 11:29
8	EL.101608.113520	WG285219-07	CRQL Check Solid		1		10/16/08 11:35
9	EL.101608.114106	WG285219-08	CRQL Check Water		1		10/16/08 11:41
10	EL.101608.114651	WG285219-09	Interference Check		1		10/16/08 11:46
11	EL.101608.115235	WG285219-10	Interference Check		1		10/16/08 11:52
12	EL.101608.115818	WG285219-11	CCV		1		10/16/08 11:58
13	EL.101608.120400	WG285219-12	CCB		1		10/16/08 12:04
14	EL.101608.120920	WG283922-02	Method/Prep Blank	.5/200	1		10/16/08 12:09
15	EL.101608.121441	WG283922-03	Laboratory Control S	.5/200	1		10/16/08 12:14
16	EL.101608.122003	WG283922-01	Reference Sample		1	L08100059-07	10/16/08 12:20
17	EL.101608.122525	WG283922-04	Matrix Spike	.5/200	1	L08100059-07	10/16/08 12:25
18	EL.101608.123047	WG283922-05	Matrix Spike Duplica	.5/200	1	L08100059-07	10/16/08 12:30
19	EL.101608.123610	L08100059-08	B13SB1415-093008	.518/200	1		10/16/08 12:36
20	EL.101608.124133	WG284895-01	Post Digestion Spike		1	L08100059-08	10/16/08 12:41
21	EL.101608.124656	WG284895-02	Serial Dilution		1	L08100059-08	10/16/08 12:46
22	EL.101608.125220	L08100059-10	B05SB0002-093008	.505/200	1		10/16/08 12:52
23	EL.101608.125744	L08100059-11	B05SB1213-093008	.5/200	1		10/16/08 12:57
24	EL.101608.130327	WG285219-13	CCV		1		10/16/08 13:03
25	EL.101608.130909	WG285219-14	CCB		1		10/16/08 13:09
26	EL.101608.131431	L08100059-12	B03SB0002-093008	.501/200	1		10/16/08 13:14
27	EL.101608.131955	L08100059-13	FD02-093008	.5/200	1		10/16/08 13:19
28	EL.101608.132516	L08100059-14	B03SB0404-093008	.502/200	1	WG283796-01	10/16/08 13:25
29	EL.101608.133038	WG283922-01	Reference Sample		20	L08100059-07	10/16/08 13:30
30	EL.101608.133601	WG283922-04	Matrix Spike	.5/200	20	L08100059-07	10/16/08 13:36
31	EL.101608.134124	WG283922-05	Matrix Spike Duplica	.5/200	20	L08100059-07	10/16/08 13:41
32	EL.101608.134647	L08100059-08	B13SB1415-093008	.518/200	20		10/16/08 13:46
33	EL.101608.135210	WG284895-01	Post Digestion Spike		20	L08100059-08	10/16/08 13:52
34	EL.101608.135734	WG284895-02	Serial Dilution		100	L08100059-08	10/16/08 13:57
35	EL.101608.140258	L08100059-10	B05SB0002-093008	.505/200	20		10/16/08 14:02
36	EL.101608.140842	WG285219-15	CCV		1		10/16/08 14:08
37	EL.101608.141423	WG285219-16	CCB		1		10/16/08 14:14

Page: 1 Approved: October 17, 2008

Maren Beery



Microbac Laboratories Inc.
Instrument Run Log

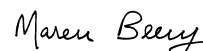
Instrument: ELAN-ICP Dataset: 101608B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD28972 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300
 Workgroups: 284895,285031,285146,285034,285032

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	EL.101608.141945	L08100059-11	B05SB1213-093008	.5/200	20		10/16/08 14:19
39	EL.101608.142509	L08100059-12	B03SB0002-093008	.501/200	20		10/16/08 14:25
40	EL.101608.143034	L08100059-13	FD02-093008	.5/200	20		10/16/08 14:30
41	EL.101608.143557	L08100059-14	B03SB0404-093008	.502/200	20	WG283796-01	10/16/08 14:35
42	EL.101608.144120	WG284937-02	Method/Prep Blank	.5/200	1		10/16/08 14:41
43	EL.101608.144643	WG284937-03	Laboratory Control S	.5/200	1		10/16/08 14:46
44	EL.101608.145206	L08100412-01	SMWU1-SP-01	.524/200	5	WG284958-03	10/16/08 14:52
45	EL.101608.145730	WG285031-01	Post Digestion Spike		5	L08100412-01	10/16/08 14:57
46	EL.101608.150254	WG285031-02	Serial Dilution		25	L08100412-01	10/16/08 15:02
47	EL.101608.150818	WG284937-01	Reference Sample		5	L08100419-01	10/16/08 15:08
48	EL.101608.151402	WG285219-17	CCV		1		10/16/08 15:14
49	EL.101608.151944	WG285219-18	CCB		1		10/16/08 15:19
50	EL.101608.152506	WG284937-04	Matrix Spike	.51/200	5	L08100419-01	10/16/08 15:25
51	EL.101608.153031	WG284937-05	Matrix Spike Duplica	.51/200	5	L08100419-01	10/16/08 15:30
52	EL.101608.153555	L08100419-02	P-52SD005 (0.0-0.5)	.5/200	5		10/16/08 15:35
53	EL.101608.154117	L08100419-03	E-GPBSD0026 (0.0-0.5)	.505/200	5		10/16/08 15:41
54	EL.101608.154700	WG285219-19	CCV		1		10/16/08 15:47
55	EL.101608.155244	WG285219-20	CCB		1		10/16/08 15:52
56	EL.101608.155804	WG285126-02	Method/Prep Blank	40/100	1		10/16/08 15:58
57	EL.101608.160326	WG285014-01	Fluid Blank		1		10/16/08 16:03
58	EL.101608.160847	WG285126-03	Laboratory Control S	40/100	1		10/16/08 16:08
59	EL.101608.161409	L08100229-19	AV-NCB-AS-ZNC-RR20-4-6-	40/100	1		10/16/08 16:14
60	EL.101608.161931	L08100360-03	AV-NCB-AS-SAN-RR02-21-2	40/100	1		10/16/08 16:19
61	EL.101608.162454	WG285146-01	Post Digestion Spike		1	L08100360-03	10/16/08 16:24
62	EL.101608.163017	WG285146-02	Serial Dilution		5	L08100360-03	10/16/08 16:30
63	EL.101608.163540	L08100360-05	AV-NCB-AS-SEW-RR11-17-5	40/100	1	WG285145-01	10/16/08 16:35
64	EL.101608.164104	L08100360-13	AV-NCB-AS-SEW-RR11-19-5	40/100	1		10/16/08 16:41
65	EL.101608.164628	WG285146-01	Post Digestion Spike		1	L08100360-03	10/16/08 16:46
66	EL.101608.165211	WG285219-21	CCV		1		10/16/08 16:52
67	EL.101608.165753	WG285219-22	CCB		1		10/16/08 16:57
68	EL.101608.170315	WG285126-04	Matrix Spike	40/100	1	L08100360-15	10/16/08 17:03
69	EL.101608.170838	WG285126-05	Matrix Spike Duplica	40/100	1	L08100360-15	10/16/08 17:08
70	EL.101608.171359	L08100360-19	AV-NCB-AS-VIS-RR09-18-19	40/100	1		10/16/08 17:13
71	EL.101608.171921	L08100360-21	AV-NCB-AS-AC1-RR07-16-3	40/100	1		10/16/08 17:19
72	EL.101608.172443	L08100416-07	49WW03-100808	40/100	1	WG284950-01	10/16/08 17:24
73	EL.101608.173005	L08100419-04	FB001 (101308)	40/100	1		10/16/08 17:30
74	EL.101608.173528	L08100435-16	AV-NCB-AS-EQB	40/100	1		10/16/08 17:35

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 101608B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD28972 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300
 Workgroups: 284895,285031,285146,285034,285032

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	EL.101608.174051	L08100439-01	OW-103	40/100	1		10/16/08 17:40
76	EL.101608.174614	L08100439-02	OW-122	40/100	5		10/16/08 17:46
77	EL.101608.175138	L08100439-03	OW-121	40/100	1		10/16/08 17:51
78	EL.101608.175721	WG285219-23	CCV		1		10/16/08 17:57
79	EL.101608.180303	WG285219-24	CCB		1		10/16/08 18:03
80	EL.101608.180824	L08100439-04	OW-101	40/100	1		10/16/08 18:08
81	EL.101608.181349	L08100439-05	OW-104	40/100	1		10/16/08 18:13
82	EL.101608.181914	L08100439-06	DUP	40/100	1		10/16/08 18:19
83	EL.101608.182437	L08100457-13	FB002 (101408)	40/100	1		10/16/08 18:24
84	EL.101608.182959	L08100059-08	B13SB1415-093008	.518/200	100		10/16/08 18:29
85	EL.101608.183522	WG284895-01	Post Digestion Spike		100	L08100059-08	10/16/08 18:35
86	EL.101608.184045	WG284895-02	Serial Dilution		100	L08100059-08	10/16/08 18:40
87	EL.101608.184608	L08100419-03	E-GPBSD0026 (0.0-0.5)	.505/200	50		10/16/08 18:46
88	EL.101608.185131	WG284846-02	Method/Prep Blank	40/100	1		10/16/08 18:51
89	EL.101608.185654	WG284699-01	Fluid Blank		1		10/16/08 18:56
90	EL.101608.190237	WG285219-25	CCV		1		10/16/08 19:02
91	EL.101608.190818	WG285219-26	CCB		1		10/16/08 19:08
92	EL.101608.191340	WG284846-03	Laboratory Control S	40/100	1		10/16/08 19:13
93	EL.101608.191903	WG284846-01	Reference Sample		1	L08100272-07	10/16/08 19:19
94	EL.101608.192427	WG284846-04	Matrix Spike	40/100	1	L08100272-07	10/16/08 19:24
95	EL.101608.192951	WG284846-05	Matrix Spike Duplica	40/100	1	L08100272-07	10/16/08 19:29
96	EL.101608.193516	L08100272-03	AV-NCB-AS-STO-RR12-17.5	40/100	1		10/16/08 19:35
97	EL.101608.194041	WG285034-01	Post Digestion Spike		1	L08100272-03	10/16/08 19:40
98	EL.101608.194606	WG285034-02	Serial Dilution		5	L08100272-03	10/16/08 19:46
99	EL.101608.195132	L08100272-05	AV-NCB-AS-STO-RR12-19.5	40/100	1		10/16/08 19:51
100	EL.101608.195657	L08100272-13	AV-NCB-AS-VIS-RR10-18.5	40/100	1		10/16/08 19:56
101	EL.101608.200220	L08100272-15	AV-NCB-AS-VIS-RR10-25-D	40/100	1		10/16/08 20:02
102	EL.101608.200803	WG285219-27	CCV		1		10/16/08 20:08
103	EL.101608.201345	WG285219-28	CCB		1		10/16/08 20:13
104	EL.101608.201906	L08100272-17	AV-NCB-AS-AC1-RR08-17-1	40/100	1		10/16/08 20:19
105	EL.101608.202430	L08100272-19	AV-NCB-AS-AC1-RR08-19-1	40/100	1		10/16/08 20:24
106	EL.101608.202954	L08100356-02	8911U	40/100	1		10/16/08 20:29
107	EL.101608.203518	L08100360-22	AV-NCB-AS-AC1-EQB	40/100	1		10/16/08 20:35
108	EL.101608.204043	WG284685-04	Method/Prep Blank	40/100	1		10/16/08 20:40
109	EL.101608.204608	WG284685-05	Laboratory Control S	40/100	1		10/16/08 20:46
110	EL.101608.205133	L08100306-02	LTL-G-MWL11-DIS	40/100	1		10/16/08 20:51
111	EL.101608.205659	WG284685-06	Matrix Spike	40/100	1	L08100306-02	10/16/08 20:56

Maren Beery



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Instrument Run Log

Instrument: ELAN-ICP Dataset: 101608B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD28972 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300
 Workgroups: 284895,285031,285146,285034,285032

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
112	EL.101608.210225	WG284685-07	Matrix Spike Duplica	40/100	1	L08100306-02	10/16/08 21:02
113	EL.101608.210751	L08100306-08	LTL-G-MWL4-DIS	40/100	1		10/16/08 21:07
114	EL.101608.211336	WG285219-29	CCV		1		10/16/08 21:13
115	EL.101608.211917	WG285219-30	CCB		1		10/16/08 21:19
116	EL.101608.212439	L08100306-10	LTL-G-MWL5B-DIS	40/100	1		10/16/08 21:24
117	EL.101608.213002	L08100306-12	LTL-G-MWL5B-DUP-DIS	40/100	1	WG284685-02	10/16/08 21:30
118	EL.101608.213526	WG284685-08	Duplicate	40/100	1	L08100306-12	10/16/08 21:35
119	EL.101608.214050	L08100306-18	LTL-K-EQBLK-3-DIS	40/100	1		10/16/08 21:40
120	EL.101608.214614	L08100307-01	WG-B760-MW10-035	40/100	1		10/16/08 21:46
121	EL.101608.215139	WG285032-01	Post Digestion Spike		1	L08100307-01	10/16/08 21:51
122	EL.101608.215703	WG285032-02	Serial Dilution		5	L08100307-01	10/16/08 21:57
123	EL.101608.220229	L08100307-02	WG-B760-MW13-030	40/100	1		10/16/08 22:02
124	EL.101608.220754	L08100307-03	WG-B760-MW06R-30	40/100	1		10/16/08 22:07
125	EL.101608.221320	L08100307-04	WG-B760-MW07R-30	40/100	1		10/16/08 22:13
126	EL.101608.221905	WG285219-31	CCV		1		10/16/08 22:19
127	EL.101608.222447	WG285219-32	CCB		1		10/16/08 22:24
128	EL.101608.223010	L08100307-05	WG-B760-MW07R-30	40/100	1		10/16/08 22:30
129	EL.101608.223537	L08100307-06	WG-B760-MW12-030	40/100	1		10/16/08 22:35
130	EL.101608.224102	L08100307-07	WG-B760-MW12-031	40/100	1		10/16/08 22:41
131	EL.101608.224625	WG284685-03	Reference Sample		1	L08100307-08	10/16/08 22:46
132	EL.101608.225149	WG284685-09	Matrix Spike	40/100	1	L08100307-08	10/16/08 22:51
133	EL.101608.225713	WG284685-10	Matrix Spike Duplica	40/100	1	L08100307-08	10/16/08 22:57
134	EL.101608.230238	L08100307-11	WG-B760-MW11-030	40/100	1		10/16/08 23:02
135	EL.101608.230803	L08100307-12	WG-B760-MW10-030	40/100	1		10/16/08 23:08
136	EL.101608.231328	L08100307-13	WG-B760-MW09-030	40/100	1		10/16/08 23:13
137	EL.101608.231912	WG285219-33	CCV		1		10/16/08 23:19
138	EL.101608.232454	WG285219-34	CCB		1		10/16/08 23:24

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Instrument Run Log

Instrument: ELAN-ICP Dataset: 102008A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD29323 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300

Workgroups: 285421,285480,285146,285242,285241,285465,285488

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	EL.102008.112809	Blank	Blank		1		10/20/08 11:28
2	EL.102008.113349	WG285517-01	Calibration Point		1		10/20/08 11:33
3	EL.102008.113929	WG285517-02	Calibration Point		1		10/20/08 11:39
4	EL.102008.114510	WG285517-03	Calibration Point		1		10/20/08 11:45
5	EL.102008.115052	WG285517-04	Calibration Point		1		10/20/08 11:50
6	EL.102008.115635	WG285517-05	Initial Calibration Verification		1		10/20/08 11:56
7	EL.102008.120216	WG285517-06	Initial Calib Blank		1		10/20/08 12:02
8	EL.102008.121045	WG285517-07	CRQL Check Solid		1		10/20/08 12:10
9	EL.102008.121631	WG285517-08	CRQL Check Water		1		10/20/08 12:16
10	EL.102008.122216	WG285517-09	Interference Check		1		10/20/08 12:22
11	EL.102008.122759	WG285517-10	Interference Check		1		10/20/08 12:27
12	EL.102008.123343	WG285517-11	CCV		1		10/20/08 12:33
13	EL.102008.123925	WG285517-12	CCB		1		10/20/08 12:39
14	EL.102008.124808	WG285274-02	Method/Prep Blank	40/100	1		10/20/08 12:48
15	EL.102008.125328	WG285274-03	Laboratory Control S	40/100	1		10/20/08 12:53
16	EL.102008.125848	WG285274-04	Laboratory Control S	40/100	1		10/20/08 12:58
17	EL.102008.130409	L08100349-09	SHELLY/ JI 1	40/100	1		10/20/08 13:04
18	EL.102008.130930	L08100349-10	SHELLY/ JI 2	40/100	1		10/20/08 13:09
19	EL.102008.131451	L08100349-11	SHELLY/ JI 3	40/100	1		10/20/08 13:14
20	EL.102008.132013	L08100349-12	SHELLY/ JI 4	40/100	1		10/20/08 13:20
21	EL.102008.132535	L08100005-01	MDL-1	40/100	1		10/20/08 13:25
22	EL.102008.133058	L08100006-01	MDL-1	40/100	1		10/20/08 13:30
23	EL.102008.133641	WG285517-13	CCV		1		10/20/08 13:36
24	EL.102008.134222	WG285517-14	CCB		1		10/20/08 13:42
25	EL.102008.135831	L08100462-01	MW16I-101408	40/100	1		10/20/08 13:58
26	EL.102008.140355	WG285274-01	Reference Sample		1	L08100462-02	10/20/08 14:03
27	EL.102008.140918	WG285274-05	Matrix Spike	40/100	1	L08100462-02	10/20/08 14:09
28	EL.102008.141440	WG285274-06	Matrix Spike Duplica	40/100	1	L08100462-02	10/20/08 14:14
29	EL.102008.142001	L08100462-03	MW16S-101408	40/100	1		10/20/08 14:20
30	EL.102008.142522	WG285421-01	Post Digestion Spike		1	L08100462-03	10/20/08 14:25
31	EL.102008.143043	WG285421-02	Serial Dilution		5	L08100462-03	10/20/08 14:30
32	EL.102008.143625	WG285517-15	CCV		1		10/20/08 14:36
33	EL.102008.144207	WG285517-16	CCB		1		10/20/08 14:42
34	EL.102008.144728	L08100462-04	MW17-101408	40/100	1		10/20/08 14:47
35	EL.102008.145719	WG285477-01	Method/Prep Blank	.5/200	1		10/20/08 14:57
36	EL.102008.150239	WG285477-02	Laboratory Control S	.5/200	1		10/20/08 15:02
37	EL.102008.150800	WG285477-03	Laboratory Control S	.5/200	1		10/20/08 15:08

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 102008A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD29323 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300

Workgroups: 285421,285480,285146,285242,285241,285465,285488

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	EL.102008.151320	L08100349-37	SHELLY/ JI 1	.5/200	1		10/20/08 15:13
39	EL.102008.151841	L08100349-38	SHELLY/ JI 2	.5/200	1		10/20/08 15:18
40	EL.102008.152403	L08100349-39	SHELLY/ JI 3	.5/200	1		10/20/08 15:24
41	EL.102008.152925	L08100349-40	SHELLY/ JI 4	.5/200	1		10/20/08 15:29
42	EL.102008.153447	L08100003-01	MDL-1	.5/200	1		10/20/08 15:34
43	EL.102008.154025	L08100004-01	MDL-1	.5/200	1		10/20/08 15:40
44	EL.102008.154607	WG285517-17	CCV		1		10/20/08 15:46
45	EL.102008.155149	WG285517-18	CCB		1		10/20/08 15:51
46	EL.102008.155808	L08100462-05	MW18-101408	40/100	1		10/20/08 15:58
47	EL.102008.160505	L08100510-19	SPE-K-FBLK-1	40/100	1		10/20/08 16:05
48	EL.102008.161028	L08100510-20	SPE-K-FBLK-2	40/100	1		10/20/08 16:10
49	EL.102008.161736	L08100416-07	49WW03-100808	40/100	20		10/20/08 16:17
50	EL.102008.162259	L08100341-05	MIE-5	.527/200	10		10/20/08 16:22
51	EL.102008.162934	L08100457-02	D-SDBS024 (0-0.5)	.5/200	10		10/20/08 16:29
52	EL.102008.163458	L08100457-03	D-DUP001 (0-0.5)	.519/200	10		10/20/08 16:34
53	EL.102008.164022	L08100457-04	D-SDBS023 (0-0.5)	.501/200	10		10/20/08 16:40
54	EL.102008.164545	WG285060-01	Reference Sample		10	L08100457-08	10/20/08 16:45
55	EL.102008.165106	WG285060-04	Matrix Spike	.5/200	10	L08100457-08	10/20/08 16:51
56	EL.102008.165647	WG285517-19	CCV		1		10/20/08 16:56
57	EL.102008.170229	WG285517-20	CCB		1		10/20/08 17:02
58	EL.102008.170749	WG285060-05	Matrix Spike Duplica	.5/200	10	L08100457-08	10/20/08 17:07
59	EL.102008.171311	WG285391-02	Method/Prep Blank	40/100	1		10/20/08 17:13
60	EL.102008.171833	WG285160-01	Fluid Blank		1		10/20/08 17:18
61	EL.102008.172355	WG285391-03	Laboratory Control S	40/100	1		10/20/08 17:23
62	EL.102008.172918	WG285391-01	Reference Sample		1	L08100435-07	10/20/08 17:29
63	EL.102008.173441	WG285391-04	Matrix Spike	40/100	1	L08100435-07	10/20/08 17:34
64	EL.102008.174004	WG285391-05	Matrix Spike Duplica	40/100	1	L08100435-07	10/20/08 17:40
65	EL.102008.174528	L08100435-03	AV-NCB-AS-NCA-RR13-11-1	40/100	1		10/20/08 17:45
66	EL.102008.175052	WG285465-01	Post Digestion Spike		1	L08100435-03	10/20/08 17:50
67	EL.102008.175616	WG285465-02	Serial Dilution		5	L08100435-03	10/20/08 17:56
68	EL.102008.180200	WG285517-21	CCV		1		10/20/08 18:02
69	EL.102008.180741	WG285517-22	CCB		1		10/20/08 18:07
70	EL.102008.181301	L08100435-13	AV-NCB-AS-MIS-RR15-5-7	40/100	1		10/20/08 18:13
71	EL.102008.181823	L08100435-15	AV-NCB-AS-MIS-RR15-7-9	40/100	1		10/20/08 18:18
72	EL.102008.182344	L08100435-18	AV-NCB-AS-MIS-RR17-2-4-0	40/100	1		10/20/08 18:23
73	EL.102008.182906	L08100435-20	AV-NCB-AS-ZNC-RR19-2-4-0	40/100	1		10/20/08 18:29
74	EL.102008.183429	L08100435-22	AV-NCB-AS-ZNC-RR19-4-6-0	40/100	1		10/20/08 18:34

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 102008A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD29323 Post Spike: STD27580
 ICSA: STD28930 ICSAB: STD29300

Workgroups: 285421,285480,285146,285242,285241,285465,285488

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	EL.102008.183951	L08100435-24	AV-NCB-AS-MIS-RR16-6-5-8	40/100	1		10/20/08 18:39
76	EL.102008.184514	L08100435-26	AV-NCB-AS-MIS-RR16-8-5-1	40/100	1		10/20/08 18:45
77	EL.102008.185038	L08100435-28	AV-NCB-AS-MIS-RR18-2-4-0	40/100	1		10/20/08 18:50
78	EL.102008.185601	L08100435-30	AV-NCB-AS-MIS-RR18-4-6-0	40/100	1		10/20/08 18:56
79	EL.102008.190125	L08100530-01	LH18/24-SP650-6112-GRAB	40/100	1		10/20/08 19:01
80	EL.102008.190709	WG285517-23	CCV		1		10/20/08 19:07
81	EL.102008.191250	WG285517-24	CCB		1		10/20/08 19:12
82	EL.102008.191812	L08100530-02	LH18/24-SP650-6112-GRAB	40/100	1		10/20/08 19:18
83	EL.102008.192337	L08100530-03	LH18/24-SP650-6112-COMP	40/100	1		10/20/08 19:23
84	EL.102008.192900	L08100530-04	LH18/24-SP650-6112-COMP	40/100	1		10/20/08 19:29
85	EL.102008.193422	L08100435-05	AV-NCB-AS-NCA-RR13-5-D	40/100	1		10/20/08 19:34
86	EL.102008.193944	WG285458-02	Method/Prep Blank	40/100	1		10/20/08 19:39
87	EL.102008.194506	WG285458-03	Laboratory Control S	40/100	1		10/20/08 19:45
88	EL.102008.195029	L08100546-01	AS01-1GW05-CM15	40/100	1		10/20/08 19:50
89	EL.102008.195552	WG285488-01	Post Digestion Spike		1	L08100546-01	10/20/08 19:55
90	EL.102008.200115	WG285488-02	Serial Dilution		5	L08100546-01	10/20/08 20:01
91	EL.102008.200639	L08100546-02	AS01-1GW38-CM15	40/100	1		10/20/08 20:06
92	EL.102008.201222	WG285517-25	CCV		1		10/20/08 20:12
93	EL.102008.201804	WG285517-26	CCB		1		10/20/08 20:18
94	EL.102008.202325	L08100546-03	AS01-1GW37-CM15	40/100	1		10/20/08 20:23
95	EL.102008.202850	L08100546-04	AS01-1GW37P-CM15	40/100	1		10/20/08 20:28
96	EL.102008.203415	L08100546-05	AS01-1GW04-CM15	40/100	1		10/20/08 20:34
97	EL.102008.203940	WG285458-01	Reference Sample		1	L08100546-06	10/20/08 20:39
98	EL.102008.204503	WG285458-04	Matrix Spike	40/100	1	L08100546-06	10/20/08 20:45
99	EL.102008.205026	WG285458-05	Matrix Spike Duplica	40/100	1	L08100546-06	10/20/08 20:50
100	EL.102008.205548	L08100546-09	AS01-1GW36-CM15	40/100	1		10/20/08 20:55
101	EL.102008.210111	L08100546-10	AS01-1GW34-CM15	40/100	1		10/20/08 21:01
102	EL.102008.210634	L08100546-11	AS01-1GW02-CM15	40/100	1		10/20/08 21:06
103	EL.102008.211158	L08100546-12	AS01-1GW34-CM15	40/100	1		10/20/08 21:11
104	EL.102008.211741	WG285517-27	CCV		1		10/20/08 21:17
105	EL.102008.212323	WG285517-28	CCB		1		10/20/08 21:23
106	EL.102008.212844	L08100546-13	AS01-1GW04-CM15	40/100	1		10/20/08 21:28
107	EL.102008.213409	L08100546-14	AS01-EB10162008-CM15	40/100	1		10/20/08 21:34
108	EL.102008.213934	L08100546-15	AS01-FB10162008-CM15	40/100	1		10/20/08 21:39
109	EL.102008.214459	L08100557-01	MW01-101708	40/100	1		10/20/08 21:44
110	EL.102008.215025	L08100557-02	DUP-GW-101708	40/100	1		10/20/08 21:50
111	EL.102008.215551	L08100557-03	MW13-101708	40/100	1		10/20/08 21:55

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 102008A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700 Rev: 4
Maintenance Log ID: 25989

Calibration Std: STD28270 ICV/CCV Std: STD29323 Post Spike: STD27580
ICSA: STD28930 ICSAB: STD29300

Workgroups: 285421,285480,285146,285242,285241,285465,285488

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
112	EL.102008.220115	L08100557-04	MW14-101708	40/100	1	WG285430-04	10/20/08 22:01
113	EL.102008.220658	WG285517-29	CCV		1		10/20/08 22:06
114	EL.102008.221240	WG285517-30	CCB		1		10/20/08 22:12

Page: 4 Approved: October 21, 2008

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 16-OCT-2008

Analyst: JYH

Analyst: NA

Method: 6020

Instrument: ELAN

Curve Workgroup: 285219

Runlog ID: 24747

Analytical Workgroups: 284895,285031,285146,285034,285032

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	X
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	059,419,413,416,229,360,435,439,457 272,356,306,307
Client Forms	X
Level X	
Level 3	059,413,416
Level 4	419,229,360,435,439,457,272,307
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
17-OCT-2008

J. Y. H.

Secondary Reviewer:
17-OCT-2008

Maren Beery

Microbac Laboratories Inc.

Data Checklist

Date: 20-OCT-2008

Analyst: JYH

Analyst: NA

Method: 6020

Instrument: ELAN

Curve Workgroup: 285517

Runlog ID: 24801

Analytical Workgroups: 285421,285480,285146,285524,285241,285465,285488

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	X
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	005,006,349,462,510,003,004,416 341,457,435,530,546,557
Client Forms	X
Level X	
Level 3	462,416,530,557
Level 4	457,435,546
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
21-OCT-2008

Secondary Reviewer:
21-OCT-2008

Analytical Method: 6020
Login Number: L08100416

AAB#: WG285146

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
49WW03-100808	10/08/08	10/14/08	10/16/08	180	7.94	10/20/08	180	4.20	
49WW03-100808	10/08/08	10/14/08	10/16/08	180	7.94	10/16/08	180	0.251	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L08100416
Blank File ID: EL.101608.155804
Prep Date: 10/16/08 11:23
Analyzed Date: 10/16/08 15:58
Analyst: JYH

Work Group: WG285146
Blank Sample ID: WG285126-02
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG285126-03	EL.101608.160847	10/16/08 16:08	01
49WW03-100808	L08100416-07	EL.101608.172443	10/16/08 17:24	01
49WW03-100808	L08100416-07	EL.102008.161736	10/20/08 16:17	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 1224657
Report generated 10/21/2008 09:20



Login Number: L08100416 Prep Date: 10/16/08 11:23 Sample ID: WG285126-02
Instrument ID: ELAN-ICP Run Date: 10/16/08 15:58 Prep Method: 3015
File ID: EL.101608.155804 Analyst: JYH Method: 6020
Workgroup (AAB#): WG285146 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I - 16-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Silver, Total	0.000250	0.00100	0.000250	1	U
Arsenic, Total	0.000250	0.00100	0.000250	1	U
Barium, Total	0.000500	0.00300	0.000500	1	U
Cadmium, Total	0.000125	0.000500	0.000125	1	U
Chromium, Total	0.000500	0.00200	0.000500	1	U
Copper, Total	0.000500	0.00200	0.000500	1	U
Lead, Total	0.000250	0.000500	0.000250	1	U
Manganese, Total	0.000500	0.00200	0.000500	1	U
Nickel, Total	0.00100	0.00400	0.00545	1	*
Antimony, Total	0.000250	0.00100	-0.000261	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.0000500	0.000200	0.0000500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1224658
21-OCT-2008 09:20



Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285126-03
Instrument ID: ELAN-ICP Run Time: 16:08 Prep Method: 3015
File ID: EL.101608.160847 Analyst: JYH Method: 6020
Workgroup (AAB#): WG285146 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD27101 Cal ID: ELAN-I - 16-OCT-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
Silver, Total	0.0625	0.0620	99.2	80 - 120	
Arsenic, Total	0.0625	0.0604	96.7	80 - 120	
Barium, Total	0.0625	0.0613	98.1	80 - 120	
Cadmium, Total	0.0625	0.0618	98.9	80 - 120	
Chromium, Total	0.0625	0.0613	98.1	80 - 120	
Copper, Total	0.0625	0.0626	100	80 - 120	
Lead, Total	0.0625	0.0610	97.6	80 - 120	
Manganese, Total	0.0625	0.0634	101	80 - 120	
Nickel, Total	0.0625	0.0607	97.2	80 - 120	
Antimony, Total	0.0625	0.0601	96.1	80 - 120	
Selenium, Total	0.0625	0.0634	101	80 - 120	
Thallium, Total	0.0625	0.0608	97.3	80 - 120	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1227708
Report generated: 10/21/2008 09:20



Loginnum: L08100416

Cal ID: ELAN-ICP -

Worknum: WG285146

Instrument ID: ELAN-ICP

Contract #: DACA56-94-D-0020

Method: 6020

Parent ID: WG285126-01

File ID: EL.101608.164628

Dil: 1

Matrix: WATER

Sample ID: WG285126-04 MS

File ID: EL.101608.170315

Dil: 1

Units: mg/L

Sample ID: WG285126-05 MSD

File ID: EL.101608.170838

Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony	ND	0.0625	0.0575	92.0	0.0625	0.0584	93.5	1.56	75 - 125	20	
Arsenic	0.000310	0.0625	0.0552	87.8	0.0625	0.0565	89.9	2.35	75 - 125	20	
Barium	0.00282	0.0625	0.0689	106	0.0625	0.0711	109	3.27	75 - 125	20	
Cadmium	ND	0.0625	0.0577	92.3	0.0625	0.0574	91.8	0.513	75 - 125	20	
Chromium	0.00315	0.0625	0.0669	102	0.0625	0.0699	107	4.45	75 - 125	20	
Copper	0.000665	0.0625	0.0657	104	0.0625	0.0670	106	1.91	75 - 125	20	
Lead	ND	0.0625	0.0616	98.5	0.0625	0.0629	101	2.18	75 - 125	20	
Manganese	0.00389	0.0625	0.0880	135	0.0625	0.0912	140	3.61	75 - 125	20	*
Nickel	ND	0.0625	0.0643	103	0.0625	0.0658	105	2.36	75 - 125	20	
Selenium	ND	0.0625	0.0520	83.2	0.0625	0.0526	84.2	1.15	75 - 125	20	
Silver	ND	0.0625	0.0624	99.9	0.0625	0.0633	101	1.42	75 - 125	20	
Thallium	ND	0.0625	0.0616	98.6	0.0625	0.0631	101	2.33	75 - 125	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

00090275

Login: L08100416 Worknum: WG285146
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG285146-02 File ID: EL.101608.163017 Dil: 5 Units: ug/L
Sample: L08100360-03 File ID: EL.101608.161931 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	.196	F	.535	F	173.00	
Barium	2.11	X	2.16	F	2.37	
Cadmium	ND	U	ND	U		
Chromium	1.15	X	ND	U		
Copper	.412	F	1.185	F	188.00	
Lead	.106	F	ND	U		
Manganese	.315	F	ND	U		
Nickel	.772	F	ND	U		
Selenium	.226	F	ND	U		
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 1224654

10/21/2008 09:20



Sample Login ID: L08100416
Instrument ID: ELAN-ICP
Post Spike ID: WG285146-01
Sample ID: L08100360-03

Worknum: WG285146
Method: 6020
Units: ug/L
Matrix: Water
File ID: EL.101608.162454 Dil: 1
File ID: EL.101608.161931 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	48.0		0	U	50	96.0	75 - 125	
ARSENIC	45.5		0.196	F	50	90.6	75 - 125	
BARIUM	51.5		2.11		50	98.7	75 - 125	
CADMIUM	47.4		0	U	50	94.8	75 - 125	
CHROMIUM	53.2		1.15		50	104.1	75 - 125	
COPPER	52.9		0.412	F	50	105.0	75 - 125	
LEAD	51.3		0.106	F	50	102.4	75 - 125	
MANGANESE	54.0		0.315	F	50	107.4	75 - 125	
NICKEL	51.7		0.772	F	50	101.9	75 - 125	
SELENIUM	42.3		0.226	F	50	84.1	75 - 125	
SILVER	51.7		0	U	50	103.4	75 - 125	
THALLIUM	51.1		0	U	50	102.3	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

Microbac Laboratories Inc.
Initial Calibration Summary

00090277

Login:	L08100416	Workgroup (AAB#):	WG285146
Analytical Method:	6020	Instrument ID:	ELAN-ICP
ICAL Worknum:	WG285219	Initial Calibration Date:	16-OCT-2008 11:18

	WG285219-01		WG285219-02		WG285219-03		WG285219-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	703	.4	4230	50	360000	100	705000	.999978	
ARSENIC	0	-285	.4	544	50	112000	100	218000	1	
BARIUM	0	24.3	.4	1250	50	145000	100	284000	1	
CADMIUM	0	7.10	.4	968	50	115000	100	224000	.999989	
CHROMIUM	0	19000	.4	25200	50	718000	100	1360000	.999965	
COPPER	0	312	.4	2090	50	204000	100	391000	.999979	
LEAD	0	271	.4	11000	50	1270000	100	2480000	.999999	
MANGANESE	0	584	.4	9410	50	1050000	100	1900000	.999339	
NICKEL	0	52.7	.4	1610	50	181000	100	351000	.999999	
SELENIUM	0	1.57	.4	65.1	50	9900	100	19000	.999977	
SILVER	0	429	.4	5060	50	541000	100	1030000	.999969	
THALLIUM	0	35.7	.4	3230	50	383000	100	746000	1	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
***** = Out of Compliance; R < 0.995



Login: L08100416 Workgroup (AAB#): WG285146
Analytical Method: 6020 Instrument ID: ELAN-ICP
ICAL Worknum: WG285517 Initial Calibration Date: 20-OCT-2008 11:50

	WG285517-01		WG285517-02		WG285517-03		WG285517-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	64.8	.4	3380	50	300000	100	587000	.999986	
ARSENIC	0	-290	.4	585	50	106000	100	202000	.999987	
BARIUM	0	25.7	.4	1080	50	126000	100	247000	.999931	
CADMIUM	0	5.82	.4	853	50	101000	100	193000	.999973	
CHROMIUM	0	17000	.4	21500	50	538000	100	984000	.999816	
COPPER	0	225	.4	1690	50	173000	100	324000	.999888	
LEAD	0	6740	.4	18000	50	1430000	100	2790000	1	
MANGANESE	0	641	.4	7370	50	762000	100	1420000	.999836	
NICKEL	0	61.0	.4	1360	50	146000	100	277000	.999964	
SELENIUM	0	11.7	.4	81.3	50	9850	100	18400	.999886	
SILVER	0	575	.4	4950	50	529000	100	1000000	.999927	
THALLIUM	0	26.3	.4	3630	50	435000	100	857000	.999994	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-06
Instrument ID: ELAN-ICP Run Time: 11:29 Method: 6020
File ID: EL.101608.112937 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-ICP - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.1	.4	.1	U
ARSENIC	.1	.4	.1	U
BARIUM	.2	1.2	.2	U
CADMIUM	.05	.2	.05	U
CHROMIUM	.2	.8	.2	U
COPPER	.2	.8	.2	U
MANGANESE	.2	.8	.2	U
NICKEL	.4	1.6	.4	U
LEAD	.1	.2	.1	U
ANTIMONY	.1	.4	.1	U
SELENIUM	.2	.4	.2	U
THALLIUM	.02	.08	.02	U

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-06
Instrument ID: ELAN-ICP Run Time: 12:02 Method: 6020
File ID: EL.102008.120216 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-ICP - 20-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.1	.4	.1	U
ARSENIC	.1	.4	.1	U
BARIUM	.2	1.2	.2	U
CADMIUM	.05	.2	.05	U
CHROMIUM	.2	.8	.2	U
COPPER	.2	.8	.2	U
MANGANESE	.2	.8	.2	U
NICKEL	.4	1.6	.4	U
LEAD	.1	.2	.1	U
ANTIMONY	.1	.4	.1	U
SELENIUM	.2	.4	.2	U
THALLIUM	.02	.08	.02	U

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-12
Instrument ID: ELAN-ICP Run Time: 12:04 Method: 6020
File ID: EL.101608.120400 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.200	U
Lead	0.100	0.200	0.100	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-20
Instrument ID: ELAN-ICP Run Time: 15:52 Method: 6020
File ID: EL.101608.155244 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.312	F
Lead	0.100	0.200	0.100	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-22
Instrument ID: ELAN-ICP Run Time: 16:57 Method: 6020
File ID: EL.101608.165753 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.200	U
Lead	0.100	0.200	0.100	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-24
Instrument ID: ELAN-ICP Run Time: 18:03 Method: 6020
File ID: EL.101608.180303 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.200	U
Lead	0.100	0.200	0.100	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-12
Instrument ID: ELAN-ICP Run Time: 12:39 Method: 6020
File ID: EL.102008.123925 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 20-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.200	U
Lead	0.100	0.200	0.100	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-18
Instrument ID: ELAN-ICP Run Time: 15:51 Method: 6020
File ID: EL.102008.155149 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 20-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.200	U
Lead	0.100	0.200	0.174	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-20
Instrument ID: ELAN-ICP Run Time: 17:02 Method: 6020
File ID: EL.102008.170229 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 20-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.100	0.400	0.100	U
Arsenic	0.100	0.400	0.100	U
Barium	0.200	1.20	0.200	U
Cadmium	0.0500	0.200	0.0500	U
Chromium	0.200	0.800	0.200	U
Copper	0.200	0.800	0.200	U
Lead	0.100	0.200	0.179	U
Manganese	0.200	0.800	0.200	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-05
 Instrument ID: ELAN-ICP Run Time: 11:23 Method: 6020
 File ID: EL.101608.112356 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Silver	50	49.6	99.1	90 - 110	
Arsenic	50	49.2	98.5	90 - 110	
Barium	50	49.8	99.7	90 - 110	
Cadmium	50	50.5	101	90 - 110	
Chromium	50	49.6	99.3	90 - 110	
Copper	50	50.9	102	90 - 110	
Lead	50	49.8	99.6	90 - 110	
Manganese	50	51.8	104	90 - 110	
Nickel	50	49.3	98.6	90 - 110	
Antimony	50	49.9	99.8	90 - 110	
Selenium	50	50.3	101	90 - 110	
Thallium	50	50.1	100	90 - 110	

* Exceeds LIMITS Limit

Login Number: <u>L08100416</u>	Run Date: <u>10/20/2008</u>	Sample ID: <u>WG285517-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>11:56</u>	Method: <u>6020</u>
File ID: <u>EL.102008.115635</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG285146</u>	Cal ID: <u>ELAN-I - 20-OCT-08</u>	
QC Key: <u>STD</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Silver	50	49.6	99.3	90 - 110	
Arsenic	50	49.1	98.2	90 - 110	
Barium	50	49.0	98.0	90 - 110	
Cadmium	50	49.7	99.3	90 - 110	
Chromium	50	48.3	96.6	90 - 110	
Copper	50	50.0	100	90 - 110	
Lead	50	49.4	98.8	90 - 110	
Manganese	50	49.8	99.6	90 - 110	
Nickel	50	48.6	97.2	90 - 110	
Antimony	50	49.4	98.8	90 - 110	
Selenium	50	51.4	103	90 - 110	
Thallium	50	49.8	99.6	90 - 110	

* Exceeds LIMITS Limit

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-11
Instrument ID: ELAN-ICP Run Time: 11:58 Method: 6020
File ID: EL.101608.115818 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	50.3	ug/L	101	90 - 110	
Arsenic	50.0	49.4	ug/L	98.8	90 - 110	
Barium	50.0	49.7	ug/L	99.5	90 - 110	
Cadmium	50.0	50.0	ug/L	100	90 - 110	
Chromium	50.0	49.2	ug/L	98.5	90 - 110	
Copper	50.0	50.8	ug/L	102	90 - 110	
Lead	50.0	50.2	ug/L	100	90 - 110	
Manganese	50.0	51.5	ug/L	103	90 - 110	
Nickel	50.0	49.5	ug/L	98.9	90 - 110	
Antimony	50.0	50.1	ug/L	100	90 - 110	
Selenium	50.0	51.0	ug/L	102	90 - 110	
Thallium	50.0	50.3	ug/L	101	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-19
Instrument ID: ELAN-ICP Run Time: 15:47 Method: 6020
File ID: EL.101608.154700 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	49.8	ug/L	99.5	90 - 110	
Arsenic	50.0	50.4	ug/L	101	90 - 110	
Barium	50.0	49.9	ug/L	99.9	90 - 110	
Cadmium	50.0	49.8	ug/L	99.7	90 - 110	
Chromium	50.0	49.8	ug/L	99.6	90 - 110	
Copper	50.0	53.1	ug/L	106	90 - 110	
Lead	50.0	49.9	ug/L	99.8	90 - 110	
Manganese	50.0	51.1	ug/L	102	90 - 110	
Nickel	50.0	48.4	ug/L	96.7	90 - 110	
Antimony	50.0	49.6	ug/L	99.2	90 - 110	
Selenium	50.0	52.3	ug/L	105	90 - 110	
Thallium	50.0	50.2	ug/L	100	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-21
Instrument ID: ELAN-ICP Run Time: 16:52 Method: 6020
File ID: EL.101608.165211 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	50.2	ug/L	100	90 - 110	
Arsenic	50.0	49.6	ug/L	99.2	90 - 110	
Barium	50.0	49.9	ug/L	99.8	90 - 110	
Cadmium	50.0	49.8	ug/L	99.6	90 - 110	
Chromium	50.0	49.7	ug/L	99.4	90 - 110	
Copper	50.0	51.2	ug/L	102	90 - 110	
Lead	50.0	50.8	ug/L	102	90 - 110	
Manganese	50.0	51.9	ug/L	104	90 - 110	
Nickel	50.0	49.6	ug/L	99.1	90 - 110	
Antimony	50.0	49.7	ug/L	99.4	90 - 110	
Selenium	50.0	50.8	ug/L	102	90 - 110	
Thallium	50.0	50.9	ug/L	102	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/16/2008 Sample ID: WG285219-23
Instrument ID: ELAN-ICP Run Time: 17:57 Method: 6020
File ID: EL.101608.175721 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 16-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	50.1	ug/L	100	90 - 110	
Arsenic	50.0	49.2	ug/L	98.5	90 - 110	
Barium	50.0	49.6	ug/L	99.1	90 - 110	
Cadmium	50.0	50.0	ug/L	99.9	90 - 110	
Chromium	50.0	50.9	ug/L	102	90 - 110	
Copper	50.0	51.5	ug/L	103	90 - 110	
Lead	50.0	50.5	ug/L	101	90 - 110	
Manganese	50.0	53.8	ug/L	108	90 - 110	
Nickel	50.0	50.2	ug/L	100	90 - 110	
Antimony	50.0	49.1	ug/L	98.3	90 - 110	
Selenium	50.0	50.3	ug/L	101	90 - 110	
Thallium	50.0	50.6	ug/L	101	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-11
Instrument ID: ELAN-ICP Run Time: 12:33 Method: 6020
File ID: EL.102008.123343 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 20-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	50.7	ug/L	101	90 - 110	
Arsenic	50.0	49.2	ug/L	98.4	90 - 110	
Barium	50.0	50.5	ug/L	101	90 - 110	
Cadmium	50.0	50.3	ug/L	101	90 - 110	
Chromium	50.0	50.6	ug/L	101	90 - 110	
Copper	50.0	51.1	ug/L	102	90 - 110	
Lead	50.0	50.3	ug/L	101	90 - 110	
Manganese	50.0	52.6	ug/L	105	90 - 110	
Nickel	50.0	50.0	ug/L	100	90 - 110	
Antimony	50.0	50.3	ug/L	101	90 - 110	
Selenium	50.0	50.5	ug/L	101	90 - 110	
Thallium	50.0	50.2	ug/L	100	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-17
Instrument ID: ELAN-ICP Run Time: 15:46 Method: 6020
File ID: EL.102008.154607 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 20-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	50.7	ug/L	101	90 - 110	
Arsenic	50.0	49.9	ug/L	99.8	90 - 110	
Barium	50.0	50.0	ug/L	99.9	90 - 110	
Cadmium	50.0	51.0	ug/L	102	90 - 110	
Chromium	50.0	49.1	ug/L	98.2	90 - 110	
Copper	50.0	50.8	ug/L	102	90 - 110	
Lead	50.0	50.8	ug/L	102	90 - 110	
Manganese	50.0	49.6	ug/L	99.2	90 - 110	
Nickel	50.0	48.9	ug/L	97.9	90 - 110	
Antimony	50.0	50.2	ug/L	100	90 - 110	
Selenium	50.0	51.6	ug/L	103	90 - 110	
Thallium	50.0	50.9	ug/L	102	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/20/2008 Sample ID: WG285517-19
Instrument ID: ELAN-ICP Run Time: 16:56 Method: 6020
File ID: EL.102008.165647 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG285146 Cal ID: ELAN-I - 20-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Silver	50.0	49.8	ug/L	99.7	90 - 110	
Arsenic	50.0	51.3	ug/L	103	90 - 110	
Barium	50.0	50.9	ug/L	102	90 - 110	
Cadmium	50.0	50.9	ug/L	102	90 - 110	
Chromium	50.0	50.7	ug/L	101	90 - 110	
Copper	50.0	51.0	ug/L	102	90 - 110	
Lead	50.0	51.0	ug/L	102	90 - 110	
Manganese	50.0	51.0	ug/L	102	90 - 110	
Nickel	50.0	50.7	ug/L	101	90 - 110	
Antimony	50.0	50.2	ug/L	100	90 - 110	
Selenium	50.0	52.1	ug/L	104	90 - 110	
Thallium	50.0	51.2	ug/L	102	90 - 110	

* Exceeds LIMITS Criteria

Login number: L08100416
Instrument ID: ELAN-ICP
Sol. A : WG285219-09
Sol. AB : WG285219-10

File ID: EL.101608.114651
File ID: EL.101608.115235

Workgroup (AAB#): WG285146
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	-0.120	NS	100	109	109	
Arsenic	NS	0.0382	NS	100	106	106	
Barium	NS	0.0534	NS	100	108	108	
Cadmium	NS	0.115	NS	100	108	108	
Chromium	NS	-0.113	NS	100	105	105	
Copper	NS	0.121	NS	100	105	105	
Lead	NS	-0.0131	NS	100	109	109	
Manganese	NS	0.260	NS	100	95.5	95.5	
Nickel	NS	0.779	NS	100	104	104	
Selenium	NS	0.0969	NS	100	106	106	
Silver	NS	-0.0443	NS	100	100	100	
Thallium	NS	-0.00560	NS	100	109	109	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login number: L08100416
Instrument ID: ELAN-ICP
Sol. A : WG285517-09
Sol. AB : WG285517-10

File ID: EL.102008.122216
File ID: EL.102008.122759

Workgroup (AAB#): WG285146
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	-0.0968	NS	100	104	104	
Arsenic	NS	-0.00950	NS	100	100	100	
Barium	NS	0.132	NS	100	105	105	
Cadmium	NS	0.0752	NS	100	103	103	
Chromium	NS	-0.137	NS	100	103	103	
Copper	NS	0.306	NS	100	99.9	99.9	
Lead	NS	0.00440	NS	100	104	104	
Manganese	NS	0.237	NS	100	107	107	
Nickel	NS	0.798	NS	100	101	101	
Selenium	NS	-0.0304	NS	100	99.3	99.3	
Silver	NS	-0.0464	NS	100	83.5	83.5	
Thallium	NS	-0.00580	NS	100	103	103	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

INTERNAL STANDARD REPORT

Login: L08100416 Analytical Method: 6020
 Analytical Workgroup: WG285146 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 16-OCT-2008 11:01

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L08100416-07	SAMP	16-OCT-2008 17:24	70.118	74.492	72.412	76.508
WG285014-01	FBLK	16-OCT-2008 16:03	96.409	94.072	96.971	97.851
WG285126-01	REF	16-OCT-2008 16:46	95.684	96.814	93.911	94.883
WG285126-02	BLANK	16-OCT-2008 15:58	95.712	94.196	97.741	98.752
WG285126-03	LCS	16-OCT-2008 16:08	97.316	94.406	96.991	97.686
WG285126-04	MS	16-OCT-2008 17:03	95.423	97.04	93.601	93.523
WG285126-05	MSD	16-OCT-2008 17:08	93.038	95.978	92.591	92.253
WG285146-01	PSPK	16-OCT-2008 16:24	96.007	96.633	93.47	95.428
WG285146-02	SERIAL	16-OCT-2008 16:30	96.867	95.578	94.811	94.645
WG285219-05	ICV	16-OCT-2008 11:23	98.92	97.264	97.634	99.484
WG285219-06	ICB	16-OCT-2008 11:29	101.571	98.794	101.012	101.634
WG285219-11	CCV	16-OCT-2008 11:58	97.438	99.111	97.715	98.378
WG285219-12	CCB	16-OCT-2008 12:04	108.339	104.863	105.555	106.266
WG285219-19	CCV	16-OCT-2008 15:47	94.753	93.927	96.458	97.291
WG285219-20	CCB	16-OCT-2008 15:52	95.379	93.537	97.086	97.948
WG285219-21	CCV	16-OCT-2008 16:52	92.035	94.804	93.964	94.477
WG285219-22	CCB	16-OCT-2008 16:57	94.145	94.089	95.233	95.23
WG285219-23	CCV	16-OCT-2008 17:57	90.185	94.439	91.534	91.228
WG285219-24	CCB	16-OCT-2008 18:03	90.963	94.343	92.069	92.167

Acceptance criteria: 30% - 120%
 Underlined recoveries are out of range

INT_STD_ICPMS - Modified 03/05/2008
 PDF File ID: 1224663
 Report generated: 10/21/2008 09:20



INTERNAL STANDARD REPORT

Login: L08100416 Analytical Method: 6020
Analytical Workgroup: WG285146 Matrix: 18
Instrument: ELAN-ICP Analyst: JYH
ICAL Date: 16-OCT-2008 11:01

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L08100360-03	SAMP	16-OCT-2008 16:19	94.799	95.48	93.397	94.85

Acceptance criteria: 30% - 120%
Underlined recoveries are out of range

INT_STD_ICPMS - Modified 03/05/2008
PDF File ID: 1224663
Report generated: 10/21/2008 09:20



INTERNAL STANDARD REPORT

Login: L08100416 Analytical Method: 6020
 Analytical Workgroup: WG285146 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 20-OCT-2008 11:33

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L08100416-07	SAMP	20-OCT-2008 16:17	91.922	87.843	90.573	92.881
WG285517-05	ICV	20-OCT-2008 11:56	95.68	93.171	94.466	95.424
WG285517-06	ICB	20-OCT-2008 12:02	96.75	93.97	94.558	95.735
WG285517-11	CCV	20-OCT-2008 12:33	94.073	97.857	94.631	93.57
WG285517-12	CCB	20-OCT-2008 12:39	93.957	96.769	94.108	93.115
WG285517-17	CCV	20-OCT-2008 15:46	92.619	87.034	89.103	92.222
WG285517-18	CCB	20-OCT-2008 15:51	95.092	86.994	90.068	92.961
WG285517-19	CCV	20-OCT-2008 16:56	92.837	87.206	91.3	93.974
WG285517-20	CCB	20-OCT-2008 17:02	94.898	89.065	92.18	95.895

Acceptance criteria: 30% - 120%
 Underlined recoveries are out of range

INT_STD_ICPMS - Modified 03/05/2008
 PDF File ID: 1224663
 Report generated: 10/21/2008 09:20



Login Number: L08100416

Date: 09/11/2008

Instrument ID: ELAN-ICP

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

2.2.3 Metals CVAA Data (Mercury)

2.2.3.1 Summary Data

LABORATORY REPORT

00090305

L08100416

10/29/08 15:57

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
49WW03-100808	L08100416-07	7470A	1	14-OCT-08



Report Number: **L08100416**Report Date : **October 29, 2008**

00090306

Sample Number: **L08100416-07**
Client ID: **49WW03-100808**
Matrix: **Water**
Workgroup Number: **WG285142**
Collect Date: **10/08/2008 12:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **METHOD**
Analytical Method: **7470A**
Analyst: **SLP**
Dilution: **1**
Units: **mg/L**

Instrument: **HYDRA**
Prep Date: **10/15/2008 08:02**
Cal Date: **10/17/2008 10:42**
Run Date: **10/17/2008 11:06**
File ID: **HY.101708.110659**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Mercury	7439-97-6		U	0.000200	0.000100

U Not detected at or above adjusted sample detection limit

1 of 1



2.2.3.2 QC Summary Data

Example Cold Vapor Mercury Calculations

Hydra AA Mercury Analyzer

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and five standards.

2.0 Calculating the concentration (C) of an element in water using data from run log and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Diluted to Volume (mL)

Vi = Aliquot Volume (mL)

D = Manual dilution factor, if required (10X = 10)

Example:

0.1

40

40

1

Cx = Concentration of element in ppb (ug/L)

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Ws} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Diluted to volume (mL)

Ws = Aliquot weight (g)

D = Manual dilution factor

Example:

0.1

40

0.6

1

Cx = Concentration of element in ug/kg

6.67

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

1 Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

6.67

80

$Cdry$ = Concentration calculated as dry weight (ug/kg)

8.33

8.33 ug/kg = 0.00833 mg/kg

Workgroup: WG284950

Analyst: REK

Method: METHOD

Run Date: 10/15/2008 08:02

Hotblock Start Temp: 95.7 @ 07:05

Hotblock End Temp: 95 @ 09:05

SOP: ME404 Revision 11

Spike Solution: STD29262

Spike Witness: VC

HN03 Lot #: COA13347

H2S04 Lot #: COA13254

KMn04 1:1 Lot #: RGT13170

K2S208 1:1 Lot #: RGT13197

Digest tubes Lot #: COA13407

Mercury Water ICV Lot #: STD29264

HG H2O STDS 10PPM Lot #: STD29270

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG284950-02	BLANK	1	40 mL	40 mL		
2	WG284898-01	FBLK	17	4 mL	40 mL		
3	WG284950-03	LCS	1	40 mL	40 mL	4 mL	
4	L08100383-01	SAMP	17	4 mL	40 mL		10/17/08
5	L08100386-01	SAMP	17	4 mL	40 mL		10/20/08
6	L08100408-02	SAMP	1	40 mL	40 mL		10/22/08
7	L08100408-03	SAMP	1	40 mL	40 mL		10/22/08
8	L08100408-04	SAMP	1	40 mL	40 mL		10/22/08
9	L08100408-05	SAMP	1	40 mL	40 mL		10/22/08
10	WG284950-01	REF	1	40 mL	40 mL		
11	L08100416-07	SAMP	1	40 mL	40 mL		10/21/08
12	L08100419-04	SAMP	1	40 mL	40 mL		10/28/08
13	WG284950-04	MS	1	36 mL	40 mL	4 mL	
14	WG284950-05	MSD	1	36 mL	40 mL	4 mL	

Analyst: _____

Reviewer: _____

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 101708A.PRN
 Analyst1: KHR Analyst2: ADC
 Method: 7470A SOP: 404 Rev: 11
 Maintenance Log ID: 26233

Calibration Std: STD29270 ICV/CCV Std: STD29264 Post Spike: STD29270
 ICSA: N/A ICSAB: N/A

Workgroups: 285142

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.101708.103507	WG285316-01	Calibration Point		1		10/17/08 10:35
2	HY.101708.103648	WG285316-02	Calibration Point		1		10/17/08 10:36
3	HY.101708.103830	WG285316-03	Calibration Point		1		10/17/08 10:38
4	HY.101708.104033	WG285316-04	Calibration Point		1		10/17/08 10:40
5	HY.101708.104258	WG285316-05	Calibration Point		1		10/17/08 10:42
6	HY.101708.104443	WG285316-06	Calibration Point		1		10/17/08 10:44
7	HY.101708.104701	WG285316-07	Initial Calibration Verification		1		10/17/08 10:47
8	HY.101708.104852	WG285316-08	Initial Calib Blank		1		10/17/08 10:48
9	HY.101708.105047	WG285316-09	CCV		1		10/17/08 10:50
10	HY.101708.105251	WG285316-10	CCB		1		10/17/08 10:52
11	HY.101708.105650	WG284950-02	Method/Prep Blank	40/40	1		10/17/08 10:56
12	HY.101708.105902	WG284898-01	Fluid Blank		1		10/17/08 10:59
13	HY.101708.110107	WG284950-03	Laboratory Control S	40/40	1		10/17/08 11:01
14	HY.101708.110311	L08100383-01	TRENCH DIRT	4/40	1	WG284932-01	10/17/08 11:03
15	HY.101708.110455	WG285142-01	Post Digestion Spike		1	L08100383-01	10/17/08 11:04
16	HY.101708.110659	L08100416-07	49WW03-100808	40/40	1	WG284950-01	10/17/08 11:06
17	HY.101708.110852	WG284950-04	Matrix Spike	36/40	1	L08100416-07	10/17/08 11:08
18	HY.101708.111045	WG284950-05	Matrix Spike Duplica	36/40	1	L08100416-07	10/17/08 11:10
19	HY.101708.111243	WG285316-11	CCV		1		10/17/08 11:12
20	HY.101708.111426	WG285316-12	CCB		1		10/17/08 11:14
21	HY.101708.111608	L08100386-01	COMPOSITE	4/40	1		10/17/08 11:16
22	HY.101708.111750	L08100408-02	0810-164-1	40/40	1		10/17/08 11:17
23	HY.101708.111933	WG285142-02	Post Digestion Spike		1	L08100408-02	10/17/08 11:19
24	HY.101708.112144	L08100408-03	0810-164-2	40/40	1		10/17/08 11:21
25	HY.101708.112326	L08100408-04	0810-164-3	40/40	1		10/17/08 11:23
26	HY.101708.112523	L08100408-05	0810-164-4	40/40	1		10/17/08 11:25
27	HY.101708.112705	L08100419-04	FB001 (101308)	40/40	1		10/17/08 11:27
28	HY.101708.112910	WG285316-13	CCV		1		10/17/08 11:29
29	HY.101708.113104	WG285316-14	CCB		1		10/17/08 11:31

Page: 1 Approved: October 17, 2008

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 17-OCT-2008

Analyst: KHR

Analyst: ADC

Method: 7470A

Instrument: HYDRA

Curve Workgroup: 285316

Runlog ID: 24759

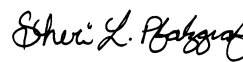
Analytical Workgroups: 285142

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	416, 419
Client Forms	X
Level X	
Level 3	416
Level 4	419
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ADC
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
17-OCT-2008



Secondary Reviewer:
17-OCT-2008



Analytical Method: 7470A

AAB#: WG285142

Login Number: L08100416

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
49WW03-100808	10/08/08	10/14/08	10/15/08	28	6.80	10/17/08	28	2.13	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L08100416 Work Group: WG285142
Blank File ID: HY.101708.105650 Blank Sample ID: WG284950-02
Prep Date: 10/15/08 08:02 Instrument ID: HYDRA
Analyzed Date: 10/17/08 10:56 Method: 7470A
Analyst: SLP

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG284950-03	HY.101708.110107	10/17/08 11:01	01
49WW03-100808	L08100416-07	HY.101708.110659	10/17/08 11:06	01

Report Name: BLANK_SUMMARY
PDF File ID: 1225614
Report generated 10/17/2008 15:29



Login Number: L08100416 Prep Date: 10/15/08 08:02 Sample ID: WG284950-02
Instrument ID: HYDRA Run Date: 10/17/08 10:56 Prep Method: METHOD
File ID: HY.101708.105650 Analyst: SLP Method: 7470A
Workgroup (AAB#): WG285142 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: HYDRA - 17-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1225616
17-OCT-2008 15:29



Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG284950-03
Instrument ID: HYDRA Run Time: 11:01 Prep Method: METHOD
File ID: HY.101708.110107 Analyst: SLP Method: 7470A
Workgroup (AAB#): WG285142 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD29262 Cal ID: HYDRA - 17-OCT-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00457	114	85 - 115	

Loginnum: L08100416 Cal ID: HYDRA - Worknum: WG285142
 Instrument ID: HYDRA Contract #: DACA56-94-D-0020 Method: 7470A
 Parent ID: WG284950-01 File ID: HY.101708.110659 Dil: 1 Matrix: WATER
 Sample ID: WG284950-04 MS File ID: HY.101708.110852 Dil: 1 Units: mg/L
 Sample ID: WG284950-05 MSD File ID: HY.101708.111045 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury	ND	0.00444	0.00517	116	0.00444	0.00512	115	0.864	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Sample Login ID: L08100416

Worknum: WG285142

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG285142-02

File ID: HY.101708.111933

Dil: 1

Units: ug/L

Sample ID: L08100408-02

File ID: HY.101708.111750

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	1.14		0	U	1	114.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

Login Number: L08100416
Analytical Method: 7470A
ICAL Worknum: WG285316

Workgroup (AAB#): WG285142
Instrument ID: HYDRA
Initial Calibration Date: 10/17/2008 10:44

Analyte	WG285316-01		WG285316-02		WG285316-03		WG285316-04		WG285316-05		WG285316-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	1126	0.200	14479	1.00	72244	2.00	148950	5.00	363285	10.0	715494

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

Login Number: L08100416
Analytical Method: 7470A
ICAL Worknum: WG285316

Workgroup (AAB#): WG285142
Instrument ID: HYDRA
Initial Calibration Date: 10/17/2008 10:44

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 1225620
Report generated 10/17/2008 15:29



Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-08
Instrument ID: HYDRA Run Time: 10:48 Method: 7471
File ID: HY.101708.104852 Analyst: SLP Units: ug/L
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-10
Instrument ID: HYDRA Run Time: 10:52 Method: 7470A
File ID: HY.101708.105251 Analyst: SLP Units: ug/L
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-12
Instrument ID: HYDRA Run Time: 11:14 Method: 7470A
File ID: HY.101708.111426 Analyst: SLP Units: ug/L
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-14
Instrument ID: HYDRA Run Time: 11:31 Method: 7470A
File ID: HY.101708.113104 Analyst: SLP Units: ug/L
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-07
Instrument ID: HYDRA Run Time: 10:47 Method: 7470A
File ID: HY.101708.104701 Analyst: SLP Units: ug/L
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.13	107	90 - 110	

* Exceeds LIMITS Limit

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-09
Instrument ID: HYDRA Run Time: 10:50 Method: 7470A
File ID: HY.101708.105047 Analyst: SLP QC Key: STD
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00213	mg/L	107	80 - 120	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-11
Instrument ID: HYDRA Run Time: 11:12 Method: 7470A
File ID: HY.101708.111243 Analyst: SLP QC Key: STD
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00209	mg/L	105	80 - 120	

* Exceeds LIMITS Criteria

Login Number: L08100416 Run Date: 10/17/2008 Sample ID: WG285316-13
Instrument ID: HYDRA Run Time: 11:29 Method: 7470A
File ID: HY.101708.112910 Analyst: SLP QC Key: STD
Workgroup (AAB#): WG285142 Cal ID: HYDRA - 17-OCT-08
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00218	mg/L	109	80 - 120	

* Exceeds LIMITS Criteria

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 29, 2008

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
AM - ALISON J. MILLER	AML - ANTHONY M. LONG	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS	CAH - CHARLES A. HALL
CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD	CLW - CHARISSA L. WINTERS
CMS - CRYSTAL M. STEPHENS	CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS	DSF - DEBRA S. FREDERICK	EAB - EDDIE A. BYERS
ECL - ERIC C. LAWSON	ED - EMILY E. DECKER	EDA - ERIN D. AGEE
EDH - ETHAN D. MORRIS	ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR	HJR - HOLLY J. REED	JBK - JEREMY B. KINNEY
JC - JOHN L. CONLEY	JDH - JUSTIN D. HESSON	JKP - JACQUELINE K. PARSONS
JKT - JANE K. THOMPSON	JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KEB - KATHRYN E. BARNES	KHR - KIM H. RHODES
KJW - KATIE J. WIEFERICH	KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON	MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING	MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	NPM - NATHANIEL P. MILLER	PDM - PIERCE D. MORRIS
RAH - ROY A. HALSTEAD	RB - ROBERT BUCHANAN	REK - ROBERT E. KYER
RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL	SAV - SARAH A. VANDENBERG
SDH - SHANA D. HINYARD	SDL - SHELLY D. LENT	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	SMH - SHAUNA M. HYDE	TDH - TRICIA D. HUCK
TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WTD - WADE T. DELONG	

List of Valid Qualifiers

October 29, 2008

Qualkey: STD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E1	Concentration estimated. Analyte exceeded calibration range. Insufficient sample for reanalysis.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to matrix.
E3	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
M1	Matrix spike recovery was high; the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration is disproportionate to the spike level.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
Q1	Sample integrity was not maintained. See report narrative.
QNS	Quantity of sample not sufficient to perform analysis
R1	Duplicate RPD/RSD exceeded the method acceptance limit.
R2	Duplicate RPD/RSD exceeded the laboratory acceptance limit.
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V2	CCV recovery was above method acceptance limits. Insufficient volume for sample reanalysis.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

***Special Notes for Organic Analytes



Qualkey: STD

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.





Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Chain of Custody

Laboratory Name: Microbac Labs		Address: 158 Starlite Drive Marietta, Ohio 45750		Contact: Stephanie Mossburg (740) 373-4071											
Project Name: Longhorn Army Ammun.		Project Location: Karnack, Texas		Analysis and Method Desired (Indicate separate containers)											
Project No.: 117591.63500000		Project Contact: Jennifer Hoang		Project Telephone No.: (713) 996-4408											
Point of Contact: Allen Willmore		Project Manager/Supervisor: Praveen Srivastava		Telephone No.: (713) 996-4586 / (713) 247-9292											
Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	TAL METALS	VOCs					Remarks
1	17WW18-100808	10/8/08	14:15		✓	W	17WW18, Site 17	3	NA	X					NA - No Analysis X - Analyze Trip Blank Included.
2	47WW36-100908	10/9/08	08:20		✓	W	47WW36, Site 47	3	NA	X					
3	47WW35-100908	10/9/08	11:55		✓	W	47WW35, Site 47	3	NA	X					
4	47WW35-100908-08	10/9/08	11:55		✓	W	47WW35, Site 47	3	NA	X					Field Duplicate
5	46WW05-100908	10/9/08	14:05		✓	W	46WW05, Site 46	3	NA	X					
6	46WW06-100908	10/9/08	17:20		✓	W	46WW06, Site 46	3	NA	X					
7	49WW03-100808	10/8/08	12:45		✓	W	49WW03, Site 49	1	X	NA					
8															
9															
10															
Transfers Relinquished By (signature)		Date/Time		Transfers Accepted By (signature)		Date/Time		Special Instructions							
<i>M. Miller</i>		10/13/08 15:45		<i>Praveen Srivastava</i>		10/14/08 9:15		* 7-day TAT							
								FedEx Airbill No.:							
				Laboratory				Sampler's Signature <i>M. Miller</i>							
TAT: _____ Standard _____ Rush Date _____		Seals Intact? ☒ Y ☐ N		Received Good Condition ☒ Y ☐ N		Cold									

Client:	Shaw - Houston, TX		
Workorder Number:	B		
Date Received:	10-14-08		
Delivered by:	() Fedx	(X) UPS	() Client () Courier Time: 9:15
Opened by:	RLK		
IR Temp Gun:	(X) D	() G	
Logged by:	RLK L 08100416		

Cooler information

Cooler ID	Temp C	Airbill#	COC#	Other
314	0	J204 77184 8	5423	water (OT) 7-day

Inspection Checklist

	Y	N	NA	Discrepancy ID
Were shipping coolers sealed?	✓			
Were custody seals intact?	✓			
Were cooler temperatures in range of 0 - 6?	✓			
Was ice present?	✓			
Were COC's received/ information complete/signed and dated?	✓			
Were sample containers and labels intact and match COC?		✓		(1)
Were the correct containers and volumes received?	✓			
Were correct preservatives used? (water only)	✓			
Were pH ranges acceptable? (voa's excluded)	✓			
Were VOA samples free of headspace (< 6mm)?	✓			
Were samples received within EPA hold times?	✓			

Discrepancy/Comments/Other Problems

(1) Rec'd 2 VOA's with no labels and not on COC. TRIP Blank per right side of Chain.

Distribution

Name of Microbac representative:
Client/Company:
Person Contacted:
Date contacted:

Resolution/other comments:

Internal Chain of Custody Report

Login: L08100416

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 21-OCT-2008

Samplenum **Container ID** **Products****L08100416-02** 511964

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:33	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:33	MRT	JKT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Samplenum **Container ID** **Products****L08100416-04** 511966

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L08100416

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 21-OCT-2008

Samplenum **Container ID** **Products****L08100416-05** 511967

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Samplenum **Container ID** **Products****L08100416-07** 511969 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-AX CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	14-OCT-2008 15:00	RLK	
2	PREP	W1	DIG	15-OCT-2008 05:12	REK	JKT
3	EXTRACT	DIG	METALS	15-OCT-2008 07:37		REK
4	STORE	DIG	A1	16-OCT-2008 14:21	ERE	REK

Samplenum **Container ID** **Products****L08100416-08** 511970

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L08100416

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 21-OCT-2008

Samplenum **Container ID** **Products****L08100416-01** 511963

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:33	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:33	MRT	JKT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:33	MRT	JKT

Samplenum **Container ID** **Products****L08100416-03** 511965

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L08100416**Account:** 2773**Project:** 2773.025**Samples:** 8**Due Date:** 21-OCT-2008**Samplenum** **Container ID** **Products****L08100416-06** 511968

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	14-OCT-2008 15:00	RLK	
2	ANALYZ	V1	ORG4	15-OCT-2008 10:34	MRT	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login





158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L09030095

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	kalbertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	smossburg@microbac.com
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Jacqueline Parsons	<i>Team Assistant</i>	jparsons@microbac.com

This report was reviewed on March 12, 2009.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories.

This report was certified on March 12, 2009.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac (OVD) LQAP

This report contains a total of 438 pages.

Look closer. Go further. Do more.



Microbac REPORT L09030095
PREPARED FOR Shaw E I, Inc.
WORK ID:

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1.0 Introduction

Microbac Laboratories Inc.
REPORT NARRATIVE

Microbac Login No: L09030095

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 1 and 2 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 10-MAR-09
<i>Stephanie Mosburg</i>

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

- ✓R1 Field chain-of-custody documentation;
- ✓R2 sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) Cleanup methods, and
 - e) If required for the project, tentatively identified compounds (TICs)
- ✓R4 Surrogate recovery data including:
 - a) Calculated recovery (%R) for each analyte, and
 - b) The laboratory's surrogate QC limits.
- ✓R5 Test reports/summary forms for blank samples;
- ✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amount,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %R and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ✓R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ✓R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ✓R10 Other problems or anomalies.
- ✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MIKE D. ALBERTSON



Volatiles Lab Supervisor

March 10, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: 8260B
 Prep Batch Number(s): 296718, 296679, 296833, 296873
 Reviewer Name: MIKE D. ALBERTSON
 LRC Date: March 10, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?	✓				
Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓			3
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓			1
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			2

Description	Yes	No	NA(1)	NR(2)	FC
Were MS/MSD RPDs within laboratory QC limits?		✓			2
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?	✓				
Were ion abundance data within the method-required QC limits?	✓				
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?	✓				
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

EXCEPTIONS REPORT

ER# - Description

#1: Dichlorodifluoromethane exceeded the upper advisory limit in the LCS/LCSD analyzed 03/09/09 on HPMS-6.

#2: 2-Chloroethyl vinyl ether was below the lower advisory limit in the MS/MSD analyses of sample 07.

#3: Surrogate 1,2-dichloroethane-d4 was below the lower control limit in the LCS analyzed 03/06/09 on HPMS-6.

Footnotes:

(1) NA = Not applicable to method or project

(2) NR = Not reviewed

(3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MAREN M. BEERY



Metals Supervisor

March 10, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
Laboratory Log Number: L09030095
Project Name: 798-LONGHORN
Method: 6020
Prep Batch Number(s): WG296694
Reviewer Name: MAREN M. BEERY
LRC Date: March 10, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				ER2
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				ER1
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030095
Project Name:	798-LONGHORN
Method:	6020
Prep Batch Number(s):	WG296694
Reviewer Name:	MAREN M. BEERY
LRC Date:	March 10, 2009

EXCEPTIONS REPORT

ER#1 - Due to continuing calibration blank failure for the internal standard germanium associated with arsenic on 09-Mar-2009 at 21:03, client sample 16 was reanalyzed on a later calibration which was compliant for arsenic.

ER2 - Client sample 08 required dilution analysis in order to obtain a result for nickel within the linear range.

Footnotes:

- (1) NA = Not applicable to method or project**
- (2) NR = Not reviewed**
- (3) ER# = Exception report number**

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

✓ The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MICHAEL D. COCHRAN



Semivolatiles Lab Supervisor

March 6, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: 9056
 Prep Batch Number(s): WG296654
 Reviewer Name: MICHAEL D. COCHRAN
 LRC Date: March 05, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?			✓		
Were % moisture (or solids) reported for all soil and sediment samples?			✓		
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				1
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030095
Project Name:	798-LONGHORN
Method:	9056
Prep Batch Number(s):	WG296654
Reviewer Name:	MICHAEL D. COCHRAN
LRC Date:	March 05, 2009

EXCEPTIONS REPORT

ER# - Description

1. Samples -01, -14, -16 were analyzed at dilutions only, due to their high screen results for CL, which were greater than 200 ppm.
- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

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R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: ORTHOPHOSPHATE
 Prep Batch Number(s): WG296611
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030095
Project Name:	798-LONGHORN
Method:	ORTHOPHOSPHATE
Prep Batch Number(s):	WG296611
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: SULFIDE
 Prep Batch Number(s): WG296938
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?		✓			
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			✓		
Were percent differences for each analyte within the method-required QC limits?			✓		
Was the ICAL curve verified for each analyte?			✓		
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030095
Project Name:	798-LONGHORN
Method:	SULFIDE
Prep Batch Number(s):	WG296938
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: ALKALINITY
 Prep Batch Number(s): WG296707
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NR(2)	ES(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: ALKALINITY
 Prep Batch Number(s): WG296707
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: ALKALINITY
 Prep Batch Number(s): WG296707
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030095
Project Name:	798-LONGHORN
Method:	ALKALINITY
Prep Batch Number(s):	WG296707
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

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- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

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- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

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DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
Laboratory Log Number: L09030095
Project Name: 798-LONGHORN
Method: TOC
Prep Batch Number(s): WG296680
Reviewer Name: DEANNA I. HESSON
LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NR(2)
Were MS/MSD RPDs within laboratory QC limits?	✓			
Analytical duplicate data				
Were appropriate analytical duplicates analyzed for each matrix?	✓			
Were analytical duplicates analyzed at the appropriate frequency?	✓			
Were RPDs or relative standard deviations within the laboratory QC limits?	✓			
Method quantitation limits (MQLs):				
Are the MQLs for each method analyte included in the laboratory data package?	✓			
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓			
Are unadjusted MQLs included in the laboratory data package?	✓			
Other problems/anomalies				
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓			
Were all necessary corrective actions performed for the reported data?	✓			
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓			
Were response factors and/or relative response factors for each analyte within QC limits?	✓			
Were percent RSDs or correlation coefficient criteria met?	✓			
Was the number of standards recommended in the method used for all analytes?	✓			
Were all points generated between the lowest and highest standard used to calculate the curve?	✓			
Are ICAL data available for all instruments used?	✓			
Has the initial calibration curve been verified using an appropriate second source standard?	✓			
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):				
Was the CCV analyzed at the method-required frequency?	✓			
Were percent differences for each analyte within the method-required QC limits?	✓			
Was the ICAL curve verified for each analyte?	✓			
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓			
Mass spectral tuning:				
Was the appropriate compound for the method used for tuning?			✓	
Were ion abundance data within the method-required QC limits?			✓	
Internal standards (IS):				
Were IS area counts and retention times within the method-required QC limits?			✓	
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)				
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓			
Were data associated with manual integrations flagged on the raw data?			✓	
Dual column confirmation				
Did dual column confirmation results meet the method-required QC?			✓	
Tentatively identified compounds (TICs):				
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓	
Interference Check Sample (ICS) results:				
Were percent recoveries within method QC limits?			✓	
Serial dilutions, post digestion spikes, and method of standard additions				
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓	
Method detection limit (MDL) studies				
Was a MDL study performed for each reported analyte?	✓			
Is the MDL either adjusted or supported by the analysis of DCSs?	✓			
Proficiency test reports:				
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓			

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030095
Project Name:	798-LONGHORN
Method:	TOC
Prep Batch Number(s):	WG296680
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

- ✓R1 Field chain-of-custody documentation;
- ✓R2 sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) Cleanup methods, and
 - e) If required for the project, tentatively identified compounds (TICs)
- ✓R4 Surrogate recovery data including:
 - a) Calculated recovery (%R) for each analyte, and
 - b) The laboratory's surrogate QC limits.
- ✓R5 Test reports/summary forms for blank samples;
- ✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amount,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %R and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ✓R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ✓R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ✓R10 Other problems or anomalies.
- ✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MIKE D. ALBERTSON



Volatiles Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030095
 Project Name: 798-LONGHORN
 Method: RSK175
 Prep Batch Number(s): WG296884
 Reviewer Name: MIKE D. ALBERTSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?			✓		
Were % moisture (or solids) reported for all soil and sediment samples?			✓		
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

EXCEPTIONS REPORT

ER# - Description

There were no exceptions.

Footnotes:

(1) NA = Not applicable to method or project

(2) NR = Not reviewed

(3) ER# = Exception report number

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT

00090384

L09030095

03/12/09 15:26

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	8260B	50	05-MAR-09
17WW04-030209	L09030095-02	8260B	1	05-MAR-09
17WW05-022509	L09030095-03	8260B	1	05-MAR-09
17WW07-022509	L09030095-04	8260B	1	05-MAR-09
17WW08-022509	L09030095-05	8260B	1	05-MAR-09
17WW09-022609	L09030095-06	8260B	1	05-MAR-09
17WW10-022609	L09030095-07	8260B	1	05-MAR-09
17WW11-022609	L09030095-08	8260B	1	05-MAR-09
17WW12-022609	L09030095-09	8260B	1	05-MAR-09
17WW13-030309	L09030095-10	8260B	1	05-MAR-09
17WW14-022509	L09030095-11	8260B	1	05-MAR-09
17WW15-022609	L09030095-12	8260B	1	05-MAR-09
17WW16-022609	L09030095-13	8260B	1	05-MAR-09
17WW17-030409	L09030095-14	8260B	1	05-MAR-09
17WW18-030309	L09030095-15	8260B	1	05-MAR-09
MW-130-030409	L09030095-16	8260B	1	05-MAR-09
18WW14-030209	L09030095-17	8260B	1	05-MAR-09
18WW15-030309	L09030095-18	8260B	1	05-MAR-09
C-07-022509	L09030095-19	8260B	1	05-MAR-09
MW-18-030309	L09030095-20	8260B	1	05-MAR-09
17WW10-022609-FD	L09030095-21	8260B	1	05-MAR-09
17WW10-022609-MS	L09030095-22	8260B	1	05-MAR-09
17WW10-022609-MSD	L09030095-23	8260B	1	05-MAR-09
18WW14-030309-MS	L09030095-24	8260B	1	05-MAR-09
18WW15-030309-FD	L09030095-25	8260B	1	05-MAR-09
18WW14-030309-MSD	L09030095-26	8260B	1	05-MAR-09
TRIP BLANK	L09030095-28	8260B	1	05-MAR-09

L1_A_PROD - Modified 03/06/2008
PDF File ID:1341551
Report generated: 03/12/2009 15:26

1 OF 1



Sample Number: **L09030095-01**
 Client ID: **17WW01-030409**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/04/2009 11:15**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **50**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 21:17**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 21:17**
 File ID: **8M352296**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	500	125
Benzene	71-43-2		U	50.0	6.25
Bromobenzene	108-86-1		U	50.0	6.25
Bromochloromethane	74-97-5		U	50.0	10.0
Bromodichloromethane	75-27-4		U	50.0	12.5
Bromoform	75-25-2		U	50.0	25.0
Bromomethane	74-83-9		U	50.0	25.0
2-Butanone	78-93-3		U	500	125
n-Butylbenzene	104-51-8		U	50.0	12.5
sec-Butylbenzene	135-98-8		U	50.0	12.5
tert-Butylbenzene	98-06-6		U	50.0	12.5
Carbon disulfide	75-15-0		U	50.0	25.0
Carbon tetrachloride	56-23-5		U	50.0	12.5
Chlorobenzene	108-90-7		U	50.0	6.25
Chlorodibromomethane	124-48-1		U	50.0	12.5
Chloroethane	75-00-3		U	50.0	25.0
2-Chloroethyl vinyl ether	110-75-8		U	500	100
Chloroform	67-66-3		U	50.0	6.25
Chloromethane	74-87-3		U	50.0	12.5
2-Chlorotoluene	95-49-8		U	50.0	6.25
4-Chlorotoluene	106-43-4		U	50.0	12.5
1,2-Dibromo-3-chloropropane	96-12-8		U	250	50.0
1,2-Dibromoethane	106-93-4		U	50.0	12.5
Dibromomethane	74-95-3		U	50.0	12.5
1,2-Dichlorobenzene	95-50-1		U	50.0	6.25
1,3-Dichlorobenzene	541-73-1		U	50.0	12.5
1,4-Dichlorobenzene	106-46-7		U	50.0	6.25
Dichlorodifluoromethane	75-71-8		U	50.0	12.5
1,1-Dichloroethane	75-34-3	29.6	J	50.0	6.25
1,2-Dichloroethane	107-06-2	35.8	J	50.0	12.5
1,1-Dichloroethene	75-35-4	70.0		50.0	25.0
cis-1,2-Dichloroethene	156-59-2	107		50.0	12.5
trans-1,2-Dichloroethene	156-60-5	20.1	J	50.0	12.5
1,2-Dichloropropane	78-87-5		U	50.0	10.0
1,3-Dichloropropane	142-28-9		U	50.0	10.0
2,2-Dichloropropane	594-20-7		U	50.0	12.5
cis-1,3-Dichloropropene	10061-01-5		U	50.0	12.5
trans-1,3-Dichloropropene	10061-02-6		U	50.0	25.0
1,1-Dichloropropene	563-58-6		U	50.0	12.5
Ethylbenzene	100-41-4		U	50.0	12.5
2-Hexanone	591-78-6		U	500	125
Hexachlorobutadiene	87-68-3		U	50.0	12.5
Isopropylbenzene	98-82-8		U	50.0	12.5
p-Isopropyltoluene	99-87-6		U	50.0	12.5
4-Methyl-2-pentanone	108-10-1		U	500	125
Methylene chloride	75-09-2		U	250	12.5
Naphthalene	91-20-3		U	50.0	10.0
n-Propylbenzene	103-65-1		U	50.0	6.25
Styrene	100-42-5		U	50.0	6.25
1,1,1,2-Tetrachloroethane	630-20-6		U	50.0	12.5
1,1,2,2-Tetrachloroethane	79-34-5		U	50.0	6.25
Tetrachloroethene	127-18-4		U	50.0	12.5
Toluene	108-88-3		U	50.0	12.5
1,2,3-Trichlorobenzene	87-61-6		U	50.0	7.50
1,2,4-Trichlorobenzene	120-82-1		U	50.0	10.0
1,1,1-Trichloroethane	71-55-6		U	50.0	12.5
1,1,2-Trichloroethane	79-00-5		U	50.0	12.5
Trichloroethene	79-01-6	6090		50.0	12.5
Trichlorofluoromethane	75-69-4		U	50.0	12.5

Report Number: **L09030095**Report Date : **March 12, 2009**

00090386

Sample Number: **L09030095-01**
 Client ID: **17WW01-030409**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/04/2009 11:15**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **50**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 21:17**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 21:17**
 File ID: **8M352296**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	50.0	25.0
1,2,4-Trimethylbenzene	95-63-6		U	50.0	12.5
1,3,5-Trimethylbenzene	108-67-8		U	50.0	12.5
Vinyl acetate	108-05-4		U	500	125
Vinyl chloride	75-01-4		U	50.0	12.5
o-Xylene	95-47-6		U	50.0	12.5
m-,p-Xylene	136777-61-2		U	50.0	25.0
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	104	86	118		
1,2-Dichloroethane-d4	98.7	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	102	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-02
Client ID: 17WW04-030209
Matrix: Water
Workgroup Number: WG296679
Collect Date: 03/02/2009 14:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/06/2009 11:40
Cal Date: 03/05/2009 16:25
Run Date: 03/06/2009 11:40
File ID: 6M82031

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.914	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-02**
 Client ID: **17WW04-030209**
 Matrix: **Water**
 Workgroup Number: **WG296679**
 Collect Date: **03/02/2009 14:25**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/06/2009 11:40**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/06/2009 11:40**
 File ID: **6M82031**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	90.2	86	118		
1,2-Dichloroethane-d4	83.7	80	120		
Toluene-d8	92.5	88	110		
4-Bromofluorobenzene	96.8	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-03
Client ID: 17WW05-022509
Matrix: Water
Workgroup Number: WG296679
Collect Date: 02/25/2009 14:26
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/06/2009 11:08
Cal Date: 03/05/2009 16:25
Run Date: 03/06/2009 11:08
File ID: 6M82030

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.451	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-03**
 Client ID: **17WW05-022509**
 Matrix: **Water**
 Workgroup Number: **WG296679**
 Collect Date: **02/25/2009 14:26**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/06/2009 11:08**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/06/2009 11:08**
 File ID: **6M82030**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	93.3	86	118		
1,2-Dichloroethane-d4	85.6	80	120		
Toluene-d8	96.1	88	110		
4-Bromofluorobenzene	101	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L09030095-04**
 Client ID: **17WW07-022509**
 Matrix: **Water**
 Workgroup Number: **WG296833**
 Collect Date: **02/25/2009 10:44**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/09/2009 11:52**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/09/2009 11:52**
 File ID: **6M82059**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-04**
 Client ID: **17WW07-022509**
 Matrix: **Water**
 Workgroup Number: **WG296833**
 Collect Date: **02/25/2009 10:44**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/09/2009 11:52**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/09/2009 11:52**
 File ID: **6M82059**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	105	86	118		
1,2-Dichloroethane-d4	96.5	80	120		
Toluene-d8	103	88	110		
4-Bromofluorobenzene	111	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-05**
 Client ID: **17WW08-022509**
 Matrix: **Water**
 Workgroup Number: **WG296833**
 Collect Date: **02/25/2009 10:50**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/09/2009 12:24**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/09/2009 12:24**
 File ID: **6M82060**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030095**Report Date : **March 12, 2009****00090394**

Sample Number: **L09030095-05**
 Client ID: **17WW08-022509**
 Matrix: **Water**
 Workgroup Number: **WG296833**
 Collect Date: **02/25/2009 10:50**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/09/2009 12:24**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/09/2009 12:24**
 File ID: **6M82060**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	106	86	118		
1,2-Dichloroethane-d4	100	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	110	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-06**
 Client ID: **17WW09-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 14:20**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 16:29**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 16:29**
 File ID: **8M352287**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-06**
 Client ID: **17WW09-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 14:20**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 16:29**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 16:29**
 File ID: **8M352287**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	98.2	86	118		
1,2-Dichloroethane-d4	89.5	80	120		
Toluene-d8	101	88	110		
4-Bromofluorobenzene	99.7	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-07
Client ID: 17WW10-022609
Matrix: Water
Workgroup Number: WG296679
Collect Date: 02/26/2009 11:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/06/2009 12:45
Cal Date: 03/05/2009 16:25
Run Date: 03/06/2009 12:45
File ID: 6M82033

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-07**
 Client ID: **17WW10-022609**
 Matrix: **Water**
 Workgroup Number: **WG296679**
 Collect Date: **02/26/2009 11:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/06/2009 12:45**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/06/2009 12:45**
 File ID: **6M82033**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	90.2	86	118		
1,2-Dichloroethane-d4	83.7	80	120		
Toluene-d8	91.7	88	110		
4-Bromofluorobenzene	96.7	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-08
Client ID: 17WW11-022609
Matrix: Water
Workgroup Number: WG296873
Collect Date: 02/26/2009 16:11
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 03/09/2009 17:01
Cal Date: 02/19/2009 14:17
Run Date: 03/09/2009 17:01
File ID: 8M352288

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	0.711	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030095**Report Date : **March 12, 2009**

00090400

Sample Number: **L09030095-08**
 Client ID: **17WW11-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 16:11**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 17:01**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 17:01**
 File ID: **8M352288**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	101	86	118		
1,2-Dichloroethane-d4	89.5	80	120		
Toluene-d8	100	88	110		
4-Bromofluorobenzene	98.2	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L09030095-09**
 Client ID: **17WW12-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 15:58**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 17:33**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 17:33**
 File ID: **8M352289**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-09**
 Client ID: **17WW12-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 15:58**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 17:33**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 17:33**
 File ID: **8M352289**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	102	86	118		
1,2-Dichloroethane-d4	93.5	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	100	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-10
Client ID: 17WW13-030309
Matrix: Water
Workgroup Number: WG296873
Collect Date: 03/03/2009 10:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 03/09/2009 19:09
Cal Date: 02/19/2009 14:17
Run Date: 03/09/2009 19:09
File ID: 8M352292

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-10**
 Client ID: **17WW13-030309**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/03/2009 10:25**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 19:09**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 19:09**
 File ID: **8M352292**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	102	86	118		
1,2-Dichloroethane-d4	92.2	80	120		
Toluene-d8	100	88	110		
4-Bromofluorobenzene	102	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-11
Client ID: 17WW14-022509
Matrix: Water
Workgroup Number: WG296833
Collect Date: 02/25/2009 14:23
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/09/2009 12:56
Cal Date: 03/05/2009 16:25
Run Date: 03/09/2009 12:56
File ID: 6M82061

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-11**
 Client ID: **17WW14-022509**
 Matrix: **Water**
 Workgroup Number: **WG296833**
 Collect Date: **02/25/2009 14:23**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/09/2009 12:56**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/09/2009 12:56**
 File ID: **6M82061**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	106	86	118		
1,2-Dichloroethane-d4	99.7	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	112	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-12
Client ID: 17WW15-022609
Matrix: Water
Workgroup Number: WG296873
Collect Date: 02/26/2009 14:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 03/09/2009 18:05
Cal Date: 02/19/2009 14:17
Run Date: 03/09/2009 18:05
File ID: 8M352290

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.424	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-12**
 Client ID: **17WW15-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 14:01**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 18:05**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 18:05**
 File ID: **8M352290**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	101	86	118		
1,2-Dichloroethane-d4	92.7	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	99.8	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-13
 Client ID: 17WW16-022609
 Matrix: Water
 Workgroup Number: WG296873
 Collect Date: 02/26/2009 12:44
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS8
 Prep Date: 03/09/2009 18:37
 Cal Date: 02/19/2009 14:17
 Run Date: 03/09/2009 18:37
 File ID: 8M352291

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0	4.30		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.823	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030095**Report Date : **March 12, 2009**

00090410

Sample Number: **L09030095-13**
 Client ID: **17WW16-022609**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/26/2009 12:44**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 18:37**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 18:37**
 File ID: **8M352291**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	102	86	118		
1,2-Dichloroethane-d4	96.3	80	120		
Toluene-d8	101	88	110		
4-Bromofluorobenzene	99.5	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-14
Client ID: 17WW17-030409
Matrix: Water
Workgroup Number: WG296718
Collect Date: 03/04/2009 11:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: WTD
Dilution: 1
Units: ug/L

Instrument: HPMS11
Prep Date: 03/06/2009 18:30
Cal Date: 03/05/2009 18:51
Run Date: 03/06/2009 18:30
File ID: 11M57619

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3	1.94		1.00	0.125
1,2-Dichloroethane	107-06-2	0.274	J	1.00	0.250
1,1-Dichloroethene	75-35-4	1.92		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	46.0		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	0.497	J	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3	0.252	J	1.00	0.200
n-Propylbenzene	103-65-1	0.171	J	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.346	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	10.8		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-14**
 Client ID: **17WW17-030409**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/04/2009 11:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 18:30**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 18:30**
 File ID: **11M57619**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	1.44		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	0.455	J	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	96.1	86	118		
1,2-Dichloroethane-d4	91.6	80	120		
Toluene-d8	95.1	88	110		
4-Bromofluorobenzene	101	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-15
Client ID: 17WW18-030309
Matrix: Water
Workgroup Number: WG296718
Collect Date: 03/03/2009 14:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: WTD
Dilution: 1
Units: ug/L

Instrument: HPMS11
Prep Date: 03/06/2009 19:01
Cal Date: 03/05/2009 18:51
Run Date: 03/06/2009 19:01
File ID: 11M57620

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.373	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-15**
 Client ID: **17WW18-030309**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/03/2009 14:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 19:01**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 19:01**
 File ID: **11M57620**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	95.2	86	118		
1,2-Dichloroethane-d4	91.1	80	120		
Toluene-d8	96.9	88	110		
4-Bromofluorobenzene	104	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-16
 Client ID: MW-130-030409
 Matrix: Water
 Workgroup Number: WG296873
 Collect Date: 03/04/2009 12:30
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS8
 Prep Date: 03/09/2009 21:49
 Cal Date: 02/19/2009 14:17
 Run Date: 03/09/2009 21:49
 File ID: 8M352297

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2	4.29		1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.606	J	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	31.1		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030095**Report Date : **March 12, 2009**

00090416

Sample Number: **L09030095-16**
 Client ID: **MW-130-030409**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/04/2009 12:30**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 21:49**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 21:49**
 File ID: **8M352297**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	105	86	118		
1,2-Dichloroethane-d4	101	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	97.9	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-17
Client ID: 18WW14-030209
Matrix: Water
Workgroup Number: WG296718
Collect Date: 03/03/2009 11:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: WTD
Dilution: 1
Units: ug/L

Instrument: HPMS11
Prep Date: 03/06/2009 15:25
Cal Date: 03/05/2009 18:51
Run Date: 03/06/2009 15:25
File ID: 11M57613

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.290	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-17**
 Client ID: **18WW14-030209**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/03/2009 11:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 15:25**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 15:25**
 File ID: **11M57613**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	95.1	86	118		
1,2-Dichloroethane-d4	89.5	80	120		
Toluene-d8	96.6	88	110		
4-Bromofluorobenzene	100	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L09030095-18**
 Client ID: **18WW15-030309**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/03/2009 11:55**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 19:41**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 19:41**
 File ID: **8M352293**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.278	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030095**Report Date : **March 12, 2009**

00090420

Sample Number: **L09030095-18**
 Client ID: **18WW15-030309**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/03/2009 11:55**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 19:41**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 19:41**
 File ID: **8M352293**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	103	86	118		
1,2-Dichloroethane-d4	95.9	80	120		
Toluene-d8	100	88	110		
4-Bromofluorobenzene	99.7	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-19
Client ID: C-07-022509
Matrix: Water
Workgroup Number: WG296873
Collect Date: 02/25/2009 15:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 03/09/2009 15:57
Cal Date: 02/19/2009 14:17
Run Date: 03/09/2009 15:57
File ID: 8M352286

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-19**
 Client ID: **C-07-022509**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **02/25/2009 15:50**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 15:57**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 15:57**
 File ID: **8M352286**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	97.4	86	118		
1,2-Dichloroethane-d4	84.7	80	120		
Toluene-d8	99.1	88	110		
4-Bromofluorobenzene	97.3	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-20
Client ID: MW-18-030309
Matrix: Water
Workgroup Number: WG296873
Collect Date: 03/03/2009 15:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 03/09/2009 20:13
Cal Date: 02/19/2009 14:17
Run Date: 03/09/2009 20:13
File ID: 8M352294

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.677	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030095**Report Date : **March 12, 2009**

