LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 32

2023

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KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

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A.	Title:	Minutes – Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant, August 16, 2023
	Author(s):	Department of the Army
	Recipient:	All Parties
	Date:	November 8, 2023
	Bate Stamp:	01191671–01191725
B.	Title:	Minutes – Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant, September 10, 2023
	Author(s):	Department of the Army
	Recipient:	All Parties
	Date:	November 8, 2023
	Bate Stamp:	01191726–01191750
C.	Title:	Minutes – Final Minutes, Quarterly Restoration Advisory Board (RAB) Meeting, June 22, 2023, Longhorn Army Ammunition Plant
	Author(s):	Bhate Environmental Associates, Inc.
	Recipient:	All Parties
	Date:	November 16, 2023
	Bate Stamp:	01191751–01191795
D.	Title:	Report – Draft Final Sixth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, November 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	November 30, 2023
	Bate Stamp:	01191796–01192294
E.	Title:	Report (Cont'd) – Appendix C Level IV DoD to Draft Final Sixth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, November 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	November 30, 2023
	Bate Stamp:	01192295–01193406

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Subject: **Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting: **WebEx**
Date of Meeting: **16 August 2023 – 10:00 AM Central Daylight Time (CDT)**

Attendees:

USAEC:	Lena Sierocinski (LS)
USEPA:	Brian Follin (BF)
USGS:	Tim Bartos
USACE:	Aaron Williams (AW)
TCEQ:	April Palmie (AP)
PCI/Bhate JV:	Zachary Beck (ZB) and Ike Eldridge
APTIM:	William Foss (WF) and Praveen Srivastav (PS)
HDR:	Gregory Kelly (GK) and Amita Patel
TLI:	Jonathan Tatman (JT)

Defense Environmental Restoration Program (DERP) Performance-Based Remediation Update

There were no outstanding action items to discuss.

Groundwater Treatment Plant (GWTP) – ZB discussed the status of the sand filter and actions being taken to increase the flow through the sand filter. ZB said that the sand filter is currently being backwashed and air sparged to improve flow, which currently allows approximately 110 gallons per minute (gpm). ZB explained that the reason for the decreased flow caused by the hardening of the sand was partially due to the polymer and clarifier pumps not properly operating. ZB said that the clarifier pump, which removes sediment prior to the sand filter, has been replaced in August 2023. ZB said that the polymer pump, which feeds a polymer into the clarifier tank and helps remove sediment, was also purchased. The polymer pump is scheduled to be replaced later in August 2023. ZB said that replacement of the sand in the sand filter is not recommended at this time. ZB explained that measures to increase flow through the sand filter will continue but that ultimately the amount of groundwater treated is not limited by the sand filter but by the Fluidized Bed Reactor (FBR). ZB said that flow through the FBR is intentionally restricted through the FBR at a rate of 10 – 15 gpm. ZB explained that this flow rate is necessary for the effective treatment of perchlorate within the FBR.

ZB said that one measure to increase the volume of extracted and processed groundwater through the GWTP, would be to continuously discharge treated water. ZB said that the discharge protocols established in the *Protocol for Discharging GWTP Effluent Technical Memorandum* (dated 28 August 2017) allow for this. ZB said that recently, the PBJV has taken a conservative approach and wait for the perchlorate weekly effluent results to ensure compliance with discharge criteria prior to discharge. ZB explained that this allows the GWTP to be operated only once per week. ZB said that it is recommended to return to continuous GWTP operation such that more groundwater can be discharged each week and more influent brought into the plant from LHAAP-17 and LHAAP-18/24. ZB said that the weekly sampling would continue.

BF requested a quantifiable capacity that the GWTP is operating at currently, compared to what capacity the GWTP could potentially achieve with full flow through the sand filter. ZB explained that regardless of how fast processed water can be moved through the sand filter, the GWTP is currently operating as fast as possible given the constraints of the FBR flow rate and the amount of treated water being discharged each week. LS asked if the extracted water is being pulled out and

stored at the same rate before and after the decreased flow through the sand filter. ZB explained that the influent tank TK-140 is a 300,000 gallon tank that is used as a batch tank. ZB said that TK-140 is never filled to 100 percent capacity such that the extraction at LHAAP-17 and LHAAP-18/24 does not stop. ZB said that as a result the sand filter is not inhibiting extraction or hydraulic control at LHAAP-18/24. However, ZB explained that by continuously operating the GWTP more water can be discharged and thus more water can be extracted and pumped into TK-140.

ZB said that in response to the discussion during the July 2023 MMM, potentiometric surface maps of the shallow zone at LHAAP-18/24 have been created for May, June, and July 2023 to evaluate the hydraulic control at LHAAP-18/24. ZB referred to the potentiometric surface maps presented in the August 2023 validated data deliverable. The May, June, and July 2023 surface maps where compared to March 2023 prior to the GWTP shutdown in April 2023. ZB said that there is not a significant difference in the potentiometric flow that would indicate an impact to hydraulic flow. In addition, ZB said that the new monitoring well (1824DPTMW07) installed down gradient of 18WW08 has been sampled with the laboratory data pending. ZB explained that the analytical results from the new well would also provide another line of evidence regarding an impact to hydraulic control.

AW said that the main takeaway from the discussion is the importance of continuous operation of the GWTP which would allow more groundwater to be extracted, treated, and discharged. AW said that based on the recent analytical data and the fact that water discharged to the INF pond is run through the ion exchange vessels, the GWTP is in compliance. ZB added that continuous discharge is permitted in the *Protocol for Discharging GWTP Effluent Technical Memorandum*, but wanted to update the TCEQ and EPA on this change. AP agreed so long as we are in compliance with the agreed upon discharge protocols.

Field Work – ZB said that Remedial Action – Operation (RA-O) semiannual monitoring at LHAAP-04 was completed in early August 2023. ZB said that the well network at LHAAP-29 is being cleared, with re-development beginning on Monday 21 August 2023. ZB explained that once re-development is complete, a sitewide round of sampling will occur in August/September 2023. BF said that conceptual site model update tech memo is under preparation, however, no field activities at LHAAP-16 are planned for the next month.

ZB asked everyone to refer to the Document and Issues (DI) Tracking Table for August 2023.

- **Tasks 1 -5** (Project Management) – ZB said that the July 2023 minutes were submitted as Final on 8 August 2023. ZB said that the June 2023 Restoration Advisory Board (RAB) minutes are currently under EPA review, which BF confirmed. ZB said the next RAB will be hold in November 2023, and will include a public Site Tour.
- **Task 6** (LHAAP-04) – ZB said that the Year 4, 2nd semiannual RA-O sampling event was completed in August 2023, with the validated data to be presented at the September 2023 MMM. ZB said that progress on the Year 4 RA-O Report would begin upon receipt of the August 2023 analytical data.
- **Task 7** (LHAAP-12) – ZB said that the LHAAP-12 2022 Annual RAO Report was considered final as of the beginning of July 2023 and would be moved to the Administrative Record (AR) during the July – September 2023 AR update.
- **Task 8** (LHAAP-16) – PS said that the Year 4, 1st Semiannual RA-O Sampling was completed in July 2023, with the validated data package to be provided for the September 2023 MMM. PS said that the Year 2 RA-O Report was finalized in May 2023 and that the Year 3

RA-O Report is in progress and is scheduled for submittal to the Regulators in September 2023.

- **Task 9** (LHAAP-18/24/GWTP) – ZB said the semiannual sampling event was completed in June 2023 and the validated data package is included with the August 2023 submittal. ZB summarized the LHAAP-18/24 results indicating that in general contaminant of concern (COC) concentrations decreased site-wide in comparison to December 2022/January 2023. ZB said that a good example of this decrease in COCs, was observed at 18WW08. ZB explained that 18WW08 is a key well in that it is outside the interception collection trench (ICT) boundary and has seen an increase in perchlorate and trichloroethene (TCE) over the three previous sampling events dating back to December 2021. ZB said that perchlorate decreased significantly from 21,300 micrograms per liter (µg/L) in December 2022 to 7,450 µg/L in June 2023. ZB said that TCE also decreased at 18WW08 from 11 µg/L in December 2022 to 6.6 µg/L in June 2023. ZB said that the new monitoring well installed downgradient of 18WW08 was sampled in early August 2023 and the analytical results are currently pending.
  ZB said that the 1st Quarter 2023 GWTP Report was submitted for Regulatory review in July 2022. ZB said that the TCEQ has provided comments, that will result in a re-issuance of the 1st Quarter 2023 GWTP Report to include all Level IV analytical data packages. BF confirmed that the 1st Quarter 2023 GWTP is still under EPA review. ZB said that the 2nd Quarter 2023 GWTP is in process and will include the June 2023 semiannual sampling analytical data.
- **Task 10** (LHAAP-37) – PS said that the Draft Year 6 Annual RA-O Report was submitted for Regulatory review on 10 August 2023.
- **Task 11** (LHAAP-46) – PS stated that the Year 8 RA-O Report is considered final as of the beginning of July 2023. PS said that the Year 9 RA-O Report is in process with a tentative delivery date in September 2023.
- **Task 12** (LHAAP-50) **–** ZB said that the Year 9 RA-O Report is in progress with a tentative submittal in September 2023. ZB said that the Year 9 RA-O Report will cover the October 2022 and May 2023 semiannual sampling events.
- **Task 13** (LHAAP-58) – ZB said that the Year 9 2nd semiannual RA-O Sampling event was completed June 2023 with the validated data deliverable included with the August 2023 package. ZB summarized the June 2023 analytical results indicating that there isn't a large change in plume configuration compared with June 2022. ZB said that COC levels at 35AWW09 is the eastern plume continue to indicate an increasing trend. ZB said that downgradient wells 35AWW12 and 35AWW23 continue to be below action levels which indicate the plume is not moving offsite. ZB added that 35AWW09 will continue to be monitored moving forward. ZB said that a new well (35AWW27) was installed downgradient of 35AWW14 to define the plume extent in this area. However, ZB said that the analytical data from this well was not available at this time. ZB said that the Year 9 RA-Report will be prepared following receipt of the analytical data from 35AWW27 with a tentative Regulatory delivery date in October 2023.
- **Task 14** (LHAAP-67) – PS said that comments were received on 3 July 2023 from the EPA on the Draft Year 9 Annual RA-O Report and are being addressed.
- **Task 16** (Surface Water) – ZB said that the 3rd Quarter 2023 surface water sampling has not been completed to date due to no flow in the Bayou.

- **Task 17** (2023 Land Use Control [LUC] Management Plan) – ZB said that the 2023 LUC Management Plan Update will commence in September 2023 and is scheduled for regulatory submittal in November 2023.
- **Task 18** (Administrative Record [AR]) –PS said the January through March 2023 AR is being printed for shipment in August 2023. WF said the April through June 2023 AR tracking sheet is in preparation with a tentative Regulatory submittal for October 2023.

Update on other DERP Sites:

- **LHAAP 18/24 –** GK stated that Regulatory comments on the 100 percent (%) Remedial Design (RD) have been received. GK stated that the 100% Design RTCs are scheduled to be submitted on 8 September 2023.
- **LHAAP-29** – GK stated that Draft 100% RD was submitted for Regulatory review on 15 August 2023.
- **LHAAP-47** – GK said the Pre-Design Investigation (PDI) Report is in progress with a tentative Regulatory delivery date in October 2023. GK said the PDI validated data is included in the August 2023 package.
- **LHAAP-17** – JT stated that Regulatory comments were received on the Draft Interim Remedial Action Completion Report (IRACR) from the regulators in July 2023. JT said that he expected the response to comments and revisions to be submitted within a week to USACE for backcheck prior to Regulatory submittal in late August 2023. ZB stated that the 7th performance monitoring event was completed in June 2023, with the validated data included in the August 2023 package. ZB said that perchlorate at 17WW06 had increased from 65,900 µg/L in March 2023 to 88,700 µg/L in June 2023. ZB said that this is likely due to the GWTP being down in April 2023 limiting the amount t of water extracted at LHAAP-17.

Per- and polyfluoroalkyl substances (PFAS) Update:

LS stated that comments on the Draft Preliminary Assessment (PA)/Site Inspection (SI) Report were received from the Regulators. LS said that response to comments have been submitted for Army review, but a Draft Final PA/SI Report has not been submitted by the contractor yet.

Five Year Review:

LS said that the Five Year Review Report is due in December 2023.

Schedule Next Managers' Meeting: ZB said the next MMM will be held via WebEx on Wednesday 20 September 2023 at 10:00 AM CDT.

Meeting concluded at approximately 11:05 AM CDT.

PCIbhate

ACRONYM LIST

%	percent
µg/L	micrograms per liter
AP	April Palmie
AR	Administrative Record
AW	Aaron Williams
BF	Brian Follin
CDT	Central Daylight Time
COC	Contaminant of concern
DERP	Defense Environmental Restoration Program
DI	Documents and Issues
FBR	Fluidized bed reactor
GK	Gregory Kelly
gpm	gallons per minute
GWTP	Groundwater Treatment Plant
ICT	Interceptor Collection Trench
IRACR	Interim Remedial Action Completion Report
JT	Jonathan Tatman
LHAAP	Longhorn Army Ammunition Plant
LS	Lena Sierocinski
LUC	Land Use Control
MMM	Monthly Managers' Meeting
PA	Preliminary Assessment
PBJV	Poarch Creek Indians, Governmental Services, LLC /Bhate Environmental Associates Joint Venture
PDI	Pre-Design Investigation
PS	Praveen Srivastav
RAB	Restoration Advisory Board
RA-O	Remedial Action – Operation
RD	Remedial Design
SI	Site Inspection
TCE	Trichloroethene
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
WF	William (Bill) Foss
ZB	Zachary Beck

LHAAP Validated Data
August 2023 MMM

GWTP Effluent	*Weekly Perchlorate Sampling –July 2023* Perchlorate (6850)
GWTP Effluent	*Weekly, Bi-Weekly, and Monthly Sampling – July 2023* Ammonia (350.3) Ortho-Phosphate (365.3) Total Organic Carbon (415.1) VOC (8260C) Metals (6020A) Hexavalent Chromium (7196A) 1,4-Dioxane (8270D-SIM) Anions (9056)
GWTP Influent	*Monthly Sampling – July 2023* Metals (6020A) Perchlorate (6850) Hexavalent Chromium (7196A)
LHAAP-18/24	*Semi-Annual Sampling - June 2023* Volatile Organic Compounds (8260C) Perchlorate (EPA 6850) Metals (6020A/7470A) 1,4-Dioxane (8270 SIM)
LHAAP-58	*Semi-Annual Sampling – June 2023* Anions (9056A) VOC (8260C) Total Organic Carbon (415.1) Metabolic Acids (HPLC-METACIDS) Dechlorinating Bacteria (CENSUS) Dissolved Gases (RSK-175) Arsenic (6020A)
LHAAP-47	*Groundwater Sampling -May/June 2023* Perchlorate (6850) VOC (8260B) Metals (6020B/D, 7470A)

GWTP Weekly Sampling - July 2023

Location ID: / Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650_071023 7/10/23	LH18/24-SP650_072423 7/24/23
Location Description			**GWTP–Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.**	
Ammonia as N (350.3)				
Ammonia as N	mg/L	NV	**480**	**430**
Ortho-Phosphate (365.3)				
Ortho-Phosphate	mg/L	NV	**4.88**	**8.69**
Organic Carbon (415.1)				
Total Organic Carbon (TOC)	mg/L	NV	**74.3**	**99.5**

mg/L - milligrams per liter

NV - No Value

GWTP Weekly/Effluent Perchlorate Sampling - July 2023

Location ID: Sample Date:	Units	Daily Maximum Conc	PCL	LH18/24-SP650_071023_BIX 7/10/23	LH18/24-SP650_071023_AIX 7/10/23	LH18/24-SP650_071023_AIX 7/10/23	LH18/24-SP650_072423_BIX 7/24/23	LH18/24-SP650_072423_AIX 7/24/23
Location Description				Weekly	Weekly	Monthly Eff	Weekly	Weekly
Perchlorate (6850)								
Perchlorate	µg/L	589	17	**36.2**	**0.0593 J**	< 0.0500 U	**13.4**	**0.0583 J**

µg/L - micrograms per liter

BIX - before ion exchange/AIX - after ion exchange

J - estimated detection between the detection limit and limit of quantitation

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

GWTP Bi-Weekly Sampling - July 2023

Location ID: Sample Date:	Units	(Bayou) Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_072423 7/24/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Biweekly.**
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	200	< 0.50 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 0.50 U
1,1-Dichloroethane	µg/L	14,032	NV	< 0.50 U
1,1-Dichloroethene	µg/L	253	7	< 0.50 U
1,2-Dichloroethane	µg/L	181	5	< 0.50 U
1,2-Dichloropropane	µg/L	5	5	< 0.50 U
Acetone	µg/L	2,395	NV	< 2.0 UJ
Benzene	µg/L	181	5	< 0.50 U
Carbon tetrachloride	µg/L	181	5	< 0.50 U
Chlorobenzene	µg/L	47,180	100	< 0.50 U
Chloroform	µg/L	3,615	NV	< 0.50 U
cis-1,2-Dichloroethene	µg/L	NV	70	**3.0**
Ethylbenzene	µg/L	57,025	700	< 0.50 U
m,p-Xylene	µg/L	83.6	NV	< 1.0 U
Methylene chloride	µg/L	1,699	5	< 2.0 U
o-Xylene	µg/L	83.6	NV	< 0.50 U
Styrene	µg/L	5,987	100	< 0.50 U
Tetrachloroethene	µg/L	180.7	5	< 0.50 U
Toluene	µg/L	4,189	10	< 0.50 U
Trichloroethene	µg/L	181	5	< 0.50 U
Vinyl chloride	µg/L	72	2	< 0.50 U
Anions (9056)				
Chloride	mg/L	NV	NV	**1,270**
Sulfate	mg/L	NV	NV	**59.2**

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - No Value

UJ - estimated non-detect due to a quality control discrepancy

GWTP Monthly Effluent Sampling - July 2023

Location ID: / Sample Date:	Units	Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_071023 7/10/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled monthly**
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	200	< 1.0 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	NV	< 1.0 U
1,1-Dichloroethene	µg/L	253	7	< 1.0 U
1,2-Dichloroethane	µg/L	181	5	< 1.0 U
1,2-Dichloropropane	µg/L	5	5	< 1.0 U
Acetone	µg/L	2,395	NV	< 1.0 U
Benzene	µg/L	181	5	< 1.0 U
Carbon tetrachloride	µg/L	181	5	< 1.0 U
Chlorobenzene	µg/L	47,180	100	< 1.0 U
Chloroform	µg/L	3,615	NV	< 1.0 U
cis-1,2-dichloroethene	µg/L	NV	70	**2.8**
Ethylbenzene	µg/L	57,025	700	< 1.0 U
m,p-Xylene	µg/L	83.6	NV	< 2.0 U
Methylene chloride	µg/L	1,699	5	< 1.0 U
o-Xylene	µg/L	83.6	NV	< 1.0 U
Styrene	µg/L	5,987	100	< 1.0 U
Tetrachloroethene	µg/L	180.7	5	< 1.0 U
Toluene	µg/L	4,189	10	< 1.0 U
Trichloroethene	µg/L	181	5	< 1.0 U
Vinyl chloride	µg/L	72	2	< 1.0 U
Metals (6020A)				
Barium	mg/L	2	2	**0.294**
Lead	mg/L	0.0046	0.015	< 0.00125 U
Selenium	mg/L	0.012	0.05	< 0.00250 U
Silver	mg/L	0.003	0.1	< 0.000500 U
Hexavalent Chromium (7196A)				
Hexavalent Chromium	mg/L	0.1244	NV	< 0.00600 U
Semi-Volatile Organic Compounds (8270D SIM)				
1,4-Dioxane	µg/L	134.2	NV	**1.3**

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - no value

GWTP Monthly Influent Sampling - July 2023

Location ID: Sample Date:	Units	LH18/24-SP140_071023 7/10/23
Location Description		**GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.**
Metals (6020A)		
Selenium	mg/L	< 0.00250 U
Silver	mg/L	< 0.000500 UJ
Hexavalent Chromium (7196A)		
Hexavalent Chromium	mg/L	< 0.00600 U
Perchlorate (6850)		
Perchlorate	µg/L	**57,500**

mg/L - milligrams per liter

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

UJ - estimated non-detect due to a quality control discrepancy

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				AWD1_062423	AWD3_061423	AWD4_062423	18CPTMW01SW_062223	18CPTMW01DW_062323	18CPTMW03SW_061323	18CPTMW04SW_060923	18CPTMW04_060923	18CPTMW04_060923_a	18CPTMW06_062423
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Wilcox
Well Identification				AWD-1	AWD-3	AWD-4	18CPTMW01SW	18CPTMW01DW	18CPTMW03SW	18CPTMW04SW	18CPTMW04	18CPTMW04	18CPTMW06
ANALYTE	CAS NUMBER	UNITS		HS23061812-03	HS23061096-01	HS23061821-03	HS23061712-05	HS23061712-06	HS23060999-02	HS23060739-04	HS23060739-05	HS23060739-06	HS23061812-02
Method: 6850													
Perchlorate		µg/L	17*	NA	**9.18**	**3930**	**0.0345 J**	<0.0500 U	**0.688**	< 0.0500 U	**302**	**341**	**0.0464 J**
Method: SW6020A													
Aluminum	7429-90-5	mg/L	100	NA	**0.0717**	**0.304**	**0.0172**	**0.0114**	**0.0464**	**0.0239**	NA	NA	NA
Antimony	7440-36-0	mg/L	0.006	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA
Arsenic	7440-38-2	mg/L	0.01	NA	<0.00125 U	**0.000707 J**	**0.00655**	**0.00135 J**	**0.00448 J**	**0.00279 J**	NA	NA	NA
Barium	7440-39-3	mg/L	2	NA	**0.0358**	**0.222**	**0.922**	**0.253**	**0.539**	**0.571**	NA	NA	NA
Beryllium	7440-41-7	mg/L	0.004	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA
Cadmium	7440-43-9	mg/L	0.005	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA
Calcium	7440-70-2	mg/L	NV	NA	**1.05**	**11.0**	**33.2**	**22.2**	**106**	**24.9**	NA	NA	NA
Chromium	7440-47-3	mg/L	0.1	NA	**0.0716**	**0.471**	**0.00212 J**	**0.00423 J**	**0.00941**	**0.0220**	NA	NA	NA
Cobalt	7440-48-4	mg/L	6.1	NA	**0.000810 J**	**0.0174**	**0.000795 J**	**0.000275 J**	**0.00162 J**	**0.00382 J**	NA	NA	NA
Copper	7440-50-8	mg/L	1.3	NA	**0.00134 J**	**0.0149**	<0.00250 U	**<0.00250 U**	**<0.00250 U**	<0.00250 U	NA	NA	NA
Iron	7439-89-6	mg/L	NV	NA	**0.382**	**14.2**	**43.7**	**0.746**	**9.91**	**7.08**	NA	NA	NA
Lead	7439-92-1	mg/L	0.015	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA
Magnesium	7439-95-4	mg/L	NV	NA	**0.540**	**5.73**	**20.8**	**12.0**	**19.0**	**15.1**	NA	NA	NA
Manganese	7439-96-5	mg/L	1.1*	NA	**0.00963**	**0.142**	**0.492**	**0.0467**	**0.682**	**0.370**	NA	NA	NA
Nickel	7440-02-0	mg/L	0.49*	NA	**0.0157**	**1.39**	**0.00197 J**	**0.00192 J**	**0.00403 J**	**0.00256 J**	NA	NA	NA
Potassium	7440-09-7	mg/L	NV	NA	**0.682**	**0.610**	**10.2**	**72.6**	**102**	**137**	NA	NA	NA
Selenium	7782-49-2	mg/L	0.05	NA	**0.00410 J**	<0.00250 U	<0.00250 U	**<0.00250 U**	**<0.00250 U**	<0.00250 U	NA	NA	NA
Silver	7440-22-4	mg/L	0.51	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA
Sodium	7440-23-5	mg/L	NV	NA	**26.3**	**53.2**	**94.5**	**383**	**214**	**127**	NA	NA	NA
Thallium	7440-28-0	mg/L	0.002	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA
Vanadium	7440-62-2	mg/L	0.72	NA	**0.00600**	**0.00636**	<0.00125 U	**<0.00125 U**	**<0.00125 U**	**0.000957 J**	NA	NA	NA
Zinc	7440-66-6	mg/L	31	NA	**0.00352 J**	**0.00929**	**0.00543**	**0.00250 J**	**0.00565**	**0.00559**	NA	NA	NA
Method: SW7470A													
Mercury	7439-97-6	mg/L	0.002	NA	<0.000100 U	**0.0000580 J**	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA
Method: SW8260													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	NA	<0.50 U	<0.50 U	**0.72 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,1-Dichloroethene	75-35-4	µg/L	7	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	NA	**2.5**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,2-Dichloropropane	78-87-5	µg/L	5	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
1,3-Dichloropropane	142-28-9	µg/L	29	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
2,2-Dichloropropane	594-20-7	µg/L	42	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
2-Chlorotoluene	95-49-8	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				AWD1_062423	AWD3_061423	AWD4_062423	18CPTMW01SW_062223	18CPTMW01DW_062323	18CPTMW03SW_061323	18CPTMW04SW_060923	18CPTMW04_060923	18CPTMW04_060923_a	18CPTMW06_062423
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Wilcox
Well Identification				AWD-1	AWD-3	AWD-4	18CPTMW01SW	18CPTMW01DW	18CPTMW03SW	18CPTMW04SW	18CPTMW04	18CPTMW04	18CPTMW06
ANALYTE	CAS NUMBER	UNITS		HS23061812-03	HS23061096-01	HS23061821-03	HS23061712-05	HS23061712-06	HS23060999-02	HS23060739-04	HS23060739-05	HS23060739-06	HS23061812-02
4-Chlorotoluene	106-43-4	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Benzene	71-43-2	µg/L	5	NA	<0.50 U	<0.50 U	**3.3**	<0.50 U	**1.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Bromochloromethane	74-97-5	µg/L	4,100	NA	<0.50 U	<0.50 U	**4.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Bromoform	75-25-2	µg/L	36	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Carbon disulfide	75-15-0	µg/L	10,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	NA	**16**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Chloroethane	75-00-3	µg/L	41,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	NA	**0.95 J**	<0.50 U	**3.8**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Chloromethane	74-87-3	µg/L	220	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	NA	**47**	**3.6**	**1100**	<0.50 U	**33**	<0.50 U	**5.9**	**5.9**	<1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Dibromomethane	74-95-3	µg/L	380	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Ethylbenzene	100-41-4	µg/L	700	NA	<0.50 U	<0.50 U	**1.1**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Isopropylbenzene	98-82-8	µg/L	10,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	NA	<1.0 U	<1.0 U	**1.0 J**	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U
Methylene chloride	75-09-2	µg/L	5	NA	<0.50 U	<0.50 U	**5000**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
n-Butylbenzene	104-51-8	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
n-Propylbenzene	103-65-1	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	NA	<0.50 U	<0.50 U	**0.76 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Styrene	100-42-5	µg/L	100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Tetrachloroethene	127-18-4	µg/L	5	NA	**1.6**	<0.50 U	**1.2**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	NA	<0.50 U	<0.50 U	**3.0**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	NA	<0.50 U	<0.50 U	**4.7**	<0.50 U	1.0	<0.50 U	<0.50 U	<0.50 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Trichloroethene	79-01-6	µg/L	5	NA	**360**	**9.5**	**69**	<0.50 U	**9.8**	<0.50 U	**170**	**180**	**6.5**
Trichlorofluoromethane	75-69-4	µg/L	31,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U
Vinyl chloride	75-01-4	µg/L	2	NA	**0.66 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Method: SW8270SIM													
1,4-Dioxane	123-91-1	ug/L	9.1	**1.1**	NA	**0.075**	**0.044**	0.027	**0.097**	<0.0050 U	**0.027 J**	**0.039 J**	**0.020**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18CPTMW07_062123	18CPTMW08DW_060923	18CPTMW08SW_060923	18CPTMW10SW_062223	18CPTMW10DW_062223	18CPTMW10DW_062223_a	18CPTMW12SW_061423	18CPTMW12DW_061423	18CPTMW14_062123
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Shallow
Well Identification				18CPTMW07	18CPTMW08DW	18CPTMW08SW	18CPTMW10SW	18CPTMW10DW	18CPTMW10DW	18CPTMW12SW	18CPTMW12DW	18CPTMW14
ANALYTE	CAS NUMBER	UNITS		HS23061557-05	HS23060739-02	HS23060739-03	HS23061712-02	HS23061712-03	HS23061712-04	HS23061096-02	HS23061096-03	HS23061557-03
Method: 6850												
Perchlorate		µg/L	17*	**1.37**	**6000**	**13700**	**0.195**	<0.0500 U	**0.0359 J**	**9.79**	<0.0500 U	**4710**
Method: SW6020A												
Aluminum	7429-90-5	mg/L	100	NA	NA	NA	NA	**0.0329**	**0.0297**	**0.0221**	**0.0244**	**0.0577**
Antimony	7440-36-0	mg/L	0.006	NA	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	NA	NA	NA	NA	**0.00106 J**	**0.000987 J**	**0.000625 J**	**0.00211 J**	**0.00109 J**
Barium	7440-39-3	mg/L	2	NA	NA	NA	NA	**0.393**	**0.373**	**0.837**	**0.289**	**3.27**
Beryllium	7440-41-7	mg/L	0.004	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000758 J**
Calcium	7440-70-2	mg/L	NV	NA	NA	NA	NA	**61.6**	**59.1**	**78.0**	**27.2**	**337**
Chromium	7440-47-3	mg/L	0.1	NA	NA	NA	NA	**0.00342 J**	**0.00368 J**	**0.00759**	**0.0143**	**0.00717**
Cobalt	7440-48-4	mg/L	6.1	NA	NA	NA	NA	**0.000318 J**	**0.000284 J**	**0.00156 J**	**0.000402 J**	**0.00527**
Copper	7440-50-8	mg/L	1.3	NA	NA	NA	NA	<0.00250 U	<0.00250 U	**0.00190 J**	<0.00250 U	<0.00250 U
Iron	7439-89-6	mg/L	NV	NA	NA	NA	NA	**9.08**	**8.69**	**1.20**	**7.26**	**0.356**
Lead	7439-92-1	mg/L	0.015	NA	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	NA	NA	NA	NA	**11.6**	**11.3**	**40.7**	**12.3**	**122**
Manganese	7439-96-5	mg/L	1.1*	NA	NA	NA	NA	**0.297**	**0.284**	**0.131**	**0.244**	**0.275**
Nickel	7440-02-0	mg/L	0.49*	NA	NA	NA	NA	**0.00100 J**	**0.00156 J**	**0.00172 J**	**0.00108 J**	**0.00516**
Potassium	7440-09-7	mg/L	NV	NA	NA	NA	NA	**44.3**	**42.2**	**25.1**	**53.8**	**6.19**
Selenium	7782-49-2	mg/L	0.05	NA	NA	NA	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	NA	NA	NA	NA	**128**	**124**	**251**	**164**	**495**
Thallium	7440-28-0	mg/L	0.002	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	NA	NA	NA	NA	<0.00125 U	<0.00125 U	**0.00258 J**	**0.00284 J**	**0.00129 J**
Zinc	7440-66-6	mg/L	31	NA	NA	NA	NA	**0.00336 J**	**0.00290 J**	**0.00554**	**0.00478 J**	**0.00490 J**
Method: SW7470A												
Mercury	7439-97-6	mg/L	0.002	NA	NA	NA	NA	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U
Method: SW8260												
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	NA	**3.0**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**12**
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18CPTMW07_062123	18CPTMW08DW_060923	18CPTMW08SW_060923	18CPTMW10SW_062223	18CPTMW10DW_062223	18CPTMW10DW_062223_a	18CPTMW12SW_061423	18CPTMW12DW_061423	18CPTMW14_062123
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox	Shallow
Well Identification				18CPTMW07	18CPTMW08DW	18CPTMW08SW	18CPTMW10SW	18CPTMW10DW	18CPTMW10DW	18CPTMW12SW	18CPTMW12DW	18CPTMW14
ANALYTE	CAS NUMBER	UNITS		HS23061557-05	HS23060739-02	HS23060739-03	HS23061712-02	HS23061712-03	HS23061712-04	HS23061096-02	HS23061096-03	HS23061557-03
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Benzene	71-43-2	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**3.1 J**
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Bromoform	75-25-2	µg/L	36	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**19**
Chloromethane	74-87-3	µg/L	220	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**<0.50 U**	NA	**8.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**21**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	NA	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<5.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Styrene	100-42-5	µg/L	100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Trichloroethene	79-01-6	µg/L	5	**1.6**	NA	**31**	**2.2**	**1.3**	**1.4**	**2.2**	**1.6**	**1700**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	NA	**0.99 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U
Method: SW8270SIM												
1,4-Dioxane	123-91-1	ug/L	9.1	**0.051**	**0.021**	**0.035**	**0.037**	NA	NA	**0.016**	**0.020**	**0.17**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18CPTMW15_062323	18CPTMW15_062323_a	18CPTMW16_061923	18CPTMW18_062023	18CPTMW19_062423	18CPTMW19SW_062423	18CPTMW22DW_061323	18CPTMW22R_061323	18CPTMW22SW_061323	18CPTMW23_062423
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Wilcox	Shallow
Well Identification				18CPTMW15	18CPTMW15	18CPTMW16	18CPTMW18	18CPTMW19	18CPTMW19SW	18CPTMW22DW	18CPTMW22R	18CPTMW22SW	18CPTMW23
ANALYTE	CAS NUMBER	UNITS		HS23061707-06	HS23061707-07	HS23061372-01	HS23061459-08	HS23061821-04	HS23061821-05	HS23060999-05	HS23060999-06	HS23060999-07	HS23061821-06
Method: 6850													
Perchlorate		µg/L	17*	**51.9**	**54.7**	<0.0500 U	<0.0500 U	**1.33**	<0.0500 U	**0.568**	**0.147**	**12200**	**420**
Method: SW6020A													
Aluminum	7429-90-5	mg/L	100	NA	NA	NA	**0.0111**	NA	**0.0619**	**0.0474**	**1.59**	**0.122**	NA
Antimony	7440-36-0	mg/L	0.006	NA	NA	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA
Arsenic	7440-38-2	mg/L	0.01	NA	NA	NA	**0.000696 J**	NA	**0.00998**	**0.00765**	**0.000831 J**	**0.00142 J**	NA
Barium	7440-39-3	mg/L	2	NA	NA	NA	**0.495**	NA	**0.136**	**0.134**	**0.0539**	**0.222**	NA
Beryllium	7440-41-7	mg/L	0.004	NA	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	**0.000311 J**	<0.000500 U	NA
Cadmium	7440-43-9	mg/L	0.005	NA	NA	NA	**0.000219 J**	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA
Calcium	7440-70-2	mg/L	NV	NA	NA	NA	**216**	NA	**7.77**	**13.9**	**0.679**	**31.9**	NA
Chromium	7440-47-3	mg/L	0.1	NA	NA	NA	**0.00209 J**	NA	**0.00101 J**	**0.00119 J**	**0.00231 J**	**0.0577**	NA
Cobalt	7440-48-4	mg/L	6.1	NA	NA	NA	**0.0113**	NA	**0.00482 J**	**0.000413 J**	**0.00480 J**	**0.000149 J**	NA
Copper	7440-50-8	mg/L	1.3	NA	NA	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	**0.00203 J**	<0.00250 U	NA
Iron	7439-89-6	mg/L	NV	NA	NA	NA	**0.628**	NA	**11.4**	**4.74**	**1.83**	**0.0372 J**	NA
Lead	7439-92-1	mg/L	0.015	NA	NA	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	**0.00143 J**	<0.00125 U	NA
Magnesium	7439-95-4	mg/L	NV	NA	NA	NA	**164**	NA	**4.46**	**7.11**	**0.796**	**0.463**	NA
Manganese	7439-96-5	mg/L	1.1*	NA	NA	NA	**1.75**	NA	**0.323**	**0.0857**	**0.0321**	**0.00845**	NA
Nickel	7440-02-0	mg/L	0.49*	NA	NA	NA	**0.0103**	NA	**0.00258 J**	**0.00105 J**	**0.00251 J**	**0.000864 J**	NA
Potassium	7440-09-7	mg/L	NV	NA	NA	NA	**2.49**	NA	**1.06**	**2.86**	**0.188 J**	**336**	NA
Selenium	7782-49-2	mg/L	0.05	NA	NA	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA
Silver	7440-22-4	mg/L	0.51	NA	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA
Sodium	7440-23-5	mg/L	NV	NA	NA	NA	**640**	NA	**22.5**	**292**	**18.5**	**298**	NA
Thallium	7440-28-0	mg/L	0.002	NA	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA
Vanadium	7440-62-2	mg/L	0.72	NA	NA	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	**0.0102**	**0.00132 J**	NA
Zinc	7440-66-6	mg/L	31	NA	NA	NA	**0.0110**	NA	**0.00828**	**0.00325 J**	**0.00867**	**0.00334 J**	NA
Method: SW7470A													
Mercury	7439-97-6	mg/L	0.002	NA	NA	NA	<0.000100 U	NA	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA
Method: SW8260													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**98**
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18CPTMW15_062323	18CPTMW15_062323_a	18CPTMW16_061923	18CPTMW18_062023	18CPTMW19_062423	18CPTMW19SW_062423	18CPTMW22DW_061323	18CPTMW22R_061323	18CPTMW22SW_061323	18CPTMW23_062423
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Wilcox	Shallow
Well Identification				18CPTMW15	18CPTMW15	18CPTMW16	18CPTMW18	18CPTMW19	18CPTMW19SW	18CPTMW22DW	18CPTMW22R	18CPTMW22SW	18CPTMW23
ANALYTE	CAS NUMBER	UNITS		HS23061707-06	HS23061707-07	HS23061372-01	HS23061459-08	HS23061821-04	HS23061821-05	HS23060999-05	HS23060999-06	HS23060999-07	HS23061821-06
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**15**	<5.0 UJ
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**0.83 J**	**0.89 J**	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**120**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<1.0 U	NA	<0.50 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<10 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Trichloroethene	79-01-6	µg/L	5	**7.3**	**7.3**	NA	<0.50 U	<0.50 U	<0.50 U	**2.0**	**0.83 J**	**0.83 J**	**1800**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U
Method: SW8270SIM													
1,4-Dioxane	123-91-1	ug/L	9.1	**0.025**	**0.022**	**0.013**	**0.023**	**0.026**	**0.034**	<0.0050 U	**0.22**	<0.0050 U	**1.7**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18CPTMW23SW_062423	18CPTMW24_062123	18CPTMW26SW_062323	17WW08_062423	18WW02_061423	18WW03_061923	18WW06_061423	18WW08_062323	18WW09_062323	18WW10_062623	18WW14_061923
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Shallow	Wilcox	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Wilcox	Shallow	Shallow
Well Identification				18CPTMW23SW	18CPTMW24	18CPTMW26SW	17WW08	18WW02	18WW03	18WW06	18WW08	18WW09	18WW10	18WW14
ANALYTE	CAS NUMBER	UNITS		HS23061821-07	HS23061557-04	HS23061707-10	HS23061821-10	HS23061096-09	HS23061372-06	HS23061096-08	HS23061707-04	HS23061707-05	HS23061825-07	HS23061372-02
Method: 6850														
Perchlorate		µg/L	17*	<0.0500 U	**85.9**	<0.0500 U	<0.0500 U	**0.0496 J**	<0.0500 U	<0.0500 U	**7450**	<0.0500 U	<0.0500 U	**0.870**
Method: SW6020A														
Aluminum	7429-90-5	mg/L	100	NA	NA	NA	**0.0152**	**0.0775**	**0.0109**	NA	NA	**0.258**	NA	**0.0159**
Antimony	7440-36-0	mg/L	0.006	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	<0.00125 U	NA	**0.000588 J**
Arsenic	7440-38-2	mg/L	0.01	NA	NA	NA	**0.00537**	**0.000493 J**	**0.000986 J**	NA	NA	**0.00397 J**	NA	<0.00125 U
Barium	7440-39-3	mg/L	2	NA	NA	NA	**0.396**	**0.0409**	**0.219**	NA	NA	**0.221**	NA	**0.413**
Beryllium	7440-41-7	mg/L	0.004	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	**0.000243 J**	NA	**0.000291 J**
Calcium	7440-70-2	mg/L	NV	NA	NA	NA	**88.6**	**6.97**	**10.0**	NA	NA	**15.6**	NA	**24.8**
Chromium	7440-47-3	mg/L	0.1	NA	NA	NA	**0.633**	**0.0132**	**0.00354 J**	NA	NA	**0.0250**	NA	**0.0991 J**
Cobalt	7440-48-4	mg/L	6.1	NA	NA	NA	**0.0167**	**0.000176 J**	<0.000500 U	NA	NA	**0.000854 J**	NA	**0.00138 J**
Copper	7440-50-8	mg/L	1.3	NA	NA	NA	**0.0205**	**0.00150 J**	<0.00250 U	NA	NA	<0.00250 U	NA	**0.00344 J**
Iron	7439-89-6	mg/L	NV	NA	NA	NA	**23.9**	**0.561**	**10.0**	NA	NA	**35.8**	NA	**0.417**
Lead	7439-92-1	mg/L	0.015	NA	NA	NA	<0.00125 U	**0.00124 J**	<0.00125 U	NA	NA	<0.00125 U	NA	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	NA	NA	NA	**55.1**	**1.34**	**6.80**	NA	NA	**8.90**	NA	**19.8**
Manganese	7439-96-5	mg/L	1.1*	NA	NA	NA	**1.14**	**0.0730**	**0.0912**	NA	NA	**0.659**	NA	**0.0644**
Nickel	7440-02-0	mg/L	0.49*	NA	NA	NA	**0.684**	**0.0127**	**0.000786 J**	NA	NA	**0.0131**	NA	**0.0703**
Potassium	7440-09-7	mg/L	NV	NA	NA	NA	**1.93**	**1.85**	**2.07**	NA	NA	**2.08**	NA	**3.02**
Selenium	7782-49-2	mg/L	0.05	NA	NA	NA	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	<0.00250 U	NA	**0.00121 J**
Silver	7440-22-4	mg/L	0.51	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	<0.000500 U
Sodium	7440-23-5	mg/L	NV	NA	NA	NA	**361**	**34.0**	**118**	NA	NA	**40.5**	NA	**85.5**
Thallium	7440-28-0	mg/L	0.002	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	**0.00111 J**
Vanadium	7440-62-2	mg/L	0.72	NA	NA	NA	**0.00135 J**	**0.00324 J**	<0.00125 U	NA	NA	**0.00144 J**	NA	**0.000768 J**
Zinc	7440-66-6	mg/L	31	NA	NA	NA	**0.00667**	**0.00498 J**	**0.00298 J**	NA	NA	**0.00365 J**	NA	**0.00872**
Method: SW7470A														
Mercury	7439-97-6	mg/L	0.002	NA	NA	NA	<0.000100 U	<0.000100 U	0.0000320 UB	NA	NA	<0.000100 U	NA	<0.000100 U
Method: SW8260														
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18CPTMW23SW_062423	18CPTMW24_062123	18CPTMW26SW_062323	17WW08_062423	18WW02_061423	18WW03_061923	18WW06_061423	18WW08_062323	18WW09_062323	18WW10_062623	18WW14_061923
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Shallow	Wilcox	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Wilcox	Shallow	Shallow
Well Identification				18CPTMW23SW	18CPTMW24	18CPTMW26SW	17WW08	18WW02	18WW03	18WW06	18WW08	18WW09	18WW10	18WW14
ANALYTE	CAS NUMBER	UNITS		HS23061821-07	HS23061557-04	HS23061707-10	HS23061821-10	HS23061096-09	HS23061372-06	HS23061096-08	HS23061707-04	HS23061707-05	HS23061825-07	HS23061372-02
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Acetone	67-64-1	µg/L	92,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Benzene	71-43-2	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Bromoform	75-25-2	µg/L	36	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Bromomethane	74-83-9	µg/L	140	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Chloromethane	74-87-3	µg/L	220	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
cis-1,2-Dichloroethene	156-59-2	µg/L	70	<0.50 U	**13**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.9**	NA	<0.50 U	NA
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<5.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	NA	<1.0 U	NA
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Styrene	100-42-5	µg/L	100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Toluene	108-88-3	µg/L	1,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Trichloroethene	79-01-6	µg/L	5	<0.50 U	**17**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**6.2**	NA	<0.50 U	NA
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	**59**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.0**	NA	<0.50 U	NA
Method: SW8270SIM														
1,4-Dioxane	123-91-1	ug/L	9.1	**0.029**	**0.014**	**0.012**	NA	<0.0050 U	**0.026**	**0.038**	**0.017**	**0.016**	**0.054**	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18WW17_062023	18WW18_062023	18WW19_062323	18WW19_062323_a	18WW20_062323	18WW22_062123	18WW24_062423	18WW24_062423_a	18WW25_062123	C01_061923	CO1_061923_a	C02_062623
Aquifer Zone			MCL/MSC/ PCL	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow
Well Identification				18WW17	18WW18	18WW19	18WW19	18WW20	18WW22	18WW24	18WW24	18WW25	C-01	C-01	C-02
ANALYTE	CAS NUMBER	UNITS		HS23061459-05	HS23061459-04	HS23061707-01	HS23061707-02	HS23061707-03	HS23061557-01	HS23061821-08	HS23061821-09	HS23061557-06	HS23061372-03	HS23061372-04	HS23061825-06
Method: 6850															
Perchlorate		µg/L	17*	**89000**	<0.0500 U	<0.0500 U	<0.0500 U	<0.0500 U	**0.421**	**0.237**	**0.286**	<0.0500 U	<0.0500 U	<0.0500 U	**0.0962 J**
Method: SW6020A															
Aluminum	7429-90-5	mg/L	100	**0.00696 J**	**0.0181**	**0.288 J**	**0.614 J**	**0.0164**	**0.104**	**0.477**	**0.486**	**0.376**	NA	NA	NA
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA
Arsenic	7440-38-2	mg/L	0.01	**0.000929 J**	**0.00630**	**0.000541 J**	**0.000663 J**	<0.00125 U	**0.000839 J**	**0.000580 J**	**0.000650 J**	**0.00486 J**	NA	NA	NA
Barium	7440-39-3	mg/L	2	**2.10**	**1.36**	**0.122**	**0.119**	**0.0694**	**0.0737**	**0.0378**	**0.0393**	**0.315**	NA	NA	NA
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	**0.000483 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000662 J**	**0.000703 J**	<0.000500 U	NA	NA	NA
Cadmium	7440-43-9	mg/L	0.005	**0.000386 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000259 J**	**0.000285 J**	<0.000500 U	NA	NA	NA
Calcium	7440-70-2	mg/L	NV	**249**	**60.2**	**5.24**	**5.26**	**1.95**	**25.5**	**57.3**	**59.4**	**17.9**	NA	NA	NA
Chromium	7440-47-3	mg/L	0.1	**0.0899**	**0.0280**	**0.0380 J**	**0.0578 J**	**0.000965 J**	**0.0122**	**0.00150 J**	**0.00147 J**	**0.000911 J**	NA	NA	NA
Cobalt	7440-48-4	mg/L	6.1	**0.00724**	**0.000391 J**	**0.000710 J**	**0.000804 J**	**0.000420 J**	**0.000168 J**	**0.00724**	**0.00789**	**0.00133 J**	NA	NA	NA
Copper	7440-50-8	mg/L	1.3	**0.137**	**0.00160 J**	**0.00201 J**	**0.00186 J**	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA
Iron	7439-89-6	mg/L	NV	**3.50**	**108**	**18.4**	**19.0**	**7.34**	**0.0466 J**	**0.281**	**0.328**	**40.5**	NA	NA	NA
Lead	7439-92-1	mg/L	0.015	**0.00250 J**	**0.000630 J**	**0.000697 J**	**0.000789 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA
Magnesium	7439-95-4	mg/L	NV	**175**	**36.4**	**2.91**	**2.92**	**1.32**	**2.14**	**46.8**	**49.7**	**10.6**	NA	NA	NA
Manganese	7439-96-5	mg/L	1.1*	**0.224**	**2.12**	**0.340**	**0.366**	**0.108**	0.00110 UB	**1.82**	**1.96**	**1.90**	NA	NA	NA
Nickel	7440-02-0	mg/L	0.49*	**0.592**	**0.00400 J**	**0.0156**	**0.0159**	**0.00107 J**	<0.00125 U	**0.110**	**0.114**	**0.00104 J**	NA	NA	NA
Potassium	7440-09-7	mg/L	NV	**1.34**	**3.61**	**1.83**	**1.87**	**1.29**	**2.12**	**0.684**	**0.716**	**1.40**	NA	NA	NA
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA
Silver	7440-22-4	mg/L	0.51	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA
Sodium	7440-23-5	mg/L	NV	**876**	**154**	**19.8**	**19.7**	**20.8**	**23.2**	**674**	**730**	**39.0**	NA	NA	NA
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA
Vanadium	7440-62-2	mg/L	0.72	**0.00265 J**	<0.00125 U	**0.00188 J**	**0.00244 J**	<0.00125 U	**0.00771**	**0.000779 J**	**0.000970 J**	**0.000747 J**	NA	NA	NA
Zinc	7440-66-6	mg/L	31	**0.338**	**0.00459 J**	**0.00484 J**	**0.00514**	**0.00427 J**	<0.00250 U	**0.0516**	**0.0536**	**0.00467 J**	NA	NA	NA
Method: SW7470A															
Mercury	7439-97-6	mg/L	0.002	**0.0000470 J**	<0.000100 U	**0.0000420 J**	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA
Method: SW8260															
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	**0.51 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	**0.98 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				18WW17_062023	18WW18_062023	18WW19_062323	18WW19_062323_a	18WW20_062323	18WW22_062123	18WW24_062423	18WW24_062423_a	18WW25_062123	C01_061923	CO1_061923_a	C02_062623
Aquifer Zone			MCL/MSC/ PCL	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow
Well Identification				18WW17	18WW18	18WW19	18WW19	18WW20	18WW22	18WW24	18WW24	18WW25	C-01	C-01	C-02
ANALYTE	CAS NUMBER	UNITS		HS23061459-05	HS23061459-04	HS23061707-01	HS23061707-02	HS23061707-03	HS23061557-01	HS23061821-08	HS23061821-09	HS23061557-06	HS23061372-03	HS23061372-04	HS23061825-06
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 UJ	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	**0.62 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**31**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<0.50 U	<0.50 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	**1.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	**0.94 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	**260**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	**0.42 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Method: SW8270SIM															
1,4-Dioxane	123-91-1	ug/L	9.1	NA	**0.013**	NA	NA	**0.016**	**0.016**	NA	NA	**0.012**	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				C03_062023	C04_062023	C06_062023	C08_061923	C09_061923	C09_062023_a	MW1_062323	MW2_062323	MW3_062623	MW5_060923	MW6_062623	MW7_061423	MW8_061423	MW9_062623
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				C-03	C-04	C-06	C-08	C-09	C-09	MW-1	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8	MW-9
ANALYTE	CAS NUMBER	UNITS		HS23061459-06	HS23061557-02	HS23061459-03	HS23061372-07	HS23061459-01	HS23061459-02	HS23061712-08	HS23061712-07	HS23061825-02	HS23060739-01	HS23061812-05	HS23061096-04	HS23061096-07	HS23061825-04
Method: 6850																	
Perchlorate		µg/L	17*	**23.1**	**0.233**	<0.0500 U	**0.615**	**8.61**	**9.10**	**2160**	**0.0940 J**	**2910**	**22100**	**3140**	**18100**	**4460**	**2490**
Method: SW6020A																	
Aluminum	7429-90-5	mg/L	100	**0.00965 J**	NA	**0.0161**	NA	**0.0356**	**0.0321**	**0.00542 J**	NA	**0.00601 J**	**0.00603 J**	**0.00784 J**	NA	NA	**0.0211**
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	**0.000987 J**	NA	**0.000924 J**	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	<0.00125 U	<0.00125 U	**0.000767 J**	NA	NA	<0.00125 U
Barium	7440-39-3	mg/L	2	**0.803**	NA	**0.864**	NA	**0.155**	**0.156**	**0.494**	NA	**0.176**	**0.928**	**0.452**	NA	NA	**0.137**
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	**0.000276 J**	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U	**0.000827 J**	<0.000500 U	NA	NA	<0.000500 U
Calcium	7440-70-2	mg/L	NV	**32.7**	NA	**18.5**	NA	**63.8**	**64.8**	**24.2**	NA	**16.0**	**22.9**	**20.2**	NA	NA	**14.8**
Chromium	7440-47-3	mg/L	0.1	**0.000748 J**	NA	**0.000556 J**	NA	**0.00618 J**	**0.00326 J**	**0.0218**	NA	**0.00300 J**	**0.129**	**0.0616**	NA	NA	**0.0946**
Cobalt	7440-48-4	mg/L	6.1	**0.000267 J**	NA	**0.00175 J**	NA	**0.000705 J**	**0.000716 J**	**0.0187 J**	NA	**0.000399 J**	**0.00354 J**	**0.00142 J**	NA	NA	**0.0100**
Copper	7440-50-8	mg/L	1.3	<0.00250 U	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	**0.00137 J**	NA	<0.00250 U	**0.00203 J**	**0.00258 J**	NA	NA	**0.00177 J**
Iron	7439-89-6	mg/L	NV	**50.0**	NA	**55.2**	NA	**0.134 J**	**0.119 J**	**0.924**	NA	**0.167 J**	**0.830**	**0.987**	NA	NA	**1.32**
Lead	7439-92-1	mg/L	0.015	<0.00125 U	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	**18.3**	NA	**10.8**	NA	**10.4**	**10.5**	**20.7**	NA	**8.67**	**24.3**	**16.6**	NA	NA	**6.22**
Manganese	7439-96-5	mg/L	1.1*	**0.936**	NA	**0.858**	NA	**0.0576**	**0.0584**	**0.671**	NA	**0.116**	**0.0938**	**0.0409**	NA	NA	**0.217**
Nickel	7440-02-0	mg/L	0.49*	**0.000738 J**	NA	**0.00152 J**	NA	**0.00753**	**0.00777**	**1.36**	NA	**0.00175 J**	**0.0784**	**0.126**	NA	NA	**0.298**
Potassium	7440-09-7	mg/L	NV	**2.51**	NA	**3.84**	NA	**0.376**	**0.374**	**2.14**	NA	**1.17**	**2.33**	**1.86**	NA	NA	**0.399**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**113**	NA	**204**	NA	**39.5**	**40.1**	**190**	NA	**179**	**117**	**169**	NA	NA	**22.5**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	**0.000636 J**	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	<0.00125 U	NA	<0.00125 U	NA	**0.00112 J**	**0.00128 J**	<0.00125 U	NA	<0.00125 U	**0.00310 J**	**0.000777 J**	NA	NA	**0.000691 J**
Zinc	7440-66-6	mg/L	31	**0.00532**	NA	**0.00592**	NA	**0.00321 J**	**0.00425 J**	<0.00250 U	NA	**0.00235 J**	**0.0218**	**0.00627**	NA	NA	**0.00715**
Method: SW7470A																	
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	NA	<0.000100 U	NA	<0.000100 U	<0.000100 U	<0.000100 U	NA	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	<0.000100 U
Method: SW8260																	
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**16 J**	**2.4 J**	**3.1**	**1.5**	<0.50 U	<0.50 U	**0.46 J**
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**620**	<12 U	<2.5 U	<0.50 U	<0.50 U	**19**	**5.9**	**1.5**
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	**0.52 J**	**0.64 J**	<0.50 U	<0.50 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U