00090424

Sample Number: **L09030095-20**
 Client ID: **MW-18-030309**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/03/2009 15:50**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 20:13**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 20:13**
 File ID: **8M352294**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	105	86	118		
1,2-Dichloroethane-d4	97.8	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	102	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-21
 Client ID: 17WW10-022609-FD
 Matrix: Water
 Workgroup Number: WG296679
 Collect Date: 02/26/2009 11:45
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 03/06/2009 12:12
 Cal Date: 03/05/2009 16:25
 Run Date: 03/06/2009 12:12
 File ID: 6M82032

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-21**
 Client ID: **17WW10-022609-FD**
 Matrix: **Water**
 Workgroup Number: **WG296679**
 Collect Date: **02/26/2009 11:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/06/2009 12:12**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/06/2009 12:12**
 File ID: **6M82032**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	89.2	86	118		
1,2-Dichloroethane-d4	82.0	80	120		
Toluene-d8	91.2	88	110		
4-Bromofluorobenzene	96.9	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-22
Client ID: 17WW10-022609-MS
Matrix: Water
Workgroup Number: WG296679
Collect Date: 02/26/2009 11:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 03/06/2009 13:17
Cal Date: 03/05/2009 16:25
Run Date: 03/06/2009 13:17
File ID: 6M82034

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	19.8		10.0	2.50
Benzene	71-43-2	19.4		1.00	0.125
Bromobenzene	108-86-1	20.1		1.00	0.125
Bromochloromethane	74-97-5	20.4		1.00	0.200
Bromodichloromethane	75-27-4	20.5		1.00	0.250
Bromoform	75-25-2	16.1		1.00	0.500
Bromomethane	74-83-9	19.9		1.00	0.500
2-Butanone	78-93-3	16.2		10.0	2.50
n-Butylbenzene	104-51-8	19.9		1.00	0.250
sec-Butylbenzene	135-98-8	20.8		1.00	0.250
tert-Butylbenzene	98-06-6	20.1		1.00	0.250
Carbon disulfide	75-15-0	16.8		1.00	0.500
Carbon tetrachloride	56-23-5	20.5		1.00	0.250
Chlorobenzene	108-90-7	19.0		1.00	0.125
Chlorodibromomethane	124-48-1	19.4		1.00	0.250
Chloroethane	75-00-3	19.0		1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	19.4		1.00	0.125
Chloromethane	74-87-3	17.6		1.00	0.250
2-Chlorotoluene	95-49-8	19.7		1.00	0.125
4-Chlorotoluene	106-43-4	19.7		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.3		5.00	1.00
1,2-Dibromoethane	106-93-4	19.4		1.00	0.250
Dibromomethane	74-95-3	20.3		1.00	0.250
1,2-Dichlorobenzene	95-50-1	19.5		1.00	0.125
1,3-Dichlorobenzene	541-73-1	19.1		1.00	0.250
1,4-Dichlorobenzene	106-46-7	18.4		1.00	0.125
Dichlorodifluoromethane	75-71-8	16.7		1.00	0.250
1,1-Dichloroethane	75-34-3	19.5		1.00	0.125
1,2-Dichloroethane	107-06-2	19.4		1.00	0.250
1,1-Dichloroethene	75-35-4	19.6		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.5		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	19.8		1.00	0.250
1,2-Dichloropropane	78-87-5	19.1		1.00	0.200
1,3-Dichloropropane	142-28-9	19.4		1.00	0.200
2,2-Dichloropropane	594-20-7	19.7		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	19.7		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.5		1.00	0.500
1,1-Dichloropropene	563-58-6	20.3		1.00	0.250
Ethylbenzene	100-41-4	20.1		1.00	0.250
2-Hexanone	591-78-6	16.7		10.0	2.50
Hexachlorobutadiene	87-68-3	19.0		1.00	0.250
Isopropylbenzene	98-82-8	18.7		1.00	0.250
p-Isopropyltoluene	99-87-6	20.2		1.00	0.250
4-Methyl-2-pentanone	108-10-1	16.8		10.0	2.50
Methylene chloride	75-09-2	18.4		5.00	0.250
Naphthalene	91-20-3	17.9		1.00	0.200
n-Propylbenzene	103-65-1	20.8		1.00	0.125
Styrene	100-42-5	20.5		1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.7		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.2		1.00	0.125
Tetrachloroethene	127-18-4	19.8		1.00	0.250
Toluene	108-88-3	20.0		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.3		1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	19.0		1.00	0.200
1,1,1-Trichloroethane	71-55-6	20.0		1.00	0.250
1,1,2-Trichloroethane	79-00-5	19.2		1.00	0.250
Trichloroethene	79-01-6	19.5		1.00	0.250
Trichlorofluoromethane	75-69-4	19.3		1.00	0.250

Sample Number: **L09030095-22**
 Client ID: **17WW10-022609-MS**
 Matrix: **Water**
 Workgroup Number: **WG296679**
 Collect Date: **02/26/2009 11:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/06/2009 13:17**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/06/2009 13:17**
 File ID: **6M82034**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4	19.5		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.4		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	20.6		1.00	0.250
Vinyl acetate	108-05-4	20.6		10.0	2.50
Vinyl chloride	75-01-4	19.3		1.00	0.250
o-Xylene	95-47-6	20.3		1.00	0.250
m-,p-Xylene	136777-61-2	40.3		1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	93.9	86	118		
1,2-Dichloroethane-d4	86.6	80	120		
Toluene-d8	95.6	88	110		
4-Bromofluorobenzene	99.7	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-23
 Client ID: 17WW10-022609-MSD
 Matrix: Water
 Workgroup Number: WG296679
 Collect Date: 02/26/2009 11:45
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 03/06/2009 13:49
 Cal Date: 03/05/2009 16:25
 Run Date: 03/06/2009 13:49
 File ID: 6M82035

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	17.6		10.0	2.50
Benzene	71-43-2	19.4		1.00	0.125
Bromobenzene	108-86-1	20.4		1.00	0.125
Bromochloromethane	74-97-5	20.6		1.00	0.200
Bromodichloromethane	75-27-4	20.0		1.00	0.250
Bromoform	75-25-2	16.2		1.00	0.500
Bromomethane	74-83-9	20.8		1.00	0.500
2-Butanone	78-93-3	16.4		10.0	2.50
n-Butylbenzene	104-51-8	20.6		1.00	0.250
sec-Butylbenzene	135-98-8	20.8		1.00	0.250
tert-Butylbenzene	98-06-6	20.3		1.00	0.250
Carbon disulfide	75-15-0	16.6		1.00	0.500
Carbon tetrachloride	56-23-5	19.8		1.00	0.250
Chlorobenzene	108-90-7	19.0		1.00	0.125
Chlorodibromomethane	124-48-1	19.4		1.00	0.250
Chloroethane	75-00-3	18.7		1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	19.5		1.00	0.125
Chloromethane	74-87-3	17.3		1.00	0.250
2-Chlorotoluene	95-49-8	20.4		1.00	0.125
4-Chlorotoluene	106-43-4	19.8		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.1		5.00	1.00
1,2-Dibromoethane	106-93-4	19.1		1.00	0.250
Dibromomethane	74-95-3	20.2		1.00	0.250
1,2-Dichlorobenzene	95-50-1	19.6		1.00	0.125
1,3-Dichlorobenzene	541-73-1	19.4		1.00	0.250
1,4-Dichlorobenzene	106-46-7	18.5		1.00	0.125
Dichlorodifluoromethane	75-71-8	14.5		1.00	0.250
1,1-Dichloroethane	75-34-3	19.4		1.00	0.125
1,2-Dichloroethane	107-06-2	19.2		1.00	0.250
1,1-Dichloroethene	75-35-4	19.0		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.5		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	19.5		1.00	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.200
1,3-Dichloropropane	142-28-9	19.0		1.00	0.200
2,2-Dichloropropane	594-20-7	19.2		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	19.8		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.3		1.00	0.500
1,1-Dichloropropene	563-58-6	19.6		1.00	0.250
Ethylbenzene	100-41-4	20.1		1.00	0.250
2-Hexanone	591-78-6	16.5		10.0	2.50
Hexachlorobutadiene	87-68-3	19.6		1.00	0.250
Isopropylbenzene	98-82-8	18.6		1.00	0.250
p-Isopropyltoluene	99-87-6	20.4		1.00	0.250
4-Methyl-2-pentanone	108-10-1	16.4		10.0	2.50
Methylene chloride	75-09-2	18.3		5.00	0.250
Naphthalene	91-20-3	19.3		1.00	0.200
n-Propylbenzene	103-65-1	21.1		1.00	0.125
Styrene	100-42-5	20.8		1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.4		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.2		1.00	0.125
Tetrachloroethene	127-18-4	19.1		1.00	0.250
Toluene	108-88-3	20.1		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	20.4		1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	20.1		1.00	0.200
1,1,1-Trichloroethane	71-55-6	19.6		1.00	0.250
1,1,2-Trichloroethane	79-00-5	18.8		1.00	0.250
Trichloroethene	79-01-6	19.5		1.00	0.250
Trichlorofluoromethane	75-69-4	17.4		1.00	0.250

Sample Number: **L09030095-23**
 Client ID: **17WW10-022609-MSD**
 Matrix: **Water**
 Workgroup Number: **WG296679**
 Collect Date: **02/26/2009 11:45**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS6**
 Prep Date: **03/06/2009 13:49**
 Cal Date: **03/05/2009 16:25**
 Run Date: **03/06/2009 13:49**
 File ID: **6M82035**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4	19.4		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	21.0		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	21.1		1.00	0.250
Vinyl acetate	108-05-4	19.8		10.0	2.50
Vinyl chloride	75-01-4	18.9		1.00	0.250
o-Xylene	95-47-6	20.5		1.00	0.250
m-,p-Xylene	136777-61-2	40.2		1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	92.7	86	118		
1,2-Dichloroethane-d4	83.3	80	120		
Toluene-d8	94.9	88	110		
4-Bromofluorobenzene	101	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: L09030095-24
Client ID: 18WW14-030309-MS
Matrix: Water
Workgroup Number: WG296718
Collect Date: 03/03/2009 11:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: WTD
Dilution: 1
Units: ug/L

Instrument: HPMS11
Prep Date: 03/06/2009 15:56
Cal Date: 03/05/2009 18:51
Run Date: 03/06/2009 15:56
File ID: 11M57614

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	21.5		10.0	2.50
Benzene	71-43-2	18.5		1.00	0.125
Bromobenzene	108-86-1	19.8		1.00	0.125
Bromochloromethane	74-97-5	19.9		1.00	0.200
Bromodichloromethane	75-27-4	19.8		1.00	0.250
Bromoform	75-25-2	17.9		1.00	0.500
Bromomethane	74-83-9	19.3		1.00	0.500
2-Butanone	78-93-3	25.6		10.0	2.50
n-Butylbenzene	104-51-8	19.5		1.00	0.250
sec-Butylbenzene	135-98-8	19.1		1.00	0.250
tert-Butylbenzene	98-06-6	19.6		1.00	0.250
Carbon disulfide	75-15-0	15.9		1.00	0.500
Carbon tetrachloride	56-23-5	19.1		1.00	0.250
Chlorobenzene	108-90-7	18.2		1.00	0.125
Chlorodibromomethane	124-48-1	18.6		1.00	0.250
Chloroethane	75-00-3	18.8		1.00	0.500
2-Chloroethyl vinyl ether	110-75-8	16.1		10.0	2.00
Chloroform	67-66-3	18.9		1.00	0.125
Chloromethane	74-87-3	16.1		1.00	0.250
2-Chlorotoluene	95-49-8	19.5		1.00	0.125
4-Chlorotoluene	106-43-4	18.3		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	17.8		5.00	1.00
1,2-Dibromoethane	106-93-4	18.2		1.00	0.250
Dibromomethane	74-95-3	19.5		1.00	0.250
1,2-Dichlorobenzene	95-50-1	18.9		1.00	0.125
1,3-Dichlorobenzene	541-73-1	18.5		1.00	0.250
1,4-Dichlorobenzene	106-46-7	18.2		1.00	0.125
Dichlorodifluoromethane	75-71-8	15.1		1.00	0.250
1,1-Dichloroethane	75-34-3	18.8		1.00	0.125
1,2-Dichloroethane	107-06-2	18.5		1.00	0.250
1,1-Dichloroethene	75-35-4	18.1		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.4		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	19.3		1.00	0.250
1,2-Dichloropropane	78-87-5	19.4		1.00	0.200
1,3-Dichloropropane	142-28-9	18.2		1.00	0.200
2,2-Dichloropropane	594-20-7	19.3		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	18.5		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	16.5		1.00	0.500
1,1-Dichloropropene	563-58-6	18.6		1.00	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.250
2-Hexanone	591-78-6	17.4		10.0	2.50
Hexachlorobutadiene	87-68-3	19.1		1.00	0.250
Isopropylbenzene	98-82-8	16.9		1.00	0.250
p-Isopropyltoluene	99-87-6	18.6		1.00	0.250
4-Methyl-2-pentanone	108-10-1	18.5		10.0	2.50
Methylene chloride	75-09-2	19.0		5.00	0.250
Naphthalene	91-20-3	18.5		1.00	0.200
n-Propylbenzene	103-65-1	19.3		1.00	0.125
Styrene	100-42-5	19.7		1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.6		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	18.0		1.00	0.125
Tetrachloroethene	127-18-4	18.9		1.00	0.250
Toluene	108-88-3	19.4		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.5		1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	19.5		1.00	0.200
1,1,1-Trichloroethane	71-55-6	19.2		1.00	0.250
1,1,2-Trichloroethane	79-00-5	19.5		1.00	0.250
Trichloroethene	79-01-6	18.6		1.00	0.250
Trichlorofluoromethane	75-69-4	17.1		1.00	0.250

Sample Number: **L09030095-24**
 Client ID: **18WW14-030309-MS**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/03/2009 11:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 15:56**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 15:56**
 File ID: **11M57614**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4	18.1		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.4		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	19.0		1.00	0.250
Vinyl acetate	108-05-4	30.6		10.0	2.50
Vinyl chloride	75-01-4	16.5		1.00	0.250
o-Xylene	95-47-6	19.4		1.00	0.250
m-,p-Xylene	136777-61-2	38.2		1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	97.0	86	118		
1,2-Dichloroethane-d4	90.1	80	120		
Toluene-d8	95.8	88	110		
4-Bromofluorobenzene	99.1	86	115		

Sample Number: L09030095-25
Client ID: 18WW15-030309-FD
Matrix: Water
Workgroup Number: WG296873
Collect Date: 03/03/2009 11:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 03/09/2009 20:45
Cal Date: 02/19/2009 14:17
Run Date: 03/09/2009 20:45
File ID: 8M352295

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.266	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-25**
 Client ID: **18WW15-030309-FD**
 Matrix: **Water**
 Workgroup Number: **WG296873**
 Collect Date: **03/03/2009 11:55**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **MES**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS8**
 Prep Date: **03/09/2009 20:45**
 Cal Date: **02/19/2009 14:17**
 Run Date: **03/09/2009 20:45**
 File ID: **8M352295**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	102	86	118		
1,2-Dichloroethane-d4	96.6	80	120		
Toluene-d8	100	88	110		
4-Bromofluorobenzene	99.2	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030095-26
 Client ID: 18WW14-030309-MSD
 Matrix: Water
 Workgroup Number: WG296718
 Collect Date: 03/03/2009 11:35
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: WTD
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 03/06/2009 16:27
 Cal Date: 03/05/2009 18:51
 Run Date: 03/06/2009 16:27
 File ID: 11M57615

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	21.1		10.0	2.50
Benzene	71-43-2	18.1		1.00	0.125
Bromobenzene	108-86-1	19.9		1.00	0.125
Bromochloromethane	74-97-5	19.3		1.00	0.200
Bromodichloromethane	75-27-4	19.5		1.00	0.250
Bromoform	75-25-2	17.4		1.00	0.500
Bromomethane	74-83-9	19.6		1.00	0.500
2-Butanone	78-93-3	23.0		10.0	2.50
n-Butylbenzene	104-51-8	19.3		1.00	0.250
sec-Butylbenzene	135-98-8	18.9		1.00	0.250
tert-Butylbenzene	98-06-6	19.4		1.00	0.250
Carbon disulfide	75-15-0	15.3		1.00	0.500
Carbon tetrachloride	56-23-5	18.7		1.00	0.250
Chlorobenzene	108-90-7	18.5		1.00	0.125
Chlorodibromomethane	124-48-1	18.9		1.00	0.250
Chloroethane	75-00-3	18.2		1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	18.6		1.00	0.125
Chloromethane	74-87-3	15.7		1.00	0.250
2-Chlorotoluene	95-49-8	19.5		1.00	0.125
4-Chlorotoluene	106-43-4	18.1		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	17.1		5.00	1.00
1,2-Dibromoethane	106-93-4	18.1		1.00	0.250
Dibromomethane	74-95-3	18.8		1.00	0.250
1,2-Dichlorobenzene	95-50-1	18.5		1.00	0.125
1,3-Dichlorobenzene	541-73-1	18.7		1.00	0.250
1,4-Dichlorobenzene	106-46-7	18.7		1.00	0.125
Dichlorodifluoromethane	75-71-8	14.1		1.00	0.250
1,1-Dichloroethane	75-34-3	18.5		1.00	0.125
1,2-Dichloroethane	107-06-2	18.6		1.00	0.250
1,1-Dichloroethene	75-35-4	17.6		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.4		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	18.8		1.00	0.250
1,2-Dichloropropane	78-87-5	18.9		1.00	0.200
1,3-Dichloropropane	142-28-9	17.9		1.00	0.200
2,2-Dichloropropane	594-20-7	18.7		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	18.0		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	16.4		1.00	0.500
1,1-Dichloropropene	563-58-6	18.5		1.00	0.250
Ethylbenzene	100-41-4	18.2		1.00	0.250
2-Hexanone	591-78-6	16.9		10.0	2.50
Hexachlorobutadiene	87-68-3	18.9		1.00	0.250
Isopropylbenzene	98-82-8	16.7		1.00	0.250
p-Isopropyltoluene	99-87-6	18.3		1.00	0.250
4-Methyl-2-pentanone	108-10-1	16.8		10.0	2.50
Methylene chloride	75-09-2	18.2		5.00	0.250
Naphthalene	91-20-3	18.5		1.00	0.200
n-Propylbenzene	103-65-1	19.1		1.00	0.125
Styrene	100-42-5	19.1		1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.2		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	18.3		1.00	0.125
Tetrachloroethene	127-18-4	18.7		1.00	0.250
Toluene	108-88-3	19.1		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.6		1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	19.4		1.00	0.200
1,1,1-Trichloroethane	71-55-6	18.7		1.00	0.250
1,1,2-Trichloroethane	79-00-5	19.1		1.00	0.250
Trichloroethene	79-01-6	18.7		1.00	0.250
Trichlorofluoromethane	75-69-4	16.5		1.00	0.250

Sample Number: **L09030095-26**
 Client ID: **18WW14-030309-MSD**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/03/2009 11:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 16:27**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 16:27**
 File ID: **11M57615**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4	18.5		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.4		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	19.0		1.00	0.250
Vinyl acetate	108-05-4	29.7		10.0	2.50
Vinyl chloride	75-01-4	16.5		1.00	0.250
o-Xylene	95-47-6	18.9		1.00	0.250
m-,p-Xylene	136777-61-2	36.8		1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	94.9	86	118		
1,2-Dichloroethane-d4	89.4	80	120		
Toluene-d8	94.8	88	110		
4-Bromofluorobenzene	98.6	86	115		

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-28**
 Client ID: **TRIP BLANK**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/03/2009 11:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 14:54**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 14:54**
 File ID: **11M57612**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Sample Number: **L09030095-28**
 Client ID: **TRIP BLANK**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/03/2009 11:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 14:54**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 14:54**
 File ID: **11M57612**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	95.0	86	118		
1,2-Dichloroethane-d4	88.6	80	120		
Toluene-d8	95.9	88	110		
4-Bromofluorobenzene	103	86	115		

U Not detected at or above adjusted sample detection limit

2.1.1.2 QC Summary Data

Example 8260 Calculations

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

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

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100

RF = Calculated Response Factor **1.0039**

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

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

Example

where:

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

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

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

Example

where:

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

Dry weight correction:

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

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

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

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

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

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS8 Dataset: 021909
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27679

Internal Standard: STD31335 Surrogate Standard: STD31410
 CCV: STD31425 LCS: STD31431 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG295276; WG295371

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	8M351783	BLANK	NA	1	1		02/19/09 07:23
2	8M351784	BLANK	NA	1	1		02/19/09 07:55
3	8M351785	WG295276-01 50NG BFB STD 8260	NA	1	1	STD30703	02/19/09 08:25
4	8M351786	WG295276-02 0.3ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 08:50
5	8M351787	WG295276-03 0.4ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 09:23
6	8M351788	WG295276-04 1ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 09:55
7	8M351789	WG295276-05 2ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 10:31
8	8M351790	WG295276-06 5ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 11:03
9	8M351791	WG295276-07 20ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 11:37
10	8M351792	WG295276-08 50ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 12:09
11	8M351793	WG295276-09 100ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 12:41
12	8M351794	WG295276-10 200ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 13:13
13	8M351795	WG295276-11 300ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 13:45
14	8M351796	WG295276-09 100ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 14:17
15	8M351797	SYSTEM BLANK	NA	1	1		02/19/09 14:49
16	8M351798	SYSTEM BLANK	NA	1	1		02/19/09 15:21
17	8M351799	WG295276-12 20ug/L ALT SOURCE	NA	1	1	STD31431	02/19/09 16:12
18	8M351800	WG295276-12 100ug/L OXY ALT SOURCE	NA	1	1	STD31431	02/19/09 16:44
19	8M351801	WG295370-01 50NG BFB STD 8260	NA	1	1	STD30703	02/19/09 17:13
20	8M351802	WG295370-02 50ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 17:39
21	8M351803	WG295370-02 50ug/L WATER STD 8260	NA	1	1	STD31425	02/19/09 18:12
22	8M351804	WG295371-01 VBLK0219 BLANK 8260	NA	1	1		02/19/09 18:44
23	8M351805	WG295371-02 20ug/L LCS 8260	NA	1	1	STD31431	02/19/09 19:16
24	8M351806	WG295371-03 20ug/L LCSDUP 8260	NA	1	1	STD31431	02/19/09 19:48
25	8M351807	L09020270-08 A 826-SPE	<2	1	1		02/19/09 20:20
26	8M351808	L09020346-03 B 826-LOW	<2	1	1		02/19/09 20:52
27	8M351809	L09020270-05 A 826-SPE	<2	1	1		02/19/09 21:24
28	8M351810	L09020270-07 A 826-SPE	<2	1	1		02/19/09 21:56
29	8M351811	L09020270-01 A 5X 826-SPE	4	1	5		02/19/09 22:29
30	8M351812	L09020270-02 A 10X 826-SPE	<2	1	10		02/19/09 23:01
31	8M351813	L09020270-03 A 5X 826-SPE	<2	1	5		02/19/09 23:33
32	8M351814	L09020270-04 A 10X 826-SPE	<2	1	10		02/20/09 00:05
33	8M351815	L09020270-06 A 10X 826-SPE	<2	1	10		02/20/09 00:37
34	8M351816	L09020271-01 A 10X 826-SPE	<2	1	10		02/20/09 01:09

Approved: February 20, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS8 Dataset: 021909
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 12
Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27679

Internal Standard: STD31335 Surrogate Standard: STD31410
CCV: STD31425 LCS: STD31431 MS/MSD: NA
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG295276; WG295371

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
35	8M351817	L09020271-02 A 5X 826-SPE	<2	1	5		02/20/09 01:41
36	8M351818	L09020271-03 A 2.5X 826-SPE	<2	1	5		02/20/09 02:13
37	8M351819	L09020271-04 A 2.5X 826-SPE	<2	1	5		02/20/09 02:45
38	8M351820	L09020271-05 A 5X 826-SPE	<2	1	5		02/20/09 03:17
39	8M351821	L09020271-06 A 5X 826-SPE	<2	1	5		02/20/09 03:49
40	8M351822	L09020271-07 A 5X 826-SPE	<2	1	5		02/20/09 04:21
41	8M351823	L09020408-01 A 826-LOW	4	1	1		02/20/09 04:53
42	8M351824	SYSTEM BLANK	NA	1	1		02/20/09 05:25
43	8M351825	SYSTEM BLANK	NA	1	1		02/20/09 05:57
44	8M351826	SYSTEM BLANK	NA	1	1		02/20/09 06:29

Comments

Seq.	Rerun	Dil.	Reason	Analytes
11	X	100		
File ID: 8M351793				
DNR.				
20	X			
File ID: 8M351802				
DNR.				
32	X	5	Analyzed too dilute	
File ID: 8M351814				
33	X	5	Analyzed too dilute	
File ID: 8M351815				
34	X	5	Analyzed too dilute	
File ID: 8M351816				
35	X	2.5	Analyzed too dilute	
File ID: 8M351817				
37	X	1	Analyzed too dilute	
File ID: 8M351819				
38	X	1	Analyzed too dilute	

Approved: February 20, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS8 Dataset: 021909
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 12
Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27679

Internal Standard: STD31335 Surrogate Standard: STD31410
CCV: STD31425 LCS: STD31431 MS/MSD: NA
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG295276; WG295371

Comments: Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 8M351820				
40	X	2.5	Analyzed too dilute	
File ID: 8M351822				
41	X	10	Over Calibration Range	NAPH
File ID: 8M351823				

Approved: February 20, 2009

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 030509
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 624 SOP: MSV10 Rev: 7
 Method: 5030/5035 SOP: PAT01 Rev: 11
 Maintenance Log ID: 27880

Internal Standard: STD31170 Surrogate Standard: STD31410
 CCV: STD31671 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG296582

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M82006	WG296581-01 50NG BFB STD 8260	NA	1	1	STD31210	03/05/09 08:45
2	6M82007	WG296582-02 50ug/L WATER STD 8260	NA	1	1	STD31435	03/05/09 09:14
3	6M82008	WG296583-01 VBLK0305 BLANK 8260	NA	1	1		03/05/09 09:46
4	6M82009	WG296583-01 VBLK0305 BLANK 8260	NA	1	1		03/05/09 10:18
5	6M82010	WG296582-01 50NG BFB STD 8260	NA	1	1	STD31210	03/05/09 11:01
6	6M82011	WG296582-02 0.3ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 11:26
7	6M82012	WG296582-03 0.4ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 12:07
8	6M82013	WG296582-04 1ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 12:40
9	6M82014	WG296582-05 2 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 13:12
10	6M82015	WG296582-06 5 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 13:44
11	6M82016	WG296582-07 20 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 14:16
12	6M82017	WG296582-08 50 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 14:49
13	6M82018	WG296582-09 100 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 15:21
14	6M82019	WG296582-10 200 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 15:53
15	6M82020	WG296582-11 300 ug/L WATER STD 8260	NA	1	1	STD31671	03/05/09 16:25
16	6M82021	SYSTEM BLANK	NA	1	1		03/05/09 16:57
17	6M82022	WG296582-12 20ug/L ALT SOURCE	NA	1	1	STD31617	03/05/09 17:31
18	6M82023	WG296582-12 100ug/L OXY ALT SOURCE	NA	1	1	STD31617	03/05/09 18:04

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
File ID: 6M82007				
Running a curve-no longer passing for AFCEE.				

Approved: March 06, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030509
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27854

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296612

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M57580	WG296573-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/05/09 08:29
2	11M57581	WG296573-02 50ug/L STD 8260	NA	1	1	STD31491	03/05/09 08:53
3	11M57582	WG296574-01 BLANK 8260	NA	1	1		03/05/09 09:30
4	11M57583	WG296574-01 BLANK 8260	NA	1	1		03/05/09 10:01
5	11M57585	WG296612-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/05/09 12:20
6	11M57586	SYSTEM BLANK	NA	1	1		03/05/09 12:44
7	11M57587	WG296612-02 0.3ug/L STD 8260	NA	1	1	STD31491	03/05/09 13:42
8	11M57588	WG296612-03 0.4ug/L STD 8260	NA	1	1	STD31491	03/05/09 14:13
9	11M57589	WG296612-04 1ug/L STD 8260	NA	1	1	STD31491	03/05/09 14:43
10	11M57590	WG296612-02 0.3ug/L STD 8260	NA	1	1	STD31491	03/05/09 15:14
11	11M57591	WG296612-05 2ug/L STD 8260	NA	1	1	STD31491	03/05/09 15:45
12	11M57592	WG296612-06 5ug/L STD 8260	NA	1	1	STD31491	03/05/09 16:16
13	11M57593	WG296612-07 20ug/L STD 8260	NA	1	1	STD31491	03/05/09 16:47
14	11M57594	WG296612-08 50ug/L STD 8260	NA	1	1	STD31491	03/05/09 17:18
15	11M57595	WG296612-09 100ug/L STD 8260	NA	1	1	STD31491	03/05/09 17:49
16	11M57596	WG296612-10 200ug/L STD 8260	NA	1	1	STD31491	03/05/09 18:20
17	11M57597	WG296612-11 300ug/L STD 8260	NA	1	1	STD31491	03/05/09 18:51
18	11M57598	SYSTEM BLANK	NA	1	1		03/05/09 19:22
19	11M57599	SYSTEM BLANK	NA	1	1		03/05/09 19:53
20	11M57600	SYSTEM BLANK	NA	1	1		03/05/09 20:24
21	11M57601	SYSTEM BLANK	NA	1	1		03/05/09 20:55
22	11M57602	WG296612-12 20ug/L ALT SRC 8260	NA	1	1	STD31617	03/05/09 21:26
23	11M57603	WG296612-12 OXY ALT SRC 8260	NA	1	1	STD31617	03/05/09 21:57
24	11M57604	SYSTEM BLANK	NA	1	1		03/05/09 22:28

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1				
File ID: 11M57580				
DNR				
2				
File ID: 11M57581				
DNR				
3				

Approved: March 06, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030509
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27854

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296612

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 11M57582				
DNR				
4				
File ID: 11M57583				
DNR				
7	X			
File ID: 11M57587				
dnr				

Approved: March 06, 2009

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 030609
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 624 SOP: MSV10 Rev: 7
 Method: 5030/5035 SOP: PAT01 Rev: 11
 Maintenance Log ID: 27897

Internal Standard: STD31689 Surrogate Standard: STD31410
 CCV: STD31671 LCS: STD31671 MS/MSD: STD31617
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG296679

Comments: 0095-04 to 06,08,09,11 to 13, and 19 need to RR straight-not reporting these dilutions.

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M82025	WG296678-01 50NG BFB STD 8260	NA	1	1	STD31210	03/06/09 08:35
2	6M82026	WG296678-02 50 ug/L WATER STD 8260	NA	1	1	STD31671	03/06/09 09:00
3	6M82027	WG296679-01 VBLK0306 BLANK 8260	NA	1	1		03/06/09 09:32
4	6M82028	WG296679-02 20ug/L LCS 8260	NA	1	1	STD31617	03/06/09 10:04
5	6M82029	L09030114-06 A 826-SPE	<2	1	1		03/06/09 10:36
6	6M82030	L09030095-03 A 826-LOW	<2	1	1		03/06/09 11:08
7	6M82031	L09030095-02 A 826-LOW	<2	1	1		03/06/09 11:40
8	6M82032	L09030095-21 A 826-LOW	<2	1	1		03/06/09 12:12
9	6M82033	L09030095-07 A 826-LOW	6	1	1		03/06/09 12:45
10	6M82034	L09030095-22 MS A 826-LOW	<2	1	1	STD31617	03/06/09 13:17
11	6M82035	L09030095-23 MSD A 826-LOW	<2	1	1	STD31617	03/06/09 13:49
12	6M82036	L09030114-01 A 2X 826-SPE	<2	1	2		03/06/09 14:21
13	6M82037	L09030114-03 A 2X 826-SPE	<2	1	2		03/06/09 14:53
14	6M82038	L09030095-04 A 100X 826-LOW	<2	1	100		03/06/09 15:25
15	6M82039	L09030095-05 A 100X 826-LOW	<2	1	100		03/06/09 15:57
16	6M82040	L09030095-06 A 100X 826-LOW	<2	1	100		03/06/09 16:29
17	6M82041	L09030095-08 A 100X 826-LOW	<2	1	100		03/06/09 17:02
18	6M82042	L09030095-09 A 100X 826-LOW	<2	1	100		03/06/09 17:34
19	6M82043	L09030095-11 A 100X 826-LOW	<2	1	100		03/06/09 18:06
20	6M82044	L09030095-12 A 100X 826-LOW	<2	1	100		03/06/09 18:38
21	6M82045	L09030095-13 A 100X 826-LOW	<2	1	100		03/06/09 19:10
22	6M82046	L09030095-19 A 100X 826-LOW	<2	1	100		03/06/09 19:42
23	6M82047	L09030095-01 A 100X 826-LOW	<2	1	100		03/06/09 20:14
24	6M82048	SYSTEM BLANK	NA	1	1		03/06/09 20:46
25	6M82049	WG296679-06 624 BLANK	NA	2	1		03/06/09 21:18
26	6M82050	L09030143-01 A 624-SPE5	7	2	1		03/06/09 21:50

Comments

Seq.	Rerun	Dil.	Reason	Analytes
23	X	50	Analyzed too dilute	
File ID: 6M82047				
DNR				

Approved: March 09, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030609
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27889

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296718

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M57605	WG296717-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/06/09 11:36
2	11M57606	WG296717-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/06/09 11:56
3	11M57607	WG296717-02 CCV 50ug/L 8260	NA	1	1	STD31491	03/06/09 12:20
4	11M57608	WG296718-01 BLANK 8260	NA	1	1		03/06/09 12:51
5	11M57609	WG296718-01 BLANK 8260	NA	1	1		03/06/09 13:22
6	11M57610	WG296718-02 LCS 20ug/L 8260	NA	1	1	STD31617	03/06/09 13:53
7	11M57611	L09030095-17 A 100X 826-LOW	<2	1	100		03/06/09 14:23
8	11M57612	L09030095-28 A 826-LOW	<2	1	1		03/06/09 14:54
9	11M57613	L09030095-17 A 826-LOW	7	1	1		03/06/09 15:25
10	11M57614	L09030095-24 A MS 826-LOW	7	1	1	STD31617	03/06/09 15:56
11	11M57615	L09030095-26 A MSD 826-LOW	<2	1	1	STD31617	03/06/09 16:27
12	11M57616	SYSTEM BLANK	NA	1	1		03/06/09 16:57
13	11M57617	L09030089-01 A 826-LOW	<2	1	1		03/06/09 17:28
14	11M57618	L09030089-02 A 826-LOW	<2	1	1		03/06/09 17:59
15	11M57619	L09030095-14 A 826-LOW	<2	1	1		03/06/09 18:30
16	11M57620	L09030095-15 A 826-LOW	<2	1	1		03/06/09 19:01
17	11M57621	L09030127-03 A 826-LOW	<2	1	1		03/06/09 19:31
18	11M57622	L09030095-10 A 100X 826-LOW	<2	1	100		03/06/09 20:02
19	11M57623	L09030095-20 A 100X 826-LOW	<2	1	100		03/06/09 20:33
20	11M57624	L09030095-16 A 100X 826-LOW	<2	1	100		03/06/09 21:04
21	11M57625	L09030127-01 A 100X 826-LOW	<2	1	100		03/06/09 21:35
22	11M57626	L09030127-02 A 100X 826-LOW	<2	1	100		03/06/09 22:06
23	11M57627	L09030095-18 A 100X 826-LOW	7	1	100		03/06/09 22:36
24	11M57628	SYSTEM BLANK	NA	1	1		03/06/09 23:07
25	11M57629	SYSTEM BLANK	NA	1	1		03/06/09 23:38
26	11M57630	WG296718-06 BLANK 624	NA	2	1		03/07/09 00:09
27	11M57631	L09030146-01 A 624-SPE1	7	2	1		03/07/09 00:40
28	11M57632	L09030146-02 A 624-SPE1	7	2	1		03/07/09 01:11
29	11M57633	L09030146-03 A 624-SPE1	7	2	1		03/07/09 01:41
30	11M57634	SYSTEM BLANK	NA	2	1		03/07/09 02:12
31	11M57635	SYSTEM BLANK	NA	2	1		03/07/09 02:43

Comments

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WTD



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030609
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27889

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296718

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X		Carry-over contamination	
File ID: 11M57608				
dnr				
7				
File ID: 11M57611				
dnr rr st				
17	X	2	Over Calibration Range	trichloroethene
File ID: 11M57621				
18	X	1	Analyzed too dilute	
File ID: 11M57622				
19	X	1	Analyzed too dilute	
File ID: 11M57623				
20	X	1	Analyzed too dilute	
File ID: 11M57624				
21	X	10	Analyzed too dilute	
File ID: 11M57625				
22	X	1	Analyzed too dilute	
File ID: 11M57626				
23	X	1	Analyzed too dilute	
File ID: 11M57627				

Approved: March 09, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS6 Dataset: 030909
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 624 SOP: MSV10 Rev: 7
 Method: 5030/5035 SOP: PAT01 Rev: 11
 Maintenance Log ID: 27913

Internal Standard: STD31689 Surrogate Standard: STD31410
 CCV: STD31671 LCS: STD31708 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG296833

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M82052	SYSTEM BLANK	NA	2	1		03/09/09 07:52
2	6M82053	SYSTEM BLANK	NA	2	1		03/09/09 08:24
3	6M82054	WG296832-01 50NG BFB STD 8260	NA	1	1	STD31210	03/09/09 08:54
4	6M82055	WG296832-02 50ug/L WATER STD 8260	NA	1	1	STD31671	03/09/09 09:20
5	6M82056	WG296833-01 VBLK0309 BLANK 8260	NA	1	1		03/09/09 10:09
6	6M82057	WG296833-02 20ug/L LCS 8260	NA	1	1	STD31708	03/09/09 10:42
7	6M82058	WG296833-03 20ug/L LCSDUP 8260	NA	1	1	STD31708	03/09/09 11:17
8	6M82059	L09030095-04 B 826-LOW	<2	1	1		03/09/09 11:52
9	6M82060	L09030095-05 B 826-LOW	<2	1	1		03/09/09 12:24
10	6M82061	L09030095-11 B 826-LOW	<2	1	1		03/09/09 12:56
11	6M82062	L09030165-01 A 826-SPE	<2	1	1		03/09/09 13:28
12	6M82063	L09030165-05 A 826-SPE	<2	1	1		03/09/09 14:01
13	6M82064	L09030165-09 A 826-SPE	<2	1	1		03/09/09 14:33
14	6M82065	L09030142-08 A 826-SPE	<2	1	1		03/09/09 15:06
15	6M82066	L09030142-09 A 826-SPE	<2	1	1		03/09/09 15:38
16	6M82067	L09030165-02 A 826-SPE	<2	1	1		03/09/09 16:10
17	6M82068	L09030165-03 A 826-SPE	<2	1	1		03/09/09 16:42
18	6M82069	L09030165-04 A 826-SPE	<2	1	1		03/09/09 17:14
19	6M82070	L09030165-06 A 826-SPE	<2	1	1		03/09/09 17:46
20	6M82071	L09030165-07 A 826-SPE	<2	1	1		03/09/09 18:18
21	6M82072	L09030165-08 A 826-SPE	<2	1	1		03/09/09 18:50
22	6M82073	L09030153-01 A 826-SPE	<2	1	1		03/09/09 19:22
23	6M82074	L09030153-02 A 826-SPE	<2	1	1		03/09/09 19:55
24	6M82075	L09030153-10 A 826-SPE	<2	1	1		03/09/09 20:27
25	6M82076	L09030153-11 A 826-SPE	<2	1	1		03/09/09 20:59
26	6M82077	SYSTEM BLANK	NA	1	1		03/09/09 21:31
27	6M82078	WG296833-04 624 BLANK	NA	1	1		03/09/09 22:03
28	6M82079	L09030156-07 A 624-SPE	7	2	1		03/09/09 22:35
29	6M82080	L09030156-08 A 624-SPE	7	2	1		03/09/09 23:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
25	X	1	Missed Tune	

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS6 Dataset: 030909
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 12
Method: 624 SOP: MSV10 Rev: 7
Method: 5030/5035 SOP: PAT01 Rev: 11
Maintenance Log ID: 27913

Internal Standard: STD31689 Surrogate Standard: STD31410
CCV: STD31671 LCS: STD31708 MS/MSD: NA
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG296833

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 6M82076				

Approved: March 10, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS8 Dataset: 030909
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 624 SOP: MSV10 Rev: 7
 Method: 5030/5035 SOP: PAT01 Rev: 11
 Maintenance Log ID: 27915

Internal Standard: STD31335 Surrogate Standard: STD31439
 CCV: STD31671 LCS: STD31708 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG296873

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	8M352275	WATER BLANK	NA	7	1		03/09/09 07:59
2	8M352276	WATER BLANK	NA	7	1		03/09/09 08:31
3	8M352277	WG296872-01 50NG BFB STD 8260	NA	1	1	STD31709	03/09/09 11:30
4	8M352278	WG296872-01 50NG BFB STD 8260	NA	1	1	STD31709	03/09/09 11:45
5	8M352279	WG296872-02 50ug/L WATER STD 8260	NA	1	1	STD31671	03/09/09 12:10
6	8M352280	WG296872-02 50ug/L WATER STD 8260	NA	1	1	STD31671	03/09/09 12:44
7	8M352281	WG296873-01 VBLK0309 BLANK 8260	NA	1	1		03/09/09 13:16
8	8M352282	WG296873-02 20ug/L LCS 8260	NA	1	1	STD31708	03/09/09 13:49
9	8M352283	WG296873-03 20ug/L LCSDUP 8260	NA	1	1	STD31708	03/09/09 14:21
10	8M352284	L09030157-02 A 100X 8260	NA	12	100		03/09/09 14:53
11	8M352285	L09030157-03 A 100X 8260	NA	12	100		03/09/09 15:25
12	8M352286	L09030095-19 B 826-LOW	<2	1	1		03/09/09 15:57
13	8M352287	L09030095-06 B 826-LOW	<2	1	1		03/09/09 16:29
14	8M352288	L09030095-08 B 826-LOW	<2	1	1		03/09/09 17:01
15	8M352289	L09030095-09 B 826-LOW	<2	1	1		03/09/09 17:33
16	8M352290	L09030095-12 B 826-LOW	<2	1	1		03/09/09 18:05
17	8M352291	L09030095-13 B 826-LOW	<2	1	1		03/09/09 18:37
18	8M352292	L09030095-10 B 826-LOW	<2	1	1		03/09/09 19:09
19	8M352293	L09030095-18 B 826-LOW	7	1	1		03/09/09 19:41
20	8M352294	L09030095-20 B 826-LOW	<2	1	1		03/09/09 20:13
21	8M352295	L09030095-25 B 826-LOW	7	1	1		03/09/09 20:45
22	8M352296	L09030095-01 B 50X 826-LOW	<2	1	50		03/09/09 21:17
23	8M352297	L09030095-16 B 826-LOW	<2	1	1		03/09/09 21:49
24	8M352298	L09030166-01 A 826-SPE1	<2	1	1		03/09/09 22:21
25	8M352299	L09030166-02 A 826-SPE1	<2	1	1		03/09/09 22:53
26	8M352300	L09030166-03 A 826-SPE1	<2	1	1		03/09/09 23:25
27	8M352301	SYSTEM BLANK	NA	1	1		03/09/09 23:57
28	8M352302	SYSTEM BLANK	NA	1	1		03/10/09 00:29
29	8M352303	WG296873-04 624 BLANK	NA	1	1		03/10/09 01:00
30	8M352304	L09030179-01 A 624	7	2	1		03/10/09 01:32
31	8M352305	L09030179-02 A 624	7	2	1		03/10/09 02:05
32	8M352308	WATER BLANK	NA	7	1		03/10/09 08:11

Approved: March 10, 2009

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS8 Dataset: 030909
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 624 SOP: MSV10 Rev: 7
 Method: 5030/5035 SOP: PAT01 Rev: 11
 Maintenance Log ID: 27915

Internal Standard: STD31335 Surrogate Standard: STD31439
 CCV: STD31671 LCS: STD31708 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG296873

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3				
File ID: 8M352277				
RR, BFB failed.				
5				
File ID: 8M352279				
RR, vc is high.				
10				
File ID: 8M352284				
Too foamy to run more concentrated.				
11				
File ID: 8M352285				
Too foamy to run more concentrated.				
24	X	25	Over Calibration Range	benzene and toluene
File ID: 8M352298				
26	X	50	Over Calibration Range	BETX
File ID: 8M352300				

Approved: March 10, 2009

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Microbac Laboratories Inc.

Data Checklist

Date: 19-FEB-2009

Analyst: MES

Analyst: NA

Method: 8260

Instrument: HPMS8

Curve Workgroup: NA

Runlog ID: 26615

Analytical Workgroups: WG295371; WG295276

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

Primary Reviewer:
20-FEB-2009

Tiffany Bailey

Secondary Reviewer:
20-FEB-2009

Non

Microbac Laboratories Inc.

Data Checklist

Date: 05-MAR-2009

Analyst: MES

Analyst: NA

Method: 8260/624

Instrument: HPMS6

Curve Workgroup: NA

Runlog ID: 26909

Analytical Workgroups: WG296582

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

Primary Reviewer:
06-MAR-2009



Secondary Reviewer:
06-MAR-2009



Microbac Laboratories Inc.

Data Checklist

Date: 05-MAR-2009

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 26900

Analytical Workgroups: 296612

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

Primary Reviewer:
06-MAR-2009

Secondary Reviewer:
06-MAR-2009

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: MES

Analyst: NA

Method: 8260

Instrument: HPMS6

Curve Workgroup: NA

Runlog ID: 26938

Analytical Workgroups: WG296679

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

Primary Reviewer:
09-MAR-2009



Secondary Reviewer:
09-MAR-2009



Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 26914

Analytical Workgroups: 296718

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

Primary Reviewer:
09-MAR-2009

Secondary Reviewer:
09-MAR-2009

Microbac Laboratories Inc.

Data Checklist

Date: 09-MAR-2009

Analyst: MES

Analyst: NA

Method: 8260/624

Instrument: HPMS6

Curve Workgroup: NA

Runlog ID: 26961

Analytical Workgroups: WG296833

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

Primary Reviewer:
10-MAR-2009



Secondary Reviewer:
10-MAR-2009



Microbac Laboratories Inc.

Data Checklist

Date: 09-MAR-2009

Analyst: MES

Analyst: NA

Method: 8260/624

Instrument: HPMS8

Curve Workgroup: NA

Runlog ID: 26953

Analytical Workgroups: WG296873

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

Primary Reviewer:
10-MAR-2009



Secondary Reviewer:
10-MAR-2009



Analytical Method: 8260B

AAB#: WG296679

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW05-022509	02/25/09	03/05/09	03/06/09	14	8.86	03/06/09	14	8.86	
17WW10-022609	02/26/09	03/05/09	03/06/09	14	8.04	03/06/09	14	8.04	
17WW04-030209	03/02/09	03/05/09	03/06/09	14	3.89	03/06/09	14	3.89	
17WW10-022609-MS	02/26/09	03/05/09	03/06/09	14	8.06	03/06/09	14	8.06	
17WW10-022609-FD	02/26/09	03/05/09	03/06/09	14	8.02	03/06/09	14	8.02	
17WW10-022609-MSD	02/26/09	03/05/09	03/06/09	14	8.09	03/06/09	14	8.09	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

Analytical Method: 8260B

AAB#: WG296718

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW17-030409	03/04/09	03/05/09	03/06/09	14	2.28	03/06/09	14	2.28	
18WW14-030309-MS	03/03/09	03/05/09	03/06/09	14	3.18	03/06/09	14	3.18	
TRIP BLANK	03/03/09	03/05/09	03/06/09	14	3.14	03/06/09	14	3.14	
17WW18-030309	03/03/09	03/05/09	03/06/09	14	3.18	03/06/09	14	3.18	
18WW14-030209	03/03/09	03/05/09	03/06/09	14	3.16	03/06/09	14	3.16	
18WW14-030309-MSD	03/03/09	03/05/09	03/06/09	14	3.20	03/06/09	14	3.20	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

Analytical Method: 8260B

AAB#: WG296833

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW07-022509	02/25/09	03/05/09	03/09/09	14	12.0	03/09/09	14	12.0	
17WW08-022509	02/25/09	03/05/09	03/09/09	14	12.1	03/09/09	14	12.1	
17WW14-022509	02/25/09	03/05/09	03/09/09	14	11.9	03/09/09	14	11.9	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

Analytical Method: 8260B

AAB#: WG296873

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
MW-18-030309	03/03/09	03/05/09	03/09/09	14	6.18	03/09/09	14	6.18	
17WW11-022609	02/26/09	03/05/09	03/09/09	14	11.0	03/09/09	14	11.0	
17WW12-022609	02/26/09	03/05/09	03/09/09	14	11.1	03/09/09	14	11.1	
18WW15-030309	03/03/09	03/05/09	03/09/09	14	6.32	03/09/09	14	6.32	
17WW09-022609	02/26/09	03/05/09	03/09/09	14	11.1	03/09/09	14	11.1	
17WW16-022609	02/26/09	03/05/09	03/09/09	14	11.2	03/09/09	14	11.2	
17WW13-030309	03/03/09	03/05/09	03/09/09	14	6.36	03/09/09	14	6.36	
C-07-022509	02/25/09	03/05/09	03/09/09	14	12.0	03/09/09	14	12.0	
17WW15-022609	02/26/09	03/05/09	03/09/09	14	11.2	03/09/09	14	11.2	
17WW01-030409	03/04/09	03/05/09	03/09/09	14	5.42	03/09/09	14	5.42	
18WW15-030309-FD	03/03/09	03/05/09	03/09/09	14	6.37	03/09/09	14	6.37	
MW-130-030409	03/04/09	03/05/09	03/09/09	14	5.39	03/09/09	14	5.39	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

Login Number: L09030095
Instrument Id: HPMS6
Workgroup (AAB#): WG296833

Method: 8260
CAL ID: HPMS6 - 05-MAR-09
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L09030095-04	1.00	01	96.5	105	111	103
L09030095-05	1.00	01	100	106	110	102
L09030095-11	1.00	01	99.7	106	112	102
WG296833-01	1.00	01	95.9	101	106	97.5
WG296833-02	1.00	01	98.1	105	108	101
WG296833-03	1.00	01	95.0	105	108	102
WG296833-04	1.00	01	115	112	111	101

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

Login Number: L09030095
Instrument Id: HPMS11
Workgroup (AAB#): WG296718

Method: 8260
CAL ID: HPMS11 - 05-MAR-09
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L09030095-14	1.00	01	91.6	96.1	101	95.1
L09030095-15	1.00	01	91.1	95.2	104	96.9
L09030095-17	1.00	01	89.5	95.1	100	96.6
L09030095-24	1.00	01	90.1	97.0	99.1	95.8
L09030095-26	1.00	01	89.4	94.9	98.6	94.8
L09030095-28	1.00	01	88.6	95.0	103	95.9
WG296718-01	1.00	01	88.2	96.0	101	96.7
WG296718-02	1.00	01	88.8	95.1	97.8	96.2
WG296718-06	1.00	01	88.2	95.2	100	95.5

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	80 - 120
2 - Dibromofluoromethane	86 - 118
3 - 4-Bromofluorobenzene	86 - 115
4 - Toluene-d8	88 - 110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

Login Number: L09030095
Instrument Id: HPMS8
Workgroup (AAB#): WG296873

Method: 8260
CAL ID: HPMS8 - 19-FEB-09
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L09030095-01	50.0	DL01	98.7	104	102	102
L09030095-06	1.00	01	89.5	98.2	99.7	101
L09030095-08	1.00	01	89.5	101	98.2	100
L09030095-09	1.00	01	93.5	102	100	102
L09030095-10	1.00	01	92.2	102	102	100
L09030095-12	1.00	01	92.7	101	99.8	102
L09030095-13	1.00	01	96.3	102	99.5	101
L09030095-16	1.00	01	101	105	97.9	102
L09030095-18	1.00	01	95.9	103	99.7	100
L09030095-19	1.00	01	84.7	97.4	97.3	99.1
L09030095-20	1.00	01	97.8	105	102	102
L09030095-25	1.00	01	96.6	102	99.2	100
WG296873-01	1.00	01	89.7	100	100	100
WG296873-02	1.00	01	88.2	99.7	97.7	98.5
WG296873-03	1.00	01	87.3	99.6	97.8	100
WG296873-04	1.00	01	<u>76.8</u>	92.9	95.7	101

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	80 - 120
2 - Dibromofluoromethane	86 - 118
3 - 4-Bromofluorobenzene	86 - 115
4 - Toluene-d8	88 - 110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

Login Number: L09030095
Instrument Id: HPMS6
Workgroup (AAB#): WG296679

Method: 8260
CAL ID: HPMS6 - 05-MAR-09
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L09030095-02	1.00	01	83.7	90.2	96.8	92.5
L09030095-03	1.00	01	85.6	93.3	101	96.1
L09030095-07	1.00	01	83.7	90.2	96.7	91.7
L09030095-21	1.00	01	82.0	89.2	96.9	91.2
L09030095-22	1.00	01	86.6	93.9	99.7	95.6
L09030095-23	1.00	01	83.3	92.7	101	94.9
WG296679-01	1.00	01	81.5	89.7	98.6	93.8
WG296679-02	1.00	01	79.1	86.4	94.4	91.5
WG296679-06	1.00	01	99.7	100	105	95.8

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

METHOD BLANK SUMMARY

Login Number: L09030095
 Blank File ID: 11M57609
 Prep Date: 03/06/09 13:22
 Analyzed Date: 03/06/09 13:22
 Analyst: WTD

Work Group: WG296718
 Blank Sample ID: WG296718-01
 Instrument ID: HPMS11
 Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296718-02	11M57610	03/06/09 13:53	01
TRIP BLANK	L09030095-28	11M57612	03/06/09 14:54	01
18WW14-030209	L09030095-17	11M57613	03/06/09 15:25	01
18WW14-030309-MS	L09030095-24	11M57614	03/06/09 15:56	01
18WW14-030309-MSD	L09030095-26	11M57615	03/06/09 16:27	01
17WW17-030409	L09030095-14	11M57619	03/06/09 18:30	01
17WW18-030309	L09030095-15	11M57620	03/06/09 19:01	01

Report Name: BLANK_SUMMARY
 PDF File ID: 1339048
 Report generated 03/10/2009 14:05



METHOD BLANK SUMMARY

Login Number: L09030095
 Blank File ID: 6M82027
 Prep Date: 03/06/09 09:32
 Analyzed Date: 03/06/09 09:32
 Analyst: MES

Work Group: WG296679
 Blank Sample ID: WG296679-01
 Instrument ID: HPMS6
 Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296679-02	6M82028	03/06/09 10:04	01
17WW05-022509	L09030095-03	6M82030	03/06/09 11:08	01
17WW04-030209	L09030095-02	6M82031	03/06/09 11:40	01
17WW10-022609-FD	L09030095-21	6M82032	03/06/09 12:12	01
17WW10-022609	L09030095-07	6M82033	03/06/09 12:45	01
17WW10-022609-MS	L09030095-22	6M82034	03/06/09 13:17	01
17WW10-022609-MSD	L09030095-23	6M82035	03/06/09 13:49	01

METHOD BLANK SUMMARY

Login Number: L09030095
 Blank File ID: 6M82056
 Prep Date: 03/09/09 10:09
 Analyzed Date: 03/09/09 10:09
 Analyst: MES

Work Group: WG296833
 Blank Sample ID: WG296833-01
 Instrument ID: HPMS6
 Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296833-02	6M82057	03/09/09 10:42	01
LCS2	WG296833-03	6M82058	03/09/09 11:17	01
17WW07-022509	L09030095-04	6M82059	03/09/09 11:52	01
17WW08-022509	L09030095-05	6M82060	03/09/09 12:24	01
17WW14-022509	L09030095-11	6M82061	03/09/09 12:56	01

Report Name: BLANK_SUMMARY
 PDF File ID: 1339048
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METHOD BLANK SUMMARY

Login Number: L09030095
 Blank File ID: 8M352281
 Prep Date: 03/09/09 13:16
 Analyzed Date: 03/09/09 13:16
 Analyst: MES

Work Group: WG296873
 Blank Sample ID: WG296873-01
 Instrument ID: HPMS8
 Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296873-02	8M352282	03/09/09 13:49	01
LCS2	WG296873-03	8M352283	03/09/09 14:21	01
C-07-022509	L09030095-19	8M352286	03/09/09 15:57	01
17WW09-022609	L09030095-06	8M352287	03/09/09 16:29	01
17WW11-022609	L09030095-08	8M352288	03/09/09 17:01	01
17WW12-022609	L09030095-09	8M352289	03/09/09 17:33	01
17WW15-022609	L09030095-12	8M352290	03/09/09 18:05	01
17WW16-022609	L09030095-13	8M352291	03/09/09 18:37	01
17WW13-030309	L09030095-10	8M352292	03/09/09 19:09	01
18WW15-030309	L09030095-18	8M352293	03/09/09 19:41	01
MW-18-030309	L09030095-20	8M352294	03/09/09 20:13	01
18WW15-030309-FD	L09030095-25	8M352295	03/09/09 20:45	01
17WW01-030409	L09030095-01	8M352296	03/09/09 21:17	DL01
MW-130-030409	L09030095-16	8M352297	03/09/09 21:49	01

Login Number: L09030095 Prep Date: 03/06/09 13:22 Sample ID: WG296718-01
 Instrument ID: HPMS11 Run Date: 03/06/09 13:22 Prep Method: 5030B
 File ID: 11M57609 Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 05-MAR-09

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

Report Name: BLANK

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Login Number: L09030095 Prep Date: 03/06/09 13:22 Sample ID: WG296718-01
 Instrument ID: HPMS11 Run Date: 03/06/09 13:22 Prep Method: 5030B
 File ID: 11M57609 Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	96.0	86 - 118	PASS
1,2-Dichloroethane-d4	88.2	80 - 120	PASS
Toluene-d8	96.7	88 - 110	PASS
4-Bromofluorobenzene	101	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

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Login Number: L09030095 Prep Date: 03/06/09 09:32 Sample ID: WG296679-01
 Instrument ID: HPMS6 Run Date: 03/06/09 09:32 Prep Method: 5030B
 File ID: 6M82027 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG296679 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS6 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.636	1	J

Report Name: BLANK

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Login Number: L09030095 Prep Date: 03/06/09 09:32 Sample ID: WG296679-01
Instrument ID: HPMS6 Run Date: 03/06/09 09:32 Prep Method: 5030B
File ID: 6M82027 Analyst: MES Method: 8260B
Workgroup (AAB#): WG296679 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.198	1	J
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	89.7	86 - 118	PASS
1,2-Dichloroethane-d4	81.5	80 - 120	PASS
Toluene-d8	93.8	88 - 110	PASS
4-Bromofluorobenzene	98.6	86 - 115	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
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Login Number: L09030095 Prep Date: 03/09/09 10:09 Sample ID: WG296833-01
 Instrument ID: HPMS6 Run Date: 03/09/09 10:09 Prep Method: 5030B
 File ID: 6M82056 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG296833 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS6 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.296	1	J

Report Name: BLANK

PDF ID: 1339049

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Login Number: L09030095 Prep Date: 03/09/09 10:09 Sample ID: WG296833-01
 Instrument ID: HPMS6 Run Date: 03/09/09 10:09 Prep Method: 5030B
 File ID: 6M82056 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG296833 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS6 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	101	86 - 118	PASS
1,2-Dichloroethane-d4	95.9	80 - 120	PASS
Toluene-d8	97.5	88 - 110	PASS
4-Bromofluorobenzene	106	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1339049

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Login Number: L09030095 Prep Date: 03/09/09 13:16 Sample ID: WG296873-01
 Instrument ID: HPMS8 Run Date: 03/09/09 13:16 Prep Method: 5030B
 File ID: 8M352281 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG296873 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS8 - 19-FEB-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.270	1	J

Report Name: BLANK

PDF ID: 1339049

10-MAR-2009 14:05



Login Number: L09030095 Prep Date: 03/09/09 13:16 Sample ID: WG296873-01
 Instrument ID: HPMS8 Run Date: 03/09/09 13:16 Prep Method: 5030B
 File ID: 8M352281 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG296873 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS8 - 19-FEB-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.222	1	J
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	100	86 - 118	PASS
1,2-Dichloroethane-d4	89.7	80 - 120	PASS
Toluene-d8	100	88 - 110	PASS
4-Bromofluorobenzene	100	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1339049

10-MAR-2009 14:05



Login Number: L09030095 Run Date: 03/06/2009 Sample ID: WG296718-02
Instrument ID: HPMS11 Run Time: 13:53 Prep Method: 5030B
File ID: 11M57610 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS11 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Acetone	20.0	20.5	103	40	-	142	
Benzene	20.0	18.5	92.6	80	-	121	
Bromobenzene	20.0	20.1	101	80	-	120	
Bromochloromethane	20.0	19.6	98.0	65	-	130	
Bromodichloromethane	20.0	19.3	96.4	80	-	131	
Bromoform	20.0	17.6	88.0	70	-	130	
Bromomethane	20.0	19.0	95.0	30	-	145	
2-Butanone	20.0	24.3	121	30	-	150	
n-Butylbenzene	20.0	19.9	99.4	80	-	131	
sec-Butylbenzene	20.0	19.7	98.5	80	-	127	
tert-Butylbenzene	20.0	20.1	100	80	-	126	
Carbon disulfide	20.0	16.2	81.1	58	-	138	
Carbon tetrachloride	20.0	19.9	99.7	65	-	140	
Chlorobenzene	20.0	18.8	93.9	80	-	120	
Chlorodibromomethane	20.0	18.7	93.7	60	-	135	
Chloroethane	20.0	19.0	94.8	60	-	135	
2-Chloroethyl vinyl ether	20.0	17.7	88.4	58	-	151	
Chloroform	20.0	19.0	95.2	80	-	125	
Chloromethane	20.0	16.7	83.6	40	-	125	
2-Chlorotoluene	20.0	19.8	99.2	80	-	127	
4-Chlorotoluene	20.0	18.6	92.8	80	-	126	
1,2-Dibromo-3-chloropropane	20.0	16.2	80.8	50	-	130	
1,2-Dibromoethane	20.0	17.8	89.1	80	-	125	
Dibromomethane	20.0	18.7	93.4	75	-	125	
1,2-Dichlorobenzene	20.0	19.0	95.0	80	-	125	
1,3-Dichlorobenzene	20.0	19.1	95.6	80	-	120	
1,4-Dichlorobenzene	20.0	18.7	93.3	80	-	120	
Dichlorodifluoromethane	20.0	15.8	79.0	50	-	133	
1,1-Dichloroethane	20.0	18.9	94.3	80	-	125	
1,2-Dichloroethane	20.0	18.5	92.6	80	-	129	
1,1-Dichloroethene	20.0	18.7	93.3	80	-	132	
cis-1,2-Dichloroethene	20.0	19.8	98.8	70	-	125	
trans-1,2-Dichloroethene	20.0	19.9	99.3	80	-	127	
1,2-Dichloropropane	20.0	19.2	96.2	80	-	120	
1,3-Dichloropropane	20.0	18.0	89.8	80	-	120	
2,2-Dichloropropane	20.0	19.7	98.4	80	-	133	
cis-1,3-Dichloropropene	20.0	18.8	93.9	70	-	130	
trans-1,3-Dichloropropene	20.0	16.3	81.7	80	-	130	
1,1-Dichloropropene	20.0	19.2	96.1	75	-	130	
Ethylbenzene	20.0	19.2	96.2	80	-	122	
2-Hexanone	20.0	17.2	86.2	55	-	130	

LCS - Modified 03/06/2008
PDF File ID: 1337557
Report generated: 03/10/2009 14:37



Login Number: L09030095 Run Date: 03/06/2009 Sample ID: WG296718-02
Instrument ID: HPMS11 Run Time: 13:53 Prep Method: 5030B
File ID: 11M57610 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS11 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Hexachlorobutadiene	20.0	19.2	96.2	72	-	132	
Isopropylbenzene	20.0	17.2	86.1	80	-	122	
p-Isopropyltoluene	20.0	18.9	94.5	80	-	122	
4-Methyl-2-pentanone	20.0	17.2	86.2	64	-	140	
Methylene chloride	20.0	19.0	95.2	80	-	123	
Naphthalene	20.0	18.2	90.8	59	-	149	
n-Propylbenzene	20.0	19.8	98.8	80	-	129	
Styrene	20.0	19.8	99.1	80	-	123	
1,1,1,2-Tetrachloroethane	20.0	19.3	96.5	80	-	130	
1,1,2,2-Tetrachloroethane	20.0	18.2	91.0	79	-	125	
Tetrachloroethene	20.0	19.4	97.2	80	-	124	
Toluene	20.0	19.5	97.3	80	-	124	
1,2,3-Trichlorobenzene	20.0	19.6	98.0	55	-	140	
1,2,4-Trichlorobenzene	20.0	20.0	99.8	65	-	135	
1,1,1-Trichloroethane	20.0	19.6	98.0	80	-	134	
1,1,2-Trichloroethane	20.0	19.5	97.7	80	-	125	
Trichloroethene	20.0	19.3	96.6	80	-	122	
Trichlorofluoromethane	20.0	17.8	89.2	62	-	151	
1,2,3-Trichloropropane	20.0	18.7	93.3	75	-	125	
1,2,4-Trimethylbenzene	20.0	19.9	99.3	80	-	125	
1,3,5-Trimethylbenzene	20.0	19.5	97.5	80	-	127	
Vinyl acetate	20.0	30.0	150	10	-	150	
Vinyl chloride	20.0	17.3	86.6	65	-	140	
o-Xylene	20.0	19.1	95.6	80	-	122	
m-,p-Xylene	40.0	38.7	96.7	80	-	122	

Surrogates	% Recovery	Surrogate Limits			Qualifier
Dibromofluoromethane	95.1	86	-	118	PASS
1,2-Dichloroethane-d4	88.8	80	-	120	PASS
Toluene-d8	96.2	88	-	110	PASS
4-Bromofluorobenzene	97.8	86	-	115	PASS

* FAILS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1337557
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Login Number: L09030095 Run Date: 03/06/2009 Sample ID: WG296679-02
Instrument ID: HPMS6 Run Time: 10:04 Prep Method: 5030B
File ID: 6M82028 Analyst: MES Method: 8260B
Workgroup (AAB#): WG296679 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS6 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Acetone	20.0	18.3	91.7	40	-	142	
Benzene	20.0	19.9	99.7	80	-	121	
Bromobenzene	20.0	20.4	102	80	-	120	
Bromochloromethane	20.0	20.4	102	65	-	130	
Bromodichloromethane	20.0	19.3	96.3	80	-	131	
Bromoform	20.0	16.2	80.8	70	-	130	
Bromomethane	20.0	19.4	97.0	30	-	145	
2-Butanone	20.0	25.3	126	30	-	150	
n-Butylbenzene	20.0	21.3	106	80	-	131	
sec-Butylbenzene	20.0	21.4	107	80	-	127	
tert-Butylbenzene	20.0	20.8	104	80	-	126	
Carbon disulfide	20.0	17.6	87.9	58	-	138	
Carbon tetrachloride	20.0	19.1	95.6	65	-	140	
Chlorobenzene	20.0	19.3	96.4	80	-	120	
Chlorodibromomethane	20.0	19.3	96.5	60	-	135	
Chloroethane	20.0	20.2	101	60	-	135	
2-Chloroethyl vinyl ether	20.0	18.4	92.2	58	-	151	
Chloroform	20.0	18.8	93.8	80	-	125	
Chloromethane	20.0	16.4	81.8	40	-	125	
2-Chlorotoluene	20.0	20.2	101	80	-	127	
4-Chlorotoluene	20.0	20.2	101	80	-	126	
1,2-Dibromo-3-chloropropane	20.0	18.6	92.9	50	-	130	
1,2-Dibromoethane	20.0	19.4	96.9	80	-	125	
Dibromomethane	20.0	19.3	96.7	75	-	125	
1,2-Dichlorobenzene	20.0	19.8	99.1	80	-	125	
1,3-Dichlorobenzene	20.0	19.7	98.3	80	-	120	
1,4-Dichlorobenzene	20.0	18.8	94.2	80	-	120	
Dichlorodifluoromethane	20.0	16.4	81.8	50	-	133	
1,1-Dichloroethane	20.0	19.4	97.1	80	-	125	
1,2-Dichloroethane	20.0	18.5	92.3	80	-	129	
1,1-Dichloroethene	20.0	19.1	95.6	80	-	132	
cis-1,2-Dichloroethene	20.0	20.3	102	70	-	125	
trans-1,2-Dichloroethene	20.0	19.8	98.8	80	-	127	
1,2-Dichloropropane	20.0	19.6	97.9	80	-	120	
1,3-Dichloropropane	20.0	19.5	97.5	80	-	120	
2,2-Dichloropropane	20.0	20.0	100	80	-	133	
cis-1,3-Dichloropropene	20.0	19.8	99.1	70	-	130	
trans-1,3-Dichloropropene	20.0	17.8	88.8	80	-	130	
1,1-Dichloropropene	20.0	19.7	98.5	75	-	130	
Ethylbenzene	20.0	20.5	102	80	-	122	
2-Hexanone	20.0	17.1	85.6	55	-	130	

LCS - Modified 03/06/2008
PDF File ID: 1337557
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Login Number: L09030095 Run Date: 03/06/2009 Sample ID: WG296679-02
Instrument ID: HPMS6 Run Time: 10:04 Prep Method: 5030B
File ID: 6M82028 Analyst: MES Method: 8260B
Workgroup (AAB#): WG296679 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS6 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Hexachlorobutadiene	20.0	20.2	101	72	-	132	
Isopropylbenzene	20.0	18.9	94.6	80	-	122	
p-Isopropyltoluene	20.0	21.2	106	80	-	122	
4-Methyl-2-pentanone	20.0	17.3	86.3	64	-	140	
Methylene chloride	20.0	19.8	99.2	80	-	123	
Naphthalene	20.0	18.5	92.6	59	-	149	
n-Propylbenzene	20.0	21.4	107	80	-	129	
Styrene	20.0	21.2	106	80	-	123	
1,1,1,2-Tetrachloroethane	20.0	19.8	99.0	80	-	130	
1,1,2,2-Tetrachloroethane	20.0	19.1	95.3	79	-	125	
Tetrachloroethene	20.0	20.1	100	80	-	124	
Toluene	20.0	20.7	104	80	-	124	
1,2,3-Trichlorobenzene	20.0	20.3	101	55	-	140	
1,2,4-Trichlorobenzene	20.0	20.3	102	65	-	135	
1,1,1-Trichloroethane	20.0	19.2	95.8	80	-	134	
1,1,2-Trichloroethane	20.0	19.4	96.9	80	-	125	
Trichloroethene	20.0	19.3	96.7	80	-	122	
Trichlorofluoromethane	20.0	18.4	91.8	62	-	151	
1,2,3-Trichloropropane	20.0	19.6	98.0	75	-	125	
1,2,4-Trimethylbenzene	20.0	21.3	107	80	-	125	
1,3,5-Trimethylbenzene	20.0	21.7	109	80	-	127	
Vinyl acetate	20.0	20.9	105	10	-	150	
Vinyl chloride	20.0	17.9	89.7	65	-	140	
o-Xylene	20.0	21.0	105	80	-	122	
m-,p-Xylene	40.0	41.4	103	80	-	122	

Surrogates	% Recovery	Surrogate Limits			Qualifier
Dibromofluoromethane	86.4	86	-	118	PASS
1,2-Dichloroethane-d4	79.1	80	-	120	FAIL
Toluene-d8	91.5	88	-	110	PASS
4-Bromofluorobenzene	94.4	86	-	115	PASS

* FAILS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1337557
Report generated: 03/10/2009 14:37



Login Number: L09030095 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG296833 Units: ug/L
QC Key: STD Lot #: STD31617

Sample ID: WG296833-02 LCS File ID: 6M82057 Run Date: 03/09/2009 10:42
Sample ID: WG296833-03 LCS2 File ID: 6M82058 Run Date: 03/09/2009 11:17

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	21.0	105	20.0	21.5	108	2.44	40 - 142	20	
Benzene	20.0	22.3	111	20.0	21.9	109	1.85	80 - 121	20	
Bromobenzene	20.0	22.7	114	20.0	22.4	112	1.68	80 - 120	20	
Bromochloromethane	20.0	24.0	120	20.0	23.4	117	2.56	65 - 130	20	
Bromodichloromethane	20.0	24.5	122	20.0	23.5	118	3.97	80 - 131	20	
Bromoform	20.0	19.6	98.0	20.0	19.1	95.5	2.54	70 - 130	20	
Bromomethane	20.0	25.1	126	20.0	25.2	126	0.0382	30 - 145	20	
2-Butanone	20.0	19.5	97.6	20.0	17.9	89.5	8.64	30 - 150	20	
n-Butylbenzene	20.0	22.2	111	20.0	21.6	108	2.56	80 - 131	20	
sec-Butylbenzene	20.0	23.0	115	20.0	22.4	112	2.72	80 - 127	20	
tert-Butylbenzene	20.0	22.0	110	20.0	21.8	109	1.22	80 - 126	20	
Carbon disulfide	20.0	18.1	90.7	20.0	17.9	89.3	1.50	58 - 138	20	
Carbon tetrachloride	20.0	24.4	122	20.0	23.1	116	5.54	65 - 140	20	
Chlorobenzene	20.0	21.0	105	20.0	20.6	103	1.97	80 - 120	20	
Chlorodibromomethane	20.0	22.7	114	20.0	22.0	110	3.51	60 - 135	20	
Chloroethane	20.0	22.8	114	20.0	22.0	110	3.58	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	21.3	106	20.0	20.2	101	5.33	58 - 151	20	
Chloroform	20.0	22.8	114	20.0	22.2	111	2.82	80 - 125	20	
Chloromethane	20.0	24.1	121	20.0	23.0	115	4.99	40 - 125	20	
2-Chlorotoluene	20.0	22.0	110	20.0	21.4	107	2.90	80 - 127	20	
4-Chlorotoluene	20.0	21.9	110	20.0	21.9	109	0.229	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	22.9	114	20.0	21.7	109	5.03	50 - 130	20	
1,2-Dibromoethane	20.0	21.9	110	20.0	21.3	107	2.85	80 - 125	20	
Dibromomethane	20.0	24.2	121	20.0	23.1	116	4.44	75 - 125	20	
1,2-Dichlorobenzene	20.0	21.5	107	20.0	21.3	106	0.970	80 - 125	20	
1,3-Dichlorobenzene	20.0	21.1	105	20.0	21.0	105	0.183	80 - 120	20	
1,4-Dichlorobenzene	20.0	20.3	101	20.0	20.1	101	0.561	80 - 120	20	
Dichlorodifluoromethane	20.0	27.1	136	20.0	25.0	125	8.22	50 - 133	20	*
1,1-Dichloroethane	20.0	22.8	114	20.0	22.1	111	2.82	80 - 125	20	
1,2-Dichloroethane	20.0	23.2	116	20.0	22.4	112	3.60	80 - 129	20	
1,1-Dichloroethene	20.0	23.5	117	20.0	22.3	112	5.02	80 - 132	20	
cis-1,2-Dichloroethene	20.0	23.5	117	20.0	23.5	118	0.258	70 - 125	20	
trans-1,2-Dichloroethene	20.0	23.4	117	20.0	22.3	112	4.78	80 - 127	20	
1,2-Dichloropropane	20.0	22.4	112	20.0	21.9	109	2.13	80 - 120	20	
1,3-Dichloropropane	20.0	21.9	110	20.0	21.2	106	3.03	80 - 120	20	
2,2-Dichloropropane	20.0	23.5	118	20.0	22.4	112	5.13	80 - 133	20	
cis-1,3-Dichloropropene	20.0	23.5	117	20.0	22.7	113	3.65	70 - 130	20	
trans-1,3-Dichloropropene	20.0	20.0	100	20.0	19.5	97.7	2.45	80 - 130	20	
1,1-Dichloropropene	20.0	23.5	118	20.0	22.3	111	5.54	75 - 130	20	
Ethylbenzene	20.0	22.1	110	20.0	21.8	109	1.26	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1338789
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Login Number: L09030095 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG296833 Units: ug/L
QC Key: STD Lot #: STD31617

Sample ID: WG296833-02 LCS File ID: 6M82057 Run Date: 03/09/2009 10:42
Sample ID: WG296833-03 LCS2 File ID: 6M82058 Run Date: 03/09/2009 11:17

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	18.7	93.3	20.0	18.1	90.7	2.87	55 - 130	20	
Hexachlorobutadiene	20.0	22.1	110	20.0	21.4	107	3.17	72 - 132	20	
Isopropylbenzene	20.0	20.8	104	20.0	20.3	101	2.54	80 - 122	20	
p-Isopropyltoluene	20.0	22.1	111	20.0	21.5	108	2.76	80 - 122	20	
4-Methyl-2-pentanone	20.0	19.6	97.9	20.0	18.9	94.5	3.59	64 - 140	20	
Methylene chloride	20.0	22.4	112	20.0	22.1	110	1.41	80 - 123	20	
Naphthalene	20.0	20.0	100	20.0	19.5	97.4	2.75	59 - 149	20	
n-Propylbenzene	20.0	23.2	116	20.0	22.6	113	2.71	80 - 129	20	
Styrene	20.0	22.9	115	20.0	22.9	115	0.0180	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	22.3	112	20.0	21.8	109	2.12	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	21.1	105	20.0	21.1	105	0.132	79 - 125	20	
Tetrachloroethene	20.0	22.1	110	20.0	21.2	106	4.18	80 - 124	20	
Toluene	20.0	22.3	111	20.0	22.0	110	1.28	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	21.7	109	20.0	21.4	107	1.60	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	21.4	107	20.0	21.4	107	0.342	65 - 135	20	
1,1,1-Trichloroethane	20.0	23.8	119	20.0	23.0	115	3.64	80 - 134	20	
1,1,2-Trichloroethane	20.0	21.3	107	20.0	21.3	107	0.0313	80 - 125	20	
Trichloroethene	20.0	22.3	111	20.0	21.9	109	1.71	80 - 122	20	
Trichlorofluoromethane	20.0	23.4	117	20.0	22.0	110	6.16	62 - 151	20	
1,2,3-Trichloropropane	20.0	22.4	112	20.0	21.7	108	3.41	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	22.3	112	20.0	22.1	111	1.09	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	22.7	114	20.0	22.5	113	0.827	80 - 127	20	
Vinyl acetate	20.0	21.4	107	20.0	21.0	105	1.82	10 - 150	20	
Vinyl chloride	20.0	26.0	130	20.0	24.3	121	6.77	65 - 140	20	
o-Xylene	20.0	22.4	112	20.0	22.2	111	0.870	80 - 122	20	
m-, p-Xylene	40.0	45.1	113	40.0	43.9	110	2.53	80 - 122	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	98.1	95.0	80 - 120	PASS
Dibromofluoromethane	105	105	86 - 118	PASS
4-Bromofluorobenzene	108	108	86 - 115	PASS
Toluene-d8	101	102	88 - 110	PASS

* FAILS %REC LIMIT
FAILS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1338789
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Login Number: L09030095 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS8 Matrix: Water Method: 8260B
Workgroup (AAB#): WG296873 Units: ug/L
QC Key: STD Lot #: STD31708

Sample ID: WG296873-02 LCS File ID: 8M352282 Run Date: 03/09/2009 13:49
Sample ID: WG296873-03 LCS2 File ID: 8M352283 Run Date: 03/09/2009 14:21

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	20.2	101	20.0	19.7	98.5	2.70	40 - 142	20	
Benzene	20.0	20.3	101	20.0	19.8	99.0	2.44	80 - 121	20	
Bromobenzene	20.0	20.9	105	20.0	20.2	101	3.41	80 - 120	20	
Bromochloromethane	20.0	21.3	107	20.0	20.9	104	2.00	65 - 130	20	
Bromodichloromethane	20.0	20.3	102	20.0	19.8	99.0	2.62	80 - 131	20	
Bromoform	20.0	19.3	96.6	20.0	18.9	94.6	2.16	70 - 130	20	
Bromomethane	20.0	21.3	107	20.0	21.2	106	0.490	30 - 145	20	
2-Butanone	20.0	19.0	94.9	20.0	18.8	93.8	1.15	30 - 150	20	
n-Butylbenzene	20.0	19.6	98.2	20.0	19.1	95.3	2.97	80 - 131	20	
sec-Butylbenzene	20.0	19.9	99.5	20.0	19.6	97.8	1.77	80 - 127	20	
tert-Butylbenzene	20.0	20.4	102	20.0	19.7	98.7	3.23	80 - 126	20	
Carbon disulfide	20.0	16.2	81.0	20.0	15.7	78.4	3.17	58 - 138	20	
Carbon tetrachloride	20.0	20.5	103	20.0	19.8	99.2	3.44	65 - 140	20	
Chlorobenzene	20.0	19.6	98.0	20.0	19.4	96.9	1.20	80 - 120	20	
Chlorodibromomethane	20.0	20.5	103	20.0	19.7	98.4	4.11	60 - 135	20	
Chloroethane	20.0	20.1	101	20.0	19.4	96.8	3.93	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	20.2	101	20.0	20.4	102	0.664	58 - 151	20	
Chloroform	20.0	19.9	99.7	20.0	19.6	98.0	1.72	80 - 125	20	
Chloromethane	20.0	21.0	105	20.0	20.7	104	1.24	40 - 125	20	
2-Chlorotoluene	20.0	21.6	108	20.0	21.3	106	1.73	80 - 127	20	
4-Chlorotoluene	20.0	19.0	94.9	20.0	18.7	93.3	1.69	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	18.9	94.5	20.0	18.0	89.9	5.01	50 - 130	20	
1,2-Dibromoethane	20.0	20.1	100	20.0	20.2	101	0.697	80 - 125	20	
Dibromomethane	20.0	20.3	101	20.0	19.6	97.9	3.41	75 - 125	20	
1,2-Dichlorobenzene	20.0	19.5	97.7	20.0	19.4	97.1	0.648	80 - 125	20	
1,3-Dichlorobenzene	20.0	19.8	99.1	20.0	19.6	97.9	1.24	80 - 120	20	
1,4-Dichlorobenzene	20.0	18.8	93.8	20.0	18.8	94.1	0.287	80 - 120	20	
Dichlorodifluoromethane	20.0	20.7	104	20.0	19.5	97.5	6.03	50 - 133	20	
1,1-Dichloroethane	20.0	20.8	104	20.0	20.2	101	2.93	80 - 125	20	
1,2-Dichloroethane	20.0	19.7	98.5	20.0	19.0	95.2	3.38	80 - 129	20	
1,1-Dichloroethene	20.0	20.9	104	20.0	20.1	101	3.80	80 - 132	20	
cis-1,2-Dichloroethene	20.0	21.7	109	20.0	21.5	107	1.21	70 - 125	20	
trans-1,2-Dichloroethene	20.0	20.5	102	20.0	20.2	101	1.54	80 - 127	20	
1,2-Dichloropropane	20.0	19.7	98.5	20.0	19.4	97.2	1.38	80 - 120	20	
1,3-Dichloropropane	20.0	20.3	102	20.0	20.3	101	0.263	80 - 120	20	
2,2-Dichloropropane	20.0	20.3	102	20.0	19.7	98.7	2.95	80 - 133	20	
cis-1,3-Dichloropropene	20.0	20.3	102	20.0	19.8	98.8	2.75	70 - 130	20	
trans-1,3-Dichloropropene	20.0	18.4	92.2	20.0	18.1	90.6	1.80	80 - 130	20	
1,1-Dichloropropene	20.0	21.2	106	20.0	20.6	103	2.67	75 - 130	20	
Ethylbenzene	20.0	20.1	101	20.0	20.4	102	1.22	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
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Login Number: L09030095 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS8 Matrix: Water Method: 8260B
Workgroup (AAB#): WG296873 Units: ug/L
QC Key: STD Lot #: STD31708

Sample ID: WG296873-02 LCS File ID: 8M352282 Run Date: 03/09/2009 13:49
Sample ID: WG296873-03 LCS2 File ID: 8M352283 Run Date: 03/09/2009 14:21

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	19.1	95.3	20.0	18.3	91.7	3.83	55 - 130	20	
Hexachlorobutadiene	20.0	16.9	84.6	20.0	16.5	82.4	2.68	72 - 132	20	
Isopropylbenzene	20.0	19.1	95.5	20.0	18.8	94.1	1.45	80 - 122	20	
p-Isopropyltoluene	20.0	19.7	98.5	20.0	19.5	97.7	0.825	80 - 122	20	
4-Methyl-2-pentanone	20.0	18.1	90.7	20.0	17.8	88.8	2.13	64 - 140	20	
Methylene chloride	20.0	19.6	97.9	20.0	19.2	96.2	1.77	80 - 123	20	
Naphthalene	20.0	20.5	103	20.0	20.3	101	1.30	59 - 149	20	
n-Propylbenzene	20.0	21.0	105	20.0	20.5	103	2.54	80 - 129	20	
Styrene	20.0	21.0	105	20.0	20.9	104	0.768	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	19.8	99.2	20.0	19.9	99.7	0.564	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	19.1	95.6	20.0	18.5	92.4	3.34	79 - 125	20	
Tetrachloroethene	20.0	20.6	103	20.0	20.4	102	0.804	80 - 124	20	
Toluene	20.0	20.7	103	20.0	20.3	102	1.67	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	19.2	96.2	20.0	18.7	93.6	2.70	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	20.0	99.8	20.0	19.7	98.6	1.27	65 - 135	20	
1,1,1-Trichloroethane	20.0	20.4	102	20.0	19.5	97.5	4.52	80 - 134	20	
1,1,2-Trichloroethane	20.0	20.4	102	20.0	19.8	99.1	3.10	80 - 125	20	
Trichloroethene	20.0	20.7	104	20.0	20.3	102	2.01	80 - 122	20	
Trichlorofluoromethane	20.0	20.9	105	20.0	19.9	99.7	4.83	62 - 151	20	
1,2,3-Trichloropropane	20.0	20.8	104	20.0	19.9	99.7	4.14	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	21.0	105	20.0	20.5	103	2.17	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	21.7	108	20.0	21.1	106	2.60	80 - 127	20	
Vinyl acetate	20.0	19.6	98.0	20.0	19.3	96.3	1.79	10 - 150	20	
Vinyl chloride	20.0	24.4	122	20.0	22.1	111	9.51	65 - 140	20	
o-Xylene	20.0	21.3	107	20.0	21.5	108	1.00	80 - 122	20	
m-, p-Xylene	40.0	41.4	104	40.0	40.7	102	1.94	80 - 122	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	88.2	87.3	80 - 120	PASS
Dibromofluoromethane	99.7	99.6	86 - 118	PASS
4-Bromofluorobenzene	97.7	97.8	86 - 115	PASS
Toluene-d8	98.5	100	88 - 110	PASS

* FAILS %REC LIMIT
FAILS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
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Report generated: 03/10/2009 14:05



Loginnum: L09030095Cal ID: HPMS6- 05-MAR-09Worknum: WG296679Instrument ID: HPMS6Contract #: DACA56-94-D-0020Prep Method: 5030BParent ID: L09030095-07File ID: 6M82033Dil: 1Method: 8260BSample ID: L09030095-22 MSFile ID: 6M82034Dil: 1Matrix: WaterSample ID: L09030095-23 MSDFile ID: 6M82035Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Acetone	ND	20.0	19.8	98.9	20.0	17.6	88	11.7	40 - 142	20	
Benzene	ND	20.0	19.4	96.8	20.0	19.4	97.1	0.302	80 - 121	20	
Bromobenzene	ND	20.0	20.1	100	20.0	20.4	102	1.66	80 - 120	20	
Bromochloromethane	ND	20.0	20.4	102	20.0	20.6	103	1.20	65 - 130	20	
Bromodichloromethane	ND	20.0	20.5	103	20.0	20.0	100	2.37	80 - 131	20	
Bromoform	ND	20.0	16.1	80.6	20.0	16.2	81.1	0.609	70 - 130	20	
Bromomethane	ND	20.0	19.9	99.4	20.0	20.8	104	4.55	30 - 145	20	
2-Butanone	ND	20.0	16.2	81.2	20.0	16.4	81.9	0.874	30 - 150	20	
n-Butylbenzene	ND	20.0	19.9	99.7	20.0	20.6	103	3.06	80 - 131	20	
sec-Butylbenzene	ND	20.0	20.8	104	20.0	20.8	104	0.0145	80 - 127	20	
tert-Butylbenzene	ND	20.0	20.1	100	20.0	20.3	101	1.14	80 - 126	20	
Carbon disulfide	ND	20.0	16.8	84	20.0	16.6	82.9	1.32	58 - 138	20	
Carbon tetrachloride	ND	20.0	20.5	103	20.0	19.8	98.9	3.62	65 - 140	20	
Chlorobenzene	ND	20.0	19.0	94.8	20.0	19.0	95.2	0.414	80 - 120	20	
Chlorodibromomethane	ND	20.0	19.4	97	20.0	19.4	96.9	0.0812	60 - 135	20	
Chloroethane	ND	20.0	19.0	94.8	20.0	18.7	93.5	1.38	60 - 135	20	
2-Chloroethyl vinyl ether	ND	20.0	0	0	20.0	0	0	NA	58 - 151	20	*#
Chloroform	ND	20.0	19.4	97	20.0	19.5	97.3	0.311	80 - 125	20	
Chloromethane	ND	20.0	17.6	87.9	20.0	17.3	86.3	1.82	40 - 125	20	
2-Chlorotoluene	ND	20.0	19.7	98.7	20.0	20.4	102	3.26	80 - 127	20	
4-Chlorotoluene	ND	20.0	19.7	98.5	20.0	19.8	98.9	0.476	80 - 126	20	
1,2-Dibromo-3-chloropropane	ND	20.0	18.3	91.7	20.0	19.1	95.3	3.84	50 - 130	20	
1,2-Dibromoethane	ND	20.0	19.4	96.9	20.0	19.1	95.7	1.22	80 - 125	20	
Dibromomethane	ND	20.0	20.3	102	20.0	20.2	101	0.530	75 - 125	20	
1,2-Dichlorobenzene	ND	20.0	19.5	97.4	20.0	19.6	98	0.660	80 - 125	20	
1,3-Dichlorobenzene	ND	20.0	19.1	95.3	20.0	19.4	96.8	1.56	80 - 120	20	
1,4-Dichlorobenzene	ND	20.0	18.4	92	20.0	18.5	92.4	0.378	80 - 120	20	
Dichlorodifluoromethane	ND	20.0	16.7	83.5	20.0	14.5	72.7	13.8	50 - 133	20	
1,1-Dichloroethane	ND	20.0	19.5	97.4	20.0	19.4	97.1	0.243	80 - 125	20	
1,2-Dichloroethane	ND	20.0	19.4	96.9	20.0	19.2	95.9	1.07	80 - 129	20	
1,1-Dichloroethene	ND	20.0	19.6	98	20.0	19.0	94.9	3.28	80 - 132	20	
cis-1,2-Dichloroethene	ND	20.0	20.5	102	20.0	20.5	102	0.0327	70 - 125	20	
trans-1,2-Dichloroethene	ND	20.0	19.8	99.1	20.0	19.5	97.5	1.64	80 - 127	20	
1,2-Dichloropropane	ND	20.0	19.1	95.7	20.0	19.3	96.7	1.11	80 - 120	20	
1,3-Dichloropropane	ND	20.0	19.4	96.9	20.0	19.0	94.9	2.06	80 - 120	20	
2,2-Dichloropropane	ND	20.0	19.7	98.6	20.0	19.2	96.1	2.56	80 - 133	20	
cis-1,3-Dichloropropene	ND	20.0	19.7	98.5	20.0	19.8	99	0.469	70 - 130	20	
trans-1,3-Dichloropropene	ND	20.0	17.5	87.3	20.0	17.3	86.5	0.880	80 - 130	20	
1,1-Dichloropropene	ND	20.0	20.3	101	20.0	19.6	98.1	3.41	75 - 130	20	
Ethylbenzene	ND	20.0	20.1	100	20.0	20.1	101	0.280	80 - 122	20	
2-Hexanone	ND	20.0	16.7	83.6	20.0	16.5	82.5	1.38	55 - 130	20	

MS_MSD - Modified 03/06/2008

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MS/MSD REPORT

00090491

Loginnum: L09030095Cal ID: HPMS6 05-MAR-09Worknum: WG296679Instrument ID: HPMS6Contract #: DACA56-94-D-0020Prep Method: 5030BParent ID: L09030095-07File ID: 6M82033Dil: 1Method: 8260BSample ID: L09030095-22 MSFile ID: 6M82034Dil: 1Matrix: WaterSample ID: L09030095-23 MSDFile ID: 6M82035Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Hexachlorobutadiene	ND	20.0	19.0	95.1	20.0	19.6	98	3.00	72 - 132	20	
Isopropylbenzene	ND	20.0	18.7	93.3	20.0	18.6	92.9	0.374	80 - 122	20	
p-Isopropyltoluene	ND	20.0	20.2	101	20.0	20.4	102	0.780	80 - 122	20	
4-Methyl-2-pentanone	ND	20.0	16.8	83.8	20.0	16.4	82.2	1.92	64 - 140	20	
Methylene chloride	ND	20.0	18.4	92.2	20.0	18.3	91.6	0.610	80 - 123	20	
Naphthalene	ND	20.0	17.9	89.5	20.0	19.3	96.5	7.53	59 - 149	20	
n-Propylbenzene	ND	20.0	20.8	104	20.0	21.1	105	1.12	80 - 129	20	
Styrene	ND	20.0	20.5	102	20.0	20.8	104	1.77	80 - 123	20	
1,1,1,2-Tetrachloroethane	ND	20.0	19.7	98.3	20.0	19.4	97.2	1.11	80 - 130	20	
1,1,2,2-Tetrachloroethane	ND	20.0	19.2	95.9	20.0	19.2	95.9	0.0219	79 - 125	20	
Tetrachloroethene	ND	20.0	19.8	99.1	20.0	19.1	95.5	3.72	80 - 124	20	
Toluene	ND	20.0	20.0	99.8	20.0	20.1	101	0.712	80 - 124	20	
1,2,3-Trichlorobenzene	ND	20.0	19.3	96.3	20.0	20.4	102	5.82	55 - 140	20	
1,2,4-Trichlorobenzene	ND	20.0	19.0	95	20.0	20.1	101	5.72	65 - 135	20	
1,1,1-Trichloroethane	ND	20.0	20.0	100	20.0	19.6	97.8	2.22	80 - 134	20	
1,1,2-Trichloroethane	ND	20.0	19.2	95.9	20.0	18.8	93.9	2.16	80 - 125	20	
Trichloroethene	ND	20.0	19.5	97.6	20.0	19.5	97.6	0.0243	80 - 122	20	
Trichlorofluoromethane	ND	20.0	19.3	96.4	20.0	17.4	87.1	10.1	62 - 151	20	
1,2,3-Trichloropropane	ND	20.0	19.5	97.4	20.0	19.4	97.2	0.175	75 - 125	20	
1,2,4-Trimethylbenzene	ND	20.0	20.4	102	20.0	21.0	105	2.98	80 - 125	20	
1,3,5-Trimethylbenzene	ND	20.0	20.6	103	20.0	21.1	105	2.23	80 - 127	20	
Vinyl acetate	ND	20.0	20.6	103	20.0	19.8	99.2	3.90	10 - 150	20	
Vinyl chloride	ND	20.0	19.3	96.5	20.0	18.9	94.5	2.06	65 - 140	20	
o-Xylene	ND	20.0	20.3	102	20.0	20.5	102	0.745	80 - 122	20	
m-, p-Xylene	ND	40.0	40.3	101	40.0	40.2	100	0.350	80 - 122	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 1337556

Report generated 03/10/2009 14:05



Loginnum: L09030095Cal ID: HPMS11- 05-MAR-09Worknum: WG296718Instrument ID: HPMS11Contract #: DACA56-94-D-0020Prep Method: 5030BParent ID: L09030095-17File ID: 11M57613Dil: 1Method: 8260BSample ID: L09030095-24 MSFile ID: 11M57614Dil: 1Matrix: WaterSample ID: L09030095-26 MSDFile ID: 11M57615Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Acetone	ND	20.0	21.5	107	20.0	21.1	106	1.65	40 - 142	20	
Benzene	ND	20.0	18.5	92.3	20.0	18.1	90.5	1.90	80 - 121	20	
Bromobenzene	ND	20.0	19.8	99.2	20.0	19.9	99.7	0.485	80 - 120	20	
Bromochloromethane	ND	20.0	19.9	99.3	20.0	19.3	96.5	2.82	65 - 130	20	
Bromodichloromethane	ND	20.0	19.8	98.9	20.0	19.5	97.7	1.20	80 - 131	20	
Bromoform	ND	20.0	17.9	89.6	20.0	17.4	86.9	3.01	70 - 130	20	
Bromomethane	ND	20.0	19.3	96.7	20.0	19.6	98	1.29	30 - 145	20	
2-Butanone	ND	20.0	25.6	128	20.0	23.0	115	10.6	30 - 150	20	
n-Butylbenzene	ND	20.0	19.5	97.4	20.0	19.3	96.3	1.15	80 - 131	20	
sec-Butylbenzene	ND	20.0	19.1	95.3	20.0	18.9	94.6	0.774	80 - 127	20	
tert-Butylbenzene	ND	20.0	19.6	98	20.0	19.4	97.1	0.931	80 - 126	20	
Carbon disulfide	ND	20.0	15.9	79.5	20.0	15.3	76.5	3.87	58 - 138	20	
Carbon tetrachloride	ND	20.0	19.1	95.6	20.0	18.7	93.7	2.04	65 - 140	20	
Chlorobenzene	ND	20.0	18.2	91	20.0	18.5	92.6	1.72	80 - 120	20	
Chlorodibromomethane	ND	20.0	18.6	93.1	20.0	18.9	94.3	1.26	60 - 135	20	
Chloroethane	ND	20.0	18.8	94.2	20.0	18.2	91	3.44	60 - 135	20	
2-Chloroethyl vinyl ether	ND	20.0	16.1	80.4	20.0	0	0	200	58 - 151	20	*#
Chloroform	ND	20.0	18.9	94.3	20.0	18.6	93	1.43	80 - 125	20	
Chloromethane	ND	20.0	16.1	80.7	20.0	15.7	78.4	2.85	40 - 125	20	
2-Chlorotoluene	ND	20.0	19.5	97.4	20.0	19.5	97.3	0.0268	80 - 127	20	
4-Chlorotoluene	ND	20.0	18.3	91.4	20.0	18.1	90.4	1.06	80 - 126	20	
1,2-Dibromo-3-chloropropane	ND	20.0	17.8	88.8	20.0	17.1	85.3	4.02	50 - 130	20	
1,2-Dibromoethane	ND	20.0	18.2	90.8	20.0	18.1	90.3	0.526	80 - 125	20	
Dibromomethane	ND	20.0	19.5	97.6	20.0	18.8	94	3.70	75 - 125	20	
1,2-Dichlorobenzene	ND	20.0	18.9	94.7	20.0	18.5	92.7	2.20	80 - 125	20	
1,3-Dichlorobenzene	ND	20.0	18.5	92.3	20.0	18.7	93.3	1.08	80 - 120	20	
1,4-Dichlorobenzene	ND	20.0	18.2	91	20.0	18.7	93.4	2.56	80 - 120	20	
Dichlorodifluoromethane	ND	20.0	15.1	75.7	20.0	14.1	70.5	7.20	50 - 133	20	
1,1-Dichloroethane	ND	20.0	18.8	94.2	20.0	18.5	92.5	1.73	80 - 125	20	
1,2-Dichloroethane	ND	20.0	18.5	92.4	20.0	18.6	92.9	0.545	80 - 129	20	
1,1-Dichloroethene	ND	20.0	18.1	90.4	20.0	17.6	88.1	2.55	80 - 132	20	
cis-1,2-Dichloroethene	ND	20.0	19.4	97.2	20.0	19.4	97	0.200	70 - 125	20	
trans-1,2-Dichloroethene	ND	20.0	19.3	96.7	20.0	18.8	94.2	2.63	80 - 127	20	
1,2-Dichloropropane	ND	20.0	19.4	96.8	20.0	18.9	94.3	2.68	80 - 120	20	
1,3-Dichloropropane	ND	20.0	18.2	91.2	20.0	17.9	89.6	1.83	80 - 120	20	
2,2-Dichloropropane	ND	20.0	19.3	96.4	20.0	18.7	93.4	3.17	80 - 133	20	
cis-1,3-Dichloropropene	ND	20.0	18.5	92.3	20.0	18.0	90.2	2.30	70 - 130	20	
trans-1,3-Dichloropropene	ND	20.0	16.5	82.5	20.0	16.4	81.9	0.674	80 - 130	20	
1,1-Dichloropropene	ND	20.0	18.6	93	20.0	18.5	92.7	0.357	75 - 130	20	
Ethylbenzene	ND	20.0	18.5	92.5	20.0	18.2	91.1	1.47	80 - 122	20	
2-Hexanone	ND	20.0	17.4	87.1	20.0	16.9	84.7	2.81	55 - 130	20	

MS_MSD - Modified 03/06/2008

PDF File ID: 1337556

Report generated 03/10/2009 14:05

Microbac®

MS/MSD REPORT

00090493

Loginnum: L09030095Cal ID: HPMS11 05-MAR-09Worknum: WG296718Instrument ID: HPMS11Contract #: DACA56-94-D-0020Prep Method: 5030BParent ID: L09030095-17File ID: 11M57613Dil: 1Method: 8260BSample ID: L09030095-24 MSFile ID: 11M57614Dil: 1Matrix: WaterSample ID: L09030095-26 MSDFile ID: 11M57615Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Hexachlorobutadiene	ND	20.0	19.1	95.6	20.0	18.9	94.6	0.971	72 - 132	20	
Isopropylbenzene	ND	20.0	16.9	84.7	20.0	16.7	83.7	1.27	80 - 122	20	
p-Isopropyltoluene	ND	20.0	18.6	93.2	20.0	18.3	91.7	1.65	80 - 122	20	
4-Methyl-2-pentanone	ND	20.0	18.5	92.3	20.0	16.8	83.8	9.66	64 - 140	20	
Methylene chloride	ND	20.0	19.0	95.2	20.0	18.2	91.1	4.43	80 - 123	20	
Naphthalene	ND	20.0	18.5	92.5	20.0	18.5	92.6	0.0952	59 - 149	20	
n-Propylbenzene	ND	20.0	19.3	96.5	20.0	19.1	95.6	0.961	80 - 129	20	
Styrene	ND	20.0	19.7	98.6	20.0	19.1	95.6	3.07	80 - 123	20	
1,1,1,2-Tetrachloroethane	ND	20.0	19.6	97.8	20.0	19.2	95.8	2.09	80 - 130	20	
1,1,2,2-Tetrachloroethane	ND	20.0	18.0	90	20.0	18.3	91.5	1.69	79 - 125	20	
Tetrachloroethene	ND	20.0	18.9	94.5	20.0	18.7	93.6	0.898	80 - 124	20	
Toluene	0.290	20.0	19.4	95.5	20.0	19.1	94.1	1.46	80 - 124	20	
1,2,3-Trichlorobenzene	ND	20.0	19.5	97.6	20.0	19.6	97.9	0.376	55 - 140	20	
1,2,4-Trichlorobenzene	ND	20.0	19.5	97.7	20.0	19.4	97	0.748	65 - 135	20	
1,1,1-Trichloroethane	ND	20.0	19.2	96.2	20.0	18.7	93.5	2.82	80 - 134	20	
1,1,2-Trichloroethane	ND	20.0	19.5	97.6	20.0	19.1	95.4	2.34	80 - 125	20	
Trichloroethene	ND	20.0	18.6	93.2	20.0	18.7	93.3	0.0645	80 - 122	20	
Trichlorofluoromethane	ND	20.0	17.1	85.3	20.0	16.5	82.3	3.65	62 - 151	20	
1,2,3-Trichloropropane	ND	20.0	18.1	90.5	20.0	18.5	92.3	1.97	75 - 125	20	
1,2,4-Trimethylbenzene	ND	20.0	19.4	96.8	20.0	19.4	97	0.238	80 - 125	20	
1,3,5-Trimethylbenzene	ND	20.0	19.0	95.2	20.0	19.0	95.2	0.0187	80 - 127	20	
Vinyl acetate	ND	20.0	30.6	153	20.0	29.7	149	2.74	10 - 150	20	*
Vinyl chloride	ND	20.0	16.5	82.6	20.0	16.5	82.3	0.322	65 - 140	20	
o-Xylene	ND	20.0	19.4	97.1	20.0	18.9	94.3	2.96	80 - 122	20	
m-, p-Xylene	ND	40.0	38.2	95.5	40.0	36.8	92.1	3.58	80 - 122	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 1337556

Report generated 03/10/2009 14:05



BFB

Login Number: L09030095
Instrument: HPMS11
Analyst: WTD
Workgroup: WG296612

Tune ID: WG296612-01
Run Date: 03/05/2009
Run Time: 12:20
File ID: 11M57585

Cal ID: HPMS11-05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.6	2550	PASS
75.0	95.0	30.0	60.0	51.3	4921	PASS
95.0	95.0	100	100	100	9591	PASS
96.0	95.0	5.00	9.00	7.08	679	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	70.9	6798	PASS
175	174	5.00	9.00	6.24	424	PASS
176	174	95.0	101	97.6	6635	PASS
177	176	5.00	9.00	5.41	359	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296612-03	STD	01	03/05/2009 14:13	
WG296612-04	STD	01	03/05/2009 14:43	
WG296612-02	STD	01	03/05/2009 15:14	
WG296612-05	STD	01	03/05/2009 15:45	
WG296612-06	STD	01	03/05/2009 16:16	
WG296612-07	STD	01	03/05/2009 16:47	
WG296612-08	STD-CCV	01	03/05/2009 17:18	
WG296612-09	STD	01	03/05/2009 17:49	
WG296612-10	STD	01	03/05/2009 18:20	
WG296612-11	STD	01	03/05/2009 18:51	
WG296612-12	SSCV	01	03/05/2009 21:26	
WG296612-12	SSCV	02	03/05/2009 21:57	

* Sample past 12 hour tune limit

BFB

Login Number: L09030095
Instrument: HPMS11
Analyst: WTD
Workgroup: WG296717

Tune ID: WG296717-01
Run Date: 03/06/2009
Run Time: 11:56
File ID: 11M57606

Cal ID: HPMS11-05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.4	3999	PASS
75.0	95.0	30.0	60.0	45.6	7463	PASS
95.0	95.0	100	100	100	16377	PASS
96.0	95.0	5.00	9.00	6.45	1057	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	78.8	12904	PASS
175	174	5.00	9.00	7.61	982	PASS
176	174	95.0	101	95.6	12340	PASS
177	176	5.00	9.00	6.50	802	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296717-02	CCV	01	03/06/2009 12:20	
WG296718-01	BLANK	01	03/06/2009 13:22	
WG296718-02	LCS	01	03/06/2009 13:53	
WG296718-03	REF	DL01	03/06/2009 14:23	
L09030095-28	TRIP BLANK	01	03/06/2009 14:54	
L09030095-17	18WW14-030209	01	03/06/2009 15:25	
WG296718-03	REF	01	03/06/2009 15:25	
L09030095-24	18WW14-030309-MS	01	03/06/2009 15:56	
WG296718-04	MS	01	03/06/2009 15:56	
L09030095-26	18WW14-030309-MSD	01	03/06/2009 16:27	
WG296718-05	MSD	01	03/06/2009 16:27	
L09030095-14	17WW17-030409	01	03/06/2009 18:30	
L09030095-15	17WW18-030309	01	03/06/2009 19:01	
WG296718-06	BLANK2	01	03/07/2009 00:09	*

* Sample past 12 hour tune limit

BFB

Login Number: L09030095

Instrument: HPMS6

Analyst: MES

Workgroup: WG296582

Tune ID: WG296582-01

Run Date: 03/05/2009

Run Time: 11:01

File ID: 6M82010

Cal ID: HPMS6 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.9	9866	PASS
75.0	95.0	30.0	60.0	49.6	24536	PASS
95.0	95.0	100	100	100	49488	PASS
96.0	95.0	5.00	9.00	6.74	3334	PASS
173	174	0	2.00	0.644	242	PASS
174	95.0	50.0	100	76.0	37602	PASS
175	174	5.00	9.00	7.64	2873	PASS
176	174	95.0	101	95.9	36050	PASS
177	176	5.00	9.00	6.47	2332	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296582-02	STD	01	03/05/2009 11:26	
WG296582-03	STD	01	03/05/2009 12:07	
WG296582-04	STD	01	03/05/2009 12:40	
WG296582-05	STD	01	03/05/2009 13:12	
WG296582-06	STD	01	03/05/2009 13:44	
WG296582-07	STD	01	03/05/2009 14:16	
WG296582-08	STD-CCV	01	03/05/2009 14:49	
WG296582-09	STD	01	03/05/2009 15:21	
WG296582-10	STD	01	03/05/2009 15:53	
WG296582-11	STD	01	03/05/2009 16:25	
WG296582-12	SSCV	01	03/05/2009 17:31	
WG296582-12	SSCV	02	03/05/2009 18:04	

* Sample past 12 hour tune limit

BFB

Login Number: L09030095
Instrument: HPMS6
Analyst: MES
Workgroup: WG296678

Tune ID: WG296678-01
Run Date: 03/06/2009
Run Time: 08:35
File ID: 6M82025

Cal ID: HPMS6 - 05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.4	11637	PASS
75.0	95.0	30.0	60.0	48.1	28877	PASS
95.0	95.0	100	100	100	59976	PASS
96.0	95.0	5.00	9.00	5.91	3544	PASS
173	174	0	2.00	0.308	134	PASS
174	95.0	50.0	100	72.6	43552	PASS
175	174	5.00	9.00	7.63	3321	PASS
176	174	95.0	101	96.9	42221	PASS
177	176	5.00	9.00	6.59	2781	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296678-02	CCV	01	03/06/2009 09:00	
WG296679-01	BLANK	01	03/06/2009 09:32	
WG296679-02	LCS	01	03/06/2009 10:04	
L09030095-03	17WW05-022509	01	03/06/2009 11:08	
L09030095-02	17WW04-030209	01	03/06/2009 11:40	
L09030095-21	17WW10-022609-FD	01	03/06/2009 12:12	
L09030095-07	17WW10-022609	01	03/06/2009 12:45	
WG296679-03	REF	01	03/06/2009 12:45	
L09030095-22	17WW10-022609-MS	01	03/06/2009 13:17	
WG296679-04	MS	01	03/06/2009 13:17	
L09030095-23	17WW10-022609-MSD	01	03/06/2009 13:49	
WG296679-05	MSD	01	03/06/2009 13:49	
WG296679-06	BLANK2	01	03/06/2009 21:18	*

* Sample past 12 hour tune limit

BFB

Login Number: L09030095
Instrument: HPMS6
Analyst: MES
Workgroup: WG296832

Tune ID: WG296832-01
Run Date: 03/09/2009
Run Time: 08:54
File ID: 6M82054

Cal ID: HPMS6 - 05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.1	6773	PASS
75.0	95.0	30.0	60.0	51.2	16437	PASS
95.0	95.0	100	100	100	32125	PASS
96.0	95.0	5.00	9.00	6.89	2213	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.9	24050	PASS
175	174	5.00	9.00	7.86	1890	PASS
176	174	95.0	101	97.7	23488	PASS
177	176	5.00	9.00	6.68	1568	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296832-02	CCV	01	03/09/2009 09:20	
WG296833-01	BLANK	01	03/09/2009 10:09	
WG296833-02	LCS	01	03/09/2009 10:42	
WG296833-03	LCS2	01	03/09/2009 11:17	
L09030095-04	17WW07-022509	01	03/09/2009 11:52	
L09030095-05	17WW08-022509	01	03/09/2009 12:24	
L09030095-11	17WW14-022509	01	03/09/2009 12:56	
WG296833-04	BLANK2	01	03/09/2009 22:03	*

* Sample past 12 hour tune limit

BFB

Login Number: L09030095

Instrument: HPMS8

Analyst: MES

Workgroup: WG295276

Tune ID: WG295276-01

Run Date: 02/19/2009

Run Time: 08:25

File ID: 8M351785

Cal ID: HPMS8 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	28.7	28645	PASS
75.0	95.0	30.0	60.0	55.5	55453	PASS
95.0	95.0	100	100	100	99829	PASS
96.0	95.0	5.00	9.00	6.73	6717	PASS
173	174	0	2.00	0.293	213	PASS
174	95.0	50.0	100	72.8	72637	PASS
175	174	5.00	9.00	7.92	5753	PASS
176	174	95.0	101	99.9	72544	PASS
177	176	5.00	9.00	6.55	4752	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG295276-02	STD	01	02/19/2009 08:50	
WG295276-03	STD	01	02/19/2009 09:23	
WG295276-04	STD	01	02/19/2009 09:55	
WG295276-05	STD	01	02/19/2009 10:31	
WG295276-06	STD	01	02/19/2009 11:03	
WG295276-07	STD	01	02/19/2009 11:37	
WG295276-08	STD-CCV	01	02/19/2009 12:09	
WG295276-10	STD	01	02/19/2009 13:13	
WG295276-11	STD	01	02/19/2009 13:45	
WG295276-09	STD	01	02/19/2009 14:17	
WG295276-12	SSCV	01	02/19/2009 16:12	
WG295276-12	SSCV	02	02/19/2009 16:44	

* Sample past 12 hour tune limit

BFB

Login Number: L09030095
Instrument: HPMS8
Analyst: MES
Workgroup: WG296872

Tune ID: WG296872-01
Run Date: 03/09/2009
Run Time: 11:45
File ID: 8M352278

Cal ID: HPMS8 - 19-FEB-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.2	20749	PASS
75.0	95.0	30.0	60.0	52.3	41354	PASS
95.0	95.0	100	100	100	79090	PASS
96.0	95.0	5.00	9.00	7.64	6041	PASS
173	174	0	2.00	0.549	343	PASS
174	95.0	50.0	100	79.0	62461	PASS
175	174	5.00	9.00	7.16	4475	PASS
176	174	95.0	101	98.9	61752	PASS
177	176	5.00	9.00	7.13	4405	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296872-02	CCV	01	03/09/2009 12:44	
WG296873-01	BLANK	01	03/09/2009 13:16	
WG296873-02	LCS	01	03/09/2009 13:49	
WG296873-03	LCS2	01	03/09/2009 14:21	
L09030095-19	C-07-022509	01	03/09/2009 15:57	
L09030095-06	17WW09-022609	01	03/09/2009 16:29	
L09030095-08	17WW11-022609	01	03/09/2009 17:01	
L09030095-09	17WW12-022609	01	03/09/2009 17:33	
L09030095-12	17WW15-022609	01	03/09/2009 18:05	
L09030095-13	17WW16-022609	01	03/09/2009 18:37	
L09030095-10	17WW13-030309	01	03/09/2009 19:09	
L09030095-18	18WW15-030309	01	03/09/2009 19:41	
L09030095-20	MW-18-030309	01	03/09/2009 20:13	
L09030095-25	18WW15-030309-FD	01	03/09/2009 20:45	
L09030095-01	17WW01-030409	DL01	03/09/2009 21:17	
L09030095-16	MW-130-030409	01	03/09/2009 21:49	
WG296873-04	BLANK2	01	03/10/2009 01:00	*

* Sample past 12 hour tune limit

Login Number: L09030095
Analytical Method: 8260B
ICAL Workgroup: WG296612

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
1,1-Dichloroethene	CCC	0.3800	4.96		
1,2-Dichloropropane	CCC	0.2514	6.19		
Chloroform	CCC	0.4014	4.59		
Ethylbenzene	CCC	0.4316	8.37		
Toluene	CCC	1.225	3.87		
Vinyl Chloride	CCC	0.2279	9.37		
1,1,2,2-Tetrachloroethane	SPCC	0.4598	4.29		
1,1-Dichloroethane	SPCC	0.4620	2.32		
Bromoform	SPCC	0.1630	10.1		
Chlorobenzene	SPCC	0.7957	5.83		
Chloromethane	SPCC	0.4181	11.8		
1,1,1,2-Tetrachloroethane		0.2597	6.29		
1,1,1-Trichloroethane		0.3409	10.2		
1,1,2-Trichloroethane		0.2017	14.7		
1,1-Dichloropropene		0.2949	9.80		
1,2,3-Trichlorobenzene		0.6624	8.43		
1,2,3-Trichloropropane		0.1328	3.16		
1,2,4-Trichlorobenzene		0.7466	5.45		
1,2,4-Trimethylbenzene		2.116	4.89		
1,2-Dibromo-3-Chloropropane		0.08822	4.70		
1,2-Dibromoethane		0.2115	4.73		
1,2-Dichlorobenzene		0.9933	3.58		
1,2-Dichloroethane		0.3262	6.87		
1,3,5-Trimethylbenzene		2.064	5.59		
1,3-Dichlorobenzene		1.081	5.31		
1,3-Dichloropropane		0.3984	3.06		
1,4-Dichlorobenzene		1.120	3.93		
2,2-Dichloropropane		0.3084	16.0		0.99900
2-Butanone		0.1015	2.94		
2-Chloroethyl Vinyl Ether		0.07709	10.5		
2-Chlorotoluene		2.024	3.79		
2-Hexanone		0.1950	7.05		
4-Chlorotoluene		1.827	4.54		
4-Methyl-2-Pentanone		0.07371	2.50		
Acetone		0.06973	8.83		
Benzene		0.9145	6.34		
Bromobenzene		0.5617	7.42		
Bromochloromethane		0.1183	8.19		
Bromodichloromethane		0.3039	6.43		
Bromomethane		0.1250	7.33		
Carbon Disulfide		0.7521	2.53		
Carbon Tetrachloride		0.2839	9.67		
Chloroethane		0.1706	5.75		
Dibromochloromethane		0.2505	5.52		
Dibromomethane		0.1131	9.79		

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Login Number: L09030095
Analytical Method: 8260B
ICAL Workgroup: WG296612

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
Dichlorodifluoromethane		0.2812	4.21		
Hexachlorobutadiene		0.3318	19.5		0.99900
Isopropylbenzene		1.283	6.17		
Methylene Chloride		0.2786	34.0		0.99900
Naphthalene		1.487	4.25		
Styrene		0.8524	9.03		
Tetrachloroethene		0.2063	7.62		
Trichloroethene		0.2119	6.25		
Trichlorofluoromethane		0.3364	18.1		0.99900
Vinyl Acetate		0.2958	11.9		
cis-1,2-Dichloroethene		0.2328	4.32		
cis-1,3-Dichloropropene		0.3540	5.56		
m-,p-Xylene		0.5218	5.37		
n-Butylbenzene		2.060	7.14		
n-Propylbenzene		3.036	5.82		
o-Xylene		0.5064	5.68		
p-Isopropyltoluene		2.079	5.76		
sec-Butylbenzene		2.523	4.88		
tert-Butylbenzene		0.3875	6.59		
trans-1,2-Dichloroethene		0.2073	6.99		
trans-1,3-Dichloropropene		0.4251	4.12		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

Login Number: L09030095
Analytical Method: 8260B
ICAL Workgroup: WG296582

Instrument ID: HPMS6
Initial Calibration Date: 05-MAR-09 16:25
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
1,1-Dichloroethene	CCC	0.3990	5.07		
1,2-Dichloropropane	CCC	0.2235	7.30		
Chloroform	CCC	0.5178	5.35		
Ethylbenzene	CCC	0.4293	5.73		
Toluene	CCC	1.129	6.31		
Vinyl Chloride	CCC	0.2426	14.9		
1,1,2,2-Tetrachloroethane	SPCC	0.3433	13.4		
1,1-Dichloroethane	SPCC	0.4667	4.60		
Bromoform	SPCC	0.1551	18.9	1.00000	
Chlorobenzene	SPCC	0.8150	4.84		
Chloromethane	SPCC	0.3437	11.5		
1,1,1,2-Tetrachloroethane		0.2782	8.57		
1,1,1-Trichloroethane		0.4627	5.77		
1,1,2-Trichloroethane		0.1918	7.21		
1,1-Dichloropropene		0.3438	8.46		
1,2,3-Trichlorobenzene		0.5986	6.19		
1,2,3-Trichloropropane		0.1161	12.7		
1,2,4-Trichlorobenzene		0.6766	6.99		
1,2,4-Trimethylbenzene		1.973	6.75		
1,2-Dibromo-3-Chloropropane		0.07217	13.3		
1,2-Dibromoethane		0.2001	10.9		
1,2-Dichlorobenzene		1.060	4.42		
1,2-Dichloroethane		0.3808	4.20		
1,3,5-Trimethylbenzene		1.864	10.4		
1,3-Dichlorobenzene		1.175	4.13		
1,3-Dichloropropane		0.3412	8.23		
1,4-Dichlorobenzene		1.259	6.53		
2,2-Dichloropropane		0.4275	9.05		
2-Butanone		0.07167	5.44		
2-Chloroethyl Vinyl Ether		0.09607	6.62		
2-Chlorotoluene		1.979	6.23		
2-Hexanone		0.1120	11.1		
4-Chlorotoluene		1.728	4.26		
4-Methyl-2-Pentanone		0.05562	8.50		
Acetone		0.05047	6.73		
Benzene		0.9615	3.94		
Bromobenzene		0.5510	7.89		
Bromochloromethane		0.1531	8.26		
Bromodichloromethane		0.3623	7.30		
Bromomethane		0.1909	8.67		
Carbon Disulfide		0.8345	4.16		
Carbon Tetrachloride		0.3957	6.24		
Chloroethane		0.1930	6.02		
Dibromochloromethane		0.2537	14.3		
Dibromomethane		0.1348	8.02		

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Login Number: L09030095
Analytical Method: 8260B
ICAL Workgroup: WG296582

Instrument ID: HPMS6
Initial Calibration Date: 05-MAR-09 16:25
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
Dichlorodifluoromethane		0.4150	7.18		
Hexachlorobutadiene		0.2666	5.63		
Isopropylbenzene		1.323	9.47		
Methylene Chloride		0.3256	30.4		1.00000
Naphthalene		0.9960	18.6	0.99900	
Styrene		0.8679	12.5		
Tetrachloroethene		0.2936	6.17		
Trichloroethene		0.2566	7.60		
Trichlorofluoromethane		0.5363	3.99		
Vinyl Acetate		0.3276	7.86		
cis-1,2-Dichloroethene		0.2633	5.94		
cis-1,3-Dichloropropene		0.3662	14.6		
m-,p-Xylene		0.5465	6.20		
n-Butylbenzene		1.674	9.37		
n-Propylbenzene		2.545	10.5		
o-Xylene		0.5150	8.47		
p-Isopropyltoluene		1.864	11.4		
sec-Butylbenzene		2.150	9.20		
tert-Butylbenzene		0.3886	9.05		
trans-1,2-Dichloroethene		0.2445	7.51		
trans-1,3-Dichloropropene		0.3837	14.2		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

Login Number: L09030095
Analytical Method: 8260B
ICAL Workgroup: WG295276

Instrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
1,1-Dichloroethene	CCC	0.4551	5.74		
1,2-Dichloropropane	CCC	0.2286	2.31		
Chloroform	CCC	0.5415	10.1		
Ethylbenzene	CCC	0.4606	6.36		
Toluene	CCC	1.234	7.01		
Vinyl Chloride	CCC	0.3255	28.2		0.99100
1,1,2,2-Tetrachloroethane	SPCC	0.4396	7.97		
1,1-Dichloroethane	SPCC	0.4863	3.66		
Bromoform	SPCC	0.2153	7.44		
Chlorobenzene	SPCC	0.8737	6.73		
Chloromethane	SPCC	0.4759	19.2		1.00000
1,1,1,2-Tetrachloroethane		0.3650	9.95		
1,1,1-Trichloroethane		0.5417	11.2		
1,1,2-Trichloroethane		0.2285	7.93		
1,1-Dichloropropene		0.3390	10.6		
1,2,3-Trichlorobenzene		0.9570	10.7		
1,2,3-Trichloropropane		0.1572	13.8		
1,2,4-Trichlorobenzene		1.038	9.03		
1,2,4-Trimethylbenzene		2.511	9.89		
1,2-Dibromo-3-Chloropropane		0.1212	7.91		
1,2-Dibromoethane		0.2346	8.21		
1,2-Dichlorobenzene		1.269	6.30		
1,2-Dichloroethane		0.4997	13.5		
1,3,5-Trimethylbenzene		2.304	13.5		
1,3-Dichlorobenzene		1.349	6.36		
1,3-Dichloropropane		0.4103	7.29		
1,4-Dichlorobenzene		1.441	8.39		
2,2-Dichloropropane		0.5148	8.84		
2-Butanone		0.07805	1.57		
2-Chloroethyl Vinyl Ether		0.1073	14.3		
2-Chlorotoluene		2.197	11.3		
2-Hexanone		0.06718	12.7		
4-Chlorotoluene		2.276	8.51		
4-Methyl-2-Pentanone		0.05713	7.23		
Acetone		0.06597	15.5		0.99700
Benzene		0.8578	4.75		
Bromobenzene		0.6478	5.31		
Bromochloromethane		0.1396	7.97		
Bromodichloromethane		0.4142	9.17		
Bromomethane		0.1840	8.31		
Carbon Disulfide		0.7580	6.04		
Carbon Tetrachloride		0.4670	13.1		
Chloroethane		0.1829	7.64		
Dibromochloromethane		0.3370	6.87		
Dibromomethane		0.1403	10.6		

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Login Number: L09030095
Analytical Method: 8260B
ICAL Workgroup: WG295276

Instrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
Dichlorodifluoromethane		0.4593	15.3		1.00000
Hexachlorobutadiene		0.5521	11.4		
Isopropylbenzene		1.473	10.5		
Methylene Chloride		0.2847	26.2		1.00000
Naphthalene		1.817	9.41		
Styrene		0.9151	9.55		
Tetrachloroethene		0.2728	6.43		
Trichloroethene		0.2385	4.34		
Trichlorofluoromethane		0.5772	12.8		
Vinyl Acetate		0.4150	7.06		
cis-1,2-Dichloroethene		0.2422	6.47		
cis-1,3-Dichloropropene		0.3800	8.55		
m-,p-Xylene		0.5696	6.55		
n-Butylbenzene		2.552	11.2		
n-Propylbenzene		3.219	11.3		
o-Xylene		0.5367	10.3		
p-Isopropyltoluene		2.541	9.85		
sec-Butylbenzene		2.877	9.47		
tert-Butylbenzene		0.4735	7.15		
trans-1,2-Dichloroethene		0.3987	5.94		
trans-1,3-Dichloropropene		0.5203	10.2		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-02			WG296612-03			WG296612-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	0.300	2810.00000	0.3943	0.400	3552.00000	0.3689	1.00	8124.00000	0.3406
1,2-Dichloropropane	0.300	1830.00000	0.2568	0.400	2373.00000	0.2464	1.00	5128.00000	0.2150
Chloroform	0.300	2953.00000	0.4144	0.400	3673.00000	0.3814	1.00	8729.00000	0.3660
Ethylbenzene	0.300	2776.00000	0.5252	0.400	2972.00000	0.4133	1.00	7258.00000	0.4069
Toluene	0.300	6705.00000	1.269	0.400	9110.00000	1.267	1.00	19837.0000	1.112
Vinyl Chloride	NA	NA	NA	0.400	2369.00000	0.2460	1.00	5970.00000	0.2503
1,1,2,2-Tetrachloroethane	0.300	1128.00000	0.4172	0.400	1661.00000	0.4520	1.00	4440.00000	0.4831
1,1-Dichloroethane	NA	NA	NA	0.400	4395.00000	0.4564	1.00	10617.0000	0.4451
Bromoform	NA	NA	NA	NA	NA	NA	1.00	2342.00000	0.1313
Chlorobenzene	0.300	4597.00000	0.8697	0.400	6038.00000	0.8396	1.00	12579.0000	0.7052
Chloromethane	NA	NA	NA	0.400	5083.00000	0.5279	1.00	10450.0000	0.4381
1,1,1,2-Tetrachloroethane	0.300	1197.00000	0.2265	0.400	1895.00000	0.2635	1.00	4240.00000	0.2377
1,1,1-Trichloroethane	0.300	1965.00000	0.2757	0.400	3160.00000	0.3282	1.00	7026.00000	0.2946
1,1,2-Trichloroethane	0.300	945.000000	0.1788	0.400	955.000000	0.1328	1.00	3786.00000	0.2123
1,1-Dichloropropene	0.300	2145.00000	0.3010	0.400	2168.00000	0.2252	1.00	6576.00000	0.2757
1,2,3-Trichlorobenzene	0.300	1621.00000	0.5996	0.400	2569.00000	0.6990	1.00	4959.00000	0.5395
1,2,3-Trichloropropane	NA	NA	NA	NA	NA	NA	1.00	1252.00000	0.1362
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	2685.00000	0.7306	1.00	6168.00000	0.6711
1,2,4-Trimethylbenzene	0.300	6049.00000	2.238	0.400	7893.00000	2.148	1.00	17183.0000	1.870
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	1349.00000	0.1876	1.00	3894.00000	0.2183
1,2-Dichlorobenzene	0.300	2778.00000	1.028	0.400	3780.00000	1.029	1.00	8488.00000	0.9235
1,2-Dichloroethane	0.300	1995.00000	0.2799	0.400	2979.00000	0.3094	1.00	7319.00000	0.3068
1,3,5-Trimethylbenzene	0.300	6051.00000	2.238	0.400	7882.00000	2.145	1.00	16727.0000	1.820
1,3-Dichlorobenzene	0.300	3101.00000	1.147	0.400	4353.00000	1.184	1.00	9057.00000	0.9854
1,3-Dichloropropane	0.300	2260.00000	0.4276	0.400	2875.00000	0.3998	1.00	7047.00000	0.3951
1,4-Dichlorobenzene	0.300	3093.00000	1.144	0.400	4487.00000	1.221	1.00	9790.00000	1.065
2,2-Dichloropropane	NA	NA	NA	0.400	2058.00000	0.2137	1.00	6069.00000	0.2544
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl Vinyl Ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	0.300	5434.00000	2.010	0.400	7873.00000	2.142	1.00	17664.0000	1.922
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	0.300	5004.00000	1.851	0.400	7197.00000	1.958	1.00	15289.0000	1.663
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.300	6907.00000	0.9692	0.400	9858.00000	1.024	1.00	19615.0000	0.8223
Bromobenzene	0.300	1287.00000	0.4761	0.400	1956.00000	0.5322	1.00	5093.00000	0.5541
Bromochloromethane	NA	NA	NA	0.400	981.000000	0.1019	1.00	2540.00000	0.1065
Bromodichloromethane	0.300	1995.00000	0.2799	0.400	2761.00000	0.2867	1.00	6487.00000	0.2720
Bromomethane	NA	NA	NA	0.400	1102.00000	0.1144	1.00	2759.00000	0.1157
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	18623.0000	0.7807
Carbon Tetrachloride	0.300	2024.00000	0.2840	0.400	2222.00000	0.2308	1.00	5962.00000	0.2499

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-05			WG296612-06			WG296612-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	17698.0000	0.3706	5.00	48269.0000	0.3998	20.0	187127.000	0.3737
1,2-Dichloropropane	2.00	11724.0000	0.2455	5.00	32455.0000	0.2688	20.0	126106.000	0.2518
Chloroform	2.00	18911.0000	0.3960	5.00	50210.0000	0.4159	20.0	197634.000	0.3947
Ethylbenzene	2.00	15359.0000	0.4349	5.00	37916.0000	0.4177	20.0	154854.000	0.4168
Toluene	2.00	43213.0000	1.224	5.00	111760.000	1.231	20.0	450722.000	1.213
Vinyl Chloride	2.00	11786.0000	0.2468	5.00	29161.0000	0.2415	20.0	104014.000	0.2077
1,1,2,2-Tetrachloroethane	2.00	8634.00000	0.4788	5.00	22362.0000	0.4718	20.0	91477.0000	0.4679
1,1-Dichloroethane	2.00	21936.0000	0.4594	5.00	56686.0000	0.4695	20.0	226878.000	0.4531
Bromoform	2.00	5659.00000	0.1603	5.00	14328.0000	0.1579	20.0	60423.0000	0.1626
Chlorobenzene	2.00	28905.0000	0.8185	5.00	72695.0000	0.8009	20.0	288273.000	0.7759
Chloromethane	2.00	18970.0000	0.3973	5.00	45647.0000	0.3781	20.0	184424.000	0.3683
1,1,1,2-Tetrachloroethane	2.00	9605.00000	0.2720	5.00	24709.0000	0.2722	20.0	97330.0000	0.2620
1,1,1-Trichloroethane	2.00	17160.0000	0.3594	5.00	44311.0000	0.3670	20.0	170956.000	0.3414
1,1,2-Trichloroethane	2.00	8349.00000	0.2364	5.00	19170.0000	0.2112	20.0	77560.0000	0.2088
1,1-Dichloropropene	2.00	14399.0000	0.3016	5.00	36969.0000	0.3062	20.0	150295.000	0.3001
1,2,3-Trichlorobenzene	2.00	11995.0000	0.6652	5.00	32823.0000	0.6926	20.0	133986.000	0.6854
1,2,3-Trichloropropane	2.00	2531.00000	0.1404	5.00	6125.00000	0.1292	20.0	25324.0000	0.1295
1,2,4-Trichlorobenzene	2.00	12996.0000	0.7207	5.00	34864.0000	0.7356	20.0	149121.000	0.7628
1,2,4-Trimethylbenzene	2.00	37907.0000	2.102	5.00	99695.0000	2.104	20.0	411493.000	2.105
1,2-Dibromo-3-Chloropropane	2.00	1455.00000	0.08070	5.00	4104.00000	0.08660	20.0	18086.0000	0.09250
1,2-Dibromoethane	2.00	7458.00000	0.2112	5.00	19387.0000	0.2136	20.0	78758.0000	0.2120
1,2-Dichlorobenzene	2.00	18261.0000	1.013	5.00	45213.0000	0.9540	20.0	191882.000	0.9815
1,2-Dichloroethane	2.00	16035.0000	0.3358	5.00	41622.0000	0.3448	20.0	167589.000	0.3347
1,3,5-Trimethylbenzene	2.00	36177.0000	2.006	5.00	97405.0000	2.055	20.0	400134.000	2.047
1,3-Dichlorobenzene	2.00	19101.0000	1.059	5.00	50743.0000	1.071	20.0	204684.000	1.047
1,3-Dichloropropane	2.00	14321.0000	0.4055	5.00	36040.0000	0.3971	20.0	145685.000	0.3921
1,4-Dichlorobenzene	2.00	20103.0000	1.115	5.00	51464.0000	1.086	20.0	215608.000	1.103
2,2-Dichloropropane	2.00	14818.0000	0.3103	5.00	39363.0000	0.3260	20.0	159099.000	0.3177
2-Butanone	NA	NA	NA	5.00	12849.0000	0.1064	20.0	51254.0000	0.1024
2-Chloroethyl Vinyl Ether	2.00	3791.00000	0.07940	5.00	9576.00000	0.07930	20.0	36748.0000	0.07340
2-Chlorotoluene	2.00	37828.0000	2.098	5.00	96099.0000	2.028	20.0	398676.000	2.039
2-Hexanone	2.00	5822.00000	0.1649	5.00	18354.0000	0.2022	20.0	75848.0000	0.2041
4-Chlorotoluene	2.00	33123.0000	1.837	5.00	87025.0000	1.836	20.0	340384.000	1.741
4-Methyl-2-Pentanone	2.00	3353.00000	0.07020	5.00	8855.00000	0.07330	20.0	37129.0000	0.07410
Acetone	NA	NA	NA	5.00	9654.00000	0.08000	20.0	35697.0000	0.07130
Benzene	2.00	41454.0000	0.8682	5.00	111356.000	0.9224	20.0	440382.000	0.8794
Bromobenzene	2.00	10012.0000	0.5552	5.00	29424.0000	0.6209	20.0	114538.000	0.5859
Bromochloromethane	2.00	5515.00000	0.1155	5.00	14981.0000	0.1241	20.0	59876.0000	0.1196
Bromodichloromethane	2.00	15150.0000	0.3173	5.00	37899.0000	0.3139	20.0	151937.000	0.3034
Bromomethane	2.00	6094.00000	0.1276	5.00	14509.0000	0.1202	20.0	59114.0000	0.1180
Carbon Disulfide	2.00	35642.0000	0.7464	5.00	87289.0000	0.7230	20.0	370063.000	0.7390
Carbon Tetrachloride	2.00	13578.0000	0.2844	5.00	36536.0000	0.3026	20.0	140827.000	0.2812

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Analytical Method: 8260BInstrument ID: HPMS11
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Column ID: F

Analyte	WG296612-08			WG296612-09			WG296612-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	486150.000	0.3978	100	896094.000	0.3847	200	1949977.00	0.3898
1,2-Dichloropropane	50.0	321443.000	0.2630	100	596833.000	0.2562	200	1297154.00	0.2593
Chloroform	50.0	507930.000	0.4156	100	950437.000	0.4080	200	2103001.00	0.4204
Ethylbenzene	50.0	399273.000	0.4314	100	743238.000	0.4214	200	1611632.00	0.4169
Toluene	50.0	1167225.00	1.261	100	2173673.00	1.232	200	4703926.00	1.217
Vinyl Chloride	50.0	272328.000	0.2228	100	501765.000	0.2154	200	964737.000	0.1928
1,1,2,2-Tetrachloroethane	50.0	232199.000	0.4633	100	460242.000	0.4521	200	1005581.00	0.4524
1,1-Dichloroethane	50.0	583643.000	0.4776	100	1078842.00	0.4632	200	2360735.00	0.4719
Bromoform	50.0	157952.000	0.1707	100	312468.000	0.1772	200	700225.000	0.1811
Chlorobenzene	50.0	735715.000	0.7949	100	1384148.00	0.7847	200	2984628.00	0.7720
Chloromethane	50.0	497534.000	0.4071	100	970923.000	0.4168	200	2056780.00	0.4111
1,1,1,2-Tetrachloroethane	50.0	250227.000	0.2704	100	474130.000	0.2688	200	1021668.00	0.2643
1,1,1-Trichloroethane	50.0	449256.000	0.3676	100	845183.000	0.3629	200	1856003.00	0.3710
1,1,2-Trichloroethane	50.0	196271.000	0.2121	100	372410.000	0.2111	200	817412.000	0.2114
1,1-Dichloropropene	50.0	389487.000	0.3187	100	727020.000	0.3121	200	1568899.00	0.3136
1,2,3-Trichlorobenzene	50.0	353458.000	0.7052	100	698247.000	0.6859	200	1532564.00	0.6895
1,2,3-Trichloropropane	50.0	66115.0000	0.1319	100	131571.000	0.1293	200	295249.000	0.1328
1,2,4-Trichlorobenzene	50.0	400621.000	0.7993	100	787110.000	0.7732	200	1733131.00	0.7798
1,2,4-Trimethylbenzene	50.0	1103648.00	2.202	100	2188486.00	2.150	200	4718836.00	2.123
1,2-Dibromo-3-Chloropropane	50.0	45019.0000	0.08980	100	91379.0000	0.08980	200	199882.000	0.08990
1,2-Dibromoethane	50.0	199064.000	0.2151	100	383884.000	0.2176	200	837778.000	0.2167
1,2-Dichlorobenzene	50.0	511503.000	1.021	100	1016862.00	0.9989	200	2206778.00	0.9929
1,2-Dichloroethane	50.0	419798.000	0.3435	100	785990.000	0.3374	200	1716472.00	0.3431
1,3,5-Trimethylbenzene	50.0	1073855.00	2.143	100	2101016.00	2.064	200	4578360.00	2.060
1,3-Dichlorobenzene	50.0	546793.000	1.091	100	1085490.00	1.066	200	2385797.00	1.073
1,3-Dichloropropane	50.0	361269.000	0.3903	100	686803.000	0.3894	200	1504215.00	0.3891
1,4-Dichlorobenzene	50.0	563730.000	1.125	100	1129274.00	1.109	200	2464911.00	1.109
2,2-Dichloropropane	50.0	422306.000	0.3456	100	802772.000	0.3447	200	1773572.00	0.3545
2-Butanone	50.0	122566.000	0.1003	100	235829.000	0.1012	200	508465.000	0.1016
2-Chloroethyl Vinyl Ether	50.0	87864.0000	0.07190	100	161131.000	0.06920	200	366312.000	0.07320
2-Chlorotoluene	50.0	1045083.00	2.085	100	1992282.00	1.957	200	4294454.00	1.932
2-Hexanone	50.0	185043.000	0.1999	100	357851.000	0.2029	200	751240.000	0.1943
4-Chlorotoluene	50.0	933253.000	1.862	100	1859896.00	1.827	200	4151005.00	1.868
4-Methyl-2-Pentanone	50.0	91250.0000	0.07470	100	176375.000	0.07570	200	376108.000	0.07520
Acetone	50.0	87273.0000	0.07140	100	159491.000	0.06850	200	323446.000	0.06470
Benzene	50.0	1123622.00	0.9194	100	2122335.00	0.9112	200	4573746.00	0.9143
Bromobenzene	50.0	300680.000	0.5999	100	575389.000	0.5652	200	1257000.00	0.5656
Bromochloromethane	50.0	154624.000	0.1265	100	288977.000	0.1241	200	642994.000	0.1285
Bromodichloromethane	50.0	387368.000	0.3170	100	740924.000	0.3181	200	1633547.00	0.3265
Bromomethane	50.0	169775.000	0.1389	100	309882.000	0.1330	200	661746.000	0.1323
Carbon Disulfide	50.0	939576.000	0.7688	100	1748414.00	0.7506	200	3782651.00	0.7561
Carbon Tetrachloride	50.0	378754.000	0.3099	100	704938.000	0.3026	200	1548845.00	0.3096

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Column ID: F

Analyte	WG296612-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,1-Dichloropropene	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,3-Dichloropropane	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2,2-Dichloropropane	NA	NA	NA
2-Butanone	300	715016.000	0.09720
2-Chloroethyl Vinyl Ether	300	685516.000	0.09320
2-Chlorotoluene	NA	NA	NA
2-Hexanone	300	1071501.00	0.1967
4-Chlorotoluene	NA	NA	NA
4-Methyl-2-Pentanone	300	535333.000	0.07280
Acetone	300	459670.000	0.06250
Benzene	NA	NA	NA
Bromobenzene	NA	NA	NA
Bromochloromethane	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA

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Analyte	WG296612-02			WG296612-03			WG296612-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	3673.00000	0.1540
Dibromochloromethane	0.300	1228.00000	0.2323	0.400	1742.00000	0.2422	1.00	4068.00000	0.2281
Dibromomethane	NA	NA	NA	0.400	851.000000	0.08840	1.00	2520.00000	0.1056
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	6695.00000	0.2807
Hexachlorobutadiene	NA	NA	NA	0.400	659.000000	0.1793	1.00	3017.00000	0.3282
Isopropylbenzene	0.300	7033.00000	1.331	0.400	9127.00000	1.269	1.00	19410.0000	1.088
Methylene Chloride	NA	NA	NA	0.400	4771.00000	0.4955	1.00	7560.00000	0.3169
Naphthalene	NA	NA	NA	0.400	5202.00000	1.415	1.00	12809.0000	1.394
Styrene	0.300	4153.00000	0.7857	0.400	5902.00000	0.8207	1.00	12706.0000	0.7123
Tetrachloroethene	NA	NA	NA	0.400	1362.00000	0.1894	1.00	3162.00000	0.1773
Trichloroethene	0.300	1318.00000	0.1849	0.400	1949.00000	0.2024	1.00	4830.00000	0.2025
Trichlorofluoromethane	NA	NA	NA	0.400	1837.00000	0.1908	1.00	7836.00000	0.3285
Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	0.300	1549.00000	0.2173	0.400	2426.00000	0.2519	1.00	5365.00000	0.2249
cis-1,3-Dichloropropene	0.300	2264.00000	0.3177	0.400	3479.00000	0.3613	1.00	7751.00000	0.3250
m-,p-Xylene	0.600	5953.00000	0.5631	0.800	7780.00000	0.5409	2.00	16358.0000	0.4585
n-Butylbenzene	NA	NA	NA	NA	NA	NA	1.00	16156.0000	1.758
n-Propylbenzene	0.300	8654.00000	3.201	0.400	10170.0000	2.767	1.00	25411.0000	2.765
o-Xylene	0.300	2573.00000	0.4868	0.400	4019.00000	0.5589	1.00	8015.00000	0.4493
p-Isopropyltoluene	0.300	6107.00000	2.259	0.400	7669.00000	2.087	1.00	16589.0000	1.805
sec-Butylbenzene	0.300	7369.00000	2.726	0.400	9175.00000	2.497	1.00	20782.0000	2.261
tert-Butylbenzene	0.300	1040.00000	0.3847	0.400	1281.00000	0.3486	1.00	3165.00000	0.3443
trans-1,2-Dichloroethene	0.300	1372.00000	0.1925	0.400	1802.00000	0.1871	1.00	4610.00000	0.1933
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	1.00	6953.00000	0.3898

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Analyte	WG296612-05			WG296612-06			WG296612-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	2.00	7835.00000	0.1641	5.00	21834.0000	0.1809	20.0	85223.0000	0.1702
Dibromochloromethane	2.00	8755.00000	0.2479	5.00	23637.0000	0.2604	20.0	94078.0000	0.2532
Dibromomethane	2.00	5744.00000	0.1203	5.00	14196.0000	0.1176	20.0	57931.0000	0.1157
Dichlorodifluoromethane	2.00	12743.0000	0.2669	5.00	34317.0000	0.2842	20.0	138834.000	0.2772
Hexachlorobutadiene	2.00	6005.00000	0.3330	5.00	16043.0000	0.3385	20.0	68404.0000	0.3499
Isopropylbenzene	2.00	45189.0000	1.280	5.00	117817.000	1.298	20.0	471782.000	1.270
Methylene Chloride	2.00	13657.0000	0.2860	5.00	29726.0000	0.2462	20.0	108135.000	0.2159
Naphthalene	2.00	26178.0000	1.452	5.00	70362.0000	1.485	20.0	292706.000	1.497
Styrene	2.00	28555.0000	0.8086	5.00	78762.0000	0.8677	20.0	326151.000	0.8779
Tetrachloroethene	2.00	7125.00000	0.2018	5.00	20097.0000	0.2214	20.0	78834.0000	0.2122
Trichloroethene	2.00	10200.0000	0.2136	5.00	26975.0000	0.2234	20.0	107333.000	0.2143
Trichlorofluoromethane	2.00	16928.0000	0.3545	5.00	45932.0000	0.3805	20.0	173839.000	0.3472
Vinyl Acetate	2.00	13291.0000	0.2783	5.00	38166.0000	0.3161	20.0	166408.000	0.3323
cis-1,2-Dichloroethene	2.00	10769.0000	0.2255	5.00	28102.0000	0.2328	20.0	115065.000	0.2298
cis-1,3-Dichloropropene	2.00	17492.0000	0.3663	5.00	43512.0000	0.3604	20.0	175093.000	0.3497
m-,p-Xylene	4.00	36670.0000	0.5192	10.0	94961.0000	0.5231	40.0	381903.000	0.5140
n-Butylbenzene	2.00	36420.0000	2.020	5.00	98244.0000	2.073	20.0	403715.000	2.065
n-Propylbenzene	2.00	56391.0000	3.127	5.00	148344.000	3.130	20.0	614385.000	3.143
o-Xylene	2.00	17821.0000	0.5047	5.00	46355.0000	0.5107	20.0	189271.000	0.5094
p-Isopropyltoluene	2.00	37737.0000	2.093	5.00	98725.0000	2.083	20.0	398106.000	2.037
sec-Butylbenzene	2.00	45692.0000	2.534	5.00	120253.000	2.537	20.0	485426.000	2.483
tert-Butylbenzene	2.00	7497.00000	0.4157	5.00	19237.0000	0.4059	20.0	77604.0000	0.3970
trans-1,2-Dichloroethene	2.00	9495.00000	0.1988	5.00	26111.0000	0.2163	20.0	105603.000	0.2109
trans-1,3-Dichloropropene	2.00	14767.0000	0.4182	5.00	38863.0000	0.4282	20.0	157658.000	0.4243

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Column ID: F

Analyte	WG296612-08			WG296612-09			WG296612-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	50.0	220419.000	0.1804	100	412975.000	0.1773	200	835354.000	0.1670
Dibromochloromethane	50.0	242603.000	0.2621	100	460748.000	0.2612	200	1031026.00	0.2667
Dibromomethane	50.0	144066.000	0.1179	100	275706.000	0.1184	200	605247.000	0.1210
Dichlorodifluoromethane	50.0	364942.000	0.2986	100	681714.000	0.2927	200	1340352.00	0.2679
Hexachlorobutadiene	50.0	187264.000	0.3736	100	376271.000	0.3696	200	850430.000	0.3826
Isopropylbenzene	50.0	1242990.00	1.343	100	2360625.00	1.338	200	5159730.00	1.335
Methylene Chloride	50.0	277498.000	0.2271	100	515767.000	0.2214	200	1100452.00	0.2200
Naphthalene	50.0	783718.000	1.564	100	1567626.00	1.540	200	3446769.00	1.551
Styrene	50.0	861999.000	0.9313	100	1655381.00	0.9385	200	3590552.00	0.9287
Tetrachloroethene	50.0	203617.000	0.2200	100	379802.000	0.2153	200	824699.000	0.2133
Trichloroethene	50.0	277592.000	0.2271	100	508887.000	0.2185	200	1104766.00	0.2208
Trichlorofluoromethane	50.0	454252.000	0.3717	100	835018.000	0.3585	200	1798637.00	0.3595
Vinyl Acetate	50.0	400752.000	0.3279	100	723110.000	0.3105	200	1338057.00	0.2675
cis-1,2-Dichloroethene	50.0	291714.000	0.2387	100	546735.000	0.2347	200	1196927.00	0.2393
cis-1,3-Dichloropropene	50.0	453446.000	0.3710	100	848712.000	0.3644	200	1853223.00	0.3705
m-,p-Xylene	100	984065.000	0.5316	200	1858816.00	0.5269	400	4014407.00	0.5192
n-Butylbenzene	50.0	1096684.00	2.188	100	2220570.00	2.181	200	4741712.00	2.133
n-Propylbenzene	50.0	1614197.00	3.221	100	3105868.00	3.051	200	6488954.00	2.920
o-Xylene	50.0	480918.000	0.5196	100	901206.000	0.5109	200	1960490.00	0.5071
p-Isopropyltoluene	50.0	1074100.00	2.143	100	2140806.00	2.103	200	4665521.00	2.099
sec-Butylbenzene	50.0	1310912.00	2.616	100	2578019.00	2.533	200	5603231.00	2.521
tert-Butylbenzene	50.0	206332.000	0.4117	100	398201.000	0.3912	200	863746.000	0.3886
trans-1,2-Dichloroethene	50.0	273912.000	0.2241	100	513222.000	0.2203	200	1114175.00	0.2227
trans-1,3-Dichloropropene	50.0	406083.000	0.4387	100	772549.000	0.4380	200	1695548.00	0.4386

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Login Number: L09030095
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-11		
	CONC	RESP	RF
Chloroethane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dibromomethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methylene Chloride	NA	NA	NA
Naphthalene	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA
Vinyl Acetate	300	1750612.00	0.2381
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-,p-Xylene	NA	NA	NA
n-Butylbenzene	NA	NA	NA
n-Propylbenzene	NA	NA	NA
o-Xylene	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA
sec-Butylbenzene	NA	NA	NA
tert-Butylbenzene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

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Analytical Method: 8260BInstrument ID: HPMS6
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Column ID: F

Analyte	WG296582-02			WG296582-03			WG296582-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA	0.400	4394.00000	0.4058	1.00	11442.0000	0.4037
1,2-Dichloropropane	NA	NA	NA	0.400	2325.00000	0.2147	1.00	5929.00000	0.2092
Chloroform	0.300	4719.00000	0.5321	0.400	6173.00000	0.5701	1.00	14748.0000	0.5203
Ethylbenzene	NA	NA	NA	0.400	4344.00000	0.4328	1.00	10447.0000	0.3945
Toluene	NA	NA	NA	0.400	11225.0000	1.118	1.00	28082.0000	1.061
Vinyl Chloride	NA	NA	NA	NA	NA	NA	1.00	7891.00000	0.2784
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	1612.00000	0.2557	1.00	5361.00000	0.3237
1,1-Dichloroethane	NA	NA	NA	0.400	5254.00000	0.4853	1.00	13222.0000	0.4665
Bromoform	NA	NA	NA	NA	NA	NA	1.00	3175.00000	0.1199
Chlorobenzene	NA	NA	NA	0.400	8804.00000	0.8771	1.00	22150.0000	0.8365
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	11579.0000	0.4085
1,1,1,2-Tetrachloroethane	NA	NA	NA	0.400	2530.00000	0.2521	1.00	6772.00000	0.2557
1,1,1-Trichloroethane	NA	NA	NA	0.400	4880.00000	0.4507	1.00	12411.0000	0.4379
1,1,2-Trichloroethane	NA	NA	NA	0.400	1877.00000	0.1870	1.00	4799.00000	0.1812
1,1-Dichloropropene	NA	NA	NA	0.400	3563.00000	0.3291	1.00	8827.00000	0.3114
1,2,3-Trichlorobenzene	0.300	3195.00000	0.6209	0.400	3753.00000	0.5952	1.00	9079.00000	0.5482
1,2,3-Trichloropropane	NA	NA	NA	NA	NA	NA	1.00	1524.00000	0.09200
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	4232.00000	0.6712	1.00	10448.0000	0.6309
1,2,4-Trimethylbenzene	NA	NA	NA	0.400	11921.0000	1.891	1.00	30277.0000	1.828
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	1805.00000	0.1798	1.00	4629.00000	0.1748
1,2-Dichlorobenzene	0.300	5414.00000	1.052	0.400	6933.00000	1.100	1.00	17038.0000	1.029
1,2-Dichloroethane	NA	NA	NA	0.400	4226.00000	0.3903	1.00	10929.0000	0.3856
1,3,5-Trimethylbenzene	NA	NA	NA	0.400	10462.0000	1.659	1.00	27507.0000	1.661
1,3-Dichlorobenzene	NA	NA	NA	0.400	7732.00000	1.226	1.00	18908.0000	1.142
1,3-Dichloropropane	NA	NA	NA	0.400	3018.00000	0.3007	1.00	8295.00000	0.3133
1,4-Dichlorobenzene	0.300	7194.00000	1.398	0.400	8701.00000	1.380	1.00	20734.0000	1.252
2,2-Dichloropropane	NA	NA	NA	0.400	4237.00000	0.3913	1.00	11659.0000	0.4114
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl Vinyl Ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	NA	NA	NA	0.400	12505.0000	1.983	1.00	31569.0000	1.906
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	NA	NA	NA	0.400	11142.0000	1.767	1.00	28039.0000	1.693
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	0.400	10390.0000	0.9596	1.00	26476.0000	0.9341
Bromobenzene	0.300	2436.00000	0.4734	0.400	3359.00000	0.5327	1.00	8471.00000	0.5115
Bromochloromethane	NA	NA	NA	0.400	1444.00000	0.1334	1.00	4102.00000	0.1447
Bromodichloromethane	NA	NA	NA	0.400	3999.00000	0.3693	1.00	9808.00000	0.3460
Bromomethane	NA	NA	NA	0.400	2004.00000	0.1851	1.00	4859.00000	0.1714
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	22856.0000	0.8064
Carbon Tetrachloride	NA	NA	NA	0.400	3981.00000	0.3677	1.00	11040.0000	0.3895

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Column ID: F

Analyte	WG296582-05			WG296582-06			WG296582-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	20628.0000	0.3643	5.00	55583.0000	0.3734	20.0	252595.000	0.4041
1,2-Dichloropropane	2.00	11475.0000	0.2026	5.00	31320.0000	0.2104	20.0	141930.000	0.2271
Chloroform	2.00	27117.0000	0.4788	5.00	73924.0000	0.4966	20.0	323454.000	0.5174
Ethylbenzene	2.00	21056.0000	0.3996	5.00	58860.0000	0.4261	20.0	257022.000	0.4421
Toluene	2.00	54876.0000	1.041	5.00	154007.000	1.115	20.0	689804.000	1.187
Vinyl Chloride	2.00	15777.0000	0.2786	5.00	39152.0000	0.2630	20.0	154434.000	0.2471
1,1,2,2-Tetrachloroethane	2.00	10398.0000	0.3151	5.00	28840.0000	0.3350	20.0	128962.000	0.3579
1,1-Dichloroethane	2.00	24199.0000	0.4273	5.00	66002.0000	0.4434	20.0	293243.000	0.4691
Bromoform	2.00	6326.00000	0.1200	5.00	18968.0000	0.1373	20.0	93306.0000	0.1605
Chlorobenzene	2.00	40462.0000	0.7678	5.00	108632.000	0.7864	20.0	470938.000	0.8101
Chloromethane	2.00	21442.0000	0.3786	5.00	52875.0000	0.3552	20.0	207179.000	0.3314
1,1,1,2-Tetrachloroethane	2.00	13379.0000	0.2539	5.00	36930.0000	0.2673	20.0	167728.000	0.2885
1,1,1-Trichloroethane	2.00	24348.0000	0.4299	5.00	67270.0000	0.4519	20.0	301522.000	0.4824
1,1,2-Trichloroethane	2.00	8852.00000	0.1680	5.00	26002.0000	0.1882	20.0	112097.000	0.1928
1,1-Dichloropropene	2.00	17222.0000	0.3041	5.00	49363.0000	0.3316	20.0	222742.000	0.3563
1,2,3-Trichlorobenzene	2.00	17790.0000	0.5391	5.00	49921.0000	0.5799	20.0	220727.000	0.6126
1,2,3-Trichloropropane	2.00	3298.00000	0.09990	5.00	9888.00000	0.1149	20.0	44707.0000	0.1241
1,2,4-Trichlorobenzene	2.00	20258.0000	0.6139	5.00	54622.0000	0.6345	20.0	247272.000	0.6862
1,2,4-Trimethylbenzene	2.00	62281.0000	1.887	5.00	172481.000	2.004	20.0	755308.000	2.096
1,2-Dibromo-3-Chloropropane	2.00	1875.00000	0.05680	5.00	5541.00000	0.06440	20.0	27083.0000	0.07520
1,2-Dibromoethane	2.00	9279.00000	0.1761	5.00	26685.0000	0.1932	20.0	121622.000	0.2092
1,2-Dichlorobenzene	2.00	32142.0000	0.9740	5.00	89218.0000	1.036	20.0	391554.000	1.087
1,2-Dichloroethane	2.00	21381.0000	0.3776	5.00	56657.0000	0.3806	20.0	242577.000	0.3881
1,3,5-Trimethylbenzene	2.00	55221.0000	1.673	5.00	164811.000	1.915	20.0	743502.000	2.063
1,3-Dichlorobenzene	2.00	36363.0000	1.102	5.00	99469.0000	1.156	20.0	431371.000	1.197
1,3-Dichloropropane	2.00	16896.0000	0.3206	5.00	46318.0000	0.3353	20.0	204239.000	0.3513
1,4-Dichlorobenzene	2.00	39072.0000	1.184	5.00	103612.000	1.204	20.0	447887.000	1.243
2,2-Dichloropropane	2.00	21141.0000	0.3733	5.00	59703.0000	0.4011	20.0	278414.000	0.4454
2-Butanone	NA	NA	NA	5.00	11162.0000	0.07500	20.0	40417.0000	0.06470
2-Chloroethyl Vinyl Ether	2.00	5342.00000	0.09430	5.00	12509.0000	0.08400	20.0	58730.0000	0.09400
2-Chlorotoluene	2.00	61709.0000	1.870	5.00	174242.000	2.024	20.0	761103.000	2.112
2-Hexanone	NA	NA	NA	5.00	12869.0000	0.09320	20.0	58461.0000	0.1006
4-Chlorotoluene	2.00	54608.0000	1.655	5.00	151115.000	1.756	20.0	637511.000	1.769
4-Methyl-2-Pentanone	NA	NA	NA	5.00	7369.00000	0.04950	20.0	31169.0000	0.04990
Acetone	NA	NA	NA	5.00	6798.00000	0.04570	20.0	34921.0000	0.05590
Benzene	2.00	52090.0000	0.9198	5.00	140306.000	0.9426	20.0	608957.000	0.9742
Bromobenzene	2.00	17327.0000	0.5251	5.00	47990.0000	0.5575	20.0	210182.000	0.5833
Bromochloromethane	2.00	7966.00000	0.1407	5.00	22433.0000	0.1507	20.0	100528.000	0.1608
Bromodichloromethane	2.00	18040.0000	0.3186	5.00	50043.0000	0.3362	20.0	231756.000	0.3708
Bromomethane	2.00	9980.00000	0.1762	5.00	26409.0000	0.1774	20.0	117237.000	0.1876
Carbon Disulfide	2.00	45196.0000	0.7981	5.00	118723.000	0.7976	20.0	526189.000	0.8418
Carbon Tetrachloride	2.00	20903.0000	0.3691	5.00	56090.0000	0.3768	20.0	256701.000	0.4107

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Column ID: F

Analyte	WG296582-08			WG296582-09			WG296582-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	675179.000	0.4270	100	1422672.00	0.4065	200	2902514.00	0.4068
1,2-Dichloropropane	50.0	384973.000	0.2435	100	842940.000	0.2409	200	1710968.00	0.2398
Chloroform	50.0	857103.000	0.5420	100	1772365.00	0.5064	200	3541352.00	0.4964
Ethylbenzene	50.0	687619.000	0.4689	100	1432668.00	0.4477	200	2805162.00	0.4228
Toluene	50.0	1834980.00	1.251	100	3773914.00	1.179	200	7189189.00	1.084
Vinyl Chloride	50.0	383545.000	0.2425	100	711917.000	0.2034	200	1319536.00	0.1850
1,1,2,2-Tetrachloroethane	50.0	349895.000	0.3789	100	800988.000	0.3978	200	1574784.00	0.3819
1,1-Dichloroethane	50.0	776889.000	0.4913	100	1656366.00	0.4733	200	3408211.00	0.4777
Bromoform	50.0	260915.000	0.1779	100	601092.000	0.1878	200	1207878.00	0.1820
Chlorobenzene	50.0	1253045.00	0.8545	100	2614633.00	0.8171	200	5114467.00	0.7708
Chloromethane	50.0	518162.000	0.3277	100	1064722.00	0.3042	200	2142970.00	0.3004
1,1,1,2-Tetrachloroethane	50.0	454616.000	0.3100	100	978238.000	0.3057	200	1941785.00	0.2927
1,1,1-Trichloroethane	50.0	808891.000	0.5115	100	1676092.00	0.4789	200	3268020.00	0.4581
1,1,2-Trichloroethane	50.0	303312.000	0.2068	100	670386.000	0.2095	200	1332699.00	0.2009
1,1-Dichloropropene	50.0	610478.000	0.3861	100	1293619.00	0.3696	200	2581200.00	0.3618
1,2,3-Trichlorobenzene	50.0	595636.000	0.6451	100	1286298.00	0.6388	200	2503806.00	0.6072
1,2,3-Trichloropropane	50.0	116998.000	0.1267	100	263249.000	0.1307	200	511716.000	0.1241
1,2,4-Trichlorobenzene	50.0	682759.000	0.7394	100	1471775.00	0.7309	200	2909209.00	0.7056
1,2,4-Trimethylbenzene	50.0	2024447.00	2.193	100	4133554.00	2.053	200	7572685.00	1.837
1,2-Dibromo-3-Chloropropane	50.0	73769.0000	0.07990	100	164302.000	0.08160	200	309521.000	0.07510
1,2-Dibromoethane	50.0	330079.000	0.2251	100	727939.000	0.2275	200	1427009.00	0.2151
1,2-Dichlorobenzene	50.0	1041606.00	1.128	100	2205272.00	1.095	200	4284521.00	1.039
1,2-Dichloroethane	50.0	636443.000	0.4025	100	1307934.00	0.3737	200	2481110.00	0.3478
1,3,5-Trimethylbenzene	50.0	1979562.00	2.144	100	4023656.00	1.998	200	7411453.00	1.798
1,3-Dichlorobenzene	50.0	1148429.00	1.244	100	2410412.00	1.197	200	4692558.00	1.138
1,3-Dichloropropane	50.0	547978.000	0.3737	100	1201491.00	0.3755	200	2380459.00	0.3588
1,4-Dichlorobenzene	50.0	1183265.00	1.282	100	2473978.00	1.229	200	4786740.00	1.161
2,2-Dichloropropane	50.0	763680.000	0.4829	100	1626079.00	0.4646	200	3212064.00	0.4502
2-Butanone	50.0	110476.000	0.06990	100	261537.000	0.07470	200	515758.000	0.07230
2-Chloroethyl Vinyl Ether	50.0	158470.000	0.1002	100	343301.000	0.09810	200	696707.000	0.09770
2-Chlorotoluene	50.0	2002856.00	2.169	100	3959290.00	1.966	200	7408915.00	1.797
2-Hexanone	50.0	172184.000	0.1174	100	401104.000	0.1253	200	763900.000	0.1151
4-Chlorotoluene	50.0	1683125.00	1.823	100	3547975.00	1.762	200	6584336.00	1.597
4-Methyl-2-Pentanone	50.0	90430.0000	0.05720	100	212105.000	0.06060	200	414569.000	0.05810
Acetone	50.0	81899.0000	0.05180	100	177824.000	0.05080	200	347077.000	0.04860
Benzene	50.0	1642418.00	1.039	100	3445438.00	0.9845	200	6693610.00	0.9382
Bromobenzene	50.0	561687.000	0.6083	100	1186797.00	0.5893	200	2381175.00	0.5775
Bromochloromethane	50.0	267815.000	0.1694	100	574477.000	0.1641	200	1146597.00	0.1607
Bromodichloromethane	50.0	628881.000	0.3977	100	1346378.00	0.3847	200	2674604.00	0.3749
Bromomethane	50.0	335347.000	0.2121	100	723518.000	0.2067	200	1504948.00	0.2109
Carbon Disulfide	50.0	1403979.00	0.8879	100	3005355.00	0.8587	200	6070265.00	0.8508
Carbon Tetrachloride	50.0	695542.000	0.4398	100	1427817.00	0.4080	200	2881837.00	0.4039

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Analyte	WG296582-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,1-Dichloropropene	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,3-Dichloropropane	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2,2-Dichloropropane	NA	NA	NA
2-Butanone	300	782921.000	0.07340
2-Chloroethyl Vinyl Ether	300	1112638.00	0.1042
2-Chlorotoluene	NA	NA	NA
2-Hexanone	300	1150153.00	0.1203
4-Chlorotoluene	NA	NA	NA
4-Methyl-2-Pentanone	300	623364.000	0.05840
Acetone	300	533306.000	0.05000
Benzene	NA	NA	NA
Bromobenzene	NA	NA	NA
Bromochloromethane	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA

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Column ID: F

Analyte	WG296582-02			WG296582-03			WG296582-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	5078.00000	0.1792
Dibromochloromethane	NA	NA	NA	0.400	2065.00000	0.2057	1.00	5971.00000	0.2255
Dibromomethane	NA	NA	NA	0.400	1225.00000	0.1131	1.00	3774.00000	0.1332
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	12669.00000	0.4470
Hexachlorobutadiene	NA	NA	NA	0.400	1664.00000	0.2639	1.00	4044.00000	0.2442
Isopropylbenzene	NA	NA	NA	0.400	12554.00000	1.251	1.00	31504.00000	1.190
Methylene Chloride	NA	NA	NA	0.400	5955.00000	0.5500	1.00	10820.00000	0.3817
Naphthalene	NA	NA	NA	0.400	4857.00000	0.7703	1.00	13011.00000	0.7857
Styrene	NA	NA	NA	0.400	7275.00000	0.7248	1.00	19865.00000	0.7502
Tetrachloroethene	NA	NA	NA	0.400	2729.00000	0.2719	1.00	7722.00000	0.2916
Trichloroethene	NA	NA	NA	0.400	2780.00000	0.2568	1.00	7172.00000	0.2530
Trichlorofluoromethane	NA	NA	NA	0.400	5289.00000	0.4885	1.00	15556.00000	0.5488
Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	0.400	2707.00000	0.2500	1.00	7101.00000	0.2505
cis-1,3-Dichloropropene	NA	NA	NA	0.400	3228.00000	0.2981	1.00	9249.00000	0.3263
m-,p-Xylene	NA	NA	NA	0.800	11176.00000	0.5567	2.00	27065.00000	0.5110
n-Butylbenzene	NA	NA	NA	0.400	9404.00000	1.492	1.00	25622.00000	1.547
n-Propylbenzene	NA	NA	NA	0.400	13897.00000	2.204	1.00	38976.00000	2.354
o-Xylene	NA	NA	NA	0.400	4764.00000	0.4746	1.00	12351.00000	0.4664
p-Isopropyltoluene	NA	NA	NA	0.400	9773.00000	1.550	1.00	27912.00000	1.686
sec-Butylbenzene	NA	NA	NA	0.400	12435.00000	1.972	1.00	32329.00000	1.952
tert-Butylbenzene	NA	NA	NA	NA	NA	NA	1.00	5585.00000	0.3373
trans-1,2-Dichloroethene	NA	NA	NA	0.400	2549.00000	0.2354	1.00	6357.00000	0.2243
trans-1,3-Dichloropropene	NA	NA	NA	0.400	3139.00000	0.3127	1.00	8640.00000	0.3263

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS6
Initial Calibration Date: 05-MAR-09 16:25
Column ID: F

Analyte	WG296582-05			WG296582-06			WG296582-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	2.00	10380.0000	0.1833	5.00	27289.0000	0.1833	20.0	120605.000	0.1929
Dibromochloromethane	2.00	11680.0000	0.2216	5.00	32432.0000	0.2348	20.0	153589.000	0.2642
Dibromomethane	2.00	7229.00000	0.1277	5.00	19916.0000	0.1338	20.0	88255.0000	0.1412
Dichlorodifluoromethane	2.00	24241.0000	0.4281	5.00	62887.0000	0.4225	20.0	266557.000	0.4264
Hexachlorobutadiene	2.00	8225.00000	0.2492	5.00	22248.0000	0.2585	20.0	98488.0000	0.2733
Isopropylbenzene	2.00	62173.0000	1.180	5.00	182942.000	1.324	20.0	836721.000	1.439
Methylene Chloride	2.00	17897.0000	0.3160	5.00	40083.0000	0.2693	20.0	165140.000	0.2642
Naphthalene	2.00	27402.0000	0.8304	5.00	82046.0000	0.9531	20.0	389661.000	1.081
Styrene	2.00	40522.0000	0.7689	5.00	120272.000	0.8707	20.0	551235.000	0.9483
Tetrachloroethene	2.00	14117.0000	0.2679	5.00	39926.0000	0.2890	20.0	174602.000	0.3004
Trichloroethene	2.00	12488.0000	0.2205	5.00	35599.0000	0.2392	20.0	162284.000	0.2596
Trichlorofluoromethane	2.00	30190.0000	0.5331	5.00	80508.0000	0.5409	20.0	337781.000	0.5404
Vinyl Acetate	2.00	15660.0000	0.2765	5.00	49504.0000	0.3326	20.0	199645.000	0.3194
cis-1,2-Dichloroethene	2.00	13813.0000	0.2439	5.00	37887.0000	0.2545	20.0	168416.000	0.2694
cis-1,3-Dichloropropene	2.00	17503.0000	0.3091	5.00	50897.0000	0.3419	20.0	242298.000	0.3876
m-,p-Xylene	4.00	54809.0000	0.5200	10.0	150695.000	0.5455	40.0	665195.000	0.5722
n-Butylbenzene	2.00	49268.0000	1.493	5.00	143674.000	1.669	20.0	652169.000	1.810
n-Propylbenzene	2.00	78463.0000	2.378	5.00	227091.000	2.638	20.0	1023306.00	2.840
o-Xylene	2.00	24480.0000	0.4645	5.00	70758.0000	0.5122	20.0	316384.000	0.5443
p-Isopropyltoluene	2.00	55851.0000	1.693	5.00	162730.000	1.890	20.0	738591.000	2.050
sec-Butylbenzene	2.00	64317.0000	1.949	5.00	184236.000	2.140	20.0	847610.000	2.352
tert-Butylbenzene	2.00	11336.0000	0.3435	5.00	33359.0000	0.3875	20.0	146780.000	0.4073
trans-1,2-Dichloroethene	2.00	12469.0000	0.2202	5.00	34831.0000	0.2340	20.0	158607.000	0.2537
trans-1,3-Dichloropropene	2.00	17750.0000	0.3368	5.00	50791.0000	0.3677	20.0	239914.000	0.4127

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS6
Initial Calibration Date: 05-MAR-09 16:25
Column ID: F

Analyte	WG296582-08			WG296582-09			WG296582-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	50.0	331751.000	0.2098	100	711920.000	0.2034	200	1422897.00	0.1994
Dibromochloromethane	50.0	428901.000	0.2925	100	950718.000	0.2971	200	1911218.00	0.2881
Dibromomethane	50.0	234276.000	0.1482	100	500838.000	0.1431	200	983281.000	0.1378
Dichlorodifluoromethane	50.0	684116.000	0.4326	100	1351159.00	0.3861	200	2583165.00	0.3621
Hexachlorobutadiene	50.0	262310.000	0.2841	100	560064.000	0.2781	200	1159520.00	0.2812
Isopropylbenzene	50.0	2230462.00	1.521	100	4542113.00	1.419	200	8345568.00	1.258
Methylene Chloride	50.0	438890.000	0.2775	100	948210.000	0.2709	200	1961278.00	0.2749
Naphthalene	50.0	1088191.00	1.179	100	2461495.00	1.222	200	4727036.00	1.146
Styrene	50.0	1485866.00	1.013	100	3099160.00	0.9685	200	5962150.00	0.8986
Tetrachloroethene	50.0	473451.000	0.3228	100	988656.000	0.3090	200	1963419.00	0.2959
Trichloroethene	50.0	444648.000	0.2812	100	955892.000	0.2731	200	1920213.00	0.2691
Trichlorofluoromethane	50.0	891035.000	0.5635	100	1887277.00	0.5393	200	3820119.00	0.5355
Vinyl Acetate	50.0	531541.000	0.3361	100	1262277.00	0.3607	200	2411777.00	0.3380
cis-1,2-Dichloroethene	50.0	454927.000	0.2877	100	963429.000	0.2753	200	1965052.00	0.2754
cis-1,3-Dichloropropene	50.0	676152.000	0.4276	100	1480023.00	0.4229	200	2966161.00	0.4158
m-, p-Xylene	100	1763576.00	0.6013	200	3608338.00	0.5638	400	6658331.00	0.5018
n-Butylbenzene	50.0	1755190.00	1.901	100	3655337.00	1.815	200	6860131.00	1.664
n-Propylbenzene	50.0	2699438.00	2.924	100	5451284.00	2.707	200	9558361.00	2.318
o-Xylene	50.0	853379.000	0.5819	100	1764934.00	0.5515	200	3480053.00	0.5245
p-Isopropyltoluene	50.0	1992825.00	2.158	100	4110686.00	2.041	200	7617837.00	1.848
sec-Butylbenzene	50.0	2263491.00	2.451	100	4647328.00	2.308	200	8541762.00	2.072
tert-Butylbenzene	50.0	395685.000	0.4285	100	831570.000	0.4129	200	1661335.00	0.4029
trans-1,2-Dichloroethene	50.0	426910.000	0.2700	100	905968.000	0.2589	200	1852438.00	0.2596
trans-1,3-Dichloropropene	50.0	654698.000	0.4464	100	1423306.00	0.4448	200	2801855.00	0.4223

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Login Number: L09030095
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 05-MAR-09 16:25
Column ID: F

Analyte	WG296582-11		
	CONC	RESP	RF
Chloroethane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dibromomethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methylene Chloride	NA	NA	NA
Naphthalene	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA
Vinyl Acetate	300	3518854.00	0.3297
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-, p-Xylene	NA	NA	NA
n-Butylbenzene	NA	NA	NA
n-Propylbenzene	NA	NA	NA
o-Xylene	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA
sec-Butylbenzene	NA	NA	NA
tert-Butylbenzene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

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Login Number: L09030095
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-02			WG295276-03			WG295276-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA	0.400	4715.00000	0.4497	1.00	11962.0000	0.4587
1,2-Dichloropropane	NA	NA	NA	0.400	2428.00000	0.2316	1.00	5855.00000	0.2245
Chloroform	0.300	4831.00000	0.6005	0.400	6197.00000	0.5910	1.00	14671.0000	0.5626
Ethylbenzene	NA	NA	NA	0.400	3272.00000	0.4312	1.00	8536.00000	0.4415
Toluene	NA	NA	NA	0.400	9312.00000	1.227	1.00	23265.0000	1.203
Vinyl Chloride	NA	NA	NA	NA	NA	NA	1.00	11136.0000	0.4270
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	1594.00000	0.3711	1.00	4706.00000	0.4205
1,1-Dichloroethane	NA	NA	NA	0.400	4999.00000	0.4768	1.00	12681.0000	0.4863
Bromoform	NA	NA	NA	NA	NA	NA	1.00	3720.00000	0.1924
Chlorobenzene	NA	NA	NA	0.400	7220.00000	0.9515	1.00	17229.0000	0.8911
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	15514.0000	0.5949
1,1,1,2-Tetrachloroethane	NA	NA	NA	0.400	2618.00000	0.3450	1.00	7575.00000	0.3918
1,1,1-Trichloroethane	NA	NA	NA	0.400	6029.00000	0.5750	1.00	15415.0000	0.5911
1,1,2-Trichloroethane	NA	NA	NA	0.400	1493.00000	0.1967	1.00	4483.00000	0.2319
1,1-Dichloropropene	NA	NA	NA	0.400	2759.00000	0.2631	1.00	8704.00000	0.3338
1,2,3-Trichlorobenzene	0.300	2975.00000	0.9172	0.400	4872.00000	1.134	1.00	10218.0000	0.9131
1,2,3-Trichloropropane	NA	NA	NA	NA	NA	NA	1.00	1343.00000	0.1200
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	4081.00000	0.9501	1.00	12128.0000	1.084
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	1.00	27052.0000	2.418
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	1659.00000	0.2186	1.00	4146.00000	0.2144
1,2-Dichlorobenzene	0.300	4212.00000	1.299	0.400	5688.00000	1.324	1.00	14351.0000	1.283
1,2-Dichloroethane	NA	NA	NA	0.400	5804.00000	0.5536	1.00	14617.0000	0.5605
1,3,5-Trimethylbenzene	NA	NA	NA	0.400	7435.00000	1.731	1.00	24412.0000	2.182
1,3-Dichlorobenzene	NA	NA	NA	0.400	5873.00000	1.367	1.00	14927.0000	1.334
1,3-Dichloropropane	NA	NA	NA	0.400	2946.00000	0.3882	1.00	7353.00000	0.3803
1,4-Dichlorobenzene	0.300	5066.00000	1.562	0.400	6772.00000	1.577	1.00	16796.0000	1.501
2,2-Dichloropropane	NA	NA	NA	0.400	5865.00000	0.5594	1.00	13879.0000	0.5322
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl Vinyl Ether	NA	NA	NA	NA	NA	NA	1.00	2241.00000	0.08590
2-Chlorotoluene	NA	NA	NA	0.400	9119.00000	2.123	1.00	24753.0000	2.212
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	NA	NA	NA	0.400	9254.00000	2.155	1.00	26033.0000	2.326
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	0.400	8893.00000	0.8482	1.00	23299.0000	0.8935
Bromobenzene	0.300	1942.00000	0.5987	0.400	2810.00000	0.6542	1.00	6914.00000	0.6179
Bromochloromethane	NA	NA	NA	0.400	1319.00000	0.1258	1.00	3153.00000	0.1209
Bromodichloromethane	NA	NA	NA	0.400	4613.00000	0.4400	1.00	11285.0000	0.4328
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	4276.00000	0.1640
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	20158.0000	0.7730
Carbon Tetrachloride	NA	NA	NA	0.400	4702.00000	0.4485	1.00	13588.0000	0.5211

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-05			WG295276-06			WG295276-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	24977.0000	0.4565	5.00	66542.0000	0.4682	20.0	299021.000	0.4891
1,2-Dichloropropane	2.00	12106.0000	0.2213	5.00	32017.0000	0.2253	20.0	142555.000	0.2332
Chloroform	2.00	30421.0000	0.5560	5.00	81408.0000	0.5728	20.0	337776.000	0.5525
Ethylbenzene	2.00	18858.0000	0.4668	5.00	51855.0000	0.4935	20.0	228925.000	0.4971
Toluene	2.00	50529.0000	1.251	5.00	138558.000	1.319	20.0	608585.000	1.322
Vinyl Chloride	2.00	24270.0000	0.4436	5.00	48049.0000	0.3381	20.0	206986.000	0.3386
1,1,2,2-Tetrachloroethane	2.00	9862.00000	0.4207	5.00	27916.0000	0.4561	20.0	127819.000	0.4751
1,1-Dichloroethane	2.00	27428.0000	0.5013	5.00	72521.0000	0.5103	20.0	300531.000	0.4916
Bromoform	2.00	8241.00000	0.2040	5.00	23921.0000	0.2277	20.0	107337.000	0.2331
Chlorobenzene	2.00	35575.0000	0.8805	5.00	95144.0000	0.9055	20.0	409519.000	0.8893
Chloromethane	2.00	30572.0000	0.5587	5.00	67826.0000	0.4773	20.0	283311.000	0.4634
1,1,1,2-Tetrachloroethane	2.00	15797.0000	0.3910	5.00	41179.0000	0.3919	20.0	181908.000	0.3950
1,1,1-Trichloroethane	2.00	31305.0000	0.5721	5.00	81187.0000	0.5713	20.0	352889.000	0.5772
1,1,2-Trichloroethane	2.00	9032.00000	0.2236	5.00	26254.0000	0.2499	20.0	113244.000	0.2459
1,1-Dichloropropene	2.00	18734.0000	0.3424	5.00	50538.0000	0.3556	20.0	230193.000	0.3765
1,2,3-Trichlorobenzene	2.00	23558.0000	1.005	5.00	61722.0000	1.008	20.0	271940.000	1.011
1,2,3-Trichloropropane	2.00	3355.00000	0.1431	5.00	10850.0000	0.1773	20.0	48286.0000	0.1795
1,2,4-Trichlorobenzene	2.00	24052.0000	1.026	5.00	69620.0000	1.137	20.0	307564.000	1.143
1,2,4-Trimethylbenzene	2.00	61187.0000	2.610	5.00	167374.000	2.735	20.0	742484.000	2.760
1,2-Dibromo-3-Chloropropane	2.00	2748.00000	0.1172	5.00	7517.00000	0.1228	20.0	35958.0000	0.1336
1,2-Dibromoethane	2.00	8647.00000	0.2140	5.00	26470.0000	0.2519	20.0	119385.000	0.2593
1,2-Dichlorobenzene	2.00	29891.0000	1.275	5.00	81941.0000	1.339	20.0	355807.000	1.322
1,2-Dichloroethane	2.00	28780.0000	0.5260	5.00	78021.0000	0.5490	20.0	318520.000	0.5210
1,3,5-Trimethylbenzene	2.00	56419.0000	2.407	5.00	158209.000	2.585	20.0	707856.000	2.631
1,3-Dichlorobenzene	2.00	31748.0000	1.354	5.00	88410.0000	1.444	20.0	388257.000	1.443
1,3-Dichloropropane	2.00	15868.0000	0.3928	5.00	46408.0000	0.4417	20.0	208713.000	0.4532
1,4-Dichlorobenzene	2.00	33783.0000	1.441	5.00	90288.0000	1.475	20.0	398403.000	1.481
2,2-Dichloropropane	2.00	29935.0000	0.5471	5.00	74198.0000	0.5221	20.0	330123.000	0.5400
2-Butanone	NA	NA	NA	5.00	11072.0000	0.07790	20.0	48246.0000	0.07890
2-Chloroethyl Vinyl Ether	2.00	4642.00000	0.08480	5.00	13917.0000	0.09790	20.0	72167.0000	0.1180
2-Chlorotoluene	2.00	53524.0000	2.283	5.00	145580.000	2.379	20.0	687416.000	2.555
2-Hexanone	NA	NA	NA	5.00	5410.00000	0.05150	20.0	29124.0000	0.06320
4-Chlorotoluene	2.00	56717.0000	2.420	5.00	152172.000	2.486	20.0	635371.000	2.361
4-Methyl-2-Pentanone	NA	NA	NA	5.00	6997.00000	0.04920	20.0	34429.0000	0.05630
Acetone	NA	NA	NA	5.00	11829.0000	0.08320	20.0	43564.0000	0.07130
Benzene	2.00	48442.0000	0.8853	5.00	123258.000	0.8673	20.0	537755.000	0.8796
Bromobenzene	2.00	15720.0000	0.6706	5.00	41701.0000	0.6813	20.0	184874.000	0.6871
Bromochloromethane	2.00	8056.00000	0.1472	5.00	21187.0000	0.1491	20.0	91279.0000	0.1493
Bromodichloromethane	2.00	23036.0000	0.4210	5.00	63009.0000	0.4434	20.0	271291.000	0.4437
Bromomethane	2.00	9657.00000	0.1765	5.00	23484.0000	0.1652	20.0	117645.000	0.1924
Carbon Disulfide	2.00	45447.0000	0.8306	5.00	106128.000	0.7468	20.0	475305.000	0.7774
Carbon Tetrachloride	2.00	28356.0000	0.5182	5.00	72207.0000	0.5081	20.0	310012.000	0.5071

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-08			WG295276-09			WG295276-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	791944.000	0.4814	100	1789244.00	0.4234	200	3422383.00	0.4138
1,2-Dichloropropane	50.0	388809.000	0.2363	100	979356.000	0.2318	200	1860359.00	0.2249
Chloroform	50.0	881651.000	0.5359	100	1932275.00	0.4573	200	3682931.00	0.4453
Ethylbenzene	50.0	597920.000	0.4861	100	1427701.00	0.4461	200	2710061.00	0.4223
Toluene	50.0	1608152.00	1.307	100	3777626.00	1.180	200	6844711.00	1.067
Vinyl Chloride	50.0	504282.000	0.3065	100	915240.000	0.2166	200	1720547.00	0.2080
1,1,2,2-Tetrachloroethane	50.0	344493.000	0.4758	100	845895.000	0.4579	200	1602576.00	0.4395
1,1-Dichloroethane	50.0	820761.000	0.4989	100	1958004.00	0.4634	200	3818131.00	0.4617
Bromoform	50.0	286415.000	0.2329	100	674865.000	0.2109	200	1320958.00	0.2059
Chlorobenzene	50.0	1097585.00	0.8923	100	2629626.00	0.8217	200	4861367.00	0.7576
Chloromethane	50.0	682926.000	0.4151	100	1462473.00	0.3461	NA	NA	NA
1,1,1,2-Tetrachloroethane	50.0	465365.000	0.3783	100	1042812.00	0.3259	200	1931054.00	0.3009
1,1,1-Trichloroethane	50.0	917718.000	0.5579	100	1900472.00	0.4498	200	3632463.00	0.4392
1,1,2-Trichloroethane	50.0	300576.000	0.2444	100	707539.000	0.2211	200	1377842.00	0.2147
1,1-Dichloropropene	50.0	618660.000	0.3761	100	1432180.00	0.3389	200	2694008.00	0.3257
1,2,3-Trichlorobenzene	50.0	711972.000	0.9834	100	1586095.00	0.8585	200	2852568.00	0.7823
1,2,3-Trichloropropane	50.0	126057.000	0.1741	100	285939.000	0.1548	200	551655.000	0.1513
1,2,4-Trichlorobenzene	50.0	798623.000	1.103	100	1803007.00	0.9759	200	3237810.00	0.8880
1,2,4-Trimethylbenzene	50.0	1923418.00	2.657	100	4263761.00	2.308	200	7621339.00	2.090
1,2-Dibromo-3-Chloropropane	50.0	94730.0000	0.1308	100	206703.000	0.1119	200	404256.000	0.1109
1,2-Dibromoethane	50.0	317368.000	0.2580	100	746940.000	0.2334	200	1456950.00	0.2271
1,2-Dichlorobenzene	50.0	944834.000	1.305	100	2189642.00	1.185	200	3985248.00	1.093
1,2-Dichloroethane	50.0	817627.000	0.4970	100	1676905.00	0.3968	200	3254542.00	0.3935
1,3,5-Trimethylbenzene	50.0	1866457.00	2.578	100	4168404.00	2.256	200	7515790.00	2.061
1,3-Dichlorobenzene	50.0	1004557.00	1.388	100	2358692.00	1.277	200	4326857.00	1.187
1,3-Dichloropropane	50.0	542911.000	0.4414	100	1282397.00	0.4007	200	2464862.00	0.3841
1,4-Dichlorobenzene	50.0	1035359.00	1.430	100	2407614.00	1.303	200	4372642.00	1.199
2,2-Dichloropropane	50.0	871707.000	0.5299	100	1909697.00	0.4519	200	3600786.00	0.4354
2-Butanone	50.0	128340.000	0.07800	100	331669.000	0.07850	200	654883.000	0.07920
2-Chloroethyl Vinyl Ether	50.0	197703.000	0.1202	100	500667.000	0.1185	200	979727.000	0.1185
2-Chlorotoluene	50.0	1657321.00	2.289	100	3680512.00	1.992	200	6361910.00	1.745
2-Hexanone	50.0	87874.0000	0.07140	100	234939.000	0.07340	200	456696.000	0.07120
4-Chlorotoluene	50.0	1756915.00	2.427	100	3888121.00	2.105	200	7030088.00	1.928
4-Methyl-2-Pentanone	50.0	97882.0000	0.05950	100	253233.000	0.05990	200	496445.000	0.06000
Acetone	50.0	108866.000	0.06620	100	245941.000	0.05820	200	511899.000	0.06190
Benzene	50.0	1458337.00	0.8865	100	3506633.00	0.8299	200	6387335.00	0.7723
Bromobenzene	50.0	492011.000	0.6796	100	1171429.00	0.6341	200	2210922.00	0.6064
Bromochloromethane	50.0	243459.000	0.1480	100	592717.000	0.1403	200	1125187.00	0.1360
Bromodichloromethane	50.0	697912.000	0.4242	100	1512936.00	0.3580	200	2898790.00	0.3505
Bromomethane	50.0	331908.000	0.2018	100	827352.000	0.1958	200	1589097.00	0.1921
Carbon Disulfide	50.0	1267167.00	0.7703	100	3042783.00	0.7201	200	5686051.00	0.6875
Carbon Tetrachloride	50.0	792280.000	0.4816	100	1584178.00	0.3749	200	3115474.00	0.3767

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,1-Dichloropropene	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,3-Dichloropropane	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2,2-Dichloropropane	NA	NA	NA
2-Butanone	300	955364.000	0.07580
2-Chloroethyl Vinyl Ether	300	1448636.00	0.1149
2-Chlorotoluene	NA	NA	NA
2-Hexanone	300	674051.000	0.07240
4-Chlorotoluene	NA	NA	NA
4-Methyl-2-Pentanone	300	729600.000	0.05790
Acetone	300	693920.000	0.05500
Benzene	NA	NA	NA
Bromobenzene	NA	NA	NA
Bromochloromethane	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA

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Login Number: L09030095
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-02			WG295276-03			WG295276-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	4144.00000	0.1589
Dibromochloromethane	NA	NA	NA	0.400	2478.00000	0.3266	1.00	5973.00000	0.3089
Dibromomethane	NA	NA	NA	0.400	1210.00000	0.1154	1.00	4048.00000	0.1552
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	12417.00000	0.4762
Hexachlorobutadiene	NA	NA	NA	0.400	2006.00000	0.4670	1.00	6411.00000	0.5729
Isopropylbenzene	NA	NA	NA	0.400	9993.00000	1.317	1.00	25889.00000	1.339
Methylene Chloride	NA	NA	NA	0.400	4723.00000	0.4505	1.00	8424.00000	0.3230
Naphthalene	NA	NA	NA	0.400	7114.00000	1.656	1.00	20409.00000	1.824
Styrene	NA	NA	NA	0.400	6198.00000	0.8168	1.00	15154.00000	0.7838
Tetrachloroethene	NA	NA	NA	0.400	2014.00000	0.2654	1.00	5339.00000	0.2761
Trichloroethene	NA	NA	NA	0.400	2525.00000	0.2408	1.00	5839.00000	0.2239
Trichlorofluoromethane	NA	NA	NA	0.400	5149.00000	0.4911	1.00	16661.00000	0.6389
Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	0.400	2228.00000	0.2125	1.00	5923.00000	0.2271
cis-1,3-Dichloropropene	NA	NA	NA	0.400	3611.00000	0.3444	1.00	8624.00000	0.3307
m-,p-Xylene	NA	NA	NA	0.800	8452.00000	0.5569	2.00	21515.00000	0.5564
n-Butylbenzene	NA	NA	NA	0.400	9473.00000	2.206	1.00	28070.00000	2.508
n-Propylbenzene	NA	NA	NA	0.400	12020.00000	2.799	1.00	34364.00000	3.071
o-Xylene	NA	NA	NA	0.400	3363.00000	0.4432	1.00	9172.00000	0.4744
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	1.00	24989.00000	2.233
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	1.00	29116.00000	2.602
tert-Butylbenzene	NA	NA	NA	NA	NA	NA	1.00	4826.00000	0.4313
trans-1,2-Dichloroethene	NA	NA	NA	0.400	3781.00000	0.3606	1.00	11005.00000	0.4220
trans-1,3-Dichloropropene	NA	NA	NA	0.400	3325.00000	0.4382	1.00	9592.00000	0.4961

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-05			WG295276-06			WG295276-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	2.00	10733.0000	0.1962	5.00	25720.0000	0.1810	20.0	121075.000	0.1980
Dibromochloromethane	2.00	13485.0000	0.3338	5.00	36990.0000	0.3520	20.0	170428.000	0.3701
Dibromomethane	2.00	7965.00000	0.1456	5.00	22138.0000	0.1558	20.0	90393.0000	0.1479
Dichlorodifluoromethane	2.00	30362.0000	0.5549	5.00	67312.0000	0.4736	20.0	292152.000	0.4779
Hexachlorobutadiene	2.00	14425.0000	0.6154	5.00	35753.0000	0.5841	20.0	164944.000	0.6130
Isopropylbenzene	2.00	61070.0000	1.512	5.00	165527.000	1.575	20.0	778252.000	1.690
Methylene Chloride	2.00	15781.0000	0.2884	5.00	38138.0000	0.2684	20.0	152020.000	0.2487
Naphthalene	2.00	41358.0000	1.764	5.00	119547.000	1.953	20.0	551069.000	2.048
Styrene	2.00	36458.0000	0.9024	5.00	103251.000	0.9826	20.0	469122.000	1.019
Tetrachloroethene	2.00	11172.0000	0.2765	5.00	29433.0000	0.2801	20.0	137533.000	0.2987
Trichloroethene	2.00	12992.0000	0.2374	5.00	33203.0000	0.2336	20.0	155468.000	0.2543
Trichlorofluoromethane	2.00	35435.0000	0.6476	5.00	87268.0000	0.6141	20.0	391875.000	0.6410
Vinyl Acetate	NA	NA	NA	5.00	61513.0000	0.4328	20.0	263943.000	0.4317
cis-1,2-Dichloroethene	2.00	13572.0000	0.2480	5.00	35524.0000	0.2500	20.0	157633.000	0.2578
cis-1,3-Dichloropropene	2.00	20241.0000	0.3699	5.00	56455.0000	0.3973	20.0	258299.000	0.4225
m-,p-Xylene	4.00	47150.0000	0.5835	10.0	126578.000	0.6023	40.0	558148.000	0.6060
n-Butylbenzene	2.00	61789.0000	2.636	5.00	167883.000	2.743	20.0	789569.000	2.935
n-Propylbenzene	2.00	78704.0000	3.358	5.00	214839.000	3.510	20.0	995567.000	3.700
o-Xylene	2.00	21677.0000	0.5365	5.00	59433.0000	0.5656	20.0	274235.000	0.5955
p-Isopropyltoluene	2.00	59076.0000	2.520	5.00	164372.000	2.686	20.0	763725.000	2.839
sec-Butylbenzene	2.00	68634.0000	2.928	5.00	184509.000	3.015	20.0	866560.000	3.221
tert-Butylbenzene	2.00	10102.0000	0.4310	5.00	29241.0000	0.4777	20.0	139028.000	0.5167
trans-1,2-Dichloroethene	2.00	23223.0000	0.4244	5.00	57486.0000	0.4045	20.0	249604.000	0.4083
trans-1,3-Dichloropropene	2.00	20971.0000	0.5191	5.00	60077.0000	0.5717	20.0	271409.000	0.5894