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Sample ID				C03_062023	C04_062023	C06_062023	C08_061923	C09_061923	C09_062023_a	MW1_062323	MW2_062323	MW3_062623	MW5_060923	MW6_062623	MW7_061423	MW8_061423	MW9_062623
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				C-03	C-04	C-06	C-08	C-09	C-09	MW-1	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8	MW-9
ANALYTE	CAS NUMBER	UNITS		HS23061459-06	HS23061557-02	HS23061459-03	HS23061372-07	HS23061459-01	HS23061459-02	HS23061712-08	HS23061712-07	HS23061825-02	HS23060739-01	HS23061812-05	HS23061096-04	HS23061096-07	HS23061825-04
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	**0.87 J**	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**21**	**43**	<2.5 U	<0.50 U	<0.50 U	**7.7**	<0.50 U	**1.3**
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**9100 J**	**25000**	**26**	**11**	**4.9**	**9.5**	**14**	**58**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**15 J**	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<0.50 U	<1.0 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<20 U	<25 U	<5.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**74**	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**45**	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**16 J**	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**19 J**	**69**	<2.5 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	<0.50 U	<0.50 U	<0.50 U	**5.2**	<0.50 U	<0.50 U	**9400**	**5400**	**160**	**41**	**15**	**860**	**360**	**930**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**14 J**	**5.2**	**4.1**	**0.92 J**	**0.41 J**	<0.50 U	**0.42 J**
Method: SW8270SIM																	
1,4-Dioxane	123-91-1	ug/L	9.1	**0.015**	NA	NA	<0.0050 U	NA	NA	NA	**1.4**	NA	**0.056**	NA	**0.86**	**0.34**	**0.76**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

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Sample ID				MW10_062123	MW12_062423	MW13_062623	MW14_061323	MW16_062623	MW17_062623	MW18_062323	MW19_062323	MW20_062123	MW21_062623	MW22_062423	MW23_062623	102_061323
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				MW-10	MW-12	MW-13	MW-14	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-102
ANALYTE	CAS NUMBER	UNITS		HS23061557-07	HS23061821-01	HS23061825-05	HS23060999-04	HS23061825-09	HS23061825-08	HS23061707-08	HS23061707-09	HS23061557-08	HS23061812-06	HS23061812-01	HS23061825-03	HS23060999-01
Method: 6850																
Perchlorate		µg/L	17*	<0.0500 U	<0.0500 U	**0.0520 J**	**241000**	<0.0500 U	<0.0500 U	<0.0500 U	<0.0500 U	**0.0494 J**	**1480**	**2230**	**63500**	**57.3**
Method: SW6020A																
Aluminum	7429-90-5	mg/L	100	NA	NA	**0.0346**	**0.148**	NA	NA	NA	**1.35**	**0.661**	**0.00808 J**	**0.00626 J**	NA	**1.22**
Antimony	7440-36-0	mg/L	0.006	NA	NA	<0.00125 UJ	<0.00125 U	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	**0.000465 J**	NA	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	NA	NA	<0.00125 U	**0.00178 J**	NA	NA	NA	**0.00223 J**	<0.00125 U	<0.00125 U	**0.000631 J**	NA	**0.000461 J**
Barium	7440-39-3	mg/L	2	NA	NA	**0.451**	**0.238**	NA	NA	NA	**0.189**	**0.437**	**2.47**	**0.542**	NA	**0.0501**
Beryllium	7440-41-7	mg/L	0.004	NA	NA	<0.000500 U	**0.00194 J**	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	**0.000279 J**
Cadmium	7440-43-9	mg/L	0.005	NA	NA	<0.000500 U	**0.000805 J**	NA	NA	NA	**0.000512 J**	**0.000211 J**	**0.000326 J**	<0.000500 U	NA	<0.000500 U
Calcium	7440-70-2	mg/L	NV	NA	NA	**25.1**	**112**	NA	NA	NA	**116**	**52.3**	**95.0**	**66.9**	NA	**1.07**
Chromium	7440-47-3	mg/L	0.1	NA	NA	**0.227**	**0.0383**	NA	NA	NA	**0.302**	**0.00848**	**0.233**	**0.131**	NA	**0.00159 J**
Cobalt	7440-48-4	mg/L	6.1	NA	NA	**0.000449 J**	**0.0254**	NA	NA	NA	**0.00792**	**0.00625**	**0.0266**	**0.00169 J**	NA	**0.00130 J**
Copper	7440-50-8	mg/L	1.3	NA	NA	**0.00312 J**	**0.00454 J**	NA	NA	NA	**0.00743**	**0.00345 J**	**0.00873**	**0.00296 J**	NA	**0.00216 J**
Iron	7439-89-6	mg/L	NV	NA	NA	**93.3**	**108**	NA	NA	NA	**86.7**	**0.981**	**2.10**	**3.99**	NA	**1.34**
Lead	7439-92-1	mg/L	0.015	NA	NA	<0.00125 U	<0.00125 U	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	**0.00120 J**
Magnesium	7439-95-4	mg/L	NV	NA	NA	**12.5**	**70.5**	NA	NA	NA	**67.4**	**12.8**	**72.5**	**21.8**	NA	**0.940**
Manganese	7439-96-5	mg/L	1.1*	NA	NA	**1.07**	**4.74**	NA	NA	NA	**2.13**	**0.121**	**0.809**	**0.0115**	NA	**0.0105**
Nickel	7440-02-0	mg/L	0.49*	NA	NA	**0.0365**	**0.0901**	NA	NA	NA	**0.186**	**0.363**	**0.547**	**0.507**	NA	**0.00327 J**
Potassium	7440-09-7	mg/L	NV	NA	NA	**3.35**	**11.9**	NA	NA	NA	**3.97**	**0.522**	**1.60**	**1.78**	NA	**0.420**
Selenium	7782-49-2	mg/L	0.05	NA	NA	<0.00250 U	<0.00250 U	NA	NA	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	<0.00250 U
Silver	7440-22-4	mg/L	0.51	NA	NA	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U
Sodium	7440-23-5	mg/L	NV	NA	NA	**87.4**	**482**	NA	NA	NA	**931**	**39.8**	**324**	**321**	NA	**10.9**
Thallium	7440-28-0	mg/L	0.002	NA	NA	**0.000522 J**	<0.000500 U	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	NA	NA	**0.000753 J**	<0.00125 U	NA	NA	NA	**0.00298 J**	**0.000683 J**	**0.00108 J**	**0.000717 J**	NA	**0.00951**
Zinc	7440-66-6	mg/L	31	NA	NA	**0.00519**	**0.378**	NA	NA	NA	**0.0101**	**0.00310 J**	**0.00812**	<0.00250 U	NA	**0.0110**
Method: SW7470A																
Mercury	7439-97-6	mg/L	0.002	NA	NA	<0.000100 U	<0.000100 U	NA	NA	NA	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	<0.000100 U
Method: SW8260																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	**11**	<0.50 U	<5.0 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	**1.7**	<0.50 U	**42**	**1.2**	NA	<0.50 U	<0.50 U	<0.50 U	**7.6**	<0.50 U	<5.0 U	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	**3.8**	<0.50 U	**220**	**6.8**	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	**1.4**	<0.50 U	**210**	**40**	NA	<0.50 U	**0.57 J**	<0.50 U	**22**	**7.1**	**81**	<0.50 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				MW10_062123	MW12_062423	MW13_062623	MW14_061323	MW16_062623	MW17_062623	MW18_062323	MW19_062323	MW20_062123	MW21_062623	MW22_062423	MW23_062623	102_061323
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				MW-10	MW-12	MW-13	MW-14	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-102
ANALYTE	CAS NUMBER	UNITS		HS23061557-07	HS23061821-01	HS23061825-05	HS23060999-04	HS23061825-09	HS23061825-08	HS23061707-08	HS23061707-09	HS23061557-08	HS23061812-06	HS23061812-01	HS23061825-03	HS23060999-01
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 UJ	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	**6.1 J**	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	**11**	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	**13**	**2.5**	**9.3 J**	<0.50 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	<0.50 U	**30**	<0.50 U	**2100**	**23**	NA	<0.50 U	**4.4**	<0.50 U	**4400**	**4.1**	**21**	<0.50 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<1.0 U	<1.0 U	<10 U	<1.0 U	NA	<1.0 U	<1.0 U	<1.0 U	<5.0 U	<1.0 U	<10 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<5.0 U	**0.66 J**	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	**29**	**0.54 J**	NA	<0.50 U	<0.50 U	<0.50 U	**15**	<0.50 U	<5.0 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	**1.3**	**270**	<0.50 U	**15000**	**540**	NA	**4.6**	**2.5**	<0.50 U	**4700**	**320**	**2600**	<0.50 U
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	**0.56 J**	<0.50 U	**16**	**0.87 J**	NA	<0.50 U	<0.50 U	<0.50 U	**32**	<0.50 U	<5.0 U	<0.50 U
Method: SW8270SIM																
1,4-Dioxane	123-91-1	ug/L	9.1	**0.039**	NA	NA	**10 J**	**5.1**	**0.084**	NA	NA	NA	**0.46**	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				109_062623	120_061323	125_062623	126_061923	129_062623	130_061423	130_061423_a	1824DPTMW01_062023	1824DPTMW01_062023_a	1824DPTMW02_061923	1824DPTMW03_062023	1824DPTMW04_061923	1824DPTMW05_062223
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				MW-109	MW-120	MW-125	MW-126	MW-129	MW-130	MW-130	1824DPTMW01	1824DPTMW01	1824DPTMW02	1824DPTMW03	1824DPTMW04	1824DPTMW05
ANALYTE	CAS NUMBER	UNITS		HS23061812-07	HS23060999-03	HS23061825-01	HS23061372-05	HS23061812-04	HS23061096-05	HS23061096-06	HS23061459-09	HS23061459-10	HS23061372-09	HS23061459-07	HS23061372-08	HS23061712-01
Method: 6850																
Perchlorate		µg/L	17*	**2870**	**11900**	**4680**	**0.104**	**1820**	**1.17**	**1.37**	**2.59**	**2.85**	**86100**	<0.0500 U	**1.03**	**199000**
Method: SW6020A																
Aluminum	7429-90-5	mg/L	100	**0.231**	NA	**0.166**	**0.0280**	**1.07**	**0.159 J**	**0.544 J**	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	NA	<0.00125 U	**0.000502 J**	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	mg/L	0.01	<0.00125 U	NA	<0.00125 U	**0.0120**	<0.00125 U	**0.00238 J**	**0.00311 J**	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	mg/L	2	**0.235**	NA	**0.0690**	**10.1**	**0.0976**	**0.162**	**0.193**	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	mg/L	0.005	<0.000500 U	NA	**0.000456 J**	**0.000701 J**	<0.000500 U	<0.000500 U	**0.000213 J**	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	mg/L	NV	**11.3**	NA	**1.35**	**329**	**3.87**	**36.2**	**44.0**	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3	mg/L	0.1	**0.00151 J**	NA	**0.00206 J**	**0.00204 J**	**0.00182 J**	**0.00210 J**	**0.00254 J**	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	mg/L	6.1	**0.000240 J**	NA	**0.000549 J**	**0.0150**	**0.000740 J**	**0.0196**	**0.0234**	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	mg/L	1.3	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U	**0.00355 J**	**0.00143 J**	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	mg/L	NV	**0.228**	NA	**0.205**	**10.9**	**0.494**	**3.18**	**3.94**	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	mg/L	0.015	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	**0.000749 J**	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	mg/L	NV	**8.14**	NA	**1.08**	**265**	**2.97**	**24.1**	**28.9**	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	mg/L	1.1*	**0.0201**	NA	**0.0123**	**0.140**	**0.0170**	**1.03**	**1.23**	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	mg/L	0.49*	**0.00150 J**	NA	**0.00234 J**	**0.0124**	**0.00288 J**	**0.00795**	**0.00909**	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	mg/L	NV	**0.457**	NA	**0.478**	**4.32**	**0.298**	**0.810**	**0.976**	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	mg/L	0.51	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	mg/L	NV	**98.0**	NA	**32.3**	**896**	**62.0**	**518**	**551**	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	**0.000798 J**	<0.000500 U	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	mg/L	0.72	**0.000734 J**	NA	<0.00125 U	**0.00198 J**	**0.00139 J**	**0.000729 J**	**0.00189 J**	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	mg/L	31	**0.00858**	NA	**0.00506**	**0.0295**	**0.00478 J**	**0.0102**	**0.00950**	NA	NA	NA	NA	NA	NA
Method: SW7470A																
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	NA	<0.000100 U	0.0000600 UB	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA	NA	NA	NA
Method: SW8260																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<10 U	**13 J**	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.69 J**	<0.50 U	<0.50 U	<12 U
1,1-Dichloroethene	75-35-4	µg/L	7	<10 U	**85**	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,2-Dichloroethane	107-06-2	µg/L	5	<10 U	**28**	<2.5 U	<0.50 U	**9.1**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**84**
1,2-Dichloropropane	78-87-5	µg/L	5	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,3-Dichloropropane	142-28-9	µg/L	29	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
2,2-Dichloropropane	594-20-7	µg/L	42	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
2-Butanone	78-93-3	µg/L	61,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
2-Hexanone	591-78-6	µg/L	6,100	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				109_062623	120_061323	125_062623	126_061923	129_062623	130_061423	130_061423_a	1824DPTMW01_062023	1824DPTMW01_062023_a	1824DPTMW02_061923	1824DPTMW03_062023	1824DPTMW04_061923	1824DPTMW05_062223
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				MW-109	MW-120	MW-125	MW-126	MW-129	MW-130	MW-130	1824DPTMW01	1824DPTMW01	1824DPTMW02	1824DPTMW03	1824DPTMW04	1824DPTMW05
ANALYTE	CAS NUMBER	UNITS		HS23061812-07	HS23060999-03	HS23061825-01	HS23061372-05	HS23061812-04	HS23061096-05	HS23061096-06	HS23061459-09	HS23061459-10	HS23061372-09	HS23061459-07	HS23061372-08	HS23061712-01
4-Chlorotoluene	106-43-4	µg/L	2,000	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Acetone	67-64-1	µg/L	92,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Benzene	71-43-2	µg/L	5	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Bromobenzene	108-86-1	µg/L	2,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Bromochloromethane	74-97-5	µg/L	4,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Bromodichloromethane	75-27-4	µg/L	4.6	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Bromoform	75-25-2	µg/L	36	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Bromomethane	74-83-9	µg/L	140	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Carbon disulfide	75-15-0	µg/L	10,000	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Carbon tetrachloride	56-23-5	µg/L	5	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**27**
Chlorobenzene	108-90-7	µg/L	100	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Chloroethane	75-00-3	µg/L	41,000	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Chloroform	67-66-3	µg/L	1,000	<5.0 U	**16 J**	<2.5 U	<0.50 U	**4.2 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.6**	<0.50 U	<0.50 U	**34**
Chloromethane	74-87-3	µg/L	220	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**710**	**960**	<2.5 U	<0.50 U	**5.7**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**12**	<0.50 U	<0.50 U	**82**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Dibromochloromethane	124-48-1	µg/L	34	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Dibromomethane	74-95-3	µg/L	380	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Ethylbenzene	100-41-4	µg/L	700	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Hexachlorobutadiene	87-68-3	µg/L	20	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Isopropylbenzene	98-82-8	µg/L	10,000	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<20 U	<25 U	<5.0 U	<1.0 U	<5.0 U	<1.0 U	<1.0 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	<1.0 U	<25 U
Methylene chloride	75-09-2	µg/L	5	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Naphthalene	91-20-3	µg/L	2,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
n-Butylbenzene	104-51-8	µg/L	4,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
n-Propylbenzene	103-65-1	µg/L	4,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
o-Xylene	95-47-6	µg/L	10,000**	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Styrene	100-42-5	µg/L	100	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Tetrachloroethene	127-18-4	µg/L	5	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Toluene	108-88-3	µg/L	1,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.46 J**	<0.50 U	<0.50 U	<12 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Trichloroethene	79-01-6	µg/L	5	**1200**	**7500**	<2.5 U	<0.50 U	**680**	**1.1**	**1.1**	<0.50 U	<0.50 U	**200**	<0.50 U	<0.50 U	**5100**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<5.0 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U
Vinyl chloride	75-01-4	µg/L	2	<10 U	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.3**	<0.50 U	<0.50 U	<12 U
Method: SW8270SIM																
1,4-Dioxane	123-91-1	ug/L	9.1	**0.11**	**120**	NA	**0.027**	**0.31**	NA	NA	**0.018**	**0.026**	**0.089**	**0.020**	**0.026**	**8.8**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				1824DPTMW06_062423	ICT2_062723	ICT4_062723	ICT4_062723_a	ICT7_062723	ICT8_062723	ICT11_062723	ICT12A_062723	ICT12B_062723	ICT12C_062723	ICT12D_062723	ICT12E_062723	ICT13A_062723	ICT13B_062723
Aquifer Zone			MCL/MSC/ PCL	Shallow	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Identification				1824DPTMW06	ICT2	ICT4	ICT4	ICT7	ICT8	ICT11	ICT12A	ICT12B	ICT12C	ICT12D	ICT12E	ICT13A	ICT13B
ANALYTE	CAS NUMBER	UNITS		HS23061821-02	HS23061925-01	HS23061925-02	HS23061925-03	HS23061925-04	HS23061925-05	HS23061925-06	HS23061925-07	HS23061925-08	HS23061925-09	HS23061925-10	HS23061925-11	HS23061925-12	HS23061925-13
Method: 6850																	
Perchlorate		µg/L	17*	**9.56**	**0.0445 J**	**5500 J**	**7980 J**	**8780**	**17.5**	**3290**	**12700**	**5060**	**703**	**8.95**	**6100**	**35.5**	**1040**
Method: SW6020A																	
Aluminum	7429-90-5	mg/L	100	NA	**1.01**	**0.0143 J**	**0.00573 J**	**0.151**	**0.212**	**0.00913 J**	**0.0673**	**0.0119**	**0.108**	**0.0266**	**0.0753**	**0.310**	**0.00338 J**
Antimony	7440-36-0	mg/L	0.006	NA	**0.000580 J**	<0.00125 U	<0.00125 U	<0.00125 U	**0.000716 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	**0.00132 J**	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	NA	**0.00359 J**	**0.00120 J**	**0.000451 J**	<0.00125 U	**0.00647**	**0.000481 J**	**0.000455 J**	**0.000873 J**	**0.00316 J**	**0.00496 J**	**0.00103 J**	**0.00394 J**	<0.00125 U
Barium	7440-39-3	mg/L	2	NA	**0.128**	**0.114**	**0.135**	**0.205**	**0.402**	**0.157**	**0.711**	**0.190**	**0.0947**	**0.0768**	**0.0959**	**0.0890**	**0.103**
Beryllium	7440-41-7	mg/L	0.004	NA	<0.000500 U	<0.000500 U	<0.000500 U	**0.000219 J**	**0.000343 J**	<0.000500 U	**0.00283**	<0.000500 U	**0.000472 J**	<0.000500 U	**0.000281 J**	<0.000500 U	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	NA	<0.000500 U	<0.000500 U	**0.000256 J**	**0.000207 J**	**0.000681 J**	<0.000500 U	**0.00161 J**	<0.000500 U	<0.000500 U	**0.000301 J**	<0.000500 U	**0.000288 J**	<0.000500 U
Calcium	7440-70-2	mg/L	NV	NA	**8.49**	**22.3**	**28.4**	**13.0**	**12.0**	**6.57**	**14.6**	**17.9**	**4.54**	**6.34**	**4.83**	**8.20**	**8.86**
Chromium	7440-47-3	mg/L	0.1	NA	**0.0230**	**0.285 J**	**0.0402 J**	**0.117**	**0.673**	**0.0687**	**0.364**	**0.0832**	**1.37**	**0.192**	**0.0351**	**0.139**	**0.000462 J**
Cobalt	7440-48-4	mg/L	6.1	NA	**0.0294**	**0.00772 J**	**0.00534 J**	**0.0128**	**0.00167 J**	**0.000274 J**	**0.0103**	**0.00151 J**	**0.00272 J**	**0.0117**	**0.00810**	**0.0347**	**0.00265 J**
Copper	7440-50-8	mg/L	1.3	NA	**0.0422**	**0.0187**	**0.00219 J**	**0.00517**	**0.279**	**0.0206**	**0.0718**	**0.110**	**0.144**	**2.23**	**0.0226**	**0.0270**	**0.00114 J**
Iron	7439-89-6	mg/L	NV	NA	**4.78**	**2.49 J**	**0.696 J**	**2.75**	**16.6**	**0.532**	**2.98**	**1.55**	**17.9**	**36.2**	**1.94**	**24.5**	**0.154 J**
Lead	7439-92-1	mg/L	0.015	NA	**0.00553**	**0.000941 J**	<0.00125 U	<0.00125 U	**0.00157 J**	<0.00125 U	**0.00891**	**0.00108 J**	**0.00316 J**	**0.0281**	**0.00402 J**	<0.00125 U	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	NA	**8.17**	**19.2**	**24.1**	**10.5**	**9.58**	**4.93**	**12.9**	**9.42**	**3.12**	**6.91**	**4.12**	**8.21**	**11.1**
Manganese	7439-96-5	mg/L	1.1*	NA	**0.586**	**0.154 J**	**0.200 J**	**0.386**	**0.217**	**0.00996**	**0.205**	**0.114**	**0.111**	**0.639**	**0.217**	**0.631**	**0.291 J**
Nickel	7440-02-0	mg/L	0.49*	NA	**0.0372**	**0.686 J**	**0.252 J**	**0.653**	**0.0508**	**0.0574**	**0.848**	**0.110**	**0.175**	**0.302**	**0.0414**	**0.159**	**0.00579 J**
Potassium	7440-09-7	mg/L	NV	NA	**1.56**	**1.59**	**1.54**	**1.23**	**1.10**	**0.727**	**1.06**	**0.807**	**0.404**	**0.651**	**0.502**	**1.25**	**1.72**
Selenium	7782-49-2	mg/L	0.05	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.00188 J**	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	NA	**83.3**	**176**	**176**	**41.6**	**59.4**	**50.1**	**79.0**	**76.1**	**50.1**	**104**	**74.1**	**113**	**52.0**
Thallium	7440-28-0	mg/L	0.002	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	NA	**0.00275 J**	**0.00264 J**	**0.000798 J**	<0.00125 U	**0.00919**	**0.00102 J**	**0.00123 J**	**0.00211 J**	**0.0131**	**0.000679 J**	<0.00125 U	**0.00653**	<0.00125 U
Zinc	7440-66-6	mg/L	31	NA	**0.0325**	**0.147 J**	**0.0611 J**	**0.0770**	**1.06**	**0.0961**	**0.188**	**0.0219**	**0.180**	**10.9**	**0.113**	**0.394**	**0.0100 J**
Method: SW7470A																	
Mercury	7439-97-6	mg/L	0.002	NA	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	**0.0000390 J**	<0.000100 U	<0.000100 U	<0.000100 U
Method: SW8260																	
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	**0.51 J**	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	**0.98 J**	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	**10 J**	<2.5 U	**51**	**19**	**4.3**	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	**87**	**15**	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	**1.5**	**4.5**	**140 J**	**330 J**	<0.50 U	**28**	<10 U	**1.8**	**27**	**14**	**91**	**32**	**55**	**9.5 J**
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<1.0	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U

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Sample ID				1824DPTMW06_062423	ICT2_062723	ICT4_062723	ICT4_062723_a	ICT7_062723	ICT8_062723	ICT11_062723	ICT12A_062723	ICT12B_062723	ICT12C_062723	ICT12D_062723	ICT12E_062723	ICT13A_062723	ICT13B_062723
Aquifer Zone			MCL/MSC/ PCL	Shallow	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Identification				1824DPTMW06	ICT2	ICT4	ICT4	ICT7	ICT8	ICT11	ICT12A	ICT12B	ICT12C	ICT12D	ICT12E	ICT13A	ICT13B
ANALYTE	CAS NUMBER	UNITS		HS23061821-02	HS23061925-01	HS23061925-02	HS23061925-03	HS23061925-04	HS23061925-05	HS23061925-06	HS23061925-07	HS23061925-08	HS23061925-09	HS23061925-10	HS23061925-11	HS23061925-12	HS23061925-13
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	<0.50 UJ	<0.50 U	<5.0 U	**11**	<0.50 U	<12 U	<10 U	**1.7**	<12 U	<2.5 U	<25 U	**11**	**1.4**	<0.50 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**4.8**	**78**	**1600 J**	**3600 J**	**2.7**	**1000**	**59**	**4.9**	**1400**	**230**	**12000**	**3400**	**330**	**28 J**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<1.0 U	<10 U	<10 U	<1.0 U	<25 U	<20 U	<1.0 U	<25 U	<5.0 U	<50 U	<10 U	<1.0 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	**420**	<5.0 U	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	**56**	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	**2.4**	<0.50 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	**0.44 J**	**8.9 J**	**25 J**	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	**27 J**	**9.5 J**	**2.7**	**0.49 J**
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	**3.9**	**8.2**	**2800 J**	**6200 J**	**13**	**1500**	**250**	**360**	**4300**	**930**	**24000**	**7500**	**1100**	**290 J**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	**0.46 J**	**8.4 J**	**55 J**	<0.50 U	**210**	<10 U	<0.50 U	**48**	<2.5 U	**280**	**60**	**13**	**0.50 J**
Method: SW8270SIM																	
1,4-Dioxane	123-91-1	ug/L	9.1	**2.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				ICT13B_062723_a	ICT13C_062723	ICT13D_062723	ICT13E_062723	ICT13F_062723	ICT14A_062723	ICT14B_062723	ICT14C_062723	ICT14D_062723	ICT14E_062723
Aquifer Zone			MCL/MSC/ PCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Identification				ICT13B	ICT13C	ICT13D	ICT13E	ICT13F	ICT14A	ICT14B	ICT14C	ICT14D	ICT14E
ANALYTE	CAS NUMBER	UNITS		HS23061925-14	HS23061925-15	HS23061925-16	HS23061925-17	HS23061925-18	HS23061925-19	HS23061925-20	HS23061925-21	HS23061925-22	HS23061925-23
Method: 6850													
Perchlorate		µg/L	17*	**983**	**82200**	**16.0**	**2770**	**2.50**	**118**	**4210**	**683**	**76.2**	**2810**
Method: SW6020A													
Aluminum	7429-90-5	mg/L	100	**0.00678 J**	**0.0138**	**0.216**	**1.14**	**0.290**	**0.0189**	**0.00787 J**	**0.00889 J**	**0.0325**	**0.0999**
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	**0.000423 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	**0.000495 J**	**0.000657 J**	**0.000517 J**	**0.000407 J**	**0.00110 J**	**0.000463 J**	**0.000873 J**	**0.0105**	**0.0390**	**0.00200 J**
Barium	7440-39-3	mg/L	2	**0.109**	**0.176**	**0.0441**	**0.115**	**0.0719**	**0.0623**	**0.174**	**2.34**	**2.97**	**1.90**
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000240 J**	**0.000271 J**	<0.000500 U	<0.000500 U	**0.000470 J**	**0.000208 J**
Cadmium	7440-43-9	mg/L	0.005	<0.000500 U	**0.000696 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000333 J**	<0.000500 U	**0.000701 J**
Calcium	7440-70-2	mg/L	NV	**7.95**	**103**	**1.37**	**3.61**	**1.14**	**1.85**	**7.48**	**97.7**	**103**	**70.5**
Chromium	7440-47-3	mg/L	0.1	**0.00136 J**	**0.00441 J**	**0.00442 J**	**0.0618**	**0.00738**	**0.00223 J**	**0.0784**	**0.0365**	**0.0854**	**0.192**
Cobalt	7440-48-4	mg/L	6.1	**0.00162 J**	**0.00304 J**	**0.00410 J**	**0.00281 J**	**0.00145 J**	**0.00135 J**	**0.00195 J**	**0.0507**	**0.0129**	**0.0180**
Copper	7440-50-8	mg/L	1.3	**0.00537 J**	**0.0158**	**0.0474**	**0.0106**	**0.00442 J**	<0.00250 U	**0.0163**	**0.00251 J**	**0.0606**	**0.0652**
Iron	7439-89-6	mg/L	NV	**0.567 J**	**0.495**	**1.06**	**1.29**	**2.19**	**1.10**	**2.01**	**26.2**	**70.3**	**17.1**
Lead	7439-92-1	mg/L	0.015	<0.00125 U	**0.00117 J**	**0.0104**	<0.00125 U	**0.00198 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	**9.79**	**96.4**	**1.51**	**3.99**	**1.00**	**1.78**	**7.28**	**77.6**	**70.7**	**57.7**
Manganese	7439-96-5	mg/L	1.1*	**0.174 J**	**0.700**	**0.0842**	**0.0342**	**0.0170**	**0.0377**	**0.0487**	**2.56**	**2.64**	**0.626**
Nickel	7440-02-0	mg/L	0.49*	**0.0168 J**	**0.0849**	**0.0137**	**0.136**	**0.00442 J**	**0.00757**	**0.133**	**0.0831**	**0.216**	**0.339**
Potassium	7440-09-7	mg/L	NV	**1.53**	**1.30**	**0.497**	**1.60**	**1.28**	**0.609**	**0.379**	**1.01**	**0.951**	**1.23**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**51.7**	**529**	**19.0**	**26.9**	**4.19**	**22.1**	**69.9**	**208**	**318**	**231**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	<0.00125 U	**0.000694 J**	**0.00161 J**	**0.00235 J**	**0.00501**	**0.00108 J**	**0.00198 J**	<0.00125 U	**0.000803 J**	**0.00250 J**
Zinc	7440-66-6	mg/L	31	**0.0176 J**	**0.0616**	**0.0545**	**0.0682**	**0.0535**	**0.0140**	**0.206**	**0.0213**	**0.143**	**0.236**
Method: SW7470A													
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U
Method: SW8260													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**6.3 J**	<12 U	<5.0 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.87 J**	**10**	**39**	<5.0 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dichloroethane	107-06-2	µg/L	5	**22 J**	**19**	**1.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U

LHAAP-18/24 Groundwater Analytical Results - June 2023

Sample ID				ICT13B_062723_a	ICT13C_062723	ICT13D_062723	ICT13E_062723	ICT13F_062723	ICT14A_062723	ICT14B_062723	ICT14C_062723	ICT14D_062723	ICT14E_062723
Aquifer Zone			MCL/MSC/ PCL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Identification				ICT13B	ICT13C	ICT13D	ICT13E	ICT13F	ICT14A	ICT14B	ICT14C	ICT14D	ICT14E
ANALYTE	CAS NUMBER	UNITS		HS23061925-14	HS23061925-15	HS23061925-16	HS23061925-17	HS23061925-18	HS23061925-19	HS23061925-20	HS23061925-21	HS23061925-22	HS23061925-23
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Benzene	71-43-2	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Chloroform	67-66-3	µg/L	1,000	**0.62 J**	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.71 J**	**29**	<12 U	<5.0 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**86 J**	**280**	**13**	**1.1**	<0.50 U	**23**	**130**	**9000**	**20000 J**	**67**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	**18 J**	<5.0 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<10 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<10 U	<25 U	<10 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	**4900**	<5.0 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Styrene	100-42-5	µg/L	100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	**15**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**14**	**21 J**	<5.0 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	**0.92 J**	**5.7 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.5**	**44**	**82**	<5.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Trichloroethene	79-01-6	µg/L	5	**570 J**	**1900**	**31**	**2.9**	<0.50 U	**14**	**350**	**9300**	**980**	**1600**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Vinyl chloride	75-01-4	µg/L	2	**1.1 J**	**10**	**0.41 J**	<0.50 U	<0.50 U	**0.44 J**	**1.9**	**510**	**4100**	**31**
Method: SW8270SIM													
1,4-Dioxane	123-91-1	ug/L	9.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

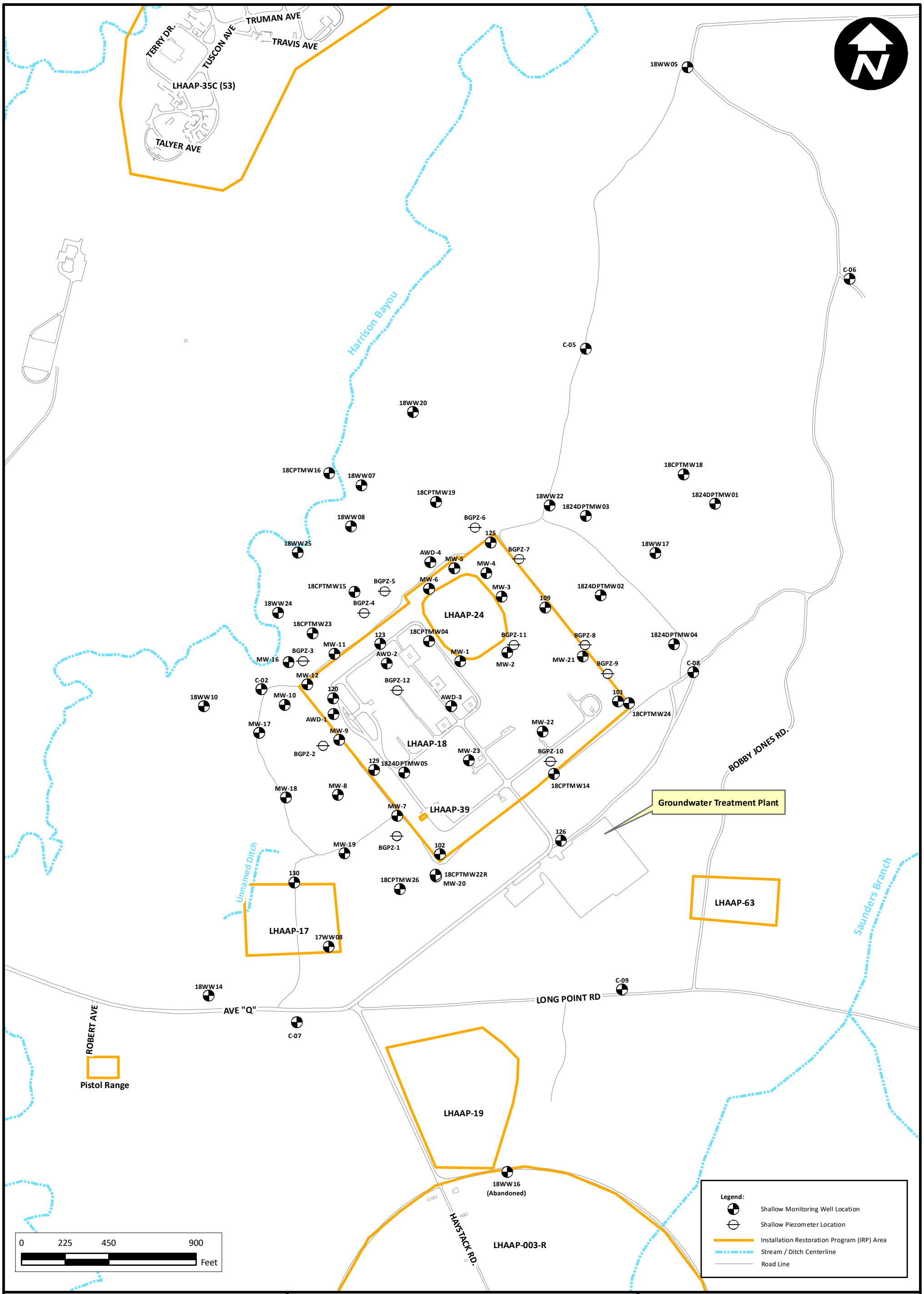
U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level



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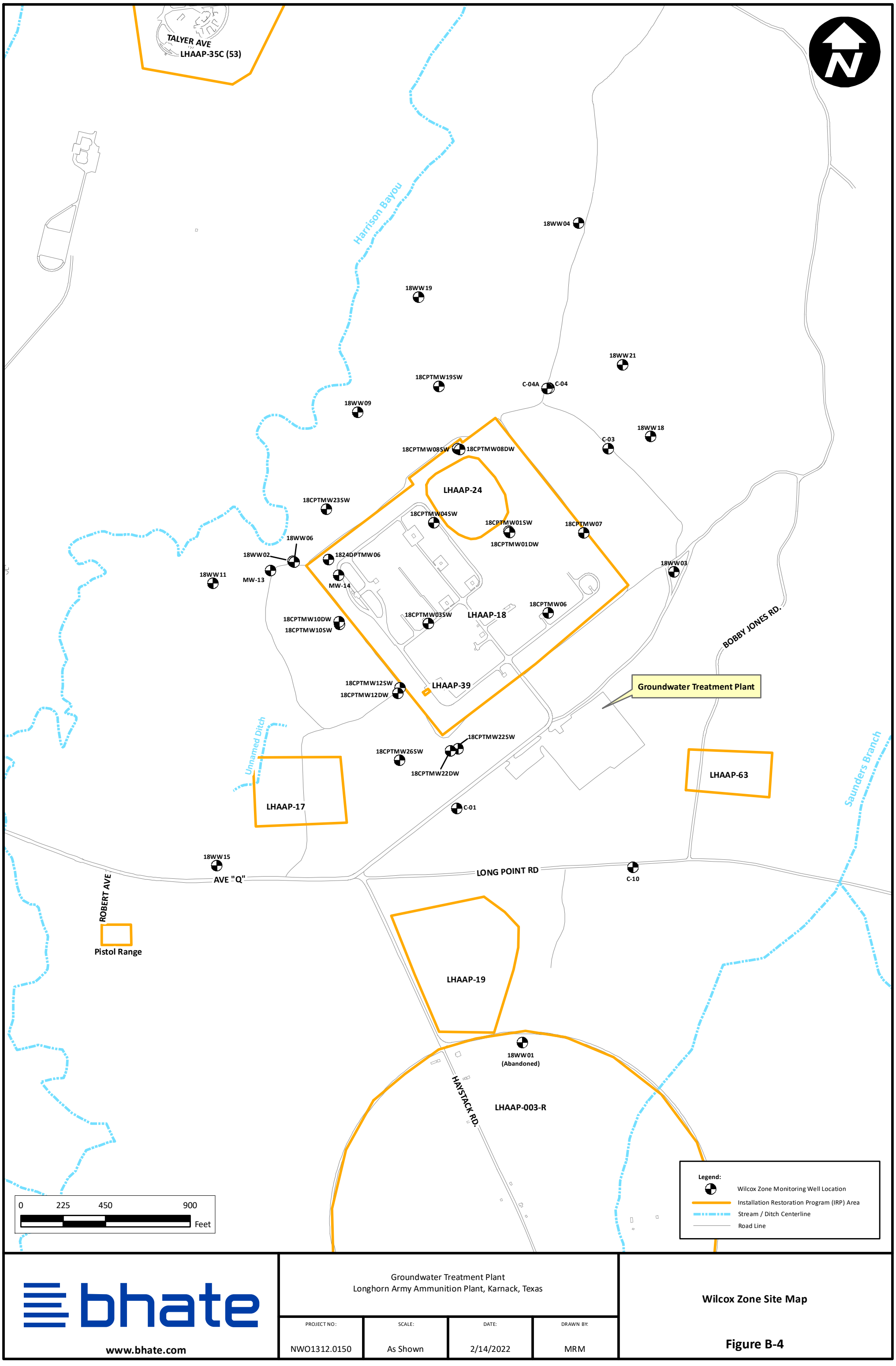
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
NWO1312.0150	As Shown	2/14/2022	MRM