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Login Number: L09030095
Analytical Method: 8260BInstrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-08			WG295276-09			WG295276-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	50.0	314475.000	0.1912	100	772287.000	0.1828	200	1423001.00	0.1721
Dibromochloromethane	50.0	450327.000	0.3661	100	1033082.00	0.3228	200	2023338.00	0.3153
Dibromomethane	50.0	241494.000	0.1468	100	542934.000	0.1285	200	1048753.00	0.1268
Dichlorodifluoromethane	50.0	711830.000	0.4327	100	1438984.00	0.3405	NA	NA	NA
Hexachlorobutadiene	50.0	430955.000	0.5952	100	925253.000	0.5008	200	1708268.00	0.4685
Isopropylbenzene	50.0	2014116.00	1.638	100	4579616.00	1.431	200	8233983.00	1.283
Methylene Chloride	50.0	404344.000	0.2458	100	968905.000	0.2293	200	1846660.00	0.2233
Naphthalene	50.0	1447329.00	1.999	100	3193907.00	1.729	200	5707754.00	1.565
Styrene	50.0	1241570.00	1.009	100	2990640.00	0.9345	200	5598533.00	0.8725
Tetrachloroethene	50.0	351309.000	0.2856	100	828091.000	0.2588	200	1548493.00	0.2413
Trichloroethene	50.0	413043.000	0.2511	100	1008821.00	0.2387	200	1889944.00	0.2285
Trichlorofluoromethane	50.0	999652.000	0.6077	100	2037010.00	0.4821	200	4091463.00	0.4947
Vinyl Acetate	50.0	733905.000	0.4461	100	1751664.00	0.4145	200	3307293.00	0.3999
cis-1,2-Dichloroethene	50.0	424531.000	0.2581	100	1036329.00	0.2453	200	1976162.00	0.2389
cis-1,3-Dichloropropene	50.0	686342.000	0.4172	100	1631134.00	0.3860	200	3074105.00	0.3717
m-,p-Xylene	100	1488806.00	0.6052	200	3511729.00	0.5487	400	6392416.00	0.4981
n-Butylbenzene	50.0	2047844.00	2.829	100	4467064.00	2.418	200	7814064.00	2.143
n-Propylbenzene	50.0	2564367.00	3.542	100	5664306.00	3.066	200	9879817.00	2.710
o-Xylene	50.0	738900.000	0.6007	100	1765836.00	0.5518	200	3373997.00	0.5258
p-Isopropyltoluene	50.0	2027341.00	2.800	100	4587899.00	2.483	200	8109927.00	2.224
sec-Butylbenzene	50.0	2264843.00	3.128	100	5103029.00	2.762	200	9058770.00	2.485
tert-Butylbenzene	50.0	368529.000	0.5090	100	891104.000	0.4823	200	1700715.00	0.4664
trans-1,2-Dichloroethene	50.0	680511.000	0.4137	100	1617417.00	0.3828	200	3083792.00	0.3729
trans-1,3-Dichloropropene	50.0	703843.000	0.5722	100	1595318.00	0.4985	200	3064106.00	0.4775

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Login Number: L09030095
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 19-FEB-09 14:17
Column ID: F

Analyte	WG295276-11		
	CONC	RESP	RF
Chloroethane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dibromomethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methylene Chloride	NA	NA	NA
Naphthalene	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA
Vinyl Acetate	300	4602674.00	0.3650
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-, p-Xylene	NA	NA	NA
n-Butylbenzene	NA	NA	NA
n-Propylbenzene	NA	NA	NA
o-Xylene	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA
sec-Butylbenzene	NA	NA	NA
tert-Butylbenzene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

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Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296612-12
Instrument ID: HPMS11 Run Time: 21:26 Method: 8260B
File ID: 11M57602 Analyst: WTD QC Key: STD
ICal Workgroup: WG296612 Cal ID: HPMS11 - 05-MAR-09

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	20.0	20.2	ug/L	0.406	1.10	30	
1,1-Dichloroethene	CCC	20.0	20.4	ug/L	0.387	1.80	30	
1,2-Dichloropropane	CCC	20.0	20.5	ug/L	0.257	2.30	30	
Ethylbenzene	CCC	20.0	20.0	ug/L	0.432	0.100	30	
Toluene	CCC	20.0	20.0	ug/L	1.22	0.200	30	
Vinyl Chloride	CCC	20.0	19.1	ug/L	0.218	4.50	30	
Bromoform	SPCC	20.0	20.1	ug/L	0.164	0.700	30	
Chlorobenzene	SPCC	20.0	19.5	ug/L	0.774	2.70	30	
Chloromethane	SPCC	20.0	17.9	ug/L	0.374	10.5	30	
1,1-Dichloroethane	SPCC	20.0	20.1	ug/L	0.463	0.300	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	19.7	ug/L	0.452	1.70	30	
Acetone		20.0	24.6	ug/L	0.0857	22.9	30	
Benzene		20.0	19.7	ug/L	0.902	1.40	30	
Bromobenzene		20.0	21.3	ug/L	0.599	6.70	30	
Bromochloromethane		20.0	21.6	ug/L	0.128	7.80	30	
Bromodichloromethane		20.0	20.8	ug/L	0.316	4.00	30	
Bromomethane		20.0	17.9	ug/L	0.112	10.7	30	
2-Butanone		20.0	20.3	ug/L	0.103	1.60	30	
n-Butylbenzene		20.0	20.5	ug/L	2.11	2.30	30	
sec-Butylbenzene		20.0	20.6	ug/L	2.59	2.80	30	
tert-Butylbenzene		20.0	21.1	ug/L	0.408	5.40	30	
Carbon Disulfide		20.0	17.9	ug/L	0.672	10.7	30	
Carbon Tetrachloride		20.0	21.2	ug/L	0.300	5.80	30	
Dibromochloromethane		20.0	20.1	ug/L	0.252	0.400	30	
Chloroethane		20.0	21.2	ug/L	0.181	6.00	30	
2-Chloroethyl Vinyl Ether		20.0	20.2	ug/L	0.0780	1.20	30	
2-Chlorotoluene		20.0	20.3	ug/L	2.05	1.30	30	
4-Chlorotoluene		20.0	20.0	ug/L	1.83	0.100	30	
1,2-Dibromo-3-Chloropropane		20.0	20.8	ug/L	0.0917	3.90	30	
1,2-Dibromoethane		20.0	19.8	ug/L	0.210	0.800	30	
Dibromomethane		20.0	20.8	ug/L	0.117	3.80	30	
1,2-Dichlorobenzene		20.0	20.3	ug/L	1.01	1.40	30	
1,3-Dichlorobenzene		20.0	20.0	ug/L	1.08	0	30	
1,4-Dichlorobenzene		20.0	19.5	ug/L	1.09	2.60	30	
Dichlorodifluoromethane		20.0	18.7	ug/L	0.263	6.50	30	
1,2-Dichloroethane		20.0	20.1	ug/L	0.328	0.500	30	
cis-1,2-Dichloroethene		20.0	21.1	ug/L	0.245	5.30	30	
trans-1,2-Dichloroethene		20.0	21.1	ug/L	0.219	5.60	30	
1,3-Dichloropropane		20.0	19.7	ug/L	0.392	1.70	30	
2,2-Dichloropropane		20.0	17.9	ug/L	0.299	10.5	30	
cis-1,3-Dichloropropene		20.0	19.1	ug/L	0.339	4.30	30	
trans-1,3-Dichloropropene		20.0	17.4	ug/L	0.369	13.1	30	

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Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296612-12
Instrument ID: HPMS11 Run Time: 21:26 Method: 8260B
File ID: 11M57602 Analyst: WTD QC Key: STD
ICal Workgroup: WG296612 Cal ID: HPMS11 - 05-MAR-09

Analyte	Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloropropene	20.0	20.4	ug/L	0.300	1.80	30	
2-Hexanone	20.0	20.6	ug/L	0.201	2.90	30	
Hexachlorobutadiene	20.0	20.3	ug/L	0.367	1.60	30	
Isopropylbenzene	20.0	18.0	ug/L	1.16	9.80	30	
p-Isopropyltoluene	20.0	19.7	ug/L	2.05	1.40	30	
4-Methyl-2-Pentanone	20.0	20.3	ug/L	0.0749	1.60	30	
Methylene Chloride	20.0	20.5	ug/L	0.232	2.30	30	
Naphthalene	20.0	20.9	ug/L	1.55	4.30	30	
n-Propylbenzene	20.0	20.6	ug/L	3.13	3.10	30	
Styrene	20.0	20.9	ug/L	0.889	4.30	30	
1,1,1,2-Tetrachloroethane	20.0	20.4	ug/L	0.265	2.20	30	
Tetrachloroethene	20.0	20.9	ug/L	0.216	4.40	30	
1,2,3-Trichlorobenzene	20.0	20.9	ug/L	0.692	4.40	30	
1,2,4-Trichlorobenzene	20.0	20.6	ug/L	0.767	2.80	30	
1,1,1-Trichloroethane	20.0	21.0	ug/L	0.359	5.20	30	
1,1,2-Trichloroethane	20.0	21.1	ug/L	0.213	5.70	30	
Trichloroethene	20.0	20.8	ug/L	0.220	3.90	30	
Trichlorofluoromethane	20.0	19.6	ug/L	0.355	2.00	30	
1,2,3-Trichloropropane	20.0	19.9	ug/L	0.132	0.700	30	
1,2,4-Trimethylbenzene	20.0	20.7	ug/L	2.19	3.40	30	
1,3,5-Trimethylbenzene	20.0	20.2	ug/L	2.09	1.00	30	
Vinyl Acetate	20.0	22.4	ug/L	0.331	12.0	40	
o-Xylene	20.0	20.4	ug/L	0.515	1.80	30	
m-,p-Xylene	40.0	40.4	ug/L	0.527	1.00	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296582-12
Instrument ID: HPMS6 Run Time: 17:31 Method: 8260B
File ID: 6M82022 Analyst: MES QC Key: STD
ICal Workgroup: WG296582 Cal ID: HPMS6 - 05-MAR-09

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	20.0	19.6	ug/L	0.509	1.80	30	
1,1-Dichloroethene	CCC	20.0	20.0	ug/L	0.400	0.200	30	
1,2-Dichloropropane	CCC	20.0	20.7	ug/L	0.232	3.70	30	
Ethylbenzene	CCC	20.0	20.9	ug/L	0.449	4.70	30	
Toluene	CCC	20.0	21.1	ug/L	1.19	5.70	30	
Vinyl Chloride	CCC	20.0	18.4	ug/L	0.223	8.10	30	
Bromoform	SPCC	20.0	15.9	ug/L	0.138	20.5	30	
Chlorobenzene	SPCC	20.0	19.9	ug/L	0.812	0.400	30	
Chloromethane	SPCC	20.0	18.0	ug/L	0.310	9.80	30	
1,1-Dichloroethane	SPCC	20.0	20.2	ug/L	0.472	1.20	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	19.7	ug/L	0.338	1.60	30	
Acetone		20.0	22.8	ug/L	0.0576	14.2	30	
Benzene		20.0	20.7	ug/L	0.993	3.30	30	
Bromobenzene		20.0	21.2	ug/L	0.585	6.10	30	
Bromochloromethane		20.0	21.2	ug/L	0.162	5.80	30	
Bromodichloromethane		20.0	20.0	ug/L	0.363	0.100	30	
Bromomethane		20.0	19.9	ug/L	0.190	0.400	30	
2-Butanone		20.0	19.3	ug/L	0.0692	3.50	30	
n-Butylbenzene		20.0	21.2	ug/L	1.77	6.00	30	
sec-Butylbenzene		20.0	22.1	ug/L	2.38	10.6	30	
tert-Butylbenzene		20.0	21.4	ug/L	0.415	6.80	30	
Carbon Disulfide		20.0	18.2	ug/L	0.761	8.80	30	
Carbon Tetrachloride		20.0	19.5	ug/L	0.387	2.30	30	
Dibromochloromethane		20.0	19.3	ug/L	0.244	3.70	30	
Chloroethane		20.0	21.0	ug/L	0.203	5.00	30	
2-Chloroethyl Vinyl Ether		20.0	20.9	ug/L	0.101	4.70	30	
2-Chlorotoluene		20.0	20.8	ug/L	2.06	4.10	30	
4-Chlorotoluene		20.0	20.9	ug/L	1.81	4.60	30	
1,2-Dibromo-3-Chloropropane		20.0	18.6	ug/L	0.0671	7.00	30	
1,2-Dibromoethane		20.0	19.8	ug/L	0.198	0.900	30	
Dibromomethane		20.0	20.5	ug/L	0.138	2.60	30	
1,2-Dichlorobenzene		20.0	20.3	ug/L	1.08	1.50	30	
1,3-Dichlorobenzene		20.0	20.1	ug/L	1.18	0.400	30	
1,4-Dichlorobenzene		20.0	19.3	ug/L	1.22	3.30	30	
Dichlorodifluoromethane		20.0	16.9	ug/L	0.350	15.7	30	
1,2-Dichloroethane		20.0	19.1	ug/L	0.364	4.40	30	
cis-1,2-Dichloroethene		20.0	21.4	ug/L	0.282	7.20	30	
trans-1,2-Dichloroethene		20.0	20.7	ug/L	0.253	3.60	30	
1,3-Dichloropropane		20.0	20.1	ug/L	0.344	0.700	30	
2,2-Dichloropropane		20.0	19.6	ug/L	0.418	2.20	30	
cis-1,3-Dichloropropene		20.0	20.3	ug/L	0.372	1.60	30	
trans-1,3-Dichloropropene		20.0	17.7	ug/L	0.339	11.6	30	

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Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296582-12
Instrument ID: HPMS6 Run Time: 17:31 Method: 8260B
File ID: 6M82022 Analyst: MES QC Key: STD
Ical Workgroup: WG296582 Cal ID: HPMS6 - 05-MAR-09

Analyte	Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloropropene	20.0	20.5	ug/L	0.352	2.40	30	
2-Hexanone	20.0	18.1	ug/L	0.102	9.30	30	
Hexachlorobutadiene	20.0	20.4	ug/L	0.272	2.10	30	
Isopropylbenzene	20.0	19.5	ug/L	1.29	2.60	30	
p-Isopropyltoluene	20.0	21.4	ug/L	2.00	7.00	30	
4-Methyl-2-Pentanone	20.0	18.8	ug/L	0.0522	6.10	30	
Methylene Chloride	20.0	20.6	ug/L	0.281	3.00	30	
Naphthalene	20.0	18.1	ug/L	1.05	9.70	30	
n-Propylbenzene	20.0	22.0	ug/L	2.81	10.2	30	
Styrene	20.0	21.9	ug/L	0.949	9.30	30	
1,1,1,2-Tetrachloroethane	20.0	20.0	ug/L	0.278	0.200	30	
Tetrachloroethene	20.0	20.5	ug/L	0.301	2.60	30	
1,2,3-Trichlorobenzene	20.0	19.8	ug/L	0.592	1.10	30	
1,2,4-Trichlorobenzene	20.0	20.0	ug/L	0.676	0	30	
1,1,1-Trichloroethane	20.0	19.9	ug/L	0.460	0.500	30	
1,1,2-Trichloroethane	20.0	19.8	ug/L	0.190	1.10	30	
Trichloroethene	20.0	20.5	ug/L	0.263	2.30	30	
Trichlorofluoromethane	20.0	18.1	ug/L	0.486	9.40	30	
1,2,3-Trichloropropane	20.0	19.9	ug/L	0.115	0.700	30	
1,2,4-Trimethylbenzene	20.0	21.5	ug/L	2.13	7.70	30	
1,3,5-Trimethylbenzene	20.0	22.1	ug/L	2.06	10.4	30	
Vinyl Acetate	20.0	20.3	ug/L	0.333	1.60	40	
o-Xylene	20.0	21.5	ug/L	0.554	7.50	30	
m-,p-Xylene	40.0	42.4	ug/L	0.579	6.00	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L09030095 Run Date: 02/19/2009 Sample ID: WG295276-12
Instrument ID: HPMS8 Run Time: 16:12 Method: 8260B
File ID: 8M351799 Analyst: MES QC Key: STD
Ical Workgroup: WG295276 Cal ID: HPMS8 - 19-FEB-09

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	20.0	18.9	ug/L	0.513	5.40	30	
1,1-Dichloroethene	CCC	20.0	20.5	ug/L	0.467	2.50	30	
1,2-Dichloropropane	CCC	20.0	21.0	ug/L	0.241	5.20	30	
Ethylbenzene	CCC	20.0	21.4	ug/L	0.493	7.00	30	
Toluene	CCC	20.0	21.4	ug/L	1.32	7.00	30	
Vinyl Chloride	CCC	20.0	20.4	ug/L	0.298	2.00	30	
Bromoform	SPCC	20.0	18.0	ug/L	0.194	9.90	30	
Chlorobenzene	SPCC	20.0	20.7	ug/L	0.905	3.50	30	
Chloromethane	SPCC	20.0	19.5	ug/L	0.448	2.70	30	
1,1-Dichloroethane	SPCC	20.0	20.6	ug/L	0.500	2.80	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	20.3	ug/L	0.445	1.30	30	
Acetone		20.0	20.5	ug/L	0.0684	2.60	30	
Benzene		20.0	20.9	ug/L	0.898	4.70	30	
Bromobenzene		20.0	21.2	ug/L	0.687	6.10	30	
Bromochloromethane		20.0	21.5	ug/L	0.150	7.40	30	
Bromodichloromethane		20.0	19.0	ug/L	0.393	5.10	30	
Bromomethane		20.0	23.1	ug/L	0.213	15.7	30	
2-Butanone		20.0	18.3	ug/L	0.0714	8.50	30	
n-Butylbenzene		20.0	22.1	ug/L	2.82	10.5	30	
sec-Butylbenzene		20.0	22.1	ug/L	3.18	10.7	30	
tert-Butylbenzene		20.0	21.7	ug/L	0.513	8.30	30	
Carbon Disulfide		20.0	18.0	ug/L	0.684	9.80	30	
Carbon Tetrachloride		20.0	18.8	ug/L	0.440	5.80	30	
Dibromochloromethane		20.0	19.3	ug/L	0.325	3.60	30	
Chloroethane		20.0	23.3	ug/L	0.213	16.4	30	
2-Chloroethyl Vinyl Ether		20.0	21.3	ug/L	0.114	6.30	30	
2-Chlorotoluene		20.0	20.9	ug/L	2.30	4.60	30	
4-Chlorotoluene		20.0	21.3	ug/L	2.42	6.50	30	
1,2-Dibromo-3-Chloropropane		20.0	17.8	ug/L	0.108	11.1	30	
1,2-Dibromoethane		20.0	20.7	ug/L	0.243	3.40	30	
Dibromomethane		20.0	19.1	ug/L	0.134	4.30	30	
1,2-Dichlorobenzene		20.0	20.6	ug/L	1.31	3.10	30	
1,3-Dichlorobenzene		20.0	20.8	ug/L	1.40	4.00	30	
1,4-Dichlorobenzene		20.0	19.8	ug/L	1.42	1.20	30	
Dichlorodifluoromethane		20.0	20.8	ug/L	0.500	3.80	30	
1,2-Dichloroethane		20.0	17.6	ug/L	0.440	12.0	30	
cis-1,2-Dichloroethene		20.0	22.1	ug/L	0.267	10.3	30	
trans-1,2-Dichloroethene		20.0	20.8	ug/L	0.414	3.90	30	
1,3-Dichloropropane		20.0	20.7	ug/L	0.425	3.50	30	
2,2-Dichloropropane		20.0	19.1	ug/L	0.493	4.30	30	
cis-1,3-Dichloropropene		20.0	20.5	ug/L	0.390	2.70	30	
trans-1,3-Dichloropropene		20.0	18.0	ug/L	0.468	10.1	30	

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Login Number: L09030095 Run Date: 02/19/2009 Sample ID: WG295276-12
Instrument ID: HPMS8 Run Time: 16:12 Method: 8260B
File ID: 8M351799 Analyst: MES QC Key: STD
ICal Workgroup: WG295276 Cal ID: HPMS8 - 19-FEB-09

Analyte	Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloropropene	20.0	21.5	ug/L	0.365	7.60	30	
2-Hexanone	20.0	18.3	ug/L	0.0615	8.50	30	
Hexachlorobutadiene	20.0	20.7	ug/L	0.571	3.50	30	
Isopropylbenzene	20.0	19.7	ug/L	1.45	1.50	30	
p-Isopropyltoluene	20.0	21.7	ug/L	2.75	8.30	30	
4-Methyl-2-Pentanone	20.0	17.9	ug/L	0.0511	10.6	30	
Methylene Chloride	20.0	21.1	ug/L	0.259	5.70	30	
Naphthalene	20.0	21.7	ug/L	1.97	8.50	30	
n-Propylbenzene	20.0	22.4	ug/L	3.61	12.1	30	
Styrene	20.0	21.8	ug/L	0.996	8.90	30	
1,1,1,2-Tetrachloroethane	20.0	19.6	ug/L	0.358	1.80	30	
Tetrachloroethene	20.0	21.2	ug/L	0.289	6.10	30	
1,2,3-Trichlorobenzene	20.0	20.2	ug/L	0.965	0.800	30	
1,2,4-Trichlorobenzene	20.0	21.1	ug/L	1.10	5.60	30	
1,1,1-Trichloroethane	20.0	18.8	ug/L	0.509	6.00	30	
1,1,2-Trichloroethane	20.0	20.6	ug/L	0.235	3.00	30	
Trichloroethene	20.0	21.0	ug/L	0.251	5.10	30	
Trichlorofluoromethane	20.0	19.7	ug/L	0.567	1.70	30	
1,2,3-Trichloropropane	20.0	20.5	ug/L	0.161	2.50	30	
1,2,4-Trimethylbenzene	20.0	22.0	ug/L	2.76	9.80	30	
1,3,5-Trimethylbenzene	20.0	22.7	ug/L	2.62	13.6	30	
Vinyl Acetate	20.0	15.8	ug/L	0.328	21.0	40	
o-Xylene	20.0	22.5	ug/L	0.603	12.3	30	
m-,p-Xylene	40.0	42.6	ug/L	0.607	6.60	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L09030095	Run Date: 03/06/2009	Sample ID: WG296678-02
Instrument ID: HPMS6	Run Time: 09:00	Method: 8260B
File ID: 6M82026	Analyst: MES	QC Key: STD
Workgroup (AAB#): WG296679	Cal ID: HPMS6 - 05-MAR-09	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.3	ug/L	0.521	0.513	20	
1,1-Dichloroethene	CCC	50.0	52.4	ug/L	0.419	4.90	20	
1,2-Dichloropropane	CCC	50.0	53.6	ug/L	0.240	7.29	20	
Ethylbenzene	CCC	50.0	55.4	ug/L	0.476	10.9	20	
Toluene	CCC	50.0	56.5	ug/L	1.28	13.1	20	
Vinyl Chloride	CCC	50.0	42.5	ug/L	0.206	14.9	20	
Bromoform	SPCC	50.0	44.4	ug/L	0.160	11.3	40	
Chlorobenzene	SPCC	50.0	52.5	ug/L	0.856	5.08	40	
Chloromethane	SPCC	50.0	42.9	ug/L	0.295	14.2	40	
1,1-Dichloroethane	SPCC	50.0	53.0	ug/L	0.495	6.04	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.0	ug/L	0.336	2.02	40	
Acetone		50.0	50.5	ug/L	0.0510	1.09	40	
Benzene		50.0	53.9	ug/L	1.04	7.71	40	
Bromobenzene		50.0	55.4	ug/L	0.611	10.8	40	
Bromochloromethane		50.0	52.8	ug/L	0.162	5.68	40	
Bromodichloromethane		50.0	51.0	ug/L	0.369	1.93	40	
Bromomethane		50.0	55.6	ug/L	0.213	11.3	40	
2-Butanone		50.0	45.9	ug/L	0.0658	8.19	40	
n-Butylbenzene		50.0	57.5	ug/L	1.93	15.1	40	
sec-Butylbenzene		50.0	58.7	ug/L	2.52	17.3	40	
tert-Butylbenzene		50.0	57.3	ug/L	0.445	14.6	40	
Carbon Disulfide		50.0	54.4	ug/L	0.909	8.88	40	
Carbon Tetrachloride		50.0	53.8	ug/L	0.426	7.55	40	
Dibromochloromethane		50.0	53.6	ug/L	0.272	7.22	40	
Chloroethane		50.0	54.5	ug/L	0.210	8.97	40	
2-Chloroethyl Vinyl Ether		50.0	44.6	ug/L	0.0857	10.8	40	
2-Chlorotoluene		50.0	52.6	ug/L	2.08	5.28	40	
4-Chlorotoluene		50.0	57.5	ug/L	1.99	15.0	40	
1,2-Dibromo-3-Chloropropane		50.0	46.5	ug/L	0.0672	6.91	40	
1,2-Dibromoethane		50.0	50.9	ug/L	0.204	1.75	40	
Dibromomethane		50.0	48.6	ug/L	0.131	2.86	40	
1,2-Dichlorobenzene		50.0	52.3	ug/L	1.11	4.61	40	
1,3-Dichlorobenzene		50.0	53.5	ug/L	1.26	6.99	40	
1,4-Dichlorobenzene		50.0	51.3	ug/L	1.29	2.59	40	
Dichlorodifluoromethane		50.0	50.2	ug/L	0.416	0.319	40	
1,2-Dichloroethane		50.0	46.8	ug/L	0.357	6.31	40	
cis-1,2-Dichloroethene		50.0	54.5	ug/L	0.287	9.00	40	
trans-1,2-Dichloroethene		50.0	55.8	ug/L	0.273	11.6	40	
1,3-Dichloropropane		50.0	50.6	ug/L	0.345	1.16	40	
2,2-Dichloropropane		50.0	56.6	ug/L	0.484	13.2	40	
cis-1,3-Dichloropropene		50.0	54.6	ug/L	0.400	9.14	40	
trans-1,3-Dichloropropene		50.0	54.4	ug/L	0.417	8.71	40	

CCV - Modified 03/05/2008
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Login Number: L09030095 Run Date: 03/06/2009 Sample ID: WG296678-02
Instrument ID: HPMS6 Run Time: 09:00 Method: 8260B
File ID: 6M82026 Analyst: MES QC Key: STD
Workgroup (AAB#): WG296679 Cal ID: HPMS6 - 05-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	55.1	ug/L	0.379	10.2	40	
2-Hexanone	50.0	46.7	ug/L	0.105	6.59	40	
Hexachlorobutadiene	50.0	56.0	ug/L	0.299	12.1	40	
Isopropylbenzene	50.0	57.5	ug/L	1.52	15.0	40	
p-Isopropyltoluene	50.0	59.8	ug/L	2.23	19.6	40	
4-Methyl-2-Pentanone	50.0	43.8	ug/L	0.0488	12.3	40	
Methylene Chloride	50.0	50.7	ug/L	0.275	1.34	40	
Naphthalene	50.0	45.3	ug/L	1.05	9.39	40	
n-Propylbenzene	50.0	58.9	ug/L	3.00	17.8	40	
Styrene	50.0	57.8	ug/L	1.00	15.6	40	
1,1,1,2-Tetrachloroethane	50.0	54.2	ug/L	0.302	8.37	40	
Tetrachloroethene	50.0	56.0	ug/L	0.329	11.9	40	
1,2,3-Trichlorobenzene	50.0	50.1	ug/L	0.600	0.204	40	
1,2,4-Trichlorobenzene	50.0	52.4	ug/L	0.708	4.71	40	
1,1,1-Trichloroethane	50.0	53.5	ug/L	0.495	6.91	40	
1,1,2-Trichloroethane	50.0	49.8	ug/L	0.191	0.357	40	
Trichloroethene	50.0	54.7	ug/L	0.281	9.42	40	
Trichlorofluoromethane	50.0	50.1	ug/L	0.538	0.228	40	
1,2,3-Trichloropropane	50.0	48.8	ug/L	0.113	2.44	40	
1,2,4-Trimethylbenzene	50.0	56.5	ug/L	2.23	13.1	40	
1,3,5-Trimethylbenzene	50.0	59.0	ug/L	2.20	18.0	40	
Vinyl Acetate	50.0	47.4	ug/L	0.311	5.18	40	
o-Xylene	50.0	56.6	ug/L	0.583	13.3	40	
m-,p-Xylene	100	110	ug/L	0.602	10.1	40	
1,2-Dichloroethene	100	110	ug/L	0.280	10.3	40	
Xylenes	150	167	ug/L	0.593	11.2	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Login Number: L09030095	Run Date: 03/06/2009	Sample ID: WG296717-02
Instrument ID: HPMS11	Run Time: 12:20	Method: 8260B
File ID: 11M57607	Analyst: WTD	QC Key: STD
Workgroup (AAB#): WG296718	Cal ID: HPMS11 - 05-MAR-09	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.4	ug/L	0.404	0.703	20	
1,1-Dichloroethene	CCC	50.0	51.7	ug/L	0.393	3.35	20	
1,2-Dichloropropane	CCC	50.0	48.9	ug/L	0.246	2.15	20	
Ethylbenzene	CCC	50.0	50.7	ug/L	0.437	1.33	20	
Toluene	CCC	50.0	52.1	ug/L	1.28	4.24	20	
Vinyl Chloride	CCC	50.0	49.1	ug/L	0.224	1.86	20	
Bromoform	SPCC	50.0	45.5	ug/L	0.149	8.91	40	
Chlorobenzene	SPCC	50.0	50.0	ug/L	0.797	0.0944	40	
Chloromethane	SPCC	50.0	47.8	ug/L	0.399	4.48	40	
1,1-Dichloroethane	SPCC	50.0	50.0	ug/L	0.462	0.0348	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	44.1	ug/L	0.405	11.9	40	
Acetone		50.0	39.8	ug/L	0.0555	20.4	40	
Benzene		50.0	49.7	ug/L	0.908	0.693	40	
Bromobenzene		50.0	52.6	ug/L	0.591	5.24	40	
Bromochloromethane		50.0	49.8	ug/L	0.118	0.481	40	
Bromodichloromethane		50.0	49.3	ug/L	0.300	1.39	40	
Bromomethane		50.0	56.1	ug/L	0.140	12.2	40	
2-Butanone		50.0	37.9	ug/L	0.0770	24.1	40	
n-Butylbenzene		50.0	55.3	ug/L	2.28	10.7	40	
sec-Butylbenzene		50.0	54.0	ug/L	2.73	8.01	40	
tert-Butylbenzene		50.0	53.8	ug/L	0.417	7.54	40	
Carbon Disulfide		50.0	51.1	ug/L	0.769	2.20	40	
Carbon Tetrachloride		50.0	53.9	ug/L	0.306	7.89	40	
Dibromochloromethane		50.0	47.9	ug/L	0.240	4.19	40	
Chloroethane		50.0	51.4	ug/L	0.176	2.90	40	
2-Chloroethyl Vinyl Ether		50.0	39.2	ug/L	0.0604	21.6	40	
2-Chlorotoluene		50.0	52.2	ug/L	2.11	4.44	40	
4-Chlorotoluene		50.0	51.7	ug/L	1.89	3.43	40	
1,2-Dibromo-3-Chloropropane		50.0	40.9	ug/L	0.0722	18.2	40	
1,2-Dibromoethane		50.0	45.9	ug/L	0.194	8.15	40	
Dibromomethane		50.0	46.4	ug/L	0.105	7.24	40	
1,2-Dichlorobenzene		50.0	50.1	ug/L	0.996	0.245	40	
1,3-Dichlorobenzene		50.0	51.4	ug/L	1.11	2.73	40	
1,4-Dichlorobenzene		50.0	50.9	ug/L	1.14	1.71	40	
Dichlorodifluoromethane		50.0	51.6	ug/L	0.290	3.25	40	
1,2-Dichloroethane		50.0	47.0	ug/L	0.307	6.03	40	
cis-1,2-Dichloroethene		50.0	51.1	ug/L	0.238	2.27	40	
trans-1,2-Dichloroethene		50.0	54.2	ug/L	0.225	8.38	40	
1,3-Dichloropropane		50.0	44.2	ug/L	0.352	11.7	40	
2,2-Dichloropropane		50.0	53.2	ug/L	0.362	6.39	40	
cis-1,3-Dichloropropene		50.0	48.4	ug/L	0.343	3.19	40	
trans-1,3-Dichloropropene		50.0	47.4	ug/L	0.403	5.30	40	

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Login Number: L09030095 Run Date: 03/06/2009 Sample ID: WG296717-02
Instrument ID: HPMS11 Run Time: 12:20 Method: 8260B
File ID: 11M57607 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG296718 Cal ID: HPMS11 - 05-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	53.2	ug/L	0.314	6.40	40	
2-Hexanone	50.0	39.4	ug/L	0.154	21.2	40	
Hexachlorobutadiene	50.0	54.1	ug/L	0.396	8.19	40	
Isopropylbenzene	50.0	53.3	ug/L	1.37	6.64	40	
p-Isopropyltoluene	50.0	53.6	ug/L	2.23	7.27	40	
4-Methyl-2-Pentanone	50.0	39.3	ug/L	0.0580	21.3	40	
Methylene Chloride	50.0	48.1	ug/L	0.215	3.90	40	
Naphthalene	50.0	44.3	ug/L	1.32	11.4	40	
n-Propylbenzene	50.0	54.2	ug/L	3.29	8.31	40	
Styrene	50.0	54.5	ug/L	0.929	8.95	40	
1,1,1,2-Tetrachloroethane	50.0	51.2	ug/L	0.266	2.40	40	
Tetrachloroethene	50.0	55.5	ug/L	0.229	11.0	40	
1,2,3-Trichlorobenzene	50.0	48.2	ug/L	0.638	3.66	40	
1,2,4-Trichlorobenzene	50.0	50.5	ug/L	0.755	1.09	40	
1,1,1-Trichloroethane	50.0	53.6	ug/L	0.365	7.10	40	
1,1,2-Trichloroethane	50.0	47.4	ug/L	0.191	5.12	40	
Trichloroethene	50.0	51.8	ug/L	0.220	3.69	40	
Trichlorofluoromethane	50.0	50.6	ug/L	0.366	1.11	40	
1,2,3-Trichloropropane	50.0	42.7	ug/L	0.113	14.7	40	
1,2,4-Trimethylbenzene	50.0	53.3	ug/L	2.25	6.55	40	
1,3,5-Trimethylbenzene	50.0	53.3	ug/L	2.20	6.68	40	
Vinyl Acetate	50.0	62.4	ug/L	0.369	24.7	40	
o-Xylene	50.0	52.1	ug/L	0.528	4.26	40	
m-,p-Xylene	100	105	ug/L	0.547	4.89	40	
1,2-Dichloroethene	100	105	ug/L	0.231	5.33	40	
Xylenes	150	157	ug/L	0.538	4.68	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296832-02
Instrument ID: HPMS6 Run Time: 09:20 Method: 8260B
File ID: 6M82055 Analyst: MES QC Key: STD
Workgroup (AAB#): WG296833 Cal ID: HPMS6 - 05-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	53.1	ug/L	0.550	6.22	20	
1,1-Dichloroethene	CCC	50.0	53.5	ug/L	0.427	6.97	20	
1,2-Dichloropropane	CCC	50.0	52.1	ug/L	0.233	4.10	20	
Ethylbenzene	CCC	50.0	53.1	ug/L	0.456	6.26	20	
Toluene	CCC	50.0	52.7	ug/L	1.19	5.31	20	
Vinyl Chloride	CCC	50.0	56.4	ug/L	0.274	12.9	20	
Bromoform	SPCC	50.0	48.5	ug/L	0.175	3.06	40	
Chlorobenzene	SPCC	50.0	49.7	ug/L	0.810	0.631	40	
Chloromethane	SPCC	50.0	49.8	ug/L	0.342	0.439	40	
1,1-Dichloroethane	SPCC	50.0	52.5	ug/L	0.490	4.90	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.4	ug/L	0.333	3.14	40	
Acetone		50.0	47.1	ug/L	0.0475	5.79	40	
Benzene		50.0	52.5	ug/L	1.01	4.98	40	
Bromobenzene		50.0	52.4	ug/L	0.577	4.71	40	
Bromochloromethane		50.0	53.2	ug/L	0.163	6.49	40	
Bromodichloromethane		50.0	55.8	ug/L	0.404	11.5	40	
Bromomethane		50.0	58.4	ug/L	0.223	16.8	40	
2-Butanone		50.0	43.7	ug/L	0.0626	12.6	40	
n-Butylbenzene		50.0	54.8	ug/L	1.84	9.70	40	
sec-Butylbenzene		50.0	55.2	ug/L	2.37	10.5	40	
tert-Butylbenzene		50.0	52.3	ug/L	0.407	4.65	40	
Carbon Disulfide		50.0	53.9	ug/L	0.900	7.88	40	
Carbon Tetrachloride		50.0	59.4	ug/L	0.470	18.8	40	
Dibromochloromethane		50.0	55.8	ug/L	0.283	11.5	40	
Chloroethane		50.0	53.3	ug/L	0.206	6.65	40	
2-Chloroethyl Vinyl Ether		50.0	45.7	ug/L	0.0878	8.64	40	
2-Chlorotoluene		50.0	51.4	ug/L	2.03	2.81	40	
4-Chlorotoluene		50.0	52.5	ug/L	1.81	5.01	40	
1,2-Dibromo-3-Chloropropane		50.0	51.3	ug/L	0.0741	2.66	40	
1,2-Dibromoethane		50.0	51.4	ug/L	0.206	2.87	40	
Dibromomethane		50.0	53.2	ug/L	0.143	6.38	40	
1,2-Dichlorobenzene		50.0	50.1	ug/L	1.06	0.238	40	
1,3-Dichlorobenzene		50.0	50.6	ug/L	1.19	1.29	40	
1,4-Dichlorobenzene		50.0	48.8	ug/L	1.23	2.47	40	
Dichlorodifluoromethane		50.0	54.8	ug/L	0.455	9.69	40	
1,2-Dichloroethane		50.0	53.2	ug/L	0.405	6.46	40	
cis-1,2-Dichloroethene		50.0	53.0	ug/L	0.279	6.08	40	
trans-1,2-Dichloroethene		50.0	54.3	ug/L	0.266	8.61	40	
1,3-Dichloropropane		50.0	50.5	ug/L	0.344	0.958	40	
2,2-Dichloropropane		50.0	58.2	ug/L	0.498	16.5	40	
cis-1,3-Dichloropropene		50.0	56.3	ug/L	0.413	12.7	40	
trans-1,3-Dichloropropene		50.0	55.2	ug/L	0.423	10.3	40	

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Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296832-02
Instrument ID: HPMS6 Run Time: 09:20 Method: 8260B
File ID: 6M82055 Analyst: MES QC Key: STD
Workgroup (AAB#): WG296833 Cal ID: HPMS6 - 05-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	56.7	ug/L	0.390	13.4	40	
2-Hexanone	50.0	46.0	ug/L	0.103	8.02	40	
Hexachlorobutadiene	50.0	55.6	ug/L	0.297	11.3	40	
Isopropylbenzene	50.0	56.1	ug/L	1.49	12.3	40	
p-Isopropyltoluene	50.0	55.5	ug/L	2.07	11.0	40	
4-Methyl-2-Pentanone	50.0	46.5	ug/L	0.0517	7.03	40	
Methylene Chloride	50.0	49.9	ug/L	0.271	0.117	40	
Naphthalene	50.0	47.8	ug/L	1.11	4.50	40	
n-Propylbenzene	50.0	55.4	ug/L	2.82	10.8	40	
Styrene	50.0	55.4	ug/L	0.961	10.7	40	
1,1,1,2-Tetrachloroethane	50.0	54.6	ug/L	0.304	9.16	40	
Tetrachloroethene	50.0	53.7	ug/L	0.315	7.40	40	
1,2,3-Trichlorobenzene	50.0	51.6	ug/L	0.618	3.29	40	
1,2,4-Trichlorobenzene	50.0	52.5	ug/L	0.711	5.02	40	
1,1,1-Trichloroethane	50.0	57.9	ug/L	0.536	15.8	40	
1,1,2-Trichloroethane	50.0	49.4	ug/L	0.189	1.23	40	
Trichloroethene	50.0	53.5	ug/L	0.274	6.97	40	
Trichlorofluoromethane	50.0	57.9	ug/L	0.621	15.7	40	
1,2,3-Trichloropropane	50.0	50.2	ug/L	0.117	0.387	40	
1,2,4-Trimethylbenzene	50.0	53.0	ug/L	2.09	5.90	40	
1,3,5-Trimethylbenzene	50.0	54.8	ug/L	2.04	9.57	40	
Vinyl Acetate	50.0	44.6	ug/L	0.292	10.8	40	
o-Xylene	50.0	54.0	ug/L	0.556	8.02	40	
m-,p-Xylene	100	106	ug/L	0.581	6.24	40	
1,2-Dichloroethene	100	107	ug/L	0.273	7.34	40	
Xylenes	150	160	ug/L	0.568	6.83	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L09030095	Run Date: 03/09/2009	Sample ID: WG296872-02
Instrument ID: HPMS8	Run Time: 12:44	Method: 8260B
File ID: 8M352280	Analyst: MES	QC Key: STD
Workgroup (AAB#): WG296873	Cal ID: HPMS8 - 19-FEB-09	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	44.2	ug/L	0.479	11.6	20	
1,1-Dichloroethene	CCC	50.0	45.3	ug/L	0.412	9.47	20	
1,2-Dichloropropane	CCC	50.0	44.6	ug/L	0.204	10.8	20	
Ethylbenzene	CCC	50.0	45.6	ug/L	0.420	8.75	20	
Toluene	CCC	50.0	45.9	ug/L	1.13	8.28	20	
Vinyl Chloride	CCC	50.0	57.2	ug/L	0.292	14.5	20	
Bromoform	SPCC	50.0	48.9	ug/L	0.211	2.22	40	
Chlorobenzene	SPCC	50.0	44.0	ug/L	0.770	11.9	40	
Chloromethane	SPCC	50.0	48.4	ug/L	0.404	3.21	40	
1,1-Dichloroethane	SPCC	50.0	45.6	ug/L	0.443	8.82	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	44.2	ug/L	0.389	11.6	40	
Acetone		50.0	51.1	ug/L	0.0668	2.11	40	
Benzene		50.0	44.9	ug/L	0.771	10.1	40	
Bromobenzene		50.0	45.4	ug/L	0.589	9.12	40	
Bromochloromethane		50.0	49.1	ug/L	0.137	1.85	40	
Bromodichloromethane		50.0	45.6	ug/L	0.378	8.85	40	
Bromomethane		50.0	47.7	ug/L	0.175	4.66	40	
2-Butanone		50.0	49.3	ug/L	0.0769	1.42	40	
n-Butylbenzene		50.0	42.9	ug/L	2.19	14.2	40	
sec-Butylbenzene		50.0	43.7	ug/L	2.51	12.7	40	
tert-Butylbenzene		50.0	44.2	ug/L	0.419	11.6	40	
Carbon Disulfide		50.0	45.5	ug/L	0.689	9.10	40	
Carbon Tetrachloride		50.0	45.8	ug/L	0.427	8.48	40	
Dibromochloromethane		50.0	47.9	ug/L	0.323	4.19	40	
Chloroethane		50.0	44.1	ug/L	0.161	11.7	40	
2-Chloroethyl Vinyl Ether		50.0	50.1	ug/L	0.108	0.289	40	
2-Chlorotoluene		50.0	45.2	ug/L	1.99	9.60	40	
4-Chlorotoluene		50.0	43.6	ug/L	1.99	12.7	40	
1,2-Dibromo-3-Chloropropane		50.0	43.9	ug/L	0.106	12.2	40	
1,2-Dibromoethane		50.0	47.9	ug/L	0.225	4.10	40	
Dibromomethane		50.0	46.2	ug/L	0.130	7.57	40	
1,2-Dichlorobenzene		50.0	43.3	ug/L	1.10	13.4	40	
1,3-Dichlorobenzene		50.0	43.9	ug/L	1.18	12.3	40	
1,4-Dichlorobenzene		50.0	42.0	ug/L	1.21	16.0	40	
Dichlorodifluoromethane		50.0	42.1	ug/L	0.375	15.9	40	
1,2-Dichloroethane		50.0	45.0	ug/L	0.450	10.0	40	
cis-1,2-Dichloroethene		50.0	48.4	ug/L	0.234	3.23	40	
trans-1,2-Dichloroethene		50.0	45.5	ug/L	0.363	8.93	40	
1,3-Dichloropropane		50.0	46.0	ug/L	0.377	8.02	40	
2,2-Dichloropropane		50.0	45.4	ug/L	0.468	9.18	40	
cis-1,3-Dichloropropene		50.0	48.2	ug/L	0.366	3.61	40	
trans-1,3-Dichloropropene		50.0	47.3	ug/L	0.492	5.40	40	

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Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296872-02
Instrument ID: HPMS8 Run Time: 12:44 Method: 8260B
File ID: 8M352280 Analyst: MES QC Key: STD
Workgroup (AAB#): WG296873 Cal ID: HPMS8 - 19-FEB-09
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	47.4	ug/L	0.321	5.25	40	
2-Hexanone	50.0	49.2	ug/L	0.0662	1.53	40	
Hexachlorobutadiene	50.0	36.7	ug/L	0.406	26.5	40	
Isopropylbenzene	50.0	48.0	ug/L	1.41	4.02	40	
p-Isopropyltoluene	50.0	44.7	ug/L	2.27	10.6	40	
4-Methyl-2-Pentanone	50.0	47.8	ug/L	0.0547	4.35	40	
Methylene Chloride	50.0	43.3	ug/L	0.207	13.4	40	
Naphthalene	50.0	44.4	ug/L	1.61	11.1	40	
n-Propylbenzene	50.0	45.5	ug/L	2.93	9.06	40	
Styrene	50.0	48.4	ug/L	0.885	3.27	40	
1,1,1,2-Tetrachloroethane	50.0	45.8	ug/L	0.335	8.35	40	
Tetrachloroethene	50.0	45.9	ug/L	0.250	8.24	40	
1,2,3-Trichlorobenzene	50.0	40.9	ug/L	0.784	18.1	40	
1,2,4-Trichlorobenzene	50.0	43.1	ug/L	0.894	13.9	40	
1,1,1-Trichloroethane	50.0	45.6	ug/L	0.494	8.81	40	
1,1,2-Trichloroethane	50.0	46.3	ug/L	0.212	7.35	40	
Trichloroethene	50.0	46.0	ug/L	0.219	8.08	40	
Trichlorofluoromethane	50.0	48.7	ug/L	0.562	2.67	40	
1,2,3-Trichloropropane	50.0	47.7	ug/L	0.150	4.57	40	
1,2,4-Trimethylbenzene	50.0	44.6	ug/L	2.24	10.8	40	
1,3,5-Trimethylbenzene	50.0	47.3	ug/L	2.18	5.41	40	
Vinyl Acetate	50.0	41.7	ug/L	0.346	16.5	40	
o-Xylene	50.0	48.6	ug/L	0.521	2.86	40	
m-,p-Xylene	100	91.6	ug/L	0.522	8.43	40	
1,2-Dichloroethene	100	93.9	ug/L	0.299	6.08	40	
Xylenes	150	140	ug/L	0.522	6.57	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1339053
Report generated 03/10/2009 14:05



Login Number: L09030095
Instrument ID: HPMS6
Workgroup (AAB#): WG296679

CCV Number: WG296678-02
CAL ID: HPMS6 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296678-02	NA	NA	523152	858447	959127
Upper Limit	NA	NA	1046304	1716894	1918254
Lower Limit	NA	NA	261576	429224	479564
L09030095-02	1.00	01	437050	698576	724417
L09030095-03	1.00	01	432287	693695	720651
L09030095-07	1.00	01	421449	677241	694615
L09030095-21	1.00	01	433743	699604	727179
L09030095-22	1.00	01	438835	692196	715659
L09030095-23	1.00	01	436745	701207	725738
WG296679-01	1.00	01	476758	769463	813548
WG296679-02	1.00	01	500528	798069	853842
WG296679-03	1.00	01	421449	677241	694615
WG296679-04	1.00	01	438835	692196	715659
WG296679-05	1.00	01	436745	701207	725738
WG296679-06	1.00	01	326731	535022	546091

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS11
Workgroup (AAB#): WG296718

CCV Number: WG296717-02
CAL ID: HPMS11 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296717-02	NA	NA	287279	539813	735767
Upper Limit	NA	NA	574558	1079626	1471534
Lower Limit	NA	NA	143640	269907	367884
<u>L09030095-14</u>	<u>1.00</u>	<u>01</u>	<u>233991</u>	<u>457090</u>	<u>611619</u>
L09030095-15	1.00	01	224735	445292	598038
L09030095-17	1.00	01	240300	463339	627133
L09030095-24	1.00	01	252159	477338	633180
L09030095-26	1.00	01	254219	483572	644711
L09030095-28	1.00	01	238531	469419	630902
WG296718-01	1.00	01	246095	482957	648940
WG296718-02	1.00	01	259285	490686	655064
WG296718-03	1.00	01	240300	463339	627133
WG296718-03	100	DL01	244853	471278	638879
WG296718-04	1.00	01	252159	477338	633180
WG296718-05	1.00	01	254219	483572	644711
WG296718-06	1.00	01	214975	420711	567523

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS6
Workgroup (AAB#): WG296833

CCV Number: WG296832-02
CAL ID: HPMS6 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296832-02	NA	NA	438166	684506	712716
Upper Limit	NA	NA	876332	1369012	1425432
Lower Limit	NA	NA	219083	342253	356358
<u>L09030095-04</u>	<u>1.00</u>	<u>01</u>	<u>382140</u>	<u>612177</u>	<u>618813</u>
L09030095-05	1.00	01	377175	605311	610754
L09030095-11	1.00	01	359553	581290	590168
WG296833-01	1.00	01	416222	674258	668755
WG296833-02	1.00	01	411739	646392	653811
WG296833-03	1.00	01	416312	659458	670732
WG296833-04	1.00	01	309600	493359	493693

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS8
Workgroup (AAB#): WG296873

CCV Number: WG296872-02
CAL ID: HPMS8 - 19-FEB-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296872-02	NA	NA	346843	577844	761623
Upper Limit	NA	NA	693686	1155688	1523246
Lower Limit	NA	NA	173422	288922	380812
L09030095-01	50.0	DL01	257220	446949	616401
L09030095-06	1.00	01	328375	572869	785649
L09030095-08	1.00	01	315268	551565	759661
L09030095-09	1.00	01	306093	528654	727463
L09030095-10	1.00	01	276921	492126	681575
L09030095-12	1.00	01	295291	511014	707851
L09030095-13	1.00	01	290033	499987	685567
L09030095-16	1.00	01	257960	437705	606427
L09030095-18	1.00	01	278619	482536	665839
L09030095-19	1.00	01	352683	614886	849114
L09030095-20	1.00	01	264522	462483	637104
L09030095-25	1.00	01	265181	459293	634935
WG296873-01	1.00	01	317528	555512	757956
WG296873-02	1.00	01	338168	578146	769619
WG296873-03	1.00	01	342449	584085	782762
WG296873-04	1.00	01	397981	700870	948228

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS6
Workgroup (AAB#): WG296679

CCV Number: WG296678-02
CAL ID: HPMS6 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296678-02	NA	NA	18.62	15.07	10.6
Upper Limit	NA	NA	19.12	15.57	11.1
Lower Limit	NA	NA	18.12	14.57	10.1
L09030095-02	1.00	01	18.62	15.06	10.59
L09030095-03	1.00	01	18.61	15.06	10.59
L09030095-07	1.00	01	18.61	15.06	10.59
L09030095-21	1.00	01	18.61	15.06	10.59
L09030095-22	1.00	01	18.61	15.06	10.59
L09030095-23	1.00	01	18.61	15.06	10.59
WG296679-01	1.00	01	18.61	15.06	10.6
WG296679-02	1.00	01	18.61	15.06	10.59
WG296679-03	1.00	01	18.61	15.06	10.59
WG296679-04	1.00	01	18.61	15.06	10.59
WG296679-05	1.00	01	18.61	15.06	10.59
WG296679-06	1.00	01	18.62	15.06	10.59

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS11
Workgroup (AAB#): WG296718

CCV Number: WG296717-02
CAL ID: HPMS11 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296717-02	NA	NA	16.48	13.68	10.07
Upper Limit	NA	NA	16.98	14.18	10.57
Lower Limit	NA	NA	15.98	13.18	9.57
<u>L09030095-14</u>	<u>1.00</u>	<u>01</u>	<u>16.481</u>	<u>13.679</u>	<u>10.071</u>
L09030095-15	1.00	01	16.481	13.679	10.071
L09030095-17	1.00	01	16.481	13.679	10.071
L09030095-24	1.00	01	16.481	13.679	10.061
L09030095-26	1.00	01	16.481	13.679	10.061
L09030095-28	1.00	01	16.481	13.679	10.071
WG296718-01	1.00	01	16.481	13.679	10.071
WG296718-02	1.00	01	16.482	13.68	10.061
WG296718-03	1.00	01	16.481	13.679	10.071
WG296718-03	100	DL01	16.482	13.68	10.071
WG296718-04	1.00	01	16.481	13.679	10.061
WG296718-05	1.00	01	16.481	13.679	10.061
WG296718-06	1.00	01	16.482	13.68	10.071

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS6
Workgroup (AAB#): WG296833

CCV Number: WG296832-02
CAL ID: HPMS6 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296832-02	NA	NA	18.61	15.06	10.59
Upper Limit	NA	NA	19.11	15.56	11.09
Lower Limit	NA	NA	18.11	14.56	10.09
L09030095-04	1.00	01	18.61	15.06	10.6
L09030095-05	1.00	01	18.61	15.06	10.59
L09030095-11	1.00	01	18.62	15.06	10.59
WG296833-01	1.00	01	18.61	15.06	10.6
WG296833-02	1.00	01	18.61	15.06	10.59
WG296833-03	1.00	01	18.61	15.06	10.59
WG296833-04	1.00	01	18.61	15.06	10.6

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

Underline = Response outside limits

Login Number: L09030095
Instrument ID: HPMS8
Workgroup (AAB#): WG296873

CCV Number: WG296872-02
CAL ID: HPMS8 - 19-FEB-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296872-02	NA	NA	17.68	14.66	10.79
Upper Limit	NA	NA	18.18	15.16	11.29
Lower Limit	NA	NA	17.18	14.16	10.29
L09030095-01	50.0	DL01	17.68	14.66	10.79
L09030095-06	1.00	01	17.68	14.66	10.79
L09030095-08	1.00	01	17.68	14.66	10.79
L09030095-09	1.00	01	17.67	14.66	10.8
L09030095-10	1.00	01	17.68	14.66	10.79
L09030095-12	1.00	01	17.68	14.66	10.79
L09030095-13	1.00	01	17.68	14.66	10.79
L09030095-16	1.00	01	17.68	14.66	10.79
L09030095-18	1.00	01	17.68	14.66	10.79
L09030095-19	1.00	01	17.68	14.66	10.79
L09030095-20	1.00	01	17.68	14.66	10.79
L09030095-25	1.00	01	17.68	14.66	10.79
WG296873-01	1.00	01	17.68	14.66	10.79
WG296873-02	1.00	01	17.67	14.66	10.8
WG296873-03	1.00	01	17.67	14.66	10.8
WG296873-04	1.00	01	17.67	14.66	10.8

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

Underline = Response outside limits

2.1.2 RSK 175

2.1.2.1 Summary Data

LABORATORY REPORT

L09030095

00090555

03/12/09 15:26

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	RSK175	1	05-MAR-09
17WW17-030409	L09030095-14	RSK175	1	05-MAR-09
MW-130-030409	L09030095-16	RSK175	1	05-MAR-09



Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296884**
Collect Date: **03/04/2009 11:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5021**
Analytical Method: **RSK175**
Analyst: **FJB**
Dilution: **1**
Units: **ug/L**

Instrument: **HP16**
Prep Date: **03/09/2009 18:28**
Cal Date: **11/07/2008 09:27**
Run Date: **03/09/2009 18:28**
File ID: **16618151**

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	66.7		5.00	1.00
ethene	74-85-1		U	5.00	1.00
ethane	74-84-0		U	5.00	1.00

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-14**
Client ID: **17WW17-030409**
Matrix: **Water**
Workgroup Number: **WG296884**
Collect Date: **03/04/2009 11:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5021**
Analytical Method: **RSK175**
Analyst: **FJB**
Dilution: **1**
Units: **ug/L**

Instrument: **HP16**
Prep Date: **03/09/2009 18:41**
Cal Date: **11/07/2008 09:27**
Run Date: **03/09/2009 18:41**
File ID: **16618152**

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	201		5.00	1.00
ethene	74-85-1	3.27	J	5.00	1.00
ethane	74-84-0		U	5.00	1.00

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L09030095-16**
Client ID: **MW-130-030409**
Matrix: **Water**
Workgroup Number: **WG296884**
Collect Date: **03/04/2009 12:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5021**
Analytical Method: **RSK175**
Analyst: **FJB**
Dilution: **1**
Units: **ug/L**

Instrument: **HP16**
Prep Date: **03/09/2009 19:05**
Cal Date: **11/07/2008 09:27**
Run Date: **03/09/2009 19:05**
File ID: **16618154**

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	5.15		5.00	1.00
ethene	74-85-1		U	5.00	1.00
ethane	74-84-0		U	5.00	1.00

U Not detected at or above adjusted sample detection limit

2.1.2.2 QC Summary Data

Microbac Laboratories Inc.

Data Checklist

Date: 07-NOV-2008

Analyst: EAB

Analyst: NA

Method: RSK175

Instrument: HP16

Curve Workgroup: NA

Runlog ID: 25146

Analytical Workgroups: WG287221, WG287258

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

Primary Reviewer:
07-NOV-2008

EAB

Secondary Reviewer:
17-NOV-2008

Leslie Bucina

Microbac Laboratories Inc.

Data Checklist

Date: 09-MAR-2009

Analyst: FJB

Analyst: ADC

Method: RSK175

Instrument: HP16

Curve Workgroup: NA

Runlog ID: 27003

Analytical Workgroups: WG296884

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

Primary Reviewer:
12-MAR-2009



Secondary Reviewer:
12-MAR-2009



RSK-175 - Example Calculation for Methane**1.0 Linear Calibration Models****Option A - Average RF Method**

ICAL_x	ICAL_r	RF
1.67	19901	11917
6.67	69174	10371
16.7	176923	10594
66.7	685135	10272
133	1324853	9961
300	2845104	9484
Average RF:		10433

Where:

ICAL_x = the ICAL concentration

ICAL_r = the ICAL response (area)

RF = calibration factor = ICAL_r / ICAL_x

Option B - Agilent Linear Regression Constant

ICAL_x	ICAL_r	[ICAL_r]^2	[ICAL-x][ICAL-r]
1.67	19901	396049801	33235
6.67	69174	4785042276	461391
16.7	176923	31301747929	2954614
66.7	685135	4.6941E+11	45698505
133	1324853	1.75524E+12	176205449
300	2845104	8.09462E+12	853531200
Summation:		1.03557E+13	1078884393

Agilent Linear Regression Constant : **9598.567853**
 (1.03557E+13)/1078884393)

2.0 Calculate the concentration in extract, Cx

Where:

y = area response of methane from quant report

a = average RF (or Agilent regression constant)

Cx = y/a

1157414
10433.00
110.9377935

3.0 Calculate the concentration in sample**Cs = Cx (MW/Tf) (HS/S) (DF)**

Where:

Cx = Concentration in extract

MW = molecular weight of analyte

TF = temperature factor = (22.4)(313/273)

HS = headspace volume

S = sample volume remaining after headspace removal

DF = dilution factor

Cs = calculated sample concentration

110.9377935 umol/mol
16.04 ug/umol
25.68 L/mol
0.015 L
0.00547 L
2
380.034301 ug/L

RSK-175 - Example Calculation for Carbon DioxideICAL Plot - Quadratic Regression ($y = Ax^2 + Bx + C$)

$$Ax^2 + Bx + (C - y) = 0$$

Step 1 - Calculate the concentration in extract, CxData from quadratic regression plot:

Value of A from plot:	0.916
Value of B from plot:	1540
Value of C from plot:	0
Response for methane from quantitation report (y):	8763828
Value of C - y	-8763828

Solving for Cx using the quadratic formula:

Root 1 - Computed Cx1:	2364.716284 umol/mol
Root 2 - Computed Cx2:	-4045.938991

Step 2 - Calculate the concentration in sample

$$Cs = Cx (MW/Tf) (HS/S) (DF)$$

Where:

Cx = Concentration in extract :	2364.716284 umol/mol
MW = molecular weight of analyte:	44.0 ug/umol
TF = temperature factor = $(22.4)(313/273)$:	25.68 L/mol
HS = initial headspace volume (extraction log):	0.015 L
S = final volume (extraction log):	0.00547 L
DF = dilution factor:	10
Cs = calculated sample concentration:	111106.798 ug/L

Other Notes:

Temperature of headspace = 40 C = 313 K

Analyte	MW (g/mol)
Methane	16.04
Ethane	30.07
Ethene	28.05
Propane	44.1
Carbon Dioxide	44.0

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HP16 Dataset: 110708
 Analyst1: EAB Analyst2: NA
 Method: RSK175 SOP: RSK01 Rev: 7
 Method: 5021 SOP: RSK01 Rev: 7

Maintenance Log ID: 26530

Internal Standard: NA Surrogate Standard: NA
 CCV: STD29606 LCS: STD29606 MS/MSD: STD29606
 Column 1 ID: RTQPLOT Column 2 ID: RTQPLOT
 Workgroups: WG287221, WG287258

Comments: CURVE; THEN NO REANALYSIS REQUIRED

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16G16513	warm up blank	NA	1	1		11/07/08 08:10
2	16G16514	WG287221-01 1.67umol/mol STD	NA	1	1	STD29606	11/07/08 08:24
3	16G16515	WG287221-02 6.67umol/mol STD	NA	1	1	STD29606	11/07/08 08:36
4	16G16516	WG287221-03 16.67umol/mol STD	NA	1	1	STD29606	11/07/08 08:48
5	16G16517	WG287221-04 66.67umol/mol STD	NA	1	1	STD29606	11/07/08 09:01
6	16G16518	WG287221-05 133.33umol/mol STD-CCV	NA	1	1	STD29606	11/07/08 09:13
7	16G16519	WG287221-06 300umol/mol STD-CCV	NA	1	1	STD29606	11/07/08 09:27
8	16G16520	BLANK	NA	1	1		11/07/08 10:38
9	16G16521	WG287221-07 67umol/mol ALT SRCE STD	NA	1	1	STD29606	11/07/08 10:50
10	16G16522	WG287254-01 133umol/mol CCV STD	NA	1	1	STD29606	11/07/08 11:03
11	16G16523	WG287258-01 BLANK	NA	1	1		11/07/08 11:15
12	16G16524	WG287258-02 67umol/mol LCS STD	NA	1	1	STD29606	11/07/08 11:27
13	16G16525	WG287258-02 67umol/mol LCS STD	NA	1	1	STD29606	11/07/08 11:39
14	16G16526	L08110122-01 A REF	7	1	1		11/07/08 11:53
15	16G16527	L08110122-02 A MS	7	1	1	STD29606	11/07/08 12:05
16	16G16528	L08110122-03 A MSD	7	1	1	STD29606	11/07/08 12:17
17	16G16529	L08110122-04 A	7	1	1		11/07/08 12:29
18	16G16530	L08110122-05 A	7	1	1		11/07/08 12:40
19	16G16531	L08110124-01 A	7	1	1		11/07/08 12:52
20	16G16532	L08110124-02 A	7	1	1		11/07/08 13:04
21	16G16533	WG287254-02 133umol/mol CCV STD	NA	1	1	STD29606	11/07/08 13:16
22	16G16534	L08110124-03 A	<2	1	1		11/07/08 13:28
23	16G16535	L08110124-04 A	7	1	1		11/07/08 13:39
24	16G16536	WG287254-03 133umol/mol CCV STD	NA	1	1	STD29606	11/07/08 13:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
12	X			
File ID: 16G16524				
ACETYLENE HIGH				

Approved: November 17, 2008

Page: 1

Leslie Bucina



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HP16 Dataset: 030909
 Analyst1: FJB Analyst2: ADC
 Method: RSK175 SOP: RSK01 Rev: 10
 Method: 5021 SOP: RSK01 Rev: 10

Maintenance Log ID: 27945

Internal Standard: NA Surrogate Standard: NA
 CCV: STD29606 LCS: STD29606 MS/MSD: NA
 Column 1 ID: RTQPLOT Column 2 ID: RTQPLOT
 Workgroups: WG296884

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16G18142	WG296883-01 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 15:46
2	16G18143	WG296883-01 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 16:22
3	16G18144	WG296884-01 BLANK	NA	1	1		03/09/09 16:35
4	16G18145	WG296884-02 67umol/mol LCS	NA	1	1	STD29606	03/09/09 16:47
5	16G18146	L09030083-01 A REF	7	1	1		03/09/09 17:27
6	16G18147	L09030083-03 A MS	7	1	1	STD29606	03/09/09 17:39
7	16G18148	L09030083-05 A MSD	7	1	1	STD29606	03/09/09 17:51
8	16G18149	L09030083-07 A	7	1	1		03/09/09 18:04
9	16G18150	L09030083-09 A	7	1	1		03/09/09 18:16
10	16G18151	L09030095-01 A	7	1	1		03/09/09 18:28
11	16G18152	L09030095-14 A	7	1	1		03/09/09 18:41
12	16G18153	WG296883-02 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 18:53
13	16G18154	L09030095-16 A	7	1	1		03/09/09 19:05
14	16G18155	L09030153-01 A	7	1	1		03/09/09 19:17
15	16G18156	L09030153-02 A	7	1	1		03/09/09 19:29
16	16G18157	L09030165-01 A	7	1	1		03/09/09 19:42
17	16G18158	L09030165-02 A	7	1	1		03/09/09 19:54
18	16G18159	L09030165-03 A	7	1	1		03/09/09 20:06
19	16G18160	L09030165-04 A	7	1	1		03/09/09 20:19
20	16G18161	L09030165-06 A	7	1	1		03/09/09 20:31
21	16G18162	L09030165-07 A	7	1	1		03/09/09 20:43
22	16G18163	L09030165-08 A	7	1	1		03/09/09 20:55
23	16G18164	WG296883-03 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 21:08
24	16G18165	L09030127-01 A	7	1	1		03/09/09 21:20
25	16G18166	L09030127-02 A	7	1	1		03/09/09 21:32
26	16G18167	L09030127-03 A	7	1	1		03/09/09 21:44
27	16G18168	WG296883-04 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 21:57

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 16G18142				
CCV failed high, reanalyzed with compliant results.				

Approved: March 12, 2009

Page: 1

Handwritten signature



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HP16 Dataset: 030909
Analyst1: FJB Analyst2: ADC
Method: RSK175 SOP: RSK01 Rev: 10
Method: 5021 SOP: RSK01 Rev: 10

Maintenance Log ID: 27945

Internal Standard: NA Surrogate Standard: NA
CCV: STD29606 LCS: STD29606 MS/MSD: NA
Column 1 ID: RTQPLOT Column 2 ID: RTQPLOT
Workgroups: WG296884

Comments: Comments

Seq.	Rerun	Dil.	Reason	Analytes
8	X	5	Over Calibration Range	CH4, CO2
File ID: 16G18149				
9	X	5	Over Calibration Range	CO2
File ID: 16G18150				

Approved: March 12, 2009

Page: 2



Analytical Method: RSK175

AAB#: WG296884

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW01-030409	03/04/09	03/05/09	03/09/09	14	5.30	03/09/09	14	5.30	
17WW17-030409	03/04/09	03/05/09	03/09/09	14	5.29	03/09/09	14	5.29	
MW-130-030409	03/04/09	03/05/09	03/09/09	14	5.27	03/09/09	14	5.27	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030095
Blank File ID: 16G18144
Prep Date: 03/09/09 16:35
Analyzed Date: 03/09/09 16:35
Analyst: FJB

Work Group: WG296884
Blank Sample ID: WG296884-01
Instrument ID: HP16
Method: RSK175

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296884-02	16G18145	03/09/09 16:47	01
17WW01-030409	L09030095-01	16G18151	03/09/09 18:28	01
17WW17-030409	L09030095-14	16G18152	03/09/09 18:41	01
MW-130-030409	L09030095-16	16G18154	03/09/09 19:05	01

Report Name: BLANK_SUMMARY
PDF File ID: 1341380
Report generated 03/12/2009 14:14



Login Number: L09030095 Prep Date: 03/09/09 16:35 Sample ID: WG296884-01
Instrument ID: HP16 Run Date: 03/09/09 16:35 Prep Method: 5021
File ID: 16G18144 Analyst: FJB Method: RSK175
Workgroup (AAB#): WG296884 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HP16 - 07-NOV-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
methane	1.00	5.00	1.00	1	U
ethene	1.00	5.00	1.00	1	U
ethane	1.00	5.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1341381
12-MAR-2009 14:14



Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296884-02
Instrument ID: HP16 Run Time: 16:47 Prep Method: 5021
File ID: 16G18145 Analyst: FJB Method: RSK175
Workgroup (AAB#): WG296884 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD29606 Cal ID: HP16 - 07-NOV-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
methane	114	101	88.0	56 - 140	
ethene	200	181	90.5	56 - 140	
ethane	214	194	90.7	56 - 137	

LCS - Modified 03/06/2008
PDF File ID: 1341382
Report generated: 03/12/2009 14:22



Loginnum: L09030095 Cal ID: HP16 - Worknum: WG296884
Instrument ID: HP16 Contract #: DACA56-94-D-0020 Method: RSK175
Parent ID: WG296884-03 File ID: 16G18146 Dil: 1 Matrix: WATER
Sample ID: WG296884-04 MS File ID: 16G18147 Dil: 1 Units: ug/L
Sample ID: WG296884-05 MSD File ID: 16G18148 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
ethane	ND	214	198	92.8	214	191	89.3	3.85	56 - 137	40	
ethene	ND	200	186	93.3	200	181	90.6	2.94	56 - 140	40	
methane	328	114	607	245	114	543	188	11.2	56 - 140	40	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Login Number: L09030095
 Analytical Method: RSK175
 ICAL Workgroup: WG287221

Instrument ID: HP16
 Initial Calibration Date: 07-NOV-08 09:27
 Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
ethane		18600	4.55		
ethene		16990	4.97		
methane		10430	7.92		

R = Correlation coefficient; 0.995 minimum
 R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

Login Number: L09030095
Analytical Method: RSK175

Instrument ID: HP16
Initial Calibration Date: 07-NOV-08 09:27
Column ID: F

Analyte	WG287221-01			WG287221-02			WG287221-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
ethane	1.67	33015.0000	19770	6.67	122720.000	18400	16.7	320105.000	19200
ethene	1.67	30227.0000	18100	6.67	112610.000	16880	16.7	295286.000	17710
methane	1.67	19901.0000	11920	6.67	69174.0000	10370	16.7	176923.000	10610

INT_CAL - Modified 03/06/2008
PDF File ID: 1341383
Report generated 03/12/2009 14:14



Login Number: L09030095
Analytical Method: RSK175

Instrument ID: HP16
Initial Calibration Date: 07-NOV-08 09:27
Column ID: F

Analyte	WG287221-04			WG287221-05			WG287221-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
ethane	66.7	1250432.00	18760	133	2421985.00	18170	300	5200075.00	17330
ethene	66.7	1134818.00	17020	133	2195806.00	16470	300	4727255.00	15760
methane	66.7	685135.000	10280	133	1324853.00	9937	300	2845104.00	9484

INT_CAL - Modified 03/06/2008
PDF File ID: 1341383
Report generated 03/12/2009 14:14



Login Number: L09030095 Run Date: 11/07/2008 Sample ID: WG287221-07
Instrument ID: HP16 Run Time: 10:50 Method: RSK175
File ID: 16G16521 Analyst: EAB QC Key: STD
ICal Workgroup: WG287221 Cal ID: HP16 - 07-NOV-08

Analyte		Expected	Found	Units	RF	%D	UCL	Q
methane		114	105	ug/L	9640	7.60	30	
ethene		200	191	ug/L	16300	4.30	30	
ethane		214	203	ug/L	17700	5.00	30	

* Exceeds %D Limit

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296883-01
Instrument ID: HP16 Run Time: 16:22 Method: RSK175
File ID: 16G18143 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	195	ug/L	8930	14.4	25	
ethene		399	358	ug/L	15200	10.3	25	
ethane		428	377	ug/L	16400	11.9	25	

* Exceeds %D Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296883-02
Instrument ID: HP16 Run Time: 18:53 Method: RSK175
File ID: 16G18153 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	196	ug/L	8970	14.0	25	
ethene		399	349	ug/L	14800	12.7	25	
ethane		428	375	ug/L	16300	12.3	25	

* Exceeds %D Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296883-03
Instrument ID: HP16 Run Time: 21:08 Method: RSK175
File ID: 16G18164 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	185	ug/L	8450	19.0	25	
ethene		399	325	ug/L	13800	18.7	25	
ethane		428	350	ug/L	15200	18.2	25	

* Exceeds %D Criteria

2.2 Metals Data

2.2.1 Metals ICP-MS Data

2.2.1.1 Summary Data

LABORATORY REPORT**L09030095****00090582****03/12/09 15:26****Submitted By**

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	6020	1	05-MAR-09
17WW04-030209	L09030095-02	6020	1	05-MAR-09
17WW05-022509	L09030095-03	6020	1	05-MAR-09
17WW07-022509	L09030095-04	6020	1	05-MAR-09
17WW09-022609	L09030095-06	6020	1	05-MAR-09
17WW11-022609	L09030095-08	6020	50	05-MAR-09
17WW12-022609	L09030095-09	6020	1	05-MAR-09
17WW13-030309	L09030095-10	6020	1	05-MAR-09
17WW14-022509	L09030095-11	6020	1	05-MAR-09
MW-130-030409	L09030095-16	6020	1	05-MAR-09
MW-18-030309	L09030095-20	6020	1	05-MAR-09



Report Number: **L09030095**Report Date : **March 12, 2009****00090583**

Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **03/04/2009 11:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 19:19**
File ID: **EL.030909.191912**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009**

00090584

Sample Number: **L09030095-02**
Client ID: **17WW04-030209**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **03/02/2009 14:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 19:25**
File ID: **EL.030909.192513**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Antimony, Total	7440-36-0		U	0.00100	0.000250
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009****00090585**

Sample Number: **L09030095-03**
Client ID: **17WW05-022509**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **02/25/2009 14:26**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 19:31**
File ID: **EL.030909.193115**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009****00090586**

Sample Number: **L09030095-04**
Client ID: **17WW07-022509**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **02/25/2009 10:44**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 19:37**
File ID: **EL.030909.193716**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-06**
Client ID: **17W09-022609**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **02/26/2009 14:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 19:43**
File ID: **EL.030909.194319**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Antimony, Total	7440-36-0		U	0.00100	0.000250
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-08**
Client ID: **17WW11-022609**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **02/26/2009 16:11**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **50**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/10/2009 11:25**
Run Date: **03/10/2009 13:54**
File ID: **EL.031009.135447**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Nickel, Total	7440-02-0	2.84		0.200	0.0500

Report Number: **L09030095**Report Date : **March 12, 2009****00090589**

Sample Number: **L09030095-09**
Client ID: **17WW12-022609**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **02/26/2009 15:58**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 19:55**
File ID: **EL.030909.195524**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-10**
Client ID: **17WW13-030309**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **03/03/2009 10:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 20:01**
File ID: **EL.030909.200128**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Antimony, Total	7440-36-0		U	0.00100	0.000250
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009****00090591**

Sample Number: **L09030095-11**
Client ID: **17ww14-022509**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **02/25/2009 14:23**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 20:20**
File ID: **EL.030909.202034**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009****00090592**

Sample Number: **L09030095-16**
Client ID: **MW-130-030409**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **03/04/2009 12:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/10/2009 11:25**
Run Date: **03/10/2009 14:00**
File ID: **EL.031009.140051**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Arsenic, Total	7440-38-2	0.00427		0.00100	0.000250

Report Number: **L09030095**Report Date : **March 12, 2009****00090593**

Sample Number: **L09030095-20**
Client ID: **MW-18-030309**
Matrix: **Water**
Workgroup Number: **WG296896**
Collect Date: **03/03/2009 15:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/06/2009 09:31**
Cal Date: **03/09/2009 14:02**
Run Date: **03/09/2009 18:11**
File ID: **EL.030909.181140**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.000200	0.0000500

U Not detected at or above adjusted sample detection limit

2.2.1.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer ELAN 6100

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer ELAN ICP/MS

STANDARDS KEY

QC Std 1 - ICV

QC Std 2 - ICB

QC Std 3 - CRI - Soil

QC Std 4 - CRI - Water

QC Std 5 - ICSA

QC Std 6 - ICSAB

QC Std 7 - CCV

QC Std 8 - CCB

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.0004	0.05	0.1
Sb	10	0	0.0004	0.05	0.1
As	10	0	0.0004	0.05	0.1
Ba	10	0	0.0004	0.05	0.1
Be	10	0	0.0004	0.05	0.1
Ca	1000	0	0.04	5	10
Cd	10	0	0.0004	0.05	0.1
Cr	10	0	0.0004	0.05	0.1
Co	10	0	0.0004	0.05	0.1
Cu	10	0	0.0004	0.05	0.1
Fe	1000	0	0.04	5	10
Pb	10	0	0.0004	0.05	0.1
Mg	1000	0	0.04	5	10
Mn	10	0	0.0004	0.05	0.1
Ni	10	0	0.0004	0.05	0.1
K	1000	0	0.04	5	10
Se	10	0	0.0004	0.05	0.1
Ag	10	0	0.0004	0.05	0.1
Na	1000	0	0.04	5	10
Tl	10	0	0.0004	0.05	0.1
V	10	0	0.0004	0.05	0.1
Zn	10	0	0.0004	0.05	0.1

Workgroup: WG296694
Analyst: VC
Spike Analyst: VC
Run Date: 03/06/2009 09:31
Method: 3015

SOP: ME407 Revision 10
Spike Solution: STD30482
Spike Witness: REK
Digest tubes Lot #: COA13696
HNO3 Lot #: COA13758

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG296694-02	BLANK	1	40 mL	100 mL	204.45 g	204.441 g		
2	WG296624-01	FBLK	18	40 mL	100 mL	206.096 g	206.077 g		
3	WG296694-03	LCS	1	40 mL	100 mL	206.127 g	206.116 g	.25 mL	
4	L09030086-01	SAMP	18	40 mL	100 mL	205.626 g	205.601 g		03/12/09
5	L09030086-02	SAMP	18	40 mL	100 mL	207.913 g	207.887 g		03/12/09
6	L09030086-04	SAMP	18	40 mL	100 mL	208.628 g	208.605 g		03/12/09
7	L09030086-06	SAMP	18	40 mL	100 mL	205.842 g	205.812 g		03/12/09
8	L09030089-01	SAMP	1	40 mL	100 mL	205.971 g	205.921 g		03/16/09
9	L09030089-02	SAMP	1	40 mL	100 mL	207.058 g	207.01 g		03/16/09
10	L09030089-03	SAMP	1	40 mL	100 mL	205.882 g	205.855 g		03/16/09
11	L09030089-04	SAMP	1	40 mL	100 mL	208.954 g	208.935 g		03/16/09
12	L09030095-01	SAMP	1	40 mL	100 mL	206.027 g	206.005 g		03/12/09
13	L09030095-02	SAMP	1	40 mL	100 mL	205.853 g	205.824 g		03/12/09
14	L09030095-03	SAMP	1	40 mL	100 mL	205.578 g	205.546 g		03/12/09
15	L09030095-04	SAMP	1	40 mL	100 mL	205.298 g	205.276 g		03/12/09
16	L09030095-06	SAMP	1	40 mL	100 mL	205.974 g	205.948 g		03/12/09
17	L09030095-08	SAMP	1	40 mL	100 mL	206.594 g	206.576 g		03/12/09
18	L09030095-09	SAMP	1	40 mL	100 mL	207.412 g	207.402 g		03/12/09
19	L09030095-10	SAMP	1	40 mL	100 mL	206.321 g	206.307 g		03/12/09
20	L09030095-11	SAMP	1	40 mL	100 mL	207.136 g	207.118 g		03/12/09
21	L09030095-16	SAMP	1	40 mL	100 mL	206.205 g	206.191 g		03/12/09
22	WG296694-01	REF	1	40 mL	100 mL	209.254 g	209.245 g		
23	L09030095-20	SAMP	1	40 mL	100 mL	209.254 g	209.245 g		03/12/09
24	WG296694-04	MS	1	40 mL	100 mL	206.681 g	206.678 g	.25 mL	
25	WG296694-05	MSD	1	40 mL	100 mL	206.646 g	206.638 g	.25 mL	

Analyst: Vicki Collier

Reviewer: REK

Microbac Laboratories Inc.
Instrument Run Log

Instrument: ELAN-ICP Dataset: 030909C.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 27903

Calibration Std: STD31440 ICV/CCV Std: STD31654 Post Spike: STD27580
 ICSA: STD31158 ICSAB: STD31157

Workgroups: 296845,296896

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	EL.030909.133922	Blank	Blank		1		03/09/09 13:39
2	EL.030909.134502	WG296936-01	Calibration Point		1		03/09/09 13:45
3	EL.030909.135043	WG296936-02	Calibration Point		1		03/09/09 13:50
4	EL.030909.135624	WG296936-03	Calibration Point		1		03/09/09 13:56
5	EL.030909.140207	WG296936-04	Calibration Point		1		03/09/09 14:02
6	EL.030909.140749	WG296936-05	Initial Calibration Verification		1		03/09/09 14:07
7	EL.030909.141421	WG296936-06	Initial Calib Blank		1		03/09/09 14:14
8	EL.030909.142054	WG296936-07	CRQL Check Solid		1		03/09/09 14:20
9	EL.030909.142730	WG296936-08	CRQL Check Water		1		03/09/09 14:27
10	EL.030909.143406	WG296936-09	Interference Check		1		03/09/09 14:34
11	EL.030909.144040	WG296936-10	Interference Check		1		03/09/09 14:40
12	EL.030909.144714	WG296936-11	CCV		1		03/09/09 14:47
13	EL.030909.145345	WG296936-12	CCB		1		03/09/09 14:53
14	EL.030909.145956	WG296795-02	Method/Prep Blank	.5/200	1		03/09/09 14:59
15	EL.030909.150556	WG296795-03	Laboratory Control S	.5/200	1		03/09/09 15:05
16	EL.030909.151157	WG296795-01	Reference Sample		1	L09030164-04	03/09/09 15:11
17	EL.030909.151758	WG296795-04	Matrix Spike	.532/200	1	L09030164-04	03/09/09 15:17
18	EL.030909.152400	WG296795-05	Matrix Spike Duplica	.531/200	1	L09030164-04	03/09/09 15:24
19	EL.030909.153001	L09030164-01	SCF-WS1-030509	.537/200	1		03/09/09 15:30
20	EL.030909.153604	L09030164-02	SCF-WS2-030509	.513/200	1		03/09/09 15:36
21	EL.030909.154206	L09030164-03	SCF-WS3-030509	.514/200	1		03/09/09 15:42
22	EL.030909.154809	WG296845-01	Post Digestion Spike		1	L09030164-03	03/09/09 15:48
23	EL.030909.155412	WG296845-02	Serial Dilution		5	L09030164-03	03/09/09 15:54
24	EL.030909.160036	WG296936-13	CCV		1		03/09/09 16:00
25	EL.030909.160707	WG296936-14	CCB		1		03/09/09 16:07
26	EL.030909.161339	WG296936-15	Interference Check		1		03/09/09 16:13
27	EL.030909.163218	WG296936-16	Interference Check		1		03/09/09 16:32
28	EL.030909.163852	WG296936-17	CCV		1		03/09/09 16:38
29	EL.030909.164523	WG296936-18	CCB		1		03/09/09 16:45
30	EL.030909.165213	L09030126-01	BSA0005	.502/200	1		03/09/09 16:52
31	EL.030909.165817	L09030126-02	BSA0006	.5/200	1		03/09/09 16:58
32	EL.030909.170420	WG296795-01	Reference Sample		100	L09030164-04	03/09/09 17:04
33	EL.030909.171021	WG296795-04	Matrix Spike	.532/200	100	L09030164-04	03/09/09 17:10
34	EL.030909.171622	WG296795-05	Matrix Spike Duplica	.531/200	100	L09030164-04	03/09/09 17:16
35	EL.030909.172224	L09030164-03	SCF-WS3-030509	.514/200	100		03/09/09 17:22
36	EL.030909.172827	WG296845-01	Post Digestion Spike		100	L09030164-03	03/09/09 17:28
37	EL.030909.173431	WG296845-02	Serial Dilution		500	L09030164-03	03/09/09 17:34

Page: 1 Approved: March 10, 2009

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 030909C.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 27903

Calibration Std: STD31440 ICV/CCV Std: STD31654 Post Spike: STD27580
 ICSA: STD31158 ICSAB: STD31157

Workgroups: 296845,296896

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	EL.030909.174054	WG296936-19	CCV		1		03/09/09 17:40
39	EL.030909.174726	WG296936-20	CCB		1		03/09/09 17:47
40	EL.030909.175336	WG296694-02	Method/Prep Blank	40/100	1		03/09/09 17:53
41	EL.030909.175937	WG296624-01	Fluid Blank		1		03/09/09 17:59
42	EL.030909.180538	WG296694-03	Laboratory Control S	40/100	1		03/09/09 18:05
43	EL.030909.181140	WG296694-01	Reference Sample		1	L09030095-20	03/09/09 18:11
44	EL.030909.181742	WG296694-04	Matrix Spike	40/100	1	L09030095-20	03/09/09 18:17
45	EL.030909.182344	WG296694-05	Matrix Spike Duplica	40/100	1	L09030095-20	03/09/09 18:23
46	EL.030909.182947	L09030089-01	LH18/24-SP650-6166-GRAB	40/100	1		03/09/09 18:29
47	EL.030909.183550	L09030089-02	LH18/24-SP650-6166-GRAB	40/100	1		03/09/09 18:35
48	EL.030909.184153	WG296896-01	Post Digestion Spike		1	L09030089-02	03/09/09 18:41
49	EL.030909.184757	WG296896-02	Serial Dilution		5	L09030089-02	03/09/09 18:47
50	EL.030909.185421	WG296936-21	CCV		1		03/09/09 18:54
51	EL.030909.190052	WG296936-22	CCB		1		03/09/09 19:00
52	EL.030909.190704	L09030089-03	LH18/24-SP650-6166-COMP	40/100	1		03/09/09 19:07
53	EL.030909.191309	L09030089-04	LH18/24-SP650-6166-COMP	40/100	1		03/09/09 19:13
54	EL.030909.191912	L09030095-01	17WW01-030409	40/100	1		03/09/09 19:19
55	EL.030909.192513	L09030095-02	17WW04-030209	40/100	1		03/09/09 19:25
56	EL.030909.193115	L09030095-03	17WW05-022509	40/100	1		03/09/09 19:31
57	EL.030909.193716	L09030095-04	17WW07-022509	40/100	1		03/09/09 19:37
58	EL.030909.194319	L09030095-06	17WW09-022609	40/100	1		03/09/09 19:43
59	EL.030909.194921	L09030095-08	17WW11-022609		1		03/09/09 19:49
60	EL.030909.195524	L09030095-09	17WW12-022609	40/100	1		03/09/09 19:55
61	EL.030909.200128	L09030095-10	17WW13-030309	40/100	1		03/09/09 20:01
62	EL.030909.200751	WG296936-23	CCV		1		03/09/09 20:07
63	EL.030909.201423	WG296936-24	CCB		1		03/09/09 20:14
64	EL.030909.202034	L09030095-11	17WW14-022509	40/100	1		03/09/09 20:20
65	EL.030909.202638	L09030095-13	17WW16-022609		1		03/09/09 20:26
66	EL.030909.203243	L09030086-01	AV-NCB-PE-UNK-35-C3-030		1		03/09/09 20:32
67	EL.030909.203847	L09030086-02	AV-NCB-AS-UNK-148-C1-03		1		03/09/09 20:38
68	EL.030909.204451	L09030086-04	AV-NCB-PE-ACI-39-C2-0304	40/100	1		03/09/09 20:44
69	EL.030909.205052	L09030086-06	AV-NCB-AS-ACI-9-030409	40/100	1		03/09/09 20:50
70	EL.030909.205715	WG296936-25	CCV		1		03/09/09 20:57
71	EL.030909.210346	WG296936-26	CCB		1		03/09/09 21:03

Maren Berry



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 031009A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 27920

Calibration Std: STD31440 ICV/CCV Std: STD31654 Post Spike: STD27580
 ICSA: STD31158 ICSAB: STD31157

Workgroups: 296943,296896,296989

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	EL.031009.110242	Blank	Blank		1		03/10/09 11:02
2	EL.031009.110822	WG297006-01	Calibration Point		1		03/10/09 11:08
3	EL.031009.111403	WG297006-02	Calibration Point		1		03/10/09 11:14
4	EL.031009.111944	WG297006-03	Calibration Point		1		03/10/09 11:19
5	EL.031009.112526	WG297006-04	Calibration Point		1		03/10/09 11:25
6	EL.031009.113109	WG297006-05	Initial Calibration Verification		1		03/10/09 11:31
7	EL.031009.113741	WG297006-06	Initial Calib Blank		1		03/10/09 11:37
8	EL.031009.114414	WG297006-07	CRQL Check Solid		1		03/10/09 11:44
9	EL.031009.115050	WG297006-08	CRQL Check Water		1		03/10/09 11:50
10	EL.031009.115725	WG297006-09	Interference Check		1		03/10/09 11:57
11	EL.031009.120359	WG297006-10	Interference Check		1		03/10/09 12:03
12	EL.031009.121033	WG297006-11	CCV		1		03/10/09 12:10
13	EL.031009.121705	WG297006-12	CCB		1		03/10/09 12:17
14	EL.031009.122315	WG296914-03	Method/Prep Blank	40/100	1		03/10/09 12:23
15	EL.031009.122916	WG296914-04	Laboratory Control S	40/100	1		03/10/09 12:29
16	EL.031009.123516	WG296914-01	Reference Sample		5	L09030127-01	03/10/09 12:35
17	EL.031009.124118	WG296914-05	Matrix Spike	40/100	5	L09030127-01	03/10/09 12:41
18	EL.031009.124719	WG296914-06	Matrix Spike Duplica	40/100	5	L09030127-01	03/10/09 12:47
19	EL.031009.125321	L09030127-02	17WW03-030509	40/100	5		03/10/09 12:53
20	EL.031009.125923	L09030127-03	17WW06-030509	40/100	5		03/10/09 12:59
21	EL.031009.130526	WG296943-01	Post Digestion Spike		5	L09030127-03	03/10/09 13:05
22	EL.031009.131129	WG296943-02	Serial Dilution		25	L09030127-03	03/10/09 13:11
23	EL.031009.131752	WG297006-13	CCV		1		03/10/09 13:17
24	EL.031009.132424	WG297006-14	CCB		1		03/10/09 13:24
25	EL.031009.133035	L09030169-01	AV-NCB-EB-1-030609	40/100	1		03/10/09 13:30
26	EL.031009.133639	L09030179-01	EAST OF WALL	40/100	1	WG296914-02	03/10/09 13:36
27	EL.031009.134243	WG296914-07	Duplicate	40/100	1	L09030179-01	03/10/09 13:42
28	EL.031009.134845	L09030179-02	WEST OF WALL	40/100	1		03/10/09 13:48
29	EL.031009.135447	L09030095-08	17WW11-022609	40/100	50		03/10/09 13:54
30	EL.031009.140051	L09030095-16	MW-130-030409	40/100	1		03/10/09 14:00
31	EL.031009.140655	L09030086-01	AV-NCB-PE-UNK-35-C3-030	40/100	1		03/10/09 14:06
32	EL.031009.141300	L09030086-02	AV-NCB-AS-UNK-148-C1-03	40/100	1		03/10/09 14:13
33	EL.031009.141924	WG297006-15	CCV		1		03/10/09 14:19
34	EL.031009.142556	WG297006-16	CCB		1		03/10/09 14:25
35	EL.031009.144046	WG296945-01	Method/Prep Blank	40/100	1		03/10/09 14:40
36	EL.031009.144647	WG296945-02	Laboratory Control S	40/100	1		03/10/09 14:46
37	EL.031009.145249	WG296945-03	Laboratory Control S	40/100	1		03/10/09 14:52

Page: 1 Approved: March 11, 2009

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 031009A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 27920

Calibration Std: STD31440 ICV/CCV Std: STD31654 Post Spike: STD27580
 ICSA: STD31158 ICSAB: STD31157
 Workgroups: 296943,296896,296989

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	EL.031009.145851	WG296854-01	Fluid Blank		1		03/10/09 14:58
39	EL.031009.150453	L09030169-03	AV-NCB-PE-UNK-38-C1-030	40/100	1		03/10/09 15:04
40	EL.031009.151056	L09030169-05	AV-NCB-AS-UNK-152-03060	40/100	1		03/10/09 15:10
41	EL.031009.151659	L09030169-07	AV-NCB-PE-UNK-38-C2-030	40/100	1		03/10/09 15:16
42	EL.031009.152303	L09030169-10	AV-NCB-AS-UNK-151-03060	40/100	1		03/10/09 15:23
43	EL.031009.152906	WG296989-01	Post Digestion Spike		1	L09030169-10	03/10/09 15:29
44	EL.031009.153530	WG297006-17	CCV		1		03/10/09 15:35
45	EL.031009.154202	WG297006-18	CCB		1		03/10/09 15:42
46	EL.031009.154814	WG296989-02	Serial Dilution		5	L09030169-10	03/10/09 15:48
47	EL.031009.155437	WG297006-19	CCV		1		03/10/09 15:54
48	EL.031009.160109	WG297006-20	CCB		1		03/10/09 16:01

Maren Beery



Microbac Laboratories Inc.

Data Checklist

Date: 10-MAR-2009

Analyst: JYH

Analyst: NA

Method: 6020

Instrument: ELAN

Curve Workgroup: 297006

Runlog ID: 26971

Analytical Workgroups: 296943,296896,296989

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	X
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	127,169,179,095,086
Client Forms	X
Level X	
Level 3	127,095
Level 4	169,086
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer:

*J. J. H.*Secondary Reviewer:
11-MAR-2009*Maren Berry*

Analytical Method:6020

AAB#:WG296896

Login Number:L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW04-030209	03/02/09	03/05/09	03/06/09	180	3.80	03/09/09	180	3.41	
17WW01-030409	03/04/09	03/05/09	03/06/09	180	1.93	03/09/09	180	3.41	
17WW09-022609	02/26/09	03/05/09	03/06/09	180	7.80	03/09/09	180	3.42	
MW-130-030409	03/04/09	03/05/09	03/06/09	180	1.88	03/10/09	180	4.19	
MW-18-030309	03/03/09	03/05/09	03/06/09	180	2.74	03/09/09	180	3.36	
17WW07-022509	02/25/09	03/05/09	03/06/09	180	8.95	03/09/09	180	3.42	
17WW12-022609	02/26/09	03/05/09	03/06/09	180	7.73	03/09/09	180	3.43	
17WW05-022509	02/25/09	03/05/09	03/06/09	180	8.80	03/09/09	180	3.42	
17WW14-022509	02/25/09	03/05/09	03/06/09	180	8.80	03/09/09	180	3.45	
17WW13-030309	03/03/09	03/05/09	03/06/09	180	2.96	03/09/09	180	3.44	
17WW11-022609	02/26/09	03/05/09	03/06/09	180	7.72	03/10/09	180	4.18	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030095
 Blank File ID: EL.030909.175336
 Prep Date: 03/06/09 09:31
 Analyzed Date: 03/09/09 17:53
 Analyst: JYH

Work Group: WG296896
 Blank Sample ID: WG296694-02
 Instrument ID: ELAN-ICP
 Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296694-03	EL.030909.180538	03/09/09 18:05	01
MW-18-030309	L09030095-20	EL.030909.181140	03/09/09 18:11	01
17WW01-030409	L09030095-01	EL.030909.191912	03/09/09 19:19	01
17WW04-030209	L09030095-02	EL.030909.192513	03/09/09 19:25	01
17WW05-022509	L09030095-03	EL.030909.193115	03/09/09 19:31	01
17WW07-022509	L09030095-04	EL.030909.193716	03/09/09 19:37	01
17WW09-022609	L09030095-06	EL.030909.194319	03/09/09 19:43	01
17WW12-022609	L09030095-09	EL.030909.195524	03/09/09 19:55	01
17WW13-030309	L09030095-10	EL.030909.200128	03/09/09 20:01	01
17WW14-022509	L09030095-11	EL.030909.202034	03/09/09 20:20	01
17WW11-022609	L09030095-08	EL.031009.135447	03/10/09 13:54	DL01
MW-130-030409	L09030095-16	EL.031009.140051	03/10/09 14:00	01

Report Name: BLANK_SUMMARY
 PDF File ID: 1338649
 Report generated 03/11/2009 17:11



Login Number: L09030095 Prep Date: 03/06/09 09:31 Sample ID: WG296694-02
Instrument ID: ELAN-ICP Run Date: 03/09/09 17:53 Prep Method: 3015
File ID: EL.030909.175336 Analyst: JYH Method: 6020
Workgroup (AAB#): WG296896 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I - 09-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Arsenic, Total	0.000250	0.00100	0.000250	1	U
Nickel, Total	0.00100	0.00400	0.00100	1	U
Antimony, Total	0.000250	0.00100	0.000250	1	U
Thallium, Total	0.0000500	0.000200	0.0000500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1338650
11-MAR-2009 17:11



Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296694-03
Instrument ID: ELAN-ICP Run Time: 18:05 Prep Method: 3015
File ID: EL.030909.180538 Analyst: JYH Method: 6020
Workgroup (AAB#): WG296896 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD30482 Cal ID: ELAN-I - 09-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Arsenic, Total	0.0625	0.0651	104	80	-	120	
Nickel, Total	0.0625	0.0692	111	80	-	120	
Antimony, Total	0.0625	0.0653	105	80	-	120	
Thallium, Total	0.0625	0.0648	104	80	-	120	

LCS - Modified 03/06/2008
PDF File ID: 1338651
Report generated: 03/11/2009 17:11



Loginnum: L09030095 Cal ID: ELAN-ICP - Worknum: WG296896
 Instrument ID: ELAN-ICP Contract #: DACA56-94-D-0020 Method: 6020
 Parent ID: WG296694-01 File ID: EL.030909.181140 Dil: 1 Matrix: WATER
 Sample ID: WG296694-04 MS File ID: EL.030909.181742 Dil: 1 Units: mg/L
 Sample ID: WG296694-05 MSD File ID: EL.030909.182344 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	ND	0.0625	0.0635	102	0.0625	0.0607	97.1	4.55	75 - 125	20	
Arsenic, Total	0.00128	0.0625	0.0607	95.0	0.0625	0.0602	94.2	0.858	75 - 125	20	
Nickel, Total	0.0217	0.0625	0.0859	103	0.0625	0.0836	99.0	2.67	75 - 125	20	
Thallium, Total	ND	0.0625	0.0638	102	0.0625	0.0626	100	1.95	75 - 125	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

00090608

Login: L09030095 Worknum: WG296896
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG296896-02 File ID: EL.030909.184757 Dil: 5 Units: ug/L
Sample: L09030089-02 File ID: EL.030909.183550 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	1.17	X	1.345	F	15.00	
Nickel	3.48	X	14.7	X	322.00	
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 1338646

03/11/2009 17:10



Sample Login ID: L09030095
Instrument ID: ELAN-ICP
Post Spike ID: WG296896-01
Sample ID: L09030089-02

Worknum: WG296896
Method: 6020
File ID: EL.030909.184153 Dil: 1 Units: ug/L
File ID: EL.030909.183550 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	50.0		0	U	50	100.1	75 - 125	
ARSENIC	49.3		1.17		50	96.2	75 - 125	
NICKEL	50.3		3.48		50	93.7	75 - 125	
THALLIUM	51.2		0	U	50	102.5	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

Microbac Laboratories Inc.
Initial Calibration Summary

00090610

Login:	<u>L09030095</u>	Workgroup (AAB#):	<u>WG296896</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG296936</u>	Initial Calibration Date:	<u>09-MAR-2009 14:02</u>

	WG296936-01		WG296936-02		WG296936-03		WG296936-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	405	.4	3680	50	365000	100	715000	.999999	
ARSENIC	0	-280	.4	675	50	115000	100	220000	.999978	
NICKEL	0	59.0	.4	1340	50	161000	100	302000	.999883	
THALLIUM	0	44.0	.4	4190	50	506000	100	983000	.999992	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

00090611

Login:	<u>L09030095</u>	Workgroup (AAB#):	<u>WG296896</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG297006</u>	Initial Calibration Date:	<u>10-MAR-2009 11:25</u>

	WG297006-01		WG297006-02		WG297006-03		WG297006-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	90.3	.4	3210	50	336000	100	692000	.999795	
ARSENIC	0	-272	.4	562	50	98100	100	206000	.99944	
NICKEL	0	46.0	.4	1350	50	152000	100	294000	.999982	
THALLIUM	0	24.3	.4	3910	50	466000	100	939000	.999978	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-06
Instrument ID: ELAN-ICP Run Time: 14:14 Method: 6020
File ID: EL.030909.141421 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-ICP - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.1	.4	.1	U
NICKEL	.4	1.6	.4	U
ANTIMONY	.1	.4	.1	U
THALLIUM	.02	.08	.02	U

Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-06
Instrument ID: ELAN-ICP Run Time: 11:37 Method: 6020
File ID: EL.031009.113741 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-ICP - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.1	.4	.1	U
NICKEL	.4	1.6	.4	U
ANTIMONY	.1	.4	.1	U
THALLIUM	.02	.08	.02	U

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-12
Instrument ID: ELAN-ICP Run Time: 14:53 Method: 6020
File ID: EL.030909.145345 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-14
Instrument ID: ELAN-ICP Run Time: 16:07 Method: 6020
File ID: EL.030909.160707 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-18
Instrument ID: ELAN-ICP Run Time: 16:45 Method: 6020
File ID: EL.030909.164523 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-20
Instrument ID: ELAN-ICP Run Time: 17:47 Method: 6020
File ID: EL.030909.174726 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-22
Instrument ID: ELAN-ICP Run Time: 19:00 Method: 6020
File ID: EL.030909.190052 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-24
Instrument ID: ELAN-ICP Run Time: 20:14 Method: 6020
File ID: EL.030909.201423 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1338661
Report generated 03/11/2009 17:12



Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-26
Instrument ID: ELAN-ICP Run Time: 21:03 Method: 6020
File ID: EL.030909.210346 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1338661
Report generated 03/11/2009 17:12



Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-12
Instrument ID: ELAN-ICP Run Time: 12:17 Method: 6020
File ID: EL.031009.121705 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-14
Instrument ID: ELAN-ICP Run Time: 13:24 Method: 6020
File ID: EL.031009.132424 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1338661
Report generated 03/11/2009 17:12



Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-16
Instrument ID: ELAN-ICP Run Time: 14:25 Method: 6020
File ID: EL.031009.142556 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.100	0.400	0.100	U
Nickel	0.400	1.60	0.400	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1338661
Report generated 03/11/2009 17:12



Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-05
 Instrument ID: ELAN-ICP Run Time: 14:07 Method: 6020
 File ID: EL.030909.140749 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Arsenic	50	49.7	99.4	90 - 110	
Nickel	50	50.2	100	90 - 110	
Antimony	50	49.5	99.1	90 - 110	
Thallium	50	49.5	99.0	90 - 110	

* Exceeds LIMITS Limit

Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-05
 Instrument ID: ELAN-ICP Run Time: 11:31 Method: 6020
 File ID: EL.031009.113109 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Arsenic	50	47.4	94.9	90 - 110	
Nickel	50	49.2	98.5	90 - 110	
Antimony	50	48.4	96.7	90 - 110	
Thallium	50	48.7	97.5	90 - 110	

* Exceeds LIMITS Limit

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-11
Instrument ID: ELAN-ICP Run Time: 14:47 Method: 6020
File ID: EL.030909.144714 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic	50.0	50.7	ug/L	101	90 - 110		
Nickel	50.0	50.8	ug/L	102	90 - 110		
Antimony	50.0	50.4	ug/L	101	90 - 110		
Thallium	50.0	49.3	ug/L	98.7	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-13
Instrument ID: ELAN-ICP Run Time: 16:00 Method: 6020
File ID: EL.030909.160036 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		50.0	52.0	ug/L	104	90 - 110		
Nickel		50.0	51.2	ug/L	102	90 - 110		
Antimony		50.0	52.1	ug/L	104	90 - 110		
Thallium		50.0	53.1	ug/L	106	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-17
Instrument ID: ELAN-ICP Run Time: 16:38 Method: 6020
File ID: EL.030909.163852 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic	50.0	50.6	ug/L	101	90 - 110		
Nickel	50.0	51.4	ug/L	103	90 - 110		
Antimony	50.0	51.4	ug/L	103	90 - 110		
Thallium	50.0	50.7	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-19
Instrument ID: ELAN-ICP Run Time: 17:40 Method: 6020
File ID: EL.030909.174054 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic	50.0	47.7	ug/L	95.4	90 - 110		
Nickel	50.0	49.0	ug/L	98.0	90 - 110		
Antimony	50.0	48.2	ug/L	96.4	90 - 110		
Thallium	50.0	47.1	ug/L	94.3	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-21
Instrument ID: ELAN-ICP Run Time: 18:54 Method: 6020
File ID: EL.030909.185421 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic	50.0	51.8	ug/L	104	90 - 110		
Nickel	50.0	51.4	ug/L	103	90 - 110		
Antimony	50.0	50.5	ug/L	101	90 - 110		
Thallium	50.0	50.4	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-23
Instrument ID: ELAN-ICP Run Time: 20:07 Method: 6020
File ID: EL.030909.200751 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Arsenic	50.0	49.3	ug/L	98.7	90 - 110	
Nickel	50.0	47.7	ug/L	95.4	90 - 110	
Antimony	50.0	49.9	ug/L	99.8	90 - 110	
Thallium	50.0	49.6	ug/L	99.1	90 - 110	

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-25
Instrument ID: ELAN-ICP Run Time: 20:57 Method: 6020
File ID: EL.030909.205715 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 09-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic	50.0	50.4	ug/L	101	90 - 110		
Nickel	50.0	48.2	ug/L	96.4	90 - 110		
Antimony	50.0	49.4	ug/L	98.9	90 - 110		
Thallium	50.0	49.9	ug/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-11
Instrument ID: ELAN-ICP Run Time: 12:10 Method: 6020
File ID: EL.031009.121033 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		50.0	49.1	ug/L	98.3	90 - 110		
Nickel		50.0	50.3	ug/L	101	90 - 110		
Antimony		50.0	49.7	ug/L	99.5	90 - 110		
Thallium		50.0	50.1	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-13
Instrument ID: ELAN-ICP Run Time: 13:17 Method: 6020
File ID: EL.031009.131752 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic	50.0	48.1	ug/L	96.3	90 - 110		
Nickel	50.0	49.0	ug/L	98.0	90 - 110		
Antimony	50.0	48.6	ug/L	97.2	90 - 110		
Thallium	50.0	49.2	ug/L	98.5	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-15
Instrument ID: ELAN-ICP Run Time: 14:19 Method: 6020
File ID: EL.031009.141924 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296896 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Arsenic	50.0	48.2	ug/L	96.4	90 - 110	
Nickel	50.0	50.2	ug/L	100	90 - 110	
Antimony	50.0	47.9	ug/L	95.8	90 - 110	
Thallium	50.0	49.8	ug/L	99.5	90 - 110	

* Exceeds LIMITS Criteria

Login number: L09030095
Instrument ID: ELAN-ICP
Sol. A : WG296936-15
Sol. AB : WG296936-16

File ID: EL.030909.161339
File ID: EL.030909.163218

Workgroup (AAB#): WG296896
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	-0.0318	NS	100	98.7	98.7	
Arsenic	NS	-0.0255	NS	100	97.4	97.4	
Nickel	NS	0.677	NS	100	93.6	93.6	
Thallium	NS	-0.00400	NS	100	94.7	94.7	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login number: L09030095
Instrument ID: ELAN-ICP
Sol. A : WG297006-09
Sol. AB : WG297006-10

File ID: EL.031009.115725
File ID: EL.031009.120359

Workgroup (AAB#): WG296896
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	-0.0176	NS	100	103	103	
Arsenic	NS	0.0182	NS	100	103	103	
Nickel	NS	0.765	NS	100	95.7	95.7	
Thallium	NS	-0.0106	NS	100	98.6	98.6	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login Number: L09030095 Run Date: 03/09/2009 Sample ID: WG296936-08
Instrument ID: ELAN-ICP Run Time: 14:27 Prep Method: 3015
File ID: EL.030909.142730 Analyst: JYH Method: 6020
Workgroup (AAB#): WG296936 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-ICP - 09-MAR-2009 14:02

Analytes	Expected	Found	% Rec	Limits	Q
Thallium, Total	0.0800	0.0738	92.3	50 - 150	

CRI - Modified 03/06/2008
PDF File ID: 1338654
Report generated 03/11/2009 17:11



Login Number: L09030095 Run Date: 03/10/2009 Sample ID: WG297006-08
Instrument ID: ELAN-ICP Run Time: 11:50 Prep Method: 3015
File ID: EL.031009.115050 Analyst: JYH Method: 6020
Workgroup (AAB#): WG297006 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-ICP-10-MAR-2009 11:25

Analytes	Expected	Found	% Rec	Limits	Q
Thallium, Total	0.0800	0.0651	81.4	50 - 150	

CRI - Modified 03/06/2008
PDF File ID: 1338654
Report generated 03/11/2009 17:11



INTERNAL STANDARD REPORT

Login: L09030095 Analytical Method: 6020
 Analytical Workgroup: WG296896 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 09-MAR-2009 13:45

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L09030089-02	SAMP	09-MAR-2009 18:35	81.124	89.764	88.402	87.976
L09030095-01	SAMP	09-MAR-2009 19:19	80.951	92.032	85.864	85.84
L09030095-02	SAMP	09-MAR-2009 19:25	93.822	104.261	95.086	93.109
L09030095-03	SAMP	09-MAR-2009 19:31	85.685	96.02	89.328	89.091
L09030095-04	SAMP	09-MAR-2009 19:37	92.752	101.385	96.308	94.168
L09030095-06	SAMP	09-MAR-2009 19:43	93.933	100.324	95.624	93.705
L09030095-09	SAMP	09-MAR-2009 19:55	92.354	104.039	95.716	93.102
L09030095-10	SAMP	09-MAR-2009 20:01	84.053	97.529	88.49	87.756
L09030095-11	SAMP	09-MAR-2009 20:20	87.328	99.454	90.59	90.019
L09030095-20	SAMP	09-MAR-2009 18:11	94.61	99.438	96.807	93.372
WG296624-01	FBLK	09-MAR-2009 17:59	91.284	94.709	93.225	92.006
WG296694-01	REF	09-MAR-2009 18:11	94.61	99.438	96.807	93.372
WG296694-02	BLANK	09-MAR-2009 17:53	94.028	95.236	96.782	91.775
WG296694-03	LCS	09-MAR-2009 18:05	90.205	93.445	92.241	91.212
WG296694-04	MS	09-MAR-2009 18:17	91.733	99.465	93.437	91.725
WG296694-05	MSD	09-MAR-2009 18:23	93.037	102.962	96.647	92.381
WG296896-01	PSPK	09-MAR-2009 18:41	83.507	92.879	90.158	90.639
WG296896-02	SERIAL	09-MAR-2009 18:47	94.544	100.925	99.398	96.911
WG296936-05	ICV	09-MAR-2009 14:07	99.904	97.07	98.606	97.938
WG296936-06	ICB	09-MAR-2009 14:14	100.127	95.417	96.83	96.047
WG296936-11	CCV	09-MAR-2009 14:47	98.517	99.971	96.495	92.427
WG296936-12	CCB	09-MAR-2009 14:53	97.765	99.786	98.314	95.148
WG296936-13	CCV	09-MAR-2009 16:00	90.158	93.145	92.604	91.071
WG296936-14	CCB	09-MAR-2009 16:07	94.422	92.343	93.179	93.83
WG296936-17	CCV	09-MAR-2009 16:38	95.458	99.945	96.338	93.396
WG296936-18	CCB	09-MAR-2009 16:45	99.1	100.261	100.005	96.842
WG296936-19	CCV	09-MAR-2009 17:40	99.609	100.455	98.624	96.857
WG296936-20	CCB	09-MAR-2009 17:47	94.61	96.04	95.115	93.725
WG296936-21	CCV	09-MAR-2009 18:54	94.916	92.945	94.767	94.205
WG296936-22	CCB	09-MAR-2009 19:00	96.409	97.568	96.585	95.001
WG296936-23	CCV	09-MAR-2009 20:07	95.126	98.412	94.471	91.89
WG296936-24	CCB	09-MAR-2009 20:14	95.9	97.196	96.079	93.775
WG296936-25	CCV	09-MAR-2009 20:57	95.856	101.735	96.424	93.949
WG296936-26	CCB	09-MAR-2009 21:03	111.599	<u>126.502</u>	<u>128.296</u>	<u>122.218</u>

Acceptance criteria: 30% - 120%
 Underlined recoveries are out of range

INT_STD_ICPMS - Modified 03/05/2008
 PDF File ID: 1338655
 Report generated: 03/11/2009 17:11



INTERNAL STANDARD REPORT

Login: L09030095 Analytical Method: 6020
 Analytical Workgroup: WG296896 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 10-MAR-2009 11:08

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L09030095-08	SAMP	10-MAR-2009 13:54	90.724	95.317	88.667	86.451
L09030095-16	SAMP	10-MAR-2009 14:00	78.547	90.98	82.249	82.286
WG297006-05	ICV	10-MAR-2009 11:31	97.337	96.442	97.149	96.359
WG297006-06	ICB	10-MAR-2009 11:37	95.272	94.205	95.778	94.742
WG297006-11	CCV	10-MAR-2009 12:10	95.18	96.429	94.391	92.803
WG297006-12	CCB	10-MAR-2009 12:17	96.373	95.246	94.543	92.559
WG297006-13	CCV	10-MAR-2009 13:17	93.091	95.396	92.682	91.192
WG297006-14	CCB	10-MAR-2009 13:24	93.151	96.119	94.358	93.568
WG297006-15	CCV	10-MAR-2009 14:19	99.287	107.565	99.05	97.379
WG297006-16	CCB	10-MAR-2009 14:25	98.998	105.099	99.416	96.352

Acceptance criteria: 30% - 120%
 Underlined recoveries are out of range

INT_STD_ICPMS - Modified 03/05/2008
 PDF File ID: 1338655
 Report generated: 03/11/2009 17:11



Login Number: L09030095

Date: 01/03/2009

Instrument ID: ELAN-ICP

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

2.3 General Chemistry Data

2.3.1 Method 9056

2.3.1.1 Summary Data

LABORATORY REPORT

L09030095

00090646

03/12/09 15:26

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	300.0	10	05-MAR-09
17WW17-030409	L09030095-14	300.0	2	05-MAR-09
MW-130-030409	L09030095-16	300.0	5	05-MAR-09



Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296654**
Collect Date: **03/04/2009 11:15**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **300.0**
Analytical Method: **300.0**
Analyst: **JWR**
Dilution: **10**
Units: **mg/L**

Instrument: **IC1**
Prep Date: **03/05/2009 09:20**
Cal Date: **10/29/2008 18:09**
Run Date: **03/05/2009 15:08**
File ID: **I10305091508.23**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Nitrate	14797-55-8		U	6.00	1.00
Nitrite	14797-65-0		U	4.00	1.00
Sulfate	14808-79-8	90.0		10.0	5.00

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-14**
 Client ID: **17WW17-030409**
 Matrix: **Water**
 Workgroup Number: **WG296654**
 Collect Date: **03/04/2009 11:45**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **300.0**
 Analytical Method: **300.0**
 Analyst: **JWR**
 Dilution: **2**
 Units: **mg/L**

Instrument: **IC1**
 Prep Date: **03/05/2009 09:20**
 Cal Date: **10/29/2008 18:09**
 Run Date: **03/05/2009 15:25**
 File ID: **I10305091525.24**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Nitrate	14797-55-8		U	1.20	0.200
Nitrite	14797-65-0		U	0.800	0.200
Sulfate	14808-79-8	3.50		2.00	1.00

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-16**
Client ID: **MW-130-030409**
Matrix: **Water**
Workgroup Number: **WG296654**
Collect Date: **03/04/2009 12:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **300.0**
Analytical Method: **300.0**
Analyst: **JWR**
Dilution: **5**
Units: **mg/L**

Instrument: **IC1**
Prep Date: **03/05/2009 09:20**
Cal Date: **10/29/2008 18:09**
Run Date: **03/05/2009 15:43**
File ID: **I10305091543.25**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Nitrate	14797-55-8	1.86	J	3.00	0.500
Nitrite	14797-65-0		U	2.00	0.500
Sulfate	14808-79-8	170		5.00	2.50

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

2.3.1.2 QC Summary Data

The concentrations (ppm) of the calibration standards and the resulting area counts are used to determine the equation of a linear or quadratic plot.

The slope and y-intercept of that line are used to calculate the quantity of the analyzed unknown samples.

$\text{Amount(ppm)} = [(\text{slope})(\text{area count of unknown}) + \text{y-intercept}](\text{dilution})$

(The slope is the amt/area also identified as the CF or calibration factor)

Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 102908 HICAL 9056 IC1.SE
 Analyst1: JWR Analyst2: NA
 Method: 9056/300 SOP: IC1 Rev: 8

Maintenance Log ID: 26433

Column 1 ID: AS14A-4MM Column 2 ID: NA
 Workgroups: WG286427 (ICAL) WG286638
 Internal STD: NA Surrogate STD: NA Calibration STD: STD29498

Comments: Samples 0005-01 (MDL-Q) and 0006-01 (MDL-Q) were analyzed at two different levels of concentration each. One level is equal to the RL's for F, Cl, Br, SO4, whereas the other level is nearest to the RL's for NO2-N, NO3-N, PO4-P.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I11029081624.01	WG286427-01 STD \#1	1	1		10/29/08 16:24
2	I11029081642.02	WG286427-02 STD \#2	1	1		10/29/08 16:42
3	I11029081659.03	WG286427-03 STD \#3	1	1		10/29/08 16:59
4	I11029081717.04	WG286427-04 STD \#4	1	1		10/29/08 17:17
5	I11029081734.05	WG286427-05 STD \#5	1	1		10/29/08 17:34
6	I11029081751.06	WG286427-06 STD \#6	1	1		10/29/08 17:51
7	I11029081809.07	WG286427-07 STD \#7	1	1		10/29/08 18:09
8	I11029081826.08	WG286427-08 ALT STD	1	1		10/29/08 18:26
9	I11029081844.09	ELUENT	1	1		10/29/08 18:44
10	I11029081901.10	DI WATER	1	1		10/29/08 19:01
11	I11029081918.11	WG286646-01 ANION CCV	1	1		10/29/08 19:18
12	I11029081936.12	WG286646-02 ANION CCB	1	1		10/29/08 19:36
13	I11029081953.13	WG286638-01 ANION BLANK	1	1		10/29/08 19:53
14	I11029082011.14	WG286638-02 ANION LCS	1	1		10/29/08 20:11
15	I11029082028.15	L08100005-01 MDL (F, Cl, Br, SO4)	1	1		10/29/08 20:28
16	I11029082046.16	L08100006-01 MDL (F, Cl, Br, SO4)	1	1		10/29/08 20:46
17	I11029082103.17	L08100005-01 MDL (NO2, NO3, PO4)	1	1		10/29/08 21:03
18	I11029082120.18	L08100006-01 MDL (NO2, NO3, PO4)	1	1		10/29/08 21:20
19	I11029082138.19	Test (Level \#5) CCV	1	1		10/29/08 21:38
20	I11029082155.20	Test (Level \#5) CCV	1	1		10/29/08 21:55
21	I11029082213.21	WG286646-03 ANION CCV	1	1		10/29/08 22:13
22	I11029082230.22	WG286646-04 ANION CCB	1	1		10/29/08 22:30
23	I11029082247.23	END	1	1		10/29/08 22:47

Comments

Seq.	Rerun	Dil.	Reason	Analytes



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 030509 IC1.SEQ
 Analyst1: JWR Analyst2: NA
 Method: 9056/300 SOP: IC1 Rev: 8

Maintenance Log ID: 27874

Workgroups: WG296654 Column 1 ID: AS14A-4MM Column 2 ID: NA
 Internal STD: NA Surrogate STD: NA Calibration STD: NA

Comments: Samples 03-0095 (01, 14, 16) were analyzed at dilutions only, due to their high "pre-run" screen results for CL, which were greater than 200 ppm.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I10305090845.01	ELUENT	1	1		03/05/09 08:45
2	I10305090902.02	DI WATER	1	1		03/05/09 09:02
3	I10305090920.03	WG296656-01 ANION CCV	1	1		03/05/09 09:20
4	I10305090937.04	WG296656-02 ANION CCB	1	1		03/05/09 09:37
5	I10305090954.05	WG296654-01 ANION BLANK	1	1		03/05/09 09:54
6	I10305091012.06	WG296654-02 ANION LCS	1	1		03/05/09 10:12
7	I10305091029.07	L09030083-01 (CL,NO2,NO3,SO4) RS	1	1		03/05/09 10:29
8	I10305091047.08	WG296654-04 DUP 0083-01	1	1		03/05/09 10:47
9	I10305091104.09	L09030083-03 (CL,NO2,NO3,SO4) MS	1	1		03/05/09 11:04
10	I10305091121.10	L09030083-05 (CL,NO2,NO3,SO4) MSD	1	1		03/05/09 11:21
11	I10305091139.11	L09030083-07 (CL,NO2,NO3,SO4)	1	1		03/05/09 11:39
12	I10305091156.12	L09030083-09 (CL,NO2,NO3,SO4)	1	1		03/05/09 11:56
13	I10305091214.13	L09030083-01 RR CL 1/2	1	2		03/05/09 12:14
14	I10305091231.14	L09030083-07 RR CL 1/2	1	2		03/05/09 12:31
15	I10305091249.15	WG296656-03 ANION CCV	1	1		03/05/09 12:49
16	I10305091306.16	WG296656-04 ANION CCB	1	1		03/05/09 13:06
17	I10305091323.17	L09030083-09 RR 1/2 (NR)	1	2		03/05/09 13:23
18	I10305091341.18	L09030003-01 (SO4)	1	1		03/05/09 13:41
19	I10305091358.19	L09030003-02 (SO4) (NR)	1	1		03/05/09 13:58
20	I10305091416.20	L09030003-03 (SO4)	1	1		03/05/09 14:16
21	I10305091433.21	L09030023-08 (SO4)	1	1		03/05/09 14:33
22	I10305091450.22	L09030023-09 (SO4)	1	1		03/05/09 14:50
23	I10305091508.23	L09030095-01 (NO2, NO3, SO4) 1/10	1	10		03/05/09 15:08
24	I10305091525.24	L09030095-14 (NO2, NO3, SO4) 1/2	1	2		03/05/09 15:25
25	I10305091543.25	L09030095-16 (NO2, NO3, SO4) 1/5	1	5		03/05/09 15:43
26	I10305091600.26	DI WATER	1	1		03/05/09 16:00
27	I10305091617.27	WG296656-05 ANION CCV	1	1		03/05/09 16:17
28	I10305091635.28	WG296656-06 ANION CCB	1	1		03/05/09 16:35
29	I10305091652.29	L09030003-02 (SO4) REF	1	1		03/05/09 16:52
30	I10305091710.30	WG296654-08 DUP 0003-02	1	1		03/05/09 17:10
31	I10305091727.31	L09030114-01 (CL,NO2,NO3,SO4)	1	1		03/05/09 17:27
32	I10305091745.32	L09030114-01 RR CL 1/4	1	4		03/05/09 17:45
33	I10305091802.33	L09030114-03 (CL,NO2,NO3,SO4)	1	1		03/05/09 18:02
34	I10305091819.34	L09030114-03 RR CL 1/4	1	4		03/05/09 18:19
35	I10305091837.35	L09030114-05 (CL,NO2,NO3,SO4)	1	1		03/05/09 18:37



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 030509 IC1.SEQ
Analyst1: JWR Analyst2: NA
Method: 9056/300 SOP: IC1 Rev: 8

Maintenance Log ID: 27874

Column 1 ID: AS14A-4MM Column 2 ID: NA
Workgroups: WG296654
Internal STD: NA Surrogate STD: NA NA

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
36	I10305091854.36	WG296656-07 ANION CCV	1	1		03/05/09 18:54
37	I10305091912.37	WG296656-08 ANION CCB	1	1		03/05/09 19:12
38	I10305091929.38	END	1	1		03/05/09 19:29

Comments

Seq.	Rerun	Dil.	Reason	Analytes



Microbac Laboratories Inc.

Data Checklist

Date: 29-OCT-2008

Analyst: JWR

Analyst: NA

Method: 300/9056

Instrument: IC1

Curve Workgroup: WG286427

Runlog ID: 25025

Analytical Workgroups: 10-0005 (MDL-Q) 10-0006 (MDL-Q)

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	NA
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
31-OCT-2008

John Richards

Secondary Reviewer:
03-NOV-2008

Michael Cohen

Microbac Laboratories Inc.

Data Checklist

Date: 05-MAR-2009

Analyst: JWR

Analyst: NA

Method: 300/9056

Instrument: IC1

Curve Workgroup: NA

Runlog ID: 26902

Analytical Workgroups: 03-0003, 0023, 0083, 0095, 0114

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
06-MAR-2009

John Richards

Secondary Reviewer:
06-MAR-2009

Michael Cohen

Analytical Method: 300.0

AAB#: WG296654

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW01-030409	03/04/09	03/05/09	03/05/09	28	0.920	03/05/09	28	0.242	
MW-130-030409	03/04/09	03/05/09	03/05/09	28	0.868	03/05/09	28	0.266	
17WW17-030409	03/04/09	03/05/09	03/05/09	28	0.899	03/05/09	28	0.253	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030095
 Blank File ID: I10305090954.05
 Prep Date: 03/05/09 09:20
 Analyzed Date: 03/05/09 09:54
 Analyst: JWR

Work Group: WG296654
 Blank Sample ID: WG296654-01
 Instrument ID: IC1
 Method: 300.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296654-02	I10305091012.06	03/05/09 10:12	01
DUP	WG296654-04	I10305091047.08	03/05/09 10:47	01
17WW01-030409	L09030095-01	I10305091508.23	03/05/09 15:08	DL01
17WW17-030409	L09030095-14	I10305091525.24	03/05/09 15:25	DL01
MW-130-030409	L09030095-16	I10305091543.25	03/05/09 15:43	DL01
DUP	WG296654-08	I10305091710.30	03/05/09 17:10	01

Report Name: BLANK_SUMMARY
 PDF File ID: 1336851
 Report generated 03/09/2009 09:26



Login Number: L09030095 Prep Date: 03/05/09 09:20 Sample ID: WG296654-01
Instrument ID: IC1 Run Date: 03/05/09 09:54 Prep Method: 300.0
File ID: I10305090954.05 Analyst: JWR Method: 300.0
Workgroup (AAB#): WG296654 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: IC1 - 29-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Nitrate	0.100	0.600	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1336852
09-MAR-2009 09:26



Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296654-02
Instrument ID: IC1 Run Time: 10:12 Prep Method: 300.0
File ID: I10305091012.06 Analyst: JWR Method: 300.0
Workgroup (AAB#): WG296654 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD29498 Cal ID: IC1 - 29-OCT-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
Nitrate	4.07	4.01	98.6	90 - 110	
Nitrite	3.65	3.57	97.7	90 - 110	
Sulfate	30.0	29.2	97.4	90 - 110	

Login Number: L09030095
Analytical Method: 300.0
ICAL Workgroup: WG286427

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
Nitrate		2.470	12.3		
Nitrite		2.877	6.25		
Sulfate		7.510	11.5		

R = Correlation coefficient; 0.995 minimum

R² = Coefficient of determination; 0.99 minimum

This method always uses quadratic calibration model (R²)

Login Number: L09030095
Analytical Method: 300.0

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte	WG286427-01			WG286427-02			WG286427-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Nitrate	0.136	0.048000000 0	2.823	1.36	0.513000000	2.642	2.71	1.05800000	2.562
Nitrite	0.122	0.038000000 0	3.205	1.22	0.418000000	2.913	2.44	0.835000000	2.917
Sulfate	1.00	0.125000000	8.000	10.0	1.22400000	8.170	20.0	2.50300000	7.990

INT_CAL - Modified 03/06/2008
PDF File ID: 1337572
Report generated 03/09/2009 09:26



Login Number: L09030095
Analytical Method: 300.0

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte	WG286427-04			WG286427-05			WG286427-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Nitrate	4.07	1.62400000	2.504	5.42	2.21900000	2.443	8.13	3.43500000	2.367
Nitrite	3.65	1.26900000	2.879	4.87	1.71100000	2.847	7.31	2.62600000	2.783
Sulfate	30.0	3.88900000	7.714	40.0	5.32300000	7.515	60.0	8.33300000	7.200

INT_CAL - Modified 03/06/2008
PDF File ID: 1337572
Report generated 03/09/2009 09:26



Login Number: L09030095
Analytical Method: 300.0

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte	WG286427-07		
	CONC	RESP	RF
Nitrate	32.5	16.6700000	1.951
Nitrite	29.2	11.2520000	2.598
Sulfate	240	40.1170000	5.983

Login Number: L09030095 Run Date: 10/29/2008 Sample ID: WG286427-08
Instrument ID: IC1 Run Time: 18:26 Method: 300.0
File ID: I11029081826.08 Analyst: JWR QC Key: STD
ICal Workgroup: WG286427 Cal ID: IC1 - 29-OCT-08

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Nitrate		4.07	4.18	mg/L	2.41	2.80	10	
Nitrite		3.65	3.60	mg/L	2.89	1.40	10	
Sulfate		30.0	30.2	mg/L	7.55	0.800	10	

* Exceeds %D Limit

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-02
Instrument ID: IC1 Run Time: 09:37 Method: 300.0
File ID: I10305090937.04 Analyst: JWR Units: mg/L
Workgroup (AAB#): WG296654 Cal ID: IC1 -
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Nitrate	0.100	0.600	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-04
Instrument ID: IC1 Run Time: 13:06 Method: 300.0
File ID: I10305091306.16 Analyst: JWR Units: mg/L
Workgroup (AAB#): WG296654 Cal ID: IC1 -
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Nitrate	0.100	0.600	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-06
Instrument ID: IC1 Run Time: 16:35 Method: 300.0
File ID: I10305091635.28 Analyst: JWR Units: mg/L
Workgroup (AAB#): WG296654 Cal ID: IC1 -
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Nitrate	0.100	0.600	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-08
Instrument ID: IC1 Run Time: 19:12 Method: 300.0
File ID: I10305091912.37 Analyst: JWR Units: mg/L
Workgroup (AAB#): WG296654 Cal ID: IC1 -
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Nitrate	0.100	0.600	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-01
Instrument ID: IC1 Run Time: 09:20 Method: 300.0
File ID: I10305090920.03 Analyst: JWR QC Key: STD
Workgroup (AAB#): WG296654 Cal ID: IC1 - 29-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Nitrate		4.07	4.00	mg/L	2.52	1.53	10	
Nitrite		3.65	3.53	mg/L	2.96	3.43	10	
Sulfate		30.0	29.1	mg/L	7.85	2.95	10	

* Exceeds %D Criteria

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-03
Instrument ID: IC1 Run Time: 12:49 Method: 300.0
File ID: I10305091249.15 Analyst: JWR QC Key: STD
Workgroup (AAB#): WG296654 Cal ID: IC1 - 29-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Nitrate		4.07	4.05	mg/L	2.49	0.472	10	
Nitrite		3.65	3.61	mg/L	2.89	1.24	10	
Sulfate		30.0	29.4	mg/L	7.77	1.93	10	

* Exceeds %D Criteria

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-05
Instrument ID: IC1 Run Time: 16:17 Method: 300.0
File ID: I10305091617.27 Analyst: JWR QC Key: STD
Workgroup (AAB#): WG296654 Cal ID: IC1 - 29-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Nitrate		4.07	4.07	mg/L	2.48	0.00492	10	
Nitrite		3.65	3.61	mg/L	2.89	1.32	10	
Sulfate		30.0	29.8	mg/L	7.65	0.550	10	

* Exceeds %D Criteria

Login Number: L09030095 Run Date: 03/05/2009 Sample ID: WG296656-07
Instrument ID: IC1 Run Time: 18:54 Method: 300.0
File ID: I10305091854.36 Analyst: JWR QC Key: STD
Workgroup (AAB#): WG296654 Cal ID: IC1 - 29-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Nitrate		4.07	4.07	mg/L	2.48	0.00492	10	
Nitrite		3.65	3.62	mg/L	2.88	0.969	10	
Sulfate		30.0	29.9	mg/L	7.62	0.200	10	

* Exceeds %D Criteria

2.3.2 Alkalinity Data

2.3.2.1 Summary Data

LABORATORY REPORT

L09030095

00090676

03/12/09 15:26

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	310.2	1	05-MAR-09
17WW17-030409	L09030095-14	310.2	1	05-MAR-09
MW-130-030409	L09030095-16	310.2	5	05-MAR-09



Report Number: **L09030095**Report Date : **March 12, 2009**

00090677

Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296707**
Collect Date: **03/04/2009 11:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **310.2**
Analytical Method: **310.2**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **SMARTCHEM**
Prep Date: **03/06/2009 15:39**
Cal Date: **03/06/2009 15:36**
Run Date: **03/06/2009 15:39**
File ID: **SC090306005.013**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total		184		10.0	5.00

Report Number: **L09030095**Report Date : **March 12, 2009**

00090678

Sample Number: **L09030095-14**
Client ID: **17WW17-030409**
Matrix: **Water**
Workgroup Number: **WG296707**
Collect Date: **03/04/2009 11:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **310.2**
Analytical Method: **310.2**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **SMARTCHEM**
Prep Date: **03/06/2009 15:40**
Cal Date: **03/06/2009 15:36**
Run Date: **03/06/2009 15:40**
File ID: **SC090306005.014**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total		12.8		10.0	5.00

Report Number: **L09030095**Report Date : **March 12, 2009****00090679**

Sample Number: **L09030095-16**
Client ID: **MW-130-030409**
Matrix: **Water**
Workgroup Number: **WG296707**
Collect Date: **03/04/2009 12:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **310.2**
Analytical Method: **310.2**
Analyst: **JBK**
Dilution: **5**
Units: **mg/L**

Instrument: **SMARTCHEM**
Prep Date: **03/06/2009 15:40**
Cal Date: **03/06/2009 15:36**
Run Date: **03/06/2009 15:40**
File ID: **SC090306005.015**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total		608		50.0	25.0

3 of 3



2.3.2.2 QC Summary Data

Example Alkalinity (Colormetric) Calculations

$$(\text{absorbance} - \text{intercept}) / (\text{slope} * \text{dilution}) = \text{mg/L}$$

where:

absorbance = reading from the spectrophotometer

intercept = calculated from calibration standard absorbencies

slope = calculated from calibration standard absorbencies

dilution = dilution of the distillate in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: JBK

Analyst: NA

Method: ALK

Instrument: SMARTCHEM

Curve Workgroup: NA

Runlog ID: _____

Analytical Workgroups: WG296711 WG296707

Calibration/Linearity	03/06/2009
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JBK
Secondary Reviewer	
Comments	

Primary Reviewer:
09-MAR-2009



Secondary Reviewer:

Analytical Method: 310.2

AAB#: WG296707

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW01-030409	03/04/09	03/05/09	03/06/09	14	2.18	03/06/09	14	2.18	
MW-130-030409	03/04/09	03/05/09	03/06/09	14	2.13	03/06/09	14	2.13	
17WW17-030409	03/04/09	03/05/09	03/06/09	14	2.16	03/06/09	14	2.16	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030095
Blank File ID: SC090306005.010
Prep Date: 03/06/09 15:37
Analyzed Date: 03/06/09 15:37
Analyst: JBK

Work Group: WG296707
Blank Sample ID: WG296707-01
Instrument ID: SMARTCHEM
Method: 310.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296707-02	SC090306005.011	03/06/09 15:38	01
LCS2	WG296707-03	SC090306005.012	03/06/09 15:39	01
17WW01-030409	L09030095-01	SC090306005.013	03/06/09 15:39	01
17WW17-030409	L09030095-14	SC090306005.014	03/06/09 15:40	01
MW-130-030409	L09030095-16	SC090306005.015	03/06/09 15:40	DL01
DUP	WG296707-05	SC090306005.024	03/06/09 15:46	DL01

Login Number: L09030095 Prep Date: 03/06/09 15:37 Sample ID: WG296707-01
Instrument ID: SMARTCHEM Run Date: 03/06/09 15:37 Prep Method: 310.2
File ID: SC090306005.010 Analyst: JBK Method: 310.2
Workgroup (AAB#): WG296707 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: SMARTC - 06-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Alkalinity, Total	5.00	10.0	5.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1337504
09-MAR-2009 09:05



Login Number: L09030095 Analyst: JBK Prep Method: 310.2
Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
Workgroup (AAB#): WG296707 Units: mg/L
QC Key: STD Lot #: STD31643
Sample ID: WG296707-02 LCS File ID: SC090306005.011 Run Date: 03/06/2009 15:38
Sample ID: WG296707-03 LCS2 File ID: SC090306005.012 Run Date: 03/06/2009 15:39

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total	200	201	101	200	195	97.4	3.20	85 - 115	25	

2.3.2.3 Raw Data

WORKGROUP: WG296707

296711

SMARTCHEM RUN LOG

Daily Check

- ☒ Lamp On
☒ Probe Rinse Full
☒ DI Water > 1/2 Full
☒ Wash Solution > 1/2 Full
☐ NO3 Reagent bottle connected / purged
☐ NO3 pH adj to pH 5-9
- ☒ WBL Run
☒ Reagents Full
☒ Dilution H₂O Full
☒ Waste Container Check

- 1) Workgroup 296707
 Plan # 20090304005
 2) Workgroup 296711
 Plan # 20090304006
 3) Workgroup _____
 Plan # _____

Analyte	1	2	3
User Prepared Curve	AK		
SC Prepared Curve			
Position			
1-1	ICV 250		
1-2	Blank		
1-3	LCS 200		
1-4	LCS Dup		
1-5	03-096-01		
1-6	-14		
1-7	-16	1/5	
1-8	03-042-01		
1-9	-02		
1-10	-03		
1-11	03-090-04		
1-12	-05		
1-13	03-083-01	1/2	
1-14	DUP-01		
1-15	MS-03		
1-16	MSD-05		
1-17	-07		
1-18	-09		
1-19	03-114-01		
1-20	-03		
1-21	03-123-01		
1-22	-03		
2-1	-05		
2-2	-07		
2-3	-09		

Analyte	1	2	3
Position			
2-4	03-123-11		
2-5	-13		1-1
2-6	Blank		1-2
2-7	LCS 200		1-3
2-8	LCS Dup		1-4
2-9	03-123-15		1-5
2-10	03-149-01		1-6
2-11	DUP 4		1-7
2-12	-02	1/5	1-8
2-13	03-127-01		1-9
2-14	-02		1-10
2-15	-03		1-11
2-16	03-140-01		1-12
2-17	03-151-02	1/4	Color 1-13
2-18	-03		1-14
2-19	-05		1-15
2-20	-06		1-16
2-21	-08		1-17
2-22	-09		1-18
2-23			1-19 BIK
2-24			1-20 LCS 200 Dup
2-25			
2-26			
3-1			
3-2			

NOTES:
 * Run NO2 std on NO3 runs
 * LCS/LCS Dup all parameters
 * MS/MSD (NO3, TKN, NH3)

DCN#78591



Dannar/Johnson

Approved: March 09, 2009

WORKGROUP: WG296707

SMARTCHEM RUN LOG

Analyte	1	2	3
Position			
3-3			
3-4			
3-5			
3-6			
3-7			
3-8			
3-9			
3-10			
3-11			
3-12			
3-13			
3-14			
3-15			

Analyte	1	2	3
Position			
3-16			
3-17			
3-18			
3-19			
3-20			
3-21			
3-22			
3-23			
3-24			
3-25			
3-26			
3-27			
3-28			

☐ Chloride EPA 325.2/SM 4500-Cl⁻ E
☐ Sulfate EPA 375.4
☒ Alkalinity EPA 310.2
☐ Nitrate-Nitrite EPA 353.2/SM 4500-NO₃ F

☐ Ammonia EPA 350.1/SM 4500-NH₃ B
☐ TKN EPA 351.2
☐ Phos EPA 365.4

Analyte			
SOP & Revision	AIK K3102		
Curve Stock (SC made)	Std 31639		
Curve ID (user made)			
ICV	Std 31641		
CCV	Std 31642		
LCS	Std 31643		
MS	Std 31640		
	Dilution $0.4(2500)/10 = 100$		

Comments: _____

Analyst: _____

Date: 3/16/09

DCN#78591



Approved: March 09, 2009

MICROBAC (OVD)

SMARTCHEM REPORT

UNITS: MG/L

Method : WALK -Unit [mg/L] - EPA 310.2 Alkalinity

Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.00	0.6853	0.00		3:30:35 PM
DIL-1	RBL	0.00	0.6819	0.00		3:30:53 PM
DIL-1	RBL	0.00	0.6886	0.00		3:31:47 PM
DIL-1	Std-1	0.00	0.0138	0.00	INV	3:32:05 PM
SR5-1	Std-2	10.00	-0.0122	0.00		3:32:59 PM
SR5-2	Std-3	20.00	-0.0188	0.00		3:33:17 PM
SR5-3	Std-4	50.00	-0.0755	0.00		3:34:11 PM
SR5-4	Std-5	100.00	-0.1436	0.00		3:34:29 PM
SR5-5	Std-6	200.00	-0.2951	0.00		3:35:23 PM
SR5-6	Std-7	250.00	-0.3829	0.00		3:35:41 PM
SR5-7	Std-8	300.00	-0.4287	0.00		3:36:35 PM
1	ICV 250	261.58	-0.3851	0.00		3:36:53 PM
2	WG296707-01 BLANK	-1.38	0.0134	0.00	INV,LL	3:37:48 PM
3	WG296707-02 LCS200	201.15	-0.3002	0.00		3:38:06 PM
4	WG296707-03 LCSDUP	194.81	-0.2911	0.00		3:39:00 PM
5	L09030095-01	184.22	-0.2758	0.00		3:39:18 PM
6	L09030095-14	12.78	-0.0103	0.00		3:40:12 PM
7	L09030095-16 (5)	121.57	-0.1829	0.00		3:40:30 PM
8	L09030042-01	80.78	-0.1200	0.00		3:41:24 PM
9	L09030042-02	66.83	-0.0980	0.00		3:41:42 PM
10	L09030042-03	216.58	-0.3222	0.00		3:42:36 PM
ST-2	CCV (200 mg/L)	193.63	-0.2894	96.81		3:42:54 PM
ST-3	CCB (0 mg/L)	-0.31	0.0116	0.00	INV,LL	3:43:48 PM
11	L09030090-04	161.23	-0.2422	0.00		3:44:06 PM
12	L09030090-05	153.31	-0.2305	0.00		3:45:00 PM
13	L09030083-01 (2)	196.69	-0.2938	0.00		3:45:18 PM
14	WG296707-05 (2) DUP	204.57	-0.3051	0.00		3:46:12 PM
15	L09030083-03 (2) MS	232.03	-0.3440	0.00		3:46:30 PM
16	L09030083-05 (2) SD	243.61	-0.3602	0.00		3:47:24 PM
17	L09030083-07	266.24	-0.3915	0.00		3:47:42 PM
18	L09030083-09	259.55	-0.3823	0.00		3:48:36 PM
19	L09030114-01	238.38	-0.3529	0.00		3:48:54 PM
20	L09030114-03	290.66	-0.4248	0.00		3:49:48 PM
ST-2	CCV (200 mg/L)	208.84	-0.3112	104.42		3:50:06 PM
ST-3	CCB (0 mg/L)	-1.98	0.0144	0.00	INV,><,LL	3:51:00 PM
21	L09030123-01	115.53	-0.1737	0.00		3:51:18 PM

Report Date : 03/06/2009

Run Date : 03/06/2009

Operator : WESTCO

Plan # : 20090306005

Plan Description : ALK-D-JBK/03/06/2009



Approved: March 09, 2009

MICROBAC (OVD)
SMARTCHEM REPORT
UNITS: MG/L

Method : WALK -Unit [mg/L] - EPA 310.2 Alkalinity

Smp#[/Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
22	L09030123-03	118.42	-0.1781	0.00		3:52:12 PM
23	L09030123-05	30.50	-0.0395	0.00		3:52:30 PM
24	L09030123-07	20.57	-0.0232	0.00		3:53:24 PM
25	L09030123-09	92.84	-0.1388	0.00		3:53:42 PM
26	L09030123-11	126.59	-0.1905	0.00		3:54:36 PM
27	L09030123-13	141.96	-0.2136	0.00		3:54:54 PM
28	WG296711-01 BLANK	21.06	-0.0240	0.00		3:55:48 PM
29	WG296711-02 LCS200	195.23	-0.2917	0.00		3:56:07 PM
30	WG296711-03 LCSDUP	193.63	-0.2894	0.00		3:57:00 PM
ST-2	CCV (200 mg/L)	211.93	-0.3156	105.97		3:57:18 PM
ST-3	CCB (0 mg/L)	7.92	-0.0021	0.00		3:58:12 PM
31	L09030123-15	21.30	-0.0244	0.00		3:58:30 PM
32	L09030149-01	80.53	-0.1196	0.00		3:59:24 PM
33	WG296711-05 DUP	68.03	-0.0999	0.00		3:59:42 PM
34	L09030149-02 (5)	119.14	-0.1792	0.00		4:00:36 PM
35	L09030127-01	256.22	-0.3777	0.00		4:00:54 PM
36	L09030127-02	110.75	-0.1664	0.00		4:01:48 PM
37	L09030127-03	305.21	-0.4444	0.00	><,LH	4:02:07 PM
38	L09030140-01	89.49	-0.1336	0.00		4:03:00 PM
39	L09030151-02 (4)	305.14	-0.4443	0.00	><,LH	4:03:19 PM
40	L09030151-03 (4)	210.53	-0.3136	0.00		4:04:13 PM
ST-2	CCV (200 mg/L)	210.46	-0.3135	105.23		4:04:31 PM
ST-3	CCB (0 mg/L)	8.94	-0.0039	0.00		4:05:25 PM
41	L09030151-05 (4)	278.81	-0.4087	0.00		4:05:43 PM
42	L09030151-06 (4)	224.35	-0.3332	0.00		4:06:37 PM
43	L09030151-08 (4)	288.60	-0.4220	0.00		4:06:55 PM
44	L09030151-09 (4)	182.77	-0.2737	0.00		4:07:49 PM
45	ID 45	12.84	-0.0104	0.00		4:08:07 PM
46	ID 46	77.85	-0.1154	0.00		4:09:01 PM
47	ID 47	13.15	-0.0109	0.00		4:09:19 PM
48	ID 48	22.58	-0.0265	0.00		4:10:13 PM
49	ID 49	43.41	-0.0605	0.00		4:10:31 PM
50	ID 50	37.36	-0.0507	0.00		4:11:25 PM
ST-2	CCV (200 mg/L)	238.02	-0.3524	119.01		4:11:43 PM
ST-3	CCB (0 mg/L)	7.98	-0.0023	0.00		4:12:37 PM

Report Date : 03/06/2009 Run Date : 03/06/2009 Operator : WESTCO Plan # : 20090306005
Plan Description : ALK-D-JBK/03/06/2009

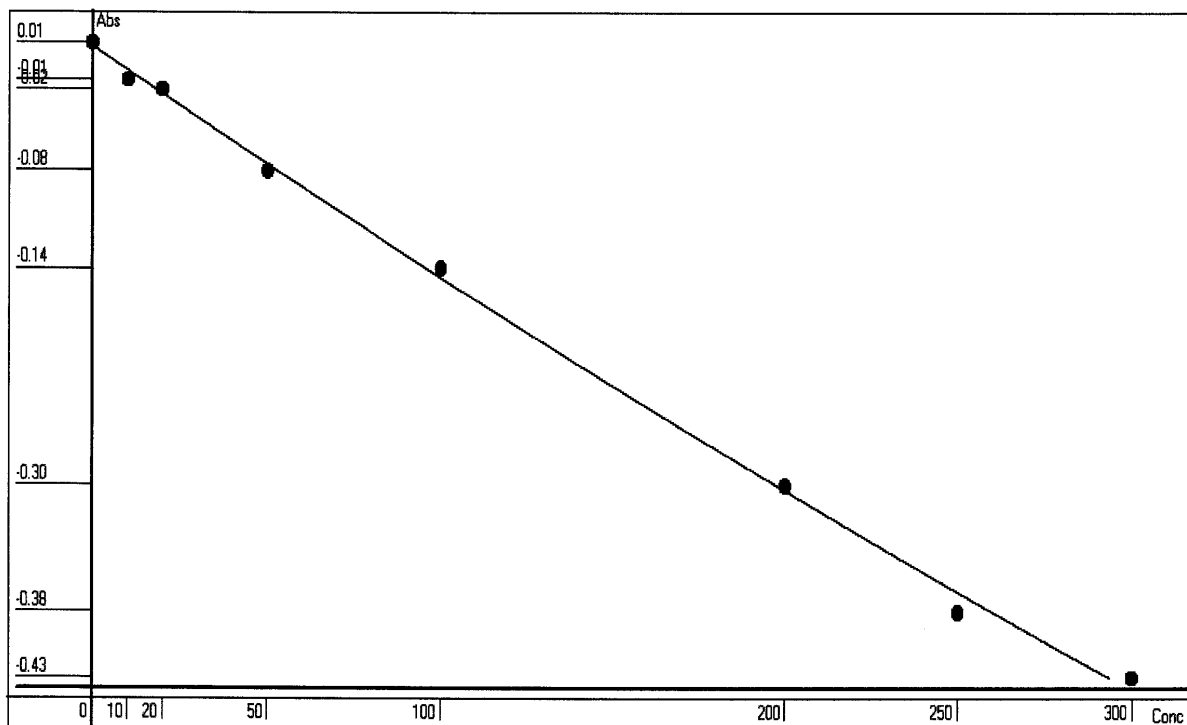
Annalissa

Approved: March 09, 2009

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:1/1/2010 User:Westco Scientific

Plan #: 20090306005 Description : [ALK-D-JBK/03/06/2009] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	0.0138	0	-1.5904	-159.04
2	-0.0122	10	13.9583	39.58
3	-0.0188	20	17.9410	-10.30
4	-0.0755	50	52.7505	5.50
5	-0.1436	100	95.9674	-4.03
6	-0.2951	200	197.6255	-1.19
7	-0.3829	250	260.0229	4.01
8	-0.4287	300	293.5861	-2.14

Conc= +165.7571*Abso^2 -598.2928*Abso +6.6345 R²=0.9980

RBL
0.687
0

Report Date 3/6/2009 Run Date 3/6/2009

Anna Hesson

Approved: March 09, 2009

MICROBAC (OVD)

SMARTCHEM REPORT

UNITS: MG/L

Method : WALK -Unit [mg/L] - EPA 310.2 Alkalinity

Smp#[[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.00	0.6356	0.00		4:30:42 PM
DIL-1	RBL	0.00	0.6337	0.00		4:31:00 PM
DIL-1	RBL	0.00	0.6417	0.00		4:31:54 PM
DIL-1	Std-1	0.00	0.0146	0.00	INV	4:32:12 PM
SR5-1	Std-2	10.00	-0.0173	0.00		4:33:06 PM
SR5-2	Std-3	20.00	-0.0423	0.00		4:33:24 PM
SR5-3	Std-4	50.00	-0.0935	0.00		4:34:19 PM
SR5-4	Std-5	100.00	-0.1500	0.00		4:34:36 PM
SR5-5	Std-6	200.00	-0.2621	0.00		4:35:31 PM
SR5-6	Std-7	250.00	-0.3509	0.00		4:35:48 PM
SR5-7	Std-8	300.00	-0.4214	0.00		4:36:42 PM
1	ICV 250	242.96	-0.3410	0.00		4:37:01 PM
2	WG296711-01 BLANK	-26.30	0.0371	0.00	INV,><,LL	4:37:55 PM
3	WG296711-02 LCS200	178.75	-0.2554	0.00		4:38:13 PM
4	~~WG296711-03 LCS200~~	167.18	-0.2397	0.00		4:39:07 PM
5	L09030123-15	26.38	-0.0411	0.00		4:39:25 PM
6	~~L09030149-01~~ <i>WG-04</i>	-19.25 <i>X</i>	0.0264	0.00	INV,><,LL	4:40:19 PM
7	WG296711-05 DUP	43.14	-0.0655	0.00		4:40:37 PM
8	L09030149-02 (5)	99.81 <i>X</i>	-0.1465	0.00		4:41:31 PM
9	L09030127-01	255.86	-0.3579	0.00		4:41:49 PM
10	L09030127-02	132.13	-0.1916	0.00		4:42:43 PM
ST-2	CCV (200 mg/L)	190.09	-0.2707	95.04		4:43:01 PM
ST-3	CCB (0 mg/L)	-7.95	0.0096	0.00	INV,LL	4:43:55 PM
11	L09030127-03	273.76	-0.3812	0.00		4:44:13 PM
12	L09030140-01	26.65 <i>X</i>	-0.0415	0.00		4:45:07 PM
13	L09030151-02 (4)	212.87	-0.3012	0.00		4:45:25 PM
14	L09030151-03 (4)	185.64	-0.2647	0.00		4:46:19 PM
15	L09030151-05 (4)	279.01	-0.3880	0.00		4:46:37 PM
16	L09030151-06 (4)	234.37	-0.3297	0.00		4:47:31 PM
17	L09030151-08 (4)	279.55	-0.3887	0.00		4:47:49 PM
18	L09030151-09 (4)	185.49	-0.2645	0.00		4:48:43 PM
19	ID 19	-13.37	0.0177	0.00	INV,><,LL	4:49:01 PM
20	~~ID 20~~ <i>WG296711-03</i>	192.02	-0.2733	0.00		4:49:55 PM
ST-2	CCV (200 mg/L)	202.83	-0.2878	101.42		4:50:13 PM
ST-3	CCB (0 mg/L)	-23.17	0.0324	0.00	INV,><,LL	4:51:07 PM

Report Date :03/06/2009

Run Date :03/06/2009

Operator : WESTCO

Plan # :20090306006

Plan Description : ALK-E-JBK/03/06/2009

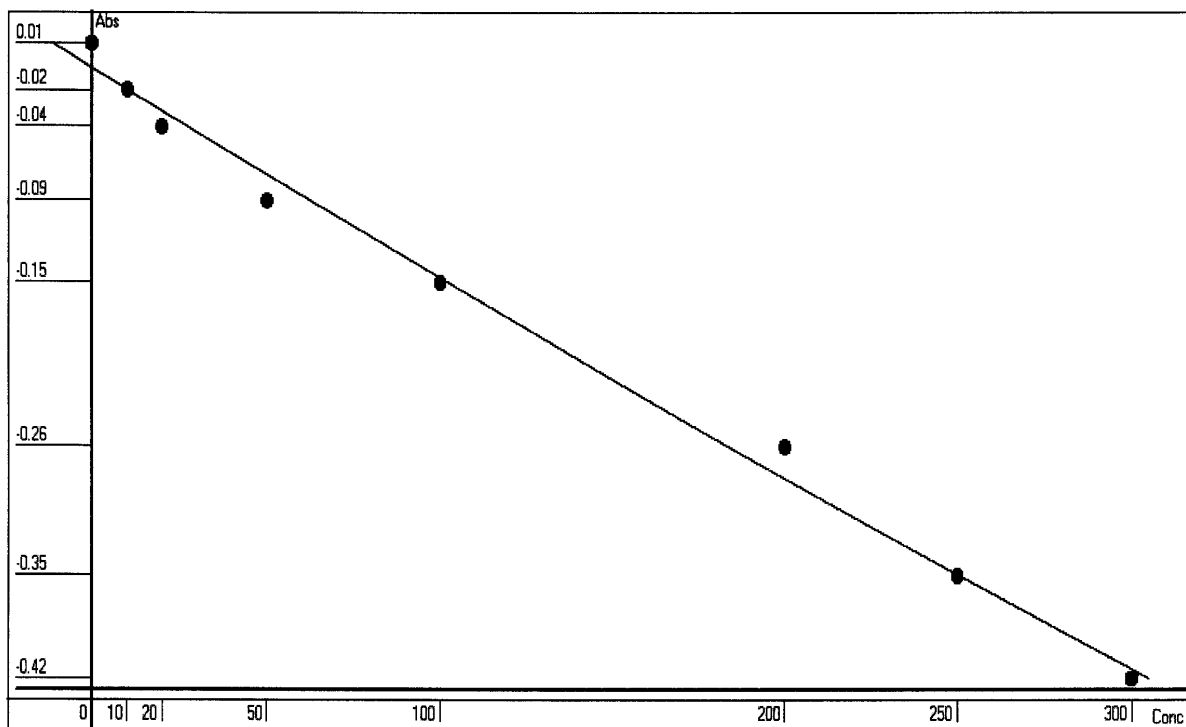


Approved: March 09, 2009

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:1/1/2010 User:Westco Scientific

Plan #: 20090306006 Description : [ALK-E-JBK/03/06/2009] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	0.0146	0	-11.3342	-1133.42
2	-0.0173	10	10.1480	1.48
3	-0.0423	20	27.1673	35.84
4	-0.0935	50	62.5263	25.05
5	-0.1500	100	102.3310	2.33
6	-0.2621	200	183.7461	-8.13
7	-0.3509	250	250.5419	0.22
8	-0.4214	300	305.0221	1.67

Conc= +129.0852*Abso^2 -673.076*Abso -1.5348 R²=0.9935

RBL
0.6347
0

Report Date 3/6/2009 Run Date 3/6/2009

Anna Hesson

Approved: March 09, 2009

2.3.3 Orthophosphate Data

2.3.3.1 Summary Data

LABORATORY REPORT

L09030095

00090697

03/12/09 15:27

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	SM4500-P-	1	05-MAR-09
17WW17-030409	L09030095-14	SM4500-P-	1	05-MAR-09
MW-130-030409	L09030095-16	SM4500-P-	1	05-MAR-09



Report Number: **L09030095**Report Date : **March 12, 2009****00090698**

Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296611**
Collect Date: **03/04/2009 11:15**

PrePrep Method: **NONE**
Prep Method: **SM4500-P-E-20th**
Analytical Method: **SM4500-P-E-20th**
Analyst: **DLP**
Dilution: **1**
Units: **mg/L**

Instrument: **UV-120-1V**
Prep Date: **03/05/2009 12:00**
Cal Date:
Run Date: **03/05/2009 12:00**
File ID: **1V.0903051200-07**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Orthophosphate	14265-44-2		U	0.0500	0.0250

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009****00090699**

Sample Number: **L09030095-14**
Client ID: **17ww17-030409**
Matrix: **Water**
Workgroup Number: **WG296611**
Collect Date: **03/04/2009 11:45**

PrePrep Method: **NONE**
Prep Method: **SM4500-P-E-20th**
Analytical Method: **SM4500-P-E-20th**
Analyst: **DLP**
Dilution: **1**
Units: **mg/L**

Instrument: **UV-120-1V**
Prep Date: **03/05/2009 12:00**
Cal Date:
Run Date: **03/05/2009 12:00**
File ID: **1V.0903051200-08**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Orthophosphate	14265-44-2		U	0.0500	0.0250

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009**

00090700

Sample Number: **L09030095-16**
Client ID: **MW-130-030409**
Matrix: **Water**
Workgroup Number: **WG296611**
Collect Date: **03/04/2009 12:30**

PrePrep Method: **NONE**
Prep Method: **SM4500-P-E-20th**
Analytical Method: **SM4500-P-E-20th**
Analyst: **DLP**
Dilution: **1**
Units: **mg/L**

Instrument: **UV-120-1V**
Prep Date: **03/05/2009 12:00**
Cal Date:
Run Date: **03/05/2009 12:00**
File ID: **1V.0903051200-09**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Orthophosphate	14265-44-2	0.0341	J	0.0500	0.0250

J The analyte was positively identified, but the quantitation was below the RL

2.3.3.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
 b = intercept from the linear equation
 x = instrument response as absorbance or OD
 y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:
 $y = mx + b$

Step 3: Solve for analyte concentration in sample, Cy

$$C_y = (y) (D)$$

Example Calculation (LCS):

Value of m from plot:	2.7599
Value of b from plot:	0.0153
Absorbance of unknown from quantitation report (x):	0.3765
Calculated concentration (y):	1.05440235
Dilution factor (D):	1.00
Concentration of analyte in sample, Cy:	1.05 mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression
 x = instrument response as absorbance or OD
 y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:
 $y = Ax^2 + Bx + C$

Step 3: Solve for analyte concentration in sample, Cy

$$C_y = (y) (D)$$

Example Calculation (LCS):

Value of A from plot:	101.2796
Value of B from plot:	318.9056
Value of C from plot:	-2.2712
Absorbance of unknown from quantitation report (x):	0.1583
Calculated concentration (y):	50.7495108
Dilution factor (D):	1.00
Concentration of analyte in sample, Cy:	50.75 mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 05-MAR-2009

Analyst: DLP

Analyst: NA

Method: PO4

Instrument: UV-120-1V

Curve Workgroup: NA

Runlog ID: _____

Analytical Workgroups: WG296611

Calibration/Linearity	01-03-09
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	
Primary Reviewer	DLP
Secondary Reviewer	
Comments	

Primary Reviewer:
10-MAR-2009

Secondary Reviewer:



Analytical Method: SM4500-P-E-20th
Login Number: L09030095

AAB#: WG296611

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW01-030409	03/04/09	03/05/09	03/05/09	2	1.03	03/05/09	2	1.03	
17WW17-030409	03/04/09	03/05/09	03/05/09	2	1.01	03/05/09	2	1.01	
MW-130-030409	03/04/09	03/05/09	03/05/09	2	0.979	03/05/09	2	0.979	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: <u>L09030095</u>	Work Group: <u>WG296611</u>
Blank File ID: <u>1V.0903051200-02</u>	Blank Sample ID: <u>WG296611-01</u>
Prep Date: <u>03/05/09 12:00</u>	Instrument ID: <u>UV-120-1V</u>
Analyzed Date: <u>03/05/09 12:00</u>	Method: <u>SM4500-P-E-20th</u>
Analyst: <u>DLP</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296611-02	1V.0903051200-03	03/05/09 12:00	
LCS2	WG296611-03	1V.0903051200-04	03/05/09 12:00	
17WW01-030409	L09030095-01	1V.0903051200-07	03/05/09 12:00	
17WW17-030409	L09030095-14	1V.0903051200-08	03/05/09 12:00	
MW-130-030409	L09030095-16	1V.0903051200-09	03/05/09 12:00	
DUP	WG296611-06	1V.0903051200-10	03/05/09 12:00	

Report Name: BLANK_SUMMARY
 PDF File ID: 1341208
 Report generated 03/12/2009 13:07



Login Number: L09030095 Prep Date: 03/05/09 12:00 Sample ID: WG296611-01
Instrument ID: UV-120-1V Run Date: 03/05/09 12:00 Prep Method: SM4500-P-E-20th
File ID: 1V.0903051200-02 Analyst: DLP Method: SM4500-P-E-20th
Workgroup (AAB#): WG296611 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: UV-120 -

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Orthophosphate	0.0250	0.0500	0.0250	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1341209
12-MAR-2009 13:07



Login Number: L09030095 Analyst: DLP Prep Method: SM4500-P-E-20th
Instrument ID: UV-120-1V Matrix: Water Method: SM4500-P-E-20th
Workgroup (AAB#): WG296611 Units: mg/L
QC Key: STD Lot #: STD31540
Sample ID: WG296611-02 LCS File ID: 1V.0903051200-03 Run Date: 03/05/2009 12:00
Sample ID: WG296611-03 LCS2 File ID: 1V.0903051200-04 Run Date: 03/05/2009 12:00

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Orthophosphate	1.00	1.04	104	1.00	1.06	106	1.23	90 - 110	20	

2.3.3.3 Raw Data

Curves

Parameter: P04

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 28111

Concentration: 1000 mg/L

Recipe for preparation of curve standards found in:

SOP: 31653 Revision: 12 Page: 08

Second Source Stock: Std 3075 (concentration: 1000mg)

Daily Preparation: $\frac{5(1000)}{500} = 10$
~~50755~~ $\frac{5(10)}{50} = 1.0$
 concentration = $\frac{1.0}{1.0}$

[illegible]

Analyst: 12/2/09 Date/Time: 1/13/09 1030

DCN#78043



Dennafsson

Approved: January 16, 2009

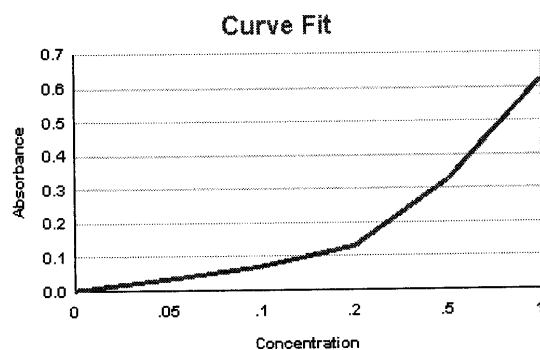
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG292348
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 01/13/2009

Analyte: ORTHOPHOSPHATE
Number of Points: 6
Slope: 0.619271
Y-Intercept: 0.00589129
Coef. Of Correlation (R^2): 0.999448
Coef. Of Correlation (R): 0.999724

Concentration X	Absorbance Y	X^2	$X * Y$	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	0.00589129
0.0500	0.0340	0.00250	0.00170	0.0368549
0.100	0.0690	0.0100	0.00690	0.0678184
0.200	0.132	0.0400	0.0264	0.129746
0.500	0.325	0.250	0.163	0.315527
1.00	0.620	1.00	0.620	0.625163



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 01/14/2009 10:50



Anna H. J. R.

Approved: January 16, 2009

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORTWorkgroup #: WG292348
File ID: 1V.0901131030-07
CCV ID: WG292348-07
Units: mg/L
Analyte: ORTHOPHOSPHATEInstrument ID: UV-120-1V
Run Date: 01/13/2009
Run Time: 10:30
Analyst: HJR
Cal ID: UV-120 -

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	1	0.990	0.619	1.0	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 01/14/2009 10:50

A handwritten signature in dark ink, appearing to read "Danna K. Johnson".

Approved: January 16, 2009

ORTHOPHOSPHATE

Workgroup: _____

ICV: Std 3/539
Daily Dilution: Std 1/100 = 5
Daily Dilution: Std 5/150 = 0.5
Inoculation #: 12

LCS: 5231540
Daily Dilution: 5(100)/50 =
Daily Dilution: 5(10)/50 = 1
Spectrophotometer:

Spike: Std 31540
Daily Dilution: 21.0/50 =
Daily Dilution: 0.42
Curve ID: 292348

EPA 365.2/SM4500-P E SOP K3653 Revision #:

Daily Dilution: 5(10)
Spectrophotometer:

Daily Dilution: 0.1
Curve ID: 2921348

٧٢-٥٢١١

1-3-09

[illegible]

ANALYST: Christy Payne

DATE / TIME: 03-05-09 / 1200

DCN#78578



Linnafsson

Approved: March 12, 2009

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG296611
Analyte: ORTHOPHOSPHATE

Analyst: DLP
Date: 03/05/2009

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG296611-01	50	50	0	0.6193	0.005891	-0.0095133	-0.0095133	1	mg/L
WG296611-02	50	50	0.653	0.6193	0.005891	1.0450	1.0450	1	mg/L
WG296611-03	50	50	0.661	0.6193	0.005891	1.0579	1.0579	1	mg/L
L09030088-01	50	50	0.333	0.6193	0.005891	0.52822	0.52822	1	mg/L
WG296611-05	50	50	0.333	0.6193	0.005891	0.52822	0.52822	1	mg/L
L09030088-02	50	50	0.390	0.6193	0.005891	0.62026	0.62026	1	mg/L
WG296611-04	50	50	0.390	0.6193	0.005891	0.62026	0.62026	1	mg/L
L09030095-01	50	50	0.00200	0.6193	0.005891	-0.0062837	ND	1	mg/L
L09030095-14	50	50	0.00300	0.6193	0.005891	-0.0046689	ND	1	mg/L
L09030095-16	50	50	0.0270	0.6193	0.005891	0.034086	0.034086 F	1	mg/L
WG296611-06	50	50	0.390	0.6193	0.005891	0.62026	0.62026	1	mg/L
WG296611-07	50	50	0.572	0.6193	0.005891	0.91415	0.91415	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 03/10/2009 09:37



Danna Kesson

Approved: March 12, 2009

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

00090714

Workgroup #: WG296948

Instrument ID: UV-120-1V

File ID: 1V.0903051200-01

Run Date: 03/05/2009

CCV ID: WG296948-01

Run Time: 12:00

Units: mg/L

Analyst: DLP

Analyte: ORTHOPHOSPHATE

Cal ID: UV-120 -

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.509	0.642	1.8	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/10/2009 09:35



Danna Hesson

Approved: March 12, 2009

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG296948

Instrument ID: UV-120-1V

File ID: 1V.0903051200-12

Run Date: 03/05/2009

CCV ID: WG296948-02

Run Time: 12:00

Units: mg/L

Analyst: DLP

Analyte: ORTHOPHOSPHATE

Cal ID: UV-120 -

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.512	0.646	2.4	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/10/2009 09:35



A handwritten signature in cursive script, appearing to read "Danna Hesson".

Approved: March 12, 2009

2.3.4 Sulfide Data

2.3.4.1 Summary Data

LABORATORY REPORT

L09030095

00090718

03/12/09 15:27

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	376.1	1	05-MAR-09
17WW17-030409	L09030095-14	376.1	1	05-MAR-09
MW-130-030409	L09030095-16	376.1	1	05-MAR-09



Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296938**
Collect Date: **03/04/2009 11:15**

PrePrep Method: **NONE**
Prep Method: **376.1**
Analytical Method: **376.1**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **BURET**
Prep Date: **03/10/2009 08:45**
Cal Date:
Run Date: **03/10/2009 08:45**
File ID: **ET.0903100845-06**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sulfide	18496-25-8		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030095-14**
Client ID: **17WW17-030409**
Matrix: **Water**
Workgroup Number: **WG296938**
Collect Date: **03/04/2009 11:45**

PrePrep Method: **NONE**
Prep Method: **376.1**
Analytical Method: **376.1**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **BURET**
Prep Date: **03/10/2009 08:45**
Cal Date:
Run Date: **03/10/2009 08:45**
File ID: **ET.0903100845-07**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sulfide	18496-25-8		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030095**Report Date : **March 12, 2009**

00090721

Sample Number: **L09030095-16**
Client ID: **MW-130-030409**
Matrix: **Water**
Workgroup Number: **WG296938**
Collect Date: **03/04/2009 12:30**

PrePrep Method: **NONE**
Prep Method: **376.1**
Analytical Method: **376.1**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **BURET**
Prep Date: **03/10/2009 08:45**
Cal Date:
Run Date: **03/10/2009 08:45**
File ID: **ET.0903100845-08**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sulfide	18496-25-8		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

2.3.4.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

$$[\text{mL Iodine} * \text{N Iodide}] - (\text{mL titrant} * \text{N titrant}) * 16000 / (\text{volume} * \text{dilution}) = \text{mg/L Sulfide}$$

 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = mL of titrant used

N titrant = normality of titrant

16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide

volume = mL filtered of mL titrated(if not filtered)

dilution = dilution in decimal form ($1/5 = 0.2$)

Example Total Sulfide(Soil) Calculations

$$[(\text{mL Iodine} * \text{N Iodine}) - (\text{mL titrant} * \text{N titrant})] * 16.03 / \text{weight} = \text{mg/kg sulfide}$$

 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = normality of titrant

16.03 = 32.06 grams per 2 equivalents

weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 10-MAR-2009

Analyst: JBK

Analyst: NA

Method: S

Instrument: BURET

Curve Workgroup: NA

Runlog ID: _____

Analytical Workgroups: WG296938

Calibration/Linearity	03/10/2009
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JBK
Secondary Reviewer	
Comments	

Primary Reviewer:
12-MAR-2009



Secondary Reviewer:

Analytical Method: 376.1

AAB#: WG296938

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW17-030409	03/04/09	03/05/09	03/10/09	7	5.88	03/10/09	7	5.88	
17WW01-030409	03/04/09	03/05/09	03/10/09	7	5.90	03/10/09	7	5.90	
MW-130-030409	03/04/09	03/05/09	03/10/09	7	5.84	03/10/09	7	5.84	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: <u>L09030095</u>	Work Group: <u>WG296938</u>
Blank File ID: <u>ET.0903100845-01</u>	Blank Sample ID: <u>WG296938-01</u>
Prep Date: <u>03/10/09 08:45</u>	Instrument ID: <u>BURET</u>
Analyzed Date: <u>03/10/09 08:45</u>	Method: <u>376.1</u>
Analyst: <u>JBK</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296938-02	ET.0903100845-02	03/10/09 08:45	
LCS2	WG296938-03	ET.0903100845-03	03/10/09 08:45	
17WW01-030409	L09030095-01	ET.0903100845-06	03/10/09 08:45	
17WW17-030409	L09030095-14	ET.0903100845-07	03/10/09 08:45	
MW-130-030409	L09030095-16	ET.0903100845-08	03/10/09 08:45	

Report Name: BLANK_SUMMARY
PDF File ID: 1341168
Report generated 03/12/2009 13:00



Login Number: L09030095 Prep Date: 03/10/09 08:45 Sample ID: WG296938-01
Instrument ID: BURET Run Date: 03/10/09 08:45 Prep Method: 376.1
File ID: ET.0903100845-01 Analyst: JBK Method: 376.1
Workgroup (AAB#): WG296938 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: BURET -

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Sulfide	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1341169
12-MAR-2009 13:00



Login Number: L09030095 Analyst: JBK Prep Method: 376.1
Instrument ID: BURET Matrix: Water Method: 376.1
Workgroup (AAB#): WG296938 Units: mg/L
QC Key: STD Lot #: STD31731
Sample ID: WG296938-02 LCS File ID: ET.0903100845-02 Run Date: 03/10/2009 08:45
Sample ID: WG296938-03 LCS2 File ID: ET.0903100845-03 Run Date: 03/10/2009 08:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	20.3	20.4	101	20.3	20.4	101	0.00	85 - 115	10	

2.3.4.3 Raw Data

WORKGROUP: WG296938

SULFIDE

☒ EPA 376.1 / SM4500-S(-2)-F
SOP 3761 Revision #: _____

☐ Other

LCS: 561 31731

Instrument: Buret

Iodine standardization (0.025N and 0.1N)

mL 0.025N titrant: 3/4/09

Volume I: _____ mL

Normality I: 0.0252

mL 0.025 N titrant: 3/4/09

Volume I: _____ mL

Normality I: 0.101

Stock standardization (in duplicate) 10.0 mL stock

mL I 1) 10.0 2) 10.0

N I 1) 0.101N 2) 0.101N

mL 0.025 titrant 1) 15.0 2) 14.9 = 14.95

LCS daily dilution: $\frac{4(1013)}{200} = 20.26$ mg/L

1013 = stock conc (mg/L)

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	<u>0.0252</u> N Sodium Thiosulfate 2/25/09
BLANK	<u>20.0</u>	<u>15</u>	<u>0.0252</u>	<u>14.8</u>
LCS (4.0 mL)	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>4.9</u>
LCSDUP (4.0 mL)	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>4.9</u>
03-090-01	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
-05	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-095-01	<u>560</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-14	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-16	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-109-01	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-127-01	<u>540</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
-02	<u>560</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
-03	<u>555</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
03-149-01	<u>560</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-02	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-198-01	<u>560</u>	<u>15</u>	<u>0.0252</u>	<u>15.0</u>
-02	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>14.8</u>
-03	<u>550</u>	<u>↓</u>	<u>↓</u>	<u>14.6</u>
03-196-01	<u>510</u>	<u>↓</u>	<u>↓</u>	<u>14.6</u>
-02	<u>530</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-03	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>14.8</u>
-04	<u>510</u>	<u>↓</u>	<u>↓</u>	<u>14.6</u>
-05	<u>520</u>	<u>↓</u>	<u>↓</u>	<u>14.2</u>
-06	<u>520</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>

3/10/09
@ 1500
JBK

Analyst: [Signature]

Date/Time: 3/10/09 e 0845

DCN#78628



[Signature]

Approved: March 12, 2009

Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#):WG296938

Analyst:JBK

Product:376.1

Run Date:03/10/2009 08:45

Analyte:Sulfide

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG296938-01	200.0	15	.0252	14.8	.0252	1	0.403	0.4032	mg/L
WG296938-02	200.0	15	.0252	4.9	.0252	1	20.4	20.36	mg/L
WG296938-03	200.0	15	.0252	4.9	.0252	1	20.4	20.36	mg/L
L09030090-04	570.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030090-05	570.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030095-01	560.0	15	.0252	14.9	.0252	1	0.0720	ND	mg/L
L09030095-14	560.0	15	.0252	14.9	.0252	1	0.0720	ND	mg/L
L09030095-16	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030109-01	470.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030127-01	540.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030127-02	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030127-03	555.0	15	.0252	14.9	.0252	1	0.0726	ND	mg/L
L09030149-01	560.0	15	.0252	14.9	.0252	1	0.0720	ND	mg/L
L09030149-02	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030198-01	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030198-02	570.0	15	.0252	14.8	.0252	1	0.141	ND	mg/L
L09030198-03	550.0	15	.0252	14.6	.0252	1	0.293	ND	mg/L
L09030196-01	510.0	15	.0252	14.6	.0252	1	0.316	ND	mg/L
L09030196-02	530.0	15	.0252	14.9	.0252	1	0.0761	ND	mg/L
L09030196-03	530.0	15	.0252	14.8	.0252	1	0.152	ND	mg/L
L09030196-04	510.0	15	.0252	14.6	.0252	1	0.316	ND	mg/L
L09030196-05	530.0	15	.0252	14.2	.0252	1	0.609	0.6086 F	mg/L
L09030196-06	520.0	15	.0252	15	.0252	1	0	ND	mg/L

SULFIDE REPORT - Modified 03/06/2008

Report generated 03/12/2009 12:59



Approved: March 12, 2009

2.3.5 Total Organic Carbon Data

2.3.5.1 Summary Data

LABORATORY REPORT

L09030095

00090734

03/12/09 15:27

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW01-030409	L09030095-01	415.1	1	05-MAR-09
17WW17-030409	L09030095-14	415.1	1	05-MAR-09
MW-130-030409	L09030095-16	415.1	1	05-MAR-09



Report Number: **L09030095**Report Date : **March 12, 2009**

00090735

Sample Number: **L09030095-01**
Client ID: **17WW01-030409**
Matrix: **Water**
Workgroup Number: **WG296680**
Collect Date: **03/04/2009 11:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **415.1**
Analytical Method: **415.1**
Analyst: **DIH**
Dilution: **1**
Units: **mg/L**

Instrument: **TOC-VWP**
Prep Date: **03/06/2009 23:19**
Cal Date: **01/13/2009 15:07**
Run Date: **03/06/2009 23:19**
File ID: **TC03062009.038**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		6.60		1.00	0.500

1 of 3



Report Number: **L09030095**Report Date : **March 12, 2009**

00090736

Sample Number: **L09030095-14**
Client ID: **17WW17-030409**
Matrix: **Water**
Workgroup Number: **WG296680**
Collect Date: **03/04/2009 11:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **415.1**
Analytical Method: **415.1**
Analyst: **DIH**
Dilution: **1**
Units: **mg/L**

Instrument: **TOC-VWP**
Prep Date: **03/06/2009 23:55**
Cal Date: **01/13/2009 15:07**
Run Date: **03/06/2009 23:55**
File ID: **TC03062009.041**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		1.81		1.00	0.500

Sample Number: L09030095-16	PrePrep Method: NONE	Instrument: TOC-VWP
Client ID: MW-130-030409	Prep Method: 415.1	Prep Date: 03/07/2009 00:09
Matrix: Water	Analytical Method: 415.1	Cal Date: 01/13/2009 15:07
Workgroup Number: WG296680	Analyst: DIH	Run Date: 03/07/2009 00:09
Collect Date: 03/04/2009 12:30	Dilution: 1	File ID: TC03062009.042
Sample Tag: 01	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		9.37		1.00	0.500

2.3.5.2 QC Summary Data

**Total Organic Carbon Example Calculations
(Direct Readout Parameter)**

$$(\text{Readout})/(\text{dilution}) = \text{mg/L}$$

where:

Readout = direct readout from the instrument

dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Analytical Method: 415.1

AAB#: WG296680

Login Number: L09030095

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
MW-130-030409	03/04/09	03/05/09	03/07/09	28	2.49	03/07/09	28	2.49	
17WW17-030409	03/04/09	03/05/09	03/06/09	28	2.51	03/06/09	28	2.51	
17WW01-030409	03/04/09	03/05/09	03/06/09	28	2.50	03/06/09	28	2.50	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030095
Blank File ID: TC03062009.034
Prep Date: 03/06/09 22:30
Analyzed Date: 03/06/09 22:30
Analyst: DIH

Work Group: WG296680
Blank Sample ID: WG296680-01
Instrument ID: TOC-VWP
Method: 415.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296680-02	TC03062009.035	03/06/09 22:42	01
LCS2	WG296680-03	TC03062009.036	03/06/09 22:54	01
17WW01-030409	L09030095-01	TC03062009.038	03/06/09 23:19	01
17WW17-030409	L09030095-14	TC03062009.041	03/06/09 23:55	01
MW-130-030409	L09030095-16	TC03062009.042	03/07/09 00:09	01
DUP	WG296680-05	TC03062009.044	03/07/09 00:36	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 1339802
Report generated 03/11/2009 10:28



Login Number: L09030095 Prep Date: 03/06/09 22:30 Sample ID: WG296680-01
Instrument ID: TOC-VWP Run Date: 03/06/09 22:30 Prep Method: 415.1
File ID: TC03062009.034 Analyst: DIH Method: 415.1
Workgroup (AAB#): WG296680 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: TOC-VW-13-JAN-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1339803
11-MAR-2009 10:28



Login Number: L09030095 Analyst: DIH Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG296680 Units: mg/L
QC Key: STD Lot #: STD30420
Sample ID: WG296680-02 LCS File ID: TC03062009.035 Run Date: 03/06/2009 22:42
Sample ID: WG296680-03 LCS2 File ID: TC03062009.036 Run Date: 03/06/2009 22:54

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	25.5	102	25.0	25.1	100	1.54	85 - 115	15	

2.3.5.3 Raw Data

TC/TIC curves

wg 292773

Total Organic Carbon

MAKE DAILY

CCV (TOC): see below

LCS (TOC): _____

$$\left(\frac{10}{200}\right)(1000) = 50 \text{ mg/L} \quad \left(\frac{2}{200}\right)(1000) = 10 \text{ mg/L}$$

$$\left(\frac{5}{200}\right)(1000) = 25 \text{ mg/L}$$

CCV (TIC): _____

MS (TOC): _____

$$\left(\frac{5}{200}\right)(1000) = 25 \text{ mg/L}$$

Calibration Curve Date: _____



SM5310-C : Matrix 2 WG _____



EPA 415.1/9060A(mod): Matrix 1 WG _____

SOP: K 4151 Rev. 11

WG _____

Instrument: Shimadza TOC-VWP/ASI



drain reservoir filled



ASI water bottle full



dilution water bottle full



DAILY CHECK

3rd bottle full

sufficient gas



sufficient persulfate



sufficient acid

waste container

Position	Sample ID	Dilution
1	TC CURVE	
2	TIC curve	
3	TC ICV(25)	
4	TIC ICV(25)	
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16	all curve points and ICV's were injected and analyzed in duplicate	
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26		
27		
28		
29		
30		
31	curve std	
32	std 30838	
33	TIC 28734	
34		
35		
36	ICV	
37	TC std 30420	
38	TIC std 28733	
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57	see SOP for	
58	curve pts	
59		
60		
61		
62	$\frac{5 \text{ ml}}{200}(1000) = 25 \text{ mg/L}$	
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: Deanna RobertsDate/Time: 1/13/09

WG: _____

WG: _____

WG: _____

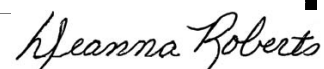
DCN#78103



Deanna Roberts

Approved: January 19, 2009

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TC	TC CURVE		Comple	01/13/2009 03:12:54 PM	0, 1,
2	IC	TIC CURVE		Comple	01/13/2009 04:22:39 PM	0, 6,
3	TC	TC ICV	TC:24.92mg/L	Comple	01/13/2009 04:38:03 PM	11
4	IC	TIC ICV	IC:24.60mg/L	Comple	01/13/2009 04:50:47 PM	12



Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.i32

Instr. Information

System
DetectorTOCVW ASI
Wet Chemical

Cal. Curve

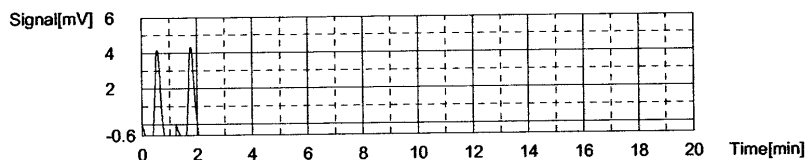
Sample Name: TC CURVE
 Sample ID: TCCURVE
 Cal. Curve: TCCURVE-01-13-2009.2009_01_13_14_10_52.cal
 Status: Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	8.437	500uL	1	*****		01/13/2009 02:14:13 PM
2	8.432	500uL	1	*****		01/13/2009 02:18:55 PM

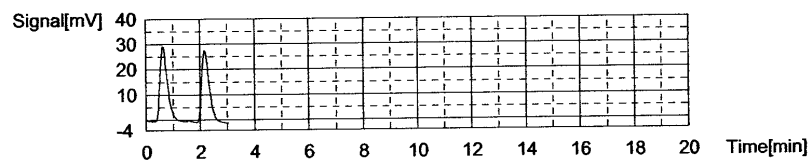
Acid Add. 0.000%
 Mean Area 8.434



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	56.85	500uL	1	*****		01/13/2009 02:24:22 PM
2	54.36	500uL	1	*****		01/13/2009 02:29:25 PM

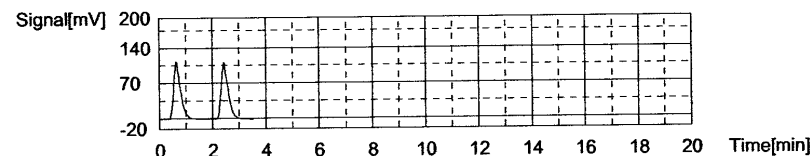
Acid Add. 0.000%
 Mean Area 55.61



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	206.9	500uL	1	*****		01/13/2009 02:35:09 PM
2	202.6	500uL	1	*****		01/13/2009 02:39:10 PM

Acid Add. 0.000%
 Mean Area 204.8



Conc: 10.00mg/L

1/5

Kearna Roberts

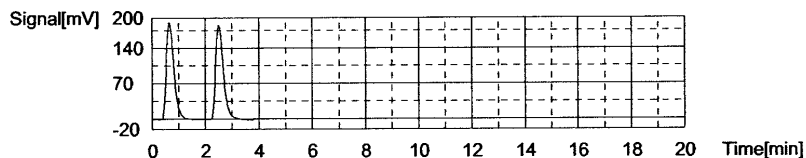
Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.132

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	380.7	500uL	1	*****		01/13/2009 02:44:58 PM
2	379.4	500uL	1	*****		01/13/2009 02:49:11 PM

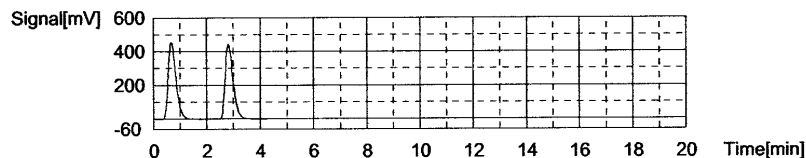
Acid Add. 0.000%
Mean Area 380.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	934.8	500uL	1	*****		01/13/2009 02:55:16 PM
2	914.5	500uL	1	*****		01/13/2009 03:00:30 PM

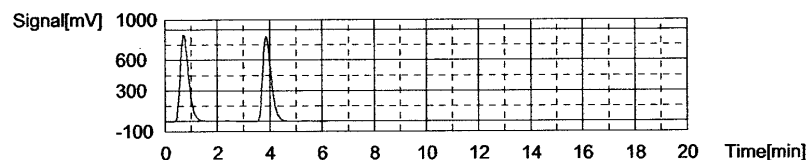
Acid Add. 0.000%
Mean Area 924.7



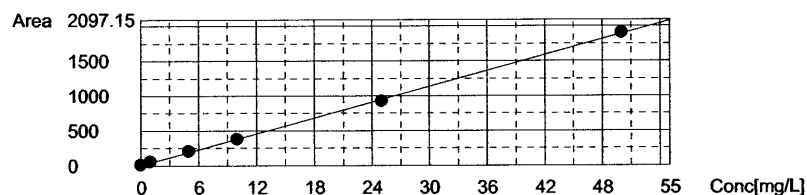
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1922	500uL	1	*****		01/13/2009 03:07:36 PM
2	1891	500uL	1	*****		01/13/2009 03:12:54 PM

Acid Add. 0.000%
Mean Area 1907



Slope: 37.71
Intercept 8.127
 r^2 0.999609
Zero Shift No



Cal. Curve

Sample Name: TIC CURVE
Sample ID: TICCURVE
Cal. Curve: TICCURVE-01-13-2009.2009_01_13_15_12_54.cal
Status: Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

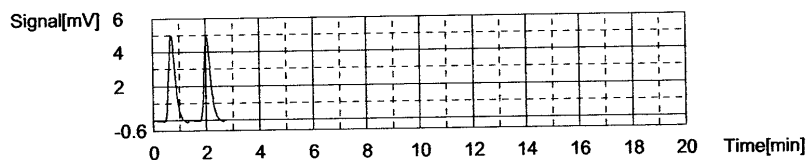
Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.t32

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	8.658	500uL	1	*****		01/13/2009 03:16:31 PM
2	8.479	500uL	1	*****		01/13/2009 03:20:08 PM

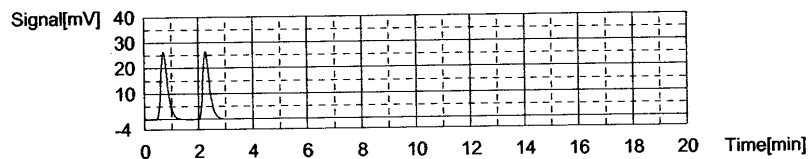
Acid Add. 3.000%
Mean Area 8.569



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.56	500uL	1	*****		01/13/2009 03:27:22 PM
2	46.10	500uL	1	*****		01/13/2009 03:31:26 PM

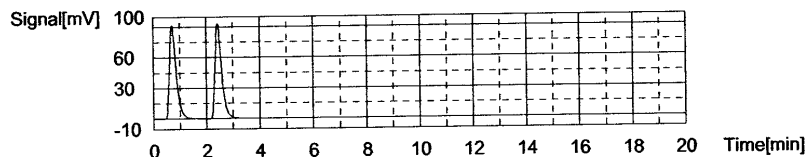
Acid Add. 3.000%
Mean Area 46.33



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	160.8	500uL	1	*****		01/13/2009 03:38:53 PM
2	161.9	500uL	1	*****		01/13/2009 03:43:10 PM

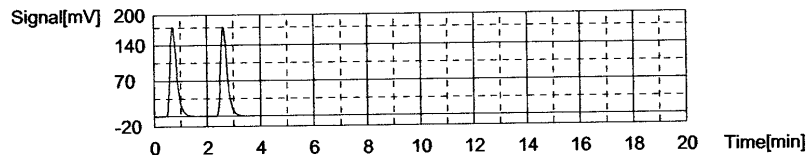
Acid Add. 3.000%
Mean Area 161.4



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	310.0	500uL	1	*****		01/13/2009 03:50:52 PM
2	308.4	500uL	1	*****		01/13/2009 03:55:18 PM

Acid Add. 3.000%
Mean Area 309.2



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	793.7	500uL	1	*****		01/13/2009 04:03:34 PM
2	782.1	500uL	1	*****		01/13/2009 04:08:41 PM

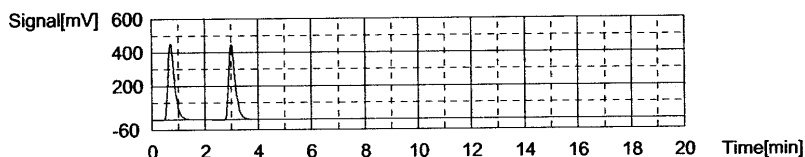
Heanna Roberts

Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.i32

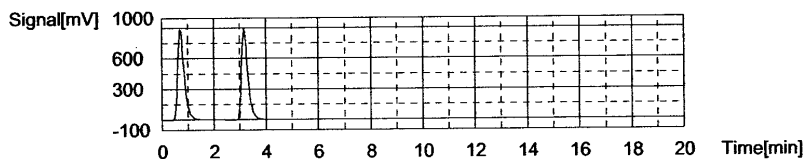
Acid Add. 3.000%
Mean Area 787.9



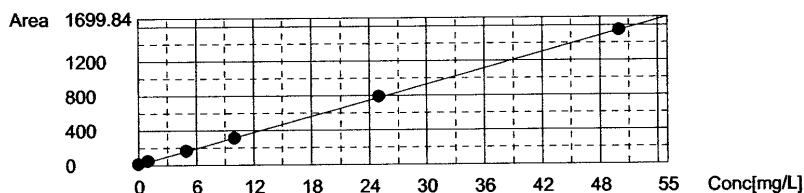
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1547	500uL	1	*****		01/13/2009 04:17:18 PM
2	1537	500uL	1	*****		01/13/2009 04:22:39 PM

Acid Add. 3.000%
Mean Area 1542



Slope: 30.70
Intercept 10.26
 r^2 0.999878
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID: TCCURVE
Origin: TCCURVE-01-13-2009.cal
Status: Completed
Chk. Result

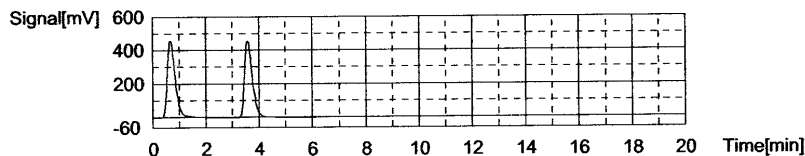
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:24.92mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	951.9	25.03mg/L	500uL	1		TCCURVE-01-13-2009.2009_01_13_14_10_50	01/13/2009 04:31:14 PM
2	943.7	24.81mg/L	500uL	1		TCCURVE-01-13-2009.2009_01_13_14_10_50	01/13/2009 04:38:03 PM

Mean Area 947.8
Mean Conc. 24.92mg/L



Heanna Roberts

Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.t32

Sample

Sample Name: TIC ICV
Sample ID: TICCURVE
Origin: TICCURVE-01-13-2009.cal
Status: Completed
Chk. Result

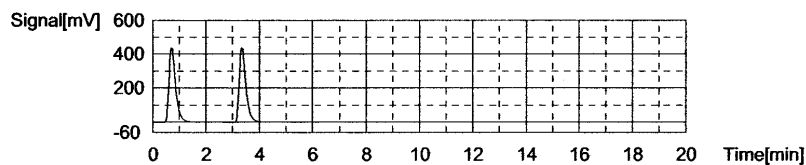
Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:24.60mg/L

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	765.5	24.60mg/L	500ul	1		TICCURVE-01-13-2009.2009_01_13_15_12_50	01/13/2009 04:45:09 PM
2	765.4	24.60mg/L	500ul	1		TICCURVE-01-13-2009.2009_01_13_15_12_50	01/13/2009 04:50:47 PM

Mean Area 765.5
Mean Conc. 24.60mg/L

*Heanna Roberts*

Approved: January 19, 2009

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
March 12, 2009

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
AM - ALISON J. MILLER	AML - ANTHONY M. LONG	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS	CAH - CHARLES A. HALL
CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD	CLW - CHARISSA L. WINTERS
CMS - CRYSTAL M. STEPHENS	CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS	ECL - ERIC C. LAWSON	EDA - ERIN D. AGEES
ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR
HJR - HOLLY J. REED	JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKP - JACQUELINE K. PARSONS	JKT - JANE K. THOMPSON	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU	KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON	LHT - LANCE H. THOMPSON
LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN	MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON	NPM - NATHANIEL P. MILLER
PDM - PIERCE D. MORRIS	RAH - ROY A. HALSTEAD	RB - ROBERT BUCHANAN
REK - ROBERT E. KYER	RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL
SAV - SARAH A. VANDENBERG	SDH - SHANA D. HINYARD	SDL - SHELLY D. LENT
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF	TDH - TRICIA D. HUCK
TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WTD - WADE T. DELONG	

List of Valid Qualifiers

March 12, 2009

Qualifier: STD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

***Special Notes for Organic Analytes

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



418

419

Client: <u>SHAW -</u>			
Workorder Number: <u>B</u>			
Date Received: <u>3/5/09</u>			
Delivered by: ☐ Fedx ☒ UPS ☐ Client ☐ Courier Time: <u>0909</u>			
Opened by: <u>RT</u>			
IR Temp Gun: ☐ G ☒ H			
Logged by: <u>RLK</u> <u>L</u> <u>09030095</u>			

Cooler information

Cooler ID	Temp C	Airbill#	COC#	Other
2031	2	1266V7250199861023		
292	1	1266V7250199688013	Chain (2)	48hr metal (5H5)

Inspection Checklist

	Y	N	NA	Discrepancy ID
Were shipping coolers sealed?	☒	☐	☐	
Were custody seals intact?	☒	☐	☐	
Were cooler temperatures in range of 0 - 6?	☒	☐	☐	
Was ice present?	☒	☐	☐	
Were COC's received/ information complete/signed and dated?	☒	☐	☐	(1) + (2) + (3)
Were sample containers and labels intact and match COC?	☒	☐	☐	→ (4)
Were the correct containers and volumes received?	☒	☐	☐	
Were correct preservatives used? (water only)	☒	☐	☐	
Were pH ranges acceptable? (voa's excluded)	☒	☐	☐	
Were VOA samples free of headspace (< 6mm)?	☒	☐	☐	
Were samples received within EPA hold times?	☒	☐	☐	

Discrepancy/Comments/Other Problems

(1) Received 2 Trips not on coc
(2) 17WW10-022609 coc says 3 bottles But we only received 2
(3) 17WW04-030209 no time on coc 1425 per bottle
(4) Rec'd metal bottle for TL not on chain 17WW05@1426

Distribution

Name of Microbac representative:
Client/Company:
Person Contacted:
Date contacted:

Resolution/other comments:

Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-03 558945 TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 12:29	ERE	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

Samplenum **Container ID** **Products**
L09030095-01 558895 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-02 558901 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-03	558903	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-05	558906	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-12	558918	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-16	558926	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-21	558937	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-25	558941	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-01	558898	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	06-MAR-2009 07:49	DIH	RLK
3	STORE	WET	A1	09-MAR-2009 08:08	ERE	DIH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-09	558913	TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-08 558910 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-13 558919 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-16 558931 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 14:16	JBK	ERE
3	STORE	WET	A1	11-MAR-2009 08:17	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-02 558902 SB-MS TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

Samplenum **Container ID** **Products**
L09030095-04 558904 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-10 558914 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-01	558896	RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-14	558923	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	06-MAR-2009 07:49	DIH	RLK
3	STORE	WET	A1	09-MAR-2009 08:08	ERE	DIH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-06	558908	SB-MS TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-26	558942	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-09	558912	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-15 558925 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-22 558938 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-01 558900 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 14:16	JBK	ERE
3	STORE	WET	A1	11-MAR-2009 08:17	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-14 558924 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 14:16	JBK	ERE
3	STORE	WET	A1	11-MAR-2009 08:17	RLK	JDH

Samplenum **Container ID** **Products**
L09030095-16 558929 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	06-MAR-2009 07:48	DIH	RLK
3	STORE	WET	A1	09-MAR-2009 08:07	ERE	DIH

Samplenum **Container ID** **Products**
L09030095-14 558920 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-16 558928 P04

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	05-MAR-2009 12:10	DLP	RLK
3	STORE	WET	W1	05-MAR-2009 12:38	RLK	DLP
4	ANALYZ	L1	SEM	05-MAR-2009 12:56	JWR	RLK
5	STORE	SEM	W1	06-MAR-2009 11:20	RLK	JWR
6	ANALYZ	W1	WET	06-MAR-2009 11:20	JBK	ERE
7	STORE	WET	A1	11-MAR-2009 08:19	RLK	JDH

Samplenum **Container ID** **Products**
L09030095-01 558897 P04

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	05-MAR-2009 12:10	DLP	RLK
3	STORE	WET	W1	05-MAR-2009 12:38	RLK	DLP
4	ANALYZ	L1	SEM	05-MAR-2009 12:56	JWR	RLK
5	STORE	SEM	W1	06-MAR-2009 11:20	RLK	JWR
6	ANALYZ	W1	WET	06-MAR-2009 11:20	JBK	ERE
7	STORE	WET	A1	11-MAR-2009 08:19	RLK	JDH

Samplenum **Container ID** **Products**
L09030095-08 558911 NI-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-04 558905 TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

Samplenum **Container ID** **Products**
L09030095-16 558930 AS-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

Samplenum **Container ID** **Products**
L09030095-06 558907 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-23 558939 826-L0W

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-24 558940 826-L0W

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-11 558917 TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-20 558936 TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

Samplenum **Container ID** **Products**
L09030095-07 558909 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-17 558932 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-18	558933	826-L0W

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-20	558935	826-L0W

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:12	MRT	ERE

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-14 558921 RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Samplenum **Container ID** **Products**
L09030095-14 558922 P04

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	ANALYZ	W1	WET	05-MAR-2009 12:10	DLP	RLK
3	STORE	WET	W1	05-MAR-2009 12:38	RLK	DLP
4	ANALYZ	L1	SEM	05-MAR-2009 12:56	JWR	RLK
5	STORE	SEM	W1	06-MAR-2009 11:20	RLK	JWR
6	ANALYZ	W1	WET	06-MAR-2009 11:20	JBK	ERE
7	STORE	WET	A1	11-MAR-2009 08:19	RLK	JDH

Samplenum **Container ID** **Products**
L09030095-10 558915 SB-MS TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

Samplenum **Container ID** **Products**
L09030095-01 558899 TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	05-MAR-2009 11:46	RLK	
2	PREP	W1	DIG	05-MAR-2009 13:44	REK	RLK
3	EXTRACT	DIG	METALS	06-MAR-2009 09:01		VC
4	STORE	DIG	A1	06-MAR-2009 14:00	REK	ERE

Samplenum **Container ID** **Products**
L09030095-28 558943 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:10	MRT	ERE

Samplenum **Container ID** **Products**
L09030095-11 558916 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030095

Account: 2773

Project: 2773.025

Samples: 27

Due Date: 12-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-19	558934	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	05-MAR-2009 14:11	MRT	ERE

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030095-16	558927	RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	05-MAR-2009 11:46	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 10:17	MRT	RLK

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login





158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L09030127

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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Jacqueline Parsons	<i>Team Assistant</i>	jparsons@microbac.com

This report was reviewed on March 13, 2009.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories.