Shallow Zone Site Map

Figure B-1



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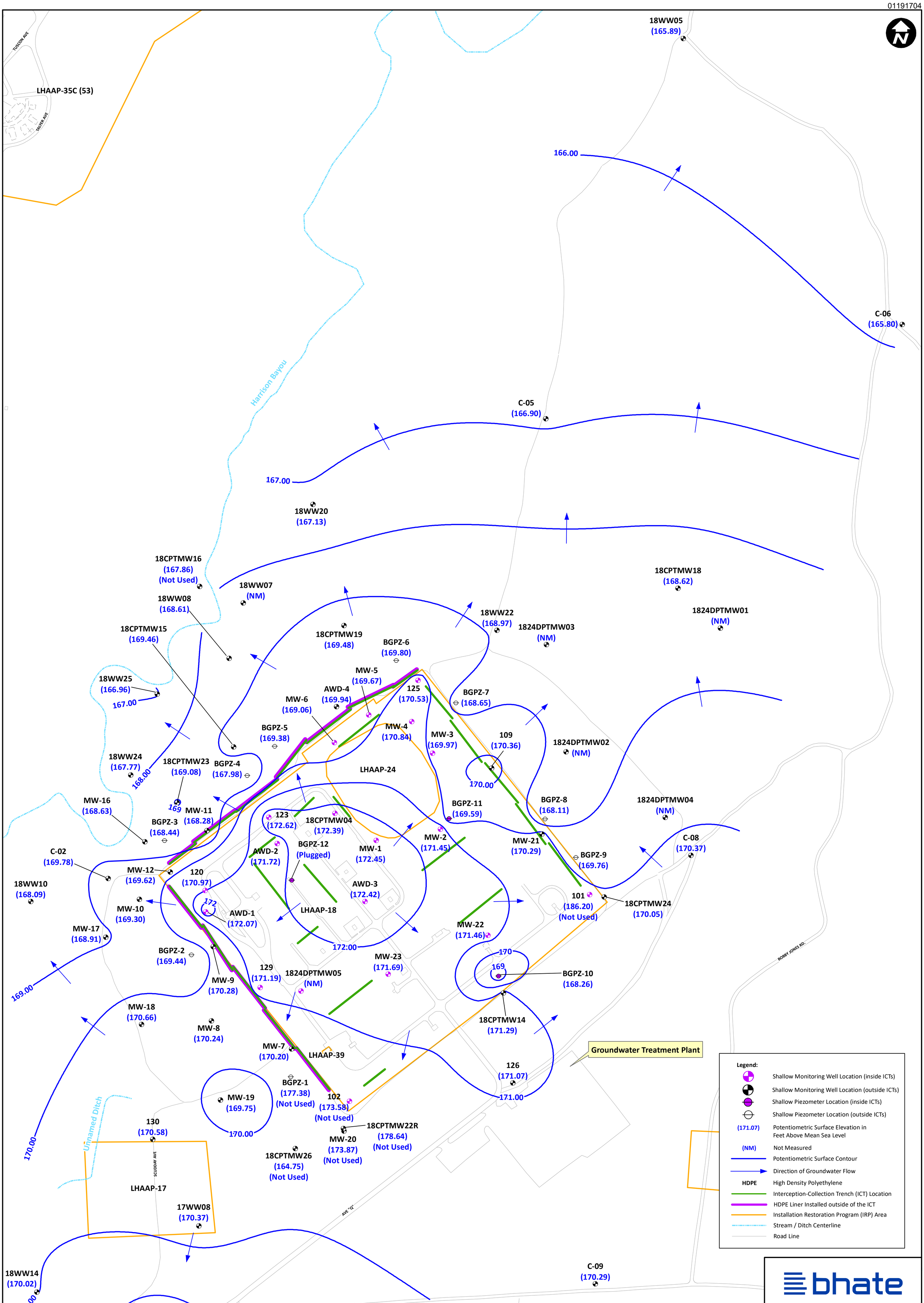
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
NWO1312.0150	As Shown	2/14/2022	MRM

Wilcox Zone Site Map

Figure B-4

01191704



Legend:

- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (171.07) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- (NM) Not Measured
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

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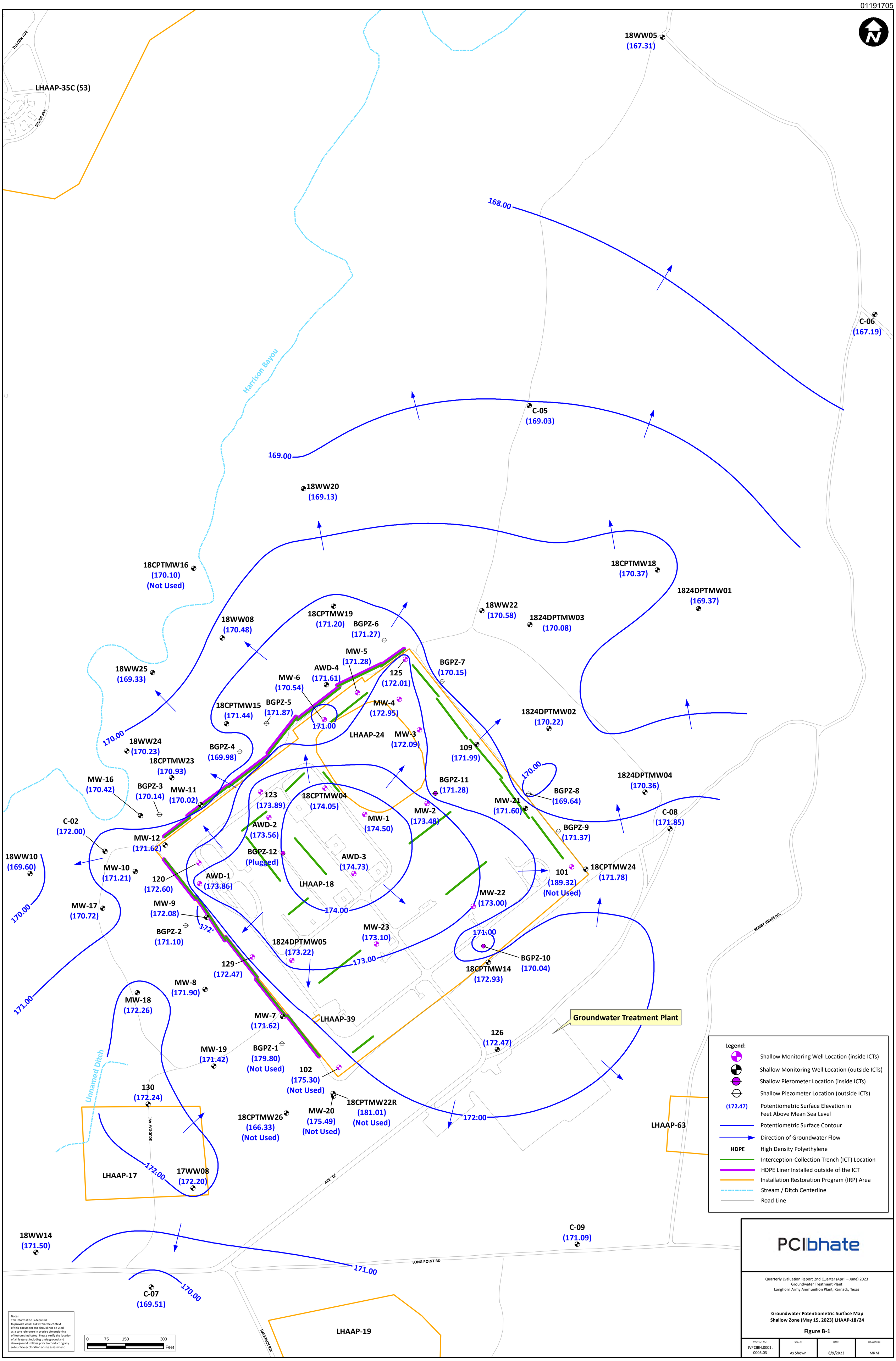
Quarterly Evaluation Report 1st Quarter (January – March) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (January 31, 2023) LHAAP-18/24

Figure B-1

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
NWO1312.0150	As Shown	4/27/2023	MRM

01191705



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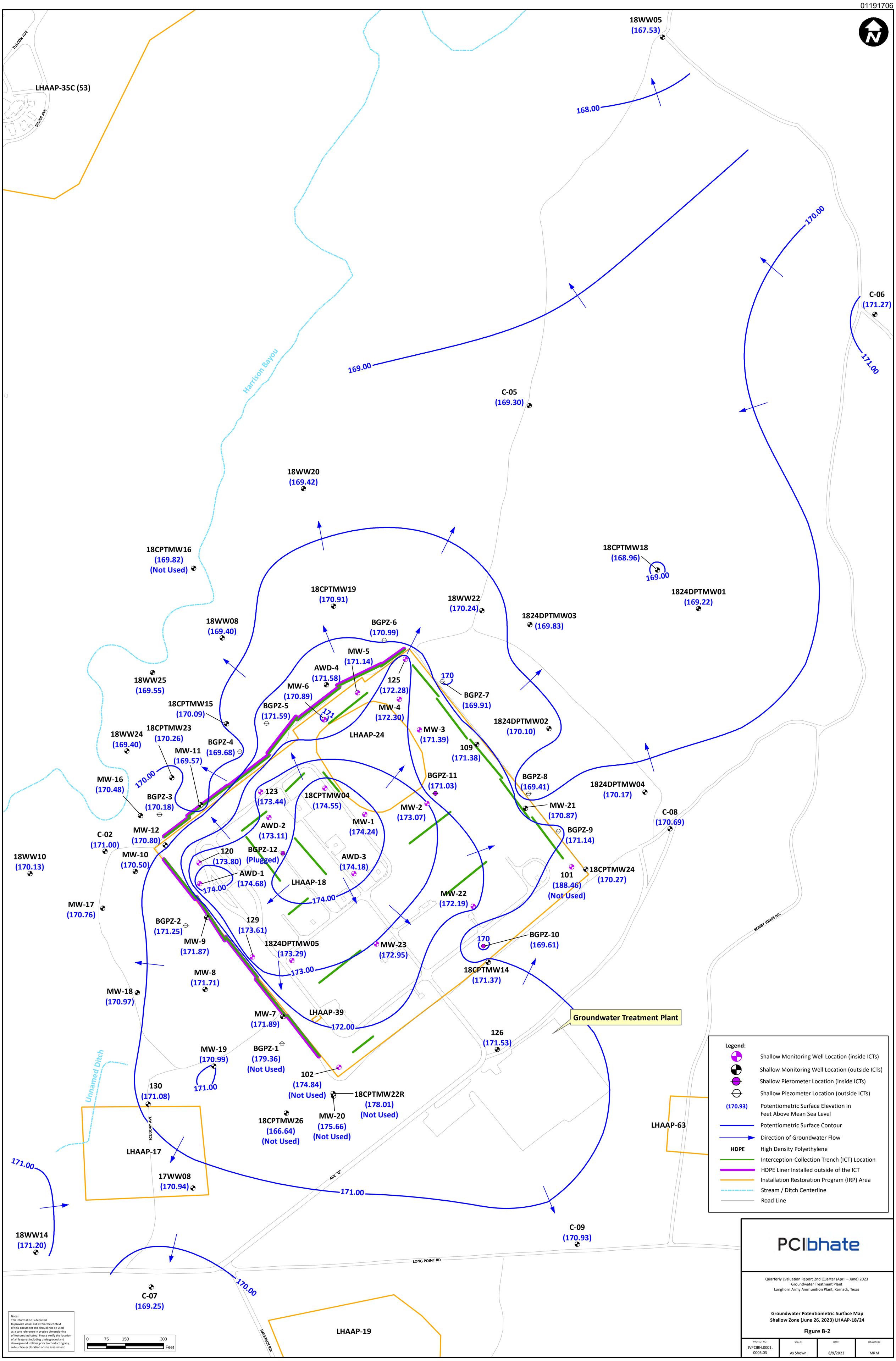
Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (May 15, 2023) LHAAP-18/24

Figure B-1

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/9/2023	MRM

01191706


18WW05
(167.53)
LHAAP-35C (53)
TUSCON AVE
TALVEZ AVE
168.00
169.00
170.00
171.00
Harrison Bayou
C-05
(169.30)
C-06
(171.27)
18WW20
(169.42)
18CPTMW16
(169.82)
(Not Used)
18CPTMW19
(170.91)
18WW22
(170.24)
18CPTMW18
(168.96)
169.00
1824DPTMW01
(169.22)
18WW08
(169.40)
BGPZ-6
(170.99)
1824DPTMW03
(169.83)
MW-5
(171.14)
AWD-4
(171.58)
MW-6
(170.89)
125
(172.28)
170
BGPZ-7
(169.91)
18WW25
(169.55)
18CPTMW15
(170.09)
BGPZ-5
(171.59)
171
MW-4
(172.30)
1824DPTMW02
(170.10)
18WW24
(169.40)
18CPTMW23
(170.26)
BGPZ-4
(169.68)
MW-11
(169.57)
LHAAP-24
MW-3
(171.39)
109
(171.38)
MW-16
(170.48)
170.00
BGPZ-3
(170.18)
123
(173.44)
18CPTMW04
(174.55)
BGPZ-11
(171.03)
BGPZ-8
(169.41)
1824DPTMW04
(170.17)
AWD-2
(173.11)
MW-1
(174.24)
MW-2
(173.07)
MW-21
(170.87)
C-08
(170.69)
C-02
(171.00)
MW-12
(170.80)
BGPZ-9
(171.14)
18WW10
(170.13)
MW-10
(170.50)
120
(173.80)
BGPZ-12
(Plugged)
AWD-3
(174.18)
101
(188.46)
(Not Used)
18CPTMW24
(170.27)
AWD-1
(174.68)
174.00
LHAAP-18
174.00
MW-22
(172.19)
MW-17
(170.76)
BGPZ-2
(171.25)
129
(173.61)
MW-9
(171.87)
1824DPTMW05
(173.29)
MW-23
(172.95)
BGPZ-10
(169.61)
170
173.00
18CPTMW14
(171.37)
MW-8
(171.71)
MW-18
(170.97)
MW-7
(171.89)
LHAAP-39
172.00
Groundwater Treatment Plant
126
(171.53)
MW-19
(170.99)
BGPZ-1
(179.36)
(Not Used)
171.00
102
(174.84)
(Not Used)
18CPTMW22R
(178.01)
(Not Used)
130
(171.08)
18CPTMW26
(166.64)
(Not Used)
MW-20
(175.66)
(Not Used)
Unnamed Ditch
SCUDDAY AVE
LHAAP-17
17WW08
(170.94)
LHAAP-63
171.00
AVE "Q"
171.00
18WW14
(171.20)
C-09
(170.93)
LONG POINT RD
170.00
C-07
(169.25)
LHAAP-19
HAYSTACK RD
BOBBY JONES RD
Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.
0 75 150 300
Feet
Legend:
Shallow Monitoring Well Location (inside ICTs)
Shallow Monitoring Well Location (outside ICTs)
Shallow Piezometer Location (inside ICTs)
Shallow Piezometer Location (outside ICTs)
(170.93) Potentiometric Surface Elevation in Feet Above Mean Sea Level
Potentiometric Surface Contour
Direction of Groundwater Flow
HDPE High Density Polyethylene
Interception-Collection Trench (ICT) Location
HDPE Liner Installed outside of the ICT
Installation Restoration Program (IRP) Area
Stream / Ditch Centerline
Road Line
PCIbhate
Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas
Groundwater Potentiometric Surface Map
Shallow Zone (June 26, 2023) LHAAP-18/24
Figure B-2
PROJECT NO: JVPCIBH.0001.0005.03
SCALE: As Shown
DATE: 8/9/2023
DRAWN BY: MRM

01191707

18WW05
(167.00)

LHAAP-35C (53)

TUSCON AVE

TALYER AVE

168.00

169.00

C-06
(170.78)

C-05
(168.93)

170.00

Harrison Bayou

18WW20
(168.90)

18CPTMW16
(169.20)
(Not Used)

18CPTMW18
(168.56)

1824DPTMW01
(168.76)

18WW22
(169.71)

18CPTMW19
(170.47)

BGPZ-6
(170.63)

18WW08
(168.94)

1824DPTMW03
(169.37)

AWD-4
(171.15)

MW-5
(170.78)

MW-6
(170.56)

BGPZ-7
(169.37)

125
(171.77)

18WW25
(168.98)

109
(171.04)

BGPZ-5
(171.11)

18CPTMW15
(169.56)

1824DPTMW02
(169.61)

MW-4
(171.89)

18WW24
(168.67)

LHAAP-24

MW-3
(171.03)

BGPZ-4
(169.18)

18CPTMW23
(169.59)

BGPZ-11
(170.66)

BGPZ-8
(169.05)

1824DPTMW04
(169.65)

MW-16
(169.90)

BGPZ-3
(169.74)

MW-11
(169.06)

123
(173.05)

MW-21
(170.45)

BGPZ-9
(170.65)

AWD-2
(172.80)

18CPTMW04
(174.04)

MW-1
(173.89)

18CPTMW24
(169.85)

C-08
(170.24)

MW-12
(170.26)

MW-2
(172.74)

18WW10
(169.68)

C-02
(170.26)

BGPZ-12
(Plugged)

120
(173.35)

101
(187.42)
(Not Used)

MW-10
(170.00)

LHAAP-18

AWD-3
(173.82)

MW-22
(171.71)

AWD-1
(174.24)

MW-17
(170.22)

BGPZ-2
(170.88)

MW-23
(172.52)

170.00

BGPZ-10
(169.15)

129
(173.22)

173.00

MW-9
(171.53)

1824DPTMW05
(172.82)

18CPTMW14
(170.89)

MW-18
(170.36)

MW-8
(171.28)

172.00

MW-7
(171.57)

LHAAP-39

Groundwater Treatment Plant

126
(171.03)

102
(174.30)
(Not Used)

Unnamed Ditch

MW-19
(170.35)

BGPZ-1
(178.90)
(Not Used)

130
(170.62)

171.00

18CPTMW26
(166.11)
(Not Used)

SCUDDAY AVE

LHAAP-17

17WW08
(170.58)

18CPTMW22R
(177.34)
(Not Used)

MW-20
(175.09)
(Not Used)

LHAAP-63

AVE "Q"

C-09
(170.67)

18WW14
(170.66)

170.00

169.00

C-07
(168.80)

BOBBY JONES RD.

HAYSTACK RD.

LHAAP-19

Notes:
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0 75 150 300 Feet

Legend:

- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (170.89) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

PCIbhate

Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (July 27, 2023) LHAAP-18/24

Figure B-1

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/7/2023	MRM

LHAAP-58 Remedial Action Operation Validated Data - June 2023

Location ID: Sample Date:	Units	MCL/MSC	03WW01_060623 6/6/23	35AWW01_060623 6/6/23	35AWW05_060723 6/7/23	35AWW06_060523 6/5/23	35AWW08_060623 6/6/23	35AWW09_060623 6/6/23	35AWW09_060623_a 6/6/23	35AWW10_060623 6/6/23	35AWW11_060523 6/5/23	35AWW12_060523 6/5/23	35AWW12_060523_a 6/5/23
Location Description			Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - SW, outside site boundary.	Site 58 - SW, outside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary. Field Duplicate	Site 58 - ESE, inside site boundary.	Site 58 - SE, inside site boundary.	Site 58 - E, outside site boundary.	Site 58 - E, outside site boundary. Field Duplicate
Location Depth			Shallow	Intermediate	Intermediate	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS23060596	HS23060596	HS23060722	HS23060280	HS23060596	HS23060596	HS23060596	HS23060596	HS23060280	HS23060280	HS23060280
Total Organic Carbon (415.1/SM5310C)													
Total Organic Carbon	mg/L	NV	NA	NA	NA	**7.23**	NA	NA	NA	NA	**7.35**	NA	NA
Volatile Organic Compounds (8260C)													
1,1,1,2-Tetrachloroethane	µg/L	110	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	200	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-Trichloroethane	µg/L	5	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	10000	< 2.5 U	< 0.50 U	< 0.50 U	**0.56 J**	< 2.5 U	**0.75 J**	**0.97 J**	< 0.50 U	**0.74 J**	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	7	< 2.5 U	< 0.50 U	< 0.50 U	**1.2**	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	**2.6**	< 0.50 U	< 0.50 U
1,1-Dichloropropene	µg/L	2.9	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	310	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	0.041	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	70	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	5100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	0.05	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	600	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	5	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	5	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3,5-Trimethylbenzene	µg/L	5100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	3100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	29	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	75	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	42	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Butanone	µg/L	61000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Chlorotoluene	µg/L	2000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Hexanone	µg/L	6100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	2000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Isopropyltoluene	µg/L	10000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Methyl-2-pentanone	µg/L	8200	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Acetone	µg/L	92000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Benzene	µg/L	5	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromobenzene	µg/L	2000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	4100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	4.6	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	36	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	140	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon disulfide	µg/L	10000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon tetrachloride	µg/L	5	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	41000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	1000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	220	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	**6.1**	< 0.50 U	< 0.50 U	< 0.50 U	**5.2**	**1.3**	**1.6**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,3-Dichloropropene	µg/L	5.3	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromochloromethane	µg/L	34	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromomethane	µg/L	380	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dichlorodifluoromethane	µg/L	20000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethylbenzene	µg/L	700	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Hexachlorobutadiene	µg/L	20	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	10000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U

LHAAP-58 Remedial Action Operation Validated Data - June 2023

Location ID: / Sample Date:	Units	MCL/MSC	03WW01_060623 6/6/23	35AWW01_060623 6/6/23	35AWW05_060723 6/7/23	35AWW06_060523 6/5/23	35AWW08_060623 6/6/23	35AWW09_060623 6/6/23	35AWW09_060623_a 6/6/23	35AWW10_060623 6/6/23	35AWW11_060523 6/5/23	35AWW12_060523 6/5/23	35AWW12_060523_a 6/5/23
Location Description			Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - SW, outside site boundary.	Site 58 - SW, outside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary.	Site 58 - E, inside site boundary. Field Duplicate	Site 58 - ESE, inside site boundary.	Site 58 - SE, inside site boundary.	Site 58 - E, outside site boundary.	Site 58 - E, outside site boundary. Field Duplicate
Location Depth			Shallow	Intermediate	Intermediate	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
m,p-Xylene	µg/L	10000	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
n-Butylbenzene	µg/L	4100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
n-Propylbenzene	µg/L	4100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Naphthalene	µg/L	2000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	µg/L	10000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
sec-Butylbenzene	µg/L	4100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Styrene	µg/L	100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	4100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	5	**4.8 J**	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	**450**	**460**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	µg/L	1000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	100	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,3-Dichloropropene	µg/L	29	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	**10**	< 0.50 U	< 0.50 U	< 0.50 U	**5.2**	**180**	**180**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichlorofluoromethane	µg/L	31000	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride		2	**3.7 J**	< 0.50 U	< 0.50 U	< 0.50 U	**2.6 J**	< 0.50 U	< 0.50 U	< 0.50 U	**0.61 J**	< 0.50 U	< 0.50 U
Volatile Fatty Acids (HPLC-METACIDS)													
Acetic Acid	mg/L	NV	NA	NA	NA	< 2.0 U	NA	NA	NA	NA	< 2.0 U	NA	NA
Butyric Acid	mg/L	NV	NA	NA	NA	< 5.0 U	NA	NA	NA	NA	< 5.0 U	NA	NA
Lactic Acid	mg/L	NV	NA	NA	NA	< 1.0 U	NA	NA	NA	NA	< 1.0 U	NA	NA
Propionic Acid	mg/L	51	NA	NA	NA	< 1.5 U	NA	NA	NA	NA	< 1.5 U	NA	NA
Pyruvic Acid	mg/L	NV	NA	NA	NA	< 0.10 U	NA	NA	NA	NA	< 0.10 U	NA	NA
ICP-MS Metals (6020A)													
Arsenic	mg/L	0.01	**0.00867**	**0.000503 J**	NA	NA	**0.0319**	**0.000498 J**	**0.000528 J**	NA	NA	NA	NA
Anions (9056A)													
Chloride	mg/L	NV	NA	NA	NA	**918**	NA	NA	NA	NA	**779**	NA	NA
Nitrate	mg/L	10	NA	NA	NA	< 0.0500 U	NA	NA	NA	NA	**0.121**	NA	NA
Sulfate	mg/L	NV	NA	NA	NA	**834**	NA	NA	NA	NA	**1.23**	NA	NA
Dissolved Gases (RSK-175)													
Carbon Dioxide	µg/L	NV	NA	NA	NA	**110,000**	NA	NA	NA	NA	**250,000**	NA	NA
Ethane	µg/L	NV	NA	NA	NA	< 0.500 U	NA	NA	NA	NA	< 0.500 U	NA	NA
Ethene	µg/L	NV	NA	NA	NA	< 0.500 U	NA	NA	NA	NA	< 0.500 U	NA	NA
Methane	µg/L	NV	NA	NA	NA	**4,790**	NA	NA	NA	NA	**6,110**	NA	NA
Dechlorinating Bacteria													
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA	NA	NA	**0.50 J**	NA	NA	NA	NA	**0.30 J**	NA	NA
Dehalobacter spp.	cells/mL	NV	NA	NA	NA	**1,230**	NA	NA	NA	NA	**15,000**	NA	NA
Dehalococoides	cells/mL	NV	NA	NA	NA	**11.1**	NA	NA	NA	NA	**416**	NA	NA
tceA Reductase	cells/mL	NV	NA	NA	NA	< 0.50 U	NA	NA	NA	NA	< 0.60 U	NA	NA
Vinyl Chloride Reductase	cells/mL	NV	NA	NA	NA	**1.50**	NA	NA	NA	NA	**117**	NA	NA

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed/NV - No Value

µg/L - micrograms per liter

mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

LHAAP-58 Remedial Action Operation Validated Data - June 2023

Location ID: / Sample Date:	Units	MCL/MSC	35AWW13_060623 6/6/23	35AWW14_060723 6/7/23	35AWW15_060723 6/7/23	35AWW16_060723 6/7/23	35AWW17_060723 6/7/23	35AWW18_060723 6/7/23	35AWW19_060523 6/5/23	35AWW20_060523 6/5/23	35AWW21_060623 6/6/23	35AWW22_060523 6/5/23
Location Description			Site 58 - SE, outside site boundary.	Site 58 - SE, outside site boundary.	Site 58 - W, inside site boundary.	Site 58 - SW, outside site boundary, near Building 744-A.	Site 58 - SW, outside site boundary.	Site 58 - SSW, outside site boundary.	Site 58 - S, outside site boundary.	Site 58 - SW, inside site boundary.	Site 58 - ESE, outside site boundary, beside Building 725.	Site 58 - ENE, outside site boundary.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS23060596	HS23060722	HS23060722	HS23060722	HS23060722	HS23060722	HS23060280	HS23060280	HS23060596	HS23060280
Total Organic Carbon (415.1/SM5310C)												
Total Organic Carbon	mg/L	NV	NA	NA	NA	NA	NA	NA	**1.72**	**15.9**	NA	NA
Volatile Organic Compounds (8260C)												
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	200	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-Trichloroethane	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**57**	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	10000	< 0.50 U	**9.9**	< 0.50 U	< 0.50 U	< 0.50 U	**5.9**	**0.92 J**	**430**	**0.58 J**	< 0.50 U
1,1-Dichloroethene	µg/L	7	< 0.50 U	**9.3**	< 0.50 U	< 0.50 U	< 0.50 U	**29**	**4.8**	**1,700**	**1.1**	< 0.50 U
1,1-Dichloropropene	µg/L	2.9	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	310	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	0.041	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	70	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	5100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	0.05	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	600	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**27**	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**1.4**	**13**	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3,5-Trimethylbenzene	µg/L	5100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	3100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**1.2**	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	29	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	75	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	42	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Butanone	µg/L	61000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Chlorotoluene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Hexanone	µg/L	6100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Isopropyltoluene	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Methyl-2-pentanone	µg/L	8200	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Acetone	µg/L	92000	< 0.50 U	**7.3**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Benzene	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**7.3**	< 0.50 U	< 0.50 U
Bromobenzene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	4.6	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	36	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	140	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon disulfide	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon tetrachloride	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	41000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	1000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	220	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	< 0.50 U	**4.3**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**85**	< 0.50 U	< 0.50 U
cis-1,3-Dichloropropene	µg/L	5.3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromochloromethane	µg/L	34	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromomethane	µg/L	380	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dichlorodifluoromethane	µg/L	20000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethylbenzene	µg/L	700	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Hexachlorobutadiene	µg/L	20	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U

LHAAP-58 Remedial Action Operation Validated Data - June 2023

Location ID: / Sample Date:	Units	MCL/MSC	35AWW13_060623 6/6/23	35AWW14_060723 6/7/23	35AWW15_060723 6/7/23	35AWW16_060723 6/7/23	35AWW17_060723 6/7/23	35AWW18_060723 6/7/23	35AWW19_060523 6/5/23	35AWW20_060523 6/5/23	35AWW21_060623 6/6/23	35AWW22_060523 6/5/23
Location Description			Site 58 - SE, outside site boundary.	Site 58 - SE, outside site boundary.	Site 58 - W, inside site boundary.	Site 58 - SW, outside site boundary, near Building 744-A.	Site 58 - SW, outside site boundary.	Site 58 - SSW, outside site boundary.	Site 58 - S, outside site boundary.	Site 58 - SW, inside site boundary.	Site 58 - ESE, outside site boundary, beside Building 725.	Site 58 - ENE, outside site boundary.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
m,p-Xylene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
n-Butylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
n-Propylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Naphthalene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
sec-Butylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Styrene	µg/L	100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	µg/L	1000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**7.5**	< 0.50 U	< 0.50 U
trans-1,3-Dichloropropene	µg/L	29	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	< 0.50 U	**10**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**1.1**	**180**	< 0.50 U	< 0.50 U
Trichlorofluoromethane	µg/L	31000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride		2	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**940**	< 0.50 U	< 0.50 U
Volatile Fatty Acids (HPLC-METACIDS)												
Acetic Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 2.0 U	< 2.0 U	NA	NA
Butyric Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 5.0 U	< 5.0 U	NA	NA
Lactic Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 1.0 U	< 1.0 U	NA	NA
Propionic Acid	mg/L	51	NA	NA	NA	NA	NA	NA	< 1.5 U	< 1.5 U	NA	NA
Pyruvic Acid	mg/L	NV	NA	NA	NA	NA	NA	NA	< 0.10 U	< 0.10 U	NA	NA
ICP-MS Metals (6020A)												
Arsenic	mg/L	0.01	NA	NA	NA	NA	NA	NA	NA	**0.00174 J**	NA	NA
Anions (9056A)												
Chloride	mg/L	NV	NA	NA	NA	NA	NA	NA	**430**	**661**	NA	NA
Nitrate	mg/L	10	NA	NA	NA	NA	NA	NA	< 0.0500 U	< 0.0500 U	NA	NA
Sulfate	mg/L	NV	NA	NA	NA	NA	NA	NA	**567**	**1,090**	NA	NA
Dissolved Gases (RSK-175)												
Carbon Dioxide	µg/L	NV	NA	NA	NA	NA	NA	NA	**92,000**	**200,000**	NA	NA
Ethane	µg/L	NV	NA	NA	NA	NA	NA	NA	< 0.500 U	< 0.500 U	NA	NA
Ethene	µg/L	NV	NA	NA	NA	NA	NA	NA	< 0.500 U	**38.9**	NA	NA
Methane	µg/L	NV	NA	NA	NA	NA	NA	NA	**1.28**	**3,350**	NA	NA
Dechlorinating Bacteria												
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA	NA	NA	NA	NA	NA	< 0.60 U	**8,330**	NA	NA
Dehalobacter spp.	cells/mL	NV	NA	NA	NA	NA	NA	NA	**1,120**	**43,800**	NA	NA
Dehalococoides	cells/mL	NV	NA	NA	NA	NA	NA	NA	**1.90**	**40,800**	NA	NA
tceA Reductase	cells/mL	NV	NA	NA	NA	NA	NA	NA	< 0.60 U	**0.30 J**	NA	NA
Vinyl Chloride Reductase	cells/mL	NV	NA	NA	NA	NA	NA	NA	< 0.60 U	**1.90**	NA	NA

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed/NV - No Value

µg/L - micrograms per liter

mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies

U - Undetected: The analyte was analyzed for, but not detected.

LHAAP-58 Remedial Action Operation Validated Data - June 2023

Location ID: Sample Date:	Units	MCL/MSC	35AWW23_060523 6/5/23	35AWW24_060723 6/7/23	35AWW26_060623 6/6/23	LHSMW06_060723 6/7/23	LHSMW06_060723.a 6/7/23	LHSMW07_060523 6/5/23
Location Description			Site 58 - SW, outside site boundary.	Downgradient Western Plume well	Downgradient Western Plume well	Site 58 - SW, inside site boundary, beside Building 715.	Site 58 - SW, inside site boundary, beside Building 715. Field Duplicate	Site 58 - SW, outside site boundary.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS23060280	HS23060722	HS23060596	HS23060722	HS23060722	HS23060280
Total Organic Carbon (415.1/SM5310C)								
Total Organic Carbon	mg/L	NV	**12.6**	NA	NA	NA	NA	**7.25**
Volatile Organic Compounds (8260C)								
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	200	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-Trichloroethane	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	10000	< 0.50 U	< 0.50 U	**25**	**8.2**	**8.1**	**13**
1,1-Dichloroethene	µg/L	7	< 0.50 U	< 0.50 U	**94**	**21**	**21**	**93**
1,1-Dichloropropene	µg/L	2.9	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	310	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	0.041	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	70	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	5100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	0.05	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	600	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	**0.66 J**
1,2-Dichloropropane	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3,5-Trimethylbenzene	µg/L	5100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	3100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	29	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	75	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	42	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Butanone	µg/L	61000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Chlorotoluene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Hexanone	µg/L	6100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Isopropyltoluene	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Methyl-2-pentanone	µg/L	8200	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Acetone	µg/L	92000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Benzene	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromobenzene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	4.6	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	36	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	140	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon disulfide	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon tetrachloride	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	41000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	1000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	220	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	< 0.50 U	< 0.50 U	**1.9**	**120**	**120**	**1.2**
cis-1,3-Dichloropropene	µg/L	5.3	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromochloromethane	µg/L	34	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromomethane	µg/L	380	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Dichlorodifluoromethane	µg/L	20000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethylbenzene	µg/L	700	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Hexachlorobutadiene	µg/L	20	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U

LHAAP-58 Remedial Action Operation Validated Data - June 2023

Location ID: Sample Date:	Units	MCL/MSC	35AWW23_060523 6/5/23	35AWW24_060723 6/7/23	35AWW26_060623 6/6/23	LHSMW06_060723 6/7/23	LHSMW06_060723.a 6/7/23	LHSMW07_060523 6/5/23
Location Description			Site 58 - SW, outside site boundary.	Downgradient Western Plume well	Downgradient Western Plume well	Site 58 - SW, inside site boundary, beside Building 715.	Site 58 - SW, inside site boundary, beside Building 715. Field Duplicate	Site 58 - SW, outside site boundary.
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
m,p-Xylene	µg/L	10000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
n-Butylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
n-Propylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Naphthalene	µg/L	2000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	µg/L	10000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
sec-Butylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Styrene	µg/L	100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	4100	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	**3.1**	**3.0**	< 0.50 U
Toluene	µg/L	1000	**0.64 J**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	100	< 0.50 U	< 0.50 U	**0.48 J**	**2.2**	**2.3**	< 0.50 U
trans-1,3-Dichloropropene	µg/L	29	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	**21**	**20**	**2.4**
Trichlorofluoromethane	µg/L	31000	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride		2	< 0.50 U	< 0.50 U	**7.4**	**6.6**	**6.7**	**54**
Volatile Fatty Acids (HPLC-METACIDS)								
Acetic Acid	mg/L	NV	**< 2.0 U**	NA	NA	NA	NA	< 2.0 U
Butyric Acid	mg/L	NV	< 5.0 U	NA	NA	NA	NA	< 5.0 U
Lactic Acid	mg/L	NV	< 1.0 U	NA	NA	NA	NA	< 1.0 U
Propionic Acid	mg/L	51	< 1.5 U	NA	NA	NA	NA	< 1.5 U
Pyruvic Acid	mg/L	NV	< 0.10 U	NA	NA	NA	NA	< 0.10 U
ICP-MS Metals (6020A)								
Arsenic	mg/L	0.01	NA	NA	NA	**0.000466 J**	< 0.00125 U	NA
Anions (9056A)								
Chloride	mg/L	NV	**1,950**	NA	NA	NA	NA	**1,930**
Nitrate	mg/L	10	< 0.100 U	NA	NA	NA	NA	< 0.100 U
Sulfate	mg/L	NV	**449**	NA	NA	NA	NA	**3,000**
Dissolved Gases (RSK-175)								
Carbon Dioxide	µg/L	NV	**220,000**	NA	NA	NA	NA	**130,000**
Ethane	µg/L	NV	< 0.500 U	NA	NA	NA	NA	< 0.500 U
Ethene	µg/L	NV	< 0.500 U	NA	NA	NA	NA	**20.9**
Methane	µg/L	NV	**7,440**	NA	NA	NA	NA	**2,860**
Dechlorinating Bacteria								
BAV1 Vinyl Chloride Reductase	cells/mL	NV	< 0.60 U	NA	NA	NA	NA	**0.50 J**
Dehalobacter spp.	cells/mL	NV	**62**	NA	NA	NA	NA	**16400**
Dehalococoides	cells/mL	NV	**82.1**	NA	NA	NA	NA	**1120**
tceA Reductase	cells/mL	NV	**0.8**	NA	NA	NA	NA	**0.40 J**
Vinyl Chloride Reductase	cells/mL	NV	**15.9**	NA	NA	NA	NA	**988.0**

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed/NV - No Value

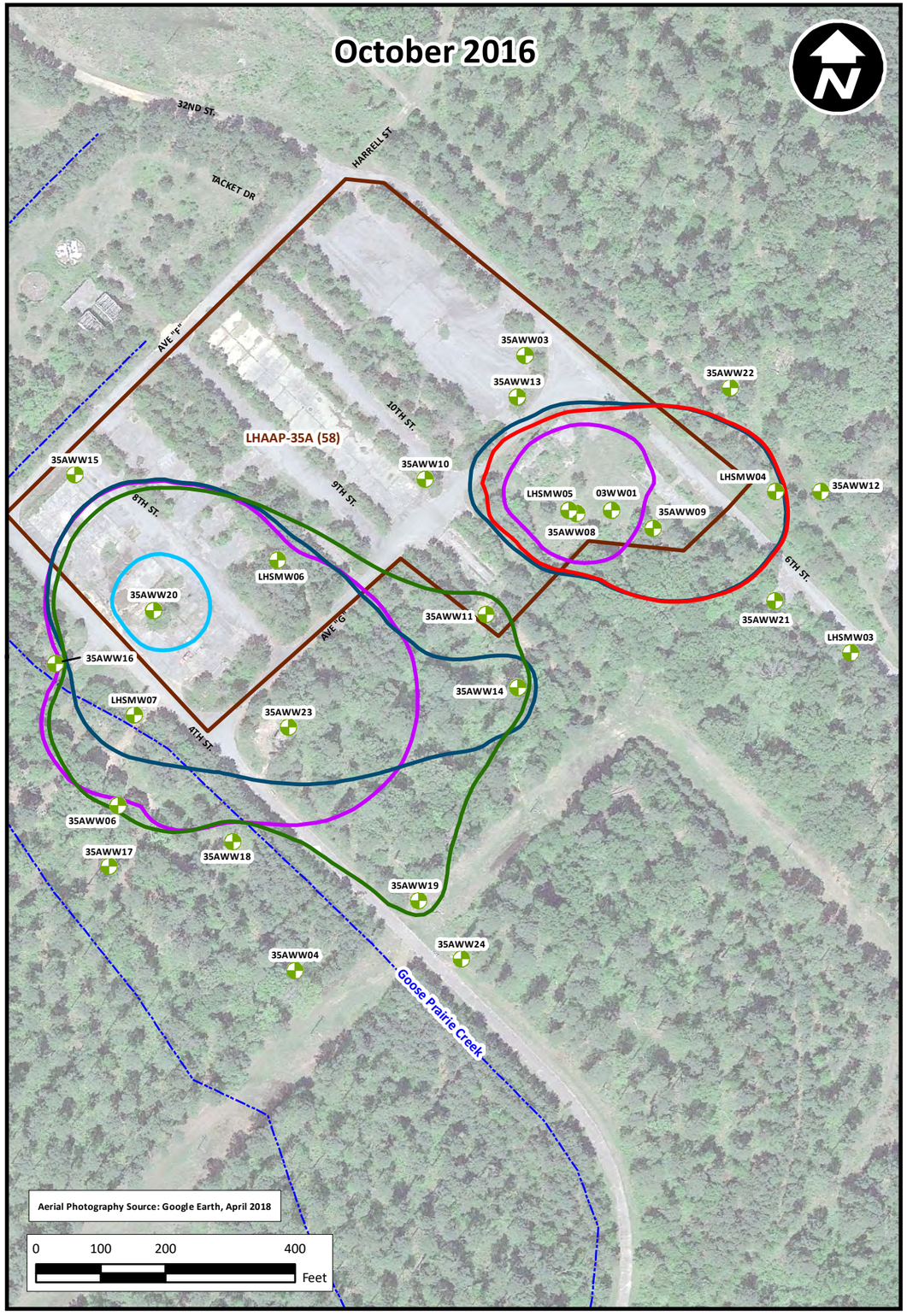
µg/L - micrograms per liter

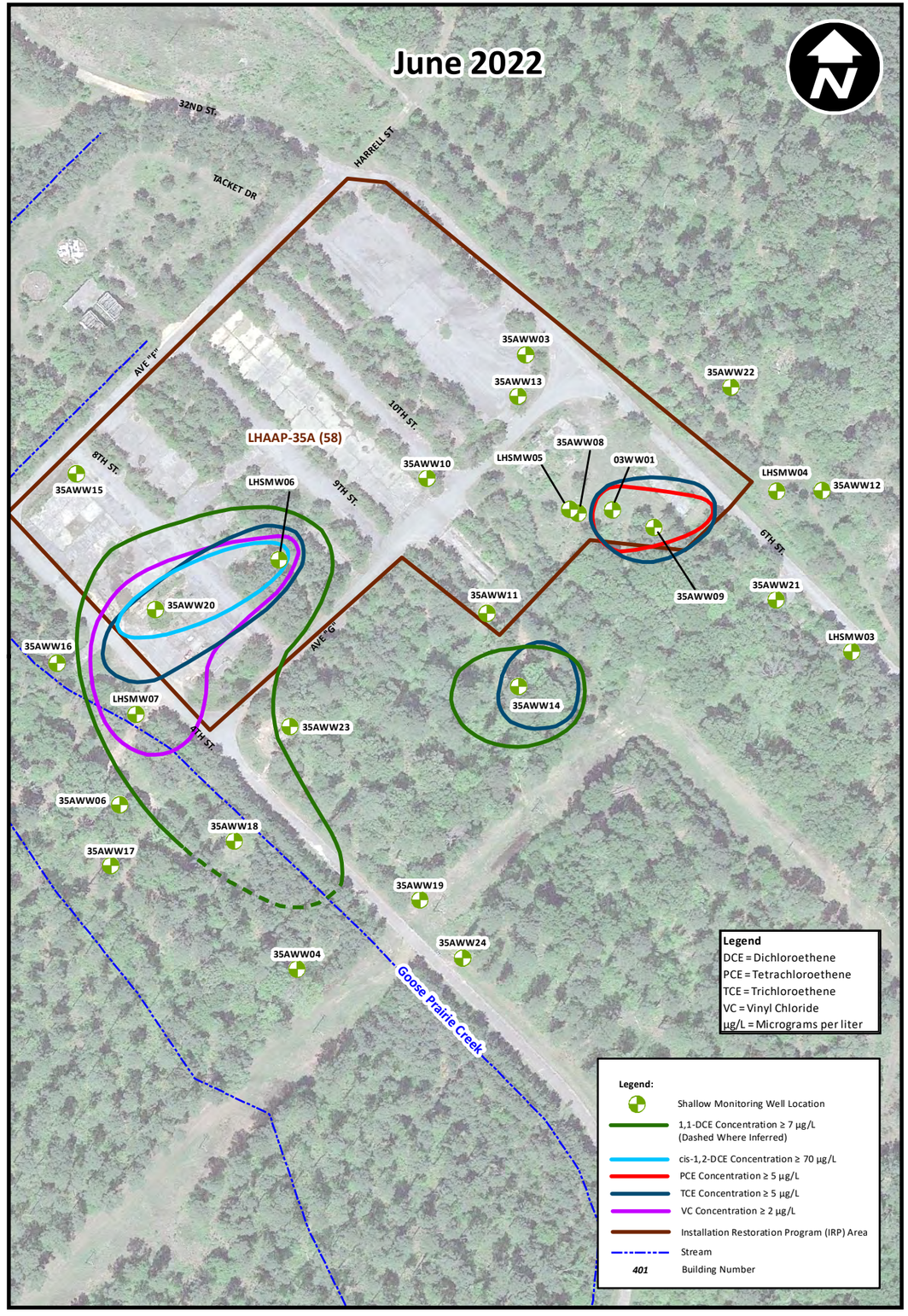
mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies

U - Undetected: The analyte was analyzed for, but not detected.

01191714





Lateral Extent of Plume Comparison (October 2016 and June 2022)

Figure 9

Year 8 Annual Remedial Action Operation Report (December 2021 – June 2022)
LHAAP-35A (58), Shops Area
Longhorn Army Ammunition Plant
Karnack, Texas

DRAWN BY: MRM

DATE: 2/10/2023

SCALE: As Shown

PROJECT NO: NWO1312.0150.012.0001.03

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Table #. LHAAP-47 PDI Validated Groundwater COC Detections Summary

			Well ID	47WW03	47WW04	47WW06	47WW08R	47WW09	47WW11R	47WW13	47WW14	47WW19	47WW21
			Collection Date	06-05-2023	06-01-2023	05-30-2023	05-30-2023	05-30-2023	05-28-2023	05-31-2023	05-30-2023	05-28-2023	06-03-2023
			Lab ID	23F0196-12_	23F0136-07_	23E0775-43_	23F0136-03_	23E0775-40_	23E0775-14_	23F0136-02_	23E0775-41_	23E0775-18_	23F0196-07_
			Zone	Shallow	Shallow	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow	Shallow/Intermediate	Intermediate	Shallow
VOCs - SW8260B													
1,1-Dichloroethane	µg/L	NV	4900	<0.134 U	<0.134 U	<0.134 U	<0.134 U	**3.26**	<0.134 U	<0.669 U	<0.134 U	<0.134 U	<0.134 U
1,1-Dichloroethene	µg/L	7	7	<0.191 U	<0.191 U	<0.191 U	<0.191 U	**13.1**	<0.191 U	<0.954 U	**1.78**	<0.191 U	<0.191 U
Acetone	µg/L	NV	22000	<1.04 U	<1.04 U	<1.04 U	<1.04 U	<1.04 U	<1.04 U	<5.18 U	<1.04 U	<1.04 U	<1.04 U
Chloroform	µg/L	NV	80	<0.203 U	<0.203 U	<0.203 U	<0.203 U	<0.203 U	<0.203 U	<1.01 U	<0.203 U	<0.203 U	<0.203 U
cis-1,2-Dichloroethene	µg/L	70	70	<0.205 U	<0.205 U	<0.205 U	<0.205 U	**212 J**	**1.26**	**156**	**43.4**	<0.205 U	<0.205 U
Tetrachloroethene	µg/L	5	5	<0.357 U	<0.357 U	<0.357 U	<0.357 U	**0.66 J**	<0.357 U	<1.78 U	<0.357 U	<0.357 U	<0.357 U
trans-1,2-Dichloroethene	µg/L	100	100	<0.171 U	<0.171 U	<0.171 U	<0.171 U	**1**	<0.171 U	**1.6 J**	**1.06**	<0.171 U	<0.171 U
Trichloroethene	µg/L	5	5	<0.156 U	<0.156 U	**0.94 J+**	<0.156 U	**1230 J**	**7.9**	**189**	**181 J**	**4.9**	<0.156 U
Vinyl chloride	µg/L	2	2	<0.258 U	<0.258 U	<0.258 U	<0.258 U	**1.14 J**	<0.258 U	<1.29 U	**14.5**	<0.258 U	<0.258 U
Perchlorate - 6850													
Perchlorate	µg/L	NV	17	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	**178**	<0.025 U	<0.025 U	<0.025 U	**0.155**
Metals- SW6020B, SW6020D, SW7470A													
Aluminum	mg/L	NV	24	**0.0275 J**	**0.0419 J**	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**11.4 J**	<0.0250 U	<0.0250 U	**0.737**
Aluminum, Dissolved	mg/L	NV	24	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**2.73**	<0.0250 U	**0.0837 J**	**0.201**
Antimony	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Antimony, Dissolved	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Arsenic	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	**0.0217 J**	<0.00200 U	<0.00200 U	<0.00200 U	**0.00328 J**	<0.00200 U	<0.00200 U	<0.00200 U
Arsenic, Dissolved	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	**0.0164 J**	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
Cadmium	mg/L	0.005	0.005	**0.00119 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium, Dissolved	mg/L	0.005	0.005	**0.00113 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Chromium	mg/L	0.1	0.1	**0.0226 J**	**0.833**	**0.0178 J**	<0.00250 U	**0.0261**	<0.00250 U	**0.0444**	**0.408**	**0.0302**	**0.0912**
Chromium, Dissolved	mg/L	0.1	0.1	**0.00253 J**	**0.142**	<0.00250 U	<0.00250 U	**0.00385 J**	<0.00250 U	**0.024 J**	**0.0107 J**	**0.00922 J**	**0.00997 J**
Cobalt	mg/L	NV	0.24	**0.00332 J**	**0.0122 J**	**0.00351 J**	<0.00300 U	<0.00300 U	<0.00300 U	**0.0149 J**	**0.00437 J**	**0.00373 J**	**0.00469 J**
Cobalt, Dissolved	mg/L	NV	0.24	<0.00250 U	**0.0094 J**	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.00514 J**	<0.00250 U	**0.00297 J**	**0.00347 J**
Manganese	mg/L	NV	1.1	**1.19**	**0.136**	**0.105**	**0.0168 J**	**0.0118 J**	**0.115**	**0.147 J**	**0.0677**	**1.33 J**	**0.0251**
Manganese, Dissolved	mg/L	NV	1.1	**0.912**	**0.114**	**0.0385**	**0.0142 J**	**0.0123 J**	**0.113**	**0.0669 J**	**0.0394**	**1.31**	**0.0137 J**
Nickel	mg/L	NV	0.49	**0.0323**	**2.51**	**0.0183 J**	<0.00250 U	**0.0141 J**	<0.00250 U	**0.0254**	**0.433**	**0.0206 J**	**0.0504**
Nickel, Dissolved	mg/L	NV	0.49	**0.0238 J**	**2.2**	**0.0162 J**	<0.00250 U	**0.0169 J**	**0.00275 J**	**0.00936 J**	**0.269**	**0.0228 J**	**0.0351**
Strontium	mg/L	NV	15	**12**	**2.42**	**0.632 J+**	**3.6**	**0.328**	**1.93**	**0.0688**	**0.935**	**2.08**	**0.0131 J**
Strontium, Dissolved	mg/L	NV	15	**11.7**	**2.42**	**0.649**	**3.64**	**0.344**	**1.94**	**0.0312 J**	**0.964**	**2.18**	<0.00889 U
Thallium	mg/L	0.002	0.002	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U
Vanadium	mg/L	NV	0.044	<0.00150 U	**0.00353 J**	<0.00150 U	<0.00150 U	<0.00150 U	**0.00154 J**	**0.0196 J**	<0.00150 U	<0.00150 U	**0.00454 J**
Vanadium, Dissolved	mg/L	NV	0.044	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	**0.00604 J**	<0.00150 U	<0.00150 U	<0.00150 U

NV = No Value

mg/L = milligrams per liter
µg/L = micrograms per liter
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high
U = not detected
UJ = not detected, level of detection is estimated

1. EPA - MCL- Maximum Contaminant Level
2. Texas Risk Reduction Program Tier 1 Groundwater PCLs - Residential
Last Revised May 2023

Bold result indicates a detection
Bold and highlighted result indicates an exceedance of a screening level

Table #. LHAAP-47 PDI Validated Groundwater COC Detections Summary

			Well ID	47WW23	47WW26R	47WW28	47WW29	47WW31	47WW32	47WW33	47WW34	47WW35	47WW36
			Collection Date	05-28-2023	05-27-2023	06-04-2023	05-31-2023	06-01-2023	06-02-2023	06-01-2023	06-01-2023	06-02-2023	06-02-2023
			Lab ID	23E0775-17_	23E0775-13_	23F0196-10_	23F0136-01_	23F0136-14_	23F0196-04_	23F0136-08_	23F0136-05_	23F0196-02_	23F0196-01_
			Zone	Shallow/Intermediate	Shallow/Intermediate	Shallow	Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Intermediate	Intermediate	Intermediate
VOCs - SW8260B													
1,1-Dichloroethane	µg/L	NV	4900	<0.134 U	<0.0669 UJ	<0.134 U	<0.669 U	<0.134 U	<0.134 UJ	<0.134 U	**0.14 J**	<0.134 U	<0.134 UJ
1,1-Dichloroethene	µg/L	7	7	<0.191 U	<0.0954 UJ	<0.191 U	<0.954 U	<0.191 U	**0.2 J**	<0.191 U	**1.4**	<0.191 U	<0.191 UJ
Acetone	µg/L	NV	22000	<1.04 U	<0.518 UJ	<1.04 U	<5.18 U	<1.04 U	<1.04 UJ	<1.04 U	<1.04 U	<1.04 U	**17.6 J**
Chloroform	µg/L	NV	80	<0.203 U	<0.101 UJ	<0.203 U	<1.01 U	<0.203 U	<0.203 UJ	<0.203 U	<0.203 U	<0.203 U	<0.203 UJ
cis-1,2-Dichloroethene	µg/L	70	70	<0.205 U	**0.78 J+**	<0.205 U	<1.03 U	<0.205 U	**0.7 J**	**0.22 J**	**33.4**	<0.205 U	<0.205 UJ
Tetrachloroethene	µg/L	5	5	<0.357 U	<0.178 UJ	<0.357 U	<1.78 U	<0.357 U	<0.357 UJ	<0.357 U	<0.357 U	<0.357 U	<0.357 UJ
trans-1,2-Dichloroethene	µg/L	100	100	<0.171 U	<0.0855 UJ	<0.171 U	<0.855 U	<0.171 U	<0.171 UJ	<0.171 U	**0.4 J**	<0.171 U	<0.171 UJ
Trichloroethene	µg/L	5	5	**0.38 J**	**2.39 J+**	<0.156 U	<0.781 U	<0.156 U	**26.9 J**	<0.156 U	**503 J**	<0.156 U	<0.156 UJ
Vinyl chloride	µg/L	2	2	<0.258 U	<0.129 UJ	<0.258 U	<1.29 U	<0.258 U	<0.258 UJ	<0.258 U	<0.258 U	<0.258 U	<0.258 UJ
Perchlorate - 6850													
Perchlorate	µg/L	NV	17	<0.025 U	**0.0985 J**	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	**0.126**
Metals- SW6020B, SW6020D, SW7470A													
Aluminum	mg/L	NV	24	<0.0250 U	<0.0250 U	**0.179**	**0.0305 J**	<0.0250 U	<0.0250 U	**0.162**	<0.0250 U	**0.0874 J**	**0.464**
Aluminum, Dissolved	mg/L	NV	24	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**0.516**
Antimony	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Antimony, Dissolved	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Arsenic	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	**0.00406 J**	<0.00200 U	<0.00200 U	<0.00200 U
Arsenic, Dissolved	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
Cadmium	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium, Dissolved	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Chromium	mg/L	0.1	0.1	**0.00387 J**	<0.00250 U	<0.00250 U	<0.00250 U	**0.00605 J**	**0.0348**	**0.0154 J**	**0.0273**	**0.00561 J**	**0.258**
Chromium, Dissolved	mg/L	0.1	0.1	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.0193 J**	**0.0374**	**0.00883 J**	**0.00594 J**	**0.00361 J**	**0.276**
Cobalt	mg/L	NV	0.24	<0.00300 U	**0.00398 J**	<0.00300 U	**0.00308 J**	<0.00300 U	<0.00300 U	**0.0258**	<0.00300 U	**0.0114 J**	<0.00300 U
Cobalt, Dissolved	mg/L	NV	0.24	<0.00250 U	**0.00333 J**	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.0211 J**	<0.00250 U	**0.00567 J**	<0.00250 U
Manganese	mg/L	NV	1.1	**0.0551**	**0.822**	**0.0611**	**0.166**	**0.0701**	**0.0427**	**0.413**	**0.0056 J**	**0.666**	<0.00250 U
Manganese, Dissolved	mg/L	NV	1.1	**0.0076 J**	**0.848**	**0.0112 J**	**0.0111 J**	**0.0184 J**	**0.0491**	**0.36**	**0.0047 J**	**0.337**	<0.0025 U
Nickel	mg/L	NV	0.49	<0.00250 U	**0.00355 J**	<0.00250 U	<0.00250 U	**0.0087 J**	**0.0237 J**	**0.0304**	**0.0138 J**	**0.00545 J**	<0.00250 U
Nickel, Dissolved	mg/L	NV	0.49	<0.00250 U	**0.00411 J**	<0.00250 U	<0.00250 U	**0.00901 J**	**0.0363**	**0.0271**	**0.0158 J**	**0.00549 J**	<0.00250 U
Strontium	mg/L	NV	15	**0.261**	**3.22**	**2.18**	**1.16**	**9.48**	**3.3**	**0.0811**	**0.59**	**3.82**	**29.4**
Strontium, Dissolved	mg/L	NV	15	**0.258**	**3.23**	**2.3**	**1.14**	**7.96**	**3.8**	**0.0809**	**0.624**	**3.6**	**29.4**
Thallium	mg/L	0.002	0.002	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U
Vanadium	mg/L	NV	0.044	**0.00209 J**	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	**0.00209 J**	**0.00235 J**	<0.00150 U	<0.00150 U
Vanadium, Dissolved	mg/L	NV	0.044	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	**0.0015 J**	<0.00150 U	<0.00150 U	**0.00298 J**	<0.00150 U	<0.00150 U

NV = No Value

mg/L = milligrams per liter
µg/L = micrograms per liter
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high
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UJ = not detected, level of detection is estimated

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Last Revised May 2023

Bold result indicates a detection
Bold and highlighted result indicates an exceedance of a screening level

Table #. LHAAP-47 PDI Validated Groundwater COC Detections Summary

			Well ID	47WW37	47WW38	47WW39	47WW40	47WW41	47WW42	47WW43	47WW44	47WW45	47WW46
			Collection Date	05-26-2023	05-31-2023	05-30-2023	05-27-2023	05-27-2023	05-27-2023	05-28-2023	06-03-2023	06-01-2023	06-01-2023
			Lab ID	23E0775-04_	23F0136-10_	23E0775-42_	23E0775-08_	23E0775-09_	23E0775-12_	23E0775-16_	23F0196-06_	23F0136-15_	23F0136-09_
			Zone	Intermediate	Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow/Intermediate
VOCs - SW8260B													
1,1-Dichloroethane	µg/L	NV	4900	<0.0669 U	<0.669 U	<3.34 UJ	<0.0669 U	<0.0669 U	**1.28**	<3.34 UJ	<0.134 U	<6.69 U	<0.134 U
1,1-Dichloroethene	µg/L	7	7	**0.35 J**	<0.954 U	<4.77 UJ	<0.0954 U	<0.0954 U	**5.68**	<4.77 UJ	<0.191 U	<9.54 U	<0.191 U
Acetone	µg/L	NV	22000	**13.8 J+**	<5.18 U	<25.9 UJ	<0.518 U	<0.518 U	<0.518 U	<25.9 UJ	<1.04 U	<51.8 U	<1.04 U
Chloroform	µg/L	NV	80	<0.101 U	<1.01 U	<5.06 UJ	<0.101 U	<0.101 U	<0.101 U	<5.06 UJ	<0.203 U	<10.1 U	<0.203 U
cis-1,2-Dichloroethene	µg/L	70	70	**23**	<1.03 U	<5.13 UJ	<0.103 U	<0.103 U	**604**	<5.13 UJ	<0.205 U	**24 J**	<0.205 U
Tetrachloroethene	µg/L	5	5	<0.178 U	<1.78 U	<8.92 UJ	<0.178 U	<0.178 U	<0.178 U	<8.92 UJ	<0.357 U	<17.8 U	<0.357 U
trans-1,2-Dichloroethene	µg/L	100	100	**0.69**	<0.855 U	<4.28 UJ	<0.0855 U	<0.0855 U	**14.7**	<4.28 UJ	<0.171 U	<8.55 U	<0.171 U
Trichloroethene	µg/L	5	5	**420**	<0.781 U	**17.5 J+**	**6.74 J+**	**3.44 J+**	**624**	**616 J**	<0.156 U	**3700 J**	<0.156 U
Vinyl chloride	µg/L	2	2	**0.35 J**	<1.29 U	<6.44 UJ	<0.129 U	<0.129 U	**29.3**	<6.44 UJ	<0.258 U	<12.9 U	<0.258 U
Perchlorate - 6850													
Perchlorate	µg/L	NV	17	**0.299**	**22.3**	<0.025 U	**58.7**	<0.025 U	**0.343**	<0.025 U	<0.025 U	<0.025 U	<0.025 U
Metals- SW6020B, SW6020D, SW7470A													
Aluminum	mg/L	NV	24	<0.0250 U	**0.202**	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**0.0327 J**	**0.0349 J**	**0.0644 J**	**0.303**
Aluminum, Dissolved	mg/L	NV	24	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**0.0494 J**	<0.0250 U
Antimony	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	**0.00576 J**	<0.00300 U
Antimony, Dissolved	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	**0.0051 J**	<0.00300 U
Arsenic	mg/L	0.01	0.01	<0.00200 U	**0.00315 J**	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	**0.00631 J**	**0.00202 J**
Arsenic, Dissolved	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	**0.00399 J**	<0.00200 U
Cadmium	mg/L	0.005	0.005	<0.000500 U	**0.000712 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium, Dissolved	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Chromium	mg/L	0.1	0.1	**0.111**	**0.111**	<0.00250 U	<0.00250 U	**0.0109 J**	**0.0389**	<0.00250 U	**0.0759**	**0.0363**	**0.0381**
Chromium, Dissolved	mg/L	0.1	0.1	**0.113**	**0.00893 J**	<0.00250 U	**0.0166 J**	<0.00250 U	**0.00438 J**	<0.00250 U	**0.0102 J**	**0.0139 J**	**0.0193 J**
Cobalt	mg/L	NV	0.24	<0.00300 U	<0.00300 U	**0.00392 J**	**0.00411 J**	**0.00307 J**	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Cobalt, Dissolved	mg/L	NV	0.24	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.00464 J**	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.00324 J**
Manganese	mg/L	NV	1.1	<0.00250 U	**0.326**	**0.645**	**0.222**	**0.207**	**0.0376**	**0.114**	**0.211**	**0.00456 J**	**0.536**
Manganese, Dissolved	mg/L	NV	1.1	<0.0025 U	**0.123**	**0.0281**	<0.0025 U	**0.192**	**0.0304**	**0.097**	**0.225**	<0.0025 U	**0.517**
Nickel	mg/L	NV	0.49	<0.00250 U	**0.0336**	<0.00250 U	**0.00727 J**	**0.00604 J**	**0.0202 J**	<0.00250 U	**0.0373**	**0.0132 J**	**0.0211 J**
Nickel, Dissolved	mg/L	NV	0.49	<0.00250 U	**0.0264**	<0.00250 U	<0.00250 U	**0.00459 J**	**0.0202 J**	<0.00250 U	**0.0236 J**	<0.00250 U	**0.0192 J**
Strontium	mg/L	NV	15	**0.872**	**3.02**	**0.615 J+**	**1.4**	**3.72**	**0.589**	**3.47**	**4.55**	**5.26**	**1.78**
Strontium, Dissolved	mg/L	NV	15	**0.728**	**1.08**	**0.662**	**1.19**	**3.02**	**0.595**	**3.38**	**4.18**	**5.55**	**1.81**
Thallium	mg/L	0.002	0.002	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	**0.00169 J**	<0.000400 U
Vanadium	mg/L	NV	0.044	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	**0.00292 J**	**0.00253 J**	<0.00150 U	**0.0644**	<0.00150 U
Vanadium, Dissolved	mg/L	NV	0.044	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	**0.00197 J**	**0.00154 J**	<0.00150 U	**0.0617**	<0.00150 U

NV = No Value

mg/L = milligrams per liter
µg/L = micrograms per liter
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high
U = not detected
UJ = not detected, level of detection is estimated

1. EPA - MCL- Maximum Contaminant Level
2. Texas Risk Reduction Program Tier 1 Groundwater PCLs - Residential
Last Revised May 2023

Bold result indicates a detection
Bold and highlighted result indicates an exceedance of a screening level

Table #. LHAAP-47 PDI Validated Groundwater COC Detections Summary

			Well ID	47WW47	47WW48	47WW49	47WW50	47WW51	47WW52	47WW53	47WW54	47WW55	47WW56
			Collection Date	06-02-2023	05-25-2023	05-25-2023	05-25-2023	05-26-2023	05-29-2023	05-26-2023	05-29-2023	05-29-2023	05-29-2023
			Lab ID	23F0196-05_	23E0775-01_	23E0775-02_	23E0775-03_	23E0775-05_	23E0775-26_	23E0775-06_	23E0775-28_	23E0775-27_	23E0775-25_
			Zone	Shallow/Intermediate	Shallow	Shallow	Shallow/Intermediate	Shallow/Intermediate	Shallow	Shallow/Intermediate	Shallow/Intermediate	Shallow	Shallow
VOCs - SW8260B													
1,1-Dichloroethane	µg/L	NV	4900	<0.134 U	<13.4 UJ	**0.19 J**	<0.0669 U	**0.24 J**	<0.134 U	<0.0669 U	<0.134 U	<0.134 U	<26.8 U
1,1-Dichloroethene	µg/L	7	7	<0.191 U	<19.1 UJ	**1.56 J**	<0.0954 U	**5.26**	**1**	**5.2**	**8.36**	**0.42 J**	<38.2 U
Acetone	µg/L	NV	22000	**16.7**	<104 UJ	**6.48 J+**	<0.518 U	<0.518 U	<1.04 U	<0.518 U	<1.04 U	<1.04 U	<207 U
Chloroform	µg/L	NV	80	<0.203 U	<20.3 UJ	**0.22 J**	<0.101 U	**0.2 J**	<0.203 U	<0.101 U	<0.203 U	<0.203 U	<40.5 U
cis-1,2-Dichloroethene	µg/L	70	70	<0.205 U	**384 J**	**2300 J**	**27.5**	**264**	**2.12**	**66 J**	**69.8 J**	**1.78**	<41.0 UJ
Tetrachloroethene	µg/L	5	5	<0.357 U	<35.7 UJ	<0.178 UJ	<0.178 U	<0.178 U	<0.357 U	<0.178 U	<0.357 U	<0.357 U	<71.3 U
trans-1,2-Dichloroethene	µg/L	100	100	<0.171 U	<17.1 UJ	**3.97 J**	**0.25 J**	**1.98**	**0.38 J**	**3.04**	**4.62**	**0.38 J**	<34.2 U
Trichloroethene	µg/L	5	5	**0.4 J**	**10000 J**	**2760 J**	**19.4**	**6950**	**1610 J**	**1040**	**1940 J**	**1380 J**	**1070 J**
Vinyl chloride	µg/L	2	2	<0.258 U	<25.8 UJ	**0.73 J**	<0.129 U	**0.81 J**	<0.258 U	**0.46 J**	**0.68 J**	<0.258 U	<51.6 U
Perchlorate - 6850													
Perchlorate	µg/L	NV	17	**0.112**	**0.0741 J**	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	<0.025 U	**0.0465 J**
Metals- SW6020B, SW6020D, SW7470A													
Aluminum	mg/L	NV	24	**0.637**	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**0.046 J**	**0.0381 J**	**0.0313 J**
Aluminum, Dissolved	mg/L	NV	24	**0.327**	<0.0250 U	<0.0250 U	<0.0250 U	**0.159**	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U
Antimony	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Antimony, Dissolved	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Arsenic	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	**0.00412 J**	<0.00200 U	<0.00200 U
Arsenic, Dissolved	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	**0.00419 J**	<0.00200 U	<0.00200 U
Cadmium	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium, Dissolved	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Chromium	mg/L	0.1	0.1	**0.374**	<0.00250 U	**0.047**	**0.00463 J**	**0.0115 J**	**0.0097 J**	**0.096**	**0.00799 J**	**0.0598**	**0.00861 J**
Chromium, Dissolved	mg/L	0.1	0.1	**0.394**	**0.00269 J**	**0.014 J**	**0.00266 J**	<0.00250 U	**0.00345 J**	**0.0265**	**0.00727 J**	**0.0164 J**	<0.00250 U
Cobalt	mg/L	NV	0.24	<0.00300 U	<0.00300 U	**0.00367 J**	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	**0.00316 J**	<0.00300 U	<0.00300 U
Cobalt, Dissolved	mg/L	NV	0.24	<0.00250 U	**0.0026 J**	**0.00391 J**	<0.00250 U	**0.00321 J**	<0.00250 U	**0.0049 J**	**0.00293 J**	<0.00250 U	<0.00250 U
Manganese	mg/L	NV	1.1	**0.00516 J**	**0.529**	**1.11**	**0.25**	**1.4**	**0.141**	**0.527**	**0.336**	**0.0149 J**	**0.0737**
Manganese, Dissolved	mg/L	NV	1.1	<0.0025 U	**0.561**	**1.13**	**0.223**	**1.27**	**0.116**	**0.471**	**0.338**	**0.0126 J**	**0.0748**
Nickel	mg/L	NV	0.49	<0.00250 U	<0.00250 U	**0.0305**	<0.00250 U	**0.00692 J**	**0.00976 J**	**0.0442**	**0.00315 J**	**0.0294**	**0.00587 J**
Nickel, Dissolved	mg/L	NV	0.49	<0.00250 U	<0.00250 U	**0.0336**	<0.00250 U	**0.00552 J**	**0.0142 J**	**0.0823**	**0.0125 J**	**0.0445**	**0.00681 J**
Strontium	mg/L	NV	15	**2.26**	**2.79**	**4.24**	**1.86**	**7.86**	**3.8**	**7.94**	**5.28**	**4.22**	**4.02**
Strontium, Dissolved	mg/L	NV	15	**1.93**	**2.44**	**4.1**	**1.55**	**6.39**	**4.05**	**6.48**	**5.77**	**4.68**	**4.4**
Thallium	mg/L	0.002	0.002	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U
Vanadium	mg/L	NV	0.044	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	**0.00314 J**	<0.00150 U	<0.00150 U	**0.00247 J**	**0.00173 J**
Vanadium, Dissolved	mg/L	NV	0.044	<0.00150 U	<0.00150 U	**0.00201 J**	<0.00150 U	<0.00150 U	**0.00181 J**	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U

NV = No Value

mg/L = milligrams per liter
µg/L = micrograms per liter
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high
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2. Texas Risk Reduction Program Tier 1 Groundwater PCLs - Residential
Last Revised May 2023

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Table #. LHAAP-47 PDI Validated Groundwater COC Detections Summary

			Well ID	47WW57	47WW58	47WW59	47WW60	47WW61	LHSMW41	LHSMW43R	LHSMW44	LHSMW45	LHSMW46R
			Collection Date	05-29-2023	05-30-2023	05-27-2023	06-04-2023	05-31-2023	05-29-2023	05-30-2023	05-29-2023	06-03-2023	05-29-2023
			Lab ID	23E0775-19_	23E0775-38_	23E0775-07_	23F0196-09_	23F0136-13_	23E0775-24_	23E0775-39_	23E0775-23_	23F0196-08_	23E0775-22_
			Zone	Shallow	Shallow	Shallow	Upper_Inter_Inter	Upper_Inter_Inter	Shallow/Intermediate	Shallow/Intermediate	Shallow	Shallow	Shallow/Intermediate
VOCs - SW8260B													
1,1-Dichloroethane	µg/L	NV	4900	<0.134 U	**3.62**	<0.0669 UJ	<0.134 U	<0.134 U	<0.134 U	<6.69 UJ	<0.134 U	<6.69 U	**0.4 J**
1,1-Dichloroethene	µg/L	7	7	<0.191 U	**19.7**	**1.1 J**	<0.191 U	<0.191 U	**0.3 J**	<9.54 UJ	<0.191 U	<9.54 U	**0.76 J**
Acetone	µg/L	NV	22000	<1.04 U	<1.04 U	**8.1 J+**	<1.04 U	<1.04 U	<1.04 U	<51.8 UJ	<1.04 U	<51.8 U	<1.04 U
Chloroform	µg/L	NV	80	<0.203 U	<0.203 U	<0.101 UJ	<0.203 U	<0.203 U	<0.203 U	<10.1 UJ	<0.203 U	<10.1 U	<0.203 U
cis-1,2-Dichloroethene	µg/L	70	70	<0.205 U	**531**	**2.3 J**	<0.205 U	<0.205 U	**2.74**	**75 J**	**7.9**	**314**	**13.1**
Tetrachloroethene	µg/L	5	5	<0.357 U	<0.357 U	<0.178 UJ	<0.357 U	<0.357 U	<0.357 U	<17.8 UJ	<0.357 U	<17.8 U	<0.357 U
trans-1,2-Dichloroethene	µg/L	100	100	<0.171 U	**5.8**	<0.0855 UJ	<0.171 U	<0.171 U	**0.28 J**	<8.55 UJ	<0.171 U	<8.55 U	**0.64 J**
Trichloroethene	µg/L	5	5	**1.42 J+**	**1890 J**	**136 J**	**2.52**	<0.156 U	**174 J**	**2970 J**	**9.66 J+**	**1740**	**312**
Vinyl chloride	µg/L	2	2	<0.258 U	**15.1**	<0.129 UJ	<0.258 U	<0.258 U	<0.258 U	<12.9 UJ	**0.28 J**	<12.9 U	**0.52 J**
Perchlorate - 6850													
Perchlorate	µg/L	NV	17	<0.025 U	<0.025 U	**1.22**	**0.0797 J**	<0.025 U	<0.025 U	**90.6**	<0.025 U	<0.025 U	<0.025 U
Metals- SW6020B, SW6020D, SW7470A													
Aluminum	mg/L	NV	24	**0.0276 J**	**0.15**	<0.0250 U	**0.0421 J**	**0.0328 J**	**0.144**	**0.0276 J**	<0.0250 U	<0.0250 U	**0.215**
Aluminum, Dissolved	mg/L	NV	24	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**0.0459 J**	<0.0250 U	<0.0250 U	<0.0250 U
Antimony	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Antimony, Dissolved	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Arsenic	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	**0.00377 J**	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
Arsenic, Dissolved	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	**0.0036 J**	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
Cadmium	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium, Dissolved	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Chromium	mg/L	0.1	0.1	<0.00250 U	**0.0189 J**	**0.0139 J**	<0.00250 U	<0.00250 U	**0.0297**	**0.029**	**0.831**	**0.0507**	<0.00250 U
Chromium, Dissolved	mg/L	0.1	0.1	**0.00307 J**	<0.00250 U	<0.00250 U	<0.00250 U	**0.00275 J**	<0.00250 U	**0.00716 J**	**0.00981 J**	**0.00257 J**	<0.00250 U
Cobalt	mg/L	NV	0.24	<0.00300 U	<0.00300 U	<0.00300 U	**0.00991 J**	**0.0122 J**	<0.00300 U	<0.00300 U	**0.00624 J**	<0.00300 U	<0.00300 U
Cobalt, Dissolved	mg/L	NV	0.24	<0.00250 U	<0.00250 U	**0.007 J**	**0.00971 J**	**0.0123 J**	<0.00250 U	<0.00250 U	**0.0049 J**	**0.00251 J**	<0.00250 U
Manganese	mg/L	NV	1.1	**0.348**	**0.0467**	**0.167**	**0.875**	**1**	**0.0296**	**0.0202 J**	**0.277**	**0.0417**	**0.0987**
Manganese, Dissolved	mg/L	NV	1.1	**0.343**	**0.0479**	**0.227**	**0.848**	**0.988**	**0.0244 J**	**0.0123 J**	**0.258**	**0.0386**	**0.0086 J**
Nickel	mg/L	NV	0.49	<0.00250 U	**0.0109 J**	**0.00569 J**	**0.00909 J**	**0.00695 J**	**0.679**	**0.0161 J**	**1.89**	**0.257**	<0.00250 U
Nickel, Dissolved	mg/L	NV	0.49	**0.00256 J**	**0.0143 J**	**0.00937 J**	**0.00939 J**	**0.0073 J**	**0.699**	**0.02 J**	**1.72**	**0.246**	<0.00250 U
Strontium	mg/L	NV	15	**2.23**	**0.262**	**3.81**	**0.934**	**1.08**	**2.52**	**1.24**	**2.21**	**2.42**	**0.28**
Strontium, Dissolved	mg/L	NV	15	**2.29**	**0.265**	**3.2**	**0.858**	**1.13**	**2.59**	**1.3**	**2.25**	**2.13**	**0.295**
Thallium	mg/L	0.002	0.002	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U
Vanadium	mg/L	NV	0.044	<0.00150 U	**0.00203 J**	<0.00150 U	<0.00150 U	<0.00150 U	**0.00235 J**	<0.00150 U	**0.00303 J**	**0.00255 J**	<0.00150 U
Vanadium, Dissolved	mg/L	NV	0.044	<0.00150 U	**0.00173 J**	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U

NV = No Value

mg/L = milligrams per liter
µg/L = micrograms per liter
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high
U = not detected
UJ = not detected, level of detection is estimated

1. EPA - MCL- Maximum Contaminant Level
2. Texas Risk Reduction Program Tier 1 Groundwater PCLs - Residential
Last Revised May 2023

Bold result indicates a detection
Bold and highlighted result indicates an exceedance of a screening level

Table #. LHAAP-47 PDI Validated Groundwater COC Detections Summary

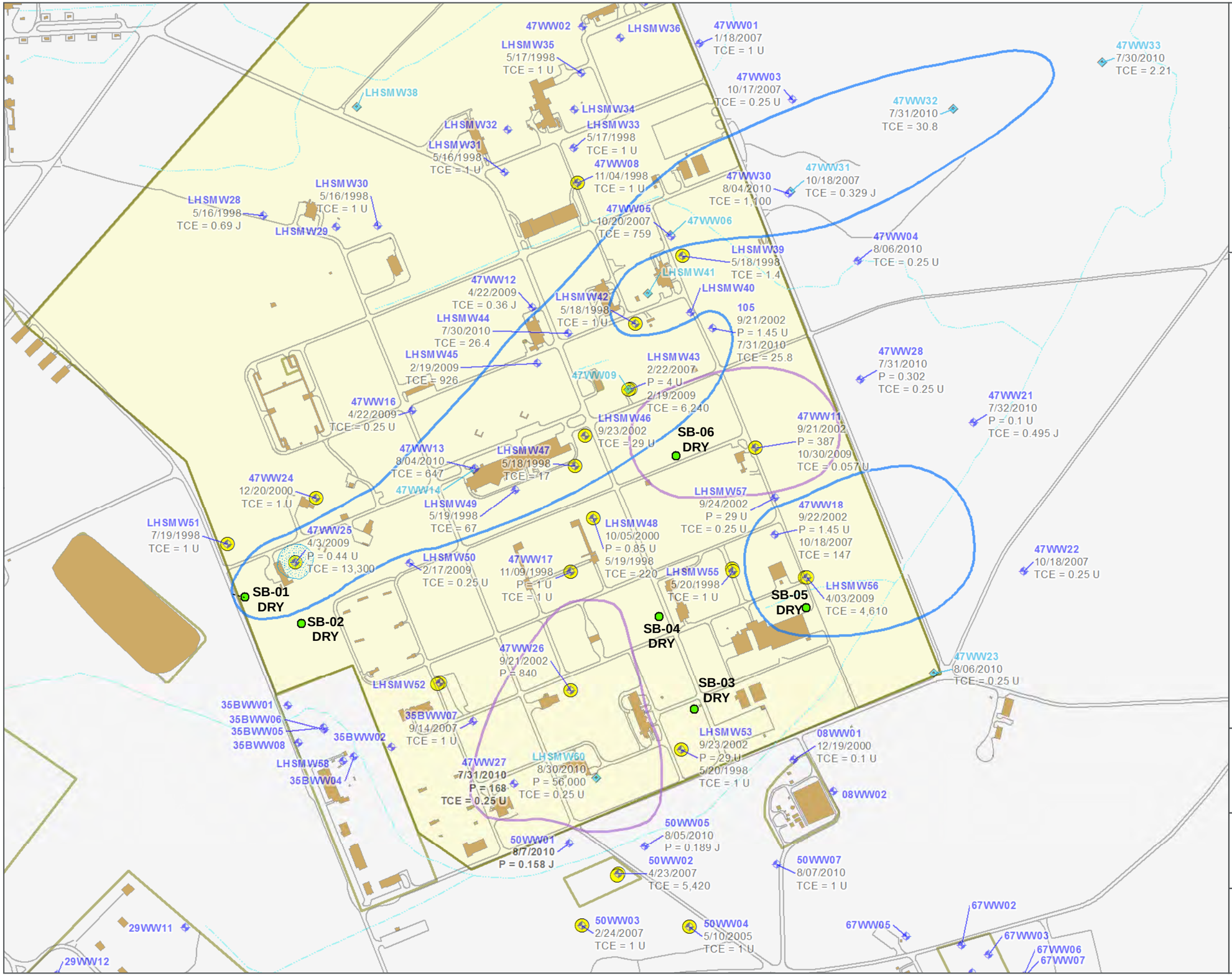
			Well ID	LHSMW50	LHSMW54	LHSMW55R	LHSMW56R	LHSMW57	LHSMW60
			Collection Date	05-31-2023	05-27-2023	05-28-2023	05-28-2023	05-28-2023	05-27-2023
			Lab ID	23F0136-12_	23E0775-11_	23E0775-20_	23E0775-21_	23E0775-15_	23E0775-10_
			Zone	Shallow	Intermediate	Shallow/Intermediate	Shallow/Intermediate	Shallow	Shallow/Intermediate
VOCs - SW8260B									
1,1-Dichloroethane	µg/L	NV	4900	<0.134 U	<0.0669 U	<0.134 U	**16.6**	<0.134 U	<0.0669 U
1,1-Dichloroethene	µg/L	7	7	<0.191 U	<0.0954 U	<0.191 U	**46 J**	<0.191 U	<0.0954 U
Acetone	µg/L	NV	22000	<1.04 U	<0.518 U	<1.04 U	<0.518 U	<1.04 U	<0.518 U
Chloroform	µg/L	NV	80	<0.203 U	<0.101 U	<0.203 U	<0.101 U	<0.203 U	<0.101 U
cis-1,2-Dichloroethene	µg/L	70	70	<0.205 U	**0.76 J+**	<0.205 U	**34 J**	<0.205 U	<0.103 U
Tetrachloroethene	µg/L	5	5	<0.357 U	<0.178 U	<0.357 U	**0.42 J**	<0.357 U	<0.178 U
trans-1,2-Dichloroethene	µg/L	100	100	<0.171 U	<0.0855 U	<0.171 U	**1.14**	<0.171 U	<0.0855 U
Trichloroethene	µg/L	5	5	<0.156 U	**56.1**	<0.156 U	**5190**	<0.156 U	**2.79 J+**
Vinyl chloride	µg/L	2	2	<0.258 U	<0.129 U	<0.258 U	**5.61**	<0.258 U	<0.129 U
Perchlorate - 6850									
Perchlorate	µg/L	NV	17	**0.203**	**0.415**	**0.0356 J**	<0.025 U	<0.025 U	**23600**
Metals- SW6020B, SW6020D, SW7470A									
Aluminum	mg/L	NV	24	<0.0250 U	<0.0250 U	**0.0451 J**	**0.0431 J**	**0.427**	<0.0250 U
Aluminum, Dissolved	mg/L	NV	24	<0.0250 U	<0.0250 U	<0.0250 U	<0.0250 U	**0.0328 J**	<0.0250 U
Antimony	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Antimony, Dissolved	mg/L	0.006	0.006	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U	<0.00300 U
Arsenic	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
Arsenic, Dissolved	mg/L	0.01	0.01	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
Cadmium	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Cadmium, Dissolved	mg/L	0.005	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Chromium	mg/L	0.1	0.1	**0.0938**	**0.388**	**0.0306**	**0.0264**	**0.0189 J**	**0.369**
Chromium, Dissolved	mg/L	0.1	0.1	**0.0149 J**	**0.0218 J**	**0.0208 J**	**0.0112 J**	<0.00250 U	**0.0148 J**
Cobalt	mg/L	NV	0.24	<0.00300 U	**0.00327 J**	**0.00958 J**	**0.00588 J**	**0.0045 J**	<0.00300 U
Cobalt, Dissolved	mg/L	NV	0.24	<0.00250 U	<0.00250 U	**0.00534 J**	<0.00250 U	**0.00347 J**	**0.00258 J**
Manganese	mg/L	NV	1.1	**0.00889 J**	**0.0366**	**0.279**	**0.297**	**0.0298**	<0.00250 U
Manganese, Dissolved	mg/L	NV	1.1	**0.008 J**	**0.0268**	**0.226**	**0.0359**	**0.0258**	**0.02 J**
Nickel	mg/L	NV	0.49	**0.423**	**0.81**	**0.0202 J**	**0.0139 J**	**0.00684 J**	**0.494 J**
Nickel, Dissolved	mg/L	NV	0.49	**0.551**	**0.786**	**0.0184 J**	**0.013 J**	**0.00577 J**	**0.554**
Strontium	mg/L	NV	15	**4.12**	**0.971**	**3.34**	**1.12**	**0.0218 J**	**0.891**
Strontium, Dissolved	mg/L	NV	15	**4.26**	**0.975**	**3.31**	**1.17**	**0.0181 J**	**0.731**
Thallium	mg/L	0.002	0.002	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U	<0.000400 U
Vanadium	mg/L	NV	0.044	<0.00150 U	**0.00238 J**	**0.00193 J**	**0.00246 J**	**0.00183 J**	<0.00150 U
Vanadium, Dissolved	mg/L	NV	0.044	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U	<0.00150 U

NV = No Value

mg/L = milligrams per liter
µg/L = micrograms per liter
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high
U = not detected
UJ = not detected, level of detection is estimated

1. EPA - MCL- Maximum Contaminant Level
2. Texas Risk Reduction Program Tier 1 Groundwater PCLs - Residential
Last Revised May 2023

Bold result indicates a detection
Bold and highlighted result indicates an exceedance of a screening level



LEGEND

- Soil Boring Location, Sampled 2018
- Shallow Monitoring Well
- Shallow/Intermediate Monitoring Well
- Well Dry in 2010
- Perchlorate Exceeding Shallow Zone TRRP PCL (17 µg/L), 2010 and prior
- Trichloroethene Exceeding Shallow Zone MCL (5 µg/L), 2010 and prior
- Hot Spot DPT Grid ISEB
- Road
- Stream
- Building
- LHAAP-47
- LHAAP Site

NOTE: Soil boring data blocks apply to groundwater grab samples. Map data and plume boundries apply to previous sampling results through 2010 .

GROUNDWATER GRAB SAMPLE RESULTS
SHALLOW ZONE
MAY 2018

LHAAP-47
LONGHORN ARMY AMMUNITION PLANT

N

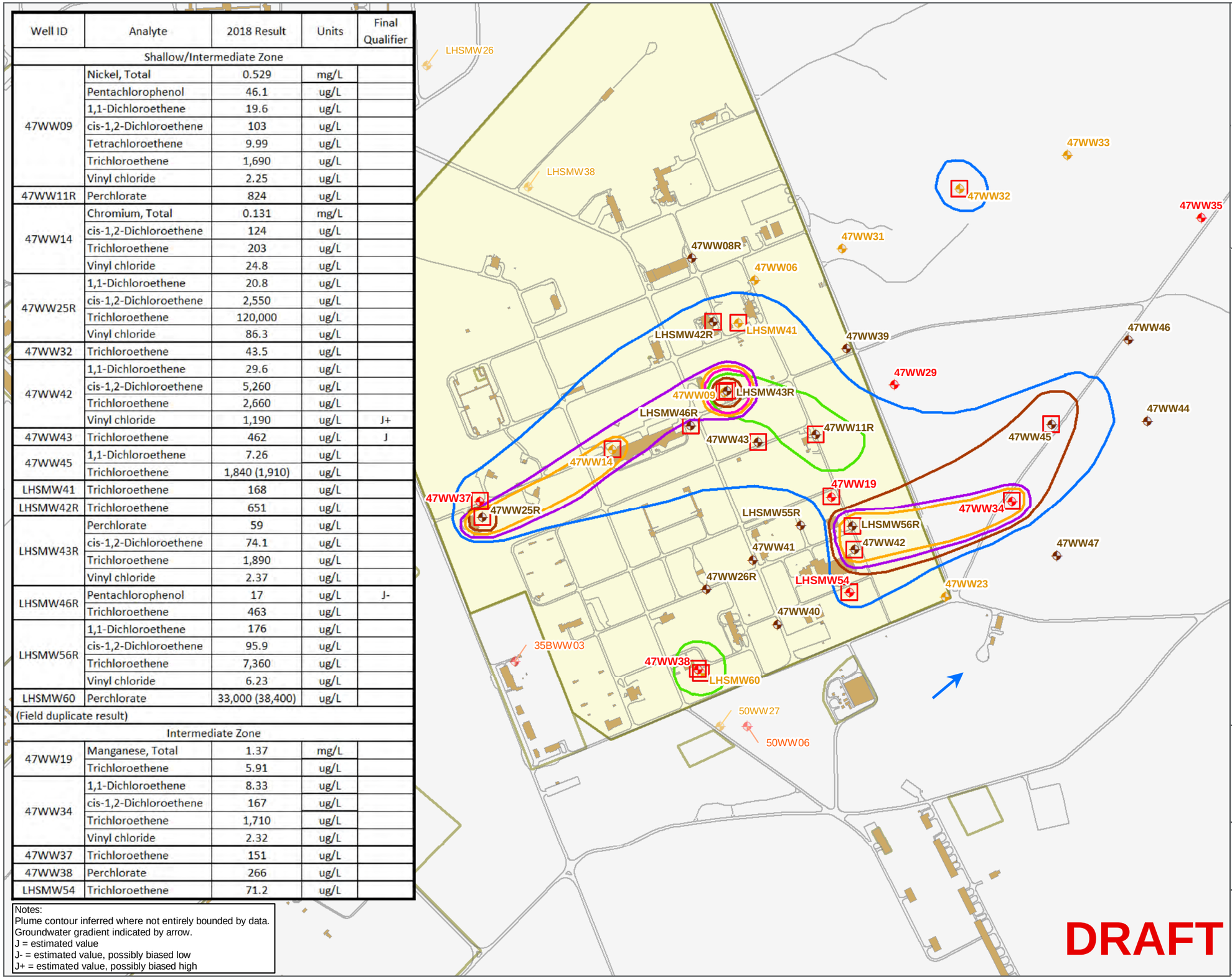
0 500 1,000
FEET

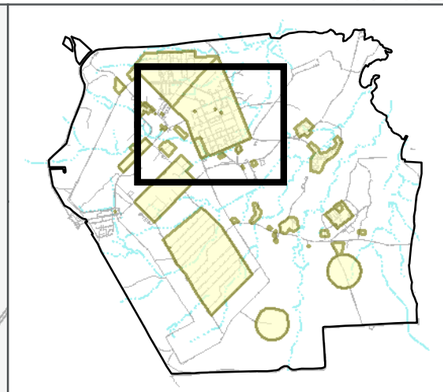
FIGURE 5

PATH: J:\2018\18-025_LHAAP_SITES29_47_18AND24_ROD_(WERNER)\7.2_WORK_IN_PROGRESS\MAP_DOCS\DRAFT\LHAAP47\LHAAP47_PRELIMINARY_SAMPLING_RESULTS_SHALLOW_SB.MXD - USER: EBOWLIN - DATE: 3/13/2019

Well ID	Analyte	2018 Result	Units	Final Qualifier
Shallow/Intermediate Zone				
47WW09	Nickel, Total	0.529	mg/L	
	Pentachlorophenol	46.1	ug/L	
	1,1-Dichloroethene	19.6	ug/L	
	cis-1,2-Dichloroethene	103	ug/L	
	Tetrachloroethene	9.99	ug/L	
	Trichloroethene	1,690	ug/L	
	Vinyl chloride	2.25	ug/L	
47WW11R	Perchlorate	824	ug/L	
47WW14	Chromium, Total	0.131	mg/L	
	cis-1,2-Dichloroethene	124	ug/L	
	Trichloroethene	203	ug/L	
	Vinyl chloride	24.8	ug/L	
47WW25R	1,1-Dichloroethene	20.8	ug/L	
	cis-1,2-Dichloroethene	2,550	ug/L	
	Trichloroethene	120,000	ug/L	
	Vinyl chloride	86.3	ug/L	
47WW32	Trichloroethene	43.5	ug/L	
47WW42	1,1-Dichloroethene	29.6	ug/L	
	cis-1,2-Dichloroethene	5,260	ug/L	
	Trichloroethene	2,660	ug/L	
	Vinyl chloride	1,190	ug/L	J+
47WW43	Trichloroethene	462	ug/L	J
47WW45	1,1-Dichloroethene	7.26	ug/L	
	Trichloroethene	1,840 (1,910)	ug/L	
LHSMW41	Trichloroethene	168	ug/L	
LHSMW42R	Trichloroethene	651	ug/L	
LHSMW43R	Perchlorate	59	ug/L	
	cis-1,2-Dichloroethene	74.1	ug/L	
	Trichloroethene	1,890	ug/L	
	Vinyl chloride	2.37	ug/L	
LHSMW46R	Pentachlorophenol	17	ug/L	J-
	Trichloroethene	463	ug/L	
LHSMW56R	1,1-Dichloroethene	176	ug/L	
	cis-1,2-Dichloroethene	95.9	ug/L	
	Trichloroethene	7,360	ug/L	
	Vinyl chloride	6.23	ug/L	
LHSMW60	Perchlorate	33,000 (38,400)	ug/L	
(Field duplicate result)				
Intermediate Zone				
47WW19	Manganese, Total	1.37	mg/L	
	Trichloroethene	5.91	ug/L	
47WW34	1,1-Dichloroethene	8.33	ug/L	
	cis-1,2-Dichloroethene	167	ug/L	
	Trichloroethene	1,710	ug/L	
	Vinyl chloride	2.32	ug/L	
47WW37	Trichloroethene	151	ug/L	
47WW38	Perchlorate	266	ug/L	
LHSMW54	Trichloroethene	71.2	ug/L	

Notes:
Plume contour inferred where not entirely bounded by data.
Groundwater gradient indicated by arrow.
J = estimated value
J- = estimated value, possibly biased low
J+ = estimated value, possibly biased high





LEGEND

- Monitoring Well With Contaminant That Exceeds Cleanup Criteria
- Sampled Shallow/Intermediate Monitoring Well
- Shallow/Intermediate Monitoring Well (Not Sampled)
- Intermediate Monitoring Well (Not Sampled)
- Sampled Intermediate Monitoring Well
- Sampled Intermediate (Upper) Monitoring Well
- 1,1-Dichloroethene Exceeding Shallow Zone USEPA MCL (7µg/L)
- Vinyl Chloride Exceeding Shallow Zone USEPA MCL (2µg/L)
- cis-1,2-Dichloroethene Exceeding Shallow Zone USEPA MCL (70µg/L)
- Trichloroethene Exceeding Shallow Zone USEPA MCL (5µg/L)
- Perchlorate Exceeding Shallow Zone TRRP PCL (17µg/L)
- Tetrachloroethene Exceeding Shallow Zone USEPA MCL (5µg/L)
- Road
- Building
- LHAAP-47
- LHAAP Site

DISCLAIMER: Map information was compiled from the best available sources. No warranty is made for its accuracy or completeness.