This report was certified on March 13, 2009.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac (OVD) LQAP

This report contains a total of 284 pages.

Look closer. Go further. Do more.



Microbac REPORT L09030127
PREPARED FOR Shaw E I, Inc.
WORK ID:

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1.0 Introduction

Microbac Laboratories Inc.
REPORT NARRATIVE

Microbac Login No: L09030127

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 0 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 10-MAR-09
<i>Stephanie Mosburg</i>

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

- ✓R1 Field chain-of-custody documentation;
- ✓R2 sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) Cleanup methods, and
 - e) If required for the project, tentatively identified compounds (TICs)
- ✓R4 Surrogate recovery data including:
 - a) Calculated recovery (%R) for each analyte, and
 - b) The laboratory's surrogate QC limits.
- ✓R5 Test reports/summary forms for blank samples;
- ✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amount,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %R and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ✓R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ✓R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ✓R10 Other problems or anomalies.
- ✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MIKE D. ALBERTSON



Volatiles Lab Supervisor

March 13, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: 8260B
 Prep Batch Number(s): 296718, 296843
 Reviewer Name: MIKE D. ALBERTSON
 LRC Date: March 13, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?	✓				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓			1
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NP(2)	EC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?	✓				
Were ion abundance data within the method-required QC limits?	✓				
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?	✓				
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

EXCEPTIONS REPORT

ER# - Description

#1: Vinyl acetate exceeded the upper advisory limit in the LCS analyzed 03/09/09 on HPMS-11.

Footnotes:

(1) NA = Not applicable to method or project

(2) NR = Not reviewed

(3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MAREN M. BEERY



Metals Supervisor

March 11, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
Laboratory Log Number: L09030127
Project Name: 798-LONGHORN
Method: 6010
Prep Batch Number(s): WG296914
Reviewer Name: MAREN M. BEERY
LRC Date: March 11, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				ER1
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030127
Project Name:	798-LONGHORN
Method:	6010
Prep Batch Number(s):	WG296914
Reviewer Name:	MAREN M. BEERY
LRC Date:	March 11, 2009

EXCEPTIONS REPORT

ER#1 - Due to high levels of sodium detected in these samples historically, client samples 01 through 03 were analyzed at dilutions.

Footnotes:

- (1) NA = Not applicable to method or project**
- (2) NR = Not reviewed**
- (3) ER# = Exception report number**

This data Package consists of:

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R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

✓ The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

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MICHAEL D. COCHRAN



Semivolatiles Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: 9056
 Prep Batch Number(s): WG296775
 Reviewer Name: MICHAEL D. COCHRAN
 LRC Date: March 06, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?			✓		
Were % moisture (or solids) reported for all soil and sediment samples?			✓		
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				1
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030127
Project Name:	798-LONGHORN
Method:	9056
Prep Batch Number(s):	WG296775
Reviewer Name:	MICHAEL D. COCHRAN
LRC Date:	March 06, 2009

EXCEPTIONS REPORT**ER# - Description**

1. Samples -01, -02, -03 were analyzed at dilutions only, due to their high screen results for CL, which were greater than 200 ppm.
 - (1) NA = Not applicable to method or project
 - (2) NR = Not reviewed
 - (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: ORTHOPHOSPHATE
 Prep Batch Number(s): WG296739
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030127
Project Name:	798-LONGHORN
Method:	ORTHOPHOSPHATE
Prep Batch Number(s):	WG296739
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: SULFIDE
 Prep Batch Number(s): WG296938
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?		✓			
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			✓		
Were percent differences for each analyte within the method-required QC limits?			✓		
Was the ICAL curve verified for each analyte?			✓		
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030127
Project Name:	798-LONGHORN
Method:	SULFIDE
Prep Batch Number(s):	WG296938
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT**ER# - Description**

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: ALKALINITY
 Prep Batch Number(s): WG296711
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NR(2)	ES(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: ALKALINITY
 Prep Batch Number(s): WG296711
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: ALKALINITY
 Prep Batch Number(s): WG296711
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030127
Project Name:	798-LONGHORN
Method:	ALKALINITY
Prep Batch Number(s):	WG296711
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

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- (2) NR = Not reviewed
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This data Package consists of:

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R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

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- b) dilution factors,
- c) preparation methods,
- d) Cleanup methods, and
- e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

- a) Calculated recovery (%R) for each analyte, and
- b) The laboratory's surrogate QC limits.

✓ R5 Test reports/summary forms for blank samples;

✓ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amount,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %R and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

DEANNA I. HESSON



Conventional Lab Supervisor

March 12, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: TOC
 Prep Batch Number(s): WG296790
 Reviewer Name: DEANNA I. HESSON
 LRC Date: March 12, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NP(2)	FC(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ES(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L09030127
Project Name:	798-LONGHORN
Method:	TOC
Prep Batch Number(s):	WG296790
Reviewer Name:	DEANNA I. HESSON
LRC Date:	March 12, 2009

EXCEPTIONS REPORT

ER# - Description

Footnotes:

- (1) NA = Not applicable to method or project
- (2) NR = Not reviewed
- (3) ER# = Exception report number

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

- ✓R1 Field chain-of-custody documentation;
- ✓R2 sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) Cleanup methods, and
 - e) If required for the project, tentatively identified compounds (TICs)
- ✓R4 Surrogate recovery data including:
 - a) Calculated recovery (%R) for each analyte, and
 - b) The laboratory's surrogate QC limits.
- ✓R5 Test reports/summary forms for blank samples;
- ✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amount,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %R and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ✓R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ✓R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ✓R10 Other problems or anomalies.
- ✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MIKE D. ALBERTSON



Volatiles Lab Supervisor

March 13, 2009

Name (Printed)

Signature

Official Title (printed)

DATE

Microbac Laboratories Inc.
Laboratory Review Checklist

Laboratory Name: Microbac Laboratories Inc.
 Laboratory Log Number: L09030127
 Project Name: 798-LONGHORN
 Method: RSK175
 Prep Batch Number(s): WG296884
 Reviewer Name: MIKE D. ALBERTSON
 LRC Date: March 13, 2009

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?			✓		
Were % moisture (or solids) reported for all soil and sediment samples?			✓		
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	FC
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

EXCEPTIONS REPORT

ER# - Description

There were no exceptions.

Footnotes:

(1) NA = Not applicable to method or project

(2) NR = Not reviewed

(3) ER# = Exception report number

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT

L09030127

00090822

03/13/09 13:32

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	8260B	5	06-MAR-09
17WW03-030509	L09030127-02	8260B	1	06-MAR-09
17WW06-030509	L09030127-03	8260B	1	06-MAR-09
17WW06-030509	L09030127-03	8260B	2	06-MAR-09



Sample Number: L09030127-01
 Client ID: 17WW02-030509
 Matrix: Water
 Workgroup Number: WG296843
 Collect Date: 03/05/2009 12:08
 Sample Tag: DL02

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: WTD
 Dilution: 5
 Units: ug/L

Instrument: HPMS11
 Prep Date: 03/09/2009 19:15
 Cal Date: 03/05/2009 18:51
 Run Date: 03/09/2009 19:15
 File ID: 11M57658

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	50.0	12.5
Benzene	71-43-2		U	5.00	0.625
Bromobenzene	108-86-1		U	5.00	0.625
Bromochloromethane	74-97-5		U	5.00	1.00
Bromodichloromethane	75-27-4		U	5.00	1.25
Bromoform	75-25-2		U	5.00	2.50
Bromomethane	74-83-9		U	5.00	2.50
2-Butanone	78-93-3		U	50.0	12.5
n-Butylbenzene	104-51-8		U	5.00	1.25
sec-Butylbenzene	135-98-8		U	5.00	1.25
tert-Butylbenzene	98-06-6		U	5.00	1.25
Carbon disulfide	75-15-0		U	5.00	2.50
Carbon tetrachloride	56-23-5		U	5.00	1.25
Chlorobenzene	108-90-7		U	5.00	0.625
Chlorodibromomethane	124-48-1		U	5.00	1.25
Chloroethane	75-00-3		U	5.00	2.50
2-Chloroethyl vinyl ether	110-75-8		U	50.0	10.0
Chloroform	67-66-3		U	5.00	0.625
Chloromethane	74-87-3		U	5.00	1.25
2-Chlorotoluene	95-49-8		U	5.00	0.625
4-Chlorotoluene	106-43-4		U	5.00	1.25
1,2-Dibromo-3-chloropropane	96-12-8		U	25.0	5.00
1,2-Dibromoethane	106-93-4		U	5.00	1.25
Dibromomethane	74-95-3		U	5.00	1.25
1,2-Dichlorobenzene	95-50-1		U	5.00	0.625
1,3-Dichlorobenzene	541-73-1		U	5.00	1.25
1,4-Dichlorobenzene	106-46-7		U	5.00	0.625
Dichlorodifluoromethane	75-71-8		U	5.00	1.25
1,1-Dichloroethane	75-34-3		U	5.00	0.625
1,2-Dichloroethane	107-06-2	34.5		5.00	1.25
1,1-Dichloroethene	75-35-4	6.22		5.00	2.50
cis-1,2-Dichloroethene	156-59-2	8.11		5.00	1.25
trans-1,2-Dichloroethene	156-60-5	1.54	J	5.00	1.25
1,2-Dichloropropane	78-87-5		U	5.00	1.00
1,3-Dichloropropane	142-28-9		U	5.00	1.00
2,2-Dichloropropane	594-20-7		U	5.00	1.25
cis-1,3-Dichloropropene	10061-01-5		U	5.00	1.25
trans-1,3-Dichloropropene	10061-02-6		U	5.00	2.50
1,1-Dichloropropene	563-58-6		U	5.00	1.25
Ethylbenzene	100-41-4		U	5.00	1.25
2-Hexanone	591-78-6		U	50.0	12.5
Hexachlorobutadiene	87-68-3		U	5.00	1.25
Isopropylbenzene	98-82-8		U	5.00	1.25
p-Isopropyltoluene	99-87-6		U	5.00	1.25
4-Methyl-2-pentanone	108-10-1		U	50.0	12.5
Methylene chloride	75-09-2		U	25.0	1.25
Naphthalene	91-20-3		U	5.00	1.00
n-Propylbenzene	103-65-1		U	5.00	0.625
Styrene	100-42-5		U	5.00	0.625
1,1,1,2-Tetrachloroethane	630-20-6		U	5.00	1.25
1,1,2,2-Tetrachloroethane	79-34-5		U	5.00	0.625
Tetrachloroethene	127-18-4		U	5.00	1.25
Toluene	108-88-3		U	5.00	1.25
1,2,3-Trichlorobenzene	87-61-6		U	5.00	0.750
1,2,4-Trichlorobenzene	120-82-1		U	5.00	1.00
1,1,1-Trichloroethane	71-55-6		U	5.00	1.25
1,1,2-Trichloroethane	79-00-5		U	5.00	1.25
Trichloroethene	79-01-6	867		5.00	1.25
Trichlorofluoromethane	75-69-4		U	5.00	1.25

Sample Number: **L09030127-01**
 Client ID: **17WW02-030509**
 Matrix: **Water**
 Workgroup Number: **WG296843**
 Collect Date: **03/05/2009 12:08**
 Sample Tag: **DL02**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **5**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/09/2009 19:15**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/09/2009 19:15**
 File ID: **11M57658**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	5.00	2.50
1,2,4-Trimethylbenzene	95-63-6		U	5.00	1.25
1,3,5-Trimethylbenzene	108-67-8		U	5.00	1.25
Vinyl acetate	108-05-4		U	50.0	12.5
Vinyl chloride	75-01-4		U	5.00	1.25
o-Xylene	95-47-6		U	5.00	1.25
m-,p-Xylene	136777-61-2		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	95.6	86	118		
1,2-Dichloroethane-d4	91.6	80	120		
Toluene-d8	94.6	88	110		
4-Bromofluorobenzene	100	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

Sample Number: **L09030127-02**
 Client ID: **17WW03-030509**
 Matrix: **Water**
 Workgroup Number: **WG296843**
 Collect Date: **03/05/2009 09:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/09/2009 20:18**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/09/2009 20:18**
 File ID: **11M57660**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2	0.260	J	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	1.58		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	12.8		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030127**Report Date : **March 13, 2009**

00090826

Sample Number: **L09030127-02**
 Client ID: **17WW03-030509**
 Matrix: **Water**
 Workgroup Number: **WG296843**
 Collect Date: **03/05/2009 09:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/09/2009 20:18**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/09/2009 20:18**
 File ID: **11M57660**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	96.6	86	118		
1,2-Dichloroethane-d4	89.2	80	120		
Toluene-d8	94.6	88	110		
4-Bromofluorobenzene	99.1	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L09030127-03
 Client ID: 17WW06-030509
 Matrix: Water
 Workgroup Number: WG296718
 Collect Date: 03/05/2009 11:00
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: WTD
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 03/06/2009 19:31
 Cal Date: 03/05/2009 18:51
 Run Date: 03/06/2009 19:31
 File ID: 11M57621

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2	0.177	J	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3	1.28		1.00	0.125
1,2-Dichloroethane	107-06-2	5.68		1.00	0.250
1,1-Dichloroethene	75-35-4	7.00		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	13.0		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	2.38		1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	206	I	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Report Number: **L09030127**Report Date : **March 13, 2009**

00090828

Sample Number: **L09030127-03**
 Client ID: **17WW06-030509**
 Matrix: **Water**
 Workgroup Number: **WG296718**
 Collect Date: **03/05/2009 11:00**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/06/2009 19:31**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/06/2009 19:31**
 File ID: **11M57621**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	136777-61-2		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	96.2	86	118		
1,2-Dichloroethane-d4	90.2	80	120		
Toluene-d8	95.8	88	110		
4-Bromofluorobenzene	103	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

I Semiquantitative result (out of instrument calibration range)

Sample Number: L09030127-03
 Client ID: 17WW06-030509
 Matrix: Water
 Workgroup Number: WG296843
 Collect Date: 03/05/2009 11:00
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: WTD
 Dilution: 2
 Units: ug/L

Instrument: HPMS11
 Prep Date: 03/09/2009 19:47
 Cal Date: 03/05/2009 18:51
 Run Date: 03/09/2009 19:47
 File ID: 11M57659

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	20.0	5.00
Benzene	71-43-2		U	2.00	0.250
Bromobenzene	108-86-1		U	2.00	0.250
Bromochloromethane	74-97-5		U	2.00	0.400
Bromodichloromethane	75-27-4		U	2.00	0.500
Bromoform	75-25-2		U	2.00	1.00
Bromomethane	74-83-9		U	2.00	1.00
2-Butanone	78-93-3		U	20.0	5.00
n-Butylbenzene	104-51-8		U	2.00	0.500
sec-Butylbenzene	135-98-8		U	2.00	0.500
tert-Butylbenzene	98-06-6		U	2.00	0.500
Carbon disulfide	75-15-0		U	2.00	1.00
Carbon tetrachloride	56-23-5		U	2.00	0.500
Chlorobenzene	108-90-7		U	2.00	0.250
Chlorodibromomethane	124-48-1		U	2.00	0.500
Chloroethane	75-00-3		U	2.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	20.0	4.00
Chloroform	67-66-3		U	2.00	0.250
Chloromethane	74-87-3		U	2.00	0.500
2-Chlorotoluene	95-49-8		U	2.00	0.250
4-Chlorotoluene	106-43-4		U	2.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	10.0	2.00
1,2-Dibromoethane	106-93-4		U	2.00	0.500
Dibromomethane	74-95-3		U	2.00	0.500
1,2-Dichlorobenzene	95-50-1		U	2.00	0.250
1,3-Dichlorobenzene	541-73-1		U	2.00	0.500
1,4-Dichlorobenzene	106-46-7		U	2.00	0.250
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
1,1-Dichloroethane	75-34-3	1.02	J	2.00	0.250
1,2-Dichloroethane	107-06-2	5.59		2.00	0.500
1,1-Dichloroethene	75-35-4	5.78		2.00	1.00
cis-1,2-Dichloroethene	156-59-2	11.2		2.00	0.500
trans-1,2-Dichloroethene	156-60-5	1.82	J	2.00	0.500
1,2-Dichloropropane	78-87-5		U	2.00	0.400
1,3-Dichloropropane	142-28-9		U	2.00	0.400
2,2-Dichloropropane	594-20-7		U	2.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	2.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	2.00	1.00
1,1-Dichloropropene	563-58-6		U	2.00	0.500
Ethylbenzene	100-41-4		U	2.00	0.500
2-Hexanone	591-78-6		U	20.0	5.00
Hexachlorobutadiene	87-68-3		U	2.00	0.500
Isopropylbenzene	98-82-8		U	2.00	0.500
p-Isopropyltoluene	99-87-6		U	2.00	0.500
4-Methyl-2-pentanone	108-10-1		U	20.0	5.00
Methylene chloride	75-09-2		U	10.0	0.500
Naphthalene	91-20-3		U	2.00	0.400
n-Propylbenzene	103-65-1		U	2.00	0.250
Styrene	100-42-5		U	2.00	0.250
1,1,1,2-Tetrachloroethane	630-20-6		U	2.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	2.00	0.250
Tetrachloroethene	127-18-4		U	2.00	0.500
Toluene	108-88-3		U	2.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	2.00	0.300
1,2,4-Trichlorobenzene	120-82-1		U	2.00	0.400
1,1,1-Trichloroethane	71-55-6		U	2.00	0.500
1,1,2-Trichloroethane	79-00-5		U	2.00	0.500
Trichloroethene	79-01-6	176		2.00	0.500
Trichlorofluoromethane	75-69-4		U	2.00	0.500

Sample Number: **L09030127-03**
 Client ID: **17WW06-030509**
 Matrix: **Water**
 Workgroup Number: **WG296843**
 Collect Date: **03/05/2009 11:00**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **5030B**
 Analytical Method: **8260B**
 Analyst: **WTD**
 Dilution: **2**
 Units: **ug/L**

Instrument: **HPMS11**
 Prep Date: **03/09/2009 19:47**
 Cal Date: **03/05/2009 18:51**
 Run Date: **03/09/2009 19:47**
 File ID: **11M57659**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	2.00	1.00
1,2,4-Trimethylbenzene	95-63-6		U	2.00	0.500
1,3,5-Trimethylbenzene	108-67-8		U	2.00	0.500
Vinyl acetate	108-05-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	2.00	0.500
o-Xylene	95-47-6		U	2.00	0.500
m-,p-Xylene	136777-61-2		U	2.00	1.00
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	94.2	86	118		
1,2-Dichloroethane-d4	88.3	80	120		
Toluene-d8	93.7	88	110		
4-Bromofluorobenzene	101	86	115		

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL

2.1.1.2 QC Summary Data

Example 8260 Calculations

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

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

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100

RF = Calculated Response Factor **1.0039**

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

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

Example

where:

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

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

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

Example

where:

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

Dry weight correction:

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

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

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

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

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

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Instrument Run Log

Instrument: HPMS11 Dataset: 030509
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27854

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296612

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M57580	WG296573-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/05/09 08:29
2	11M57581	WG296573-02 50ug/L STD 8260	NA	1	1	STD31491	03/05/09 08:53
3	11M57582	WG296574-01 BLANK 8260	NA	1	1		03/05/09 09:30
4	11M57583	WG296574-01 BLANK 8260	NA	1	1		03/05/09 10:01
5	11M57585	WG296612-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/05/09 12:20
6	11M57586	SYSTEM BLANK	NA	1	1		03/05/09 12:44
7	11M57587	WG296612-02 0.3ug/L STD 8260	NA	1	1	STD31491	03/05/09 13:42
8	11M57588	WG296612-03 0.4ug/L STD 8260	NA	1	1	STD31491	03/05/09 14:13
9	11M57589	WG296612-04 1ug/L STD 8260	NA	1	1	STD31491	03/05/09 14:43
10	11M57590	WG296612-02 0.3ug/L STD 8260	NA	1	1	STD31491	03/05/09 15:14
11	11M57591	WG296612-05 2ug/L STD 8260	NA	1	1	STD31491	03/05/09 15:45
12	11M57592	WG296612-06 5ug/L STD 8260	NA	1	1	STD31491	03/05/09 16:16
13	11M57593	WG296612-07 20ug/L STD 8260	NA	1	1	STD31491	03/05/09 16:47
14	11M57594	WG296612-08 50ug/L STD 8260	NA	1	1	STD31491	03/05/09 17:18
15	11M57595	WG296612-09 100ug/L STD 8260	NA	1	1	STD31491	03/05/09 17:49
16	11M57596	WG296612-10 200ug/L STD 8260	NA	1	1	STD31491	03/05/09 18:20
17	11M57597	WG296612-11 300ug/L STD 8260	NA	1	1	STD31491	03/05/09 18:51
18	11M57598	SYSTEM BLANK	NA	1	1		03/05/09 19:22
19	11M57599	SYSTEM BLANK	NA	1	1		03/05/09 19:53
20	11M57600	SYSTEM BLANK	NA	1	1		03/05/09 20:24
21	11M57601	SYSTEM BLANK	NA	1	1		03/05/09 20:55
22	11M57602	WG296612-12 20ug/L ALT SRC 8260	NA	1	1	STD31617	03/05/09 21:26
23	11M57603	WG296612-12 OXY ALT SRC 8260	NA	1	1	STD31617	03/05/09 21:57
24	11M57604	SYSTEM BLANK	NA	1	1		03/05/09 22:28

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1				
File ID: 11M57580				
DNR				
2				
File ID: 11M57581				
DNR				
3				

Approved: March 06, 2009

Page: 1



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030509
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27854

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296612

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 11M57582				
DNR				
4				
File ID: 11M57583				
DNR				
7	X			
File ID: 11M57587				
dnr				

Approved: March 06, 2009

Page: 2

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030609
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27889

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296718

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M57605	WG296717-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/06/09 11:36
2	11M57606	WG296717-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/06/09 11:56
3	11M57607	WG296717-02 CCV 50ug/L 8260	NA	1	1	STD31491	03/06/09 12:20
4	11M57608	WG296718-01 BLANK 8260	NA	1	1		03/06/09 12:51
5	11M57609	WG296718-01 BLANK 8260	NA	1	1		03/06/09 13:22
6	11M57610	WG296718-02 LCS 20ug/L 8260	NA	1	1	STD31617	03/06/09 13:53
7	11M57611	L09030095-17 A 100X 826-LOW	<2	1	100		03/06/09 14:23
8	11M57612	L09030095-28 A 826-LOW	<2	1	1		03/06/09 14:54
9	11M57613	L09030095-17 A 826-LOW	7	1	1		03/06/09 15:25
10	11M57614	L09030095-24 A MS 826-LOW	7	1	1	STD31617	03/06/09 15:56
11	11M57615	L09030095-26 A MSD 826-LOW	<2	1	1	STD31617	03/06/09 16:27
12	11M57616	SYSTEM BLANK	NA	1	1		03/06/09 16:57
13	11M57617	L09030089-01 A 826-LOW	<2	1	1		03/06/09 17:28
14	11M57618	L09030089-02 A 826-LOW	<2	1	1		03/06/09 17:59
15	11M57619	L09030095-14 A 826-LOW	<2	1	1		03/06/09 18:30
16	11M57620	L09030095-15 A 826-LOW	<2	1	1		03/06/09 19:01
17	11M57621	L09030127-03 A 826-LOW	<2	1	1		03/06/09 19:31
18	11M57622	L09030095-10 A 100X 826-LOW	<2	1	100		03/06/09 20:02
19	11M57623	L09030095-20 A 100X 826-LOW	<2	1	100		03/06/09 20:33
20	11M57624	L09030095-16 A 100X 826-LOW	<2	1	100		03/06/09 21:04
21	11M57625	L09030127-01 A 100X 826-LOW	<2	1	100		03/06/09 21:35
22	11M57626	L09030127-02 A 100X 826-LOW	<2	1	100		03/06/09 22:06
23	11M57627	L09030095-18 A 100X 826-LOW	7	1	100		03/06/09 22:36
24	11M57628	SYSTEM BLANK	NA	1	1		03/06/09 23:07
25	11M57629	SYSTEM BLANK	NA	1	1		03/06/09 23:38
26	11M57630	WG296718-06 BLANK 624	NA	2	1		03/07/09 00:09
27	11M57631	L09030146-01 A 624-SPE1	7	2	1		03/07/09 00:40
28	11M57632	L09030146-02 A 624-SPE1	7	2	1		03/07/09 01:11
29	11M57633	L09030146-03 A 624-SPE1	7	2	1		03/07/09 01:41
30	11M57634	SYSTEM BLANK	NA	2	1		03/07/09 02:12
31	11M57635	SYSTEM BLANK	NA	2	1		03/07/09 02:43

Comments

Approved: March 09, 2009

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WTD



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030609
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27889

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296718

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X		Carry-over contamination	
File ID: 11M57608				
dnr				
7				
File ID: 11M57611				
dnr rr st				
17	X	2	Over Calibration Range	trichloroethene
File ID: 11M57621				
18	X	1	Analyzed too dilute	
File ID: 11M57622				
19	X	1	Analyzed too dilute	
File ID: 11M57623				
20	X	1	Analyzed too dilute	
File ID: 11M57624				
21	X	10	Analyzed too dilute	
File ID: 11M57625				
22	X	1	Analyzed too dilute	
File ID: 11M57626				
23	X	1	Analyzed too dilute	
File ID: 11M57627				

Approved: March 09, 2009

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WTD



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 030909
 Analyst1: WTD Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 12
 Method: 5030B/5035 SOP: PAT01 Rev: 11

Maintenance Log ID: 27907

Internal Standard: STD31521 Surrogate Standard: STD31522
 CCV: STD31491 LCS: STD31617 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: 296843

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M57642	WG296842-01 BFB 50ng STD 8260	NA	1	1	STD31210	03/09/09 11:05
2	11M57643	WG296842-02 CCV 50ug/L 8260	NA	1	1	STD31491	03/09/09 11:29
3	11M57644	WG296843-01 BLANK 8260	NA	1	1		03/09/09 12:00
4	11M57645	WG296843-01 BLANK 8260	NA	1	1		03/09/09 12:32
5	11M57646	WG296843-02 LCS 20ug/L 8260	NA	1	1	STD31708	03/09/09 13:03
6	11M57647	L09030141-07 A MS 826-SPE	<2	1	1	STD31708	03/09/09 13:34
7	11M57648	L09030141-08 A MSD 826-SPE	<2	1	1	STD31708	03/09/09 14:05
8	11M57649	SYSTEM BLANK	NA	1	1		03/09/09 14:36
9	11M57650	L09030142-01 A 826-SPE	<2	1	1		03/09/09 15:07
10	11M57651	L09030142-02 A 826-SPE	<2	1	1		03/09/09 15:38
11	11M57652	L09030141-06 A 826-SPE	<2	1	1		03/09/09 16:09
12	11M57653	L09030141-01 A 826-SPE	<2	1	1		03/09/09 16:40
13	11M57654	L09030141-02 A 826-SPE	<2	1	1		03/09/09 17:11
14	11M57655	L09030141-03 A 826-SPE	<2	1	1		03/09/09 17:42
15	11M57656	L09030141-04 A 826-SPE	<2	1	1		03/09/09 18:13
16	11M57657	L09030141-05 A 826-SPE	<2	1	1		03/09/09 18:44
17	11M57658	L09030127-01 B 5X 826-LOW	<2	1	5		03/09/09 19:15
18	11M57659	L09030127-03 B 2X 826-LOW	<2	1	2		03/09/09 19:47
19	11M57660	L09030127-02 B 826-LOW	<2	1	1		03/09/09 20:18
20	11M57661	L09030142-03 A 826-SPE	<2	1	1		03/09/09 20:49
21	11M57662	L09030142-04 A 826-SPE	<2	1	1		03/09/09 21:20
22	11M57663	L09030142-05 A 826-SPE	<2	1	1		03/09/09 21:51
23	11M57664	L09030142-06 A 826-SPE	<2	1	1		03/09/09 22:22
24	11M57665	L09030142-07 A 826-SPE	<2	1	1		03/09/09 22:53
25	11M57666	SYSTEM BLANK	NA	1	1		03/09/09 23:24
26	11M57667	SYSTEM BLANK	NA	1	1		03/09/09 23:55

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3	X		Carry-over contamination	
File ID: 11M57644				
dnr				

Approved: March 10, 2009

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Microbac Laboratories Inc.

Data Checklist

Date: 05-MAR-2009

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 26900

Analytical Workgroups: 296612

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

Primary Reviewer:
06-MAR-2009

Secondary Reviewer:
06-MAR-2009

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 26914

Analytical Workgroups: 296718

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

Primary Reviewer:
09-MAR-2009

Secondary Reviewer:
09-MAR-2009

Microbac Laboratories Inc.

Data Checklist

Date: 09-MAR-2009

Analyst: WTD

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 26955

Analytical Workgroups: 296843

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

Primary Reviewer:
10-MAR-2009

Secondary Reviewer:
10-MAR-2009

Analytical Method: 8260B

AAB#: WG296718

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW06-030509	03/05/09	03/06/09	03/06/09	14	1.35	03/06/09	14	1.35	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

Analytical Method: 8260B

AAB#: WG296843

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW03-030509	03/05/09	03/06/09	03/09/09	14	4.45	03/09/09	14	4.45	
17WW02-030509	03/05/09	03/06/09	03/09/09	14	4.30	03/09/09	14	4.30	
17WW06-030509	03/05/09	03/06/09	03/09/09	14	4.37	03/09/09	14	4.37	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

Login Number: L09030127
Instrument Id: HPMS11
Workgroup (AAB#): WG296718

Method: 8260
CAL ID: HPMS11 - 05-MAR-09
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L09030127-03	1.00	01	90.2	96.2	103	95.8
WG296718-01	1.00	01	88.2	96.0	101	96.7
WG296718-02	1.00	01	88.8	95.1	97.8	96.2
WG296718-06	1.00	01	88.2	95.2	100	95.5

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - 4-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

Login Number: L09030127
Instrument Id: HPMS11
Workgroup (AAB#): WG296843

Method: 8260
CAL ID: HPMS11 - 05-MAR-09
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L09030127-01	5.00	DL02	91.6	95.6	100	94.6
L09030127-02	1.00	01	89.2	96.6	99.1	94.6
L09030127-03	2.00	DL01	88.3	94.2	101	93.7
WG296843-01	1.00	01	94.5	99.2	101	97.1
WG296843-02	1.00	01	95.5	98.5	97.5	92.6

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	80 - 120
2 - Dibromofluoromethane	86 - 118
3 - 4-Bromofluorobenzene	86 - 115
4 - Toluene-d8	88 - 110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

METHOD BLANK SUMMARY

Login Number: <u>L09030127</u>	Work Group: <u>WG296718</u>
Blank File ID: <u>11M57609</u>	Blank Sample ID: <u>WG296718-01</u>
Prep Date: <u>03/06/09 13:22</u>	Instrument ID: <u>HPMS11</u>
Analyzed Date: <u>03/06/09 13:22</u>	Method: <u>8260B</u>
Analyst: <u>WTD</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296718-02	11M57610	03/06/09 13:53	01
17WW06-030509	L09030127-03	11M57621	03/06/09 19:31	01

Report Name: BLANK_SUMMARY
PDF File ID: 1338755
Report generated 03/10/2009 11:51



METHOD BLANK SUMMARY

Login Number: <u>L09030127</u>	Work Group: <u>WG296843</u>
Blank File ID: <u>11M57645</u>	Blank Sample ID: <u>WG296843-01</u>
Prep Date: <u>03/09/09 12:32</u>	Instrument ID: <u>HPMS11</u>
Analyzed Date: <u>03/09/09 12:32</u>	Method: <u>8260B</u>
Analyst: <u>WTD</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296843-02	11M57646	03/09/09 13:03	01
17WW02-030509	L09030127-01	11M57658	03/09/09 19:15	DL02
17WW06-030509	L09030127-03	11M57659	03/09/09 19:47	DL01
17WW03-030509	L09030127-02	11M57660	03/09/09 20:18	01

Report Name: BLANK_SUMMARY
PDF File ID: 1338755
Report generated 03/10/2009 11:51



Login Number: <u>L09030127</u>	Prep Date: <u>03/06/09 13:22</u>	Sample ID: <u>WG296718-01</u>
Instrument ID: <u>HPMS11</u>	Run Date: <u>03/06/09 13:22</u>	Prep Method: <u>5030B</u>
File ID: <u>11M57609</u>	Analyst: <u>WTD</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG296718</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
Contract #: <u>DACA56-94-D-0020</u>	Cal ID: <u>HPMS11 - 05-MAR-09</u>	

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

Report Name: BLANK

PDF ID: 1338756

10-MAR-2009 11:51



Login Number: L09030127 Prep Date: 03/06/09 13:22 Sample ID: WG296718-01
 Instrument ID: HPMS11 Run Date: 03/06/09 13:22 Prep Method: 5030B
 File ID: 11M57609 Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	96.0	86 - 118	PASS
1,2-Dichloroethane-d4	88.2	80 - 120	PASS
Toluene-d8	96.7	88 - 110	PASS
4-Bromofluorobenzene	101	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1338756

10-MAR-2009 11:51



Login Number: L09030127 Prep Date: 03/09/09 12:32 Sample ID: WG296843-01
 Instrument ID: HPMS11 Run Date: 03/09/09 12:32 Prep Method: 5030B
 File ID: 11M57645 Analyst: WTD Method: 8260B
 Workgroup (AAB#): WG296843 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 05-MAR-09

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

Report Name: BLANK

PDF ID: 1338756

10-MAR-2009 11:51



Login Number: L09030127 Prep Date: 03/09/09 12:32 Sample ID: WG296843-01
Instrument ID: HPMS11 Run Date: 03/09/09 12:32 Prep Method: 5030B
File ID: 11M57645 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296843 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS11 - 05-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	99.2	86 - 118	PASS
1,2-Dichloroethane-d4	94.5	80 - 120	PASS
Toluene-d8	97.1	88 - 110	PASS
4-Bromofluorobenzene	101	86 - 115	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1338756
10-MAR-2009 11:51



Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296718-02
Instrument ID: HPMS11 Run Time: 13:53 Prep Method: 5030B
File ID: 11M57610 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS11 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Acetone	20.0	20.5	103	40	-	142	
Benzene	20.0	18.5	92.6	80	-	121	
Bromobenzene	20.0	20.1	101	80	-	120	
Bromochloromethane	20.0	19.6	98.0	65	-	130	
Bromodichloromethane	20.0	19.3	96.4	80	-	131	
Bromoform	20.0	17.6	88.0	70	-	130	
Bromomethane	20.0	19.0	95.0	30	-	145	
2-Butanone	20.0	24.3	121	30	-	150	
n-Butylbenzene	20.0	19.9	99.4	80	-	131	
sec-Butylbenzene	20.0	19.7	98.5	80	-	127	
tert-Butylbenzene	20.0	20.1	100	80	-	126	
Carbon disulfide	20.0	16.2	81.1	58	-	138	
Carbon tetrachloride	20.0	19.9	99.7	65	-	140	
Chlorobenzene	20.0	18.8	93.9	80	-	120	
Chlorodibromomethane	20.0	18.7	93.7	60	-	135	
Chloroethane	20.0	19.0	94.8	60	-	135	
2-Chloroethyl vinyl ether	20.0	17.7	88.4	58	-	151	
Chloroform	20.0	19.0	95.2	80	-	125	
Chloromethane	20.0	16.7	83.6	40	-	125	
2-Chlorotoluene	20.0	19.8	99.2	80	-	127	
4-Chlorotoluene	20.0	18.6	92.8	80	-	126	
1,2-Dibromo-3-chloropropane	20.0	16.2	80.8	50	-	130	
1,2-Dibromoethane	20.0	17.8	89.1	80	-	125	
Dibromomethane	20.0	18.7	93.4	75	-	125	
1,2-Dichlorobenzene	20.0	19.0	95.0	80	-	125	
1,3-Dichlorobenzene	20.0	19.1	95.6	80	-	120	
1,4-Dichlorobenzene	20.0	18.7	93.3	80	-	120	
Dichlorodifluoromethane	20.0	15.8	79.0	50	-	133	
1,1-Dichloroethane	20.0	18.9	94.3	80	-	125	
1,2-Dichloroethane	20.0	18.5	92.6	80	-	129	
1,1-Dichloroethene	20.0	18.7	93.3	80	-	132	
cis-1,2-Dichloroethene	20.0	19.8	98.8	70	-	125	
trans-1,2-Dichloroethene	20.0	19.9	99.3	80	-	127	
1,2-Dichloropropane	20.0	19.2	96.2	80	-	120	
1,3-Dichloropropane	20.0	18.0	89.8	80	-	120	
2,2-Dichloropropane	20.0	19.7	98.4	80	-	133	
cis-1,3-Dichloropropene	20.0	18.8	93.9	70	-	130	
trans-1,3-Dichloropropene	20.0	16.3	81.7	80	-	130	
1,1-Dichloropropene	20.0	19.2	96.1	75	-	130	
Ethylbenzene	20.0	19.2	96.2	80	-	122	
2-Hexanone	20.0	17.2	86.2	55	-	130	

LCS - Modified 03/06/2008
PDF File ID: 1337559
Report generated: 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296718-02
Instrument ID: HPMS11 Run Time: 13:53 Prep Method: 5030B
File ID: 11M57610 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296718 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS11 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits	Q
Hexachlorobutadiene	20.0	19.2	96.2	72 - 132	
Isopropylbenzene	20.0	17.2	86.1	80 - 122	
p-Isopropyltoluene	20.0	18.9	94.5	80 - 122	
4-Methyl-2-pentanone	20.0	17.2	86.2	64 - 140	
Methylene chloride	20.0	19.0	95.2	80 - 123	
Naphthalene	20.0	18.2	90.8	59 - 149	
n-Propylbenzene	20.0	19.8	98.8	80 - 129	
Styrene	20.0	19.8	99.1	80 - 123	
1,1,1,2-Tetrachloroethane	20.0	19.3	96.5	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	18.2	91.0	79 - 125	
Tetrachloroethene	20.0	19.4	97.2	80 - 124	
Toluene	20.0	19.5	97.3	80 - 124	
1,2,3-Trichlorobenzene	20.0	19.6	98.0	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.0	99.8	65 - 135	
1,1,1-Trichloroethane	20.0	19.6	98.0	80 - 134	
1,1,2-Trichloroethane	20.0	19.5	97.7	80 - 125	
Trichloroethene	20.0	19.3	96.6	80 - 122	
Trichlorofluoromethane	20.0	17.8	89.2	62 - 151	
1,2,3-Trichloropropane	20.0	18.7	93.3	75 - 125	
1,2,4-Trimethylbenzene	20.0	19.9	99.3	80 - 125	
1,3,5-Trimethylbenzene	20.0	19.5	97.5	80 - 127	
Vinyl acetate	20.0	30.0	150	10 - 150	
Vinyl chloride	20.0	17.3	86.6	65 - 140	
o-Xylene	20.0	19.1	95.6	80 - 122	
m-,p-Xylene	40.0	38.7	96.7	80 - 122	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.1	86 - 118	PASS
1,2-Dichloroethane-d4	88.8	80 - 120	PASS
Toluene-d8	96.2	88 - 110	PASS
4-Bromofluorobenzene	97.8	86 - 115	PASS

* FAILS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1337559
Report generated: 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296843-02
Instrument ID: HPMS11 Run Time: 13:03 Prep Method: 5030B
File ID: 11M57646 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296843 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS11 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Acetone	20.0	23.1	115	40	-	142	
Benzene	20.0	21.0	105	80	-	121	
Bromobenzene	20.0	22.4	112	80	-	120	
Bromochloromethane	20.0	22.6	113	65	-	130	
Bromodichloromethane	20.0	21.9	109	80	-	131	
Bromoform	20.0	20.8	104	70	-	130	
Bromomethane	20.0	23.1	116	30	-	145	
2-Butanone	20.0	28.9	144	30	-	150	
n-Butylbenzene	20.0	20.8	104	80	-	131	
sec-Butylbenzene	20.0	20.6	103	80	-	127	
tert-Butylbenzene	20.0	21.3	107	80	-	126	
Carbon disulfide	20.0	18.0	90.1	58	-	138	
Carbon tetrachloride	20.0	21.5	107	65	-	140	
Chlorobenzene	20.0	20.2	101	80	-	120	
Chlorodibromomethane	20.0	21.2	106	60	-	135	
Chloroethane	20.0	22.9	115	60	-	135	
2-Chloroethyl vinyl ether	20.0	19.0	94.8	58	-	151	
Chloroform	20.0	21.4	107	80	-	125	
Chloromethane	20.0	21.4	107	40	-	125	
2-Chlorotoluene	20.0	20.4	102	80	-	127	
4-Chlorotoluene	20.0	19.9	99.7	80	-	126	
1,2-Dibromo-3-chloropropane	20.0	20.8	104	50	-	130	
1,2-Dibromoethane	20.0	21.2	106	80	-	125	
Dibromomethane	20.0	22.6	113	75	-	125	
1,2-Dichlorobenzene	20.0	21.1	105	80	-	125	
1,3-Dichlorobenzene	20.0	20.8	104	80	-	120	
1,4-Dichlorobenzene	20.0	20.9	104	80	-	120	
Dichlorodifluoromethane	20.0	25.1	125	50	-	133	
1,1-Dichloroethane	20.0	20.8	104	80	-	125	
1,2-Dichloroethane	20.0	21.8	109	80	-	129	
1,1-Dichloroethene	20.0	21.2	106	80	-	132	
cis-1,2-Dichloroethene	20.0	22.4	112	70	-	125	
trans-1,2-Dichloroethene	20.0	22.3	111	80	-	127	
1,2-Dichloropropane	20.0	21.2	106	80	-	120	
1,3-Dichloropropane	20.0	20.4	102	80	-	120	
2,2-Dichloropropane	20.0	20.7	103	80	-	133	
cis-1,3-Dichloropropene	20.0	21.0	105	70	-	130	
trans-1,3-Dichloropropene	20.0	18.4	92.0	80	-	130	
1,1-Dichloropropene	20.0	21.4	107	75	-	130	
Ethylbenzene	20.0	20.8	104	80	-	122	
2-Hexanone	20.0	22.3	111	55	-	130	

LCS - Modified 03/06/2008
PDF File ID: 1337559
Report generated: 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296843-02
Instrument ID: HPMS11 Run Time: 13:03 Prep Method: 5030B
File ID: 11M57646 Analyst: WTD Method: 8260B
Workgroup (AAB#): WG296843 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD31617 Cal ID: HPMS11 - 05-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits			Q
Hexachlorobutadiene	20.0	20.7	103	72	-	132	
Isopropylbenzene	20.0	18.6	93.0	80	-	122	
p-Isopropyltoluene	20.0	20.0	99.8	80	-	122	
4-Methyl-2-pentanone	20.0	21.9	110	64	-	140	
Methylene chloride	20.0	22.1	111	80	-	123	
Naphthalene	20.0	22.3	112	59	-	149	
n-Propylbenzene	20.0	20.9	105	80	-	129	
Styrene	20.0	21.5	108	80	-	123	
1,1,1,2-Tetrachloroethane	20.0	21.1	105	80	-	130	
1,1,2,2-Tetrachloroethane	20.0	22.0	110	79	-	125	
Tetrachloroethene	20.0	21.6	108	80	-	124	
Toluene	20.0	21.0	105	80	-	124	
1,2,3-Trichlorobenzene	20.0	22.9	114	55	-	140	
1,2,4-Trichlorobenzene	20.0	22.0	110	65	-	135	
1,1,1-Trichloroethane	20.0	21.7	108	80	-	134	
1,1,2-Trichloroethane	20.0	22.6	113	80	-	125	
Trichloroethene	20.0	21.2	106	80	-	122	
Trichlorofluoromethane	20.0	20.4	102	62	-	151	
1,2,3-Trichloropropane	20.0	21.3	107	75	-	125	
1,2,4-Trimethylbenzene	20.0	20.8	104	80	-	125	
1,3,5-Trimethylbenzene	20.0	20.6	103	80	-	127	
Vinyl acetate	20.0	32.6	163	10	-	150	*
Vinyl chloride	20.0	22.5	112	65	-	140	
o-Xylene	20.0	21.1	105	80	-	122	
m-,p-Xylene	40.0	42.1	105	80	-	122	

Surrogates	% Recovery	Surrogate Limits			Qualifier
Dibromofluoromethane	98.5	86	-	118	PASS
1,2-Dichloroethane-d4	95.5	80	-	120	PASS
Toluene-d8	92.6	88	-	110	PASS
4-Bromofluorobenzene	97.5	86	-	115	PASS

* FAILS %REC LIMIT

BFB

Login Number: L09030127
Instrument: HPMS11
Analyst: WTD
Workgroup: WG296612

Tune ID: WG296612-01
Run Date: 03/05/2009
Run Time: 12:20
File ID: 11M57585

Cal ID: HPMS11-05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.6	2550	PASS
75.0	95.0	30.0	60.0	51.3	4921	PASS
95.0	95.0	100	100	100	9591	PASS
96.0	95.0	5.00	9.00	7.08	679	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	70.9	6798	PASS
175	174	5.00	9.00	6.24	424	PASS
176	174	95.0	101	97.6	6635	PASS
177	176	5.00	9.00	5.41	359	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296612-03	STD	01	03/05/2009 14:13	
WG296612-04	STD	01	03/05/2009 14:43	
WG296612-02	STD	01	03/05/2009 15:14	
WG296612-05	STD	01	03/05/2009 15:45	
WG296612-06	STD	01	03/05/2009 16:16	
WG296612-07	STD	01	03/05/2009 16:47	
WG296612-08	STD-CCV	01	03/05/2009 17:18	
WG296612-09	STD	01	03/05/2009 17:49	
WG296612-10	STD	01	03/05/2009 18:20	
WG296612-11	STD	01	03/05/2009 18:51	
WG296612-12	SSCV	01	03/05/2009 21:26	
WG296612-12	SSCV	02	03/05/2009 21:57	

* Sample past 12 hour tune limit

BFB

Login Number: L09030127

Instrument: HPMS11

Analyst: WTD

Workgroup: WG296717

Tune ID: WG296717-01

Run Date: 03/06/2009

Run Time: 11:56

File ID: 11M57606

Cal ID: HPMS11-05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.4	3999	PASS
75.0	95.0	30.0	60.0	45.6	7463	PASS
95.0	95.0	100	100	100	16377	PASS
96.0	95.0	5.00	9.00	6.45	1057	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	78.8	12904	PASS
175	174	5.00	9.00	7.61	982	PASS
176	174	95.0	101	95.6	12340	PASS
177	176	5.00	9.00	6.50	802	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296717-02	CCV	01	03/06/2009 12:20	
WG296718-01	BLANK	01	03/06/2009 13:22	
WG296718-02	LCS	01	03/06/2009 13:53	
WG296718-03	REF	DL01	03/06/2009 14:23	
WG296718-03	REF	01	03/06/2009 15:25	
WG296718-04	MS	01	03/06/2009 15:56	
WG296718-05	MSD	01	03/06/2009 16:27	
L09030127-03	17WW06-030509	01	03/06/2009 19:31	
WG296718-06	BLANK2	01	03/07/2009 00:09	*

* Sample past 12 hour tune limit

BFB

Login Number: L09030127
Instrument: HPMS11
Analyst: WTD
Workgroup: WG296842

Tune ID: WG296842-01
Run Date: 03/09/2009
Run Time: 11:05
File ID: 11M57642

Cal ID: HPMS11-05-MAR-09

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.9	2817	PASS
75.0	95.0	30.0	60.0	47.0	5330	PASS
95.0	95.0	100	100	100	11332	PASS
96.0	95.0	5.00	9.00	6.21	704	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	81.9	9286	PASS
175	174	5.00	9.00	7.30	678	PASS
176	174	95.0	101	99.2	9209	PASS
177	176	5.00	9.00	6.84	630	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG296842-02	CCV	01	03/09/2009 11:29	
WG296843-01	BLANK	01	03/09/2009 12:32	
WG296843-02	LCS	01	03/09/2009 13:03	
WG296843-04	MS	01	03/09/2009 13:34	
WG296843-05	MSD	01	03/09/2009 14:05	
WG296843-03	REF	01	03/09/2009 16:09	
L09030127-01	17WW02-030509	DL02	03/09/2009 19:15	
L09030127-03	17WW06-030509	DL01	03/09/2009 19:47	
L09030127-02	17WW03-030509	01	03/09/2009 20:18	

* Sample past 12 hour tune limit

Login Number: L09030127
Analytical Method: 8260B
ICAL Workgroup: WG296612

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
1,1-Dichloroethene	CCC	0.3800	4.96		
1,2-Dichloropropane	CCC	0.2514	6.19		
Chloroform	CCC	0.4014	4.59		
Ethylbenzene	CCC	0.4316	8.37		
Toluene	CCC	1.225	3.87		
Vinyl Chloride	CCC	0.2279	9.37		
1,1,2,2-Tetrachloroethane	SPCC	0.4598	4.29		
1,1-Dichloroethane	SPCC	0.4620	2.32		
Bromoform	SPCC	0.1630	10.1		
Chlorobenzene	SPCC	0.7957	5.83		
Chloromethane	SPCC	0.4181	11.8		
1,1,1,2-Tetrachloroethane		0.2597	6.29		
1,1,1-Trichloroethane		0.3409	10.2		
1,1,2-Trichloroethane		0.2017	14.7		
1,1-Dichloropropene		0.2949	9.80		
1,2,3-Trichlorobenzene		0.6624	8.43		
1,2,3-Trichloropropane		0.1328	3.16		
1,2,4-Trichlorobenzene		0.7466	5.45		
1,2,4-Trimethylbenzene		2.116	4.89		
1,2-Dibromo-3-Chloropropane		0.08822	4.70		
1,2-Dibromoethane		0.2115	4.73		
1,2-Dichlorobenzene		0.9933	3.58		
1,2-Dichloroethane		0.3262	6.87		
1,3,5-Trimethylbenzene		2.064	5.59		
1,3-Dichlorobenzene		1.081	5.31		
1,3-Dichloropropane		0.3984	3.06		
1,4-Dichlorobenzene		1.120	3.93		
2,2-Dichloropropane		0.3084	16.0		0.99900
2-Butanone		0.1015	2.94		
2-Chloroethyl Vinyl Ether		0.07709	10.5		
2-Chlorotoluene		2.024	3.79		
2-Hexanone		0.1950	7.05		
4-Chlorotoluene		1.827	4.54		
4-Methyl-2-Pentanone		0.07371	2.50		
Acetone		0.06973	8.83		
Benzene		0.9145	6.34		
Bromobenzene		0.5617	7.42		
Bromochloromethane		0.1183	8.19		
Bromodichloromethane		0.3039	6.43		
Bromomethane		0.1250	7.33		
Carbon Disulfide		0.7521	2.53		
Carbon Tetrachloride		0.2839	9.67		
Chloroethane		0.1706	5.75		
Dibromochloromethane		0.2505	5.52		
Dibromomethane		0.1131	9.79		

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Analytical Method: 8260B
ICAL Workgroup: WG296612

Instrument ID: HPMS11
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Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
Dichlorodifluoromethane		0.2812	4.21		
Hexachlorobutadiene		0.3318	19.5		0.99900
Isopropylbenzene		1.283	6.17		
Methylene Chloride		0.2786	34.0		0.99900
Naphthalene		1.487	4.25		
Styrene		0.8524	9.03		
Tetrachloroethene		0.2063	7.62		
Trichloroethene		0.2119	6.25		
Trichlorofluoromethane		0.3364	18.1		0.99900
Vinyl Acetate		0.2958	11.9		
cis-1,2-Dichloroethene		0.2328	4.32		
cis-1,3-Dichloropropene		0.3540	5.56		
m-, p-Xylene		0.5218	5.37		
n-Butylbenzene		2.060	7.14		
n-Propylbenzene		3.036	5.82		
o-Xylene		0.5064	5.68		
p-Isopropyltoluene		2.079	5.76		
sec-Butylbenzene		2.523	4.88		
tert-Butylbenzene		0.3875	6.59		
trans-1,2-Dichloroethene		0.2073	6.99		
trans-1,3-Dichloropropene		0.4251	4.12		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

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Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
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Analyte	WG296612-02			WG296612-03			WG296612-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	0.300	2810.00000	0.3943	0.400	3552.00000	0.3689	1.00	8124.00000	0.3406
1,2-Dichloropropane	0.300	1830.00000	0.2568	0.400	2373.00000	0.2464	1.00	5128.00000	0.2150
Chloroform	0.300	2953.00000	0.4144	0.400	3673.00000	0.3814	1.00	8729.00000	0.3660
Ethylbenzene	0.300	2776.00000	0.5252	0.400	2972.00000	0.4133	1.00	7258.00000	0.4069
Toluene	0.300	6705.00000	1.269	0.400	9110.00000	1.267	1.00	19837.0000	1.112
Vinyl Chloride	NA	NA	NA	0.400	2369.00000	0.2460	1.00	5970.00000	0.2503
1,1,2,2-Tetrachloroethane	0.300	1128.00000	0.4172	0.400	1661.00000	0.4520	1.00	4440.00000	0.4831
1,1-Dichloroethane	NA	NA	NA	0.400	4395.00000	0.4564	1.00	10617.0000	0.4451
Bromoform	NA	NA	NA	NA	NA	NA	1.00	2342.00000	0.1313
Chlorobenzene	0.300	4597.00000	0.8697	0.400	6038.00000	0.8396	1.00	12579.0000	0.7052
Chloromethane	NA	NA	NA	0.400	5083.00000	0.5279	1.00	10450.0000	0.4381
1,1,1,2-Tetrachloroethane	0.300	1197.00000	0.2265	0.400	1895.00000	0.2635	1.00	4240.00000	0.2377
1,1,1-Trichloroethane	0.300	1965.00000	0.2757	0.400	3160.00000	0.3282	1.00	7026.00000	0.2946
1,1,2-Trichloroethane	0.300	945.000000	0.1788	0.400	955.000000	0.1328	1.00	3786.00000	0.2123
1,1-Dichloropropene	0.300	2145.00000	0.3010	0.400	2168.00000	0.2252	1.00	6576.00000	0.2757
1,2,3-Trichlorobenzene	0.300	1621.00000	0.5996	0.400	2569.00000	0.6990	1.00	4959.00000	0.5395
1,2,3-Trichloropropane	NA	NA	NA	NA	NA	NA	1.00	1252.00000	0.1362
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	2685.00000	0.7306	1.00	6168.00000	0.6711
1,2,4-Trimethylbenzene	0.300	6049.00000	2.238	0.400	7893.00000	2.148	1.00	17183.0000	1.870
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	1349.00000	0.1876	1.00	3894.00000	0.2183
1,2-Dichlorobenzene	0.300	2778.00000	1.028	0.400	3780.00000	1.029	1.00	8488.00000	0.9235
1,2-Dichloroethane	0.300	1995.00000	0.2799	0.400	2979.00000	0.3094	1.00	7319.00000	0.3068
1,3,5-Trimethylbenzene	0.300	6051.00000	2.238	0.400	7882.00000	2.145	1.00	16727.0000	1.820
1,3-Dichlorobenzene	0.300	3101.00000	1.147	0.400	4353.00000	1.184	1.00	9057.00000	0.9854
1,3-Dichloropropane	0.300	2260.00000	0.4276	0.400	2875.00000	0.3998	1.00	7047.00000	0.3951
1,4-Dichlorobenzene	0.300	3093.00000	1.144	0.400	4487.00000	1.221	1.00	9790.00000	1.065
2,2-Dichloropropane	NA	NA	NA	0.400	2058.00000	0.2137	1.00	6069.00000	0.2544
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethyl Vinyl Ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	0.300	5434.00000	2.010	0.400	7873.00000	2.142	1.00	17664.0000	1.922
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	0.300	5004.00000	1.851	0.400	7197.00000	1.958	1.00	15289.0000	1.663
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.300	6907.00000	0.9692	0.400	9858.00000	1.024	1.00	19615.0000	0.8223
Bromobenzene	0.300	1287.00000	0.4761	0.400	1956.00000	0.5322	1.00	5093.00000	0.5541
Bromochloromethane	NA	NA	NA	0.400	981.000000	0.1019	1.00	2540.00000	0.1065
Bromodichloromethane	0.300	1995.00000	0.2799	0.400	2761.00000	0.2867	1.00	6487.00000	0.2720
Bromomethane	NA	NA	NA	0.400	1102.00000	0.1144	1.00	2759.00000	0.1157
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	18623.0000	0.7807
Carbon Tetrachloride	0.300	2024.00000	0.2840	0.400	2222.00000	0.2308	1.00	5962.00000	0.2499

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Analyte	WG296612-05			WG296612-06			WG296612-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	17698.0000	0.3706	5.00	48269.0000	0.3998	20.0	187127.000	0.3737
1,2-Dichloropropane	2.00	11724.0000	0.2455	5.00	32455.0000	0.2688	20.0	126106.000	0.2518
Chloroform	2.00	18911.0000	0.3960	5.00	50210.0000	0.4159	20.0	197634.000	0.3947
Ethylbenzene	2.00	15359.0000	0.4349	5.00	37916.0000	0.4177	20.0	154854.000	0.4168
Toluene	2.00	43213.0000	1.224	5.00	111760.000	1.231	20.0	450722.000	1.213
Vinyl Chloride	2.00	11786.0000	0.2468	5.00	29161.0000	0.2415	20.0	104014.000	0.2077
1,1,2,2-Tetrachloroethane	2.00	8634.00000	0.4788	5.00	22362.0000	0.4718	20.0	91477.0000	0.4679
1,1-Dichloroethane	2.00	21936.0000	0.4594	5.00	56686.0000	0.4695	20.0	226878.000	0.4531
Bromoform	2.00	5659.00000	0.1603	5.00	14328.0000	0.1579	20.0	60423.0000	0.1626
Chlorobenzene	2.00	28905.0000	0.8185	5.00	72695.0000	0.8009	20.0	288273.000	0.7759
Chloromethane	2.00	18970.0000	0.3973	5.00	45647.0000	0.3781	20.0	184424.000	0.3683
1,1,1,2-Tetrachloroethane	2.00	9605.00000	0.2720	5.00	24709.0000	0.2722	20.0	97330.0000	0.2620
1,1,1-Trichloroethane	2.00	17160.0000	0.3594	5.00	44311.0000	0.3670	20.0	170956.000	0.3414
1,1,2-Trichloroethane	2.00	8349.00000	0.2364	5.00	19170.0000	0.2112	20.0	77560.0000	0.2088
1,1-Dichloropropene	2.00	14399.0000	0.3016	5.00	36969.0000	0.3062	20.0	150295.000	0.3001
1,2,3-Trichlorobenzene	2.00	11995.0000	0.6652	5.00	32823.0000	0.6926	20.0	133986.000	0.6854
1,2,3-Trichloropropane	2.00	2531.00000	0.1404	5.00	6125.00000	0.1292	20.0	25324.0000	0.1295
1,2,4-Trichlorobenzene	2.00	12996.0000	0.7207	5.00	34864.0000	0.7356	20.0	149121.000	0.7628
1,2,4-Trimethylbenzene	2.00	37907.0000	2.102	5.00	99695.0000	2.104	20.0	411493.000	2.105
1,2-Dibromo-3-Chloropropane	2.00	1455.00000	0.08070	5.00	4104.00000	0.08660	20.0	18086.0000	0.09250
1,2-Dibromoethane	2.00	7458.00000	0.2112	5.00	19387.0000	0.2136	20.0	78758.0000	0.2120
1,2-Dichlorobenzene	2.00	18261.0000	1.013	5.00	45213.0000	0.9540	20.0	191882.000	0.9815
1,2-Dichloroethane	2.00	16035.0000	0.3358	5.00	41622.0000	0.3448	20.0	167589.000	0.3347
1,3,5-Trimethylbenzene	2.00	36177.0000	2.006	5.00	97405.0000	2.055	20.0	400134.000	2.047
1,3-Dichlorobenzene	2.00	19101.0000	1.059	5.00	50743.0000	1.071	20.0	204684.000	1.047
1,3-Dichloropropane	2.00	14321.0000	0.4055	5.00	36040.0000	0.3971	20.0	145685.000	0.3921
1,4-Dichlorobenzene	2.00	20103.0000	1.115	5.00	51464.0000	1.086	20.0	215608.000	1.103
2,2-Dichloropropane	2.00	14818.0000	0.3103	5.00	39363.0000	0.3260	20.0	159099.000	0.3177
2-Butanone	NA	NA	NA	5.00	12849.0000	0.1064	20.0	51254.0000	0.1024
2-Chloroethyl Vinyl Ether	2.00	3791.00000	0.07940	5.00	9576.00000	0.07930	20.0	36748.0000	0.07340
2-Chlorotoluene	2.00	37828.0000	2.098	5.00	96099.0000	2.028	20.0	398676.000	2.039
2-Hexanone	2.00	5822.00000	0.1649	5.00	18354.0000	0.2022	20.0	75848.0000	0.2041
4-Chlorotoluene	2.00	33123.0000	1.837	5.00	87025.0000	1.836	20.0	340384.000	1.741
4-Methyl-2-Pentanone	2.00	3353.00000	0.07020	5.00	8855.00000	0.07330	20.0	37129.0000	0.07410
Acetone	NA	NA	NA	5.00	9654.00000	0.08000	20.0	35697.0000	0.07130
Benzene	2.00	41454.0000	0.8682	5.00	111356.000	0.9224	20.0	440382.000	0.8794
Bromobenzene	2.00	10012.0000	0.5552	5.00	29424.0000	0.6209	20.0	114538.000	0.5859
Bromochloromethane	2.00	5515.00000	0.1155	5.00	14981.0000	0.1241	20.0	59876.0000	0.1196
Bromodichloromethane	2.00	15150.0000	0.3173	5.00	37899.0000	0.3139	20.0	151937.000	0.3034
Bromomethane	2.00	6094.00000	0.1276	5.00	14509.0000	0.1202	20.0	59114.0000	0.1180
Carbon Disulfide	2.00	35642.0000	0.7464	5.00	87289.0000	0.7230	20.0	370063.000	0.7390
Carbon Tetrachloride	2.00	13578.0000	0.2844	5.00	36536.0000	0.3026	20.0	140827.000	0.2812

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Analyte	WG296612-08			WG296612-09			WG296612-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	486150.000	0.3978	100	896094.000	0.3847	200	1949977.00	0.3898
1,2-Dichloropropane	50.0	321443.000	0.2630	100	596833.000	0.2562	200	1297154.00	0.2593
Chloroform	50.0	507930.000	0.4156	100	950437.000	0.4080	200	2103001.00	0.4204
Ethylbenzene	50.0	399273.000	0.4314	100	743238.000	0.4214	200	1611632.00	0.4169
Toluene	50.0	1167225.00	1.261	100	2173673.00	1.232	200	4703926.00	1.217
Vinyl Chloride	50.0	272328.000	0.2228	100	501765.000	0.2154	200	964737.000	0.1928
1,1,2,2-Tetrachloroethane	50.0	232199.000	0.4633	100	460242.000	0.4521	200	1005581.00	0.4524
1,1-Dichloroethane	50.0	583643.000	0.4776	100	1078842.00	0.4632	200	2360735.00	0.4719
Bromoform	50.0	157952.000	0.1707	100	312468.000	0.1772	200	700225.000	0.1811
Chlorobenzene	50.0	735715.000	0.7949	100	1384148.00	0.7847	200	2984628.00	0.7720
Chloromethane	50.0	497534.000	0.4071	100	970923.000	0.4168	200	2056780.00	0.4111
1,1,1,2-Tetrachloroethane	50.0	250227.000	0.2704	100	474130.000	0.2688	200	1021668.00	0.2643
1,1,1-Trichloroethane	50.0	449256.000	0.3676	100	845183.000	0.3629	200	1856003.00	0.3710
1,1,2-Trichloroethane	50.0	196271.000	0.2121	100	372410.000	0.2111	200	817412.000	0.2114
1,1-Dichloropropene	50.0	389487.000	0.3187	100	727020.000	0.3121	200	1568899.00	0.3136
1,2,3-Trichlorobenzene	50.0	353458.000	0.7052	100	698247.000	0.6859	200	1532564.00	0.6895
1,2,3-Trichloropropane	50.0	66115.0000	0.1319	100	131571.000	0.1293	200	295249.000	0.1328
1,2,4-Trichlorobenzene	50.0	400621.000	0.7993	100	787110.000	0.7732	200	1733131.00	0.7798
1,2,4-Trimethylbenzene	50.0	1103648.00	2.202	100	2188486.00	2.150	200	4718836.00	2.123
1,2-Dibromo-3-Chloropropane	50.0	45019.0000	0.08980	100	91379.0000	0.08980	200	199882.000	0.08990
1,2-Dibromoethane	50.0	199064.000	0.2151	100	383884.000	0.2176	200	837778.000	0.2167
1,2-Dichlorobenzene	50.0	511503.000	1.021	100	1016862.00	0.9989	200	2206778.00	0.9929
1,2-Dichloroethane	50.0	419798.000	0.3435	100	785990.000	0.3374	200	1716472.00	0.3431
1,3,5-Trimethylbenzene	50.0	1073855.00	2.143	100	2101016.00	2.064	200	4578360.00	2.060
1,3-Dichlorobenzene	50.0	546793.000	1.091	100	1085490.00	1.066	200	2385797.00	1.073
1,3-Dichloropropane	50.0	361269.000	0.3903	100	686803.000	0.3894	200	1504215.00	0.3891
1,4-Dichlorobenzene	50.0	563730.000	1.125	100	1129274.00	1.109	200	2464911.00	1.109
2,2-Dichloropropane	50.0	422306.000	0.3456	100	802772.000	0.3447	200	1773572.00	0.3545
2-Butanone	50.0	122566.000	0.1003	100	235829.000	0.1012	200	508465.000	0.1016
2-Chloroethyl Vinyl Ether	50.0	87864.0000	0.07190	100	161131.000	0.06920	200	366312.000	0.07320
2-Chlorotoluene	50.0	1045083.00	2.085	100	1992282.00	1.957	200	4294454.00	1.932
2-Hexanone	50.0	185043.000	0.1999	100	357851.000	0.2029	200	751240.000	0.1943
4-Chlorotoluene	50.0	933253.000	1.862	100	1859896.00	1.827	200	4151005.00	1.868
4-Methyl-2-Pentanone	50.0	91250.0000	0.07470	100	176375.000	0.07570	200	376108.000	0.07520
Acetone	50.0	87273.0000	0.07140	100	159491.000	0.06850	200	323446.000	0.06470
Benzene	50.0	1123622.00	0.9194	100	2122335.00	0.9112	200	4573746.00	0.9143
Bromobenzene	50.0	300680.000	0.5999	100	575389.000	0.5652	200	1257000.00	0.5656
Bromochloromethane	50.0	154624.000	0.1265	100	288977.000	0.1241	200	642994.000	0.1285
Bromodichloromethane	50.0	387368.000	0.3170	100	740924.000	0.3181	200	1633547.00	0.3265
Bromomethane	50.0	169775.000	0.1389	100	309882.000	0.1330	200	661746.000	0.1323
Carbon Disulfide	50.0	939576.000	0.7688	100	1748414.00	0.7506	200	3782651.00	0.7561
Carbon Tetrachloride	50.0	378754.000	0.3099	100	704938.000	0.3026	200	1548845.00	0.3096

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Analyte	WG296612-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,1-Dichloropropene	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,3-Dichloropropane	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2,2-Dichloropropane	NA	NA	NA
2-Butanone	300	715016.000	0.09720
2-Chloroethyl Vinyl Ether	300	685516.000	0.09320
2-Chlorotoluene	NA	NA	NA
2-Hexanone	300	1071501.00	0.1967
4-Chlorotoluene	NA	NA	NA
4-Methyl-2-Pentanone	300	535333.000	0.07280
Acetone	300	459670.000	0.06250
Benzene	NA	NA	NA
Bromobenzene	NA	NA	NA
Bromochloromethane	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA

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Login Number: L09030127
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-02			WG296612-03			WG296612-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	3673.00000	0.1540
Dibromochloromethane	0.300	1228.00000	0.2323	0.400	1742.00000	0.2422	1.00	4068.00000	0.2281
Dibromomethane	NA	NA	NA	0.400	851.000000	0.08840	1.00	2520.00000	0.1056
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	6695.00000	0.2807
Hexachlorobutadiene	NA	NA	NA	0.400	659.000000	0.1793	1.00	3017.00000	0.3282
Isopropylbenzene	0.300	7033.00000	1.331	0.400	9127.00000	1.269	1.00	19410.0000	1.088
Methylene Chloride	NA	NA	NA	0.400	4771.00000	0.4955	1.00	7560.00000	0.3169
Naphthalene	NA	NA	NA	0.400	5202.00000	1.415	1.00	12809.0000	1.394
Styrene	0.300	4153.00000	0.7857	0.400	5902.00000	0.8207	1.00	12706.0000	0.7123
Tetrachloroethene	NA	NA	NA	0.400	1362.00000	0.1894	1.00	3162.00000	0.1773
Trichloroethene	0.300	1318.00000	0.1849	0.400	1949.00000	0.2024	1.00	4830.00000	0.2025
Trichlorofluoromethane	NA	NA	NA	0.400	1837.00000	0.1908	1.00	7836.00000	0.3285
Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	0.300	1549.00000	0.2173	0.400	2426.00000	0.2519	1.00	5365.00000	0.2249
cis-1,3-Dichloropropene	0.300	2264.00000	0.3177	0.400	3479.00000	0.3613	1.00	7751.00000	0.3250
m-,p-Xylene	0.600	5953.00000	0.5631	0.800	7780.00000	0.5409	2.00	16358.0000	0.4585
n-Butylbenzene	NA	NA	NA	NA	NA	NA	1.00	16156.0000	1.758
n-Propylbenzene	0.300	8654.00000	3.201	0.400	10170.0000	2.767	1.00	25411.0000	2.765
o-Xylene	0.300	2573.00000	0.4868	0.400	4019.00000	0.5589	1.00	8015.00000	0.4493
p-Isopropyltoluene	0.300	6107.00000	2.259	0.400	7669.00000	2.087	1.00	16589.0000	1.805
sec-Butylbenzene	0.300	7369.00000	2.726	0.400	9175.00000	2.497	1.00	20782.0000	2.261
tert-Butylbenzene	0.300	1040.00000	0.3847	0.400	1281.00000	0.3486	1.00	3165.00000	0.3443
trans-1,2-Dichloroethene	0.300	1372.00000	0.1925	0.400	1802.00000	0.1871	1.00	4610.00000	0.1933
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	1.00	6953.00000	0.3898

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Login Number: L09030127
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-05			WG296612-06			WG296612-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	2.00	7835.00000	0.1641	5.00	21834.0000	0.1809	20.0	85223.0000	0.1702
Dibromochloromethane	2.00	8755.00000	0.2479	5.00	23637.0000	0.2604	20.0	94078.0000	0.2532
Dibromomethane	2.00	5744.00000	0.1203	5.00	14196.0000	0.1176	20.0	57931.0000	0.1157
Dichlorodifluoromethane	2.00	12743.0000	0.2669	5.00	34317.0000	0.2842	20.0	138834.000	0.2772
Hexachlorobutadiene	2.00	6005.00000	0.3330	5.00	16043.0000	0.3385	20.0	68404.0000	0.3499
Isopropylbenzene	2.00	45189.0000	1.280	5.00	117817.000	1.298	20.0	471782.000	1.270
Methylene Chloride	2.00	13657.0000	0.2860	5.00	29726.0000	0.2462	20.0	108135.000	0.2159
Naphthalene	2.00	26178.0000	1.452	5.00	70362.0000	1.485	20.0	292706.000	1.497
Styrene	2.00	28555.0000	0.8086	5.00	78762.0000	0.8677	20.0	326151.000	0.8779
Tetrachloroethene	2.00	7125.00000	0.2018	5.00	20097.0000	0.2214	20.0	78834.0000	0.2122
Trichloroethene	2.00	10200.0000	0.2136	5.00	26975.0000	0.2234	20.0	107333.000	0.2143
Trichlorofluoromethane	2.00	16928.0000	0.3545	5.00	45932.0000	0.3805	20.0	173839.000	0.3472
Vinyl Acetate	2.00	13291.0000	0.2783	5.00	38166.0000	0.3161	20.0	166408.000	0.3323
cis-1,2-Dichloroethene	2.00	10769.0000	0.2255	5.00	28102.0000	0.2328	20.0	115065.000	0.2298
cis-1,3-Dichloropropene	2.00	17492.0000	0.3663	5.00	43512.0000	0.3604	20.0	175093.000	0.3497
m-,p-Xylene	4.00	36670.0000	0.5192	10.0	94961.0000	0.5231	40.0	381903.000	0.5140
n-Butylbenzene	2.00	36420.0000	2.020	5.00	98244.0000	2.073	20.0	403715.000	2.065
n-Propylbenzene	2.00	56391.0000	3.127	5.00	148344.000	3.130	20.0	614385.000	3.143
o-Xylene	2.00	17821.0000	0.5047	5.00	46355.0000	0.5107	20.0	189271.000	0.5094
p-Isopropyltoluene	2.00	37737.0000	2.093	5.00	98725.0000	2.083	20.0	398106.000	2.037
sec-Butylbenzene	2.00	45692.0000	2.534	5.00	120253.000	2.537	20.0	485426.000	2.483
tert-Butylbenzene	2.00	7497.00000	0.4157	5.00	19237.0000	0.4059	20.0	77604.0000	0.3970
trans-1,2-Dichloroethene	2.00	9495.00000	0.1988	5.00	26111.0000	0.2163	20.0	105603.000	0.2109
trans-1,3-Dichloropropene	2.00	14767.0000	0.4182	5.00	38863.0000	0.4282	20.0	157658.000	0.4243

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Login Number: L09030127
Analytical Method: 8260BInstrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-08			WG296612-09			WG296612-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloroethane	50.0	220419.000	0.1804	100	412975.000	0.1773	200	835354.000	0.1670
Dibromochloromethane	50.0	242603.000	0.2621	100	460748.000	0.2612	200	1031026.00	0.2667
Dibromomethane	50.0	144066.000	0.1179	100	275706.000	0.1184	200	605247.000	0.1210
Dichlorodifluoromethane	50.0	364942.000	0.2986	100	681714.000	0.2927	200	1340352.00	0.2679
Hexachlorobutadiene	50.0	187264.000	0.3736	100	376271.000	0.3696	200	850430.000	0.3826
Isopropylbenzene	50.0	1242990.00	1.343	100	2360625.00	1.338	200	5159730.00	1.335
Methylene Chloride	50.0	277498.000	0.2271	100	515767.000	0.2214	200	1100452.00	0.2200
Naphthalene	50.0	783718.000	1.564	100	1567626.00	1.540	200	3446769.00	1.551
Styrene	50.0	861999.000	0.9313	100	1655381.00	0.9385	200	3590552.00	0.9287
Tetrachloroethene	50.0	203617.000	0.2200	100	379802.000	0.2153	200	824699.000	0.2133
Trichloroethene	50.0	277592.000	0.2271	100	508887.000	0.2185	200	1104766.00	0.2208
Trichlorofluoromethane	50.0	454252.000	0.3717	100	835018.000	0.3585	200	1798637.00	0.3595
Vinyl Acetate	50.0	400752.000	0.3279	100	723110.000	0.3105	200	1338057.00	0.2675
cis-1,2-Dichloroethene	50.0	291714.000	0.2387	100	546735.000	0.2347	200	1196927.00	0.2393
cis-1,3-Dichloropropene	50.0	453446.000	0.3710	100	848712.000	0.3644	200	1853223.00	0.3705
m-,p-Xylene	100	984065.000	0.5316	200	1858816.00	0.5269	400	4014407.00	0.5192
n-Butylbenzene	50.0	1096684.00	2.188	100	2220570.00	2.181	200	4741712.00	2.133
n-Propylbenzene	50.0	1614197.00	3.221	100	3105868.00	3.051	200	6488954.00	2.920
o-Xylene	50.0	480918.000	0.5196	100	901206.000	0.5109	200	1960490.00	0.5071
p-Isopropyltoluene	50.0	1074100.00	2.143	100	2140806.00	2.103	200	4665521.00	2.099
sec-Butylbenzene	50.0	1310912.00	2.616	100	2578019.00	2.533	200	5603231.00	2.521
tert-Butylbenzene	50.0	206332.000	0.4117	100	398201.000	0.3912	200	863746.000	0.3886
trans-1,2-Dichloroethene	50.0	273912.000	0.2241	100	513222.000	0.2203	200	1114175.00	0.2227
trans-1,3-Dichloropropene	50.0	406083.000	0.4387	100	772549.000	0.4380	200	1695548.00	0.4386

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Login Number: L09030127
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 05-MAR-09 18:51
Column ID: F

Analyte	WG296612-11		
	CONC	RESP	RF
Chloroethane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dibromomethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methylene Chloride	NA	NA	NA
Naphthalene	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA
Vinyl Acetate	300	1750612.00	0.2381
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-,p-Xylene	NA	NA	NA
n-Butylbenzene	NA	NA	NA
n-Propylbenzene	NA	NA	NA
o-Xylene	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA
sec-Butylbenzene	NA	NA	NA
tert-Butylbenzene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 1338757
Report generated 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/05/2009 Sample ID: WG296612-12
Instrument ID: HPMS11 Run Time: 21:26 Method: 8260B
File ID: 11M57602 Analyst: WTD QC Key: STD
ICal Workgroup: WG296612 Cal ID: HPMS11 - 05-MAR-09

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	20.0	20.2	ug/L	0.406	1.10	30	
1,1-Dichloroethene	CCC	20.0	20.4	ug/L	0.387	1.80	30	
1,2-Dichloropropane	CCC	20.0	20.5	ug/L	0.257	2.30	30	
Ethylbenzene	CCC	20.0	20.0	ug/L	0.432	0.100	30	
Toluene	CCC	20.0	20.0	ug/L	1.22	0.200	30	
Vinyl Chloride	CCC	20.0	19.1	ug/L	0.218	4.50	30	
Bromoform	SPCC	20.0	20.1	ug/L	0.164	0.700	30	
Chlorobenzene	SPCC	20.0	19.5	ug/L	0.774	2.70	30	
Chloromethane	SPCC	20.0	17.9	ug/L	0.374	10.5	30	
1,1-Dichloroethane	SPCC	20.0	20.1	ug/L	0.463	0.300	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	19.7	ug/L	0.452	1.70	30	
Acetone		20.0	24.6	ug/L	0.0857	22.9	30	
Benzene		20.0	19.7	ug/L	0.902	1.40	30	
Bromobenzene		20.0	21.3	ug/L	0.599	6.70	30	
Bromochloromethane		20.0	21.6	ug/L	0.128	7.80	30	
Bromodichloromethane		20.0	20.8	ug/L	0.316	4.00	30	
Bromomethane		20.0	17.9	ug/L	0.112	10.7	30	
2-Butanone		20.0	20.3	ug/L	0.103	1.60	30	
n-Butylbenzene		20.0	20.5	ug/L	2.11	2.30	30	
sec-Butylbenzene		20.0	20.6	ug/L	2.59	2.80	30	
tert-Butylbenzene		20.0	21.1	ug/L	0.408	5.40	30	
Carbon Disulfide		20.0	17.9	ug/L	0.672	10.7	30	
Carbon Tetrachloride		20.0	21.2	ug/L	0.300	5.80	30	
Dibromochloromethane		20.0	20.1	ug/L	0.252	0.400	30	
Chloroethane		20.0	21.2	ug/L	0.181	6.00	30	
2-Chloroethyl Vinyl Ether		20.0	20.2	ug/L	0.0780	1.20	30	
2-Chlorotoluene		20.0	20.3	ug/L	2.05	1.30	30	
4-Chlorotoluene		20.0	20.0	ug/L	1.83	0.100	30	
1,2-Dibromo-3-Chloropropane		20.0	20.8	ug/L	0.0917	3.90	30	
1,2-Dibromoethane		20.0	19.8	ug/L	0.210	0.800	30	
Dibromomethane		20.0	20.8	ug/L	0.117	3.80	30	
1,2-Dichlorobenzene		20.0	20.3	ug/L	1.01	1.40	30	
1,3-Dichlorobenzene		20.0	20.0	ug/L	1.08	0	30	
1,4-Dichlorobenzene		20.0	19.5	ug/L	1.09	2.60	30	
Dichlorodifluoromethane		20.0	18.7	ug/L	0.263	6.50	30	
1,2-Dichloroethane		20.0	20.1	ug/L	0.328	0.500	30	
cis-1,2-Dichloroethene		20.0	21.1	ug/L	0.245	5.30	30	
trans-1,2-Dichloroethene		20.0	21.1	ug/L	0.219	5.60	30	
1,3-Dichloropropane		20.0	19.7	ug/L	0.392	1.70	30	
2,2-Dichloropropane		20.0	17.9	ug/L	0.299	10.5	30	
cis-1,3-Dichloropropene		20.0	19.1	ug/L	0.339	4.30	30	
trans-1,3-Dichloropropene		20.0	17.4	ug/L	0.369	13.1	30	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 1338758
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Login Number: L09030127 Run Date: 03/05/2009 Sample ID: WG296612-12
Instrument ID: HPMS11 Run Time: 21:26 Method: 8260B
File ID: 11M57602 Analyst: WTD QC Key: STD
ICal Workgroup: WG296612 Cal ID: HPMS11 - 05-MAR-09

Analyte	Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloropropene	20.0	20.4	ug/L	0.300	1.80	30	
2-Hexanone	20.0	20.6	ug/L	0.201	2.90	30	
Hexachlorobutadiene	20.0	20.3	ug/L	0.367	1.60	30	
Isopropylbenzene	20.0	18.0	ug/L	1.16	9.80	30	
p-Isopropyltoluene	20.0	19.7	ug/L	2.05	1.40	30	
4-Methyl-2-Pentanone	20.0	20.3	ug/L	0.0749	1.60	30	
Methylene Chloride	20.0	20.5	ug/L	0.232	2.30	30	
Naphthalene	20.0	20.9	ug/L	1.55	4.30	30	
n-Propylbenzene	20.0	20.6	ug/L	3.13	3.10	30	
Styrene	20.0	20.9	ug/L	0.889	4.30	30	
1,1,1,2-Tetrachloroethane	20.0	20.4	ug/L	0.265	2.20	30	
Tetrachloroethene	20.0	20.9	ug/L	0.216	4.40	30	
1,2,3-Trichlorobenzene	20.0	20.9	ug/L	0.692	4.40	30	
1,2,4-Trichlorobenzene	20.0	20.6	ug/L	0.767	2.80	30	
1,1,1-Trichloroethane	20.0	21.0	ug/L	0.359	5.20	30	
1,1,2-Trichloroethane	20.0	21.1	ug/L	0.213	5.70	30	
Trichloroethene	20.0	20.8	ug/L	0.220	3.90	30	
Trichlorofluoromethane	20.0	19.6	ug/L	0.355	2.00	30	
1,2,3-Trichloropropane	20.0	19.9	ug/L	0.132	0.700	30	
1,2,4-Trimethylbenzene	20.0	20.7	ug/L	2.19	3.40	30	
1,3,5-Trimethylbenzene	20.0	20.2	ug/L	2.09	1.00	30	
Vinyl Acetate	20.0	22.4	ug/L	0.331	12.0	40	
o-Xylene	20.0	20.4	ug/L	0.515	1.80	30	
m-,p-Xylene	40.0	40.4	ug/L	0.527	1.00	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296717-02
Instrument ID: HPMS11 Run Time: 12:20 Method: 8260B
File ID: 11M57607 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG296718 Cal ID: HPMS11 - 05-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.4	ug/L	0.404	0.703	20	
1,1-Dichloroethene	CCC	50.0	51.7	ug/L	0.393	3.35	20	
1,2-Dichloropropane	CCC	50.0	48.9	ug/L	0.246	2.15	20	
Ethylbenzene	CCC	50.0	50.7	ug/L	0.437	1.33	20	
Toluene	CCC	50.0	52.1	ug/L	1.28	4.24	20	
Vinyl Chloride	CCC	50.0	49.1	ug/L	0.224	1.86	20	
Bromoform	SPCC	50.0	45.5	ug/L	0.149	8.91	40	
Chlorobenzene	SPCC	50.0	50.0	ug/L	0.797	0.0944	40	
Chloromethane	SPCC	50.0	47.8	ug/L	0.399	4.48	40	
1,1-Dichloroethane	SPCC	50.0	50.0	ug/L	0.462	0.0348	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	44.1	ug/L	0.405	11.9	40	
Acetone		50.0	39.8	ug/L	0.0555	20.4	40	
Benzene		50.0	49.7	ug/L	0.908	0.693	40	
Bromobenzene		50.0	52.6	ug/L	0.591	5.24	40	
Bromochloromethane		50.0	49.8	ug/L	0.118	0.481	40	
Bromodichloromethane		50.0	49.3	ug/L	0.300	1.39	40	
Bromomethane		50.0	56.1	ug/L	0.140	12.2	40	
2-Butanone		50.0	37.9	ug/L	0.0770	24.1	40	
n-Butylbenzene		50.0	55.3	ug/L	2.28	10.7	40	
sec-Butylbenzene		50.0	54.0	ug/L	2.73	8.01	40	
tert-Butylbenzene		50.0	53.8	ug/L	0.417	7.54	40	
Carbon Disulfide		50.0	51.1	ug/L	0.769	2.20	40	
Carbon Tetrachloride		50.0	53.9	ug/L	0.306	7.89	40	
Dibromochloromethane		50.0	47.9	ug/L	0.240	4.19	40	
Chloroethane		50.0	51.4	ug/L	0.176	2.90	40	
2-Chloroethyl Vinyl Ether		50.0	39.2	ug/L	0.0604	21.6	40	
2-Chlorotoluene		50.0	52.2	ug/L	2.11	4.44	40	
4-Chlorotoluene		50.0	51.7	ug/L	1.89	3.43	40	
1,2-Dibromo-3-Chloropropane		50.0	40.9	ug/L	0.0722	18.2	40	
1,2-Dibromoethane		50.0	45.9	ug/L	0.194	8.15	40	
Dibromomethane		50.0	46.4	ug/L	0.105	7.24	40	
1,2-Dichlorobenzene		50.0	50.1	ug/L	0.996	0.245	40	
1,3-Dichlorobenzene		50.0	51.4	ug/L	1.11	2.73	40	
1,4-Dichlorobenzene		50.0	50.9	ug/L	1.14	1.71	40	
Dichlorodifluoromethane		50.0	51.6	ug/L	0.290	3.25	40	
1,2-Dichloroethane		50.0	47.0	ug/L	0.307	6.03	40	
cis-1,2-Dichloroethene		50.0	51.1	ug/L	0.238	2.27	40	
trans-1,2-Dichloroethene		50.0	54.2	ug/L	0.225	8.38	40	
1,3-Dichloropropane		50.0	44.2	ug/L	0.352	11.7	40	
2,2-Dichloropropane		50.0	53.2	ug/L	0.362	6.39	40	
cis-1,3-Dichloropropene		50.0	48.4	ug/L	0.343	3.19	40	
trans-1,3-Dichloropropene		50.0	47.4	ug/L	0.403	5.30	40	

CCV - Modified 03/05/2008
PDF File ID: 1338760
Report generated 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296717-02
Instrument ID: HPMS11 Run Time: 12:20 Method: 8260B
File ID: 11M57607 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG296718 Cal ID: HPMS11 - 05-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	53.2	ug/L	0.314	6.40	40	
2-Hexanone	50.0	39.4	ug/L	0.154	21.2	40	
Hexachlorobutadiene	50.0	54.1	ug/L	0.396	8.19	40	
Isopropylbenzene	50.0	53.3	ug/L	1.37	6.64	40	
p-Isopropyltoluene	50.0	53.6	ug/L	2.23	7.27	40	
4-Methyl-2-Pentanone	50.0	39.3	ug/L	0.0580	21.3	40	
Methylene Chloride	50.0	48.1	ug/L	0.215	3.90	40	
Naphthalene	50.0	44.3	ug/L	1.32	11.4	40	
n-Propylbenzene	50.0	54.2	ug/L	3.29	8.31	40	
Styrene	50.0	54.5	ug/L	0.929	8.95	40	
1,1,1,2-Tetrachloroethane	50.0	51.2	ug/L	0.266	2.40	40	
Tetrachloroethene	50.0	55.5	ug/L	0.229	11.0	40	
1,2,3-Trichlorobenzene	50.0	48.2	ug/L	0.638	3.66	40	
1,2,4-Trichlorobenzene	50.0	50.5	ug/L	0.755	1.09	40	
1,1,1-Trichloroethane	50.0	53.6	ug/L	0.365	7.10	40	
1,1,2-Trichloroethane	50.0	47.4	ug/L	0.191	5.12	40	
Trichloroethene	50.0	51.8	ug/L	0.220	3.69	40	
Trichlorofluoromethane	50.0	50.6	ug/L	0.366	1.11	40	
1,2,3-Trichloropropane	50.0	42.7	ug/L	0.113	14.7	40	
1,2,4-Trimethylbenzene	50.0	53.3	ug/L	2.25	6.55	40	
1,3,5-Trimethylbenzene	50.0	53.3	ug/L	2.20	6.68	40	
Vinyl Acetate	50.0	62.4	ug/L	0.369	24.7	40	
o-Xylene	50.0	52.1	ug/L	0.528	4.26	40	
m-,p-Xylene	100	105	ug/L	0.547	4.89	40	
1,2-Dichloroethene	100	105	ug/L	0.231	5.33	40	
Xylenes	150	157	ug/L	0.538	4.68	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 1338760

Report generated 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296842-02
Instrument ID: HPMS11 Run Time: 11:29 Method: 8260B
File ID: 11M57643 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG296843 Cal ID: HPMS11 - 05-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	48.6	ug/L	0.390	2.81	20	
1,1-Dichloroethene	CCC	50.0	47.7	ug/L	0.363	4.62	20	
1,2-Dichloropropane	CCC	50.0	48.5	ug/L	0.244	3.00	20	
Ethylbenzene	CCC	50.0	48.5	ug/L	0.418	3.09	20	
Toluene	CCC	50.0	49.5	ug/L	1.21	0.934	20	
Vinyl Chloride	CCC	50.0	48.4	ug/L	0.221	3.14	20	
Bromoform	SPCC	50.0	46.0	ug/L	0.150	7.91	40	
Chlorobenzene	SPCC	50.0	47.5	ug/L	0.755	5.08	40	
Chloromethane	SPCC	50.0	47.1	ug/L	0.394	5.87	40	
1,1-Dichloroethane	SPCC	50.0	47.5	ug/L	0.439	5.08	40	
1,1,2,2-Tetrachloroethane	SPCC	50.0	44.3	ug/L	0.408	11.3	40	
Acetone		50.0	43.1	ug/L	0.0601	13.8	40	
Benzene		50.0	48.3	ug/L	0.884	3.37	40	
Bromobenzene		50.0	51.6	ug/L	0.580	3.18	40	
Bromochloromethane		50.0	50.3	ug/L	0.119	0.611	40	
Bromodichloromethane		50.0	47.8	ug/L	0.290	4.42	40	
Bromomethane		50.0	53.4	ug/L	0.134	6.85	40	
2-Butanone		50.0	40.4	ug/L	0.0821	19.2	40	
n-Butylbenzene		50.0	50.9	ug/L	2.10	1.80	40	
sec-Butylbenzene		50.0	50.3	ug/L	2.54	0.555	40	
tert-Butylbenzene		50.0	51.9	ug/L	0.402	3.82	40	
Carbon Disulfide		50.0	49.9	ug/L	0.751	0.120	40	
Carbon Tetrachloride		50.0	48.9	ug/L	0.278	2.22	40	
Dibromochloromethane		50.0	46.8	ug/L	0.235	6.33	40	
Chloroethane		50.0	50.4	ug/L	0.172	0.783	40	
2-Chloroethyl Vinyl Ether		50.0	36.9	ug/L	0.0570	26.1	40	
2-Chlorotoluene		50.0	46.8	ug/L	1.90	6.35	40	
4-Chlorotoluene		50.0	50.0	ug/L	1.83	0.0124	40	
1,2-Dibromo-3-Chloropropane		50.0	41.0	ug/L	0.0724	17.9	40	
1,2-Dibromoethane		50.0	45.1	ug/L	0.191	9.71	40	
Dibromomethane		50.0	46.7	ug/L	0.106	6.62	40	
1,2-Dichlorobenzene		50.0	50.1	ug/L	0.995	0.189	40	
1,3-Dichlorobenzene		50.0	50.1	ug/L	1.08	0.204	40	
1,4-Dichlorobenzene		50.0	49.5	ug/L	1.11	1.05	40	
Dichlorodifluoromethane		50.0	48.8	ug/L	0.275	2.39	40	
1,2-Dichloroethane		50.0	46.4	ug/L	0.303	7.19	40	
cis-1,2-Dichloroethene		50.0	50.2	ug/L	0.234	0.488	40	
trans-1,2-Dichloroethene		50.0	52.2	ug/L	0.216	4.36	40	
1,3-Dichloropropane		50.0	43.9	ug/L	0.350	12.2	40	
2,2-Dichloropropane		50.0	48.2	ug/L	0.328	3.51	40	
cis-1,3-Dichloropropene		50.0	48.2	ug/L	0.342	3.54	40	
trans-1,3-Dichloropropene		50.0	45.4	ug/L	0.386	9.12	40	

CCV - Modified 03/05/2008
PDF File ID: 1338760
Report generated 03/10/2009 11:51



Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296842-02
Instrument ID: HPMS11 Run Time: 11:29 Method: 8260B
File ID: 11M57643 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG296843 Cal ID: HPMS11 - 05-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	49.5	ug/L	0.292	0.980	40	
2-Hexanone	50.0	42.0	ug/L	0.164	15.9	40	
Hexachlorobutadiene	50.0	50.5	ug/L	0.370	1.04	40	
Isopropylbenzene	50.0	49.8	ug/L	1.28	0.387	40	
p-Isopropyltoluene	50.0	50.0	ug/L	2.08	0.0526	40	
4-Methyl-2-Pentanone	50.0	40.3	ug/L	0.0594	19.5	40	
Methylene Chloride	50.0	48.2	ug/L	0.216	3.52	40	
Naphthalene	50.0	46.3	ug/L	1.38	7.37	40	
n-Propylbenzene	50.0	50.1	ug/L	3.04	0.231	40	
Styrene	50.0	52.0	ug/L	0.887	4.03	40	
1,1,1,2-Tetrachloroethane	50.0	48.3	ug/L	0.251	3.42	40	
Tetrachloroethene	50.0	53.1	ug/L	0.219	6.13	40	
1,2,3-Trichlorobenzene	50.0	50.3	ug/L	0.667	0.660	40	
1,2,4-Trichlorobenzene	50.0	51.4	ug/L	0.767	2.75	40	
1,1,1-Trichloroethane	50.0	49.3	ug/L	0.336	1.32	40	
1,1,2-Trichloroethane	50.0	47.7	ug/L	0.192	4.61	40	
Trichloroethene	50.0	50.0	ug/L	0.212	0.0566	40	
Trichlorofluoromethane	50.0	46.1	ug/L	0.334	7.80	40	
1,2,3-Trichloropropane	50.0	43.9	ug/L	0.117	12.2	40	
1,2,4-Trimethylbenzene	50.0	49.5	ug/L	2.09	1.08	40	
1,3,5-Trimethylbenzene	50.0	49.2	ug/L	2.03	1.52	40	
Vinyl Acetate	50.0	59.0	ug/L	0.349	18.0	40	
o-Xylene	50.0	49.5	ug/L	0.501	1.06	40	
m-,p-Xylene	100	99.6	ug/L	0.520	0.410	40	
1,2-Dichloroethene	100	102	ug/L	0.225	2.42	40	
Xylenes	150	149	ug/L	0.510	0.627	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 1338760

Report generated 03/10/2009 11:51



Login Number: L09030127
Instrument ID: HPMS11
Workgroup (AAB#): WG296718

CCV Number: WG296717-02
CAL ID: HPMS11 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296717-02	NA	NA	287279	539813	735767
Upper Limit	NA	NA	574558	1079626	1471534
Lower Limit	NA	NA	143640	269907	367884
<u>L09030127-03</u>	<u>1.00</u>	<u>01</u>	<u>227293</u>	<u>448066</u>	<u>592866</u>
WG296718-01	1.00	01	246095	482957	648940
WG296718-02	1.00	01	259285	490686	655064
WG296718-03	1.00	01	240300	463339	627133
WG296718-03	100	DL01	244853	471278	638879
WG296718-04	1.00	01	252159	477338	633180
WG296718-05	1.00	01	254219	483572	644711
WG296718-06	1.00	01	214975	420711	567523

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

Underline = Response outside limits

Login Number: L09030127
Instrument ID: HPMS11
Workgroup (AAB#): WG296843

CCV Number: WG296842-02
CAL ID: HPMS11 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296842-02	NA	NA	267074	497516	667868
Upper Limit	NA	NA	534148	995032	1335736
Lower Limit	NA	NA	133537	248758	333934
<u>L09030127-01</u>	<u>5.00</u>	<u>DL02</u>	<u>208036</u>	<u>409654</u>	<u>536180</u>
L09030127-02	1.00	01	205314	401273	529245
L09030127-03	2.00	DL01	206486	407207	537462
WG296843-01	1.00	01	223228	432353	566721
WG296843-02	1.00	01	245109	453766	587997
WG296843-03	1.00	01	221149	429777	562642
WG296843-04	1.00	01	242945	450499	584300
WG296843-05	1.00	01	246325	456073	587838

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

Underline = Response outside limits

Login Number: L09030127
Instrument ID: HPMS11
Workgroup (AAB#): WG296718

CCV Number: WG296717-02
CAL ID: HPMS11 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296717-02	NA	NA	16.48	13.68	10.07
Upper Limit	NA	NA	16.98	14.18	10.57
Lower Limit	NA	NA	15.98	13.18	9.57
L09030127-03	1.00	01	16.482	13.68	10.071
WG296718-01	1.00	01	16.481	13.679	10.071
WG296718-02	1.00	01	16.482	13.68	10.061
WG296718-03	1.00	01	16.481	13.679	10.071
WG296718-03	100	DL01	16.482	13.68	10.071
WG296718-04	1.00	01	16.481	13.679	10.061
WG296718-05	1.00	01	16.481	13.679	10.061
WG296718-06	1.00	01	16.482	13.68	10.071

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

Underline = Response outside limits

Login Number: L09030127
Instrument ID: HPMS11
Workgroup (AAB#): WG296843

CCV Number: WG296842-02
CAL ID: HPMS11 - 05-MAR-09
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG296842-02	NA	NA	16.48	13.69	10.07
Upper Limit	NA	NA	16.98	14.19	10.57
Lower Limit	NA	NA	15.98	13.19	9.57
L09030127-01	5.00	DL02	16.482	13.68	10.071
L09030127-02	1.00	01	16.481	13.679	10.071
L09030127-03	2.00	DL01	16.481	13.679	10.071
WG296843-01	1.00	01	16.482	13.68	10.071
WG296843-02	1.00	01	16.482	13.68	10.071
WG296843-03	1.00	01	16.482	13.68	10.071
WG296843-04	1.00	01	16.481	13.679	10.061
WG296843-05	1.00	01	16.481	13.679	10.061

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

Underline = Response outside limits

2.1.2 RSK 175

2.1.2.1 Summary Data

LABORATORY REPORT

L09030127

00090881

03/13/09 13:32

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	RSK175	1	06-MAR-09
17WW03-030509	L09030127-02	RSK175	1	06-MAR-09
17WW06-030509	L09030127-03	RSK175	1	06-MAR-09



Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296884**
Collect Date: **03/05/2009 12:08**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5021**
Analytical Method: **RSK175**
Analyst: **FJB**
Dilution: **1**
Units: **ug/L**

Instrument: **HP16**
Prep Date: **03/09/2009 21:20**
Cal Date: **11/07/2008 09:27**
Run Date: **03/09/2009 21:20**
File ID: **16618165**

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	5.10		5.00	1.00
ethene	74-85-1		U	5.00	1.00
ethane	74-84-0		U	5.00	1.00

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030127-02**
 Client ID: **17WW03-030509**
 Matrix: **Water**
 Workgroup Number: **WG296884**
 Collect Date: **03/05/2009 09:35**
 Sample Tag: **01**

PrePrep Method: **NONE**
 Prep Method: **5021**
 Analytical Method: **RSK175**
 Analyst: **FJB**
 Dilution: **1**
 Units: **ug/L**

Instrument: **HP16**
 Prep Date: **03/09/2009 21:32**
 Cal Date: **11/07/2008 09:27**
 Run Date: **03/09/2009 21:32**
 File ID: **16618166**

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	19.0		5.00	1.00
ethene	74-85-1		U	5.00	1.00
ethane	74-84-0		U	5.00	1.00

U Not detected at or above adjusted sample detection limit

Report Number: **L09030127**Report Date : **March 13, 2009**

00090884

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296884**
Collect Date: **03/05/2009 11:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5021**
Analytical Method: **RSK175**
Analyst: **FJB**
Dilution: **1**
Units: **ug/L**

Instrument: **HP16**
Prep Date: **03/09/2009 21:44**
Cal Date: **11/07/2008 09:27**
Run Date: **03/09/2009 21:44**
File ID: **16618167**

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	9.16		5.00	1.00
ethene	74-85-1		U	5.00	1.00
ethane	74-84-0		U	5.00	1.00

U Not detected at or above adjusted sample detection limit

2.1.2.2 QC Summary Data

Microbac Laboratories Inc.

Data Checklist

Date: 07-NOV-2008

Analyst: EAB

Analyst: NA

Method: RSK175

Instrument: HP16

Curve Workgroup: NA

Runlog ID: 25146

Analytical Workgroups: WG287221, WG287258

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

Primary Reviewer:
07-NOV-2008

EAB

Secondary Reviewer:
17-NOV-2008

Leslie Bucina

Microbac Laboratories Inc.

Data Checklist

Date: 09-MAR-2009

Analyst: FJB

Analyst: ADC

Method: RSK175

Instrument: HP16

Curve Workgroup: NA

Runlog ID: 27003

Analytical Workgroups: WG296884

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

Primary Reviewer:
12-MAR-2009



Secondary Reviewer:
12-MAR-2009



RSK-175 - Example Calculation for Methane**1.0 Linear Calibration Models****Option A - Average RF Method**

ICAL_x	ICAL_r	RF
1.67	19901	11917
6.67	69174	10371
16.7	176923	10594
66.7	685135	10272
133	1324853	9961
300	2845104	9484
Average RF:		10433

Where:

ICAL_x = the ICAL concentration

ICAL_r = the ICAL response (area)

RF = calibration factor = ICAL_r / ICAL_x

Option B - Agilent Linear Regression Constant

ICAL_x	ICAL_r	[ICAL_r]^2	[ICAL-x][ICAL-r]
1.67	19901	396049801	33235
6.67	69174	4785042276	461391
16.7	176923	31301747929	2954614
66.7	685135	4.6941E+11	45698505
133	1324853	1.75524E+12	176205449
300	2845104	8.09462E+12	853531200
Summation:		1.03557E+13	1078884393

Agilent Linear Regression Constant : **9598.567853**
 (1.03557E+13)/1078884393)

2.0 Calculate the concentration in extract, Cx

Where:

y = area response of methane from quant report

a = average RF (or Agilent regression constant)

Cx = y/a

1157414
10433.00
110.9377935

3.0 Calculate the concentration in sample**Cs = Cx (MW/Tf) (HS/S) (DF)**

Where:

Cx = Concentration in extract

MW = molecular weight of analyte

TF = temperature factor = (22.4)(313/273)

HS = headspace volume

S = sample volume remaining after headspace removal

DF = dilution factor

Cs = calculated sample concentration

110.9377935 umol/mol
16.04 ug/umol
25.68 L/mol
0.015 L
0.00547 L
2
380.034301 ug/L

RSK-175 - Example Calculation for Carbon DioxideICAL Plot - Quadratic Regression ($y = Ax^2 + Bx + C$)

$$Ax^2 + Bx + (C - y) = 0$$

Step 1 - Calculate the concentration in extract, CxData from quadratic regression plot:

Value of A from plot:	0.916
Value of B from plot:	1540
Value of C from plot:	0
Response for methane from quantitation report (y):	8763828
Value of C - y	-8763828

Solving for Cx using the quadratic formula:

Root 1 - Computed Cx1:	2364.716284 umol/mol
Root 2 - Computed Cx2:	-4045.938991

Step 2 - Calculate the concentration in sample

$$Cs = Cx (MW/Tf) (HS/S) (DF)$$

Where:

Cx = Concentration in extract :	2364.716284 umol/mol
MW = molecular weight of analyte:	44.0 ug/umol
TF = temperature factor = $(22.4)(313/273)$:	25.68 L/mol
HS = initial headspace volume (extraction log):	0.015 L
S = final volume (extraction log):	0.00547 L
DF = dilution factor:	10
Cs = calculated sample concentration:	111106.798 ug/L

Other Notes:

Temperature of headspace = 40 C = 313 K

Analyte	MW (g/mol)
Methane	16.04
Ethane	30.07
Ethene	28.05
Propane	44.1
Carbon Dioxide	44.0

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 110708
 Analyst1: EAB Analyst2: NA
 Method: RSK175 SOP: RSK01 Rev: 7
 Method: 5021 SOP: RSK01 Rev: 7

Maintenance Log ID: 26530

Internal Standard: NA Surrogate Standard: NA
 CCV: STD29606 LCS: STD29606 MS/MSD: STD29606
 Column 1 ID: RTQPLOT Column 2 ID: RTQPLOT
 Workgroups: WG287221, WG287258

Comments: CURVE; THEN NO REANALYSIS REQUIRED

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16G16513	warm up blank	NA	1	1		11/07/08 08:10
2	16G16514	WG287221-01 1.67umol/mol STD	NA	1	1	STD29606	11/07/08 08:24
3	16G16515	WG287221-02 6.67umol/mol STD	NA	1	1	STD29606	11/07/08 08:36
4	16G16516	WG287221-03 16.67umol/mol STD	NA	1	1	STD29606	11/07/08 08:48
5	16G16517	WG287221-04 66.67umol/mol STD	NA	1	1	STD29606	11/07/08 09:01
6	16G16518	WG287221-05 133.33umol/mol STD-CCV	NA	1	1	STD29606	11/07/08 09:13
7	16G16519	WG287221-06 300umol/mol STD-CCV	NA	1	1	STD29606	11/07/08 09:27
8	16G16520	BLANK	NA	1	1		11/07/08 10:38
9	16G16521	WG287221-07 67umol/mol ALT SRCE STD	NA	1	1	STD29606	11/07/08 10:50
10	16G16522	WG287254-01 133umol/mol CCV STD	NA	1	1	STD29606	11/07/08 11:03
11	16G16523	WG287258-01 BLANK	NA	1	1		11/07/08 11:15
12	16G16524	WG287258-02 67umol/mol LCS STD	NA	1	1	STD29606	11/07/08 11:27
13	16G16525	WG287258-02 67umol/mol LCS STD	NA	1	1	STD29606	11/07/08 11:39
14	16G16526	L08110122-01 A REF	7	1	1		11/07/08 11:53
15	16G16527	L08110122-02 A MS	7	1	1	STD29606	11/07/08 12:05
16	16G16528	L08110122-03 A MSD	7	1	1	STD29606	11/07/08 12:17
17	16G16529	L08110122-04 A	7	1	1		11/07/08 12:29
18	16G16530	L08110122-05 A	7	1	1		11/07/08 12:40
19	16G16531	L08110124-01 A	7	1	1		11/07/08 12:52
20	16G16532	L08110124-02 A	7	1	1		11/07/08 13:04
21	16G16533	WG287254-02 133umol/mol CCV STD	NA	1	1	STD29606	11/07/08 13:16
22	16G16534	L08110124-03 A	<2	1	1		11/07/08 13:28
23	16G16535	L08110124-04 A	7	1	1		11/07/08 13:39
24	16G16536	WG287254-03 133umol/mol CCV STD	NA	1	1	STD29606	11/07/08 13:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
12	X			
File ID: 16G16524				
ACETYLENE HIGH				

Approved: November 17, 2008

Page: 1

Leslie Bucina

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HP16 Dataset: 030909
 Analyst1: FJB Analyst2: ADC
 Method: RSK175 SOP: RSK01 Rev: 10
 Method: 5021 SOP: RSK01 Rev: 10

Maintenance Log ID: 27945

Internal Standard: NA Surrogate Standard: NA
 CCV: STD29606 LCS: STD29606 MS/MSD: NA
 Column 1 ID: RTQPLOT Column 2 ID: RTQPLOT
 Workgroups: WG296884

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	16G18142	WG296883-01 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 15:46
2	16G18143	WG296883-01 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 16:22
3	16G18144	WG296884-01 BLANK	NA	1	1		03/09/09 16:35
4	16G18145	WG296884-02 67umol/mol LCS	NA	1	1	STD29606	03/09/09 16:47
5	16G18146	L09030083-01 A REF	7	1	1		03/09/09 17:27
6	16G18147	L09030083-03 A MS	7	1	1	STD29606	03/09/09 17:39
7	16G18148	L09030083-05 A MSD	7	1	1	STD29606	03/09/09 17:51
8	16G18149	L09030083-07 A	7	1	1		03/09/09 18:04
9	16G18150	L09030083-09 A	7	1	1		03/09/09 18:16
10	16G18151	L09030095-01 A	7	1	1		03/09/09 18:28
11	16G18152	L09030095-14 A	7	1	1		03/09/09 18:41
12	16G18153	WG296883-02 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 18:53
13	16G18154	L09030095-16 A	7	1	1		03/09/09 19:05
14	16G18155	L09030153-01 A	7	1	1		03/09/09 19:17
15	16G18156	L09030153-02 A	7	1	1		03/09/09 19:29
16	16G18157	L09030165-01 A	7	1	1		03/09/09 19:42
17	16G18158	L09030165-02 A	7	1	1		03/09/09 19:54
18	16G18159	L09030165-03 A	7	1	1		03/09/09 20:06
19	16G18160	L09030165-04 A	7	1	1		03/09/09 20:19
20	16G18161	L09030165-06 A	7	1	1		03/09/09 20:31
21	16G18162	L09030165-07 A	7	1	1		03/09/09 20:43
22	16G18163	L09030165-08 A	7	1	1		03/09/09 20:55
23	16G18164	WG296883-03 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 21:08
24	16G18165	L09030127-01 A	7	1	1		03/09/09 21:20
25	16G18166	L09030127-02 A	7	1	1		03/09/09 21:32
26	16G18167	L09030127-03 A	7	1	1		03/09/09 21:44
27	16G18168	WG296883-04 133umol/mol CCV STD	NA	1	1	STD29606	03/09/09 21:57

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 16G18142				
CCV failed high, reanalyzed with compliant results.				

Approved: March 12, 2009

Page: 1

Handwritten signature



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HP16 Dataset: 030909
Analyst1: FJB Analyst2: ADC
Method: RSK175 SOP: RSK01 Rev: 10
Method: 5021 SOP: RSK01 Rev: 10

Maintenance Log ID: 27945

Internal Standard: NA Surrogate Standard: NA
CCV: STD29606 LCS: STD29606 MS/MSD: NA
Column 1 ID: RTQPLOT Column 2 ID: RTQPLOT
Workgroups: WG296884

Comments: Comments

Seq.	Rerun	Dil.	Reason	Analytes
8	X	5	Over Calibration Range	CH4, CO2
File ID: 16G18149				
9	X	5	Over Calibration Range	CO2
File ID: 16G18150				

Approved: March 12, 2009

Page: 2



Analytical Method: RSK175

AAB#: WG296884

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW06-030509	03/05/09	03/06/09	03/09/09	14	4.45	03/09/09	14	4.45	
17WW02-030509	03/05/09	03/06/09	03/09/09	14	4.38	03/09/09	14	4.38	
17WW03-030509	03/05/09	03/06/09	03/09/09	14	4.50	03/09/09	14	4.50	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030127
Blank File ID: 16G18144
Prep Date: 03/09/09 16:35
Analyzed Date: 03/09/09 16:35
Analyst: FJB

Work Group: WG296884
Blank Sample ID: WG296884-01
Instrument ID: HP16
Method: RSK175

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296884-02	16G18145	03/09/09 16:47	01
17WW02-030509	L09030127-01	16G18165	03/09/09 21:20	01
17WW03-030509	L09030127-02	16G18166	03/09/09 21:32	01
17WW06-030509	L09030127-03	16G18167	03/09/09 21:44	01

Report Name: BLANK_SUMMARY
PDF File ID: 1342001
Report generated 03/13/2009 09:37



Login Number: L09030127 Prep Date: 03/09/09 16:35 Sample ID: WG296884-01
Instrument ID: HP16 Run Date: 03/09/09 16:35 Prep Method: 5021
File ID: 16G18144 Analyst: FJB Method: RSK175
Workgroup (AAB#): WG296884 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HP16 - 07-NOV-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
methane	1.00	5.00	1.00	1	U
ethene	1.00	5.00	1.00	1	U
ethane	1.00	5.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1342002
13-MAR-2009 09:37



Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296884-02
Instrument ID: HP16 Run Time: 16:47 Prep Method: 5021
File ID: 16G18145 Analyst: FJB Method: RSK175
Workgroup (AAB#): WG296884 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD29606 Cal ID: HP16 - 07-NOV-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
methane	114	101	88.0	56 - 140	
ethene	200	181	90.5	56 - 140	
ethane	214	194	90.7	56 - 137	

Loginnum: L09030127 Cal ID: HP16 - Worknum: WG296884
 Instrument ID: HP16 Contract #: DACA56-94-D-0020 Method: RSK175
 Parent ID: WG296884-03 File ID: 16G18146 Dil: 1 Matrix: WATER
 Sample ID: WG296884-04 MS File ID: 16G18147 Dil: 1 Units: ug/L
 Sample ID: WG296884-05 MSD File ID: 16G18148 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
ethane	ND	214	198	92.8	214	191	89.3	3.85	56 - 137	40	
ethene	ND	200	186	93.3	200	181	90.6	2.94	56 - 140	40	
methane	328	114	607	245	114	543	188	11.2	56 - 140	40	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Login Number: L09030127
Analytical Method: RSK175
ICAL Workgroup: WG287221

Instrument ID: HP16
Initial Calibration Date: 07-NOV-08 09:27
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
ethane		18600	4.55		
ethene		16990	4.97		
methane		10430	7.92		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

Login Number: L09030127
Analytical Method: RSK175

Instrument ID: HP16
Initial Calibration Date: 07-NOV-08 09:27
Column ID: F

Analyte	WG287221-01			WG287221-02			WG287221-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
ethane	1.67	33015.0000	19770	6.67	122720.000	18400	16.7	320105.000	19200
ethene	1.67	30227.0000	18100	6.67	112610.000	16880	16.7	295286.000	17710
methane	1.67	19901.0000	11920	6.67	69174.0000	10370	16.7	176923.000	10610

INT_CAL - Modified 03/06/2008
PDF File ID: 1342003
Report generated 03/13/2009 09:37



Login Number: L09030127
Analytical Method: RSK175

Instrument ID: HP16
Initial Calibration Date: 07-NOV-08 09:27
Column ID: F

Analyte	WG287221-04			WG287221-05			WG287221-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
ethane	66.7	1250432.00	18760	133	2421985.00	18170	300	5200075.00	17330
ethene	66.7	1134818.00	17020	133	2195806.00	16470	300	4727255.00	15760
methane	66.7	685135.000	10280	133	1324853.00	9937	300	2845104.00	9484

INT_CAL - Modified 03/06/2008
PDF File ID: 1342003
Report generated 03/13/2009 09:37



Login Number: L09030127 Run Date: 11/07/2008 Sample ID: WG287221-07
Instrument ID: HP16 Run Time: 10:50 Method: RSK175
File ID: 16G16521 Analyst: EAB QC Key: STD
ICal Workgroup: WG287221 Cal ID: HP16 - 07-NOV-08

Analyte		Expected	Found	Units	RF	%D	UCL	Q
methane		114	105	ug/L	9640	7.60	30	
ethene		200	191	ug/L	16300	4.30	30	
ethane		214	203	ug/L	17700	5.00	30	

* Exceeds %D Limit

Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296883-01
Instrument ID: HP16 Run Time: 16:22 Method: RSK175
File ID: 16G18143 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	195	ug/L	8930	14.4	25	
ethene		399	358	ug/L	15200	10.3	25	
ethane		428	377	ug/L	16400	11.9	25	

* Exceeds %D Criteria

Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296883-02
Instrument ID: HP16 Run Time: 18:53 Method: RSK175
File ID: 16G18153 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	196	ug/L	8970	14.0	25	
ethene		399	349	ug/L	14800	12.7	25	
ethane		428	375	ug/L	16300	12.3	25	

* Exceeds %D Criteria

Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296883-03
Instrument ID: HP16 Run Time: 21:08 Method: RSK175
File ID: 16G18164 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	185	ug/L	8450	19.0	25	
ethene		399	325	ug/L	13800	18.7	25	
ethane		428	350	ug/L	15200	18.2	25	

* Exceeds %D Criteria

Login Number: L09030127 Run Date: 03/09/2009 Sample ID: WG296883-04
Instrument ID: HP16 Run Time: 21:57 Method: RSK175
File ID: 16G18168 Analyst: FJB QC Key: STD
Workgroup (AAB#): WG296884 Cal ID: HP16 - 07-NOV-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
methane		228	191	ug/L	8720	16.4	25	
ethene		399	333	ug/L	14200	16.6	25	
ethane		428	357	ug/L	15500	16.5	25	

* Exceeds %D Criteria

2.2 Metals Data

2.2.1 Metals ICP-MS Data

2.2.1.1 Summary Data

LABORATORY REPORT

L09030127

00090909

03/13/09 13:32

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	6020	5	06-MAR-09
17WW03-030509	L09030127-02	6020	5	06-MAR-09
17WW06-030509	L09030127-03	6020	5	06-MAR-09



Report Number: **L09030127**Report Date : **March 13, 2009**

00090910

Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296943**
Collect Date: **03/05/2009 12:08**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **5**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/10/2009 06:45**
Cal Date: **03/10/2009 11:25**
Run Date: **03/10/2009 12:35**
File ID: **EL.031009.123516**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chromium, Total	7440-47-3	0.0198		0.0100	0.00250
Antimony, Total	7440-36-0		U	0.00500	0.00125
Thallium, Total	7440-28-0		U	0.00100	0.000250

U Not detected at or above adjusted sample detection limit

Report Number: **L09030127**Report Date : **March 13, 2009**

00090911

Sample Number: **L09030127-02**
Client ID: **17WW03-030509**
Matrix: **Water**
Workgroup Number: **WG296943**
Collect Date: **03/05/2009 09:35**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **5**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/10/2009 06:45**
Cal Date: **03/10/2009 11:25**
Run Date: **03/10/2009 12:53**
File ID: **EL.031009.125321**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Thallium, Total	7440-28-0		U	0.00100	0.000250

U Not detected at or above adjusted sample detection limit

Report Number: **L09030127**Report Date : **March 13, 2009**

00090912

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296943**
Collect Date: **03/05/2009 11:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **5**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **03/10/2009 06:45**
Cal Date: **03/10/2009 11:25**
Run Date: **03/10/2009 12:59**
File ID: **EL.031009.125923**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chromium, Total	7440-47-3	0.129		0.0100	0.00250
Thallium, Total	7440-28-0		U	0.00100	0.000250

U Not detected at or above adjusted sample detection limit

2.2.1.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer ELAN 6100

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer ELAN ICP/MS

STANDARDS KEY

QC Std 1 - ICV

QC Std 2 - ICB

QC Std 3 - CRI - Soil

QC Std 4 - CRI - Water

QC Std 5 - ICSA

QC Std 6 - ICSAB

QC Std 7 - CCV

QC Std 8 - CCB

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.0004	0.05	0.1
Sb	10	0	0.0004	0.05	0.1
As	10	0	0.0004	0.05	0.1
Ba	10	0	0.0004	0.05	0.1
Be	10	0	0.0004	0.05	0.1
Ca	1000	0	0.04	5	10
Cd	10	0	0.0004	0.05	0.1
Cr	10	0	0.0004	0.05	0.1
Co	10	0	0.0004	0.05	0.1
Cu	10	0	0.0004	0.05	0.1
Fe	1000	0	0.04	5	10
Pb	10	0	0.0004	0.05	0.1
Mg	1000	0	0.04	5	10
Mn	10	0	0.0004	0.05	0.1
Ni	10	0	0.0004	0.05	0.1
K	1000	0	0.04	5	10
Se	10	0	0.0004	0.05	0.1
Ag	10	0	0.0004	0.05	0.1
Na	1000	0	0.04	5	10
Tl	10	0	0.0004	0.05	0.1
V	10	0	0.0004	0.05	0.1
Zn	10	0	0.0004	0.05	0.1

Workgroup: WG296914
Analyst: VC
Spike Analyst: VC
Run Date: 03/10/2009 06:45
Method: 3015

SOP: ME407 Revision 10
Spike Solution: STD30482
Spike Witness: REK
HNO3 Lot #: COA13758
Digest tubes Lot #: COA13696

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG296914-03	BLANK	1	40 mL	100 mL	205.419 g	205.39 g		
2	WG296914-04	LCS	1	40 mL	100 mL	206.102 g	206.086 g	.25 mL	
3	WG296914-01	REF	1	40 mL	100 mL	205.412 g	205.383 g		
4	L09030127-01	SAMP	1	40 mL	100 mL	205.412 g	205.383 g		03/13/09
5	L09030127-02	SAMP	1	40 mL	100 mL	207.495 g	207.472 g		03/13/09
6	L09030127-03	SAMP	1	40 mL	100 mL	208.458 g	208.399 g		03/13/09
7	L09030169-01	SAMP	1	40 mL	100 mL	204.848 g	204.835 g		03/16/09
8	WG296914-02	REF	2	40 mL	100 mL	208.23 g	208.1 g		
9	L09030179-01	SAMP	2	40 mL	100 mL	208.23 g	208.1 g		03/11/09
10	L09030179-02	SAMP	2	40 mL	100 mL	206.365 g	206.349 g		03/11/09
11	WG296914-05	MS	1	40 mL	100 mL	207.494 g	207.473 g	.25 mL	
12	WG296914-06	MSD	1	40 mL	100 mL	207.14 g	207.122 g	.25 mL	
13	WG296914-07	DUP	1	40 mL	100 mL	206.795 g	206.395 g		

Analyst: Veeh Collier

Reviewer: REK

Workgroup: WG296914
Analyst: VC
Spike Analyst: VC
Run Date: 03/10/2009 06:45
Method: 3015

SOP: ME407 Revision 10
Spike Solution: STD30482
Spike Witness: REK
HNO3 Lot #: COA13758
Digest tubes Lot #: COA13696

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG296914-03	BLANK	1	40 mL	100 mL	205.419 g	205.39 g		
2	WG296914-04	LCS	1	40 mL	100 mL	206.102 g	206.086 g	.25 mL	
3	WG296914-01	REF	1	40 mL	100 mL	205.412 g	205.383 g		
4	L09030127-01	SAMP	1	40 mL	100 mL	205.412 g	205.383 g		03/13/09
5	L09030127-02	SAMP	1	40 mL	100 mL	207.495 g	207.472 g		03/13/09
6	L09030127-03	SAMP	1	40 mL	100 mL	208.458 g	208.399 g		03/13/09
7	L09030169-01	SAMP	1	40 mL	100 mL	204.848 g	204.835 g		03/16/09
8	WG296914-02	REF	2	40 mL	100 mL	208.23 g	208.1 g		
9	L09030179-01	SAMP	2	40 mL	100 mL	208.23 g	208.1 g		03/11/09
10	L09030179-02	SAMP	2	40 mL	100 mL	206.365 g	206.349 g		03/11/09
11	WG296914-05	MS	1	40 mL	100 mL	207.494 g	207.473 g	.25 mL	
12	WG296914-06	MSD	1	40 mL	100 mL	207.14 g	207.122 g	.25 mL	
13	WG296914-07	DUP	1	40 mL	100 mL	206.795 g	206.395 g		

Analyst: Veeh Collier

Reviewer: REK

Microbac Laboratories Inc.
Instrument Run Log

Instrument: ELAN-ICP Dataset: 031009A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 27920

Calibration Std: STD31440 ICV/CCV Std: STD31654 Post Spike: STD27580
 ICSA: STD31158 ICSAB: STD31157
 Workgroups: 296943,296896,296989

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	EL.031009.110242	Blank	Blank		1		03/10/09 11:02
2	EL.031009.110822	WG297006-01	Calibration Point		1		03/10/09 11:08
3	EL.031009.111403	WG297006-02	Calibration Point		1		03/10/09 11:14
4	EL.031009.111944	WG297006-03	Calibration Point		1		03/10/09 11:19
5	EL.031009.112526	WG297006-04	Calibration Point		1		03/10/09 11:25
6	EL.031009.113109	WG297006-05	Initial Calibration Verification		1		03/10/09 11:31
7	EL.031009.113741	WG297006-06	Initial Calib Blank		1		03/10/09 11:37
8	EL.031009.114414	WG297006-07	CRQL Check Solid		1		03/10/09 11:44
9	EL.031009.115050	WG297006-08	CRQL Check Water		1		03/10/09 11:50
10	EL.031009.115725	WG297006-09	Interference Check		1		03/10/09 11:57
11	EL.031009.120359	WG297006-10	Interference Check		1		03/10/09 12:03
12	EL.031009.121033	WG297006-11	CCV		1		03/10/09 12:10
13	EL.031009.121705	WG297006-12	CCB		1		03/10/09 12:17
14	EL.031009.122315	WG296914-03	Method/Prep Blank	40/100	1		03/10/09 12:23
15	EL.031009.122916	WG296914-04	Laboratory Control S	40/100	1		03/10/09 12:29
16	EL.031009.123516	WG296914-01	Reference Sample		5	L09030127-01	03/10/09 12:35
17	EL.031009.124118	WG296914-05	Matrix Spike	40/100	5	L09030127-01	03/10/09 12:41
18	EL.031009.124719	WG296914-06	Matrix Spike Duplica	40/100	5	L09030127-01	03/10/09 12:47
19	EL.031009.125321	L09030127-02	17WW03-030509	40/100	5		03/10/09 12:53
20	EL.031009.125923	L09030127-03	17WW06-030509	40/100	5		03/10/09 12:59
21	EL.031009.130526	WG296943-01	Post Digestion Spike		5	L09030127-03	03/10/09 13:05
22	EL.031009.131129	WG296943-02	Serial Dilution		25	L09030127-03	03/10/09 13:11
23	EL.031009.131752	WG297006-13	CCV		1		03/10/09 13:17
24	EL.031009.132424	WG297006-14	CCB		1		03/10/09 13:24
25	EL.031009.133035	L09030169-01	AV-NCB-EB-1-030609	40/100	1		03/10/09 13:30
26	EL.031009.133639	L09030179-01	EAST OF WALL	40/100	1	WG296914-02	03/10/09 13:36
27	EL.031009.134243	WG296914-07	Duplicate	40/100	1	L09030179-01	03/10/09 13:42
28	EL.031009.134845	L09030179-02	WEST OF WALL	40/100	1		03/10/09 13:48
29	EL.031009.135447	L09030095-08	17WW11-022609	40/100	50		03/10/09 13:54
30	EL.031009.140051	L09030095-16	MW-130-030409	40/100	1		03/10/09 14:00
31	EL.031009.140655	L09030086-01	AV-NCB-PE-UNK-35-C3-030	40/100	1		03/10/09 14:06
32	EL.031009.141300	L09030086-02	AV-NCB-AS-UNK-148-C1-03	40/100	1		03/10/09 14:13
33	EL.031009.141924	WG297006-15	CCV		1		03/10/09 14:19
34	EL.031009.142556	WG297006-16	CCB		1		03/10/09 14:25
35	EL.031009.144046	WG296945-01	Method/Prep Blank	40/100	1		03/10/09 14:40
36	EL.031009.144647	WG296945-02	Laboratory Control S	40/100	1		03/10/09 14:46
37	EL.031009.145249	WG296945-03	Laboratory Control S	40/100	1		03/10/09 14:52

Page: 1 Approved: March 11, 2009

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ELAN-ICP Dataset: 031009A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700 Rev: 4
 Maintenance Log ID: 27920

Calibration Std: STD31440 ICV/CCV Std: STD31654 Post Spike: STD27580
 ICSA: STD31158 ICSAB: STD31157
 Workgroups: 296943,296896,296989

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	EL.031009.145851	WG296854-01	Fluid Blank		1		03/10/09 14:58
39	EL.031009.150453	L09030169-03	AV-NCB-PE-UNK-38-C1-030	40/100	1		03/10/09 15:04
40	EL.031009.151056	L09030169-05	AV-NCB-AS-UNK-152-03060	40/100	1		03/10/09 15:10
41	EL.031009.151659	L09030169-07	AV-NCB-PE-UNK-38-C2-030	40/100	1		03/10/09 15:16
42	EL.031009.152303	L09030169-10	AV-NCB-AS-UNK-151-03060	40/100	1		03/10/09 15:23
43	EL.031009.152906	WG296989-01	Post Digestion Spike		1	L09030169-10	03/10/09 15:29
44	EL.031009.153530	WG297006-17	CCV		1		03/10/09 15:35
45	EL.031009.154202	WG297006-18	CCB		1		03/10/09 15:42
46	EL.031009.154814	WG296989-02	Serial Dilution		5	L09030169-10	03/10/09 15:48
47	EL.031009.155437	WG297006-19	CCV		1		03/10/09 15:54
48	EL.031009.160109	WG297006-20	CCB		1		03/10/09 16:01

Maren Beery



Microbac Laboratories Inc.

Data Checklist

Date: 10-MAR-2009

Analyst: JYH

Analyst: NA

Method: 6020

Instrument: ELAN

Curve Workgroup: 297006

Runlog ID: 26971

Analytical Workgroups: 296943,296896,296989

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	X
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	127,169,179,095,086
Client Forms	X
Level X	
Level 3	127,095
Level 4	169,086
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer:

*J. J. H.*Secondary Reviewer:
11-MAR-2009*Maren Berry*

Analytical Method:6020

AAB#:WG296943

Login Number:L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW03-030509	03/05/09	03/06/09	03/10/09	180	4.88	03/10/09	180	0.255	
17WW02-030509	03/05/09	03/06/09	03/10/09	180	4.78	03/10/09	180	0.243	
17WW06-030509	03/05/09	03/06/09	03/10/09	180	4.82	03/10/09	180	0.260	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030127
Blank File ID: EL.031009.122315
Prep Date: 03/10/09 06:45
Analyzed Date: 03/10/09 12:23
Analyst: JYH

Work Group: WG296943
Blank Sample ID: WG296914-03
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296914-04	EL.031009.122916	03/10/09 12:29	01
17WW02-030509	L09030127-01	EL.031009.123516	03/10/09 12:35	DL01
17WW03-030509	L09030127-02	EL.031009.125321	03/10/09 12:53	DL01
17WW06-030509	L09030127-03	EL.031009.125923	03/10/09 12:59	DL01
DUP	WG296914-07	EL.031009.134243	03/10/09 13:42	01

Report Name: BLANK_SUMMARY
PDF File ID: 1339481
Report generated 03/10/2009 16:52



Login Number: L09030127 Prep Date: 03/10/09 06:45 Sample ID: WG296914-03
Instrument ID: ELAN-ICP Run Date: 03/10/09 12:23 Prep Method: 3015
File ID: EL.031009.122315 Analyst: JYH Method: 6020
Workgroup (AAB#): WG296943 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I - 10-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Chromium, Total	0.000500	0.00200	0.000500	1	U
Antimony, Total	0.000250	0.00100	0.000250	1	U
Thallium, Total	0.0000500	0.000200	0.0000500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1339482
10-MAR-2009 16:52



Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG296914-04
Instrument ID: ELAN-ICP Run Time: 12:29 Prep Method: 3015
File ID: EL.031009.122916 Analyst: JYH Method: 6020
Workgroup (AAB#): WG296943 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD30482 Cal ID: ELAN-I - 10-MAR-09

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chromium, Total	0.0625	0.0629	101	80 - 120	
Antimony, Total	0.0625	0.0632	101	80 - 120	
Thallium, Total	0.0625	0.0640	102	80 - 120	

Loginnum: L09030127 Cal ID: ELAN-ICP - Worknum: WG296943
 Instrument ID: ELAN-ICP Contract #: DACA56-94-D-0020 Method: 6020
 Parent ID: WG296914-01 File ID: EL.031009.123516 Dil: 5 Matrix: WATER
 Sample ID: WG296914-05 MS File ID: EL.031009.124118 Dil: 5 Units: mg/L
 Sample ID: WG296914-06 MSD File ID: EL.031009.124719 Dil: 5

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	0.000846	0.0625	0.0664	105	0.0625	0.0690	109	3.80	75 - 125	20	
Chromium, Total	0.0198	0.0625	0.0817	99.1	0.0625	0.0840	103	2.73	75 - 125	20	
Thallium, Total	ND	0.0625	0.0635	102	0.0625	0.0666	107	4.78	75 - 125	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

00090926

Login: L09030127 Worknum: WG296943
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG296943-02 File ID: EL.031009.131129 Dil: 25 Units: ug/L
Sample: L09030127-03 File ID: EL.031009.125923 Dil: 5

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Chromium	51.5	X	53	X	2.91	
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 1339478

03/10/2009 16:56



Sample Login ID: L09030127
Instrument ID: ELAN-ICP
Post Spike ID: WG296943-01
Sample ID: L09030127-03

Worknum: WG296943
Method: 6020
Units: ug/L
Matrix: Water
File ID: EL.031009.130526 Dil: 5
File ID: EL.031009.125923 Dil: 5

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	53.5		0	U	50	107.1	75 - 125	
CHROMIUM	62.0		10.3		50	103.3	75 - 125	
THALLIUM	53.4		0	U	50	106.7	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

Microbac Laboratories Inc.
Initial Calibration Summary

00090928

Login:	<u>L09030127</u>	Workgroup (AAB#):	<u>WG296943</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG297006</u>	Initial Calibration Date:	<u>10-MAR-2009 11:25</u>

	WG297006-01		WG297006-02		WG297006-03		WG297006-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	90.3	.4	3210	50	336000	100	692000	.999795	
CHROMIUM	0	15400	.4	20900	50	675000	100	1260000	.999789	
THALLIUM	0	24.3	.4	3910	50	466000	100	939000	.999978	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
***** = Out of Compliance; R < 0.995



Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-06
Instrument ID: ELAN-ICP Run Time: 11:37 Method: 6020
File ID: EL.031009.113741 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296943 Cal ID: ELAN-ICP - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
CHROMIUM	.2	.8	.2	U
ANTIMONY	.1	.4	.1	U
THALLIUM	.02	.08	.02	U

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-12
Instrument ID: ELAN-ICP Run Time: 12:17 Method: 6020
File ID: EL.031009.121705 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Chromium	0.200	0.800	0.200	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-14
Instrument ID: ELAN-ICP Run Time: 13:24 Method: 6020
File ID: EL.031009.132424 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Chromium	0.200	0.800	0.200	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-16
Instrument ID: ELAN-ICP Run Time: 14:25 Method: 6020
File ID: EL.031009.142556 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Chromium	0.200	0.800	0.200	U
Antimony	0.100	0.400	0.100	U
Thallium	0.0200	0.0800	0.0200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-05
 Instrument ID: ELAN-ICP Run Time: 11:31 Method: 6020
 File ID: EL.031009.113109 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
 QC Key: STD

Analyte	Expected	Found	%REC	LIMITS	Q
Chromium	50	49.0	97.9	90 - 110	
Antimony	50	48.4	96.7	90 - 110	
Thallium	50	48.7	97.5	90 - 110	

* Exceeds LIMITS Limit

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-11
Instrument ID: ELAN-ICP Run Time: 12:10 Method: 6020
File ID: EL.031009.121033 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Chromium	50.0	50.6	ug/L	101	90 - 110		
Antimony	50.0	49.7	ug/L	99.5	90 - 110		
Thallium	50.0	50.1	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-13
Instrument ID: ELAN-ICP Run Time: 13:17 Method: 6020
File ID: EL.031009.131752 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Chromium		50.0	49.6	ug/L	99.3	90 - 110		
Antimony		50.0	48.6	ug/L	97.2	90 - 110		
Thallium		50.0	49.2	ug/L	98.5	90 - 110		

* Exceeds LIMITS Criteria

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-15
Instrument ID: ELAN-ICP Run Time: 14:19 Method: 6020
File ID: EL.031009.141924 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG296943 Cal ID: ELAN-I - 10-MAR-09
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Chromium		50.0	49.4	ug/L	98.8	90 - 110		
Antimony		50.0	47.9	ug/L	95.8	90 - 110		
Thallium		50.0	49.8	ug/L	99.5	90 - 110		

* Exceeds LIMITS Criteria

Login number: L09030127
Instrument ID: ELAN-ICP
Sol. A : WG297006-09
Sol. AB : WG297006-10

File ID: EL.031009.115725
File ID: EL.031009.120359

Workgroup (AAB#): WG296943
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	-0.0176	NS	100	103	103	
Chromium	NS	0.202	NS	100	94.1	94.1	
Thallium	NS	-0.0106	NS	100	98.6	98.6	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

Login Number: L09030127 Run Date: 03/10/2009 Sample ID: WG297006-08
Instrument ID: ELAN-ICP Run Time: 11:50 Prep Method: 3015
File ID: EL.031009.115050 Analyst: JYH Method: 6020
Workgroup (AAB#): WG297006 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-ICP-10-MAR-2009 11:25

Analytes	Expected	Found	% Rec	Limits	Q
Thallium, Total	0.0800	0.0651	81.4	50 - 150	

CRI - Modified 03/06/2008
PDF File ID: 1339486
Report generated 03/10/2009 16:52



INTERNAL STANDARD REPORT

Login: L09030127 Analytical Method: 6020
 Analytical Workgroup: WG296943 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 10-MAR-2009 11:08

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L09030127-01	SAMP	10-MAR-2009 12:35	91.458	93.231	92.276	90.276
L09030127-02	SAMP	10-MAR-2009 12:53	92.569	95.162	92.032	90.338
L09030127-03	SAMP	10-MAR-2009 12:59	89.659	95.065	91.28	89.829
WG296914-01	REF	10-MAR-2009 12:35	91.458	93.231	92.276	90.276
WG296914-02	REF	10-MAR-2009 13:36	93.567	101.446	91.17	89.966
WG296914-03	BLANK	10-MAR-2009 12:23	94.829	93.665	95.455	92.859
WG296914-04	LCS	10-MAR-2009 12:29	93.187	93.188	94.174	93.229
WG296914-05	MS	10-MAR-2009 12:41	90.658	94.943	91.39	89.844
WG296914-06	MSD	10-MAR-2009 12:47	90.69	95.004	89.265	88.088
WG296914-07	DUP	10-MAR-2009 13:42	94.567	100.878	90.511	90.321
WG296943-01	PSPK	10-MAR-2009 13:05	88.762	94.08	91.204	89.282
WG296943-02	SERIAL	10-MAR-2009 13:11	89.994	93.825	91.289	88.816
WG297006-05	ICV	10-MAR-2009 11:31	97.337	96.442	97.149	96.359
WG297006-06	ICB	10-MAR-2009 11:37	95.272	94.205	95.778	94.742
WG297006-11	CCV	10-MAR-2009 12:10	95.18	96.429	94.391	92.803
WG297006-12	CCB	10-MAR-2009 12:17	96.373	95.246	94.543	92.559
WG297006-13	CCV	10-MAR-2009 13:17	93.091	95.396	92.682	91.192
WG297006-14	CCB	10-MAR-2009 13:24	93.151	96.119	94.358	93.568
WG297006-15	CCV	10-MAR-2009 14:19	99.287	107.565	99.05	97.379
WG297006-16	CCB	10-MAR-2009 14:25	98.998	105.099	99.416	96.352

Acceptance criteria: 30% - 120%
 Underlined recoveries are out of range

INT_STD_ICPMS - Modified 03/05/2008
 PDF File ID: 1339494
 Report generated: 03/10/2009 16:52



Login Number: L09030127

Date: 01/03/2009

Instrument ID: ELAN-ICP

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

2.3 General Chemistry Data

2.3.1 Method 9056

2.3.1.1 Summary Data

LABORATORY REPORT

L09030127

00090944

03/13/09 13:33

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	300.0	25	06-MAR-09
17WW02-030509	L09030127-01	300.0	5	06-MAR-09
17WW03-030509	L09030127-02	300.0	25	06-MAR-09
17WW03-030509	L09030127-02	300.0	5	06-MAR-09
17WW06-030509	L09030127-03	300.0	10	06-MAR-09
17WW06-030509	L09030127-03	300.0	50	06-MAR-09



Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296775**
Collect Date: **03/05/2009 12:08**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **300.0**
Analytical Method: **300.0**
Analyst: **JWR**
Dilution: **25**
Units: **mg/L**

Instrument: **IC1**
Prep Date: **03/06/2009 15:42**
Cal Date: **10/29/2008 18:09**
Run Date: **03/06/2009 17:09**
File ID: **I10306091709.08**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	817		5.00	2.50
Nitrate	14797-55-8		U	15.0	2.50
Nitrite	14797-65-0		U	10.0	2.50
Sulfate	14808-79-8	130		25.0	12.5

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030127-01**
 Client ID: **17WW02-030509**
 Matrix: **Water**
 Workgroup Number: **WG296775**
 Collect Date: **03/05/2009 12:08**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **300.0**
 Analytical Method: **300.0**
 Analyst: **JWR**
 Dilution: **5**
 Units: **mg/L**

Instrument: **IC1**
 Prep Date: **03/06/2009 15:42**
 Cal Date: **10/29/2008 18:09**
 Run Date: **03/06/2009 16:52**
 File ID: **I10306091652.07**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	694	I	1.00	0.500
Nitrate	14797-55-8		U	3.00	0.500
Nitrite	14797-65-0		U	2.00	0.500
Sulfate	14808-79-8	124		5.00	2.50

U Not detected at or above adjusted sample detection limit

I Semiquantitative result (out of instrument calibration range)

Sample Number: **L09030127-02**
Client ID: **17WW03-030509**
Matrix: **Water**
Workgroup Number: **WG296775**
Collect Date: **03/05/2009 09:35**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **300.0**
Analytical Method: **300.0**
Analyst: **JWR**
Dilution: **25**
Units: **mg/L**

Instrument: **IC1**
Prep Date: **03/06/2009 15:42**
Cal Date: **10/29/2008 18:09**
Run Date: **03/06/2009 17:44**
File ID: **I10306091744.10**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	794		5.00	2.50
Nitrate	14797-55-8		U	15.0	2.50
Nitrite	14797-65-0		U	10.0	2.50
Sulfate	14808-79-8	55.7		25.0	12.5

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030127-02**
 Client ID: **17WW03-030509**
 Matrix: **Water**
 Workgroup Number: **WG296775**
 Collect Date: **03/05/2009 09:35**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **300.0**
 Analytical Method: **300.0**
 Analyst: **JWR**
 Dilution: **5**
 Units: **mg/L**

Instrument: **IC1**
 Prep Date: **03/06/2009 15:42**
 Cal Date: **10/29/2008 18:09**
 Run Date: **03/06/2009 17:26**
 File ID: **I10306091726.09**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	678	I	1.00	0.500
Nitrate	14797-55-8		U	3.00	0.500
Nitrite	14797-65-0		U	2.00	0.500
Sulfate	14808-79-8	44.8		5.00	2.50

U Not detected at or above adjusted sample detection limit
 I Semiquantitative result (out of instrument calibration range)

Sample Number: **L09030127-03**
 Client ID: **17WW06-030509**
 Matrix: **Water**
 Workgroup Number: **WG296775**
 Collect Date: **03/05/2009 11:00**
 Sample Tag: **DL01**

PrePrep Method: **NONE**
 Prep Method: **300.0**
 Analytical Method: **300.0**
 Analyst: **JWR**
 Dilution: **10**
 Units: **mg/L**

Instrument: **IC1**
 Prep Date: **03/06/2009 15:42**
 Cal Date: **10/29/2008 18:09**
 Run Date: **03/06/2009 18:01**
 File ID: **I10306091801.11**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	966	I	2.00	1.00
Nitrate	14797-55-8		U	6.00	1.00
Nitrite	14797-65-0		U	4.00	1.00
Sulfate	14808-79-8	111		10.0	5.00

U Not detected at or above adjusted sample detection limit
 I Semiquantitative result (out of instrument calibration range)

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296775**
Collect Date: **03/05/2009 11:00**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **300.0**
Analytical Method: **300.0**
Analyst: **JWR**
Dilution: **50**
Units: **mg/L**

Instrument: **IC1**
Prep Date: **03/06/2009 15:42**
Cal Date: **10/29/2008 18:09**
Run Date: **03/06/2009 18:19**
File ID: **I10306091819.12**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	1040		10.0	5.00
Nitrate	14797-55-8		U	30.0	5.00
Nitrite	14797-65-0		U	20.0	5.00
Sulfate	14808-79-8	128		50.0	25.0

U Not detected at or above adjusted sample detection limit

2.3.1.2 QC Summary Data

The concentrations (ppm) of the calibration standards and the resulting area counts are used to determine the equation of a linear or quadratic plot.

The slope and y-intercept of that line are used to calculate the quantity of the analyzed unknown samples.

$\text{Amount(ppm)} = [(\text{slope})(\text{area count of unknown}) + \text{y-intercept}](\text{dilution})$

(The slope is the amt/area also identified as the CF or calibration factor)

Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 102908 HICAL 9056 IC1.SE
 Analyst1: JWR Analyst2: NA
 Method: 9056/300 SOP: IC1 Rev: 8

Maintenance Log ID: 26433

Column 1 ID: AS14A-4MM Column 2 ID: NA
 Workgroups: WG286427 (ICAL) WG286638
 Internal STD: NA Surrogate STD: NA Calibration STD: STD29498

Comments: Samples 0005-01 (MDL-Q) and 0006-01 (MDL-Q) were analyzed at two different levels of concentration each. One level is equal to the RL's for F, Cl, Br, SO4, whereas the other level is nearest to the RL's for NO2-N, NO3-N, PO4-P.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I11029081624.01	WG286427-01 STD \#1	1	1		10/29/08 16:24
2	I11029081642.02	WG286427-02 STD \#2	1	1		10/29/08 16:42
3	I11029081659.03	WG286427-03 STD \#3	1	1		10/29/08 16:59
4	I11029081717.04	WG286427-04 STD \#4	1	1		10/29/08 17:17
5	I11029081734.05	WG286427-05 STD \#5	1	1		10/29/08 17:34
6	I11029081751.06	WG286427-06 STD \#6	1	1		10/29/08 17:51
7	I11029081809.07	WG286427-07 STD \#7	1	1		10/29/08 18:09
8	I11029081826.08	WG286427-08 ALT STD	1	1		10/29/08 18:26
9	I11029081844.09	ELUENT	1	1		10/29/08 18:44
10	I11029081901.10	DI WATER	1	1		10/29/08 19:01
11	I11029081918.11	WG286646-01 ANION CCV	1	1		10/29/08 19:18
12	I11029081936.12	WG286646-02 ANION CCB	1	1		10/29/08 19:36
13	I11029081953.13	WG286638-01 ANION BLANK	1	1		10/29/08 19:53
14	I11029082011.14	WG286638-02 ANION LCS	1	1		10/29/08 20:11
15	I11029082028.15	L08100005-01 MDL (F, Cl, Br, SO4)	1	1		10/29/08 20:28
16	I11029082046.16	L08100006-01 MDL (F, Cl, Br, SO4)	1	1		10/29/08 20:46
17	I11029082103.17	L08100005-01 MDL (NO2, NO3, PO4)	1	1		10/29/08 21:03
18	I11029082120.18	L08100006-01 MDL (NO2, NO3, PO4)	1	1		10/29/08 21:20
19	I11029082138.19	Test (Level \#5) CCV	1	1		10/29/08 21:38
20	I11029082155.20	Test (Level \#5) CCV	1	1		10/29/08 21:55
21	I11029082213.21	WG286646-03 ANION CCV	1	1		10/29/08 22:13
22	I11029082230.22	WG286646-04 ANION CCB	1	1		10/29/08 22:30
23	I11029082247.23	END	1	1		10/29/08 22:47

Comments

Seq.	Rerun	Dil.	Reason	Analytes



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 030609 IC1.SEQ
 Analyst1: JWR Analyst2: NA
 Method: 9056/300 SOP: IC1 Rev: 8

Maintenance Log ID: 27936

Column 1 ID: AS14A-4MM Column 2 ID: NA
 Workgroups: WG296775
 Internal STD: NA Surrogate STD: NA Calibration STD: NA

Comments: Samples 03-0089 (1, 3) and 03-0127 (1-3) were analyzed at dilutions only, due to their high "pre-run" screen results for CL, which were greater than 200 ppm.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I10306091507.01	ELUENT	1	1		03/06/09 15:07
2	I10306091525.02	DI WATER	1	1		03/06/09 15:25
3	I10306091542.03	WG296776-01 ANION CCV	1	1		03/06/09 15:42
4	I10306091559.04	WG296776-02 ANION CCB	1	1		03/06/09 15:59
5	I10306091617.05	WG296775-01 ANION BLANK	1	1		03/06/09 16:17
6	I10306091634.06	WG296775-02 ANION LCS	1	1		03/06/09 16:34
7	I10306091652.07	L09030127-01 (CL,NO2,NO3,SO4) 1/5	1	5		03/06/09 16:52
8	I10306091709.08	L09030127-01 RR CL 1/25	1	25		03/06/09 17:09
9	I10306091726.09	L09030127-02 (CL,NO2,NO3,SO4) 1/5	1	5		03/06/09 17:26
10	I10306091744.10	L09030127-02 RR CL 1/25	1	25		03/06/09 17:44
11	I10306091801.11	L09030127-03 (CL,NO2,NO3,SO4) 1/10	1	10		03/06/09 18:01
12	I10306091819.12	L09030127-03 RR CL 1/50	1	50		03/06/09 18:19
13	I10306091836.13	L09030089-01 (CL, SO4) 1/5	1	5		03/06/09 18:36
14	I10306091853.14	L09030089-01 RR CL 1/25	1	25		03/06/09 18:53
15	I10306091911.15	WG296776-03 ANION CCV	1	1		03/06/09 19:11
16	I10306091928.16	WG296776-04 ANION CCB	1	1		03/06/09 19:28
17	I10306091946.17	L09030089-03 (CL, SO4) 1/5	1	5		03/06/09 19:46
18	I10306092003.18	L09030089-03 RR CL 1/25	1	25		03/06/09 20:03
19	I10306092020.19	L09030100-01 (SO4)	2	1		03/06/09 20:20
20	I10306092038.20	L09030100-02 (SO4) REF	2	1		03/06/09 20:38
21	I10306092055.21	WG296775-04 DUP 0100-02	2	1		03/06/09 20:55
22	I10306092113.22	WG296775-05 MS 0100-02	2	1		03/06/09 21:13
23	I10306092130.23	WG296775-06 MSD 0100-02	2	1		03/06/09 21:30
24	I10306092147.24	L09030161-01 (CL,NO2,NO3,SO4)	1	1		03/06/09 21:47
25	I10306092205.25	L09030161-05 (CL,NO2,NO3,SO4)	1	1		03/06/09 22:05
26	I10306092222.26	L09030161-05 (1/2) (NR)	1	2		03/06/09 22:22
27	I10306092240.27	WG296776-05 ANION CCV	1	1		03/06/09 22:40
28	I10306092257.28	WG296776-06 ANION CCB	1	1		03/06/09 22:57
29	I10306092315.29	L09030161-07 (CL,NO2,NO3,SO4)	1	1		03/06/09 23:15
30	I10306092332.30	WG296776-07 ANION CCV	1	1		03/06/09 23:32
31	I10306092349.31	WG296776-08 ANION CCB	1	1		03/06/09 23:49
32	I10307090007.32	END	1	1		03/07/09 00:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes



Microbac Laboratories Inc.

Data Checklist

Date: 29-OCT-2008

Analyst: JWR

Analyst: NA

Method: 300/9056

Instrument: IC1

Curve Workgroup: WG286427

Runlog ID: 25025

Analytical Workgroups: 10-0005 (MDL-Q) 10-0006 (MDL-Q)

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	NA
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
31-OCT-2008

John Richards

Secondary Reviewer:
03-NOV-2008

Michael Cohen

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: JWR

Analyst: NA

Method: 300/9056

Instrument: IC1

Curve Workgroup: NA

Runlog ID: 26988

Analytical Workgroups: 03-0089, 0100, 0127, 0161

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
11-MAR-2009

John Richards

Secondary Reviewer:
12-MAR-2009

Michael Cohen

Analytical Method: 300.0

AAB#: WG296775

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW03-030509	03/05/09	03/06/09	03/06/09	28	1.25	03/06/09	28	0.0722	
17WW06-030509	03/05/09	03/06/09	03/06/09	28	1.20	03/06/09	28	0.0965	
17WW02-030509	03/05/09	03/06/09	03/06/09	28	1.15	03/06/09	28	0.0486	
17WW06-030509	03/05/09	03/06/09	03/06/09	28	1.20	03/06/09	28	0.109	
17WW03-030509	03/05/09	03/06/09	03/06/09	28	1.25	03/06/09	28	0.0847	
17WW02-030509	03/05/09	03/06/09	03/06/09	28	1.15	03/06/09	28	0.0604	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030127
 Blank File ID: I10306091617.05
 Prep Date: 03/06/09 15:42
 Analyzed Date: 03/06/09 16:17
 Analyst: JWR

Work Group: WG296775
 Blank Sample ID: WG296775-01
 Instrument ID: IC1
 Method: 300.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296775-02	I10306091634.06	03/06/09 16:34	01
17WW02-030509	L09030127-01	I10306091652.07	03/06/09 16:52	DL01
17WW02-030509	L09030127-01	I10306091709.08	03/06/09 17:09	DL02
17WW03-030509	L09030127-02	I10306091726.09	03/06/09 17:26	DL01
17WW03-030509	L09030127-02	I10306091744.10	03/06/09 17:44	DL02
17WW06-030509	L09030127-03	I10306091801.11	03/06/09 18:01	DL01
17WW06-030509	L09030127-03	I10306091819.12	03/06/09 18:19	DL02
DUP	WG296775-04	I10306092055.21	03/06/09 20:55	01

Login Number: L09030127 Prep Date: 03/06/09 15:42 Sample ID: WG296775-01
Instrument ID: IC1 Run Date: 03/06/09 16:17 Prep Method: 300.0
File ID: I10306091617.05 Analyst: JWR Method: 300.0
Workgroup (AAB#): WG296775 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: IC1 - 29-OCT-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Chloride	0.100	0.200	0.100	1	U
Nitrate	0.100	0.600	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1340565
13-MAR-2009 08:31



Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296775-02
Instrument ID: IC1 Run Time: 16:34 Prep Method: 300.0
File ID: I10306091634.06 Analyst: JWR Method: 300.0
Workgroup (AAB#): WG296775 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD29498 Cal ID: IC1 - 29-OCT-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	6.00	6.05	101	90 - 110	
Nitrate	4.07	4.06	99.9	90 - 110	
Nitrite	3.65	3.62	99.0	90 - 110	
Sulfate	30.0	29.9	99.6	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 1340566
Report generated: 03/13/2009 08:31



Login Number: L09030127
Analytical Method: 300.0
ICAL Workgroup: WG286427

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R ²)	QUAD(R ²)
Chloride		5.859	9.84		0.99900
Nitrate		2.470	12.3		0.99900
Nitrite		2.877	6.25		1.00000
Sulfate		7.510	11.5		0.99900

R = Correlation coefficient; 0.995 minimum

R² = Coefficient of determination; 0.99 minimum

This method always uses quadratic calibration model (R²)

Login Number: L09030127
Analytical Method: 300.0

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte	WG286427-01			WG286427-02			WG286427-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	0.200	0.0320000000 0	6.250	2.00	0.3220000000	6.211	4.00	0.6530000000	6.126
Nitrate	0.136	0.0480000000 0	2.823	1.36	0.5130000000	2.642	2.71	1.058000000	2.562
Nitrite	0.122	0.0380000000 0	3.205	1.22	0.4180000000	2.913	2.44	0.8350000000	2.917
Sulfate	1.00	0.1250000000	8.000	10.0	1.224000000	8.170	20.0	2.503000000	7.990

INT_CAL - Modified 03/06/2008
PDF File ID: 1341906
Report generated 03/13/2009 08:31



Login Number: L09030127
Analytical Method: 300.0

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte	WG286427-04			WG286427-05			WG286427-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	6.00	0.992000000	6.048	8.00	1.35700000	5.895	12.0	2.11200000	5.682
Nitrate	4.07	1.62400000	2.504	5.42	2.21900000	2.443	8.13	3.43500000	2.367
Nitrite	3.65	1.26900000	2.879	4.87	1.71100000	2.847	7.31	2.62600000	2.783
Sulfate	30.0	3.88900000	7.714	40.0	5.32300000	7.515	60.0	8.33300000	7.200

INT_CAL - Modified 03/06/2008
PDF File ID: 1341906
Report generated 03/13/2009 08:31



Login Number: L09030127
Analytical Method: 300.0

Instrument ID: IC1
Initial Calibration Date: 29-OCT-08 18:09
Column ID: F

Analyte	WG286427-07		
	CONC	RESP	RF
Chloride	48.0	9.99200000	4.804
Nitrate	32.5	16.6700000	1.951
Nitrite	29.2	11.2520000	2.598
Sulfate	240	40.1170000	5.983

INT_CAL - Modified 03/06/2008
PDF File ID: 1341906
Report generated 03/13/2009 08:31



Login Number: L09030127 Run Date: 10/29/2008 Sample ID: WG286427-08
Instrument ID: IC1 Run Time: 18:26 Method: 300.0
File ID: I11029081826.08 Analyst: JWR QC Key: STD
ICal Workgroup: WG286427 Cal ID: IC1 - 29-OCT-08

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Chloride	6.00	6.14	mg/L	5.81	2.30	10	
Nitrate	4.07	4.18	mg/L	2.41	2.80	10	
Nitrite	3.65	3.60	mg/L	2.89	1.40	10	
Sulfate	30.0	30.2	mg/L	7.55	0.800	10	

* Exceeds %D Limit

Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296776-02
Instrument ID: IC1 Run Time: 15:59 Method: 300.0
File ID: I10306091559.04 Analyst: JWR Units: mg/L
Workgroup (AAB#): WG296775 Cal ID: IC1 -
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Nitrate	0.100	0.600	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296776-04
Instrument ID: IC1 Run Time: 19:28 Method: 300.0
File ID: I10306091928.16 Analyst: JWR Units: mg/L
Workgroup (AAB#): WG296775 Cal ID: IC1 -
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Nitrate	0.100	0.600	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296776-01
Instrument ID: IC1 Run Time: 15:42 Method: 300.0
File ID: I10306091542.03 Analyst: JWR QC Key: STD
Workgroup (AAB#): WG296775 Cal ID: IC1 - 29-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		6.00	6.06	mg/L	5.89	1.03	10	
Nitrate		4.07	4.07	mg/L	2.48	0.00492	10	
Nitrite		3.65	3.61	mg/L	2.89	1.24	10	
Sulfate		30.0	30.0	mg/L	7.62	0.153	10	

* Exceeds %D Criteria

Login Number: L09030127 Run Date: 03/06/2009 Sample ID: WG296776-03
Instrument ID: IC1 Run Time: 19:11 Method: 300.0
File ID: I10306091911.15 Analyst: JWR QC Key: STD
Workgroup (AAB#): WG296775 Cal ID: IC1 - 29-OCT-08
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		6.00	6.15	mg/L	5.80	2.43	10	
Nitrate		4.07	4.10	mg/L	2.46	0.856	10	
Nitrite		3.65	3.63	mg/L	2.87	0.640	10	
Sulfate		30.0	30.0	mg/L	7.60	0.0633	10	

* Exceeds %D Criteria

2.3.2 Alkalinity Data

2.3.2.1 Summary Data

LABORATORY REPORT

L09030127

00090972

03/13/09 13:33

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	310.2	1	06-MAR-09
17WW03-030509	L09030127-02	310.2	1	06-MAR-09
17WW06-030509	L09030127-03	310.2	1	06-MAR-09



Report Number: **L09030127**Report Date : **March 13, 2009**

00090973

Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296711**
Collect Date: **03/05/2009 12:08**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **310.2**
Analytical Method: **310.2**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **SMARTCHEM**
Prep Date: **03/06/2009 16:41**
Cal Date: **03/06/2009 16:36**
Run Date: **03/06/2009 16:41**
File ID: **SC090306006.017**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total		256		10.0	5.00

1 of 3



Report Number: **L09030127**Report Date : **March 13, 2009**

00090974

Sample Number: L09030127-02	PrePrep Method: NONE	Instrument: SMARTCHEM
Client ID: 17WW03-030509	Prep Method: 310.2	Prep Date: 03/06/2009 16:42
Matrix: Water	Analytical Method: 310.2	Cal Date: 03/06/2009 16:36
Workgroup Number: WG296711	Analyst: JBK	Run Date: 03/06/2009 16:42
Collect Date: 03/05/2009 09:35	Dilution: 1	File ID: SC090306006.018
Sample Tag: 01	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total		132		10.0	5.00

Report Number: **L09030127**Report Date : **March 13, 2009**

00090975

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296711**
Collect Date: **03/05/2009 11:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **310.2**
Analytical Method: **310.2**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **SMARTCHEM**
Prep Date: **03/06/2009 16:44**
Cal Date: **03/06/2009 16:36**
Run Date: **03/06/2009 16:44**
File ID: **SC090306006.021**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total		274		10.0	5.00

3 of 3



2.3.2.2 QC Summary Data

Example Alkalinity (Colormetric) Calculations

$$(\text{absorbance} - \text{intercept}) / (\text{slope} * \text{dilution}) = \text{mg/L}$$

where:

absorbance = reading from the spectrophotometer

intercept = calculated from calibration standard absorbencies

slope = calculated from calibration standard absorbencies

dilution = dilution of the distillate in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: JBK

Analyst: NA

Method: ALK

Instrument: SMARTCHEM

Curve Workgroup: NA

Runlog ID: _____

Analytical Workgroups: WG296711 WG296707

Calibration/Linearity	03/06/2009
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JBK
Secondary Reviewer	
Comments	

Primary Reviewer:
09-MAR-2009



Secondary Reviewer:

Analytical Method: 310.2

AAB#: WG296711

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW06-030509	03/05/09	03/06/09	03/06/09	14	1.24	03/06/09	14	1.24	
17WW02-030509	03/05/09	03/06/09	03/06/09	14	1.19	03/06/09	14	1.19	
17WW03-030509	03/05/09	03/06/09	03/06/09	14	1.30	03/06/09	14	1.30	

* EXT = SEE PROJECT QAPP REQUIREMENTS

*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030127
Blank File ID: SC090306006.010
Prep Date: 03/06/09 16:37
Analyzed Date: 03/06/09 16:37
Analyst: JBK

Work Group: WG296711
Blank Sample ID: WG296711-01
Instrument ID: SMARTCHEM
Method: 310.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296711-02	SC090306006.011	03/06/09 16:38	01
DUP	WG296711-05	SC090306006.015	03/06/09 16:40	01
17WW02-030509	L09030127-01	SC090306006.017	03/06/09 16:41	01
17WW03-030509	L09030127-02	SC090306006.018	03/06/09 16:42	01
17WW06-030509	L09030127-03	SC090306006.021	03/06/09 16:44	01
LCS2	WG296711-03	SC090306006.030	03/06/09 16:49	01

Report Name: BLANK_SUMMARY
PDF File ID: 1337515
Report generated 03/09/2009 09:06



Login Number: L09030127 Prep Date: 03/06/09 16:37 Sample ID: WG296711-01
Instrument ID: SMARTCHEM Run Date: 03/06/09 16:37 Prep Method: 310.2
File ID: SC090306006.010 Analyst: JBK Method: 310.2
Workgroup (AAB#): WG296711 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: SMARTC - 06-MAR-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Alkalinity, Total	5.00	10.0	-26.3	1	*

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1337516
09-MAR-2009 09:06



Login Number: L09030127 Analyst: JBK Prep Method: 310.2
Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
Workgroup (AAB#): WG296711 Units: mg/L
QC Key: STD Lot #: STD31643
Sample ID: WG296711-02 LCS File ID: SC090306006.011 Run Date: 03/06/2009 16:38
Sample ID: WG296711-03 LCS2 File ID: SC090306006.030 Run Date: 03/06/2009 16:49

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total	200	179	89.4	200	192	96.0	7.16	85 - 115	25	

2.3.2.3 Raw Data

WORKGROUP: WG296707

296711

SMARTCHEM RUN LOG

Daily Check

- ☒ Lamp On
☒ Probe Rinse Full
☒ DI Water > 1/2 Full
☒ Wash Solution > 1/2 Full
☐ NO3 Reagent bottle connected / purged
☐ NO3 pH adj to pH 5-9
- ☒ WBL Run
☒ Reagents Full
☒ Dilution H₂O Full
☒ Waste Container Check

- 1) Workgroup 296707
 Plan # 20090304005
 2) Workgroup 296711
 Plan # 20090304006
 3) Workgroup _____
 Plan # _____

Analyte	1	2	3
User Prepared Curve	AK		
SC Prepared Curve			
Position			
1-1	ICV 250		
1-2	Blank		
1-3	LCS 200		
1-4	LCS Dup		
1-5	03-096-01		
1-6	-14		
1-7	-16	1/5	
1-8	03-042-01		
1-9	-02		
1-10	-03		
1-11	03-090-04		
1-12	-05		
1-13	03-083-01	1/2	
1-14	DUP-01		
1-15	MS-03		
1-16	MSD-05		
1-17	-07		
1-18	-09		
1-19	03-114-01		
1-20	-03		
1-21	03-123-01		
1-22	-03		
2-1	-05		
2-2	-07		
2-3	-09		

Analyte	1	2	3
Position			
2-4	03-123-11		
2-5	-13		1-1
2-6	Blank		1-2
2-7	LCS 200		1-3
2-8	LCS Dup		1-4
2-9	03-123-15		1-5
2-10	03-149-01		1-6
2-11	DUP 4		1-7
2-12	-02	1/5	1-8
2-13	03-127-01		1-9
2-14	-02		1-10
2-15	-03		1-11
2-16	03-140-01		1-12
2-17	03-151-02	1/4	Color 1-13
2-18	-03		1-14
2-19	-05		1-15
2-20	-06		1-16
2-21	-08		1-17
2-22	-09		1-18
2-23			1-19 BIK
2-24			1-20 LCS 200 Dup
2-25			
2-26			
3-1			
3-2			

NOTES:
 * Run NO2 std on NO3 runs
 * LCS/LCS Dup all parameters
 * MS/MSD (NO3, TKN, NH3)

DCN#78591



Dannar/Johnson

Approved: March 09, 2009

WORKGROUP: WG296707

SMARTCHEM RUN LOG

Analyte	1	2	3
Position			
3-3			
3-4			
3-5			
3-6			
3-7			
3-8			
3-9			
3-10			
3-11			
3-12			
3-13			
3-14			
3-15			

Analyte	1	2	3
Position			
3-16			
3-17			
3-18			
3-19			
3-20			
3-21			
3-22			
3-23			
3-24			
3-25			
3-26			
3-27			
3-28			

☐ Chloride EPA 325.2/SM 4500-Cl⁻ E
☐ Sulfate EPA 375.4
☒ Alkalinity EPA 310.2
☐ Nitrate-Nitrite EPA 353.2/SM 4500-NO₃ F

☐ Ammonia EPA 350.1/SM 4500-NH₃ B
☐ TKN EPA 351.2
☐ Phos EPA 365.4

Analyte			
SOP & Revision	AIK K3102		
Curve Stock (SC made)	Std 31639		
Curve ID (user made)			
ICV	Std 31641		
CCV	Std 31642		
LCS	Std 31643		
MS	Std 31640		
	Dilution $0.4(2500)/10 = 100$		

Comments: _____

Analyst: _____

Date: 3/16/09

DCN#78591



Approved: March 09, 2009

MICROBAC (OVD)

SMARTCHEM REPORT

UNITS: MG/L

Method : WALK -Unit [mg/L] - EPA 310.2 Alkalinity

Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.00	0.6853	0.00		3:30:35 PM
DIL-1	RBL	0.00	0.6819	0.00		3:30:53 PM
DIL-1	RBL	0.00	0.6886	0.00		3:31:47 PM
DIL-1	Std-1	0.00	0.0138	0.00	INV	3:32:05 PM
SR5-1	Std-2	10.00	-0.0122	0.00		3:32:59 PM
SR5-2	Std-3	20.00	-0.0188	0.00		3:33:17 PM
SR5-3	Std-4	50.00	-0.0755	0.00		3:34:11 PM
SR5-4	Std-5	100.00	-0.1436	0.00		3:34:29 PM
SR5-5	Std-6	200.00	-0.2951	0.00		3:35:23 PM
SR5-6	Std-7	250.00	-0.3829	0.00		3:35:41 PM
SR5-7	Std-8	300.00	-0.4287	0.00		3:36:35 PM
1	ICV 250	261.58	-0.3851	0.00		3:36:53 PM
2	WG296707-01 BLANK	-1.38	0.0134	0.00	INV,LL	3:37:48 PM
3	WG296707-02 LCS200	201.15	-0.3002	0.00		3:38:06 PM
4	WG296707-03 LCSDUP	194.81	-0.2911	0.00		3:39:00 PM
5	L09030095-01	184.22	-0.2758	0.00		3:39:18 PM
6	L09030095-14	12.78	-0.0103	0.00		3:40:12 PM
7	L09030095-16 (5)	121.57	-0.1829	0.00		3:40:30 PM
8	L09030042-01	80.78	-0.1200	0.00		3:41:24 PM
9	L09030042-02	66.83	-0.0980	0.00		3:41:42 PM
10	L09030042-03	216.58	-0.3222	0.00		3:42:36 PM
ST-2	CCV (200 mg/L)	193.63	-0.2894	96.81		3:42:54 PM
ST-3	CCB (0 mg/L)	-0.31	0.0116	0.00	INV,LL	3:43:48 PM
11	L09030090-04	161.23	-0.2422	0.00		3:44:06 PM
12	L09030090-05	153.31	-0.2305	0.00		3:45:00 PM
13	L09030083-01 (2)	196.69	-0.2938	0.00		3:45:18 PM
14	WG296707-05 (2) DUP	204.57	-0.3051	0.00		3:46:12 PM
15	L09030083-03 (2) MS	232.03	-0.3440	0.00		3:46:30 PM
16	L09030083-05 (2) SD	243.61	-0.3602	0.00		3:47:24 PM
17	L09030083-07	266.24	-0.3915	0.00		3:47:42 PM
18	L09030083-09	259.55	-0.3823	0.00		3:48:36 PM
19	L09030114-01	238.38	-0.3529	0.00		3:48:54 PM
20	L09030114-03	290.66	-0.4248	0.00		3:49:48 PM
ST-2	CCV (200 mg/L)	208.84	-0.3112	104.42		3:50:06 PM
ST-3	CCB (0 mg/L)	-1.98	0.0144	0.00	INV,><,LL	3:51:00 PM
21	L09030123-01	115.53	-0.1737	0.00		3:51:18 PM

Report Date : 03/06/2009

Run Date : 03/06/2009

Operator : WESTCO

Plan # : 20090306005

Plan Description : ALK-D-JBK/03/06/2009



Approved: March 09, 2009

MICROBAC (OVD)
SMARTCHEM REPORT
 UNITS: MG/L

Method : WALK -Unit [mg/L] - EPA 310.2 Alkalinity

Smp#[/Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
22	L09030123-03	118.42	-0.1781	0.00		3:52:12 PM
23	L09030123-05	30.50	-0.0395	0.00		3:52:30 PM
24	L09030123-07	20.57	-0.0232	0.00		3:53:24 PM
25	L09030123-09	92.84	-0.1388	0.00		3:53:42 PM
26	L09030123-11	126.59	-0.1905	0.00		3:54:36 PM
27	L09030123-13	141.96	-0.2136	0.00		3:54:54 PM
28	WG296711-01 BLANK	21.06	-0.0240	0.00		3:55:48 PM
29	WG296711-02 LCS200	195.23	-0.2917	0.00		3:56:07 PM
30	WG296711-03 LCSDUP	193.63	-0.2894	0.00		3:57:00 PM
ST-2	CCV (200 mg/L)	211.93	-0.3156	105.97		3:57:18 PM
ST-3	CCB (0 mg/L)	7.92	-0.0021	0.00		3:58:12 PM
31	L09030123-15	21.30	-0.0244	0.00		3:58:30 PM
32	L09030149-01	80.53	-0.1196	0.00		3:59:24 PM
33	WG296711-05 DUP	68.03	-0.0999	0.00		3:59:42 PM
34	L09030149-02 (5)	119.14	-0.1792	0.00		4:00:36 PM
35	L09030127-01	256.22	-0.3777	0.00		4:00:54 PM
36	L09030127-02	110.75	-0.1664	0.00		4:01:48 PM
37	L09030127-03	305.21	-0.4444	0.00	><,LH	4:02:07 PM
38	L09030140-01	89.49	-0.1336	0.00		4:03:00 PM
39	L09030151-02 (4)	305.14	-0.4443	0.00	><,LH	4:03:19 PM
40	L09030151-03 (4)	210.53	-0.3136	0.00		4:04:13 PM
ST-2	CCV (200 mg/L)	210.46	-0.3135	105.23		4:04:31 PM
ST-3	CCB (0 mg/L)	8.94	-0.0039	0.00		4:05:25 PM
41	L09030151-05 (4)	278.81	-0.4087	0.00		4:05:43 PM
42	L09030151-06 (4)	224.35	-0.3332	0.00		4:06:37 PM
43	L09030151-08 (4)	288.60	-0.4220	0.00		4:06:55 PM
44	L09030151-09 (4)	182.77	-0.2737	0.00		4:07:49 PM
45	ID 45	12.84	-0.0104	0.00		4:08:07 PM
46	ID 46	77.85	-0.1154	0.00		4:09:01 PM
47	ID 47	13.15	-0.0109	0.00		4:09:19 PM
48	ID 48	22.58	-0.0265	0.00		4:10:13 PM
49	ID 49	43.41	-0.0605	0.00		4:10:31 PM
50	ID 50	37.36	-0.0507	0.00		4:11:25 PM
ST-2	CCV (200 mg/L)	238.02	-0.3524	119.01		4:11:43 PM
ST-3	CCB (0 mg/L)	7.98	-0.0023	0.00		4:12:37 PM

Report Date : 03/06/2009 Run Date : 03/06/2009 Operator : WESTCO Plan # : 20090306005
 Plan Description : ALK-D-JBK/03/06/2009

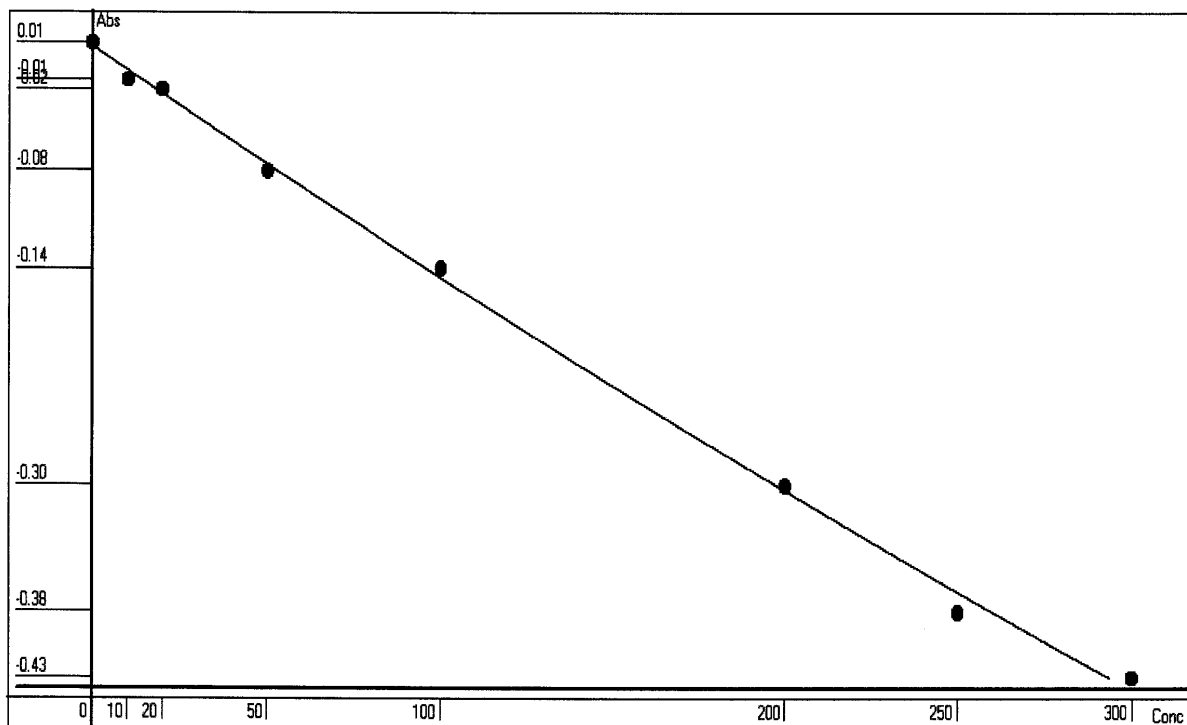
Annalysson

Approved: March 09, 2009

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:1/1/2010 User:Westco Scientific

Plan #: 20090306005 Description : [ALK-D-JBK/03/06/2009] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	0.0138	0	-1.5904	-159.04
2	-0.0122	10	13.9583	39.58
3	-0.0188	20	17.9410	-10.30
4	-0.0755	50	52.7505	5.50
5	-0.1436	100	95.9674	-4.03
6	-0.2951	200	197.6255	-1.19
7	-0.3829	250	260.0229	4.01
8	-0.4287	300	293.5861	-2.14

Conc= +165.7571*Abso^2 -598.2928*Abso +6.6345 R²=0.9980

RBL
0.687
0

Report Date 3/6/2009 Run Date 3/6/2009

Anna Hesson

Approved: March 09, 2009

MICROBAC (OVD)

SMARTCHEM REPORT

UNITS: MG/L

Method : WALK -Unit [mg/L] - EPA 310.2 Alkalinity

Smp#[[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.00	0.6356	0.00		4:30:42 PM
DIL-1	RBL	0.00	0.6337	0.00		4:31:00 PM
DIL-1	RBL	0.00	0.6417	0.00		4:31:54 PM
DIL-1	Std-1	0.00	0.0146	0.00	INV	4:32:12 PM
SR5-1	Std-2	10.00	-0.0173	0.00		4:33:06 PM
SR5-2	Std-3	20.00	-0.0423	0.00		4:33:24 PM
SR5-3	Std-4	50.00	-0.0935	0.00		4:34:19 PM
SR5-4	Std-5	100.00	-0.1500	0.00		4:34:36 PM
SR5-5	Std-6	200.00	-0.2621	0.00		4:35:31 PM
SR5-6	Std-7	250.00	-0.3509	0.00		4:35:48 PM
SR5-7	Std-8	300.00	-0.4214	0.00		4:36:42 PM
1	ICV 250	242.96	-0.3410	0.00		4:37:01 PM
2	WG296711-01 BLANK	-26.30	0.0371	0.00	INV,><,LL	4:37:55 PM
3	WG296711-02 LCS200	178.75	-0.2554	0.00		4:38:13 PM
4	~~WG296711-03 LCS200~~	167.18	-0.2397	0.00		4:39:07 PM
5	L09030123-15	26.38	-0.0411	0.00		4:39:25 PM
6	~~L09030149-01~~ <i>WG-04</i>	-19.25 <i>X</i>	0.0264	0.00	INV,><,LL	4:40:19 PM
7	WG296711-05 DUP	43.14	-0.0655	0.00		4:40:37 PM
8	L09030149-02 (5)	99.81 <i>X</i>	-0.1465	0.00		4:41:31 PM
9	L09030127-01	255.86	-0.3579	0.00		4:41:49 PM
10	L09030127-02	132.13	-0.1916	0.00		4:42:43 PM
ST-2	CCV (200 mg/L)	190.09	-0.2707	95.04		4:43:01 PM
ST-3	CCB (0 mg/L)	-7.95	0.0096	0.00	INV,LL	4:43:55 PM
11	L09030127-03	273.76	-0.3812	0.00		4:44:13 PM
12	L09030140-01	26.65 <i>X</i>	-0.0415	0.00		4:45:07 PM
13	L09030151-02 (4)	212.87	-0.3012	0.00		4:45:25 PM
14	L09030151-03 (4)	185.64	-0.2647	0.00		4:46:19 PM
15	L09030151-05 (4)	279.01	-0.3880	0.00		4:46:37 PM
16	L09030151-06 (4)	234.37	-0.3297	0.00		4:47:31 PM
17	L09030151-08 (4)	279.55	-0.3887	0.00		4:47:49 PM
18	L09030151-09 (4)	185.49	-0.2645	0.00		4:48:43 PM
19	ID 19	-13.37	0.0177	0.00	INV,><,LL	4:49:01 PM
20	~~ID 20~~ <i>WG296711-03</i>	192.02	-0.2733	0.00		4:49:55 PM
ST-2	CCV (200 mg/L)	202.83	-0.2878	101.42		4:50:13 PM
ST-3	CCB (0 mg/L)	-23.17	0.0324	0.00	INV,><,LL	4:51:07 PM

Report Date :03/06/2009

Run Date :03/06/2009

Operator : WESTCO

Plan # :20090306006

Plan Description : ALK-E-JBK/03/06/2009

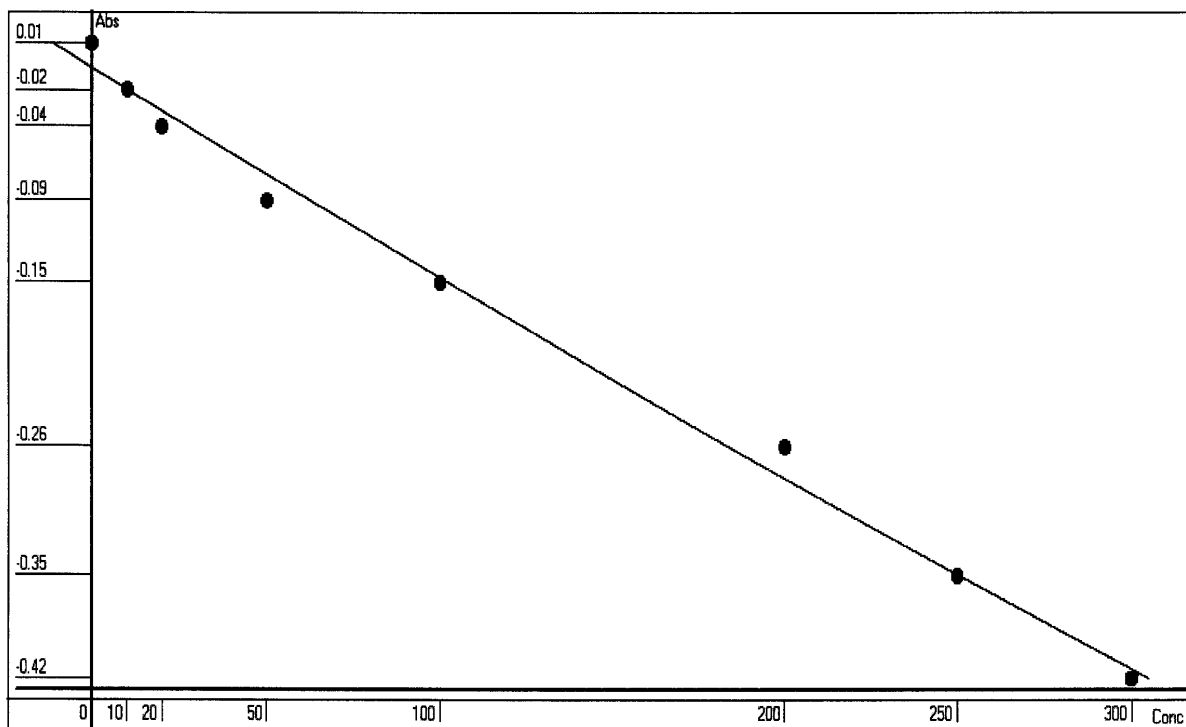


Approved: March 09, 2009

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:1/1/2010 User:Westco Scientific

Plan #: 20090306006 Description : [ALK-E-JBK/03/06/2009] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	0.0146	0	-11.3342	-1133.42
2	-0.0173	10	10.1480	1.48
3	-0.0423	20	27.1673	35.84
4	-0.0935	50	62.5263	25.05
5	-0.1500	100	102.3310	2.33
6	-0.2621	200	183.7461	-8.13
7	-0.3509	250	250.5419	0.22
8	-0.4214	300	305.0221	1.67

Conc= +129.0852*Abso^2 -673.076*Abso -1.5348 R²=0.9935

RBL
0.6347
0

Report Date 3/6/2009 Run Date 3/6/2009

Anna Hesson

Approved: March 09, 2009

2.3.3 Orthophosphate Data

2.3.3.1 Summary Data

LABORATORY REPORT

L09030127

00090993

03/13/09 13:33

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	SM4500-P-	1	06-MAR-09
17WW03-030509	L09030127-02	SM4500-P-	1	06-MAR-09
17WW06-030509	L09030127-03	SM4500-P-	1	06-MAR-09



Report Number: **L09030127**Report Date : **March 13, 2009**

00090994

Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296739**
Collect Date: **03/05/2009 12:08**

PrePrep Method: **NONE**
Prep Method: **SM4500-P-E-20th**
Analytical Method: **SM4500-P-E-20th**
Analyst: **DLP**
Dilution: **1**
Units: **mg/L**

Instrument: **UV-120-1V**
Prep Date: **03/06/2009 14:15**
Cal Date:
Run Date: **03/06/2009 14:15**
File ID: **1V.0903061415-05**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Orthophosphate	14265-44-2		U	0.0500	0.0250

U Not detected at or above adjusted sample detection limit

Report Number: **L09030127**Report Date : **March 13, 2009**

00090995

Sample Number: **L09030127-02**
Client ID: **17WW03-030509**
Matrix: **Water**
Workgroup Number: **WG296739**
Collect Date: **03/05/2009 09:35**

PrePrep Method: **NONE**
Prep Method: **SM4500-P-E-20th**
Analytical Method: **SM4500-P-E-20th**
Analyst: **DLP**
Dilution: **1**
Units: **mg/L**

Instrument: **UV-120-1V**
Prep Date: **03/06/2009 14:15**
Cal Date:
Run Date: **03/06/2009 14:15**
File ID: **1V.0903061415-06**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Orthophosphate	14265-44-2		U	0.0500	0.0250

U Not detected at or above adjusted sample detection limit

Report Number: **L09030127**Report Date : **March 13, 2009**

00090996

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296739**
Collect Date: **03/05/2009 11:00**

PrePrep Method: **NONE**
Prep Method: **SM4500-P-E-20th**
Analytical Method: **SM4500-P-E-20th**
Analyst: **DLP**
Dilution: **1**
Units: **mg/L**

Instrument: **UV-120-1V**
Prep Date: **03/06/2009 14:15**
Cal Date:
Run Date: **03/06/2009 14:15**
File ID: **1V.0903061415-07**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Orthophosphate	14265-44-2		U	0.0500	0.0250

U Not detected at or above adjusted sample detection limit

2.3.3.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
 b = intercept from the linear equation
 x = instrument response as absorbance or OD
 y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:
 $y = mx + b$

Step 3: Solve for analyte concentration in sample, Cy

$$C_y = (y) (D)$$

Example Calculation (LCS):

Value of m from plot:	2.7599
Value of b from plot:	0.0153
Absorbance of unknown from quantitation report (x):	0.3765
Calculated concentration (y):	1.05440235
Dilution factor (D):	1.00
Concentration of analyte in sample, Cy:	1.05 mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression
 x = instrument response as absorbance or OD
 y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:
 $y = Ax^2 + Bx + C$

Step 3: Solve for analyte concentration in sample, Cy

$$C_y = (y) (D)$$

Example Calculation (LCS):

Value of A from plot:	101.2796
Value of B from plot:	318.9056
Value of C from plot:	-2.2712
Absorbance of unknown from quantitation report (x):	0.1583
Calculated concentration (y):	50.7495108
Dilution factor (D):	1.00
Concentration of analyte in sample, Cy:	50.75 mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAR-2009

Analyst: DLP

Analyst: NA

Method: PO4

Instrument: UV-120-1V

Curve Workgroup: NA

Runlog ID: _____

Analytical Workgroups: WG296739

Calibration/Linearity	01-03-09
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	
Primary Reviewer	DLP
Secondary Reviewer	
Comments	

Primary Reviewer:
10-MAR-2009

Secondary Reviewer:

Dwight Payne

Analytical Method: SM4500-P-E-20th
Login Number: L09030127

AAB#: WG296739

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW03-030509	03/05/09	03/06/09	03/06/09	2	1.19	03/06/09	2	1.19	
17WW02-030509	03/05/09	03/06/09	03/06/09	2	1.09	03/06/09	2	1.09	
17WW06-030509	03/05/09	03/06/09	03/06/09	2	1.14	03/06/09	2	1.14	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: <u>L09030127</u>	Work Group: <u>WG296739</u>
Blank File ID: <u>1V.0903061415-02</u>	Blank Sample ID: <u>WG296739-01</u>
Prep Date: <u>03/06/09 14:15</u>	Instrument ID: <u>UV-120-1V</u>
Analyzed Date: <u>03/06/09 14:15</u>	Method: <u>SM4500-P-E-20th</u>
Analyst: <u>DLP</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296739-02	1V.0903061415-03	03/06/09 14:15	
LCS2	WG296739-03	1V.0903061415-04	03/06/09 14:15	
17WW02-030509	L09030127-01	1V.0903061415-05	03/06/09 14:15	
17WW03-030509	L09030127-02	1V.0903061415-06	03/06/09 14:15	
17WW06-030509	L09030127-03	1V.0903061415-07	03/06/09 14:15	
DUP	WG296739-05	1V.0903061415-08	03/06/09 14:15	

Report Name: BLANK_SUMMARY
 PDF File ID: 1341196
 Report generated 03/12/2009 13:06



Login Number: L09030127 Prep Date: 03/06/09 14:15 Sample ID: WG296739-01
Instrument ID: UV-120-1V Run Date: 03/06/09 14:15 Prep Method: SM4500-P-E-20th
File ID: 1V.0903061415-02 Analyst: DLP Method: SM4500-P-E-20th
Workgroup (AAB#): WG296739 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: UV-120 -

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Orthophosphate	0.0250	0.0500	0.0250	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1341197
12-MAR-2009 13:06



Login Number: L09030127 Analyst: DLP Prep Method: SM4500-P-E-20th
Instrument ID: UV-120-1V Matrix: Water Method: SM4500-P-E-20th
Workgroup (AAB#): WG296739 Units: mg/L
QC Key: STD Lot #: STD31540
Sample ID: WG296739-02 LCS File ID: 1V.0903061415-03 Run Date: 03/06/2009 14:15
Sample ID: WG296739-03 LCS2 File ID: 1V.0903061415-04 Run Date: 03/06/2009 14:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Orthophosphate	1.00	1.03	103	1.00	1.04	104	0.934	90 - 110	20	

2.3.3.3 Raw Data

Curves

Concentration: 1000 mg/L

Recipe for preparation of curve standards found in:

SOP: 31653 Revision: 12 Page: 08

Second Source Stock: Std 30155 (concentration: 1000 mg)

Daily Preparation: $\frac{5(1000)}{500} = 10$
~~50755~~ $\frac{5(10)}{50} = 1.0$
 concentration = 1.0

[illegible]

Analyst: [Signature] Date/Time: 1/13/09 1030

DCN#78043



Lennart Persson

Approved: January 16, 2009

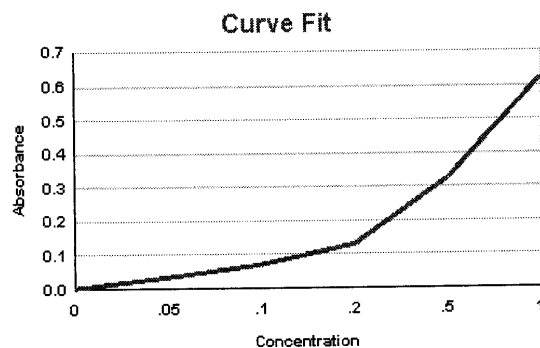
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG292348
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 01/13/2009

Analyte: ORTHOPHOSPHATE
Number of Points: 6
Slope: 0.619271
Y-Intercept: 0.00589129
Coef. Of Correlation (R^2): 0.999448
Coef. Of Correlation (R): 0.999724

Concentration X	Absorbance Y	X^2	$X * Y$	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	0.00589129
0.0500	0.0340	0.00250	0.00170	0.0368549
0.100	0.0690	0.0100	0.00690	0.0678184
0.200	0.132	0.0400	0.0264	0.129746
0.500	0.325	0.250	0.163	0.315527
1.00	0.620	1.00	0.620	0.625163



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 01/14/2009 10:50



Anna H. J. R.