SAMPLE RESULTS FOR INTERMEDIATE GROUNDWATER JULY AND SEPTEMBER 2018

LHAAP-47
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

N

0 500 1,000
FEET

FIGURE 8

Perchlorate Quarterly Groundwater Analytical Results
LHAAP-17 June 2023

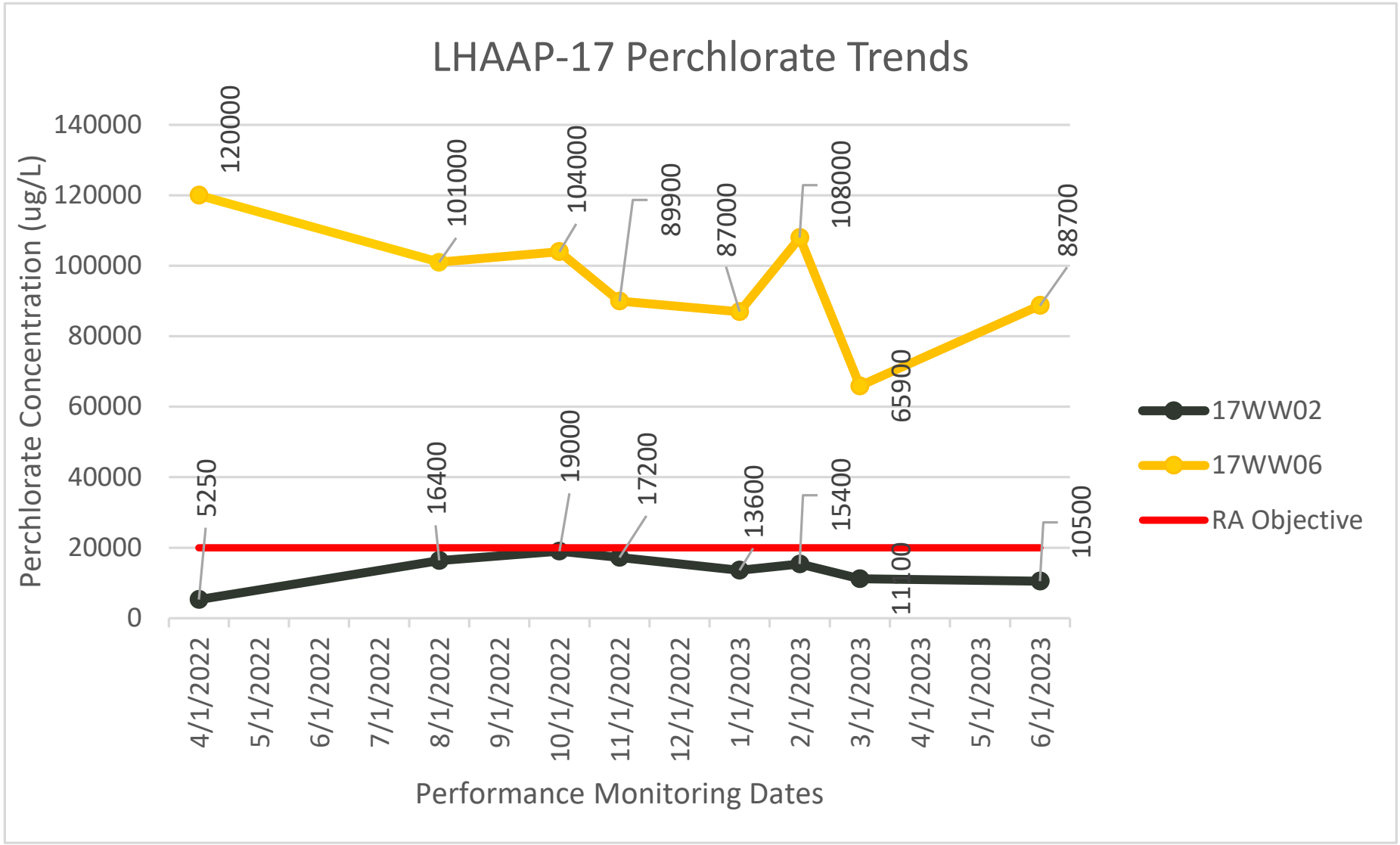
Location ID: Sample Date:	Units	PCL	130_060123 6/1/23	17WW01_060123 6/1/23	17WW01_060123_a 6/1/23	17WW02_060123 6/1/23	17WW03_060123 6/1/23	17WW06_060123 6/1/23
Perchlorate (6850)								
Perchlorate	µg/L	17	**2.41**	**0.0606 J**	**0.114 J**	**10,500**	**0.0414 J**	**88,700**

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Highlighted results exceed the perchlorate PCL

µg/L - micrograms per liter

J - Estimated Value. Concentration found below the limit of quantitation


LHAAP-17 Perchlorate Trends
Perchlorate Concentration (ug/L)
140000
120000
100000
80000
60000
40000
20000
0
120000
101000
104000
89900
87000
108000
65900
88700
5250
16400
19000
17200
13600
15400
11100
10500
4/1/2022
5/1/2022
6/1/2022
7/1/2022
8/1/2022
9/1/2022
10/1/2022
11/1/2022
12/1/2022
1/1/2023
2/1/2023
3/1/2023
4/1/2023
5/1/2023
6/1/2023
Performance Monitoring Dates
17WW02
17WW06
RA Objective

17WW02		4/8/2022
COC	PCL	Result
Perchlorate	17	5,250

130		4/8/2022
COC	PCL	Result
Perchlorate	17	15.0

17WW06		4/8/2022
COC	PCL	Result
Perchlorate	17	120,000

17WW01		4/8/2022	4/21/2022
COC	PCL	Result	Result
Perchlorate	17	239	46.8

17WW03		4/8/2022
COC	PCL	Result
Perchlorate	17	44.7 J / 7.78 J

COCs shown on this figure	
COC	PCL
Perchlorate	17

Notes:
PCL – TRRP Tier 1 Groundwater Residential Protective Concentration Level
TRRP - Texas Risk Reduction Program
Bold Red values exceed the PCL
J - Estimated Value. Concentration found below the limit of quantitation
All results and PCLs are reported in micrograms per liter (µg/L)

Legend

- Extraction Well
- Shallow Monitoring Well
- Intermediate Monitoring Well
- LHAAP-17 Boundary
- Road
- Stream

Longhorn Army Ammunition Plant
Karnack, Texas

Figure X
Baseline Groundwater Sampling Analytical Results (April 2022)

0 50 100 200 Feet

1 inch = 100 feet

Prepared By: MMG / TLI JOINT VENTURE

Map Date: 9/27/2022

Service Layer Credits: Google satellite imagery

Document Path: Z:\Projects\MSC20200016 Longhorn\0002 RIP\0031 RA RACR\AB Extraction LHAAP 17\Figure X.mxd

Subject: **Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting: **WebEx**
Date of Meeting: **20 September 2023 – 10:00 AM Central Daylight Time (CDT)**

Attendees:

USAEC:	Lena Sierocinski (LS)
USEPA:	Brian Follin (BF)
USGS:	Tim Bartos, Christopher Braun
USACE:	Aaron Williams (AW)
BRAC:	Kyle Russel (KR)
TCEQ:	April Palmie (AP)
PCI/Bhate JV:	Zachary Beck (ZB), Scott Beesinger (SB), Erin Bradley, and Ike Eldridge
APTIM:	Praveen Srivastav (PS)
HDR:	Gregory Kelly (GK) and Phil Werner (PW)
TLI:	Jonathan Tatman (JT)

Defense Environmental Restoration Program (DERP) Performance-Based Remediation Update

There were no outstanding action items to discuss.

Groundwater Treatment Plant (GWTP) – ZB discussed the status of the sand filter and actions being taken to increase the flow through the sand filter. ZB said that the sand filter is currently being backwashed and air sparged to improve flow, which currently allows approximately 110 gallons per minute (gpm). ZB explained that regardless of how fast processed water can be moved through the sand filter, the GWTP is currently operating as fast as possible given the constraints of the Fluidized bed reactor (FBR) flow rate and the amount of treated water being discharged each week. ZB said that as a result, the sand filter is not inhibiting extraction or hydraulic control at LHAAP-18/24 and therefore does not recommend the replacement of sand. However, ZB explained that the GWTP is being run continuously and therefore approximately two times as much water is being extracted/processed as when running once per week.

SB discussed the repairs in progress. SB stated repairs included clearing the polymer feed line to install the new polymer feed pump. However, during this repair multiple leaks on the potable water line have developed which are also being repaired. SB said the mixer motors in each of the pre-treatment system tanks (TK200A, 200B, and 200C) require replacement and is currently waiting on a response from vendors. Due to the age of the motors an exact replacement may not be available. SB reported backwashing/filtering twice a week with minimal improvement to be seen to date. SB stated a completion date on the mixed motors is unknown but is anticipated soon, with all other aspects of the system working as expected.

Field Work – ZB said that Remedial Action – Operation (RA-O) Year 4, 2nd semiannual monitoring at LHAAP-04 was completed in early August 2023 and is included in the September 2023 package. ZB said LHAAP-17 and LHAAP-29 sampling events were completed in September 2023 and the validated data will likely be included in the October 2023 MMM.

ZB asked everyone to refer to the Document and Issues (DI) Tracking Table for September 2023.

- **Tasks 1 -5** (Project Management) – ZB said that the Draft August 2023 MMM minutes were submitted on 29 August 2023 and are still under United States Environmental Protection Agency (USEPA) review. ZB stated the Texas Commission on Environmental Quality (TCEQ)

provided no comment via email on 5 September 2023. ZB said that the June 2023 Restoration Advisory Board (RAB) minutes were submitted 20 July 2023, the Draft Final revisions were approved, and the next step is to submit to members at the next meeting. ZB said the next RAB will be held in November 2023.

- **Task 6** (LHAAP-04) – ZB stated that the Year 4 Annual RA-O Report is in progress and is scheduled for submittal to the Regulators in October 2023. ZB said that the Year 3 Annual RA-O will be moved to the Administrative Record (AR) in the July-September 2023 update. ZB said the Year 4 2nd Semi-Annual RA-O Sampling event was completed in August 2023, and presented the validated data. ZB stated perchlorate continues to be non-detect/low level while the dissolved oxygen (DO) has significantly increased indicating groundwater is becoming less anerobic. Oxidation-reduction potential (ORP) is also increasing compared to the Year 4, 1st semiannual event completed in February 2023, which is another indicator that groundwater is returning to aerobic conditions. Groundwater will continue to be monitored semiannually.
- **Task 7** (LHAAP-12) – ZB said that the LHAAP-12 2022 (Year 15) Annual RA-O Report was considered Final as of the beginning of July 2023 with the next action to place into the AR.
- **Task 8** (LHAAP-16) – PS stated that the Year 4, 1st Semiannual RA-O Sampling was completed in July 2023, with the validated data to be presented in the October 2023 MMM. PS said that the Year 2 RA-O Report was finalized in May 2023. PS said the Year 3 RA-O Report is in progress and is scheduled for submittal to the Regulators in October 2023.
- **Task 1022** (Option 22: LHAAP-16) – PS said the Conceptual Site Model Work Plan was submitted to the Army for review in September 2023. PS stated the work plan proposed includes installation of gauges in Harrison Bayou to gauge water levels with the aim of understanding the interaction between groundwater and the Bayou. PS said an expedited review was requested and that Army Draft comments are currently being reviewed.
- **Task 9** (LHAAP-18/24/GWTP) – ZB said the full Semiannual sampling event was completed in June 2023. ZB stated a new well (1824DPTMW07) which was installed in June 2023, was sampled on 1 August 2023. ZB summarized the data indicating findings were largely non-detect, apart from a small detection of 1-4 dioxane. ZB said that monitoring well 1824DPTMW07 was installed down gradient of the interception collection trenches (ICT) and monitoring well 18WW08 to define nature and extent of the perchlorate and trichloroethene (TCE) plumes. ZB said that both perchlorate and TCE were non detect.
- **Task 10** (LHAAP-37) – PS said that the Draft Year 6 Annual RA-O Report was submitted for Regulatory review on 10 August 2023. PS stated that USEPA comments were received on 11 September 2023 and responses are in progress. PS said the Year 5 Annual RA-O Report was considered final as of February 2023 and will be moved to the AR.
- **Task 11** (LHAAP-46) – PS said that the Year 9 RA-O Draft Report is in preparation for submittal in October 2023.
- **Task 12** (LHAAP-50) **–** ZB said that the Year 9 RA-O Report is in progress with an anticipated submittal in October 2023. ZB stated the October 2022 and May 2023 Semiannual events will be presented in the Year 9 RA-O Report.
- **Task 13** (LHAAP-58) – ZB stated the last Semiannual event was completed in June 2023 and the additional well (35AWW27) sampled in August 2023 is included in the data package. ZB said the well is installed down gradient of monitoring well 35AWW14 between the eastern/western plumes. ZB explained that 1,1-dichloroethene (DCE) and TCE were

detected above the maximum contaminant levels (MCL) at 35AWW14 in June 2023, However, both 1,1-DCE, TCE and all other contaminants of concern (COC) were detected below their respective MCLs at 35AWW27 indicating that the edge of the plume is bounded downgradient of 35AWW14. ZB said the Year 9 RA-O Report is in progress for submittal to Regulators in October 2023.

- **Task 14** (LHAAP-67) – PS said the Year 9 Annual RA-O Draft Final report and response was submitted on 12 September 2023 and is in review for concurrence by Regulators.
- **Task 15** (LHAAP-001-R-01 and LHAAP-003-R-01) – ZB states that annual inspections are scheduled for September 2023. ZB said the Annual Long Term Management Report is in preparation for submittal in November 2023.
- **Task 16** (Surface Water) – ZB said that the 3rd Quarter 2023 surface water sampling has not been completed to date due to no flow in the Bayou. ZB expressed concern that the 3rd Quarter surface water sample may not be collected in time due to the dry conditions, with the end of the 3rd Quarter on 30 September 2023. ZB said that the 3rd Quarter surface water sample could be collected late, potentially in October with the 4th quarter collected in December 2023. AW stated that in the past, late collection has taken place, however if too late, report it as dry and proceed to collect in the 4th Quarter.
- **Task 17** (2023 Land Use Control [LUC] Management Plan) – There were no outstanding items to discuss.
- **Task 18** (AR) – PS said the January through March 2023 AR was shipped in early September 2023. PS said the April through June 2023 AR tracking sheet is in preparation with a tentative Regulatory submittal for October 2023.

Update on other DERP Sites:

- **LHAAP 18/24 –** PW stated that Regulatory comments for the 100 percent (%) LHAAP 18/24 Remedial Design (RD) are being addressed in September 2023 and will be prepared for submittal for one final review. AP and BF indicated that TCEQ and USEPA will have to review the Incremental Sampling Methodology proposed, since this was the first time it had been mentioned in the RD.
- **LHAAP-29** – PW stated that Regulatory comments for 100% LHAAP-29 Draft RD are being addressed in September 2023. AP stated TCEQ requested a 20-day extension for review on 11 September 2023.
- **LHAAP-47** – GK said the Draft Pre-Design Investigation (PDI) Report is in preparation for submittal to the Regulators in October 2023.
- **LHAAP-17** – ZB stated that the most recent Quarter sampling Event #8 at LHAAP 17 was completed in September 2023, and validated data will be included in the October 2023 data package. JT said that the Draft Interim Remedial Action Completion Report (IRACR) Regulatory review comments are being addressed. The Draft Final IRACR will be submitted to the Regulators in September 2023 and will include redline strikeout changes based on comments received. ZB said the Year 1 RA-O Report will include data through September 2023. As requested via email by TCEQ, ZB explained the plan to extend the operation period of the extraction system by 1-2 months due to the GWTP being down in April 2023. ZB stated that the final quarterly sampling event is scheduled for April 2024 and a decision will be made to continue operating the system or to move to a contingency remedy. ZB stated that perchlorate has consistently decreased, and this trend is expected to continue and will be discussed further during the October 2023 MMM.

Per- and polyfluoroalkyl substances (PFAS) Update:

LS stated that the Final PFAS PA/SI was submitted to Regulators 18 August 2023. AP requested that the Remedial Investigation (RI) documents status be added to the DI tracker. LS explained that there are plans for the RI on a future contract in fiscal year 2024.

Five-Year Review:

LS said that the Five-Year Review Report is due in December 2023. LS stated nothing has been received to date and will follow up if not received by the end of September 2023.

Transfer Update:

KR stated that an update regarding the transfer package is anticipated soon. KR said that Erik Duerkop, who is the interim replacement for Paul Bruckwicki, is reviewing the Environmental Condition of Property assessment.

Schedule Next Managers' Meeting: The team discussed moving the next MMM for October due to conflicts in schedule. After discussion, ZB said the next MMM will be held via WebEx on Wednesday 25 October 2023 at 10:00 AM CDT.

Meeting concluded at approximately 10:45 AM CDT.

PCIbhate

ACRONYM LIST

%	percent
AP	April Palmie
AR	Administrative Record
AW	Aaron Williams
BF	Brian Follin
CDT	Central Daylight Time
COC	Contaminant of Concern
DCE	Dichloroethene
DERP	Defense Environmental Restoration Program
DI	Documents and Issues
DO	Dissolved Oxygen
FBR	Fluidized bed reactor
GK	Gregory Kelly
gpm	gallons per minute
GWTP	Groundwater Treatment Plant
ICT	Interceptor Collection Trench
IRACR	Interim Remedial Action Completion Report
JT	Jonathan Tatman
KR	Kyle Russel
LHAAP	Longhorn Army Ammunition Plant
LS	Lena Sierocinski
LUC	Land Use Control
MCL	Maximum Contaminant Levels
MMM	Monthly Managers' Meeting
ORP	Oxidation Reduction Potential
PBJV	Poarch Creek Indians, Governmental Services, LLC /Bhate Environmental Associates Joint Venture
PDI	Pre-Design Investigation
PS	Praveen Srivastav
PW	Phil Werner
RAB	Restoration Advisory Board
RA-O	Remedial Action – Operation
RD	Remedial Design
SB	Scott Beesinger
SI	Site Inspection
TCE	Trichloroethene
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
ZB	Zachary Beck

LHAAP Validated Data
September 2023 MMM

GWTP Effluent	*Weekly Perchlorate Sampling –August 2023* Perchlorate (6850)
GWTP Effluent	*Weekly, Bi-Weekly, and Monthly Sampling – August 2023* Ammonia (350.3) Ortho-Phosphate (365.3) Total Organic Carbon (415.1) VOC (8260C) Metals (6020A) Hexavalent Chromium (7196A) 1,4-Dioxane (8270D-SIM) Anions (9056)
GWTP Influent	*Monthly Sampling – August 2023* Metals (6020A) Perchlorate (6850) Hexavalent Chromium (7196A)
GWTP Quarterly	*Influent and Effluent – August 2023* Oil and Grease (1664A) Perchlorate (6850) Metals (6020A/7470A) 1,4-Dioxane (8270D-SIM) Chemical Oxygen Demand (410.4) VOC (8260C) Anions (9056A)
LHAAP-18/24	*Semiannual Sampling Event (1824DPTMW07) - August 2023* Perchlorate (6850) VOC (8260C) 1,4-Dioxane (8270D-SIM)
LHAAP-58	*Semiannual Sampling Event (35AWW27) - August 2023* VOC (8260C)
LHAAP-04	*Year 4 Semiannual Event #2* Perchlorate (6850)

GWTP Weekly/Effluent Perchlorate Sampling - August 2023

Location ID: Sample Date:	Units	Daily Maximum Conc	PCL	LH18/24-SP650_080123_BIX 8/1/23	LH18/24-SP650_080123_AIX 8/1/23	LH18/24-SP650_080123_AIX 8/1/23	LH18/24-SP650_080823_BIX 8/8/23	LH18/24-SP650_080823_Between IX 8/8/23	LH18/24-SP650_080823_AIX 8/8/23	LH18/24-SP650_081623_BIX 8/16/23	LH18/24-SP650_081623_Between IX 8/16/23	LH18/24-SP650_081623_AIX 8/16/23	LH18/24-SP650_081623_AIX 8/16/23	LH18/24-SP650_082223_BIX 8/22/23	LH18/24-SP650_082223_AIX 8/22/23	LH18/24-SP650_083023_BIX 8/30/23	LH18/24-SP650_083023_AIX 8/30/23
Location Description				Weekly	Weekly	Monthly Eff	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Quarterly EFF	Weekly	Weekly	Weekly	Weekly
Perchlorate (6850)																	
Perchlorate	µg/L	589	17	**283**	**9.16**	**9.22**	**157**	**0.639**	**0.318**	**55**	**0.383**	**0.341**	**0.293**	**307**	**10.3**	**154**	**5.29**

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

µg/L - micrograms per liter

BIX - before ion exchange/AIX - after ion exchange

J - estimated detection between the detection limit and limit of quantitation

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

Result exceeds the PCL

All treaterd groundwater discharged to the INF Pond in August 2023 was below the PCL for perchlorate.

GWTP Weekly Sampling – August 2023

Location ID: / Sample Date:	Units	Daily Maximum Conc	LH18/24-SP650_080123 8/1/23	LH18/24-SP650_080823 8/8/23	LH18/24-SP650_081623 8/16/23	LH18/24-SP650_082223 8/22/23	LH18/24-SP650_083023 8/30/23
Location Description			**GWTP-Collected from a spigot on the discharge of effluent TK-6S0. Sampled Weekly.**				
Ammonia as N (350.3)							
Ammonia as N	mg/L	NV	6.9	1,800	380	9	13
Ortho-Phosphate (365.3)							
Ortho-Phosphate	mg/L	NV	0.848	6.35	6.43	0.359	2.71
Organic Carbon (415.1)							
Total Organic Carbon (TOC)	mg/L	NV	74	31.4	43.2	5.99	2.97

Notes:

mg/L milligrams per liter
NV no value

GWTP Bi-Weekly Sampling - August 2023

Location ID: Sample Date:	Units	(Bayou) Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_080823 8/8/23	LH18/24-SP650_082223 8/22/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Biweekly.**	
Volatile Organic Compounds (8260C)					
1,1,1-Trichloroethane	µg/L	7,230	200	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	NV	< 1.0 U	< 1.0 U
1,1-Dichloroethene	µg/L	253	7	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	181	5	< 1.0 U	< 1.0 U
1,2-Dichloropropane	µg/L	5	5	< 1.0 U	< 1.0 U
Acetone	µg/L	2,395	NV	< 1.0 U	< 1.0 U
Benzene	µg/L	181	5	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/L	181	5	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	47,180	100	< 1.0 U	< 1.0 U
Chloroform	µg/L	3,615	NV	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	NV	70	**3.4**	**3.0**
Ethylbenzene	µg/L	57,025	700	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	83.6	NV	< 2.0 U	< 2.0 U
Methylene chloride	µg/L	1,699	5	< 1.0 U	< 1.0 U
o-Xylene	µg/L	83.6	NV	< 1.0 U	< 1.0 U
Styrene	µg/L	5,987	100	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	180.7	5	< 1.0 U	< 1.0 U
Toluene	µg/L	4,189	10	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	181	5	< 1.0 U	< 1.0 U
Vinyl chloride	µg/L	72	2	< 1.0 U	< 1.0 U
Anions (9056)					
Chloride	mg/L	NV	NV	**1,310**	**1,200**
Sulfate	mg/L	NV	NV	**75.1**	**76.9**

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - No Value

GWTP Monthly Effluent Sampling - August 2023

Location ID: Sample Date:	Units	Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_080123 8/1/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled monthly**
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	200	< 0.50 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 0.50 U
1,1-Dichloroethane	µg/L	14,032	NV	< 0.50 U
1,1-Dichloroethene	µg/L	253	7	< 0.50 U
1,2-Dichloroethane	µg/L	181	5	< 0.50 U
1,2-Dichloropropane	µg/L	5	5	< 0.50 U
Acetone	µg/L	2,395	NV	< 2.0 U
Benzene	µg/L	181	5	< 0.50 U
Carbon tetrachloride	µg/L	181	5	< 0.50 U
Chlorobenzene	µg/L	47,180	100	< 0.50 U
Chloroform	µg/L	3,615	NV	< 0.50 U
cis-1,2-dichloroethene	µg/L	NV	70	**3.5**
Ethylbenzene	µg/L	57,025	700	< 0.50 U
m,p-Xylene	µg/L	83.6	NV	< 1.0 U
Methylene chloride	µg/L	1,699	5	< 2.0 U
o-Xylene	µg/L	83.6	NV	< 0.50 U
Styrene	µg/L	5,987	100	< 0.50 U
Tetrachloroethene	µg/L	180.7	5	< 0.50 U
Toluene	µg/L	4,189	10	< 0.50 U
Trichloroethene	µg/L	181	5	< 0.50 U
Vinyl chloride	µg/L	72	2	< 0.50 U
Metals (6020A)				
Barium	mg/L	2	2	**0.152**
Lead	mg/L	0.0046	0.015	< 0.00125 U
Selenium	mg/L	0.012	0.05	< 0.00250 U
Silver	mg/L	0.003	0.1	< 0.000500 U
Hexavalent Chromium (7196A)				
Hexavalent Chromium	mg/L	0.1244	NV	< 0.00600 U
Semi-Volatile Organic Compounds (8270D SIM)				
1,4-Dioxane	µg/L	134.2	NV	**0.90**

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - no value

GWTP Monthly Influent Sampling - August 2023

Location ID: / Sample Date:	Units	LH18/24-SP140_080123 8/1/23
Location Description		**GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.**
Metals (6020A)		
Selenium	mg/L	< 0.00250 U
Silver	mg/L	< 0.000500 U
Hexavalent Chromium (7196A)		
Hexavalent Chromium	mg/L	< 0.00600 U
Perchlorate (6850)		
Perchlorate	µg/L	**17,200**

mg/L - milligrams per liter

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

GWTP Quarterly Influent Sampling - August 2023

Location ID: / Sample Date:	Units	LH18/24-SP140_081623 8/16/23
Location Description		**GWTP – Collected from a spigot on the influent to TK-140. Sampled Quarterly.**
Oil and Grease (1664A)		
Oil & Grease	mg/L	< 1.00 U
Chemical Oxygen Demand (410.4)		
Chemical Oxygen Demand	mg/L	**16.0**
Perchlorate (6850)		
Perchlorate	µg/L	**19,200**
Volatile Organic Compounds (8260C)		
1,1,1,2-Tetrachloroethane	µg/L	< 10 U
1,1,1-Trichloroethane	µg/L	< 10 U
1,1,2,2-Tetrachloroethane	µg/L	< 10 U
1,1,2-Trichloroethane	µg/L	< 10 U
1,1-Dichloroethane	µg/L	**11**
1,1-Dichloroethene	µg/L	**57**
1,1-Dichloropropene	µg/L	< 10 U
1,2,3-Trichlorobenzene	µg/L	< 10 U
1,2,3-Trichloropropane	µg/L	< 10 U
1,2,4-Trichlorobenzene	µg/L	< 10 U
1,2,4-Trimethylbenzene	µg/L	< 10 U
1,2-Dibromo-3-chloropropane	µg/L	< 10 U
1,2-Dibromoethane	µg/L	< 10 U
1,2-Dichlorobenzene	µg/L	< 10 U
1,2-Dichloroethane	µg/L	**34**
1,2-Dichloropropane	µg/L	< 10 U
1,3,5-Trimethylbenzene	µg/L	< 10 U
1,3-Dichlorobenzene	µg/L	< 10 U
1,3-Dichloropropane	µg/L	< 10 U
1,4-Dichlorobenzene	µg/L	< 10 U
2,2-Dichloropropane	µg/L	< 10 U
2-Butanone	µg/L	< 10 U
2-Chlorotoluene	µg/L	< 10 U
2-Hexanone	µg/L	< 10 U
4-Chlorotoluene	µg/L	< 10 U
4-Isopropyltoluene	µg/L	< 10 U
4-Methyl-2-pentanone	µg/L	< 10 U
Acetone	µg/L	< 10 U
Benzene	µg/L	< 10 U
Bromobenzene	µg/L	< 10 U
Bromochloromethane	µg/L	< 10 U
Bromodichloromethane	µg/L	< 10 U

Bromoform	µg/L	< 10 U
Bromomethane	µg/L	< 10 U
Carbon disulfide	µg/L	< 10 U
Carbon tetrachloride	µg/L	**6.5 J**
Chlorobenzene	µg/L	< 10 U
Chloroethane	µg/L	< 10 U
Chloroform	µg/L	**12**
Chloromethane	µg/L	< 10 U
cis-1,2-Dichloroethene	µg/L	**2,400**
cis-1,3-Dichloropropene	µg/L	< 10 U
Dibromochloromethane	µg/L	< 10 U
Dibromomethane	µg/L	< 10 U
Dichlorodifluoromethane	µg/L	< 10 U
Ethylbenzene	µg/L	< 10 U
Hexachlorobutadiene	µg/L	< 10 U
Isopropylbenzene	µg/L	< 10 U
m,p-Xylene	µg/L	< 10 U
Methylene chloride	µg/L	**3,500**
Naphthalene	µg/L	< 10 U
n-Butylbenzene	µg/L	< 10 U
n-Propylbenzene	µg/L	< 10 U
o-Xylene	µg/L	< 10 U
sec-Butylbenzene	µg/L	< 10 U
Styrene	µg/L	< 10 U
tert-Butylbenzene	µg/L	< 10 U
Tetrachloroethene	µg/L	**7.1 J**
Toluene	µg/L	< 10 U
trans-1,2-Dichloroethene	µg/L	< 10 U
trans-1,3-Dichloropropene	µg/L	< 10 U
Trichloroethene	µg/L	**5,000**
Trichlorofluoromethane	µg/L	< 10 U
Vinyl chloride	µg/L	**90**
Metals (6020A)		
Aluminum	mg/L	**0.0497**
Antimony	mg/L	< 0.00125 U
Arsenic	mg/L	**0.000658 J**
Barium	mg/L	**0.488**
Beryllium	mg/L	< 0.000500 U
Cadmium	mg/L	< 0.000500 U
Calcium	mg/L	**52.6**
Chromium	mg/L	**0.00252 J**
Cobalt	mg/L	**0.00504**
Iron	mg/L	**0.569**
Lead	mg/L	< 0.00125 U
Magnesium	mg/L	**39.0**
Manganese	mg/L	**0.289**

Nickel	mg/L	**0.0133**
Potassium	mg/L	**1.07**
Selenium	mg/L	< 0.00250 U
Silver	mg/L	< 0.000500 U
Sodium	mg/L	**287**
Thallium	mg/L	**0.000995 J**
Vanadium	mg/L	**0.000923 J**
Zinc	mg/L	**0.0207**
Mercury	mg/L	< 0.000100 U
Anions (9056)		
Chloride	mg/L	**488**
Sulfate	mg/L	**47.4**
Semi-Volatile Organic Compounds (8270D SIM)		
1,4-Dioxane	µg/L	**1.3**

µg/L - micrograms per liter

mg/L - milligrams per liter

J -estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

GWTP Quarterly Effluent Sampling - August 2023

Location ID: / Sample Date:	Units	Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_081623 8/16/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled quarterly**
Oil and Grease (1664A)				
Oil & Grease	mg/L	15	NV	< 1.00 U
Chemical Oxygen Demand (410.4)				
Chemical Oxygen Demand	mg/L	200	NV	**100.0**
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	200	< 1.0 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	NV	< 1.0 U
1,1-Dichloroethene	µg/L	253	7	< 1.0 U
1,2-Dichloroethane	µg/L	181	5	< 1.0 U
1,2-Dichloropropane	µg/L	5	5	< 1.0 U
Acetone	µg/L	2,395	NV	< 1.0 U
Benzene	µg/L	181	5	< 1.0 U
Carbon tetrachloride	µg/L	181	5	< 1.0 U
Chlorobenzene	µg/L	47,180	100	< 1.0 U
Chloroform	µg/L	3,615	NV	< 1.0 U
cis-1,2-dichloroethene	mg/L	NV	70	**3.1**
Ethylbenzene	µg/L	57,025	700	< 1.0 U
m,p-Xylene	µg/L	83.6	NV	< 2.0 U
Methylene chloride	µg/L	1,699	5	< 1.0 U
o-Xylene	µg/L	83.6	NV	< 1.0 U
Styrene	µg/L	5,987	100	< 1.0 U
Tetrachloroethene	µg/L	180.7	5	< 1.0 U
Toluene	µg/L	4,189	10	< 1.0 U
Trichloroethene	µg/L	181	5	< 1.0 U
Vinyl chloride	µg/L	72	2	**0.80 J**
Metals (6020A)				
Aluminum	mg/L	1.644	NV	0.0105 UB
Antimony	mg/L	NV	0.006	< 0.00125 U
Arsenic	mg/L	0.722	0.01	**0.000623 J**
Barium	mg/L	2	2	**0.195**
Beryllium	mg/L	NV	0.004	**0.000210 J**
Cadmium	mg/L	0.0034	0.005	**0.000267 J**
Calcium	mg/L	NV	NV	**13.5**
Chromium	mg/L	0.752	0.1	< 0.00125 U
Cobalt	mg/L	11.495	NV	**0.000228 J**
Iron	mg/L	2.395	NV	**0.0432 J**
Lead	mg/L	0.0046	0.015	< 0.00125 U
Magnesium	mg/L	NV	NV	**17.7**
Manganese	mg/L	15.494	NV	**0.0267**

Nickel	mg/L	0.184	NV	< 0.00125 U
Potassium	mg/L	NV	NV	**2.13**
Selenium	mg/L	0.012	0.05	< 0.00250 UJ
Silver	mg/L	0.003	NV	**0.000247 J**
Sodium	mg/L	NV	NV	**835**
Thallium	mg/L	NV	NV	**0.000577 J**
Vanadium	mg/L	3.592	NV	**0.00162 J**
Zinc	mg/L	0.31	NV	**0.00379 J**
Mercury	mg/L	NV	0.002	< 0.000100 U
Anions (9056)				
Chloride	mg/L	NV	NV	**1240**
Sulfate	mg/L	NV	NV	**64.5**
Semi-Volatile Organic Compounds (8270D SIM)				
1,4-Dioxane	µg/L	134.2	NV	**1.2**

µg/L - micrograms per liter

mg/L - milligrams per liter

J - estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

NV - No Value

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

UJ - estimated non-detect due to quality control issues

UB - considered an artifact of blank contamination

LHAAP 18/24 Semiannual Event			
Sample ID		MCL/MSC/PCL	1824DPTMW07_080223
Aquifer Zone			Shallow
Well Identification			1824DPTMW07
ANALYTE	UNITS		HS23080324-01
Method: 6850			
Perchlorate	µg/L	17*	**0.126**
Method: SW6020A			
Aluminum	mg/L	100	NA
Antimony	mg/L	0.006	NA
Arsenic	mg/L	0.01	NA
Barium	mg/L	2	NA
Beryllium	mg/L	0.004	NA
Cadmium	mg/L	0.005	NA
Calcium	mg/L	NV	NA
Chromium	mg/L	0.1	NA
Cobalt	mg/L	6.1	NA
Copper	mg/L	1.3	NA
Iron	mg/L	NV	NA
Lead	mg/L	0.015	NA
Magnesium	mg/L	NV	NA
Manganese	mg/L	1.1*	NA
Nickel	mg/L	0.49*	NA
Potassium	mg/L	NV	NA
Selenium	mg/L	0.05	NA
Silver	mg/L	0.51	NA
Sodium	mg/L	NV	NA
Thallium	mg/L	0.002	NA
Vanadium	mg/L	0.72	NA
Zinc	mg/L	31	NA
Method: SW7470A			
Mercury	mg/L	0.002	NA
Method: SW8260			
1,1,1,2-Tetrachloroethane	µg/L	110	<0.50 U
1,1,1-Trichloroethane	µg/L	200	<0.50 U
1,1,2,2-Tetrachloroethane	µg/L	14	<0.50 U
1,1,2-Trichloroethane	µg/L	5	<0.50 U
1,1-Dichloroethane	µg/L	10,000	<0.50 U
1,1-Dichloroethene	µg/L	7	<0.50 U
1,1-Dichloropropene	µg/L	2.9	<0.50 U
1,2,3-Trichlorobenzene	µg/L	310	<0.50 U
1,2,3-Trichloropropane	µg/L	0.041	<0.50 U
1,2,4-Trichlorobenzene	µg/L	70	<0.50 U
1,2,4-Trimethylbenzene	µg/L	5,100	<0.50 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	<0.50 U
1,2-Dibromoethane	µg/L	0.05	<0.50 U
1,2-Dichlorobenzene	µg/L	600	<0.50 U

LHAAP 18/24 Semiannual Event			
Sample ID		MCL/MSC/PCL	1824DPTMW07_080223
Aquifer Zone			Shallow
Well Identification			1824DPTMW07
ANALYTE	UNITS		HS23080324-01
1,2-Dichloroethane	µg/L	5	<0.50 U
1,2-Dichloropropane	µg/L	5	<0.50 U
1,3,5-Trimethylbenzene	µg/L	5,100	<0.50 U
1,3-Dichlorobenzene	µg/L	3,100	<0.50 U
1,3-Dichloropropane	µg/L	29	<0.50 U
1,4-Dichlorobenzene	µg/L	75	<0.50 U
2,2-Dichloropropane	µg/L	42	<0.50 U
2-Butanone	µg/L	61,000	<0.50 U
2-Chlorotoluene	µg/L	2,000	<0.50 U
2-Hexanone	µg/L	6,100	<2.0 U
4-Chlorotoluene	µg/L	2,000	<0.50 U
4-Isopropyltoluene	µg/L	10,000	<0.50 U
4-Methyl-2-pentanone	µg/L	8,200	<2.0 U
Acetone	µg/L	92,000	<2.0 U
Benzene	µg/L	5	<0.50 U
Bromobenzene	µg/L	2,000	<0.50 U
Bromochloromethane	µg/L	4,100	<0.50 U
Bromodichloromethane	µg/L	4.6	<0.50 U
Bromoform	µg/L	36	<0.50 U
Bromomethane	µg/L	140	<0.50 U
Carbon disulfide	µg/L	10,000	<2.0 U
Carbon tetrachloride	µg/L	5	<0.50 U
Chlorobenzene	µg/L	100	<0.50 U
Chloroethane	µg/L	41,000	<0.50 U
Chloroform	µg/L	1,000	<0.50 U
Chloromethane	µg/L	220	<0.50 U
cis-1,2-Dichloroethene	µg/L	70	<0.50 U
cis-1,3-Dichloropropene	µg/L	5.3	<0.50 U
Dibromochloromethane	µg/L	34	<0.50 U
Dibromomethane	µg/L	380	<0.50 U
Dichlorodifluoromethane	µg/L	20,000	<0.50 U
Ethylbenzene	µg/L	700	<0.50 U
Hexachlorobutadiene	µg/L	20	<0.50 U
Isopropylbenzene	µg/L	10,000	<0.50 U
m,p-Xylene	µg/L	10,000**	<1.0 U
Methylene chloride	µg/L	5	<2.0 U
Naphthalene	µg/L	2,000	<0.50 U
n-Butylbenzene	µg/L	4,100	<0.50 U
n-Propylbenzene	µg/L	4,100	<0.50 U
o-Xylene	µg/L	10,000**	<0.50 U
sec-Butylbenzene	µg/L	4,100	<0.50 U
Styrene	µg/L	100	<0.50 U

LHAAP 18/24 Semiannual Event			
Sample ID		**MCL/MSC/PCL**	**1824DPTMW07_080223**
Aquifer Zone			**Shallow**
Well Identification			**1824DPTMW07**
ANALYTE	**UNITS**		**HS23080324-01**
tert-Butylbenzene	µg/L	4,100	<0.50 U
Tetrachloroethene	µg/L	5	<0.50 U
Toluene	µg/L	1,000	<0.50 U
trans-1,2-Dichloroethene	µg/L	100	<0.50 U
trans-1,3-Dichloropropene	µg/L	29	<0.50 U
Trichloroethene	µg/L	5	<0.50 U
Trichlorofluoromethane	µg/L	31,000	<0.50 U
Vinyl chloride	µg/L	2	<0.50 U
Method: SW8270SIM			
1,4-Dioxane	ug/L	9.1	**0.014**

Notes:

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

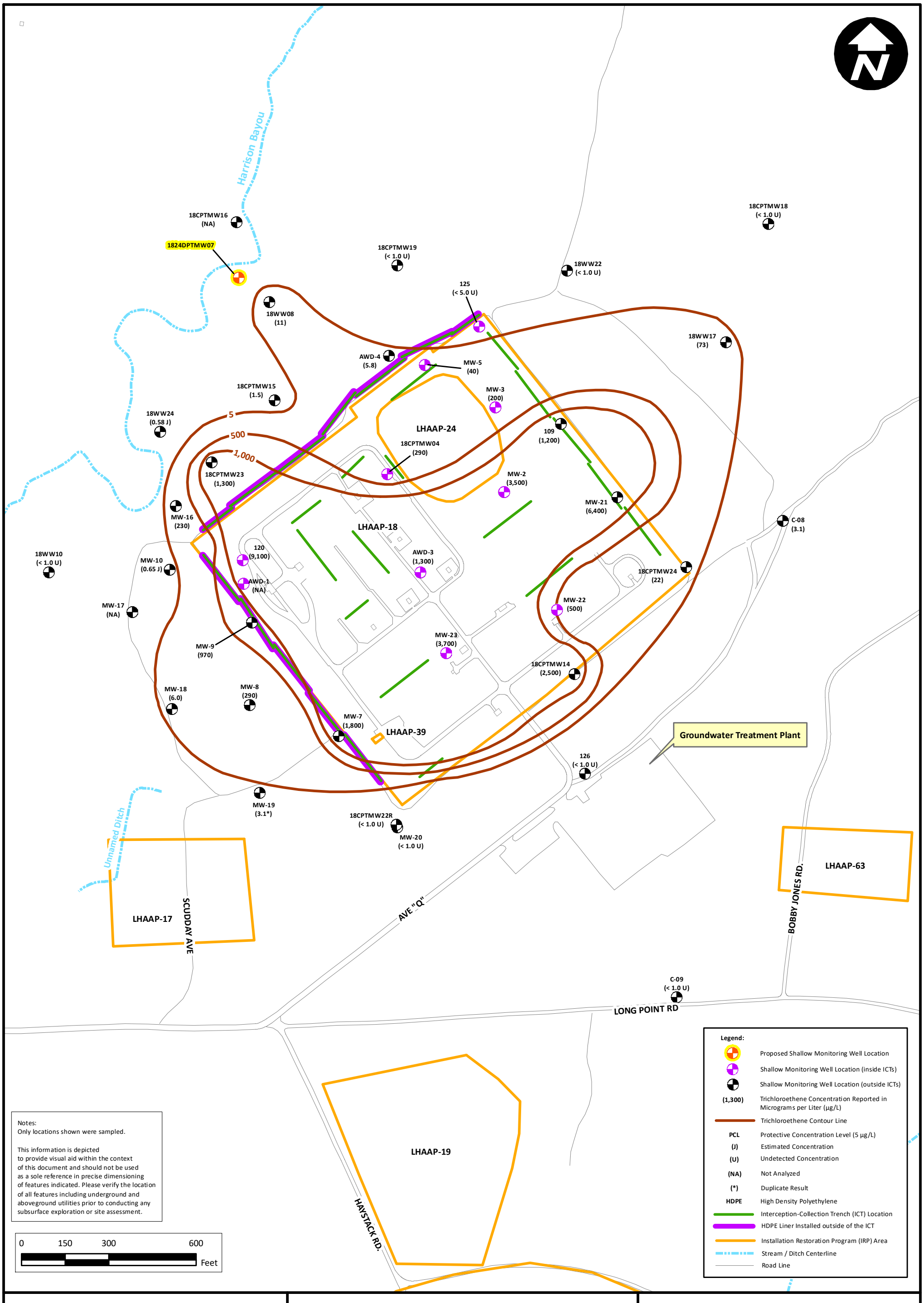
µg/L - micrograms per liter; mg/L - milligrams per liter

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level



Notes:
Only locations shown were sampled.

This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 150 300 600 Feet

Legend:

- Proposed Shallow Monitoring Well Location
- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- (1,300) Trichloroethene Concentration Reported in Micrograms per Liter (µg/L)
- Trichloroethene Contour Line
- PCL Protective Concentration Level (5 µg/L)
- (J) Estimated Concentration
- (U) Undetected Concentration
- (NA) Not Analyzed
- (*) Duplicate Result
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

bhate
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Quarterly Evaluation Report 1st Quarter (January – March) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
NWO1312.0150	As Shown	5/31/2023	MRM

Trichloroethene Isopleth Contours in Shallow Zone (December 2022 - January 2023)

Figure D-3

LHAAP 58 Semiannual Sampling Event			
Location ID: **Sample Date:**	**Units**	**MCL/MSC**	**35AWW27_080223** **8/2/23**
Location Description			Downgradient Western Plume well
Location Depth			Shallow
Lab Package			HS23080325
Volatile Organic Compounds (8260C)			
1,1,1,2-Tetrachloroethane	µg/L	110	< 0.50 U
1,1,1-Trichloroethane	µg/L	200	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	14	< 0.50 U
1,1,2-Trichloroethane	µg/L	5	< 0.50 U
1,1-Dichloroethane	µg/L	10000	**2.3**
1,1-Dichloroethene	µg/L	7	**2.2**
1,1-Dichloropropene	µg/L	2.9	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	310	< 0.50 U
1,2,3-Trichloropropane	µg/L	0.041	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	70	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	5100	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	0.2	< 0.50 U
1,2-Dibromoethane	µg/L	0.05	< 0.50 U
1,2-Dichlorobenzene	µg/L	600	< 0.50 U
1,2-Dichloroethane	µg/L	5	**0.78 J**
1,2-Dichloropropane	µg/L	5	< 0.50 U
1,3,5-Trimethylbenzene	µg/L	5100	< 0.50 U
1,3-Dichlorobenzene	µg/L	3100	< 0.50 U
1,3-Dichloropropane	µg/L	29	< 0.50 U
1,4-Dichlorobenzene	µg/L	75	< 0.50 U
2,2-Dichloropropane	µg/L	42	< 0.50 U
2-Butanone	µg/L	61000	< 0.50 U
2-Chlorotoluene	µg/L	2000	< 0.50 U
2-Hexanone	µg/L	6100	< 2.0 U
4-Chlorotoluene	µg/L	2000	< 0.50 U
4-Isopropyltoluene	µg/L	10000	< 0.50 U
4-Methyl-2-pentanone	µg/L	8200	< 2.0 U
Acetone	µg/L	92000	< 2.0 U
Benzene	µg/L	5	< 0.50 U
Bromobenzene	µg/L	2000	< 0.50 U
Bromochloromethane	µg/L	4100	< 0.50 U
Bromodichloromethane	µg/L	4.6	< 0.50 U
Bromoform	µg/L	36	< 0.50 U
Bromomethane	µg/L	140	< 0.50 U
Carbon disulfide	µg/L	10000	< 2.0 U
Carbon tetrachloride	µg/L	5	< 0.50 U
Chlorobenzene	µg/L	100	< 0.50 U
Chloroethane	µg/L	41000	< 0.50 U
Chloroform	µg/L	1000	< 0.50 U
Chloromethane	µg/L	220	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	**0.62 J**
cis-1,3-Dichloropropene	µg/L	5.3	< 0.50 U

LHAAP 58 Semiannual Sampling Event			
Location ID: **Sample Date:**	**Units**	**MCL/MSC**	**35AWW27_080223** **8/2/23**
Location Description			Downgradient Western Plume well
Location Depth			Shallow
Lab Package			HS23080325
Volatile Organic Compounds (8260C)			
Dibromochloromethane	µg/L	34	< 0.50 U
Dibromomethane	µg/L	380	< 0.50 U
Dichlorodifluoromethane	µg/L	20000	< 0.50 U
Ethylbenzene	µg/L	700	< 0.50 U
Hexachlorobutadiene	µg/L	20	< 0.50 U
Isopropylbenzene	µg/L	10000	< 0.50 U
m,p-Xylene	µg/L	10000	< 1.0 U
Methylene chloride	µg/L	5	< 2.0 U
n-Butylbenzene	µg/L	4100	< 0.50 U
n-Propylbenzene	µg/L	4100	< 0.50 U
Naphthalene	µg/L	2000	< 0.50 U
o-Xylene	µg/L	10000	< 0.50 U
sec-Butylbenzene	µg/L	4100	< 0.50 U
Styrene	µg/L	100	< 0.50 U
tert-Butylbenzene	µg/L	4100	< 0.50 U
Tetrachloroethene	µg/L	5	< 0.50 U
Toluene	µg/L	1000	< 0.50 U
trans-1,2-Dichloroethene	µg/L	100	< 0.50 U
trans-1,3-Dichloropropene	µg/L	29	< 0.50 U
Trichloroethene	µg/L	5	**1.7**
Trichlorofluoromethane	µg/L	31000	< 0.50 U
Vinyl chloride		2	< 0.50 U

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed/NV - No Value

µg/L - micrograms per liter

mg/L - milligrams per liter

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

01191748

Legend
J = Estimated value
U = Result is less than the laboratory detection limit
< = less than
COC = Contaminant of Concern
USEPA = United States Environmental Protection Agency
MCL = Maximum Contaminant Limit
DCA = Dichloroethane
DCE = Dichloroethene
PCE = Tetrachloroethene
TCA = Trichloroethane
TCE = Trichloroethene
VC = Vinyl Chloride
Bold Red values exceed the USEPA MCL
All results and MCLs are reported in micrograms per liter (µg/L)

LHSMW06		1/13/2023	6/7/2023	6/7/2023
COC	MCL	Result	Result	Dup. Result
1,1-DCE	7	**22**	**21**	**21**
cis-1,2-DCE	70	**130**	**120**	**120**
TCE	5	**24**	**21**	**20**
VC	2	**7.6**	**6.6**	**6.7**

COCs shown on this figure	
COC	MCL
1,1-DCE	7
1,1,2-TCA	5
1,2-DCA	5
Benzene	5
cis-1,2-DCE	70
PCE	5
trans-1,2-DCE	100
TCE	5
VC	2

35AWW26		1/13/2023	1/13/2023	6/6/2023
COC	MCL	Result	Dup. Result	Result
1,1-DCE	7	**72**	**76**	**94**
VC	2	**12**	**12**	**7.4**

03WW01		6/6/2023
COC	MCL	Result
TCE	5	**10**
VC	2	**3.7 J**

35AWW20		1/12/2023	6/5/2023
COC	MCL	Result	Result
1,1,2-TCA	5	**63**	**57**
1,1-DCE	7	**2,600**	**1,700**
1,2-DCA	5	**14**	**13**
Benzene	5	**7.9**	**7.3**
cis-1,2-DCE	70	**110**	**85**
TCE	5	**220**	**180**
VC	2	**990**	**940**

35AWW09		6/6/2023	6/6/2023
COC	MCL	Result	Dup. Result
PCE	5	**450**	**460**
TCE	5	**180**	**180**

LHSMW07		1/12/2023	6/5/2023
COC	MCL	Result	Result
1,1-DCE	7	**17**	**93**
VC	2	**56**	**54**

35AWW08		6/6/2023
COC	MCL	Result
TCE	5	**5.2**
VC	2	**2.6 J**

35AWW14		6/7/2023
COC	MCL	Result
1,1-DCE	7	**9.3**
TCE	5	**10**

35AWW18		6/7/2023
COC	MCL	Result
1,1-DCE	7	**29**

HARRELL ST
TACKET DR
AVE "F"
AVE "G"
8TH ST
9TH ST
10TH ST
11TH ST
6TH ST
8TH ST
Goose Prairie Creek
LHAAP-35A (58)
35AWW03 (NS)
35AWW13
35AWW22
35AWW07R (NS)
35AWW10
35AWW15
LHSMW04 (NS, Dry)
35AWW12
LHSMW05 (NS)
35AWW21
1004TW001 (NS)
1004TW006 (NS)
35AWW11
LHSMW03 (NS)
35AWW16
35AWW27
35AWW23
35AWW06
35AWW17
35AWW19
35AWW04 (NS, Dry)
35AWW24
35AWW25 (NS, Dry)
207
102
102
102-R
103
L-6
101
GH-1

Aerial Photography Source: Google Earth, April 2018

0 100 200 400 Feet

Legend:
- Shallow Monitoring Well Location
- Shallow Temporary Monitoring Well Location
- Shallow Monitoring Well Location — No exceedances above MCLs for listed COCs
- Shallow Monitoring Well Location - Removed from RA(O)
- KB1® Plus Injection Point Locations (March 2018)
- KB1® Injection Point Locations (March 2018)
- Injection Locations (2013)
- (NS) Not Sampled
- Installation Restoration Program (IRP) Area
- Direction of Groundwater Flow (June 2022)
- Stream
- 401 Building Number

COC Exceedances in Shallow Groundwater (January - June 2023)

Figure 6

Year 9 Annual Remedial Action Operation Report (September 2022 – August 2023)
LHAAP-35A (58), Shops Area
Longhorn Army Ammunition Plant
Karnack, Texas

DRAWN BY: MRM
DATE: 9/12/2023
SCALE: As Shown
PROJECT NO: JVPCIBH.0001.0010.01

PCIbhate

LHAAP-04

Year 4 semiannual Event #2 (August 2023)

Location ID: / Sample Date:	Units	PCL	04WW01_080123 8/1/23	04WW04_080123 8/1/23	04WW05_080123 8/1/23	04WW07_080123 8/1/23	04WW07_080123_a 8/1/23	04WW09_080123 8/1/23	04WW10_080123 8/1/23	04WW11_080123 8/1/23
Field Measurements										
Dissolved oxygen	mg/L	NV	0.16	1.33	0.16	0.03		0.25	0.39	0.19
ORP	mV	NV	-96	-107	-49	-94		-110	26	-54
pH	Std. Units	NV	6.57	6.61	6.76	6.74		6.16	6.35	7.07
Perchlorate (6850)										
Perchlorate	µg/L	17	**0.0528 J**	**0.0326 J**	**0.0333 J**	**0.300 J**	**0.0538 J**	**0.0323 J**	**0.0310 J**	< 0.0500 U

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

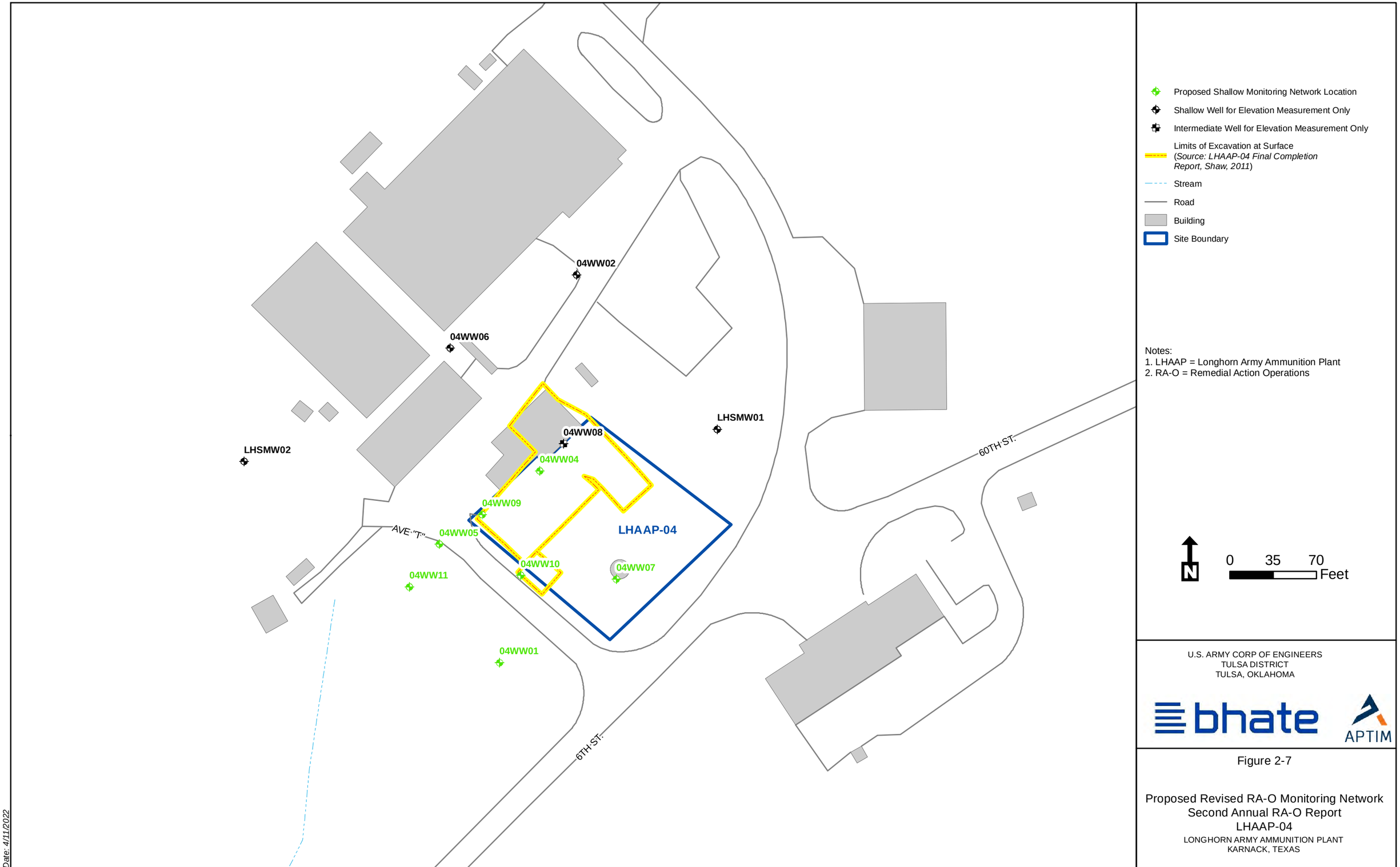
µg/L - micrograms per liter

mV - millivolts

Std. Units - standard pH units

mg/L - milligrams per liter

ORP - oxidation-reduction potential


04WW02
04WW06
LHSMW01
LHSMW02
04WW08
04WW04
04WW09
04WW05
LHAAP-04
04WW10
04WW07
04WW11
04WW01
60TH ST.
AVE. "T"
6TH ST.
Proposed Shallow Monitoring Network Location
Shallow Well for Elevation Measurement Only
Intermediate Well for Elevation Measurement Only
Limits of Excavation at Surface
(Source: LHAAP-04 Final Completion Report, Shaw, 2011)
Stream
Road
Building
Site Boundary
Notes:
1. LHAAP = Longhorn Army Ammunition Plant
2. RA-O = Remedial Action Operations
N
0 35 70
Feet
U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA
bhate
APTIM
Figure 2-7
Proposed Revised RA-O Monitoring Network
Second Annual RA-O Report
LHAAP-04
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
Date: 4/11/2022
Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP04\RAO\Year2\LHAAP04_ProposedPerformance Monitoring Network.mxd

Longhorn Army Ammunition Plant
Restoration Advisory Board
2nd Meeting of 2023

Subject: Final Minutes, Quarterly Restoration Advisory Board (RAB) Meeting
Longhorn Army Ammunition Plant (LHAAP)
Location of Meeting: Karnack Community Center
Date of Meeting: 22 June 2023, 6:00 PM Central Standard Time (CST)

Meeting Participants:

Army BRAC:	Kyle Russell
USACE:	Aaron Williams, Chelsea Montoya
USAEC:	Lena Sierocinski, Michael Bowlby
Bhate:	Zachary Beck, Caitlin Ryan
APTIM:	Bill Foss
HDR, Inc.:	Gregory Kelly
MMG-TLI JV:	Jonathan Tatman
USEPA Region 6:	Brian Follin
USGS:	Chris Braun
RAB:	Present: Tom Walker, John Fortune, Richard LeTourneau, and Judy VanDeventer, and new RAB member Eugene Byrd Absent: Deon Hall, Sharon McAvoy, Nigel Shivers

---

A color copy of the slide presentation and handouts (see list at end of meeting minutes) were provided for meeting attendees.

Welcome and Membership Update

Ms. Lena Sierocinski with USAEC introduced herself as the new RAB co-chair alongside Ms. Judy VanDeventer and welcomed everyone to the meeting, stating that all questions will be answered during the meeting or posted online if more insight is needed. Ms. Sierocinski stated that a site tour of the LHAAP will be held during the November RAB meeting and the time for that meeting will be adjusted in order to have the tour before sunset. Ms. Sierocinski discussed that new RAB member applications can be found on the LHAAP website. Ms. Sierocinski then asked if there were any members of the public interested in joining the RAB. No members were interested at the time. Ms. Sierocinski then addressed two new member applications that were received and subsequently sent to the current RAB members for review prior to the meeting. Ms. Sierocinski initiated a vote to induct the two new RAB applicants (Mr. Eugene Byrd and Ms. Margaret Rolland). The RAB members were asked to raise their hands to show a vote of “yes” for each member as their names were called. Both members were successfully initiated unanimously. New member, Mr. Eugene Byrd, was present and asked to join the RAB meeting as a member. Ms. Sierocinski then handed out RAB charters and discussed that the roles will be redone and changed in 2024.

Minutes (November 2023 RAB Meeting)

Ms. Sierocinski checked to make sure that all the RAB members were able to view the minutes from the previous RAB meeting in February, in which the members responded, "yes." No changes were made to the minutes, so the minutes were approved. Ms. VanDeventer then called the meeting to order, which Mr. John Fortune seconded.

Introductions

Ms. Sierocinski asked the environmental contractors to introduce themselves. Mr. Zachary Beck of Bhate Environmental Services Inc. (Bhate) was the first to introduce himself. He introduced the Poarch Creek Indians, Government Services, LLC (PCI)/Bhate Joint Venture (PBJV) and their larger role in the remediation occurring at LHAAP. Mr. Bill Foss of APTIM Federal Services (APTIM) introduced himself as a subcontractor working with PBJV. Mr. Gregory Kelly with HDR, Inc. (HDR) introduced himself and the three different sites HDR manages at LHAAP. Mr. Kelly pointed out that he is a geologist, and that he is primarily involved with LHAAP-47. Mr. Johnathan Tatman of MMG-TLI Joint Venture (MMG-TLI JV) introduced himself and explained that their contract involves LHAAP-17 to remove Munitions and Explosives of Concern (MEC) and chemical hazards. Kyle Russell was introduced as the new Base Realignment and Closure (BRAC) manager.

Groundwater Treatment Plant (GWTP) Update

Mr. Beck provided an overview of the GWTP, which currently treats groundwater from LHAAP-18/24 and recently started processing groundwater from LHAAP-17. He began with an update of the plant by presenting a handout depicting a graph of the amount of treated groundwater discharged each month. Mr. Beck said that the repairs were necessary after the freeze damage caused in February 2023. Then Mr. Beck explained that there was a shutdown in April 2023 due to a gap during the contract transitional period. The GWTP was not operable during this time and therefore nothing was discharged. The GWTP was brought back online 3 May 2023. It should be noted that the week before the RAB, severe weather traveled through northeastern Texas that caused multiple power outages and the GWTP was without power for a few days. Ms. VanDeventer asked Mr. Beck if there was any effect on the GWTP during this power outage. Mr. Beck explained that during this time period there was no discharge for approximately one week. He did say that this was a minor disruption.

Surface Water

Mr. Beck said that the surface water is sampled quarterly within Harrison Bayou and Goose Prairie Creek. He pointed everyone to the handout for the surface water sampling with the surface water results to date. Mr. Beck said that perchlorate is monitored quarterly at five locations to evaluate potential impacts to the surface water bodies.

LHAAP-04

Mr. Foss gave an update on LHAAP-04, saying that the site's sampling results have been very good with contaminants of concern below the screening criteria. He explained that the site was formerly a wastewater treatment plant, located next to the fire station. Waste was disposed of

here from the demolition of structures around LHAAP. There was a soil excavation at this site in 2009 to remove mercury and perchlorate impacted soil. Mr. Foss then showed a graph on the slides that showed the levels of perchlorate in the inner and outer boundaries on the site. He explained that the inner boundary showed a concentration that was five times greater than the outer boundary. Therefore, treatment was focused on the inner area. Treatment included pumping emulsified vegetable oil to stimulate bioremediation in order to help break down the perchlorate contaminant. He showed another graph that compared a timeline to the levels of perchlorate in the groundwater before and after the injection. Overall results showed that the bioremediation is working, and perchlorate levels are basically non-detect now. Mr. Foss went on to explain that the site is now being monitored to determine if the site contamination will rebound (contamination levels rise when all the emulsified vegetable oil has been consumed) after the reducing conditions caused by the excess in microbial activity have diminished. Mr. Foss said that this will occur three to five years after the last injection event, which occurred in November 2019. Mr. Foss went on the explain that the return of dissolved oxygen levels in the groundwater to baseline will provide the exact time for when this has occurred. Analyzing the perchlorate levels in the groundwater after this over a period of time will prove whether the perchlorate levels are rebounding or if the remediation was a success. The next sampling event will be in August 2023. Mr. Tom Walker, a RAB member, asked Mr. Foss if there was currently any "physical" remediation being done on-site. Mr. Foss responded by stating that currently, monitoring is the only remediation being done at this site. He stated that once the carbon from the emulsified vegetable oil has been completely diminished the dissolved oxygen levels will return to baseline conditions. Monitoring at LHAAP-04 will cease when the Five Year Review (FYR) Report determines monitoring at the site is no long necessary and upon the regulators' approval. Mr. Eugene Byrd then asked Mr. Foss if the bacteria in the soil were naturally occurring or if they were added during remediation. Mr. Foss responded by saying that no bacteria were added during the injections because perchlorate can be broken down by a wide variety of naturally occurring bacteria.

LHAAP-17

Mr. Tatman discussed the Time Critical Removal Action (TCRA) completed at LHAAP-17. Mr. Tatman explained that the Time Critical Removal Action was completed to reduce the impact of MEC at the site. He explained that between 1959 – 1980 the site was used as a burning ground and flashing area and that the waste material was left on-site after the burn. He explained that the waste residues were reportedly removed from the trenches [in 1984], and the site was allowed to revegetate. However, when the remedy from the ROD was implemented, it was found that MEC were still present. It was then determined that TCRA needed to be completed. He outlined the major work elements completed including a surface sweep, geophysical mapping activities, and the use of robotic machinery to filter and shift previously dug material known to contain MEC. Mr. Tatman explained that the soils were then sampled for perchlorate and explosives and either returned to the site or if they were above the protective cleanup level (PCL), transported for off-site disposal at a landfill. He stated that soil excavation in five areas was completed using remotely operated equipment, MEC items were removed, and explosive

contaminated soil was hauled off-site. The excavations were then backfilled with clean backfill. Mr. Tatman said that after the explosive contaminated soil was removed and known MEC disposed of, then the entire site underwent a surface sweep. After the surface sweep, 425 targets of interest were identified and excavated. Overall, 96 MEC items were confirmed and destroyed on-site via in-situ detonation, along with 2,500 cubic yards of contaminated soil hauled off-site. Mr. Tatman then introduced Mr. Beck to explain Bhate's role as a subcontractor for the groundwater extraction and monitoring for LHAAP-17.

Mr. Beck then presented the groundwater extraction system performance data. He explained that LHAAP-17 extraction system began operation on 5 August 2022. Mr. Beck explained that five monitoring wells are sampled monthly to monitor the system's performance. He said that as of March 2023, the horizontal extent of perchlorate groundwater contamination has decreased, since baseline groundwater sampling was conducted in April 2022. Mr. Beck said that in addition to the decreasing footprint of contamination, the highest concentration of perchlorate on-site has decreased from 120,000 parts per billion (ppb) in April 2022 to 65,900 ppb as of March 2023. Mr. Beck said the concentrations of perchlorate indicate that the groundwater extraction system is working as designed and reducing the impacted groundwater extent. Ms. VanDeventer asked Mr. Beck about the spike in February that was seen on the graph provided on the slides. Mr. Beck said that it did slightly come up, but this did not affect the overall trend of decreasing contamination.

LHAAP-18/24

Mr. Kelly, HDR, introduced sites LHAAP-18/24, LHAAP-29, and LHAAP-47. Mr. Kelly presented an overview of the selected remedy for LHAAP-18/24. Mr. Kelly explained that the 90 percent (%) Remedial Design (RD) for LHAAP-18/24 has been reviewed and is in the final design process. He went on to explain the selected remedies for the site which include: enhancement of the groundwater extraction and treatment system, enhanced in-situ bioremediation (EISB) in shallow zone and Wilcox formation groundwater both inside and outside the containment area, thermal treatment to remove dense non-aqueous phase liquid (DNAPL), maintenance of the unlined evaporative pond (UEP) cap, unsaturated soil excavation and off-site disposal, monitored natural attenuation (MNA), long-term monitoring (LTM), and land use controls (LUCs).

LHAAP-29

Mr. Kelly provided an overview of the selected remedy for LHAAP-29 which is to flush, inspect, and plug the transite trinitrotoluene (TNT) wastewater line and the vitrified clay cooling water lines, excavate and dispose of the wooden TNT wastewater line and impacted soil off-site, perform in-situ thermal desorption (ISTD) treatment of the intermediate groundwater zone (DNAPL) plume, MNA in the shallow groundwater zone plumes and for the intermediate groundwater plume following ISTD, and to institute LUCs for soil and groundwater. He said that this site is also in the 90 % RD phase and is in the final design process.

LHAAP-47

Mr. Kelly explained that LHAAP-47 was used to manufacture rocket motors, pyrotechnic, and

illumination devices. Mr. Kelly said that LHAAP-47 is in the Pre-Design Investigation (PDI) phase. Mr. Kelly said that the selected remedy for this site is soil excavation and off-site disposal, thermal treatment of groundwater, bioremediation, MNA, and LUCs to maintain the remedy and prohibit groundwater use. Mr. Kelly stated that the PDI field work was just recently completed in June 2023. The work consisted of measuring water levels in the existing wells and the installation of six new wells. He said that HDR was unable to install two of the shallow wells because two of the borings were dry in the shallow zone. So, they installed those wells at the first evidence of groundwater in the intermediate zone. There were 56 wells sampled on this site and they were analyzed for metals, perchlorate, and volatile organic compounds. These samples are currently being analyzed and the results will be sent to the agencies and the USACE to help gather information to create the RD and fill in data gaps. Mr. Kelly explained that there will be more attempts made to find an area where shallow wells can be installed. Mr. Walker asked Mr. Kelly about the purpose of the old wells near Building 45 East. Mr. Kelly explained the planned treatment for the site and showed a map on the next slide to give further details on placement of the wells and those wells that are downgradient from Building 45 East.

Mr. Eugene Byrd asked where the budget for the project could be found. Mr. Michael Bowlby answered the question by explaining that the USAEC catalogs all costs each year. He said that the budget is not posted publicly on the LHAAP website, but that he would be willing to ask if it could be provided. Mr. Bowlby then asked Mr. Byrd if he was interested in knowing the annual cost of the program or the total lifetime costs. Mr. Byrd clarified his interests by stating that he is actually interested in knowing how the costs are allocated for each of the different projects and how the remediations are prioritized. Mr. Bowlby explained there are feasibility studies for the projects that are posted on the website and that the projected costs are within those documents. Mr. Byrd asked about the committee's role and their impact on the determination of funding for each project. Mr. Bowlby explained that there has already been a budget created by the USACE and DoD. Ms. Sierocinski stepped in and added that as a RAB member, a large involvement in project planning is during the pre-design phase. There is a public meeting held to discuss each work plan for the sites. During this meeting, any concerns raised by the public for the plans will be addressed. Additionally, RAB members help voice their concerns for the community and hold the contractors and the Army accountable during their project duration, ensuring that goals are being met. Mr. Bowlby added that the Army wants to be transparent with the community they are working for and having the RAB is the best way they can do that and keep the community involved.

Next RAB Meeting Schedule and Closing Remarks

Ms. Sierocinski wrapped the meeting up by stating that there will be a FYR Report coming out in December 2023 that will assess the effectiveness of remedial activities to date at LHAAP. She went on to say that there will also be Preliminary Assessments and Site Inspections (PA/SI) for per-and polyfluoroalkyl substances (PFAS) at LHAAP. Ms. Sierocinski stated that a PA/SI report on the findings of PFAS at LHAAP will be out by the end of the Year 2023. After that, the Remedial Investigation will begin addressing the PFAS impacts identified in the PA/SI.

Ms. Sierocinski said that the next RAB meeting was proposed for 16 November 2023. Ms.

Sierocinski asked if the members would be able to start the next meeting early to be able to have the site tour while there is still daylight present. The suggested start time for the tour was 3:00 pm CST. Mr. Walker brought up that there may not be a time change in November. Ms. Sierocinski said the time will be adjusted as necessary. Ms. VanDeventer stated that there will need to be a head count of RAB members and members of the public that are able to attend before the next meeting to ensure the proper number of busses are reserved for the site tour. Ms. Sierocinski then stated that the RAB members are able to participate in the Five-Year Review by filling out a questionnaire that was sent out earlier this year.

Adjourn

Ms. VanDeventer made a motion to adjourn, which was seconded by Mr. Fortune. The meeting adjourned at 6:45 pm CST.

June 2023 Meeting Attachments and Handouts:

- Color copy of USACE presentation slides
- GWTP – Processed Groundwater Volumes Handout
- Surface Water Sampling Handout
- LHAAP-04 Perchlorate, Dissolved Oxygen, and Oxidation Reduction Potential (2019 to 2023)

U.S. ARMY

LONGHORN ARMY AMMUNITION PLANT (LHAAP)

Restoration Advisory Board Meeting	22 JUNE 2023

AGENDA

Welcome and Introduction

Open Items

- Ongoing Outreach/Website.
- RAB Administrative Items.
- Membership Update.
- Minutes (February 2023 RAB Meeting).

Defense Environmental Restoration Program (DERP) Update

- Groundwater Treatment Plant Update.
- LHAAP-04 Status.

AGENDA (CONTINUED)

Other Defense Environmental Restoration Program (DERP) Update

- LHAAP-17 Status.
- LHAAP-47 Pre-Design Investigation Update.

Next RAB Meeting Schedule and Closing Remarks

THE ARMY WANTS YOU TO BE INFORMED

The Army is committed to protecting human health and the environment

Key to that commitment is engaging the community and increasing public participation in environmental restoration at the Longhorn Army Ammunition Plant (LHAAP)

You are encouraged to:

- Attend Restoration Advisory Board (RAB) Meetings and/or become a member of the RAB.
- Visit the Longhorn environmental website, which is regularly updated, at http://longhornaap.com/.
- Make suggestions for improving communication – the Army welcomes and appreciates community feedback.

ADMINISTRATIVE ITEMS

Restoration Advisory Board (RAB) Membership Update

- Persons interested in being new members.
- Applications received at February 2023 RAB Meeting.

Minutes (February 2023 RAB Meeting)

LHAAP ENVIRONMENTAL CONTRACTORS

PCI/Bhate Joint Venture:

- LHAAP-04, LHAAP-12, LHAAP-16, LHAAP-19
  LHAAP-37, LHAAP-46, LHAAP-50, LHAAP-58, LHAAP-67, LHAAP-001-R-01, LAAP-003-R-01, and LHAAP-18/24 (interim remedy).

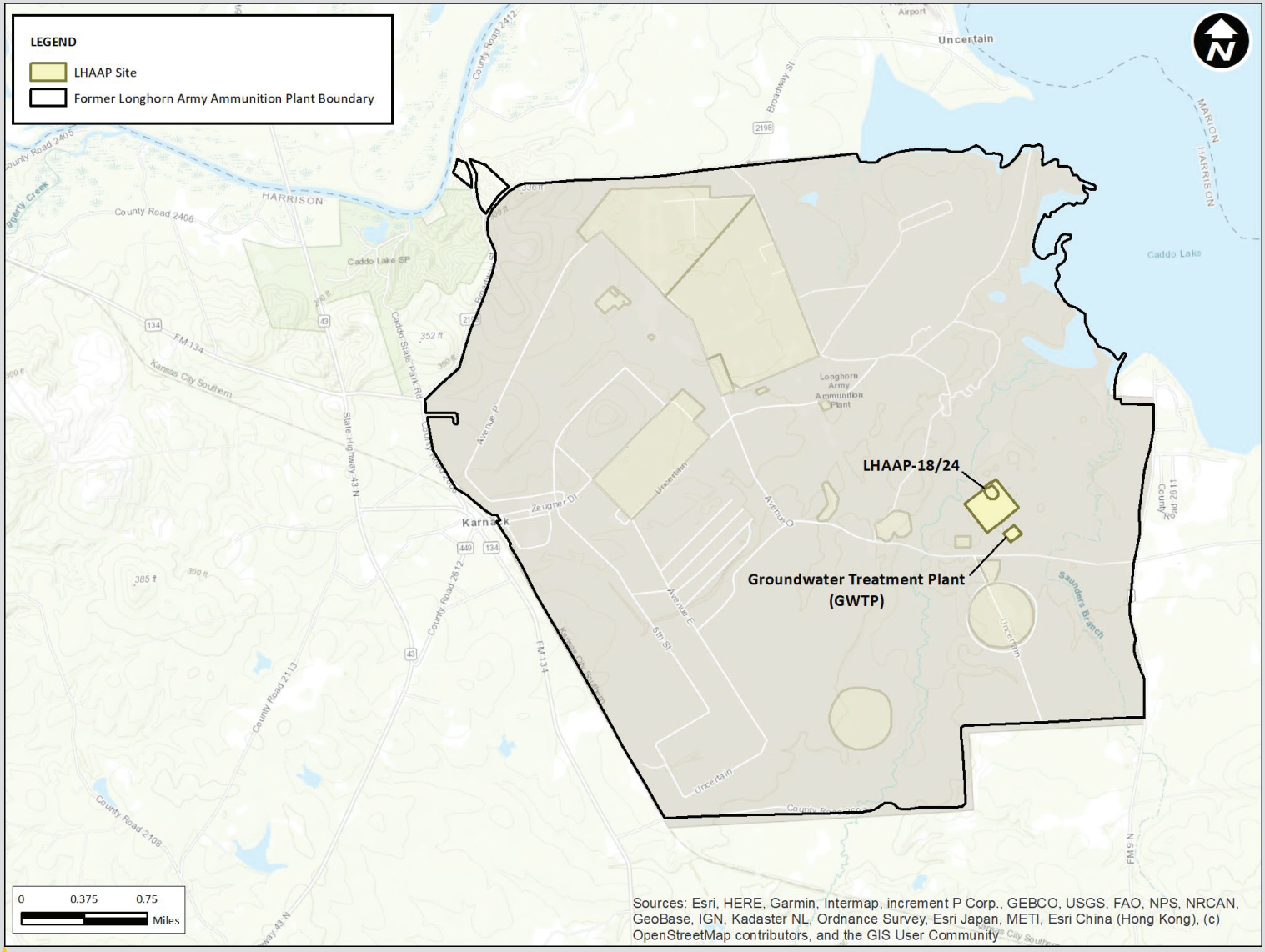
HDR:

- LHAAP-18/24, LHAP-29, and LHAAP-47.

MMG-TLI Joint Venture:

- LHAAP-17.

GWTP UPDATE

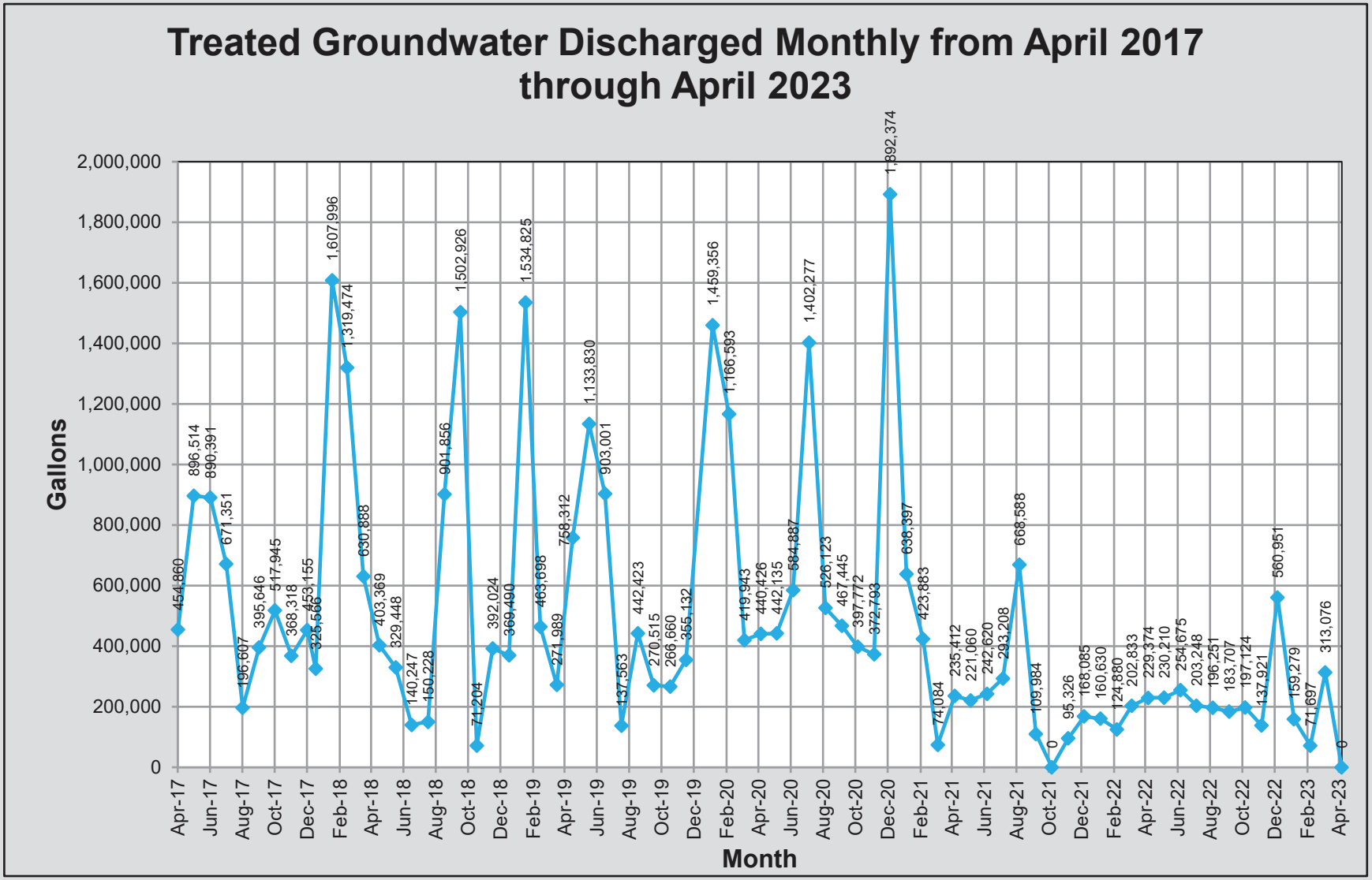

LEGEND
LHAAP Site
Former Longhorn Army Ammunition Plant Boundary
LHAAP-18/24
Groundwater Treatment Plant
(GWTP)
Longhorn Army Ammunition Plant
Caddo Lake
Caddo Lake SP
HARRISON
MARION
Karnack
Uncertain
Airport
Broadway St
County Road 2412
County Road 2406
County Road 2405
FM 134
State Highway 43 N
Kansas City Southern
Avenue P
Avenue O
Avenue E
6th St
Zeugner Dr
Saunders Branch
County Road 2612
County Road 2113
County Road 2108
FM 9 N
0
0.375
0.75
Miles
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

GWTP UPDATE

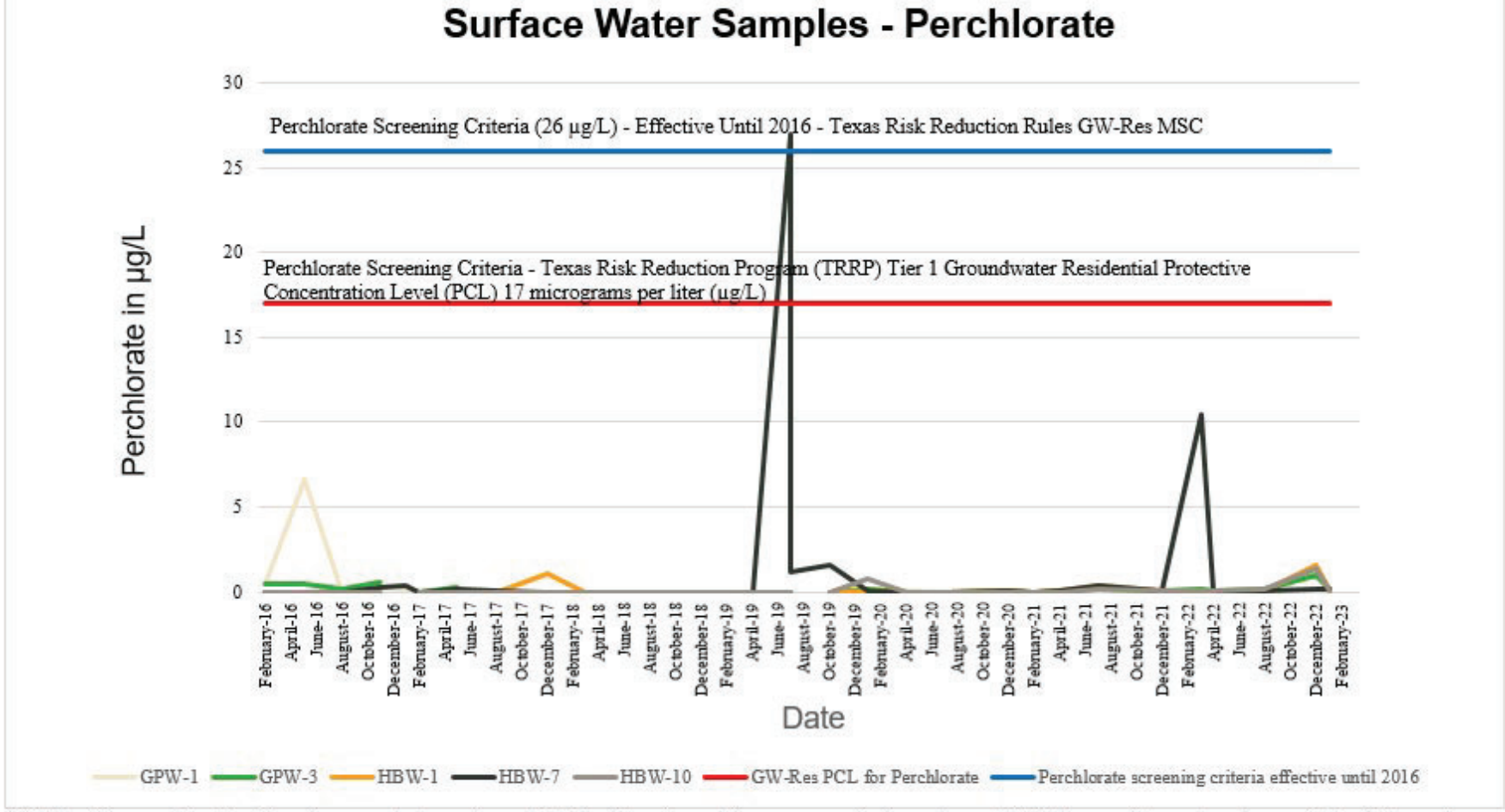
Groundwater Treatment Plant (GWTP) Operations (February – May 2023):

- February 2023 – Multiple repairs completed.
- March 2023 – GWTP operations suspended March 31, 2023.
- April 2023 – GWTP shutdown during contract transition.
- May 2023 – GWTP operations restarted May 3, 2023 after PCI/Bhate Joint Venture contract award.