Approved: January 16, 2009

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORTWorkgroup #: WG292348
File ID: 1V.0901131030-07
CCV ID: WG292348-07
Units: mg/L
Analyte: ORTHOPHOSPHATEInstrument ID: UV-120-1V
Run Date: 01/13/2009
Run Time: 10:30
Analyst: HJR
Cal ID: UV-120 -

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	1	0.990	0.619	1.0	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 01/14/2009 10:50

A handwritten signature in cursive script, appearing to read "Danna K. Kesson".

Approved: January 16, 2009

WORKGROUP: WG296739

ORTHOPHOSPHATE

Workgroup: _____

ICV: Std 31539 LCS: Std 31540 Spike: Std 31540
 Daily Dilution: 51.1000/100 = 0.5 Daily Dilution: 51.1000/100 = 0.5 Daily Dilution: 26.1000/100 = 0.26
 Daily Dilution: 51.5150 = 0.5 Daily Dilution: 51.1000/100 = 0.5 Daily Dilution: 0.4
 Ison #: 12 Spectrophotometer: uv120-uv Curve ID: 292348
1-03-09

EPA 365.2/SM4500-P E SOP K3653 Revision #: 12

[illegible]

ANALYST: K. Matting Payne

DATE / TIME: 03-06-09/1415

DCN#78596



Lennart Persson

Approved: March 12, 2009

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG296739

Analyst: DLP

Analyte: ORTHOPHOSPHATE

Date: 03/06/2009

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG296739-01	50	50	0	0.6193	0.005891	-0.0095133	-0.0095133	1	mg/L
WG296739-02	50	50	0.645	0.6193	0.005891	1.0320	1.0320	1	mg/L
WG296739-03	50	50	0.651	0.6193	0.005891	1.0417	1.0417	1	mg/L
L09030127-01	50	50	0.0160	0.6193	0.005891	0.016324	ND	1	mg/L
WG296739-04	50	50	0.0160	0.6193	0.005891	0.016324	0.016324	1	mg/L
L09030127-02	50	50	0.00500	0.6193	0.005891	-0.0014393	ND	1	mg/L
L09030127-03	50	50	0.00400	0.6193	0.005891	-0.0030541	ND	1	mg/L
WG296739-05	50	50	0.0160	0.6193	0.005891	0.016324	0.016324	1	mg/L
WG296739-06	50	50	0.269	0.6193	0.005891	0.42487	0.42487	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 03/10/2009 09:42



Danna J. Jansson

Approved: March 12, 2009

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

00091010

Workgroup #: WG296949

Instrument ID: UV-120-1V

File ID: 1V.0903061415-01

Run Date: 03/06/2009

CCV ID: WG296949-01

Run Time: 14:15

Units: mg/L

Analyst: DLP

Analyte: ORTHOPHOSPHATE

Cal ID: UV-120 -

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.494	0.624	1.2	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/10/2009 09:41



Danna Hesson

Approved: March 12, 2009

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

00091011

Workgroup #: WG296949 Instrument ID: UV-120-1V
File ID: 1V.0903061415-10 Run Date: 03/06/2009
CCV ID: WG296949-02 Run Time: 14:15
Units: mg/L Analyst: DLP
Analyte: ORTHOPHOSPHATE Cal ID: UV-120 -

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.494	0.624	1.2	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/10/2009 09:41



Danna J. Kesson

Approved: March 12, 2009

2.3.4 Sulfide Data

2.3.4.1 Summary Data

LABORATORY REPORT

L09030127

00091014

03/13/09 13:33

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	376.1	1	06-MAR-09
17WW03-030509	L09030127-02	376.1	1	06-MAR-09
17WW06-030509	L09030127-03	376.1	1	06-MAR-09



Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296938**
Collect Date: **03/05/2009 12:08**

PrePrep Method: **NONE**
Prep Method: **376.1**
Analytical Method: **376.1**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **BURET**
Prep Date: **03/10/2009 08:45**
Cal Date:
Run Date: **03/10/2009 08:45**
File ID: **ET.0903100845-10**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sulfide	18496-25-8		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

Report Number: **L09030127**Report Date : **March 13, 2009**

00091016

Sample Number: **L09030127-02**
Client ID: **17WW03-030509**
Matrix: **Water**
Workgroup Number: **WG296938**
Collect Date: **03/05/2009 09:35**

PrePrep Method: **NONE**
Prep Method: **376.1**
Analytical Method: **376.1**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **BURET**
Prep Date: **03/10/2009 08:45**
Cal Date:
Run Date: **03/10/2009 08:45**
File ID: **ET.0903100845-11**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sulfide	18496-25-8		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296938**
Collect Date: **03/05/2009 11:00**

PrePrep Method: **NONE**
Prep Method: **376.1**
Analytical Method: **376.1**
Analyst: **JBK**
Dilution: **1**
Units: **mg/L**

Instrument: **BURET**
Prep Date: **03/10/2009 08:45**
Cal Date:
Run Date: **03/10/2009 08:45**
File ID: **ET.0903100845-12**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sulfide	18496-25-8		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

2.3.4.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

$$[\text{mL Iodine} * \text{N Iodide}] - (\text{mL titrant} * \text{N titrant}) * 16000 / (\text{volume} * \text{dilution}) = \text{mg/L Sulfide}$$

 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = mL of titrant used

N titrant = normality of titrant

16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide

volume = mL filtered of mL titrated(if not filtered)

dilution = dilution in decimal form ($1/5 = 0.2$)

Example Total Sulfide(Soil) Calculations

$$[(\text{mL Iodine} * \text{N Iodine}) - (\text{mL titrant} * \text{N titrant})] * 16.03 / \text{weight} = \text{mg/kg sulfide}$$

 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = normality of titrant

16.03 = 32.06 grams per 2 equivalents

weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 10-MAR-2009

Analyst: JBK

Analyst: NA

Method: S

Instrument: BURET

Curve Workgroup: NA

Runlog ID: _____

Analytical Workgroups: WG296938

Calibration/Linearity	03/10/2009
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JBK
Secondary Reviewer	
Comments	

Primary Reviewer:
12-MAR-2009



Secondary Reviewer:

Analytical Method: 376.1

AAB#: WG296938

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW06-030509	03/05/09	03/06/09	03/10/09	7	4.91	03/10/09	7	4.91	
17WW02-030509	03/05/09	03/06/09	03/10/09	7	4.86	03/10/09	7	4.86	
17WW03-030509	03/05/09	03/06/09	03/10/09	7	4.97	03/10/09	7	4.97	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030127
Blank File ID: ET.0903100845-01
Prep Date: 03/10/09 08:45
Analyzed Date: 03/10/09 08:45
Analyst: JBK

Work Group: WG296938
Blank Sample ID: WG296938-01
Instrument ID: BURET
Method: 376.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG296938-02	ET.0903100845-02	03/10/09 08:45	
LCS2	WG296938-03	ET.0903100845-03	03/10/09 08:45	
17WW02-030509	L09030127-01	ET.0903100845-10	03/10/09 08:45	
17WW03-030509	L09030127-02	ET.0903100845-11	03/10/09 08:45	
17WW06-030509	L09030127-03	ET.0903100845-12	03/10/09 08:45	

Report Name: BLANK_SUMMARY
PDF File ID: 1341176
Report generated 03/12/2009 13:01



Login Number: L09030127 Prep Date: 03/10/09 08:45 Sample ID: WG296938-01
Instrument ID: BURET Run Date: 03/10/09 08:45 Prep Method: 376.1
File ID: ET.0903100845-01 Analyst: JBK Method: 376.1
Workgroup (AAB#): WG296938 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: BURET -

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Sulfide	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1341177
12-MAR-2009 13:01



Login Number: L09030127 Analyst: JBK Prep Method: 376.1
Instrument ID: BURET Matrix: Water Method: 376.1
Workgroup (AAB#): WG296938 Units: mg/L
QC Key: STD Lot #: STD31731
Sample ID: WG296938-02 LCS File ID: ET.0903100845-02 Run Date: 03/10/2009 08:45
Sample ID: WG296938-03 LCS2 File ID: ET.0903100845-03 Run Date: 03/10/2009 08:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	20.3	20.4	101	20.3	20.4	101	0.00	85 - 115	10	

2.3.4.3 Raw Data

WORKGROUP: WG296938

SULFIDE

☒ EPA 376.1 / SM4500-S(-2)-F
SOP 3761 Revision #: _____

☐ Other

LCS: 561 31731

Instrument: Buret

Iodine standardization (0.025N and 0.1N)

mL 0.025N titrant: 3/4/09

Volume I: _____ mL

Normality I: 0.0252

mL 0.025 N titrant: 3/4/09

Volume I: _____ mL

Normality I: 0.101

Stock standardization (in duplicate) 10.0 mL stock

mL I 1) 10.0 2) 10.0

N I 1) 0.101N 2) 0.101N

mL 0.025 titrant 1) 15.0 2) 14.9 = 14.95

LCS daily dilution: $\frac{4(1013)}{200} = 20.26$ mg/L

1013 = stock conc (mg/L)

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	<u>0.0252</u> N Sodium Thiosulfate 2/25/09
BLANK	<u>20.0</u>	<u>15</u>	<u>0.0252</u>	<u>14.8</u>
LCS (4.0 mL)	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>4.9</u>
LCSDUP (4.0 mL)	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>4.9</u>
03-090-01	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
-05	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-095-01	<u>560</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-14	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-16	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-109-01	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-127-01	<u>540</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
-02	<u>560</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
-03	<u>555</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
03-149-01	<u>560</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-02	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>
03-198-01	<u>560</u>	<u>15</u>	<u>0.0252</u>	<u>15.0</u>
-02	<u>570</u>	<u>↓</u>	<u>↓</u>	<u>14.8</u>
-03	<u>550</u>	<u>↓</u>	<u>↓</u>	<u>14.6</u>
03-196-01	<u>510</u>	<u>↓</u>	<u>↓</u>	<u>14.6</u>
-02	<u>530</u>	<u>↓</u>	<u>↓</u>	<u>14.9</u>
-03	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>14.8</u>
-04	<u>510</u>	<u>↓</u>	<u>↓</u>	<u>14.6</u>
-05	<u>520</u>	<u>↓</u>	<u>↓</u>	<u>14.2</u>
-06	<u>520</u>	<u>↓</u>	<u>↓</u>	<u>15.0</u>

3/10/09
@ 1500
JBK

Analyst: [Signature]

Date/Time: 3/10/09 e 0845

DCN#78628



[Signature]

Approved: March 12, 2009

Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#):WG296938

Analyst:JBK

Product:376.1

Run Date:03/10/2009 08:45

Analyte:Sulfide

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG296938-01	200.0	15	.0252	14.8	.0252	1	0.403	0.4032	mg/L
WG296938-02	200.0	15	.0252	4.9	.0252	1	20.4	20.36	mg/L
WG296938-03	200.0	15	.0252	4.9	.0252	1	20.4	20.36	mg/L
L09030090-04	570.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030090-05	570.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030095-01	560.0	15	.0252	14.9	.0252	1	0.0720	ND	mg/L
L09030095-14	560.0	15	.0252	14.9	.0252	1	0.0720	ND	mg/L
L09030095-16	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030109-01	470.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030127-01	540.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030127-02	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030127-03	555.0	15	.0252	14.9	.0252	1	0.0726	ND	mg/L
L09030149-01	560.0	15	.0252	14.9	.0252	1	0.0720	ND	mg/L
L09030149-02	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030198-01	560.0	15	.0252	15	.0252	1	0	ND	mg/L
L09030198-02	570.0	15	.0252	14.8	.0252	1	0.141	ND	mg/L
L09030198-03	550.0	15	.0252	14.6	.0252	1	0.293	ND	mg/L
L09030196-01	510.0	15	.0252	14.6	.0252	1	0.316	ND	mg/L
L09030196-02	530.0	15	.0252	14.9	.0252	1	0.0761	ND	mg/L
L09030196-03	530.0	15	.0252	14.8	.0252	1	0.152	ND	mg/L
L09030196-04	510.0	15	.0252	14.6	.0252	1	0.316	ND	mg/L
L09030196-05	530.0	15	.0252	14.2	.0252	1	0.609	0.6086 F	mg/L
L09030196-06	520.0	15	.0252	15	.0252	1	0	ND	mg/L

SULFIDE REPORT - Modified 03/06/2008

Report generated 03/12/2009 12:59



Annika Persson

Approved: March 12, 2009

2.3.5 Total Organic Carbon Data

2.3.5.1 Summary Data

LABORATORY REPORT

L09030127

00091030

03/13/09 13:33

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Building
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 389869/ 390836 (GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
17WW02-030509	L09030127-01	415.1	3	06-MAR-09
17WW03-030509	L09030127-02	415.1	2	06-MAR-09
17WW06-030509	L09030127-03	415.1	3	06-MAR-09



Report Number: **L09030127**Report Date : **March 13, 2009**

00091031

Sample Number: **L09030127-01**
Client ID: **17WW02-030509**
Matrix: **Water**
Workgroup Number: **WG296790**
Collect Date: **03/05/2009 12:08**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **415.1**
Analytical Method: **415.1**
Analyst: **DIH**
Dilution: **3**
Units: **mg/L**

Instrument: **TOC-VWP**
Prep Date: **03/09/2009 23:12**
Cal Date: **01/13/2009 15:07**
Run Date: **03/09/2009 23:12**
File ID: **TC03092009.054**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		5.67		3.00	1.50

1 of 3



Report Number: **L09030127**Report Date : **March 13, 2009**

00091032

Sample Number: **L09030127-02**
Client ID: **17WW03-030509**
Matrix: **Water**
Workgroup Number: **WG296790**
Collect Date: **03/05/2009 09:35**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **415.1**
Analytical Method: **415.1**
Analyst: **DIH**
Dilution: **2**
Units: **mg/L**

Instrument: **TOC-VWP**
Prep Date: **03/09/2009 23:25**
Cal Date: **01/13/2009 15:07**
Run Date: **03/09/2009 23:25**
File ID: **TC03092009.055**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		4.17		2.00	1.00

Report Number: **L09030127**Report Date : **March 13, 2009**

00091033

Sample Number: **L09030127-03**
Client ID: **17WW06-030509**
Matrix: **Water**
Workgroup Number: **WG296790**
Collect Date: **03/05/2009 11:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **415.1**
Analytical Method: **415.1**
Analyst: **DIH**
Dilution: **3**
Units: **mg/L**

Instrument: **TOC-VWP**
Prep Date: **03/09/2009 23:38**
Cal Date: **01/13/2009 15:07**
Run Date: **03/09/2009 23:38**
File ID: **TC03092009.056**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		5.02		3.00	1.50

3 of 3



2.3.5.2 QC Summary Data

**Total Organic Carbon Example Calculations
(Direct Readout Parameter)**

$$(\text{Readout})/(\text{dilution}) = \text{mg/L}$$

where:

Readout = direct readout from the instrument

dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Analytical Method: 415.1

AAB#: WG296790

Login Number: L09030127

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
17WW03-030509	03/05/09	03/06/09	03/09/09	28	4.58	03/09/09	28	4.58	
17WW02-030509	03/05/09	03/06/09	03/09/09	28	4.46	03/09/09	28	4.46	
17WW06-030509	03/05/09	03/06/09	03/09/09	28	4.53	03/09/09	28	4.53	

* EXT = SEE PROJECT QAPP REQUIREMENTS

* ANAL = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L09030127
Blank File ID: TC03092009.004
Prep Date: 03/09/09 12:14
Analyzed Date: 03/09/09 12:14
Analyst: DIH

Work Group: WG296790
Blank Sample ID: WG296790-01
Instrument ID: TOC-VWP
Method: 415.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS2	WG296790-03	TC03092009.006	03/09/09 12:38	01
DUP	WG296790-05	TC03092009.018	03/09/09 15:27	01
LCS	WG296790-02	TC03092009.053	03/09/09 23:00	01
17WW02-030509	L09030127-01	TC03092009.054	03/09/09 23:12	DL01
17WW03-030509	L09030127-02	TC03092009.055	03/09/09 23:25	DL01
17WW06-030509	L09030127-03	TC03092009.056	03/09/09 23:38	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 1341485
Report generated 03/12/2009 15:24



Login Number: L09030127 Prep Date: 03/09/09 12:14 Sample ID: WG296790-01
Instrument ID: TOC-VWP Run Date: 03/09/09 12:14 Prep Method: 415.1
File ID: TC03092009.004 Analyst: DIH Method: 415.1
Workgroup (AAB#): WG296790 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: TOC-VW-13-JAN-09

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1341486
12-MAR-2009 15:24



Login Number: L09030127 Analyst: DIH Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG296790 Units: mg/L
QC Key: STD Lot #: STD30420
Sample ID: WG296790-02 LCS File ID: TC03092009.053 Run Date: 03/09/2009 23:00
Sample ID: WG296790-03 LCS2 File ID: TC03092009.006 Run Date: 03/09/2009 12:38

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.0	104	25.0	25.7	103	1.01	85 - 115	15	

2.3.5.3 Raw Data

TC/TIC curves

wg 292773

Total Organic Carbon

MAKE DAILY

CCV (TOC): see below

LCS (TOC): _____

$$\left(\frac{10}{200}\right)(1000) = 50 \text{ mg/L} \quad \left(\frac{2}{200}\right)(1000) = 10 \text{ mg/L}$$

$$\left(\frac{5}{200}\right)(1000) = 25 \text{ mg/L}$$

CCV (TIC): _____

MS (TOC): _____

$$\left(\frac{5}{200}\right)(1000) = 25 \text{ mg/L}$$

Calibration Curve Date: _____



SM5310-C : Matrix 2 WG _____



EPA 415.1/9060A(mod): Matrix 1 WG _____

SOP: K 4151 Rev. 11

WG _____

Instrument: Shimadza TOC-VWP/ASI



drain reservoir filled



ASI water bottle full



dilution water bottle full



DAILY CHECK

3rd bottle full

sufficient gas



sufficient persulfate



sufficient acid

waste container

Position	Sample ID	Dilution
1	TC CURVE	
2	TIC curve	
3	TC ICV(25)	
4	TIC ICV(25)	
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16	all curve points and ICV's were injected and analyzed in duplicate	
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26		
27		
28		
29		
30		
31	curve std	
32	std 30838	
33	TIC 28734	
34		
35		
36	ICV	
37	TC std 30420	
38	TIC std 28733	
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57	see SOP for	
58	curve pts	
59		
60		
61		
62	$\frac{5 \text{ ml}}{200}(1000) = 25 \text{ mg/L}$	
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: Deanna RobertsDate/Time: 1/13/09

WG: _____

WG: _____

WG: _____

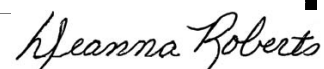
DCN#78103



Deanna Roberts

Approved: January 19, 2009

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TC	TC CURVE		Comple	01/13/2009 03:12:54 PM	0, 1,
2	IC	TIC CURVE		Comple	01/13/2009 04:22:39 PM	0, 6,
3	TC	TC ICV	TC:24.92mg/L	Comple	01/13/2009 04:38:03 PM	11
4	IC	TIC ICV	IC:24.60mg/L	Comple	01/13/2009 04:50:47 PM	12



Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.132

Instr. Information

System
DetectorTOCVW ASI
Wet Chemical

Cal. Curve

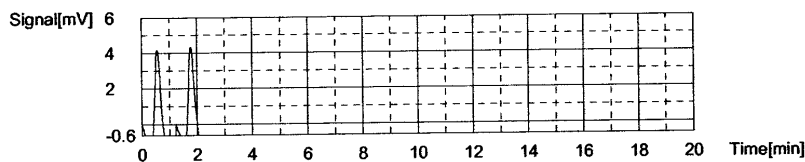
Sample Name: TC CURVE
 Sample ID: TCCURVE
 Cal. Curve: TCCURVE-01-13-2009.2009_01_13_14_10_52.cal
 Status: Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	8.437	500uL	1	*****		01/13/2009 02:14:13 PM
2	8.432	500uL	1	*****		01/13/2009 02:18:55 PM

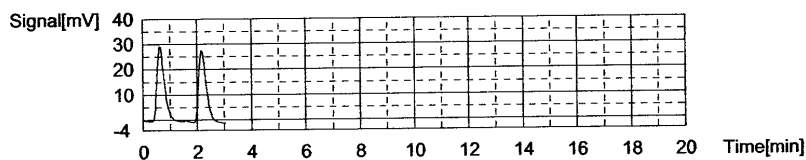
Acid Add. 0.000%
 Mean Area 8.434



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	56.85	500uL	1	*****		01/13/2009 02:24:22 PM
2	54.36	500uL	1	*****		01/13/2009 02:29:25 PM

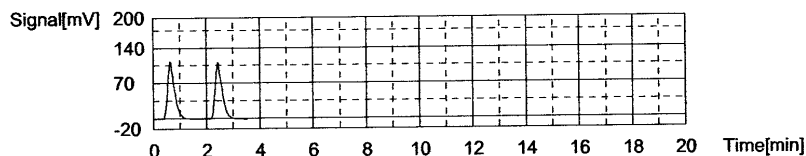
Acid Add. 0.000%
 Mean Area 55.61



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	206.9	500uL	1	*****		01/13/2009 02:35:09 PM
2	202.6	500uL	1	*****		01/13/2009 02:39:10 PM

Acid Add. 0.000%
 Mean Area 204.8



Conc: 10.00mg/L

1/5

Kearna Roberts

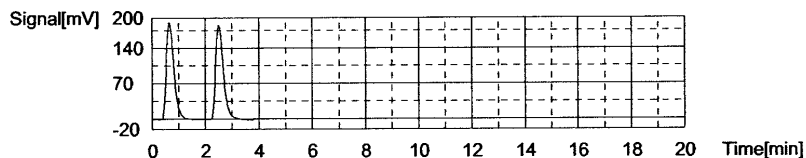
Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.132

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	380.7	500uL	1	*****		01/13/2009 02:44:58 PM
2	379.4	500uL	1	*****		01/13/2009 02:49:11 PM

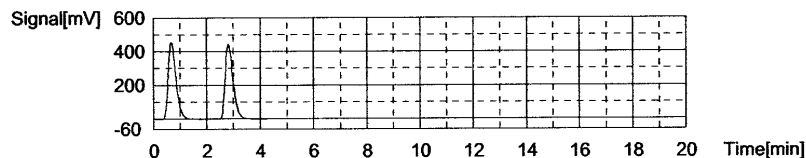
Acid Add. 0.000%
Mean Area 380.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	934.8	500uL	1	*****		01/13/2009 02:55:16 PM
2	914.5	500uL	1	*****		01/13/2009 03:00:30 PM

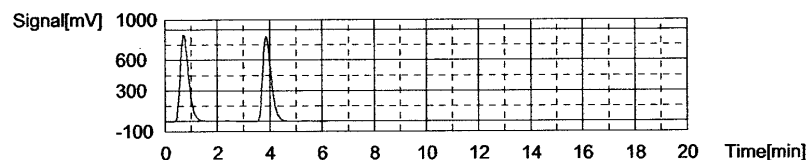
Acid Add. 0.000%
Mean Area 924.7



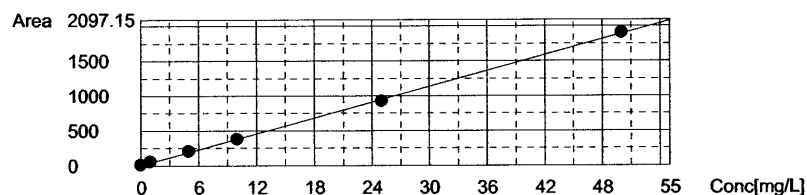
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1922	500uL	1	*****		01/13/2009 03:07:36 PM
2	1891	500uL	1	*****		01/13/2009 03:12:54 PM

Acid Add. 0.000%
Mean Area 1907



Slope: 37.71
Intercept 8.127
 r^2 0.999609
Zero Shift No



Cal. Curve

Sample Name: TIC CURVE
Sample ID: TICCURVE
Cal. Curve: TICCURVE-01-13-2009.2009_01_13_15_12_54.cal
Status: Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

Heanna Roberts

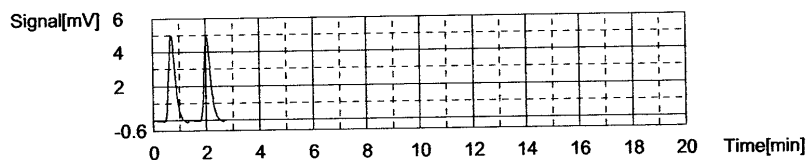
Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.t32

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	8.658	500uL	1	*****		01/13/2009 03:16:31 PM
2	8.479	500uL	1	*****		01/13/2009 03:20:08 PM

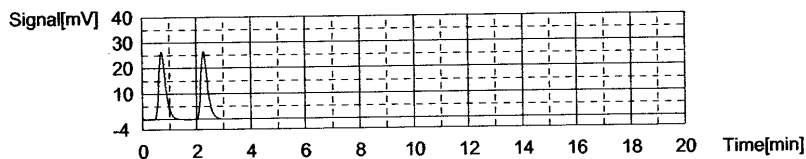
Acid Add. 3.000%
Mean Area 8.569



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.56	500uL	1	*****		01/13/2009 03:27:22 PM
2	46.10	500uL	1	*****		01/13/2009 03:31:26 PM

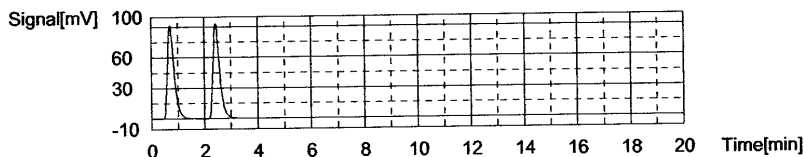
Acid Add. 3.000%
Mean Area 46.33



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	160.8	500uL	1	*****		01/13/2009 03:38:53 PM
2	161.9	500uL	1	*****		01/13/2009 03:43:10 PM

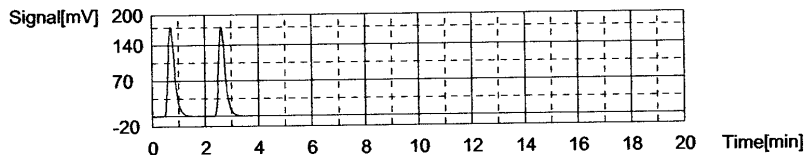
Acid Add. 3.000%
Mean Area 161.4



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	310.0	500uL	1	*****		01/13/2009 03:50:52 PM
2	308.4	500uL	1	*****		01/13/2009 03:55:18 PM

Acid Add. 3.000%
Mean Area 309.2



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	793.7	500uL	1	*****		01/13/2009 04:03:34 PM
2	782.1	500uL	1	*****		01/13/2009 04:08:41 PM

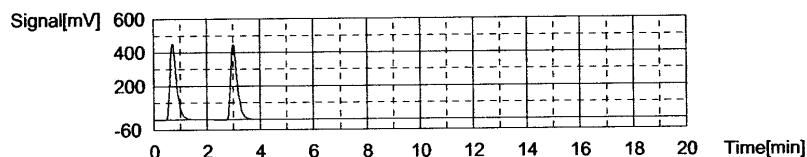
Heanna Roberts

Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.i32

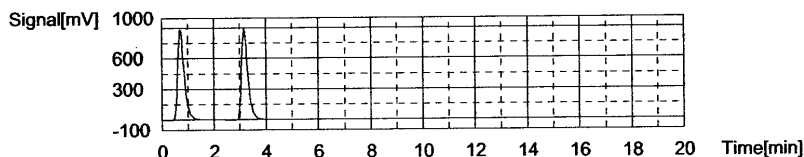
Acid Add. 3.000%
Mean Area 787.9



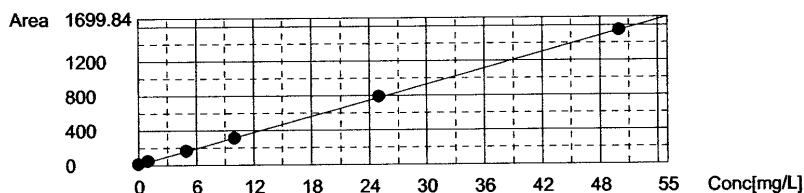
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1547	500uL	1	*****		01/13/2009 04:17:18 PM
2	1537	500uL	1	*****		01/13/2009 04:22:39 PM

Acid Add. 3.000%
Mean Area 1542



Slope: 30.70
Intercept 10.26
r^2 0.999878
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID: TCCURVE
Origin: TCCURVE-01-13-2009.cal
Status: Completed
Chk. Result:

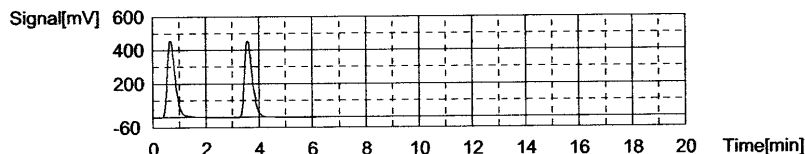
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:24.92mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	951.9	25.03mg/L	500uL	1		TCCURVE-01-13-2009.2009_01_13_14_10_50	01/13/2009 04:31:14 PM
2	943.7	24.81mg/L	500uL	1		TCCURVE-01-13-2009.2009_01_13_14_10_50	01/13/2009 04:38:03 PM

Mean Area 947.8
Mean Conc. 24.92mg/L



Heanna Roberts

Approved: January 19, 2009

01/13/2009 05:00:03 PM

CURVES-01-13-2009.t32

Sample

Sample Name: TIC ICV
Sample ID: TICCURVE
Origin: TICCURVE-01-13-2009.cal
Status: Completed
Chk. Result

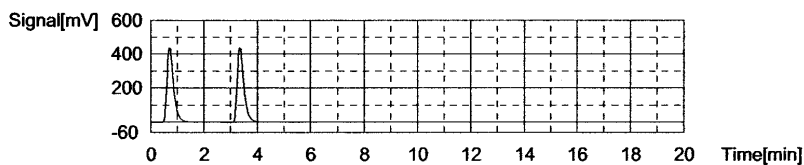
Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:24.60mg/L

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	765.5	24.60mg/L	500ul	1		TICCURVE-01-13-2009.2009_01_13_15_12_50	01/13/2009 04:45:09 PM
2	765.4	24.60mg/L	500ul	1		TICCURVE-01-13-2009.2009_01_13_15_12_50	01/13/2009 04:50:47 PM

Mean Area 765.5
Mean Conc. 24.60mg/L



5/5

Heanna Roberts

Approved: January 19, 2009

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____

$$\left(\frac{10}{200} \left(\frac{1000}{1000} \right) = 50 \text{ mg/L} \right) \quad \left(\frac{2}{200} \left(\frac{1000}{1000} \right) = 10 \text{ mg/L} \right)$$

CCV (TIC): _____

$$\left(\frac{5}{200} \left(\frac{1000}{1000} \right) = 25 \text{ mg/L} \right)$$

LCS (TOC): _____

$$\left(\frac{5}{200} \left(\frac{1000}{1000} \right) = 25 \text{ mg/L} \right)$$

MS (TOC): _____

Calibration Curve Date: _____

☐

SM5310-C : Matrix 2 WG _____

☐

EPA 415.1/9060A(mod): Matrix 1 WG _____ SOP: K _____ Rev. _____

WG _____

Instrument: Shimadza TOC-VWP/ASI

☐

drain reservoir filled

☐

ASI water bottle full

☐

dilution water bottle full

☐

DAILY CHECK

☐

3rd bottle full

☐

sufficient gas

☐

sufficient persulfate

☐

sufficient acid

☐

waste container

Position	Sample ID	Dilution
1		
2		
3		
4		
5		
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7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
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46		
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50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
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75		

Analyst: _____

Date/Time: _____

DCN#78609



3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
March 13, 2009

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
AM - ALISON J. MILLER	AML - ANTHONY M. LONG	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS	CAH - CHARLES A. HALL
CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD	CLW - CHARISSA L. WINTERS
CMS - CRYSTAL M. STEPHENS	CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS	ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE
ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR
HJR - HOLLY J. REED	JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKP - JACQUELINE K. PARSONS	JKT - JANE K. THOMPSON	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU	KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON	LHT - LANCE H. THOMPSON
LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN	MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON	NPM - NATHANIEL P. MILLER
PDM - PIERCE D. MORRIS	RAH - ROY A. HALSTEAD	RB - ROBERT BUCHANAN
REK - ROBERT E. KYER	RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL
SAV - SARAH A. VANDENBERG	SDH - SHANA D. HINYARD	SDL - SHELLY D. LENT
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF	TDH - TRICIA D. HUCK
TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WTD - WADE T. DELONG	

List of Valid Qualifiers

March 13, 2009

Qualifier: STD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

***Special Notes for Organic Analytes

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



Client: <u>Shaw</u>				
Workorder Number: <u>B</u>				
Date Received: <u>3-6-09</u>				
Delivered by: () Fedx (☒) UPS () Client () Courier Time: <u>915</u>				
Opened by: <u>RLK</u>				
IR Temp Gun: () G (☒) H				
Logged by: <u>RLK</u> L <u>09030137</u>				

Cooler information

Cooler ID	Temp C	Airbill#	COC#	Other
<u>2054</u>	<u>0</u>	<u>12166V 725201 9375-5906</u>	<u>/</u>	<u>SH</u>

Inspection Checklist

	Y	N	NA	Discrepancy ID
Were shipping coolers sealed?	☒			
Were custody seals intact?	☒			
Were cooler temperatures in range of 0 - 6?	☒			
Was ice present?	☒			
Were COC's received/ information complete/signed and dated?	☒			
Were sample containers and labels intact and match COC?	☒			
Were the correct containers and volumes received?	☒			
Were correct preservatives used? (water only)	☒			
Were pH ranges acceptable? (voa's excluded)	☒			
Were VOA samples free of headspace (< 6mm)?	☒			
Were samples received within EPA hold times?	☒			

Discrepancy/Comments/Other Problems

Distribution

Name of Microbac representative:
Client/Company:
Person Contacted:
Date contacted:

Resolution/other comments:

Internal Chain of Custody Report

Login: L09030127

Account: 2773

Project: 2773.025

Samples: 3

Due Date: 13-MAR-2009

Samplenum **Container ID** **Products**
L09030127-01 559193 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	06-MAR-2009 11:18	JBK	ERE
3	STORE	WET	W1	06-MAR-2009 13:44	JKT	JWR
4	ANALYZ	W1	SEM	06-MAR-2009 13:44	JWR	JKT
5	STORE	WET	A1	11-MAR-2009 08:18	RLK	JDH

Samplenum **Container ID** **Products**
L09030127-01 559191 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Samplenum **Container ID** **Products**
L09030127-01 559194 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 08:10	DIH	ERE
3	STORE	WET	A1	10-MAR-2009 11:42	RLK	DIH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030127

Account: 2773

Project: 2773.025

Samples: 3

Due Date: 13-MAR-2009

Samplenum **Container ID** **Products**
L09030127-01 559196 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 14:16	JBK	ERE
3	STORE	WET	A1	11-MAR-2009 08:17	RLK	JDH

Samplenum **Container ID** **Products**
L09030127-03 559205 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	06-MAR-2009 11:18	JBK	ERE
3	STORE	WET	W1	06-MAR-2009 13:44	JKT	JWR
4	ANALYZ	W1	SEM	06-MAR-2009 13:44	JWR	JKT
5	STORE	WET	A1	11-MAR-2009 08:18	RLK	JDH

Samplenum **Container ID** **Products**
L09030127-03 559203 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030127

Account: 2773

Project: 2773.025

Samples: 3

Due Date: 13-MAR-2009

Samplenum **Container ID** **Products**
L09030127-02 559199 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	06-MAR-2009 11:18	JBK	ERE
3	STORE	WET	W1	06-MAR-2009 13:44	JKT	JWR
4	ANALYZ	W1	SEM	06-MAR-2009 13:44	JWR	JKT
5	STORE	WET	A1	11-MAR-2009 08:18	RLK	JDH

Samplenum **Container ID** **Products**
L09030127-01 559192 RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:57	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:57	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:57	MRT	ERE

Samplenum **Container ID** **Products**
L09030127-02 559197 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	06-MAR-2009 13:03	MRT	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030127

Account: 2773

Project: 2773.025

Samples: 3

Due Date: 13-MAR-2009

Samplenum **Container ID** **Products**
L09030127-02 559198 RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:57	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:57	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:57	MRT	ERE

Samplenum **Container ID** **Products**
L09030127-02 559201 TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	DIG	06-MAR-2009 11:08	RLK	
2	STORE	DIG	A1	10-MAR-2009 10:16	RLK	REK

Samplenum **Container ID** **Products**
L09030127-02 559202 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 14:16	JBK	ERE
3	STORE	WET	A2	11-MAR-2009 08:15	RLK	JDH

Samplenum **Container ID** **Products**
L09030127-03 559207 CR-MS TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	DIG	06-MAR-2009 11:08	RLK	
2	STORE	DIG	A1	10-MAR-2009 10:16	RLK	REK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030127

Account: 2773

Project: 2773.025

Samples: 3

Due Date: 13-MAR-2009

Samplenum **Container ID** **Products**
L09030127-02 559200 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 08:10	DIH	ERE
3	STORE	WET	A1	10-MAR-2009 11:42	RLK	DIH

Samplenum **Container ID** **Products**
L09030127-01 559195 CR-MS SB-MS TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	DIG	06-MAR-2009 11:08	RLK	
2	STORE	DIG	A1	10-MAR-2009 10:16	RLK	REK

Samplenum **Container ID** **Products**
L09030127-03 559204 RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:58	MRT	ERE

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:58	MRT	ERE

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	06-MAR-2009 11:08	RLK	
2	ANALYZ	V1	ORG4	09-MAR-2009 09:58	MRT	ERE

Samplenum **Container ID** **Products**
L09030127-03 559206 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 08:11	DIH	ERE
3	STORE	WET	A1	10-MAR-2009 11:42	RLK	DIH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L09030127**Account:** 2773**Project:** 2773.025**Samples:** 3**Due Date:** 13-MAR-2009

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L09030127-03	559208	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	06-MAR-2009 11:08	RLK	
2	ANALYZ	W1	WET	09-MAR-2009 14:16	JBK	ERE
3	STORE	WET	A1	11-MAR-2009 08:18	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Appendix C

Basis of Estimates for LHAAP-17 Remediation Alternatives

Alternative 2, Estimated Present Value LHAAP-17 Focused Feasibility Study

WBS NO. : 1.20		COMPANY NAME: SHAW ENVIRONMENTAL				DATE: APRIL 2010			
		PROJECT LOCATION: KARNACK, TEXAS							
Year	FY	Capital Costs		O & M Costs				Present Value (NPV)	
				MNA / L T Monitor		Total		Discount Rate	Capital
								2.8%	O & M
1	2011	1,441,029		59,495		59,495		NPV	1,441,029
2	2012	0		59,495		59,495			457,907
3	2013	0		25,755		25,755		NPV TOTAL	1,898,936
4	2014	0		25,755		25,755			
5	2015	0		68,280		68,280			
6	2016	0		15,776		15,776			
7	2017	0		15,776		15,776			
8	2018	0		15,776		15,776			
9	2019	0		15,776		15,776			
10	2020	0		59,215		59,215			
11	2021	0		0		0			
12	2022	0		0		0			
13	2023	0		0		0			
14	2024	0		0		0			
15	2025	0		59,215		59,215			
16	2026	0		0		0			
17	2027	0		0		0			
18	2028	0		0		0			
19	2029	0		0		0			
20	2030	0		59,215		59,215			
21	2031	0		0		0			
22	2032	0		0		0			
23	2033	0		0		0			
24	2034	0		0		0			
25	2035	0		59,215		59,215			
26	2036	0		0		0			
27	2037	0		0		0			
28	2038	0		0		0			
29	2039	0		0		0			
30	2040	0		59,215		59,215			
		1,441,029		597,960		597,960			

Alternative 2, Supplemental Soil Sampling LHAAP-17 Focused Feasibility Study

WBS NO. : 1.20.20.20				COMPANY NAME: SHAW ENVIRONMENTAL											
				PROJECT LOCATION: KARNACK, TEXAS						DATE: APRIL 2010					
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE
	Hot Spot Excavation Evaluation														
1	Procurement support	1	lot	40	40	eng	72.00	2,880	200	200		0		0	3,080
2	Soil sampling using DPT rigs	60	sample	5	300	geol	67.00	20,100	80	4,800	100	6,000	240	14,400	45,300
3	Waste disposal	1	lot		0			0		0		0	2,500	2,500	2,500
4	Sample supplies	60	ea		0			0	4	240		0		0	240
5	Sample shipping	3	ea		0			0		0		0	55	165	165
6	Sample analysis - TNT/DNT	60	ea		0			0		0		0	300	18,000	18,000
7	Data validation & data management	60	ea	2	120	chem	67.00	8,040		0		0		0	8,040
8	Prepare Sample Report	1	ea		0			0		0		0	25,000	25,000	25,000
	Subtotal							28,140		5,040		6,000		60,065	102,325
	Taxes @ 6.5 %									328					328
** WBS TOTAL **														\$	102,653

Alternative 2, Remedial Design Documents LHAAP-17 Focused Feasibility Study

WBS NO. : 1.20.20.10				COMPANY NAME:				SHAW ENVIRONMENTAL									
				PROJECT LOCATION:				KARNACK, TEXAS				DATE:				APRIL 2010	
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)			
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE		
	Engineering Support																
1	Develop design report, drawings, specs & procurement pkgs.	1	lot	320	320	eng	72.00	23,040	3,800	3,800		0	1,600	1,600	28,440		
2	RFP & S / C procurement doc.support	1	ea	40	40	eng	72.00	2,880	100	100		0		0	2,980		
3	Bid and award S / C support	1	ea	40	40	eng	72.00	2,880		0		0		0	2,880		
	Completion Report	1	ea	350	350	eng	72.00	25,200	1,300	1,300		0		0	26,500		
	Subtotal							54,000		5,200		0		1,600	60,800		
	Taxes @ 6.5 %									338					338		
** WBS T O T A L **															\$ 61,138		

Alternative 2, General Contractor Construction Management LHAAP-17 Focused Feasibility Study

WBS NO. : 1.20.30.10				COMPANY NAME:		SHAW ENVIRONMENTAL									
				PROJECT LOCATION:		KARNACK, TEXAS					DATE:		APRIL 2010		
Item NO	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Construction Management														
1	Temporary facilities	1.5	mo					0		0		0	750	1,125	1,125
2	Equipment	1.5	mo					0		0	600	900		0	900
3	Field support / superintendent	1.5	mo	173	260	super	65.00	16,868		0	2,825	4,238		0	21,105
4	G & A / overhead / profit / bond @ 15 % of Construction costs	0.15	%					0		0		0	1,037,365	155,605	155,605
	Subtotal							16,868		0		5,138		156,730	178,735
	Taxes @ 6.5 %									0					0
** WBS TOTAL **															\$ 178,735

Alternative 2, Conventional Excavation LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL														
WBS NO. :1.20.30.20.10														
PROJECT LOCATION: KARNACK, TEXAS														
DATE: APRIL 2010														
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE
	General conditions													
1	Safety, training ,waste, health plans, etc.	1	ea	80	80	eng	72.00	5,760	200	200		0	0	5,960
2	Mob / Demob	1	ea	240	240	op	31.00	7,440	2,500	2,500	3,000	3,000	0	12,940
3	Port-let rental-2 ea	2	mo		0			0		0		0	320	640
4	Office/change house trailer set-up / utilities	1	ea	80	80	op	31.00	2,480	3,000	3,000	300	300	0	5,780
5	Silt fence at construction area	1700	lf	0.02	34	l	25.00	850	0.40	680	0.05	85	0	1,615
6	Hay bales	575	ea	0.02	12	l	25.00	288	0.40	230	0.05	29	0	546
7	Erosion control, straw bales at const. area	1	lot	80	80	l	25.00	2,000	1,000	1,000		0	0	3,000
8	Trailer rental-2 ea	2	mo		0			0	50	100		0	630	1,260
9	Survey crew	3	day		0			0		0		0	950	2,850
10	Personal protective equipment	300	mday	0	0			0		0	30	9,000	0	9,000
11	Construction equip. staging area	1	ea	120	120	op	31.00	3,720	2,000	2,000	1,500	1,500	0	7,220
12	Site Orientation - 1 day	8	pers	8	64	op	31.00	1,984		0		0	0	1,984
13	Hazwoper training-40 hr for 50% of people	4	pers	40	160	crew	28.00	4,480		0	100	400	0	4,880
14	Health & Safety officer	2	mo	173	346	h/s	46.00	15,916	50	100	160	320	0	16,336
15	Hazardous material technician	2	mo	173	346	hmt	41.00	14,186	100	200		0	0	14,386
16	Site Superintendent	2	mo	173	346	super	52.00	17,992		0	2825	5,650	0	23,642
	Decon area													
1	Provide small temporary decon area for decon of const. equipment. Demo at end of job	1	ea	120	120	crew	28.00	3,360	6,000	6,000	2,000	2,000	0	11,360
2	Decon all equipment at completion of work	1	lot	48	48	l	25.00	1,200	200	200	200	200	0	1,600
3	Pressure washer	1	ea		0			0			650	650	0	650
	Soils staging / segregation area													
	Staging area not required. Load excavated soils directly into off-site shipping containers.													
	Excavation													
1	Waste excavation	11,100	lcy	0.03	333	op	31.00	10,323		0		0	0	10,323
2	Excavator	48	day		0			0		0	185.00	8,880	0	8,880
3	Wheel loader (2.5 CY)	48	day		0			0		0	106.00	5,088	0	5,088
4	Gravel for access to excavated areas	150	cy		16	op	31.00	496	20	3,000	7.42	1,113	0	4,609
5	Truck w/ water spray / tank for excavated area	280	hrs.	1	280	td	22.00	6,160		0	64	17,920	0	24,080
6	Continuous air monitors	4	ea		0			0	1,200	4,800		0	0	4,800
7	Misc support at excavation / container loading	840	hrs.	1	840	l	25.00	21,000	2.50	2,100	10.11	8,492	0	31,592
8	Dewatering allowance	1	lot	24	24	l	25.00	600	300	300	1,000	1,000	0	1,900
9	Allowance for upgrade / maintenance of existing roads during construction w / stone	450	cy	0.07	32	op	31.00	977	20	9,000	7.42	3,339	0	13,316
10														
11	Soil samples to to confirm risk limits (Suite C)	50	ea		0			0		0		0	300	15,000
12	Sample Supplies	50	ea		0			0	4.00	200		0		200
13	Sample Shipping	20	ea		0			0		0		0	55	1,100

Alternative 2, Conventional Excavation LHAAP-17 Focused Feasibility Study

WBS NO. :1.20.30.20.10			COMPANY NAME:		SHAW ENVIRONMENTAL										
			PROJECT LOCATION:		KARNACK, TEXAS					DATE:		APRIL 2010			
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE
	Backfill														
1	Borrow fill material from off-site (delivered)	11,100	lcy		0			0	9.90	109,890		0		0	109,890
2	Compaction .6" lifts, 4 passes	11,100	lcy	0.009	100	op	31.00	3,097		0	0.47	5,217		0	8,314
3	Fertilize, seed, and mulch	245,700	sf		0			0		0		0	0.131	32,187	32,187
4	Truck w/ water spray / tank for excavated area	100	hrs.	1	100	td	22.00	2,200		0	64	6,400		0	8,600
5	Support personnel	200	hrs.	1	200	l	25.00	5,000		0	15.16	3,032		0	8,032
	Excavated soils waste characterization														
1	Aerosol Monitor	48	day	0	0			0		0	7.80	374		0	374
2	Photoionization Detector	48	day	0	0			0		0	12.42	596		0	596
3	LEL 4 Gas Meter	48	day	0	0			0		0	12.42	596		0	596
4	Waste characterization disposal profile	4	ea		0			0		0		0	1,200	4,800	4,800
5	Waste documentation / Reports	1	lot	240	240	tech	36.00	8,640	400	400		0		0	9,040
	Waste disposal														
1	Title "D" ,Texas class 1 trans/waste disposal fees	13,650	tons		0			0		0		0	27.00	368,550	368,550
2	Truck Liners	694	ea	0	0			0		0	49.50	34,353		0	34,353
	Subtotal							140,148		145,900		119,535		426,387	831,969
	Taxes @ 6.5 %									9,484					9,484
	Subtotal														841,453
	Indirects @ 21.5%														180,912
** WBS TOTAL **														\$	1,022,365

Alternative 2, Land Use Controls LHAAP-17 Focused Feasibility Study

WBS NO. : 1.20.30.20.20.10															
PROJECT LOCATION: KARNACK, TEXAS									DATE: APRIL 2010						
Item NO	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Deed Restriction														
1	Allowance for Legal Fees, Administration Controls, and Documentation	1	lot		0			0		0		0	15,000	15,000	15,000
	Subtotal							0		0		0		15,000	15,000
	Taxes @ 6.5%									0					0
** WBS TOTAL **														\$	15,000

Alternative 2, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. : 1.20.40.10.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Monitoring of 8 wells +QC														
	Year 1-2														
1	Establish initial database, licenses, coordinate well characterization & other well info, develop work plans, etc	1	ea	300	300	eng	72.00	21,600	2,250	2,250		0	5,000	5,000	28,850
2	Collect and prepare samples quarterly (GW)	72	ea	16	1152	tech	36.00	41,470	4	288	36	2,592	55	3,960	48,310
3	Sample analysis (VOCs and perchlorate)	72	ea		0			0		0		0	220	15,840	15,840
4	MNA effectiveness report	1	ea	64	64	eng	72.00	4,610	150	150		0		0	4,760
	Subtotal							67,680		2,688		2,592		24,800	97,760
	Taxes @ 6.5 %									175					175
	Subtotal														97,935
	Indirects @ 21.5%														21,056
	Year 1-2 total (current dollars)														\$ 118,991
															59,495
	Years 3-4-5 (Semiannual)														
1	Collect and prepare samples semiannually (GW)	54	ea	16	864	tech	36.00	31,100	4	216	36	1,944	55	2,970	36,230
2	Sample analysis (VOCs and perchlorate)	54	ea	0.3	16	chem	72.00	1,166		0		0	220	11,880	13,046
3	Annual report	3	ea	64	192	eng	72.00	13,824	150	450		0		0	14,274
	Subtotal							46,090		666		1,944		14,850	63,550
	Taxes @ 6.5 %									43					43
	Subtotal														63,594
	Indirects @ 21.5%														13,673
	Years 3-4-5 total (current dollars)														\$ 77,266
															\$ 25,755
	CERCLA 5-Year Report with Indirects														
4	CERCLA 5-year report	1	ea										35000	35,000	35,000
	Indirects @ 21.5%													indirect	7,525
	Subtotal													subtotal	42,525
	CERCLA 5-Yr Report plus annual costs														\$ 68,280

Alternative 2, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL WBS NO. : 1.20.40.10.10 PROJECT LOCATION: KARNACK, TEXAS DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Year 6-7-8-9														
1	Collect and prepare samples annually (GW)	36	ea	16	576	tech	36.00	20,740	4	144	36	1,296	55	1,980	24,160
2	Sample analysis (VOCs and perchlorate)	36	ea	0.3	11	chem	72.00	778		0		0	220	7,920	8,698
3	Sampling report	4	ea	64	256	eng	72.00	18,432	150	600		0		0	19,032
	Subtotal							39,950		744		1,296		9,900	51,890
	Taxes @ 6.5 %									48					48
	Subtotal														51,938
	Indirects @ 21.5%														11,167
	Year 6-7-8-9 total (current dollars)														\$ 63,105
															15,776
	Years 10, 15, 20, 25, 30														
1	Collect and prepare samples once per 5 yr (GW)	50	ea	16	800	tech	35.00	28,000	4	200	36	1,800	55	2,750	32,750
2	Sample analysis (VOCs and perchlorate)	50	ea	0.3	15	chem	72.00	1,080		0		0	220	11,000	12,080
3	Sampling report	5	ea	64	320	eng	72.00	23,040	150	750		0		0	23,790
4	CERCLA 5-year review	5	ea										35000	175,000	175,000
	Subtotal							52,120		950		1,800		13,750	243,620
	Taxes @ 6.5 %									62					62
	Subtotal														243,682
	Indirects @ 21.5%														52,392
	Years 10, 15, 20, 25, 30 total (current dollars)														\$ 296,073
	Years 10, 15, 20, 25, 30 unit cost per 5 years (current dollars)														\$ 59,215
** WBS TOTAL **														\$ 555,435	

Alternative 3, Estimated Present Value LHAAP-17 Focused Feasibility Study

[illegible]

Alternative 3, Treatability Study LHAAP-17 Focused Feasibility Study

WBS NO. : 1.30.20.30		COMPANY NAME: SHAW ENVIRONMENTAL													
		PROJECT LOCATION: KARNACK, TEXAS							DATE: APRIL 2010						
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	In Situ Biological Bench Scale Test														
1	Bench scale testing	1	lot					0		0		0	20,000	20,000	20,000
2	Sample collection, analysis and other support activities	1	lot					0		0		0	10,000	10,000	10,000
3	Prepare report	1	ea					0		0		0	5,000	5,000	5,000
	In Situ Biological Pilot Test														
1	Install pilot test treatment system at site and monitor/ sample for approximately 1/2 year	1	lot					0		0		0	100,000	100,000	100,000
2	Prepare report	1	ea					0		0		0	15,000	15,000	15,000
	Subtotal							0		0		0		115,000	115,000
	Taxes @ 6.5 %									0					0
	Subtotal														115,000
	Indirects @ 21.5%														24,725
														** WBS TOTAL **	
														\$	139,725

Alternative 3, Supplemental Soil Sampling LHAAP-17 Focused Feasibility Study

WBS NO. : 1.30.20.20															
COMPANY NAME: SHAW ENVIRONMENTAL															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Hot Spot Excavation Evaluation														
1	Procurement support	1	lot	40	40	eng	72.00	2,880	200	200		0		0	3,080
2	Soil sampling using DPT rigs	60	sample	5	300	geol	67.00	20,100	80	4,800	100	6,000	240	14,400	45,300
3	Waste disposal	1	lot		0			0		0		0	2,500	2,500	2,500
4	Sample supplies	60	ea		0			0	4	240		0		0	240
5	Sample shipping	3	ea		0			0		0		0	55	165	165
6	Sample analysis - TNT/DNT	60	ea		0			0		0		0	300	18,000	18,000
7	Data validation & data management	60	ea	2	120	chem	67.00	8,040		0		0		0	8,040
8	Prepare Sample Report	1	ea		0			0		0		0	25,000	25,000	25,000
	Subtotal							28,140		5,040		6,000		60,065	102,325
	Taxes @ 6.5 %									328					328
** WBS TOTAL **														\$	102,653

Alternative 3, Remedial Design Documents LHAAP-17 Focused Feasibility Study

WBS NO. : 1.30.20.10				COMPANY NAME:				SHAW ENVIRONMENTAL									
				PROJECT LOCATION:				KARNACK, TEXAS				DATE:				APRIL 2010	
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)			
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE		
	Engineering Support																
1	Develop design report, drawings, specs & procurement pkgs.	1	lot	400	400	eng	72.00	28,800	2,000	2,000		0	1,600	1,600	32,400		
2	RFP & S / C procurement doc.support	1	ea	120	120	eng	72.00	8,640	160	160		0		0	8,800		
3	Bid and award S / C support	1	ea	40	40	eng	72.00	2,880		0		0		0	2,880		
	Completion Report	1	ea	350	350	eng	72.00	25,200	1,300	1,300		0		0	26,500		
	Subtotal							65,520		3,460		0		1,600	70,580		
	Taxes @ 6.5 %									225					225		
** WBS TOTAL **															\$ 70,805		

Alternative 3, General Contractor Construction Management LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. : 1.30.30.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE
	Construction Management														
1	Temporary facilities	2	mo					0		0		0	750	1,500	1,500
2	Equipment	2	mo					0		0	600	1,200		0	1,200
3	Field support / superintendent	2	mo	173	346	super	65.00	22,490		0	2,825	5,650		0	28,140
4	G & A / overhead / profit / bond @ 15 % of	0.15	%					0		0		0	1,593,859	239,079	239,079
	Construction costs														
	Subtotal							22,490		0		6,850		240,579	269,919
	Taxes @ 6.5 %									0					0
** WBS TOTAL **														\$	269,919

Alternative 3, Conventional Excavation LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. :1.30.30.20.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR			MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)		
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE		\$/UNIT	\$ VALUE
	General conditions														
1	Safety, training ,waste, health plans, etc.	1	ea	80	80	eng	72.00	5,760	200	200		0		0	5,960
2	Mob / Demob	1	ea	240	240	op	31.00	7,440	2,500	2,500	3,000	3,000		0	12,940
3	Port-let rental-2 ea	2	mo		0			0		0		0	320	640	640
4	Office/change house trailer set-up / utilities	1	ea	80	80	op	31.00	2,480	3,000	3,000	300	300		0	5,780
5	Silt fence at construction area	1700	lf	0.02	34	l	25.00	850	0.40	680	0.05	85		0	1,615
6	Hay bales	575	ea	0.02	12	l	25.00	288	0.40	230	0.05	29		0	546
7	Erosion control, straw bales at const. area	1	lot	80	80	l	25.00	2,000	1,000	1,000		0		0	3,000
8	Trailer rental-2 ea	2	mo		0			0	50	100		0	630	1,260	1,360
9	Survey crew	3	day		0			0		0		0	950	2,850	2,850
10	Personal protective equipment	300	mday	0	0			0		0	30	9,000		0	9,000
11	Construction equip. staging area	1	ea	120	120	op	31.00	3,720	2,000	2,000	1,500	1,500		0	7,220
12	Site Orientation - 1 day	8	pers	8	64	op	31.00	1,984		0		0		0	1,984
13	Hazwoper training-40 hr for 50% of people	4	pers	40	160	crew	28.00	4,480		0	100	400		0	4,880
14	Health & Safety officer	2	mo	173	346	h/s	46.00	15,916	50	100	160	320		0	16,336
15	Hazardous material technician	2	mo	173	346	hmt	41.00	14,186	100	200		0		0	14,386
16	Site Superintendent	2	mo	173	346	super	52.00	17,992		0	2825	5,650		0	23,642
	Decon area														
1	Provide small temporary decon area for decon of const. equipment. Demo at end of job	1	ea	120	120	crew	28.00	3,360	6,000	6,000	2,000	2,000		0	11,360
2	Decon all equipment at completion of work	1	lot	48	48	l	25.00	1,200	200	200	200	200		0	1,600
3	Pressure washer	1	ea		0			0			650	650		0	650
	Soils staging / segregation area														
	Staging area not required. Load excavated soils directly into off-site shipping containers.														
	Excavation														
1	Waste excavation	11,100	lcy	0.03	333	op	31.00	10,323		0		0		0	10,323
2	Excavator	48	day		0			0		0	185.00	8,880		0	8,880
3	Wheel loader (2.5 CY)	48	day		0			0		0	106.00	5,088		0	5,088
4	Gravel for access to excavated areas	150	cy		16	op	31.00	496	20	3,000	7.42	1,113		0	4,609
5	Truck w/ water spray / tank for excavated area	280	hrs.	1	280	td	22.00	6,160		0	64	17,920		0	24,080
6	Continuous air monitors	4	ea		0			0	1,200	4,800		0		0	4,800
7	Misc support at excavation / container loading	840	hrs.	1	840	l	25.00	21,000	2.50	2,100	10.11	8,492		0	31,592
8	Dewatering allowance	1	lot	24	24	l	25.00	600	300	300	1,000	1,000		0	1,900
9	Allowance for upgrade / maintenance of existing roads during construction w / stone	450	cy	0.07	32	op	31.00	977	20	9,000	7.42	3,339		0	13,316
10															
11	Soil samples to to confirm risk limits (Suite C)	50	ea		0			0		0		0	300	15,000	15,000

Alternative 3, Conventional Excavation LHAAP-17 Focused Feasibility Study

WBS NO. :1.30.30.20.10 COMPANY NAME: SHAW ENVIRONMENTAL PROJECT LOCATION: KARNACK, TEXAS DATE: APRIL 2010														
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE
12	Sample Supplies	50	ea		0			0	4.00	200		0		200
13	Sample Shipping	20	ea		0			0		0		0	55	1,100
	Backfill													
1	Borrow fill material from off-site (delivered)	11,100	lcy		0			0	9.90	109,890		0		109,890
2	Compaction ,6" lifts, 4 passes	11,100	lcy	0.009	100	op	31.00	3,097		0	0.47	5,217		8,314
3	Fertilize, seed, and mulch	245,700	sf		0			0		0		0	0.131	32,187
4	Truck w/ water spray / tank for excavated area	100	hrs.	1	100	td	22.00	2,200		0	64	6,400		8,600
5	Support personnel	200	hrs.	1	200	l	25.00	5,000		0	15.16	3,032		8,032
	Excavated soils waste characterization													
1	Aerosol Monitor	48	day	0	0			0		0	7.80	374		374
2	Photoionization Detector	48	day	0	0			0		0	12.42	596		596
3	LEL 4 Gas Meter	48	day	0	0			0		0	12.42	596		596
4	Waste characterization disposal profile	4	ea		0			0		0		0	1,200	4,800
5	Waste documentation / Reports	1	lot	240	240	tech	36.00	8,640	400	400		0		9,040
	Waste disposal													
1	Title "D" ,Texas class 1 trans/waste disposal fees	13,650	tons		0			0		0		0	27.00	368,550
2	Truck Liners	694	ea	0	0			0		0	49.50	34,353		34,353
	Subtotal							140,148		145,900		119,535		426,387
	Taxes @ 6.5 %									9,484				9,484
	Subtotal													841,453
	Indirects @ 21.5%													180,912
													** WBS TOTAL **	
													\$ 1,022,365	

Alternative 3, Land Use Controls LHAAP-17 Focused Feasibility Study

WBS NO. : 1.30.30.20.20.10		COMPANY NAME: SHAW ENVIRONMENTAL													
		PROJECT LOCATION: KARNACK, TEXAS													
		DATE: APRIL 2010													
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Deed Restriction														
1	Allowance for Legal Fees, Administration Controls, and Documentation	1	lot		0			0		0		0	15,000	15,000	15,000
	Subtotal							0		0		0		15,000	15,000
	Taxes @ 6.5%									0					0
														** WBS TOTAL **	
														\$	15,000

Alternative 3, In Situ Bioremediation (Initial Installation DPT Injection) LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO.: 1.30.30.20.20.20															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR		MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)			
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	General Conditions														
1	Safety, training ,waste, health plans, etc.	1	ea	80	80	eng	72.00	5,760	200	200		0		0	5,960
2	Site orientation,training, etc	10	pers	8	80	op	31.00	2,480		0		0		0	2,480
3	Mob/Demob	1	ea	60	60	op	31.00	1,860	1,200	1,200	1,000	1,000		0	4,060
4	Port-let rental-2 ea	2	mo		0			0		0		0	320	640	640
5	Office/change house trailer set-up / utilities	1	ea	80	80	op	31.00	2,480	3,000	3,000	300	300		0	5,780
6	Trailer rental-1 ea	2	mo		0			0	50	100		0	315	630	730
7	Survey crew	2	day		0			0		0		0	950	1,900	1,900
8	Construction equip. staging area	1	ea	40	40	op	31.00	1,240	500	500	692	692		0	2,432
9	Hazardous material technician	0	mo	173	0	op	40.00	0	500	0		0		0	0
10	Site superintendent	2	mo	173	346	super	52.00	17,992		0	2,825	5,650			23,642
11	Health & safety officer	2	mo	173	346	h/s	46.00	15,916	50	100	160	320		0	16,336
	Decon Area														
1	Temporary decon station for construction equip.	1	ea	24	24		25.00	600	1,000	1,000	500	500			2,100
2	Decon all equipment at completion of work.	1	lot	24	24	lab	26.00	624	500	500	400	400		0	1,524
3	Pressure washer	1	ea		0						650	650		0	650
	Field Work														
1	Modify existing wells, install new caps, injection piping, etc.	3	ea	64	192	pf	31.00	5,952	1,800	5,400	200	600			11,952
2	Pipe 2: dia ductile iron with fittings	500	lf	0.11	55	pf	31.00	1,705	4.85	2,425		0			4,130
3	Electrical power lines w/ poles, disconnects, etc.	1	lot		0			0		0		0	12000	12,000	12,000
	In Situ Biological Treatment (Year 2)														
	Install injection wells, 30' dpt, 2" dia.	10	ea		0			0		0		0	3,150	31,500	31,500
	Well survey	1	ea							0			3,000	3,000	3,000
	Well drill waste disposal	6	drum		0			0		0		0	250	1,500	1,500
	Collect & prepare well waste drum samples	6	ea	12	72	tech	38.00	2,736	60	360	36	216		0	3,312
	Sample analysis (waste char)	3	ea		0			0		0		0	1,500	4,500	4,500
	Bioaugmentation materials	1	ea	40	40	eng tech	70.00	2,800	30,360	30,360	1500	1,500		0	34,660
	Collect and prepare samples (4 times)	40	ea	16	640	tech	38.00	24,320	122	4,880	36	1,440		0	30,640
	Sample analysis (Suite 2)	40	ea		0			0		0		0	1,400	56,000	56,000
	Aboveground nutrient staging system, including mobile trailer, holding tank, pumps, water level recorder and piping	1	lot		0			0		0		0	100,000	100,000	100,000
	well abandonment	10	ea	10	100	eng tech	72.00	7,200	80	800	80	800	1600		8,800
	Subtotal							93,665		50,825		14,068		211,670	370,228
	Taxes @ 6.5 %									3,304					3,304
	Subtotal														373,532
	Indirects @ 21.5%														80,309

** WBS TOTAL ** \$ **453,841**

Alternative 3, Bioremediation Operations and Maintenance LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. :1.30.40.20.40															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Bioremediation System O&M Annual costs														
1	Update safety, training ,waste, and health , plans, etc.	1	ea	24	24	eng	72.00	1,728	80	80		0		0	1,808
2	Site orientation,training, etc	1	lot	32	32	op	31.00	992		0		0		0	992
3	Inject nutrients quarterly	3	ea	40	120	eng tech	70.00	8,400	30,360	91,080	1500	4,500	0	0	103,980
	Subtotal							11,120		91,160		4,500		0	106,780
	Taxes @ 6.5 %									5,925					5,925
	Subtotal														112,705
	Indirects @ 21.5%														24,232
	Annual total														136,937
	O &M FOR 5 YEARS														684,685
** WBS T O T A L **															\$ 684,685

Alternative 3, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL																
WBS NO. : 1.30.40.10.10																
PROJECT LOCATION: KARNACK, TEXAS																
DATE: APRIL 2010																
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)		
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE		
	Year 1															
1	Establish initial database, licenses, coordinate well characterization & other well info, develop work plans, etc	1	ea	300	300	eng	72.00	21,600	5,000	5,000		0	5,000	5,000		31,600
	<i>Shallow zone (5 wells + 1 QC)</i>															
2	Collect and prepare samples - 4 events-qtly (GW)	24	ea	16	384	tech	35.00	13,440	4	96	36	864	55	1,320		15,720
3	Sample analysis (VOCs and perchlorate)	24	ea	0.3	7	chem	72.00	520		0		0	220	5,280		5,800
	<i>Intermediate zone (3 wells + 1 QC)</i>															
	Collect and prepare samples - 4 events-qtly (GW)	16	ea	16	256	tech	35.00	8,960	4	64	36	576	55	880		10,480
	Sample analysis (VOCs)	16	ea	0.3	5	chem	72.00	350		0		0	200	3,200		3,550
4	Annual report	1	ea	64	96	eng	72.00	6,910	150	150		0		0		7,060
	Subtotal							51,780		5,310		1,440		15,680		74,210
	Taxes @ 6.5 %									345						345
	Subtotal															74,555
	Indirects @ 21.5%															16,029
	Year 1 total (current dollars)															\$ 90,585
	Year 2															
	<i>Shallow zone (5 wells + 1 QC)</i>															
1	Collect and prepare samples quarterly (GW)	24	ea	16	384	tech	35.00	13,440	4	96	36	864	55	1,320		15,720
2	Sample analysis (VOCs and perchlorate)	24	ea	0.3	7	chem	72.00	518		0		0	220	5,280		5,798
	<i>Intermediate zone (3 wells + 1 QC)</i>															
	Collect and prepare samples - 4 events-qtly (GW)	16	ea	16	256	tech	35.00	8,960	4	64	36	576	55	880		10,480
	Sample analysis (VOCs)	16	ea	0.3	5	chem	72.00	350		0		0	200	3,200		3,550
3	Annual report	1	ea	64	80	eng	72.00	5,760	150	150		0		0		5,910
	Subtotal							29,028		310		1,440		10,680		41,458
	Taxes @ 6.5 %									20						20
	Subtotal															41,479
	Indirects @ 21.5%															8,918
	Year 2 total (current dollars)															\$ 50,396

Alternative 3, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. : 1.30.40.10.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
Years 3-4-5															
<i>Shallow zone (5 wells + 1 QC)</i>															
1	Collect and prepare samples quarterly(GW)	72	ea	16	1152	tech	35.00	40,320	4	288	36	2,592	55	3,960	47,160
2	Sample analysis (VOCs and perchlorate)	72	ea	0.3	22	chem	72.00	1,555		0		0	220	15,840	17,395
<i>Intermediate zone (3 wells + 1 QC)</i>															
1	Collect and prepare samples semiannually (GW)	24	ea	16	384	tech	35.00	13,440	4	96	36	864	55	1,320	15,720
2	Sample analysis (VOCs and perchlorate)	24	ea	0.3	7	chem	72.00	518		0		0	220	5,280	5,798
3	Annual report	3	ea	64	192	eng	72.00	13,824	150	450		0		0	14,274
	Subtotal							69,658		834		3,456		26,400	100,348
	Taxes @ 6.5 %									54					54
	Subtotal														100,402
	Indirects @ 21.5%														21,586
	Years 3-4-5 total (current dollars)														\$ 121,988
	Years 3-4-5 annual cost (current dollars)												annual (total divided by 3)		\$ 40,663
CERCLA 5-Year Report for Year 5															
4	CERCLA 5-year report	1	ea										35000	35,000	35,000
	Indirects @ 21.5%														7,525
	Subtotal													subtotal	42,525
	Year 5 Total Costs with CERCLA Report and annual cost														\$ 83,188
Years 6-7															
<i>Shallow zone</i>															
1	Collect and prepare samples quarterly(GW)	48	ea	16	768	tech	35.00	26,880	4	192	36	1,728	55	2,640	31,440
2	Sample analysis (VOCs and perchlorate)	48	ea	0.3	14	chem	72.00	1,037		0		0	220	10,560	11,597
<i>Intermediate</i>															
1	Collect and prepare samples annually (GW)	8	ea	16	128	tech	35.00	4,480	4	32	36	288	55	440	5,240
2	Sample analysis (VOCs and perchlorate)	8	ea	0.3	2	chem	72.00	173		0		0	220	1,760	1,933
3	Annual report	2	ea	64	128	eng	72.00	9,216	150	300		0		0	9,516
	Subtotal							41,786		524		2,016		15,400	59,726
	Taxes @ 6.5 %									34					34
	Subtotal														59,760
	Indirects @ 21.5%														12,848
	Years 6-7 total (current dollars)														\$ 72,608
	Years 6-7 annual cost (current dollars)												annual per two year		\$ 36,304

Alternative 3, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. : 1.30.40.10.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Years 8-9														
	<i>Shallow zone</i>														
1	Collect and prepare samples semiannually (GW)	24	ea	16	384	tech	35.00	13,440	4	96	36	864	55	1,320	15,720
2	Sample analysis (VOCs and perchlorate)	24	ea	0.3	7	chem	72.00	518		0		0	220	5,280	5,798
	<i>Intermediate</i>														
1	Collect and prepare samples annually (GW)	8	ea	16	128	tech	35.00	4,480	4	32	36	288	55	440	5,240
2	Sample analysis (VOCs and perchlorate)	8	ea	0.3	2	chem	72.00	173		0		0	220	1,760	1,933
3	Annual report	2	ea	64	128	eng	72.00	9,216	150	300		0		0	9,516
	Subtotal							13,869		332		288		8,800	16,689
	Taxes @ 6.5 %									22					22
	Subtotal														16,710
	Indirects @ 21.5%														3,593
	Years 8-9 total (current dollars)														\$ 20,303
	Years 8-9 annual cost (current dollars)														\$ 10,152
	Years 10,15,20,25,30														
	<i>shallow (5 wells + 1 QC)</i>														
1	Collect and prepare samples annually (GW)	30	ea	16	480	tech	35.00	16,800	4	120	36	1,080	55	1,650	19,650
2	Sample analysis (VOCs and perchlorate)	30	ea	0.3	9	chem	72.00	648		0		0	220	6,600	7,248
	<i>intermediate (3 wells + 1 QC)</i>														
3	Collect and prepare samples once per five yr (GW)	20	ea	16	320	tech	35.00	11,200	4	80	36	720	55	1,100	13,100
4	Sample analysis (VOCs and perchlorate)	20	ea	0.3	6	chem	72.00	432		0		0	220	4,400	4,832
5	Sampling report	5	ea	64	320	eng	72.00	23,040	150	750		0		0	23,790
6	CERCLA 5-year review	5	ea										35000	175,000	175,000
	Subtotal							52,120		950		1,800		25,850	243,620
	Taxes @ 6.5 %									62					62
	Subtotal														243,682
	Indirects @ 21.5%														52,392
	Years 10, 15, 20, 25, 30 total (current dollars)														\$ 296,073
	Years 10, 15, 20, 25, 30 unit cost per 5 years (current dollars)														\$ 59,215

** WBS SUBTOTAL ** \$ 694,479

Alternative 4, Estimated Present Value LHAAP-17 Focused Feasibility Study

WBS NO.: 1.40		COMPANY NAME: SHAW ENVIRONMENTAL												
		PROJECT LOCATION: KARNACK, TEXAS				DATE: APRIL 2010								
Year	FY	Capital Costs		O & M Costs								Present Value (NPV)		
					L T Monitor	GW Extract				Total		Discount Rate	Capital	O & M
												2.8%		
1	2011		1,572,880		24,244	200,472				224,716		NPV	1,572,880	540,907
2	2012				78,259	100,236				178,495				
3	2013		0		41,696					41,696		Total NPV	2,113,787	
4	2014		0		35,206					35,206				
5	2015				71,229					71,229				
6	2016		0		24,451					24,451				
7	2017		0		13,769					13,769				
8	2018		0		13,769					13,769				
9	2019		0		13,769					13,769				
10	2020				56,294					56,294				
11	2021									0				
12	2022									0				
13	2023									0				
14	2024									0				
15	2025				59,215					59,215				
16	2026									0				
17	2027									0				
18	2028									0				
19	2029									0				
20	2030				59,215					59,215				
21	2031									0				
22	2032									0				
23	2033									0				
24	2034									0				
25	2035				59,215					59,215				
26	2036									0				
27	2037									0				
28	2038									0				
29	2039									0				
30	2040				59,215					59,215				
			1,572,880		609,544	300,708	0			910,252				

Alternative 4, Supplemental Soil Sampling LHAAP-17 Focused Feasibility Study

WBS NO. : 1.40.20.20				COMPANY NAME: SHAW ENVIRONMENTAL											
				PROJECT LOCATION: KARNACK, TEXAS						DATE: APRIL 2010					
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE
	Hot Spot Excavation Evaluation														
1	Procurement support	1	lot	40	40	eng	72.00	2,880	200	200		0		0	3,080
2	Soil sampling using DPT rigs	60	sample	5	300	geol	67.00	20,100	80	4,800	100	6,000	240	14,400	45,300
3	Waste disposal	1	lot		0			0		0		0	2,500	2,500	2,500
4	Sample supplies	60	ea		0			0	4	240		0		0	240
5	Sample shipping	3	ea		0			0		0		0	55	165	165
6	Sample analysis - TNT/DNT	60	ea		0			0		0		0	300	18,000	18,000
7	Data validation & data management	60	ea	2	120	chem	67.00	8,040		0		0		0	8,040
8	Prepare Sample Report	1	ea		0			0		0		0	25,000	25,000	25,000
	Subtotal							28,140		5,040		6,000		60,065	102,325
	Taxes @ 6.5 %									328					328
** WBS T O T A L **														\$	102,653

Alternative 4, Flow Test LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. : 1.40.20.30				PROJECT LOCATION: KARNACK, TEXAS						DATE: APRIL 2010					
Item NO	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	

	Flow Tests														
1	Install wells for flow test and conduct test	3	wells	40	120	Engr tech	60.00	7,200	100	300	150	450	4,000	12,000	19,950
2	Truck/Equip	4	days								60	240	500	2,000	240
3	Per Diem	8	days										109	872	872
4	Prepare report	1	ea					0		0		0	15,000	15,000	15,000
	Subtotal							4,800		300		690		27,872	33,662
	Taxes @ 6.5 %									20					20
	Subtotal														33,682
	Indirects @ 21.5%														7,242

**** WBS TOTAL ** \$ 40,923**

Alternative 4, Remedial Design Documents LHAAP-17 Focused Feasibility Study

WBS NO.: 1.40.20.10				COMPANY NAME:				SHAW ENVIRONMENTAL									
				PROJECT LOCATION:				KARNACK, TEXAS				DATE:				APRIL 2010	
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)			
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT		\$ VALUE		
	Engineering Support																
1	Develop design report, drawings, specs & procurement pkgs.	1	lot	400	400	eng	72.00	28,800	2,000	2,000		0	1,600	1,600	32,400		
2	RFP & S / C procurement doc.support	1	ea	120	120	eng	72.00	8,640	160	160		0		0	8,800		
3	Bid and award S / C support	1	ea	40	40	eng	72.00	2,880		0		0		0	2,880		
	Completion Report	1	ea	350	350	eng	72.00	25,200	1,300	1,300		0		0	26,500		
	Subtotal							65,520		3,460		0		1,600	70,580		
	Taxes @ 6.5 %									225					225		

** WBS TOTAL ** \$ 70,805

Alternative 4, General Contractor Construction Management LHAAP-17 Focused Feasibility Study

WBS NO.: 1.40.30.10				COMPANY NAME: SHAW ENVIRONMENTAL											
				PROJECT LOCATION: KARNACK, TEXAS				DATE: APRIL 2010							
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Construction Management														
1	Temporary facilities	2	mo					0		0		0	750	1,500	1,500
2	Equipment	2	mo					0		0	600	1,200		0	1,200
3	Field support / superintendent	2	mo	173	346	super	65.00	22,490		0	2,825	5,650		0	28,140
4	G & A / overhead / profit / bond @ 15 % of Construction costs	0.15	%					0		0		0	1,154,487	173,173	173,173
	Subtotal							22,490		0		6,850		174,673	204,013
	Taxes @ 6.5 %									0					0
** WBS TOTAL **														\$ 204,013	

Alternative 4, Conventional Excavation LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO :1.40.30.20.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	General conditions														
1	Safety, training ,waste, health plans, etc.	1	ea	80	80	eng	72.00	5,760	200	200		0		0	5,960
2	Mob / Demob	1	ea	240	240	op	31.00	7,440	2,500	2,500	3,000	3,000		0	12,940
3	Port-let rental-2 ea	2	mo		0			0		0		0	320	640	640
4	Office/change house trailer set-up / utilities	1	ea	80	80	op	31.00	2,480	3,000	3,000	300	300		0	5,780
5	Silt fence at construction area	1700	lf	0.02	34	l	25.00	850	0.40	680	0.05	85		0	1,615
6	Hay bales	575	ea	0.02	12	l	25.00	288	0.40	230	0.05	29		0	546
7	Erosion control, straw bales at const. area	1	lot	80	80	l	25.00	2,000	1,000	1,000		0		0	3,000
8	Trailer rental-2 ea	2	mo		0			0	50	100		0	630	1,260	1,360
9	Survey crew	3	day		0			0		0		0	950	2,850	2,850
10	Personal protective equipment	300	mday	0	0			0		0	30	9,000		0	9,000
11	Construction equip. staging area	1	ea	120	120	op	31.00	3,720	2,000	2,000	1,500	1,500		0	7,220
12	Site Orientation - 1 day	8	pers	8	64	op	31.00	1,984		0		0		0	1,984
13	Hazwoper training-40 hr for 50% of people	4	pers	40	160	crew	28.00	4,480		0	100	400		0	4,880
14	Health & Safety officer	2	mo	173	346	h/s	46.00	15,916	50	100	160	320		0	16,336
15	Hazardous material technician	2	mo	173	346	hmt	41.00	14,186	100	200		0		0	14,386
16	Site Superintendent	2	mo	173	346	super	52.00	17,992		0	2825	5,650		0	23,642
	Decon area														
1	Provide small temporary decon area for decon of const. equipment. Demo at end of job	1	ea	120	120	crew	28.00	3,360	6,000	6,000	2,000	2,000		0	11,360
2	Decon all equipment at completion of work	1	lot	48	48	l	25.00	1,200	200	200	200	200		0	1,600
3	Pressure washer	1	ea		0			0			650	650		0	650
	Soils staging / segregation area														
	Staging area not required. Load excavated soils directly into off-site shipping containers.														
	Excavation														
1	Waste excavation	11,100	lcy	0.03	333	op	31.00	10,323		0		0		0	10,323
2	Excavator	48	day		0			0		0	185.00	8,880		0	8,880
3	Wheel loader (2.5 CY)	48	day		0			0		0	106.00	5,088		0	5,088
4	Gravel for access to excavated areas	150	cy		16	op	31.00	496	20	3,000	7.42	1,113		0	4,609
5	Truck w/ water spray / tank for excavated area	280	hrs.	1	280	td	22.00	6,160		0	64	17,920		0	24,080
6	Continuous air monitors	4	ea		0			0	1,200	4,800		0		0	4,800
7	Misc support at excavation / container loading	840	hrs.	1	840	l	25.00	21,000	2.50	2,100	10.11	8,492		0	31,592
8	Dewatering allowance	1	lot	24	24	l	25.00	600	300	300	1,000	1,000		0	1,900
9	Allowance for upgrade / maintenance of existing roads during construction w / stone	450	cy	0.07	32	op	31.00	977	20	9,000	7.42	3,339		0	13,316
11	Soil samples to to confirm risk limits (Suite C)	50	ea		0			0		0		0	300	15,000	15,000
12	Sample Supplies	50	ea		0			0	4.00	200		0		0	200
13	Sample Shipping	20	ea		0			0		0		0	55	1,100	1,100

Alternative 4, Conventional Excavation LHAAP-17 Focused Feasibility Study

WBS NO :1.40.30.20.10															
COMPANY NAME: SHAW ENVIRONMENTAL															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Backfill														
1	Borrow fill material from off-site (delivered)	11,100	lcy		0			0	9.90	109,890		0		0	109,890
2	Compaction ,6" lifts, 4 passes	11,100	lcy	0.009	100	op	31.00	3,097		0	0.47	5,217		0	8,314
3	Fertilize, seed, and mulch	245,700	sf		0			0		0		0	0.131	32,187	32,187
4	Truck w/ water spray / tank for excavated area	100	hrs.	1	100	td	22.00	2,200		0	64	6,400		0	8,600
5	Support personnel	200	hrs.	1	200	1	25.00	5,000		0	15.16	3,032		0	8,032
	Excavated soils waste characterization														
1	Aerosol Monitor	48	day	0	0			0		0	7.80	374		0	374
2	Photoionization Detector	48	day	0	0			0		0	12.42	596		0	596
3	LEL 4 Gas Meter	48	day	0	0			0		0	12.42	596		0	596
4	Waste characterization disposal profile	4	ea		0			0		0		0	1,200	4,800	4,800
5	Waste documentation / Reports	1	lot	240	240	tech	36.00	8,640	400	400		0		0	9,040
	Waste disposal														
1	Title "D" ,Texas class 1 trans/waste disposal fees	13,650	tons		0			0		0		0	27.00	368,550	368,550
2	Truck Liners	694	ea	0	0			0		0	49.50	34,353		0	34,353
	Subtotal							140,148		145,900		119,535		426,387	831,969
	Taxes @ 6.5 %									9,484					9,484
	Subtotal														841,453
	Indirects @ 21.5%														180,912
** WBS TOTAL **														\$ 1,022,365	

Alternative 4, Land Use Controls LHAAP-17 Focused Feasibility Study

WBS NO.: 1.40.30.20.20.10		COMPANY NAME: SHAW ENVIRONMENTAL													
		PROJECT LOCATION: KARNACK, TEXAS										DATE: APRIL 2010			
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Deed Restriction														
1	Allowance for Legal Fees, Administration Controls, and Documentation	1	lot		0			0		0		0	15,000	15,000	15,000
	Subtotal							0		0		0		15,000	15,000
	Taxes @ 6.5%									0					0
														** WBS TOTAL **	
														\$	15,000

Alternative 4, Extraction Wells Installation LHAAP-17 Focused Feasibility Study

WBS NO.:1.40.30.20.20.30															
COMPANY NAME: SHAW ENVIRONMENTAL															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	General Conditions														
1	Safety, training ,waste, health plans, etc.	1	ea	40	40	eng	72.00	2,880	200	200		0		0	3,080
2	Site orientation,training, etc	4	pers	8	32	op	28.74	920		0		0		0	920
3	Mob/demob	1	ea		0			0		0		0	5500	5,500	5,500
4	Survey crew	2	day		0			0		0		0	950	1,900	1,900
5	Site superintendent	2	wk	40	80	super	50.00	4,000		0	2,825	5,650			9,650
6	Engineering technician	2	wk	40	80	h/s	45.00	3,600	50	100	160	320		0	4,020
	Decon Area														
1	Temporary decon station for construction equip.	1	ea	8	8		25.00	200	1,000	1,000	500	500			1,700
2	Decon all equipment at completion of work.	1	lot	8	8	lab	19.36	155	500	500	400	400		0	1,055
3	Pressure washer	1	ea		0						650	650		0	650
	Field Work														
1	Modify existing wells, install new well pump power discharging piping, level controls, etc.	3	ea	72	216	pf	30.08	6,497	2,700	8,100	250	750			15,347
2	Pipe trench excavation (900 lf)	270	bcy	0.08	22	op	28.74	621		0	3.70	999			1,620
3	Sand bedding for pipe, compacted	35	lcy	0.25	9	op	28.74	251	3.70	130	2.15	75		0	456
4	Backfill and compaction, 6" lifts	290	lcy	0.06	17	op	28.74	500		0	2.75	798		0	1,298
5	4" dia HDPE pipe w/fittings	900	lf	0.10	90	pf	30.08	2,707	1.70	1,530	1.15	1,035		0	5,272
6	Backflow preventer (check) valves, 4" dia	4	ea	8	32	pf	30.08	963	895	3,580		0		0	4,543
7	Air release valves with fittings	3	ea	8	24	pf	30.08	722	340	1,020		0		0	1,742
8	Pressure relief valves with fittings	2	ea	8	16	pf	30.08	481	380	760		0		0	1,241
9	4" dia cleanout	4	ea	6	24	pf	30.08	722	65	260		0		0	982
10	4" dia gate valves	4	ea	6	24	pf	30.08	722	465	1,860		0		0	2,582
11	Pre-cast concrete vault w/secure lid for valves	5	ea	16	80	op	28.74	2,299	320	1,600		0		0	3,899
12	Booster pump, 1 HP, 7 GPM, 50' head w/fittings	1	ea	24	24	pf	30.08	722	1,500	1,500		0		0	2,222
13	Pre-cast concrete vault, water tight for pump	1	ea	64	64	op	28.74	1,839	3,500	3,500		0		0	5,339
14	Electrical power lines w/ poles, disconnects, etc.	1	lot		0			0		0		12000		12,000	12,000
15	Misc. support for above activities	240	hrs	1	240	lab	19.36	4,646	2.50	600	10.11	2,426		0	7,673
	Subtotal							35,448		26,240		13,603		19,400	94,691
	Taxes @ 6.5 %									1,706					1,706
	Subtotal														96,396
	Indirects @ 21.5%														20,725

** WBS TOTAL ** \$ 117,121

Alternative 4, Extraction Wells Operations and Maintenance LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. :1.40.40.10.30															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	LHAAP-17 - 3 wells														
	Extraction Well O&M Annual costs														
1	Install new filter socks	3	ea	24	72	pf	30.08	2,166	20	60	200	600		0	2,826
2	Leak test 2" dia underground pipe, fittings valves, pumps, etc -- 900 lf.	1	lot	170	170	pf	30.08	5,114	3,000	3,000	1,600	1,600		0	9,714
3	Extraction and booster pumps power usage	19398	kwh		0			0	0	1,804		0		0	1,804
	Annual LHAAP water treatment plant operations	0.25	ann cost									432981	108,245		108,245
6	Collect/ prepare samples-8 events (1.5 yr dur)(GW)	48	ea	16	768	tech	35.00	26,880	4	192	36	1,728	55	2,640	31,440
7	Sample analysis (VOCs)	48	ea	0.3	14	chem	72.00	1,040		0		0	200	9,600	10,640
	Subtotal							35,199		5,056		3,928	0	0	164,669
	Taxes @ 6.5 %									329					329
	Subtotal														164,997
	Indirects @ 21.5%														35,474
	Annual total														200,472
	half year total														100,236
	Extraction System O & M FOR 1.5 YEARS														300,708
** WBS TOTAL **														\$	300,708

Alternative 4, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL																
WBS NO. : 1.40.40.10.10																
PROJECT LOCATION: KARNACK, TEXAS																
DATE: APRIL 2010																
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)		
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE		
	Monitoring of 5 wells (shallow)															
	Monitoring of 3 wells (intermediate)															
	Year 1															
	Intermediate zone (3 wells + 1 QC)															
6	Collect and prepare MNA samples-qtlly 4 events (GW)	16	ea	16	256	tech	35.00	8,960	4	64	36	576	55	880		10,480
7	Sample analysis (VOCs)	16	ea	0.3	5	chem	72.00	350		0		0	200	3,200		3,550
8	Annual report	1	ea	64	80	eng	72.00	5,760	150	150		0		0		5,910
	Subtotal							15,070		214		576		4,080		19,940
	Taxes @ 6.5 %									14						14
	Subtotal															19,954
	Indirects @ 21.5%															4,290
	Year 1 total (current dollars)															\$ 24,244
	Year 2															
	Shallow zone (5 wells + 1 QC)															
1	Establish initial database, licenses, coordinate well characterization & other well info, develop work plans, etc	1	ea	300	300	eng	72.00	21,600	2,250	2,250		0	5,000	5,000		28,850
2	Collect and prepare samples from 5 wells on quarterly basis for last six months of year	12	ea	16	192	tech	36.00	6,910	4	48	36	432	55	660		8,050
4	Sample analysis (VOCs & perchlorate)	12	ea		0			0		0		0	220	2,640		2,640
5	Annual report	1	ea	64	64	eng	72.00	4,608	150	150		0		0		4,758
	Intermediate zone (3 wells + 1 QC)															
6	Collect and prepare MNA samples-qtlly 4 events (GW)	16	ea	16	256	tech	35.00	8,960	4	64	36	576	55	880		10,480
7	Sample analysis (VOCs)	16	ea	0.3	5	chem	72.00	350		0		0	200	3,200		3,550
8	Annual report	1	ea	64	80	eng	72.00	5,760	150	150		0		0		5,910
	Subtotal							33,118		2,662		1,008		8,300		64,238
	Taxes @ 6.5 %									173						173
	Subtotal															64,411
	Indirects @ 21.5%															13,848
	Years 2 total (current dollars)															\$ 78,259

Alternative 4, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL															
WBS NO. : 1.40.40.10.10															
PROJECT LOCATION: KARNACK, TEXAS															
DATE: APRIL 2010															
Item NO	DESCRIPTION	QTY	UNIT	LABOR			MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)		
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	TOTAL (\$)
Year 3															
	<i>Shallow</i>														
1	Collect and prepare samples quarterly 4 events(GW)	24	ea	16	384	tech	36.00	13,820	4	96	36	864	55	1,320	16,100
2	Sample analysis (VOCs & perchlorate)	24	ea		0			0		0		0	220	5,280	5,280
	<i>Intermediate zone</i>														
3	Collect and prepare MNA samples-semiannual 2 events (	8	ea	16	128	tech	35.00	4,480	4	32	36	288	55	440	5,240
4	Sample analysis (VOCs)	8	ea	0.3	2	chem	72.00	170		0		0	200	1,600	1,770
5	Annual report	1	ea	64	80	eng	72.00	5,760	150	150		0		0	5,910
	Subtotal							24,230		278		1,152		8,640	34,300
	Taxes @ 6.5 %									18					18
	Subtotal														34,318
	Indirects @ 21.5%														7,378
	Year 3 total (current dollars)														\$ 41,696
Year 4															
	<i>Shallow</i>														
1	Collect and prepare samples qtlly/6 mo (2 events GW) plus semi annual for 6 mo (1 event GW)	18	ea	16	288	tech	36.00	10,370	4	72	36	648	55	990	12,080
2	Sample analysis (VOCs & perchlorate)	18	ea		0			0		0		0	220	3,960	3,960
	<i>Intermediate zone</i>														
3	Collect and prepare MNA samples - semiannual (GW)	8	ea	16	128	tech	35.00	4,480	4	32	36	288	55	440	5,240
4	Sample analysis (VOCs)	8	ea	0.3	2	chem	72.00	170		0		0	200	1,600	1,770
5	Annual report	1	ea	32	80	eng	72.00	5,760	150	150		0		0	5,910
	Subtotal							20,780		254		936		6,990	28,960
	Taxes @ 6.5 %									17					17
	Subtotal														28,977
	Indirects @ 21.5%														6,230
	Year 4 total (current dollars)														\$ 35,206
Year 5															
	<i>Shallow</i>														
1	Collect and prepare samples - semiannual (GW)	12	ea	16	192	tech	36.00	6,910	4	48	36	432	55	660	8,050
2	Sample analysis (VOCs & perchlorate)	12	ea		0			0		0		0	220	2,640	2,640
	<i>Intermediate zone</i>														
3	Collect and prepare MNA samples-semiannual 2 events (	8	ea	16	128	tech	35.00	4,480	4	32	36	288	55	440	5,240
4	Sample analysis (VOCs)	8	ea	0.3	2	chem	72.00	170		0		0	200	1,600	1,770
5	Annual report	1	ea	32	80	eng	72.00	5,760	150	150		0		0	5,910
	Subtotal							17,320		230		720		5,340	23,610
	Taxes @ 6.5 %									15					15
	Subtotal														23,625
	Indirects @ 21.5%														5,079
	CERCLA 5-Year Report for Year 5														28,704
x	CERCLA 5-year review	1	ea									0	35000	35,000	35,000
	Indirects @ 21.5%														7,525

Alternative 4, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

COMPANY NAME: SHAW ENVIRONMENTAL																
WBS NO. : 1.40.40.10.10																
PROJECT LOCATION: KARNACK, TEXAS																
DATE: APRIL 2010																
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)		
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE		
	Subtotal															42,525
	Year 5 Total (current dollars)															\$ 71,229
	Year 6															
	<i>Shallow</i>															
1	Collect and prepare samples semiannual(GW)	12	ea	16	192	tech	36.00	6,910	4	48	36	432	55	660		8,050
2	Sample analysis (VOCs & perchlorate)	12	ea		0			0		0		0	220	2,640		2,640
	<i>Intermediate zone</i>															
3	Collect and prepare MNA samples-annual 1 event (GW)	4	ea	16	64	tech	35.00	2,240	4	16	36	144	55	220		2,620
4	Sample analysis (VOCs)	4	ea	0.3	1	chem	72.00	90		0		0	200	800		890
5	Annual report	1	ea	32	80	eng	72.00	5,760	150	150		0		0		5,910
	Subtotal							15,000		214		576		4,320		20,110
	Taxes @ 6.5 %									14						14
	Subtotal															20,124
	Indirects @ 21.5%															4,327
	Year 6 total (current dollars)															\$ 24,451
	Years 7-8-9-10															
1	Collect and prepare samples annually (GW)	30	ea	16	480	tech	35.00	16,800	4	120	36	1,080	55	1,650		19,650
2	Sample analysis (VOCs & perchlorate)	30	ea		0			0		0		0	220	6,600		6,600
3	Annual report	4	ea	64	256	eng	72.00	18,432	150	600		0		0		19,032
	Subtotal							35,232		720		1,080		8,250		45,282
	Taxes @ 6.5 %									47						47
	Subtotal															45,329
	Indirects @ 21.5%															9,746
	Years 7-8-9-10 total (current dollars)															\$ 55,074
	Years 7-8-9-10 annual cost (current dollars)															\$ 13,769
	CERCLA 5-year Report for Year 10															
4	CERCLA 5-year report	1	ea									0	35000	35,000		35,000
	Indirects @ 21.5%															\$ 7,525
	Subtotal															\$ 42,525
	Year 10 total costs with CERCLA Report and annual															\$ 56,294

Alternative 4, MNA and Long-Term Monitoring LHAAP-17 Focused Feasibility Study

WBS NO. : 1.40.40.10.10															
COMPANY NAME:								SHAW ENVIRONMENTAL							
PROJECT LOCATION:								KARNACK, TEXAS							
								DATE: APRIL 2010							
Item NO	DESCRIPTION	QTY	UNIT	LABOR				MATERIAL		EQUIPMENT		SUBCONTRACT		TOTAL (\$)	
				UNIT MH	TOTAL MH	CRAFT	\$/MH	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	\$/UNIT	\$ VALUE	
	Years 15, 20, 25, 30														
1	Collect and prepare samples once per 5 yr (GW)	40	ea	16	640	tech	35.00	22,400	4	160	36	1,440	55	2,200	26,200
2	Sample analysis (VOCs and perchlorate)	40	ea	0.3	12	chem	72.00	864		0		0	220	8,800	9,664
3	Sampling report	4	ea	64	256	eng	72.00	18,432	150	600		0		0	19,032
4	CERCLA 5-year review	4	ea										35000	140,000	140,000
	Subtotal							41,696		760		1,440		11,000	194,896
	Taxes @ 6.5 %									49					49
	Subtotal														194,945
	Indirects @ 21.5%														41,913
	Years 15, 20, 25, 30 total (current dollars)														\$ 236,859
	Years 15, 20, 25, 30 unit cost per 5 years (current dollars)														\$ 59,215
														\$ 567,019	