GWTP DISCHARGE UPDATE

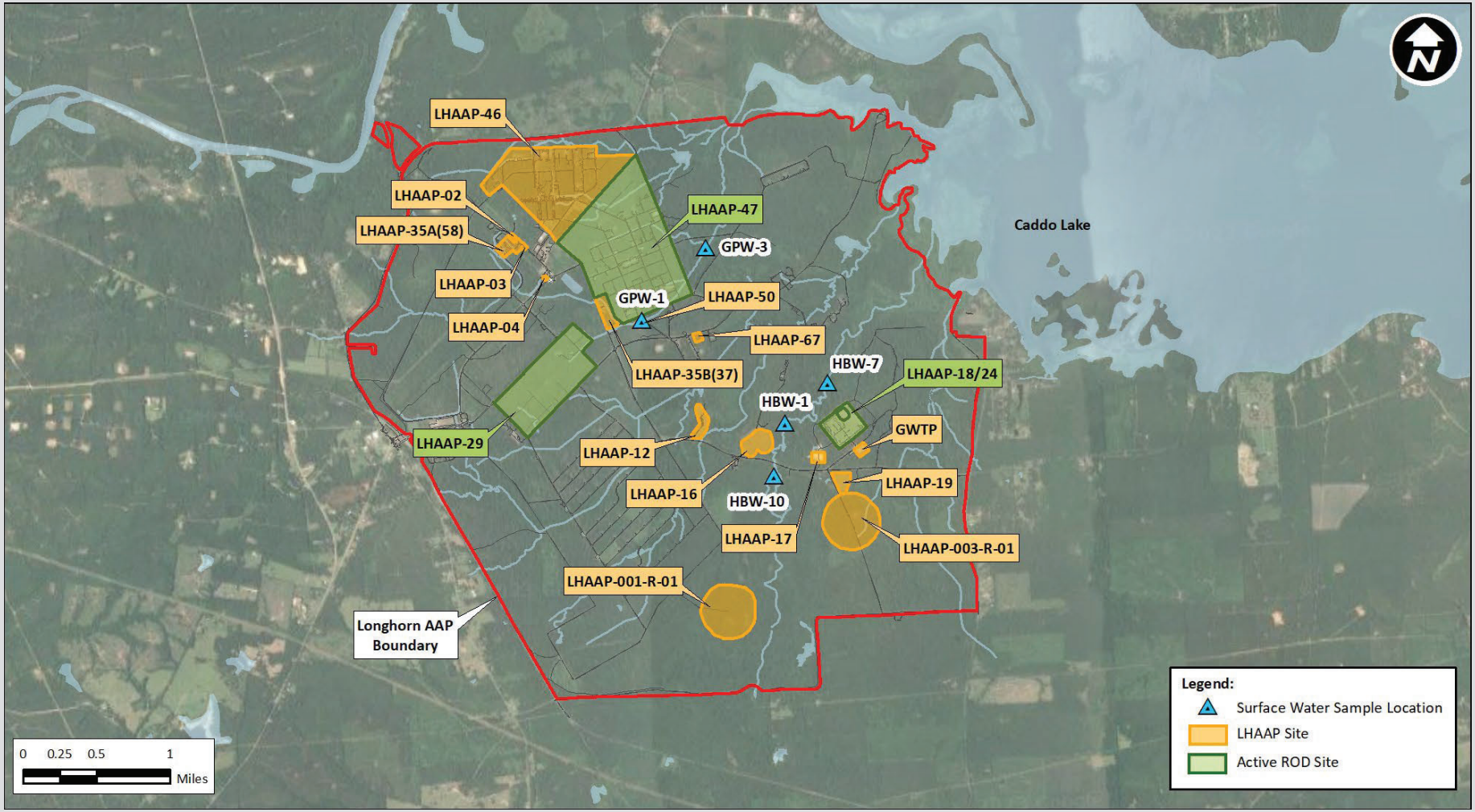


SURFACE WATER SAMPLE RESULTS



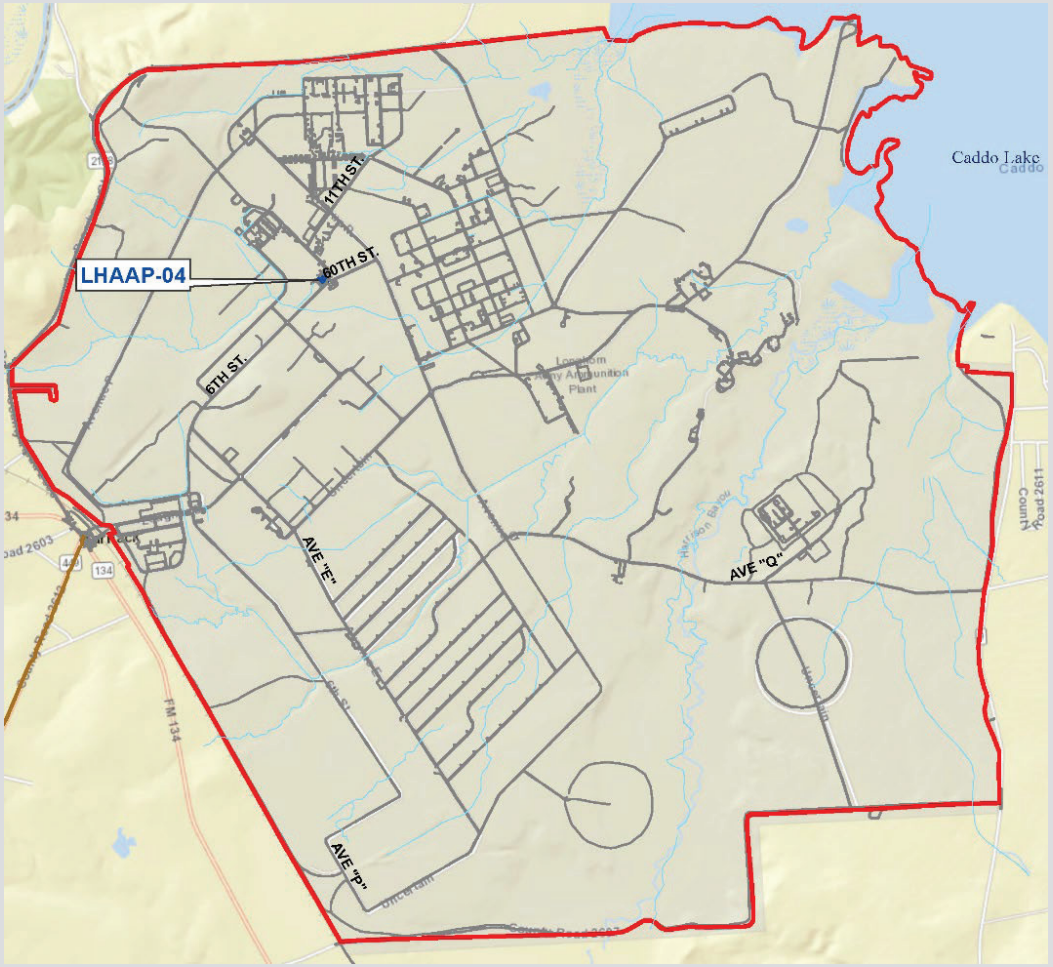
GPW – Goose Prairie Creek sample location; HBW – Harrison Bayou sample location. GW Res – Groundwater residential; µg/L – micrograms per liter

SURFACE WATER SAMPLE LOCATIONS



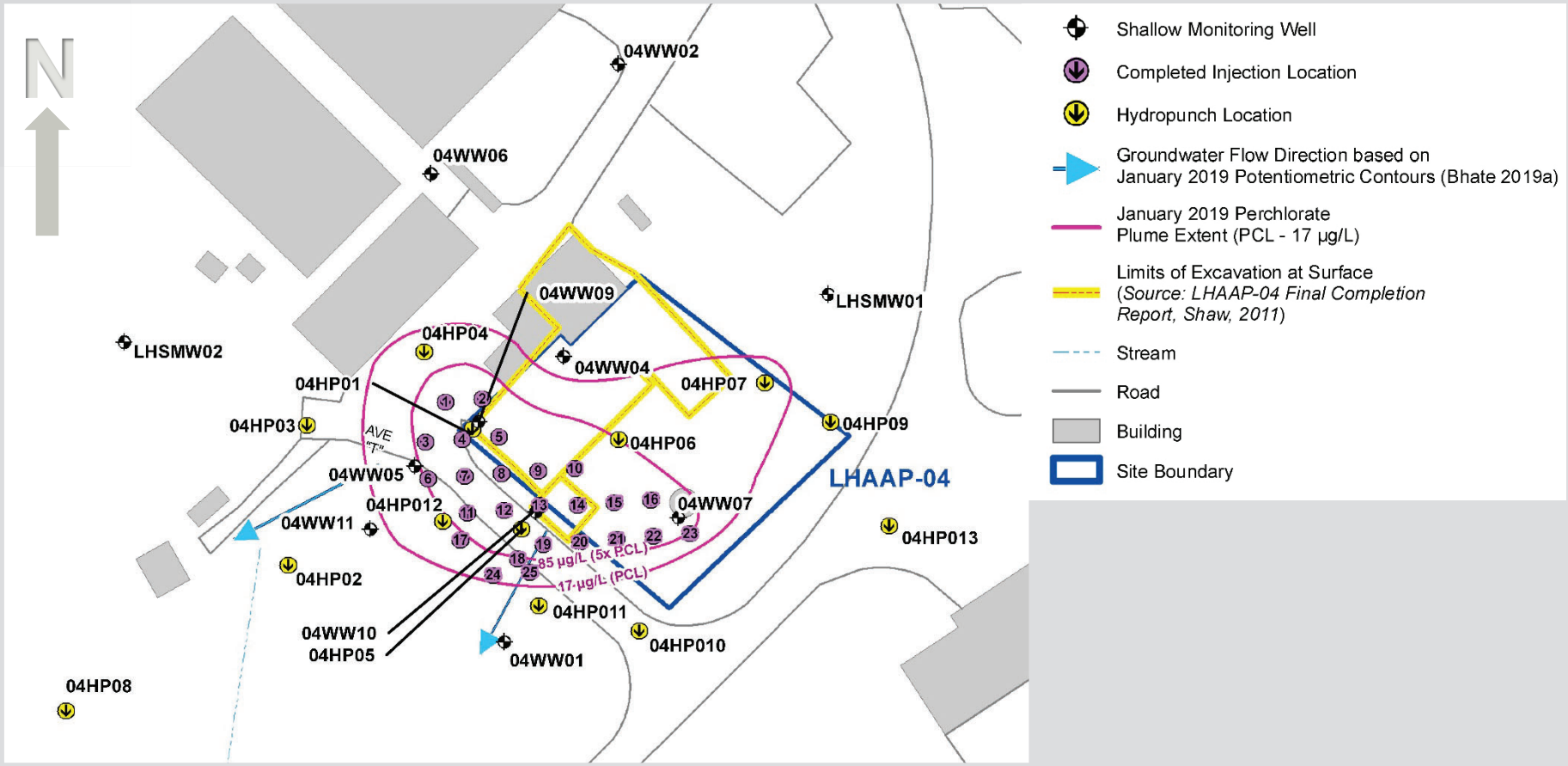
LHAAP-04 UPDATE

- Former Pilot Wastewater Treatment Plant, located near the former Fire Station.
- Demolition of structures and disposal of associated wastes in 1997.
- Soil contaminated with mercury and perchlorate excavated in 2009.
- In-Situ Bioremediation (ISB) and Land Use Controls (LUC) implemented for groundwater in November 2019.



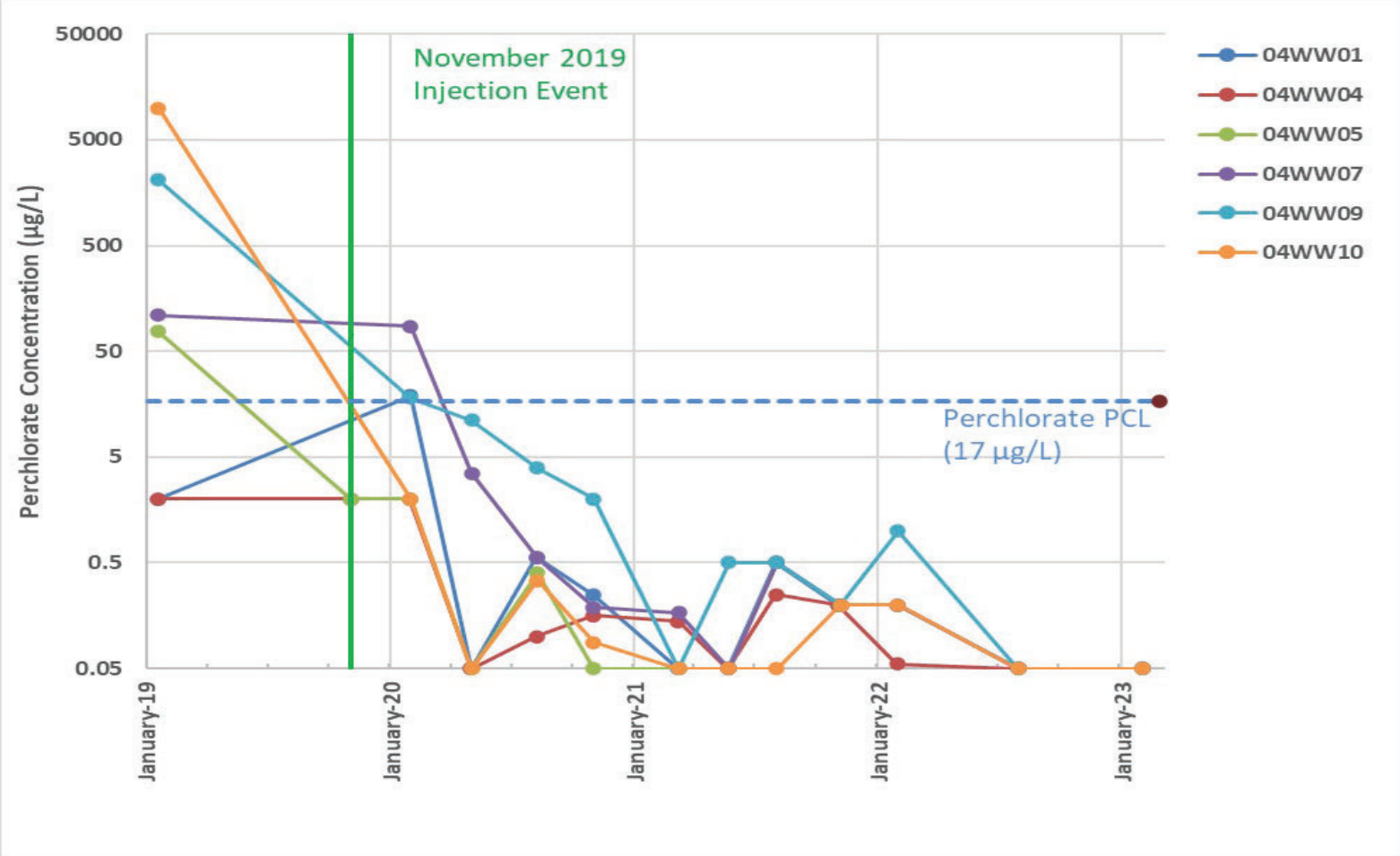
LHAAP-04 UPDATE

2019 Plume and Injection Locations

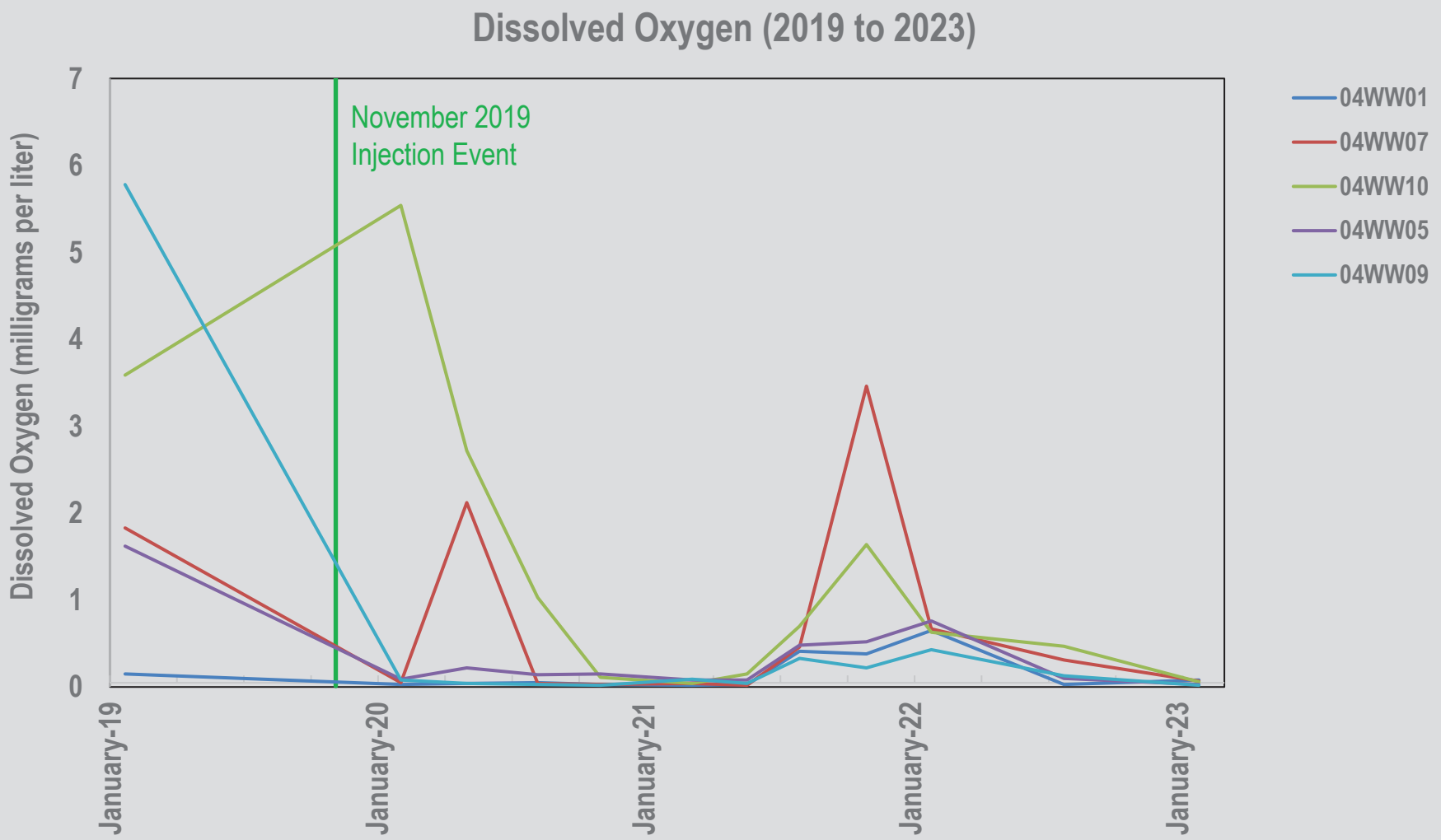


LHAAP-04 UPDATE

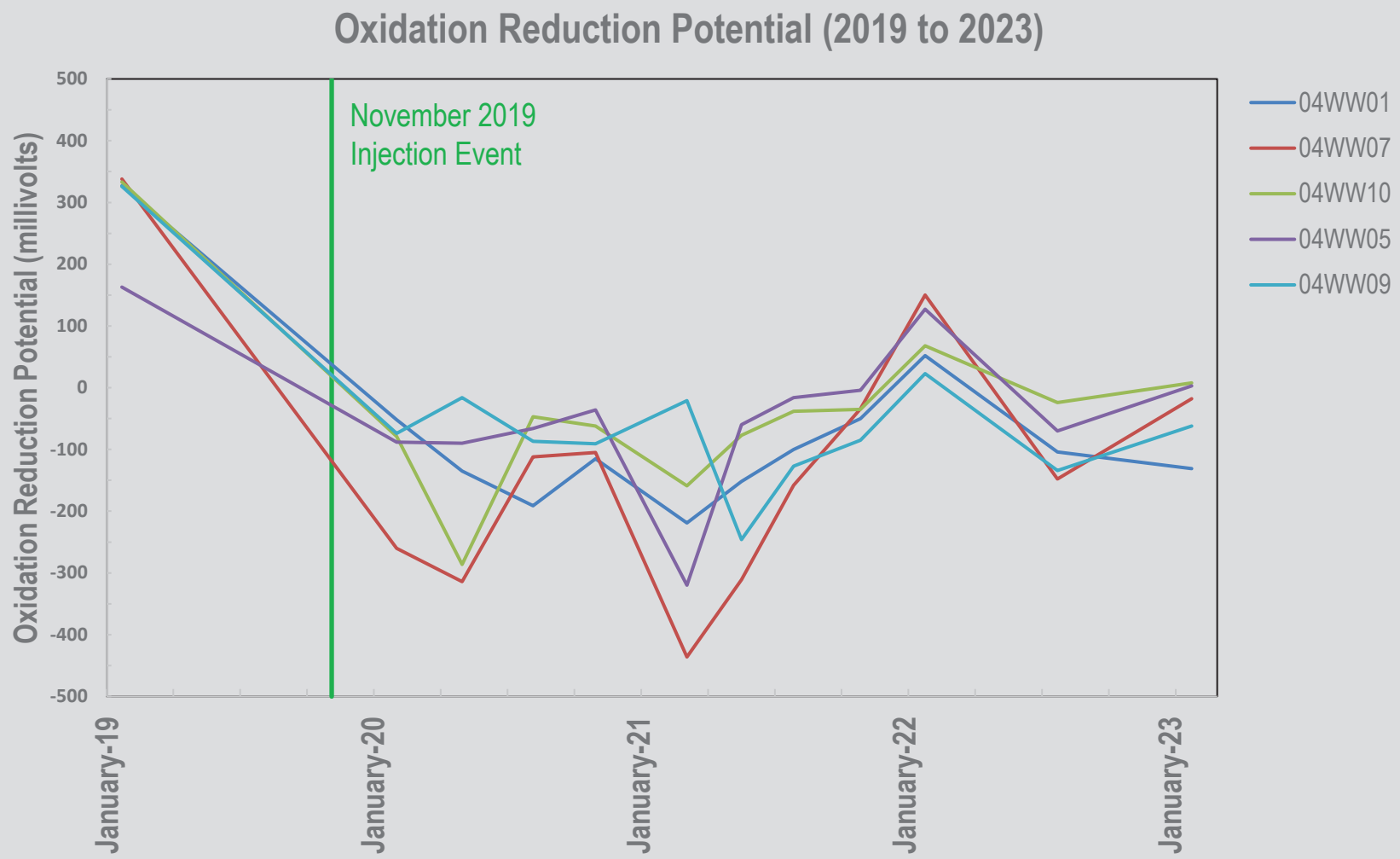
Perchlorate Concentration Trends (2019 to 2023)



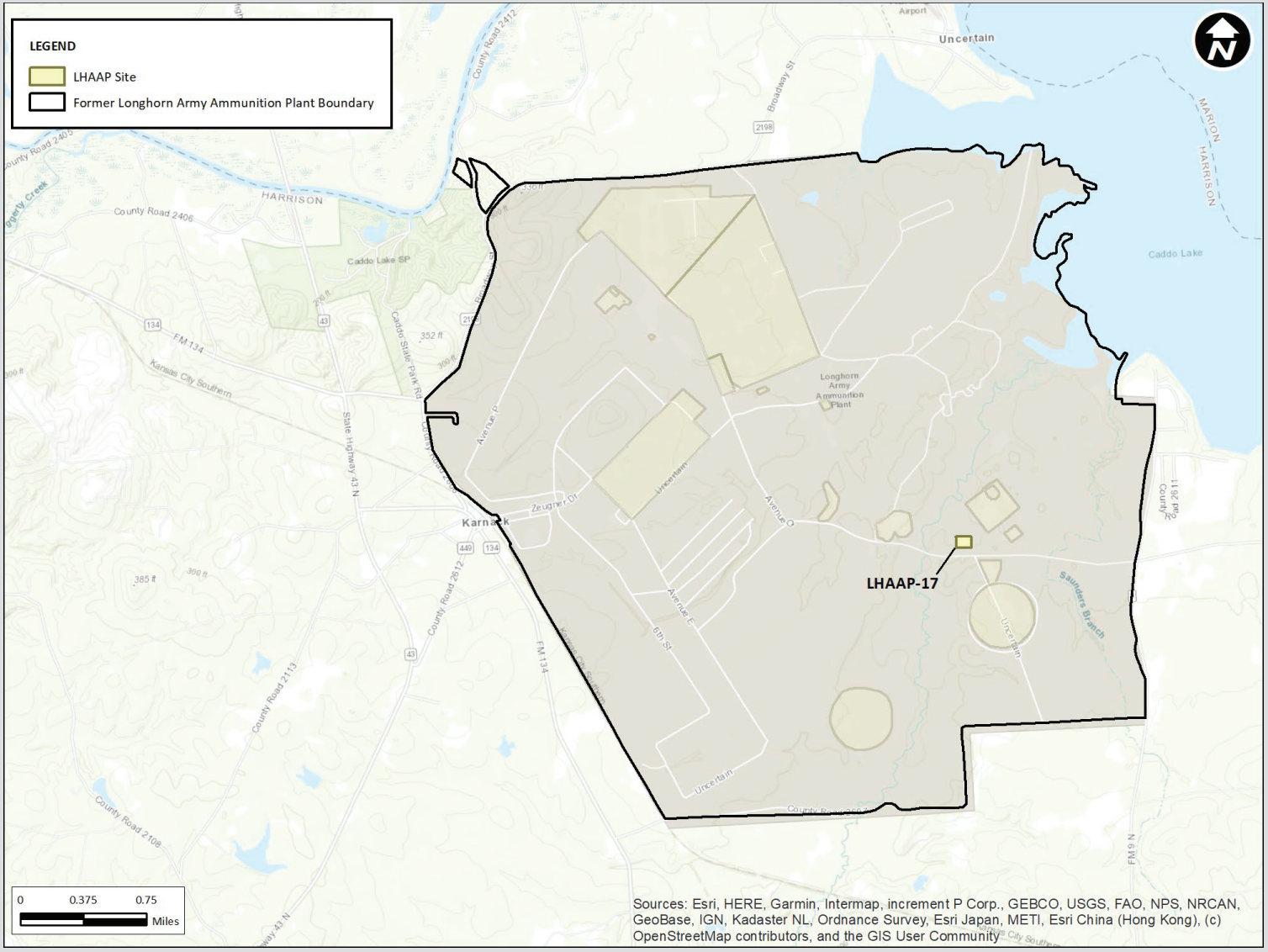
LHAAP-04 UPDATE



LHAAP-04 UPDATE



LHAAP-17 UPDATE



LHAAP-17 BACKGROUND

Background:

- Burning Ground No. 2/Flashing Area (LHAAP-17) was used as a burning ground from 1959 through 1980. Bulk trinitrotoluene (TNT) and photo flash powder were burned.
- The site was also used as a flashing area to decontaminate recoverable metal byproducts until 1980, when it became inactive.
- The waste residues were reportedly removed from the trenches in 1984, and the site was allowed to revegetate.
- The Record Of Decision included excavation and off-site disposal of soil, groundwater extraction, monitored natural attenuation (MNA), and land use controls (LUCs) to maintain the remedy and prohibit groundwater use.
- However, during excavation activities, a work stoppage occurred on September 30, 2019, due to the presence of munitions hazards not previously known to be present.
- Time Critical Removal Action (TCRA) determined appropriate.

LHAAP-17 STATUS

Time Critical Removal Action Status:

- Over 4,048 cubic yards of soil have been excavated and approximately 2,500 cubic yards of this material have been sifted and transported for off-site disposal.
- All excavations with validated confirmation samples are complete and backfilled.
- 96 Munitions and Explosives of Concern (MEC) items have been disposed of through on-site detonations.
- An estimated 41,000 pounds of Non-Munitions Related debris and 18,700 pounds of Munitions Debris have been inspected and transported off-site for recycling/disposal.

Groundwater Extraction Status:

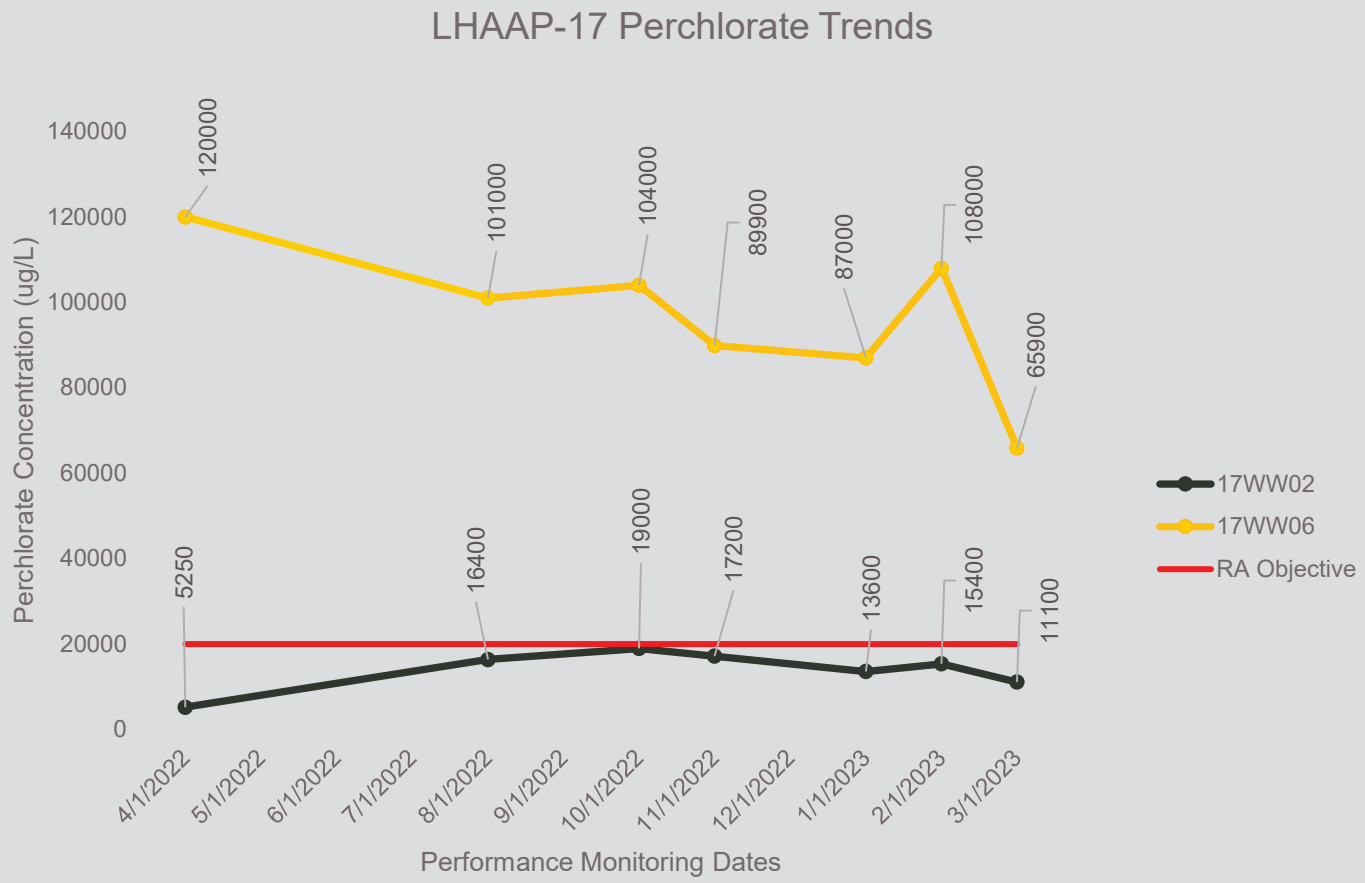
- Groundwater extraction system installation is complete and operating per the design.
- Performance monitoring ongoing.

LHAAP-17 PERFORMANCE MONITORING

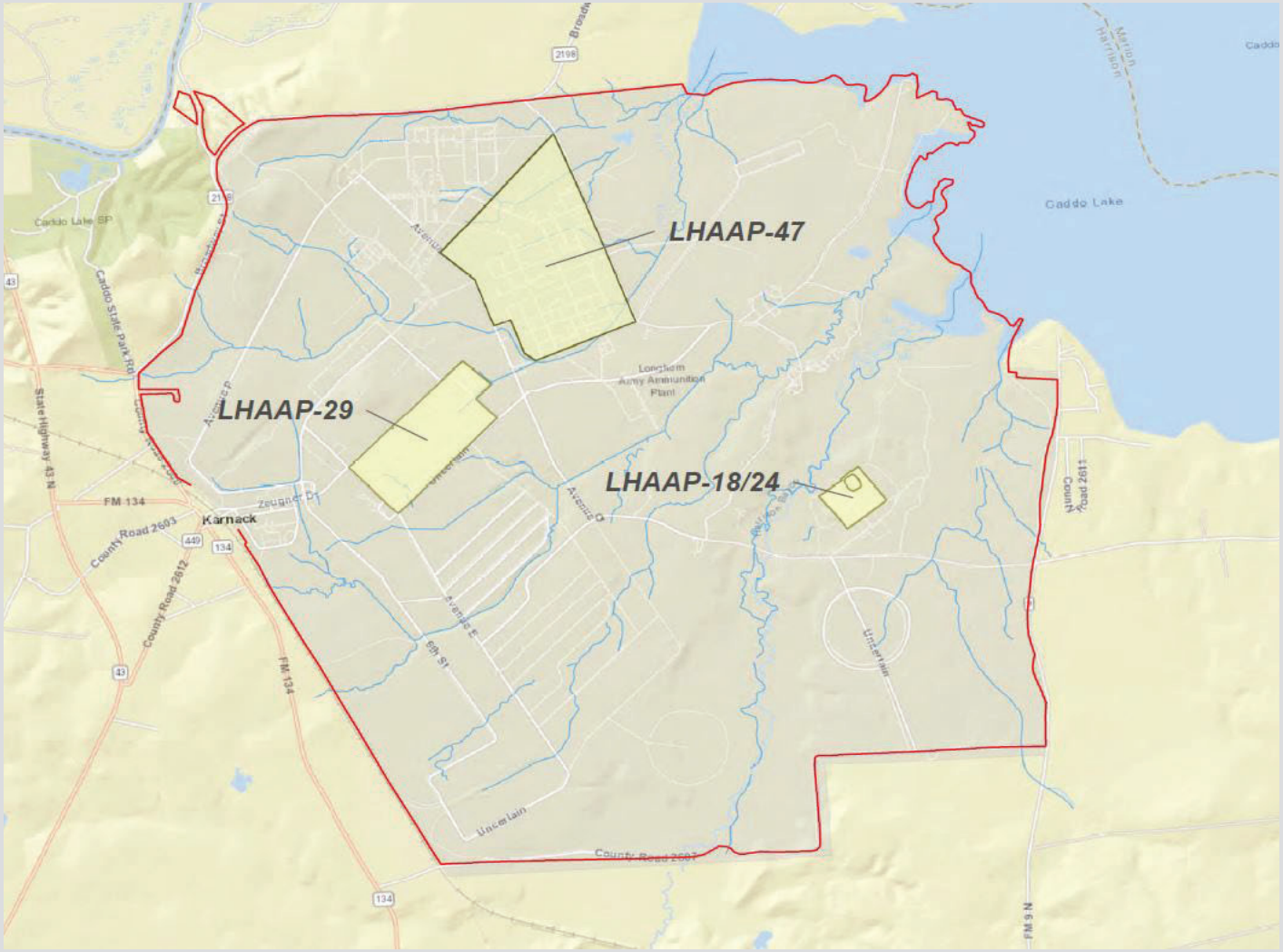
Performance Monitoring:

- The groundwater extraction remedial action objective is to reduce perchlorate concentrations sitewide below 20,000 micrograms per liter (µg/L) within 18 months. Site will transition to Monitored Natural Attenuation once this threshold is achieved.
- Performance monitoring was completed at 5 sampling locations monthly for 6 months (September 2022 – March 2023).
- All performance monitoring groundwater samples analyzed for perchlorate. Perchlorate concentrations have decreased across the site with the largest decrease noted at monitoring well 17WW06.
- As of March 2023, perchlorate remains above the remedial action goal (20,000 µg/L) at one well (17WW06).
- The next performance monitoring event scheduled for June 2023.

LHAAP-17 PERCHLORATE GROUNDWATER TRENDS



LHAAP-18/24, LHAAP-29, AND LHAAP-47 UPDATE



LHAAP-18/24 REMEDIAL DESIGN UPDATE

Selected Remedy

- Enhancement of the groundwater extraction and treatment system.
- Enhanced In-Situ Bioremediation (EISB) in Shallow Zone and Wilcox Formation groundwater both inside and outside the containment area.
- Thermal treatment to remove Dense Non-aqueous Phase Liquid (DNAPL).
- Maintenance of the Unlined Evaporative Pond (UEP) cap.
- Unsaturated soil excavation and off-site disposal.
- Monitored Natural Attenuation (MNA),
- Long-Term Monitoring (LTM),
- Land Use Controls.

90% Remedial Design Milestones

- 90% Remedial Design reviewed by Army and Regulators
- Final Design in Progress

LHAAP-29 REMEDIAL DESIGN UPDATE

Selected Remedy

- Flush, inspect, and plug the transite TNT wastewater line and the vitrified clay cooling water lines.
- Excavation and off-site disposal of the wooden TNT wastewater line and impacted soil.
- In-situ Thermal Desorption (ISTD) treatment of the intermediate groundwater zone dense non-aqueous phase liquid (DNAPL) plume.
- Monitored Natural Attenuation (MNA) in the shallow groundwater zone plumes and for the intermediate groundwater plume following ISTD.
- Land Use Controls for soil and groundwater.

90% Remedial Design Milestones

- 90% Remedial Design reviewed by Army and Regulators
- Final Design in Progress

LHAAP-47 UPDATE

Background:

LHAAP-47 was used to manufacture rocket motors, pyrotechnic and illumination devices.

Selected Remedy

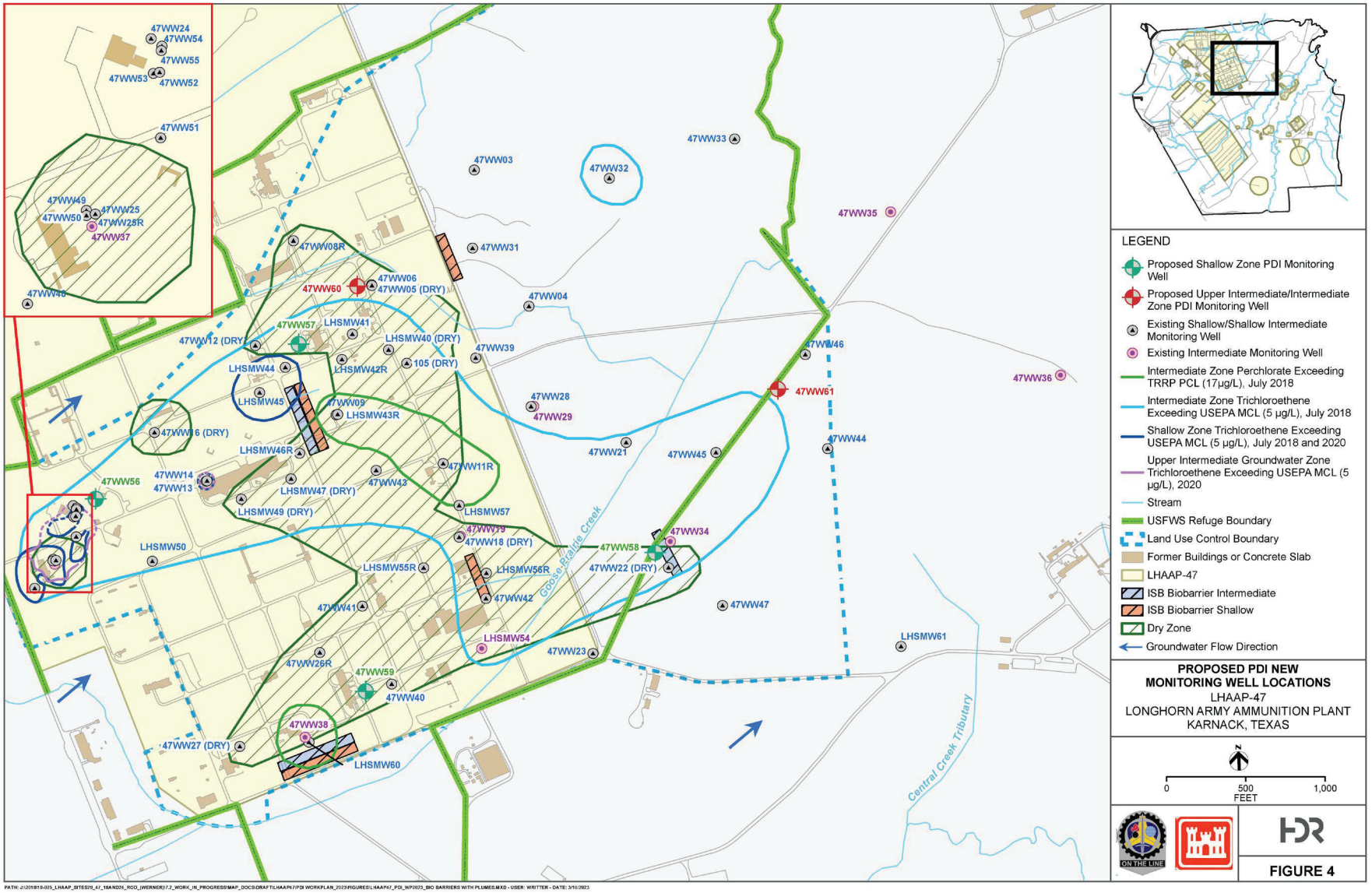
- Soil excavation and off-site disposal,
- Thermal treatment of groundwater,
- Bioremediation,
- Monitored Natural Attenuation, and
- Land Use Controls to maintain the remedy and prohibit groundwater use.

LHAAP-47 UPDATE

Pre-Design Investigation Field Work

- Measure water levels of wells located within the historical and current extent of groundwater contamination.
- Install and develop four Shallow Zone wells to a maximum depth of 38 feet below ground surface.
- Install and develop two Upper Intermediate Zone wells to a maximum depth of 45 feet below ground surface.
- Sample groundwater monitoring wells (up to 74 wells).
- Analyze groundwater samples for metals, perchlorate, and volatile organic compounds.
- Conduct pumping test to evaluate subsurface hydraulic properties.
- Survey new monitoring well locations and surface topography in planned active remediation areas.

LHAAP-47 UPDATE PDI WELL LOCATIONS



NEXT MEETING SCHEDULE AND CLOSING REMARKS

Schedule Next Restoration Advisory Board Meeting

- Thursday, November 16, 2023.

Other Items/Remarks

Thank you for coming

Groundwater Treatment Plant - Processed Groundwater Volumes

The amount of groundwater treated is determined by measuring the number of gallons of processed water discharged.

Processed Water Discharged Data (in gallons)

Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
454,860	896,514	890,391	528,538	195,198	961,324	517,945	368,318	453,155	325,566	1,607,996	1,319,474

Apr-18	May-18	Jun-18	Jul - 18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
630,888	403,369	329,448	140,247	150,228	901,856	1,502,926	71,204	392,024	369,490	1,534,825	463,698

Apr-19	May-19	Jun-19	Jul - 19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
271,989	758,312	1,133,830	1,415,203	493,063	442,423	270,515	288,683	355,132	1,459,356	1,166,593	419,943

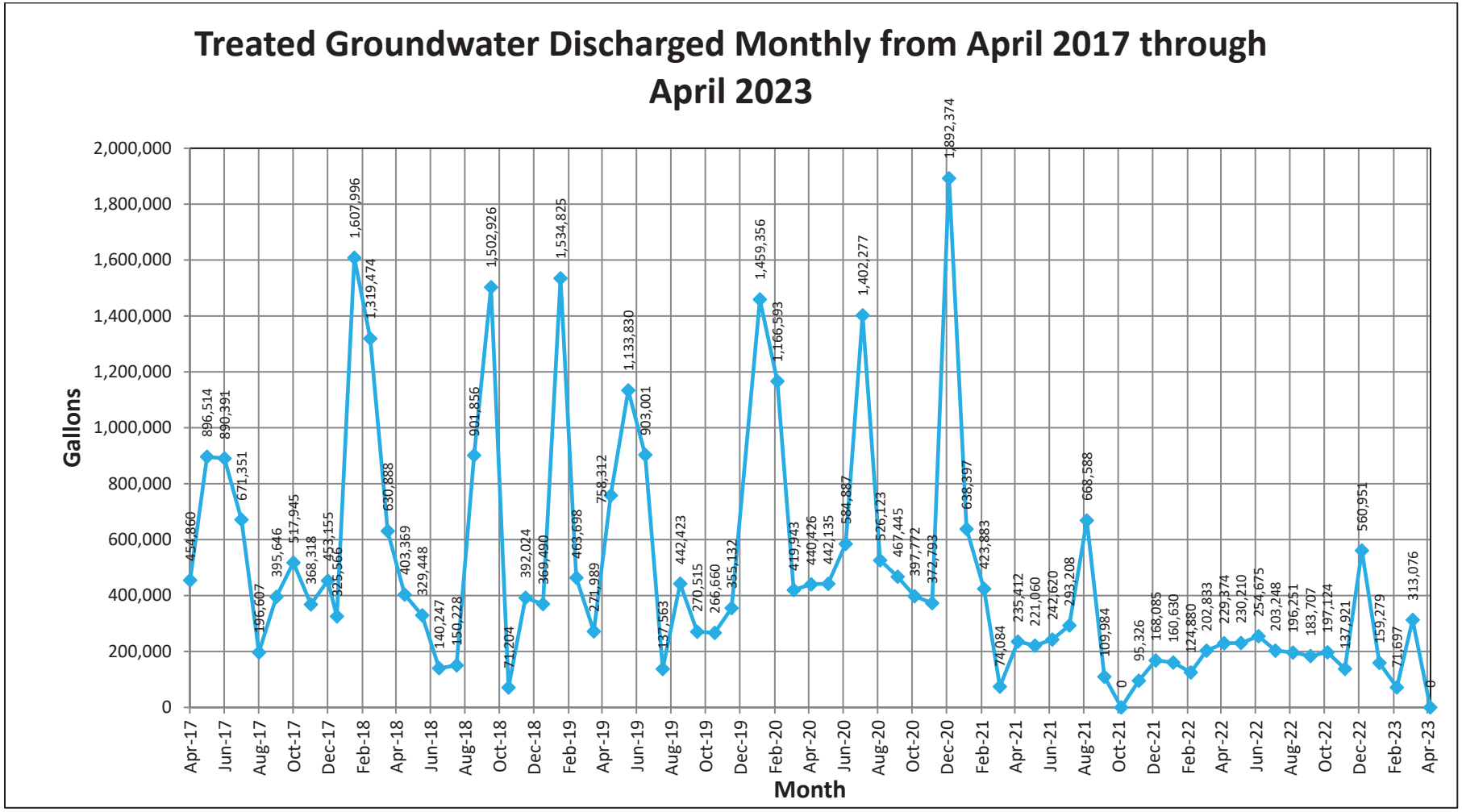
Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
440,426	442,135	584,887	1,402,277	539,526	467,445	397,772	372,793	1,832,274	638,397	423,883	74,084

Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
235,412	1,121,060	242,620	293,208	668,588	109,984	0	95,326	439,585	322,130	124,880	202,833

Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
229,374	230,210	254,675	203,248	196,251	183,707	197,124	137,921	560,951	159,279	164,963	541,371

Apr-23
0

*Indicates Estimate



Notes:
No groundwater discharged in October 2021 due to a power disruption to the GWTP.
No groundwater discharged in April 2023 during contract transition.

Water Discharge Location and Volume (Gallons)					
Month	**Total Combined to Harrison Bayou**	**LHAAP-18/24 Sprinklers**	**GWTP To INF Pond**	**INF Pond to Harrison Bayou**	**Contract Hauled Off-Site**
Apr-17	113,038	0	236,821	0	0
May-17	0	0	534,155	0	0
Jun-17	958,404	0	294,550	490,574	0
Jul-17	0	0	528,538	0	0
Aug-17	0	0	195,197	0	0
Sep-17	651,434	0	309,980	651,434	0
Oct-17	0	0	517,945	0	0
Nov-17	0	0	368,318	0	0
Dec-17	560,350	0	453,155	560,350	0
Jan-18	325,566	0	253,177	325,566	0
Feb-18	1,607,996	0	62,017	1,430,634	0
Mar-18	1,319,474	0	0	870,816	0
Apr-18	630,888	0	0	630,888	0
May-18	403,369	0	0	403,369	0
Jun-18	193,669	0	135,779	0	0
Jul -18	0	0	140,247	0	0
Aug -18	49,409	0	100,819	0	0
Sep-18	585,397	0	316,459	524,484	0
Oct-18	1,409,106	0	93,820	1,016,285	0
Nov-18	71,204	0	0	0	0
Dec-18	392,024	0	0	0	0
Jan-19	369,490	0	0	369,490	0
Feb-19	1,534,825	0	0	1,326,485	0
Mar-19	463,698	0	0	83,250	0
Apr-19	271,989	0	0	0	0
May-19	758,312	0	0	253,817	0
Jun-19	1,133,830	0	0	847,918	0
Jul-19	1,415,203	0	0	903,001	0
Aug-19	374,629	0	118,434	0	0
Sep-19	0	0	442,423	0	0
Oct-19	0	0	270,515	0	0
Nov-19	115,503	0	173,180	0	0
Dec-19	318,248	0	36,884	0	0
Jan-20	1,459,396	0	0	1,115,183	0

Water Discharge Location and Volume (Gallons)					
Month	**Total Combined to Harrison Bayou**	**LHAAP-18/24 Sprinklers**	**GWTP To INF Pond**	**INF Pond to Harrison Bayou**	**Contract Hauled Off-Site**
Feb-20	1,166,593	0	0	741,954	0
Mar-20	419,943	0	0	0	0
Apr-20	440,426	0	0	0	0
May-20	442,135	0	0	0	0
June-20	584,887	0	0	0	0
July-20	1,402,277	0	0	984,393	0
Aug-20	216,197	0	323,359	0	0
Sep-20	0	0	467,445	0	0
Oct-20	0	0	397,772	0	0
Nov-20	0	0	372,793	0	0
Dec-20	1,832,274	0	60,199	1,571,432	0
Jan-21	638,397	0	0	383,318	0
Feb-21	423,883	0	0	259,875	0
Mar-21	74,084	0	0	74,084	0
Apr-21	235,412	0	0	0	0
May-21	1,121,060	0	0	900,000	0
Jun-21	242,620	0	0	0	0
Jul-21	293,208	0	0	243,675	0
Aug-21	668,588	0	0	561,527	0
Sep-21	0	0	109,984	0	0
Oct-21	0	0	0	0	0
Nov-21	0	0	95,326	0	0
Dec-21	271,500	0	168,085	271,500	0
Jan-22	161,500	0	160,630	161,500	0
Feb-22	0	0	124,880	0	0
Mar-22	190,898	0	11,935	0	0
Apr-22	229,374	0	0	0	0
May-22	230,210	0	0	0	0
June-22	254,675	0	0	0	0
July-22	0	0	203,248	0	0
Aug-22	34,115	0	162,136	0	0
Sept-22	83,312	0	100,395	0	0
Oct-22	0	0	197,124	0	0
Nov-22	0	0	137,921	0	0
Dec-22	560,951	0	0	514,515	0

Water Discharge Location and Volume (Gallons)					
Month	**Total Combined to Harrison Bayou**	**LHAAP-18/24 Sprinklers**	**GWTP To INF Pond**	**INF Pond to Harrison Bayou**	**Contract Hauled Off-Site**
Jan-23	159,279	0	0	145,321	0
Feb-23	71,697	0	0	71,697	0
Mar-23	313,076	0	0	313,076	0
Apr-23	0	0	0	0	0

Harrison Bayou and Goose Prairie Creek – Perchlorate Data

Surface water samples are collected quarterly from each location in Harrison Bayou and Goose Prairie Creek, unless the sampling location is dry.

Surface Water Sample Data (in micrograms per liter)

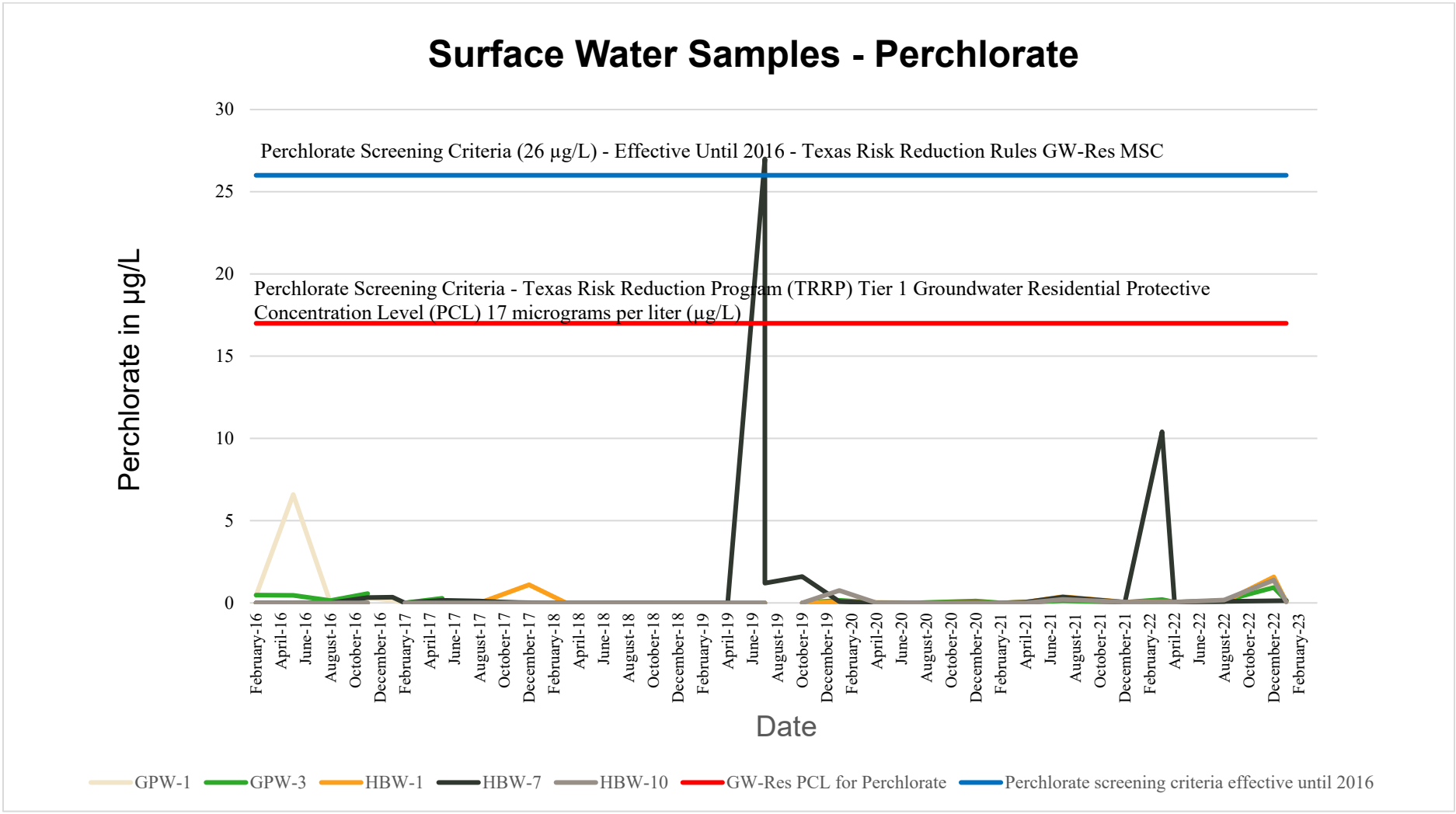
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd
Creek Sample ID	**Feb 2016**	**May 2016**	**Aug 2016**	**Nov 2016**	**Feb 2017**	**May 2017**	**Aug 2017**	**Dec 2017**	**Mar 2018**	**Jun 2018**	**Aug 2018**
GPW-1	0.447	6.59	<0.2 U	0.301 J	<1 U	0.263	Dry	<2.0 U	<2.0 U	Dry	<2.0 U
GPW-3	0.474	0.457	0.141	0.563	<1 U	0.274	Dry	<2.0 U	<2.0 U	Dry	<2.0 U
HBW-1	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<1 U	<0.2 U	<0.2 U	1.1 J	<2.0 U	Dry	<2.0 U
HBW-7	<0.2 U	<0.2 U	<0.2 U	0.318 J	<1 U	0.155	<0.2 U	<2.0 U	<2.0 U	Dry	<2.0 U
HBW-10	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<1 U	<0.2 U	0.111 J	<2.0 U	<2.0 U	Dry	<2.0 U

NS – not sampled U – non-detect J – Estimated Dry – no surface water

Quarter	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Creek Sample ID	**Oct 2018**	**Jan 2019**	**Apr 2019**	**Jul 2019**	**Oct 2019**	**Jan 2020**	**Apr 2020**	**Jul 2020**	**Dec 2020**	**Feb 2021**
GPW-1	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	0.163	0.0589 J	<0.05 U	0.110	<0.05 U
GPW-3	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	0.156	0.0662 J	0.0326 J	0.108	<0.05 U
HBW-1	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	0.0600 J	<0.05 U	<0.05 U	0.0374 J	<0.05 U
HBW-7	<2.0 U	<2.0 U	<2.0 U	27 (initial)/ 1.2 J (resample)	1.6 J	0.0761 J	<0.05 U	0.0318 J	0.0265 J	<0.05 U
HBW-10	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	0.0782 J	<0.05 U	<0.05 U	<0.05 U	<0.05 U

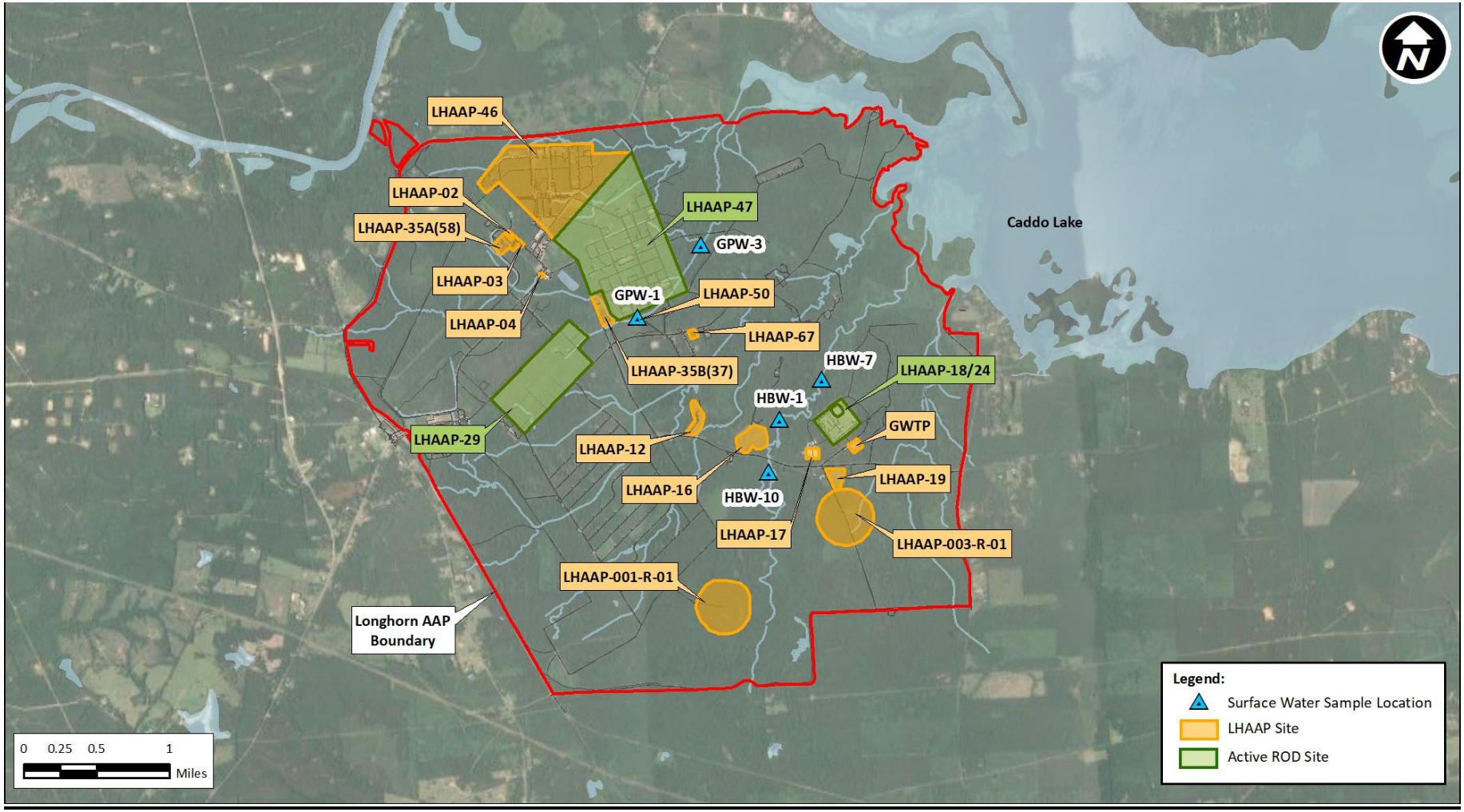
Quarter	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Creek Sample ID	**Apr 2021**	**Jul 2021**	**Dec 2021**	**Mar 2022**	**Apr 2022**	**Aug 2022**	**Dec 2022**	**Jan 2023**
GPW-1	0.0268 J	0.154	0.0394 J	0.162	0.042 J	0.104	1.30	0.153
GPW-3	0.0321 J	0.122	0.0344 J	0.198	0.0384 J	0.132	0.938	0.137
HBW-1	0.0410 J	0.369	0.050 U	0.052 J	<0.05 U	0.0540 J	1.58	0.0568 J
HBW-7	0.0373 J	0.348	0.0359 J	10.4	0.0493 J	0.0880 J	0.125	0.133
HBW-10	<0.05 U	0.207	0.0464 J	<0.05 U	<0.05 U	0.171	1.39	0.0654J

NS – not sampled U – non-detect J – Estimated Dry – no surface water



Note: Surface water at HBW-7 had a detection of 27 µg/L from a sample collected on 11 July 2019. Surface water at HBW-7 was resampled 19 days later (30 July 2019) with a detection of 1.2 J µg/L. GPW – Goose Prairie Creek sample location; HBW – Harrison Bayou sample location. GW Res – Groundwater residential; µg/L – micrograms per liter

Longhorn Army Ammuntion Plant Creek Sampling Locations



LHAAP-04 Perchlorate, Dissolved Oxygen, and Oxidation Reduction Potential (2019 to 2023)

		Location	04WW01										
		Sample Date	1/22/2019	2/4/2020	5/4/2020	8/10/2020	11/4/2020	3/10/2021	5/24/2021	8/4/2021	11/4/2021	2/1/2022	8/2/2022	2/3/2023
Analyte	Units	PCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Perchlorate														
Perchlorate	µg/L	17	< 2	**19**	< 0.05	0.561 J	0.246 J	< 0.05	< 0.05	< 0.5	< 0.2	< 0.2	< 0.05	< 0.05
Field Parameters														
Dissolved Oxygen	mg/L	NV	0.15	0.03	0.04	0.05	0.03	0.02	0.03	0.41	0.38	0.65	0.03	0.08
Oxidation-Reduction Potential	mV	NV	327	-52	-135	-191	-115	-219	-152	-100	-50	52	-104	-131

		Location	04WW07										
		Sample Date	1/22/2019	2/4/2020	5/5/2020	8/11/2020	11/4/2020	3/11/2021	5/25/2021	8/5/2021	11/9/2021	2/2/2022	8/2/2022	2/3/2023
Analyte	Units	PCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Perchlorate														
Perchlorate	µg/L	17	**110**	**86**	3.51	0.557 J	< 0.05	0.169	< 0.05	< 0.5	< 0.2	< 0.2	< 0.05	< 0.05
Field Parameters														
Dissolved Oxygen	mg/L	NV	1.83	0.05	2.12	0.04	0.03	0.04	0.02	0.46	3.46	0.67	0.31	0.07
Oxidation-Reduction Potential	mV	NV	338	-260	-314	-112	-105	-436	-311	-158	-34	150	-148	-18

		Location	04WW10										
		Sample Date	1/22/2019	2/4/2020	5/5/2020	8/11/2020	11/4/2020	3/11/2021	5/25/2021	8/5/2021	11/9/2021	2/2/2022	8/2/2022	2/3/2023
Analyte	Units	PCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Perchlorate														
Perchlorate	µg/L	17	**10,000**	< 2	< 0.05	0.339 J+	0.0888 J	< 0.05	< 0.05	< 0.05	< 0.2	< 0.2	< 0.05	< 0.05
Field Parameters														
Dissolved Oxygen	mg/L	NV	3.59	5.54	2.72	1.03	0.11	0.04	0.15	0.7	1.64	0.63	0.47	0.06
Oxidation-Reduction Potential	mV	NV	333	-79	-286	-47	-62	-159	-77	-38	-35	68	-24	8

LHAAP-04 Perchlorate, Dissolved Oxygen, and Oxidation Reduction Potential (2019 to 2023)

		Location	04WW04										
		Sample Date	1/21/2019	2/3/2020	5/4/2020	8/10/2020	11/4/2020	3/10/2021	5/24/2021	8/4/2021	11/4/2021	2/1/2022	8/2/2022	2/3/2023
Analyte	Units	PCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Perchlorate														
Perchlorate	µg/L	17	< 2	< 2	<0.05	< 0.1	0.158	0.139	< 0.05	< 0.25	< 0.2	0.055 J	< 0.05	<0.05
Field Parameters														
Dissolved Oxygen	mg/L	NV	0.15	0.06	1.5	0.05	0.45	0.08	0.44	0.45	0.48	0.49	0.03	0.04
Oxidation-Reduction Potential	mV	NV	-8	-26	-111	-45	127	-88	-44	28	25	151	-101	-84

		Location	04WW05										
		Sample Date	1/22/2019	2/4/2020	5/5/2020	8/11/2020	11/4/2020	3/11/2021	5/25/2021	8/5/2021	11/9/2021	2/2/2022	8/2/2022	2/3/2023
Analyte	Units	PCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Perchlorate														
Perchlorate	µg/L	17	**78**	< 2	< 0.05	0.399 J	< 0.05	< 0.05	< 0.05	< 0.5	< 0.2	0.28	< 0.05	< 0.05
Field Parameters														
Dissolved Oxygen	mg/L	NV	1.62	0.09	0.22	0.14	0.15	0.08	0.08	0.48	0.52	0.76	0.1	0.03
Oxidation-Reduction Potential	mV	NV	163	-88	-90	-66	-36	-320	-60	-16	-4	127	-70	3

		Location	04WW09										
		Sample Date	1/22/2019	2/4/2020	5/5/2020	8/11/2020	11/4/2020	3/11/2021	5/25/2021	8/5/2021	11/9/2021	2/2/2022	8/2/2022	2/3/2023
Analyte	Units	PCL	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Perchlorate														
Perchlorate	µg/L	17	**2,100**	**18**	11.1	3.92	2.02	< 0.05	< 0.5	< 0.5	< 0.2	< 1	< 0.05	< 0.05
Field Parameters														
Dissolved Oxygen	mg/L	NV	5.78	0.08	0.04	0.03	0.02	0.09	0.04	0.33	0.22	0.43	0.13	0.02
Oxidation-Reduction Potential	mV	NV	326	-74	-16	-87	-91	-21	-246	-127	-85	23	-134	-62

LHAAP-04 Perchlorate, Dissolved Oxygen, and Oxidation Reduction Potential (2019 to 2023)

Notes:

Blue highlighting indicates concentrations above the PCL.

< The analyte was not detected above the laboratory reporting limit shown.

J - Estimated: The concentration shown is estimated

J+ - The concentration shown is an estimate with a high bias

µg/L - micrograms per liter

mg/L - milligrams per liter

NV - No PCL value has been established for the analyte.

PCL - Texas Risk Reduction Program Tier 1 Groundwater Residential Protective Concentration Level.

mV - millivolts

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

November 30, 2023

SUBJECT: Draft Final Sixth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, November 2023

Mr. Brian Follin
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Dear Mr. Follin,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. The document includes revisions based upon comments on the draft version received from the Environmental Protection Agency (EPA) comments on the Draft version received on September 11, 2023 and from the Texas Commission on Environmental Quality on August 16, 2023. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with the Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

The document was prepared by the PCI-Bhate Joint Venture (PCI-Bhate) team, on behalf of the Army as part of PCI-Bhate's Performance Based Remediation contract for the facility. I ask that Zack Beck, PCI-Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at (726) 999-0505, or by email at lena.j.sierocinski.civ@army.mil.

Sincerely,

Lena Sierocinski

Lena Sierocinski
LHAAP Environmental Support Manager
U.S. Army Environmental Command

Electronic copies furnished:
A. Palmie, TCEQ, Austin, TX
E. Duerkop, USFWS, Caddo Lake NWR, TX (1 hard copy and 1 CD)

C. Montoya, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
K. Russell, BRAC, Huntsville, AL
Z. Beck, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

November 30, 2023

SUBJECT: Draft Final Sixth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, November 2023

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

Dear Ms. Palmie,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter and download instructions for the electronic file have been sent via email. The document includes revisions based upon comments on the draft version received from the Environmental Protection Agency (EPA) comments on the Draft version received on September 11, 2023 and from the Texas Commission on Environmental Quality on August 16, 2023. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with the Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

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Sincerely,

Lena Sierocinski

Lena Sierocinski
LHAAP Environmental Support Manager
U.S. Army Environmental Command

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Z. Beck, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

Response to Comments on
Draft Sixth Annual Remedial Action Operation Report, LHAAP-35B (37)

Document Date: August 23, 2023
Comment Date: September 11, 2023

Reviewers: Brian Follin—USEPA
Respondent: Lena Sierocinski—Army

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

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
1	Section 1.3.4	Based upon the latest data and the seasonal fluctuations, are the time-based attenuations rates still within the range proposed in the ROD? If there is a large discrepancy in cleanup times, we may need to consider follow-on actions.	C	The ROD states "Based on groundwater modeling, groundwater MCLs are expected to be met at LHAAP-35B(37) through natural attenuation in 28 to 38 years for PCE, 39 to 43 years for TCE, and 16 to 21 years for 1,1-DCE." There are no increasing trends at any of the performance monitoring wells and the estimated clean up times range from 0.3 years to 11 years. Therefore, MNA processes are reducing concentrations and currently within the timeframe presented in the ROD.	
2	Page 3-3, section 3.1.1, second paragraph on page.	Please define or remove the term "somewhat" as it is a vague descriptor of statistical analysis.	C	The word "somewhat" has been removed	
3	Page 3-7, section 3.1.5, paragraph 3.	The northern edge of the plume boundary is stated to be "relatively stable", based on monitoring well 35BWW25 TCE concentrations. GW logs indicate that the 35BWW25 started exceeding MCL in May 2018 with a northeast GW flow. SB-02 and DPT-0034 are not in the suspected location downgradient and do not have data with current sampling. Adding an additional well may be necessary.	C	The highest concentrations at 35BWW25 were observed at 19 µg/L in November 2018 and since that time TCE levels have been fluctuating to as low as 8.5 µg/L in May 2021 before increasing again during the Year 6 monitoring to 14 µg/L. Current trends suggest that additional sampling is required to determine if a new well is necessary. The installation of a new well, if required, will be determined as part of the Five Year Review.	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
4	Section 3.1 – first line of (MNA) evidence	Some of the plume boundaries are in question and there is potential concern for overall plume stability and potential for migration.	C	The plume boundaries have fluctuated over the years and the combination of the downgradient wells 35BWW01, 35BWW23, 35BWW24, and 35BWW25, the plume is not migrating past these areas.	
5	3.2	Please list the wells that are part of the "Select Monitoring wells" that were sampled for MNA parameters	C	The sentence has been revised as follows: "Select monitoring wells were sampled for MNA parameters, 35BWW04, 35BWW08, 35BWW12, 35BWW14, 35BWW23, and 35BWW26, as shown in Table 2-1."	
6	Section 3.2/ 3.3 – Second/ third lines of (MNA) evidence: Elevations and Flow Direction	It has been well documented that there is no current biotic degradation at the OU. Both these lines of evidence provide no data to determine if MNA is effective and focus should be on delineation of the plume and ensuring plume stability.	C	The selected remedy is MNA, and all of these parameters are part of the MNA evaluation. We agree that the biotic MNA processes are not the primary reasons for decreases in concentration at this site as noted in the RA-O report. Therefore, the reductions in concentrations are due to dispersion, dilution, sorption, and volatilization, which will continue to be evaluated.	
7		Seasonal variation seems to play a role in this OU and should re-considered if the variances cannot be rectified.	C	Starting in Year 6, groundwater sampling frequency has been changed from semiannual to annual per the workplan, and since the sampling will only be conducted in the Fall, there will be no seasonally observed variation in the data. Approach to re-consider impact of seasonal variations will be considered in the Five Year Review report.	

Response to Comments on
Draft Third Annual Remedial Action Operation Report, LHAAP-35B (37)

Document Date: August 2023
Comment Date: August 16, 2023

Reviewers: April Palmie—TCEQ
Respondent: Lena Sierocinski—Army

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

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
1	Page 3-10 in pH Section	Correct the last use of SUs (probably auto-corrected as Sus)	C	The text has been revised to replace Sus to SUs.	
2	4.0 – First paragraph	I noted the deletion of the unrestricted use and unlimited exposure language in 4.0 but the reduced language does match the ROD (page 2-28). You might want to revise the groundwater restriction language in 2.1 and on the LUC inspection form to match the language in 4 (and the ROD).	C	The first sentence of Section 4.0 has been revised to the following: "The LUC for this site is groundwater restriction, which prohibits residential groundwater use and water well installation for any purpose other than environmental monitoring and testing until the levels of COCs in the groundwater allow for unrestricted use and unlimited exposure."	
3	Appendix C	I think the 11/03/22 data package is missing.	C	Appendix C has been revised to include the 11/03/22 data package.	

Draft Final
Sixth Annual Remedial Action Operation Report
LHAAP-35B (37) (Chemical Laboratory)
Longhorn Army Ammunition Plant
Karnack, Texas

Contract Number: W912BV23C0007
Task Order: W45XMA31085678

Rev 0
November 2023

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Acronyms and Abbreviations

µg/L	micrograms per liter
J	estimated value
AECOM	AECOM Technical Services, Inc.
APTIM	Aptim Federal Services, LLC
Bhate	Bhate Environmental Associates, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COC	contaminant of concern
DCE	dichloroethene
DHC	*Dehalococcoides sp.*
DO	dissolved oxygen
HDR	HDR, Inc. (formerly Henningson, Durham, and Richardson, Inc.)
LHAAP	Longhorn Army Ammunition Plant
LTM	long-term monitoring
LUC	land use control
MCL	Maximum Contaminant Level
mg/L	milligram(s) per liter
MNA	monitored natural attenuation
MSL	mean sea level
mV	millivolts
ORP	oxidation-reduction potential
PCE	tetrachloroethene
PCI Bhate JV	PCI Bhate Joint Venture LLC
RA-O	remedial action operation
RACR	Remedial Action Completion Report
RAWP	Remedial Action Work Plan
RI	remedial investigation
ROD	Record of Decision
SU	standard unit(s)
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality
TNT	trinitrotoluene
TOC	total organic carbon
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

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1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Tulsa District, contracted with the PCI Bhate Joint Venture LLC (PCI Bhate JV) under Omaha Multiple Environmental Government Acquisition National Small Business Multiple Award Task Order Contract, Environmental Remediation Services with Military Munitions Response Program, Task Order Number (No.) W45XMA31085678, to conduct environmental restoration at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP). The PCI Bhate JV Team consists of the PCI Bhate JV as the prime contractor and Aptim Federal Services, LLC (APTIM) as a subcontractor responsible for remedial activities at several sites, including LHAAP-35B (37).

LHAAP is located in east Texas in the northeastern corner of Harrison County between State Highway 43 in Karnack, Texas, and the western shore of Caddo Lake (**Figure 1-1**). The nearest cities are Marshall, Texas, approximately 14 miles to the southwest, and Shreveport, Louisiana, approximately 40 miles to the east. Caddo Lake is a large freshwater lake that bounds LHAAP to the north and east. The eastern fence of the LHAAP installation is 3.5 miles from the Texas-Louisiana state border.

LHAAP was established in December 1941 with the primary mission of manufacturing trinitrotoluene (TNT). Production of TNT began at Plant 1 in October 1942 and continued through 1945, when the facility was placed on standby status. In February 1952, the facility was reactivated and production of pyrotechnic ammunition, such as photoflash bombs, simulators, hand signals, and tracers for 40-millimeter ammunition continued at Plant 2, northeast of Plant 1, through 1956. In December 1954, a third facility, Plant 3, began production of solid-fuel rocket motors for tactical missiles, which continued until 1965, when Plant 2 was reactivated for the production of pyrotechnic and illuminating ammunition. In the years following the Vietnam conflict, LHAAP continued to produce flares and other basic pyrotechnic or illuminating items for the U.S. Department of Defense inventory. From September 1988 to May 1991, LHAAP was also used for the static firing and elimination of Pershing I and II rocket motors.

The LHAAP-35B (37) site, the former Chemical Laboratory, encompasses approximately 12.2 acres and is located in the north-central portion of LHAAP as shown on **Figure 1-2**. The Chemical Laboratory was built during the construction of Plant 3 (1953–1955) and was originally used to support the production activities at LHAAP. These support activities included research and testing of materials used in the production processes and quality assurance testing. Also, one waste rack sump was located at the site. In 1998, the site was used as a staging area in support of investigation activities (USACE 2010).

Field investigations conducted between 1998 and 2007 identified and evaluated the nature and extent of groundwater contamination at LHAAP-35B (37) site. Investigation results indicated that there was no significant contamination in soil (USACE 2010). The investigation data and the subsequent human health risk assessment indicated that the soil at the LHAAP-35B (37) site does not pose a risk to the environment or to human health under an industrial exposure scenario for a future maintenance worker

(USACE 2010). However, groundwater present within the upper shallow zone posed an unacceptable cancer risk and noncancer hazard to a future maintenance worker from hypothetical groundwater consumption. There is no groundwater contamination in the lower shallow groundwater zone or the intermediate zone (USACE 2010).

Remedial action operation (RA-O) activities are required at LHAAP-35B (37) under the Record of Decision (ROD) issued for the site in June 2010 (USACE 2010). The Remedial Action Completion Report (RACR) (AECOM Technical Services, Inc. [AECOM] 2016) outlines the implementation of RA-O to address risks associated with contaminated groundwater at the LHAAP-35B (37) site. The RACR (AECOM 2016) was developed using the basis and details of the Remedial Design (USACE 2011) and the Remedial Action Work Plan (RAWP) (AECOM 2013) for LHAAP-35B (37), and included the installation of three wells, 35BWW24, 35BWW25, and 35BWW26, and their inclusion into the monitoring network.

A field demonstration pilot study of the bio-plug technology was conducted at the site during September 2012 through June 2014 (AECOM 2016). The purpose of the pilot study was to determine the feasibility of the bio-plug technology to accelerate the aerobic biological degradation of volatile organic compounds (VOC) in the groundwater at the site. The pilot study commenced in September 2012 and concluded with the final groundwater sampling round in October 2014. Interpretation of data generated through these events indicated reduction of contaminant concentrations was not sufficient to justify continuation of the demonstration.

Groundwater monitoring at LHAAP-35B (37) is ongoing as described in the RACR (AECOM 2016). This report represents Year 6 of the RA-O implementation and summarizes the results of site inspections and sampling activities. Baseline sampling was conducted in October 2013. A Groundwater Geochemistry Rebound Evaluation Memorandum for Record was submitted in February 2017, which determined that the aquifer is sufficiently recovered to its pre-bio-plug study geochemical state to begin implementation of the monitored natural attenuation (MNA) remedy (AECOM 2017). The first year RA-O report, representing sampling events conducted in November 2017 and February, May, and August 2018, was finalized in March 2019 (Bhate 2019a). The second year RA-O report, representing sampling events conducted in November 2018 and February, May, and August 2019, was finalized in April 2020 (Bhate 2020a). The third year RA-O report, representing the first set of semiannual sampling events conducted in November 2019 and May 2020, was finalized in November 2020 (Bhate 2020b). The fourth year RA-O report, representing the second set of semiannual sampling events conducted in November 2020 and May 2021, was finalized in January 2022 (Bhate 2022). The fifth year RA-O report, representing the final set of semiannual events conducted in November 2021 and May 2022, was finalized in January 2023 (Bhate 2023). An evaluation of the effectiveness of the selected MNA remedy is presented in this Year 6 report and includes historical data from 1994 through the first year of annual sampling in November 2022.

1.1 Remedial Action Objectives

The remedial action objectives at LHAAP-35B (37) are based on protection of human health and meeting of applicable or relevant and appropriate requirements. There are no ecological risks at the LHAAP-35B (37) site (USACE 2010).

The remedial action objectives for the LHAAP-35B (37) site, consistent with the reasonably anticipated future use as a national wildlife refuge, are:

- Ensure protection of human health by preventing human exposure to the contaminated groundwater.
- Ensure protection of human health and the environment by preventing contaminated groundwater from migrating into nearby surface water.
- Ensure return of groundwater to its potential beneficial use as drinking water, wherever practicable.

1.2 Performance Objectives

The remedy selected for LHAAP-37 (USACE 2010) is land use control (LUC), MNA, and long-term monitoring (LTM).

The remedy includes the following components:

- **LUC:** LUC in the impacted area ensures protection of human health by restricting the use of groundwater exceeding the applicable cleanup levels to environmental monitoring and testing only. The LUC will remain in effect until such time as the U.S. Army, U.S. Environmental Protection Agency (USEPA), and Texas Commission on Environmental Quality (TCEQ) agree that contaminant of concern (COC) concentrations have met cleanup levels. As a component of the LUC implementation, the civil survey of the LUC boundary was conducted in January 2015 and recorded in the Harrison County Courthouse in March 2015.
- **RA-O:** An MNA program has been implemented as part of the RA-O to establish attenuation trends and verify that the VOC plume is stable or shrinking and will not migrate to nearby surface water (Goose Prairie Creek) at levels that may present an unacceptable risk to human health or the environment. Natural attenuation is expected to return groundwater to acceptable quality over time. The MNA program performance objectives have been evaluated after five years of RA-O groundwater monitoring. During those five years, groundwater monitoring was performed on a quarterly basis for the first two years and then semi-annually for the third, fourth, and fifth years. Starting with the sixth year, groundwater monitoring will be performed on an annual basis.
- **LTM:** Following the completion of three years of semiannual monitoring, groundwater monitoring will be performed annually until the next Comprehensive Environmental

Response, Compensation, and Liability Act of 1980 (CERCLA) Five-Year Review. RA-O associated with this remedy will be used to track the continued effectiveness of MNA. Further reductions in sampling will depend on the Five-Year Reviews, but sampling will be conducted at least once every five years until the cleanup levels are achieved.

According to the RACR (AECOM 2016), groundwater monitoring is being performed to evaluate remedy effectiveness and includes groundwater and surface water monitoring. The groundwater monitoring program is designed to evaluate and monitor natural attenuation of COCs in Shallow Zone groundwater, and the surface water monitoring program is designed to evaluate potential migration of contaminated groundwater to surface water.

The combined monitoring program will meet the following objectives (AECOM 2013):

- Demonstrate that natural attenuation is effectively occurring.
- Detect changes in environmental conditions (e.g., geochemical, hydrogeologic, etc.) that may reduce the efficacy of natural attenuation processes.
- Identify potentially toxic and/or mobile transformation products.
- Verify that the plume(s) is not expanding.
- Verify no unacceptable impact to downgradient receptors.
- Detect new releases of contaminants to the environment that could impact effectiveness of the natural attenuation remedy.
- Verify attainment of the remediation objectives.

Work completed as part of the Year 6 (2022) RA-O consisted of the following:

- During the November 2022 groundwater monitoring, 22 of the 22 planned monitoring wells were sampled.
- Two surface water locations were planned for sampling only if groundwater elevations met the criteria described in **Section 2.3** and they were not sampled in November 2022.
- LUC inspection (November 2022).

This report summarizes the LUC compliance inspection, the results of groundwater sampling, and an evaluation of MNA.

1.3 Site Description

LHAAP-35B (37) is located in the central portion of LHAAP, as shown on **Figure 1-2**, and covers an area of approximately 16.5 acres. The site topography is relatively flat. The nearest significant surface water

body is Goose Prairie Creek, which runs through the site. Goose Prairie Creek eventually flows into Caddo Lake; however, it is often dry at LHAAP-35B (37).

At LHAAP-35B (37), a Chemical Laboratory and associated buildings were built during the construction of Plant 3 (1953–1955) and were originally used to support the production activities at LHAAP. These support activities included research and testing of materials used in the production processes and quality assurance testing. Also, one waste rack sump was located at the site. In 1998, the site was used as a staging area in support of investigation activities.

The LUC area associated with the groundwater use restriction at LHAAP-35B (37) encompasses the northern half of the site and extends beyond the historical site boundaries along the western, eastern, and northern boundaries of the site. The LUC area encompasses a total of 16.5 acres and has no known areas of archaeological or historical importance (see **Section 2.1** for further discussion of the LUCs).

1.4 Conceptual Site Model

A detailed Conceptual Site Model of LHAAP-35B (37) was presented in the ROD (USACE 2010). Although the groundwater is not currently being used and is not expected to be used in the future, the groundwater pathway is being considered for remediation because it has the potential to present an unacceptable risk to a maintenance worker.

COCs identified in the ROD for LHAAP-35B (37) groundwater are tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (DCE). The historical presence of these COCs in the shallow groundwater zone represents the primary driver for remedial action as they are at concentrations above the human health standard for a hypothetical future maintenance worker under a nonresidential exposure scenario. Although 1,1-DCE is a COC, this compound was not detected above the Maximum Contaminant Level (MCL) of 7.0 micrograms per liter (µg/L) during the Year 2, 3, 4, 5, or 6 RA-O.

Antimony and thallium were detected in groundwater at the LHAAP-35B (37) prior to the remedial investigation (RI) conducted in 2002, and the RI concluded that they are not considered to be COCs at this site (Jacobs Engineering Group, Inc. 2002). The 2016 RACR stated that since the previous detections of antimony and thallium results were estimated value (J)-qualified results, samples were to be collected during the second quarter Year 1 RA-O sampling event to determine the need for further sampling. During the second quarter Year 1 RA-O sampling event in March 2018, concentrations of antimony and thallium were below their respective MCLs, and these analytes were excluded from the future sampling as approved in the Year 1 RA-O report (Bhate 2019a).

Based on groundwater level data collected 2013 through 2022, the dominant Shallow Zone groundwater gradient is to the northeast. However, in 2019, the groundwater elevations increased significantly, and in the area to the west of the site boundary but within the LUC boundary, the groundwater flow direction was to the north-northwest. During the Year 6 RA-O, the groundwater flow direction

throughout the site was to the northeast based on the November 2022 groundwater elevation measurements (see further discussion in **Section 2.2.2**). The Year 6 RA-O was the first year of annual sampling and groundwater elevations were only collected in November 2022.

Groundwater monitoring has shown that contaminants are confined to the shallow groundwater at LHAAP-35B (37). Monitoring well 35BWW03 is installed in the Intermediate Zone; and monitoring well 35BWW06 is installed in the lower portion of the Shallow Zone. The continued lack of COC detections in well 35BWW06 in the lower portion of the Shallow Zone and Intermediate Zone well 35BWW03 indicate that the plume has been vertically delineated, with no Intermediate Zone impacts identified. According to the RAWP (AECOM 2013), sampling of these two wells will be performed every five years to support the Five Year Review. Monitoring wells 35BWW03 and 35BWW06 were sampled during the Year 5 RA-O in November 2021, and the results showed that COCs at both wells continue to be below detection limits and below MCLs. These two wells will be sampled again in November 2026 to support the next Five Year Review.

In the ROD (USACE 2010), contamination was identified only on the west side of the creek, and modeling calculations were completed (Shaw Environmental & Infrastructure, Inc. 2007) to assess the potential for the COCs present in shallow groundwater at LHAAP-35B (37) to migrate toward and discharge to Goose Prairie Creek. The modeling assumed contaminants were not leaching from vadose zone soil to groundwater. Based on the results of the model, PCE and 1,1-DCE would not appear at detectable levels where groundwater discharges into Goose Prairie Creek. Groundwater contamination was detected to the east of the creek during Year 1 RA-O monitoring. However, contaminants were not detected in the surface water sampling conducted in Year 1, Year 2, or Year 3. During the Years 4, 5, and 6 RA-Os, groundwater elevations in wells designated in the RACR for comparison were below the creek bottom, indicating that contamination cannot impact the surface water. Shallow monitoring well 35BWW01 is the only well where groundwater elevations are consistently observed above the creek bottom. Comparison of this well to others at the site suggests this water is likely to be perched. The continued lack of COCs at this well indicates that even if the groundwater were to reach the creek, the creek will not be impacted by COCs. The groundwater elevations in COC-impacted wells near the creek indicate that COC-impacted groundwater is not discharging to Goose Prairie Creek.

2.0 SITE ACTIVITIES AT LHAAP-35B (37)

This chapter describes the results of the Year 6 RA-O activities including the annual LUC compliance inspection, semiannual groundwater monitoring, and monitoring system repairs and/or maintenance performed at LHAAP-35B (37).

2.1 Annual Land Use Control Compliance Inspection

The annual LUC compliance inspection for LHAAP-35B (37) was performed on November 1, 2022. The LUC for this site is groundwater restriction, which prohibits water well installation for any purpose other than environmental monitoring and testing. Also, the LUC prohibits residential groundwater use until the levels of COCs in the groundwater allow unrestricted use and unlimited exposure. The restriction applies to groundwater underlying an approximately 16.5-acre area defined by the surveyed LUC boundary shown on **Figure 2-1** (AECOM 2016). The Annual LUC Compliance Certification Documentation Form for the Year 6 RA-O monitoring period is included in **Appendix A**. No noncompliance issues or concerns were noted during the annual inspection.

2.2 Groundwater Monitoring

The Year 6 RA-O monitoring was the first year of annual monitoring and the groundwater sampling event was completed in November 2022 **(Table 2-1)**. Prior to Year 6, Years 3 through 5 consisted of semiannual monitoring. In the RACR (AECOM 2016), 25 wells were selected for sampling. Of the 25 wells selected for sampling in the RACR, 22 were sampled in November 2022 as part of the Year 6 RA-O sampling event. Monitoring well 35BWW02 was removed from the monitoring program as discussed in **Section 2.2.1**, and monitoring wells 35WW03 and 35BWW06 are only sampled once every five years (last sampled in November 2021). The next time these two wells will be sampled will be in November 2026. Monitoring well locations sampled for the November 2022 sampling event are depicted on **Figure 2-1**.

Prior to collecting groundwater samples, monitoring wells were gauged using a water level probe, and the depth to water was recorded to the nearest 0.01-foot from the top of casing. Depth-to-water measurements were used to calculate the groundwater elevations presented in **Table 2-2** and on the potentiometric surface map (**Figure 2-2**). Water samples were collected using low-flow sampling techniques as described in the groundwater sampling procedures found in the *Final Installation-Wide Work Plan* (Bhate 2018).

2.2.1 Approved Modifications to the Groundwater Monitoring Program

Minor modifications have been made to the groundwater monitoring program, in coordination with USEPA and the TCEQ, since it was first developed in the RAWP (AECOM 2013):

- Monitoring well 35BWW02 was dry during each quarter of Year 1 RA-O groundwater sampling, and the Year 1 RA-O Report recommended that it be removed from the groundwater-monitoring program for Year 2 RA-O. The Year 1 RA-O Report was approved in March 2019 and monitoring well 35BWW02 was removed from the monitoring program at that time.
- The list of MNA parameters was reduced after the Year 2 RA-O Quarter 2 sampling event. The revised list of parameters includes nitrate, sulfate, chloride, methane, ethane, ethene, carbon dioxide, and total organic carbon (TOC) analyzed in an off-site laboratory, and dissolved iron measured in the field (Bhate 2019b).

2.2.2 Groundwater Elevations and Flow Direction

The potentiometric surface has been drawn based on groundwater elevation data collected in November 2022 and is shown on **Figure 2-2**. The screened interval at 35BWW01 is located approximately 15 feet higher in elevation than other shallow wells and is not representative of the shallow groundwater. The groundwater at 35BWW01 may represent a perched zone; therefore, the elevations measured there were not used to create the shallow groundwater potentiometric maps. Based on the gauging data from the Year 6 RA-O sampling event, groundwater within the site boundary flows primarily to the northeast from monitoring well 35BWW11 towards LHSMW58, 35BWW14, and 35BWW24. The groundwater flow direction is consistent with previous sampling events.

2.2.3 Groundwater Analytical Results

During the Year 6 RA-O, groundwater samples were collected from monitoring wells and analyzed for VOCs according to SW-846 Method 8260. Samples from six monitoring wells were analyzed for MNA geochemical parameters as shown in **Table 2-1**.

Analytical results for Year 6 RA-O sampling activities only are presented in **Table 2-3**. During the Year 6 RA-O sampling event, monitoring wells 35BWW04, 35BWW05, 35BWW09, 35BWW12, 35BWW14, 35BWW15, 35BWW16, 35BWW20, 35BWW25, and LHSMW58 contained VOCs above their respective MCLs. The highest level of TCE in November 2022 (56 µg/L) was detected at 35BWW09. The highest level of PCE in November 2022 (27 µg/L) was detected at 35BWW14. The RA-O data from baseline sampling in 2013 through the Year 6 RA-O 2022 sampling are presented in **Table 2-4**. Historical COC results from 1994 to 2022 are presented in **Table 2-5**. **Figures 2-3** and **2-4** depict the VOC data in wells sampled in October 2013 and November 2022, respectively. The trends of COC concentrations in monitoring wells with COC concentrations greater than the MCL in November 2022 are depicted in graphs presented on **Figures 2-5a** and **2-5b**. An expanded discussion on the VOCs and their distribution, including trend analysis, is included in **Section 3.1**.

Groundwater monitoring well sample collection logs were completed for each monitoring well sampled and are included in **Appendix B**. Laboratory analytical results are included in **Appendix C**.

2.3 Surface Water Sampling

As per the RACR, sampling of surface water from two locations, 35BSW01 and 35BSW02, in Goose Prairie Creek was conducted quarterly for the first year and then to be conducted annually until the first CERCLA Five-Year Review. However, if groundwater elevations are lower than the creek bottom elevation during a particular sampling event, indicating that the groundwater is not influencing the creek, then a surface water sample is not collected. To determine if groundwater contamination may be contributing to the surface water during the Year 6 RA-O, the groundwater elevations at 35BWW05 and 35BWW12 were compared to the creek bottom elevations at 35BSW01 and 35BSW02, respectively (AECOM 2016). **Figure 2-1** depicts the locations of the surface water sampling locations and the wells used for groundwater elevation comparison. Groundwater elevations are presented in **Table 2-2** and on the potentiometric surface **Figure 2-2**.

During the Year 6 sampling event, the groundwater elevation measured at 35BWW05 was 178.14 feet above mean sea level (MSL) in November 2022, which is below the creek bottom elevation of 191.49 feet above MSL at 35BSW01. The groundwater elevation at 35BWW12 was 178.49 feet above MSL in November 2022, which is below the creek bottom elevation of 189.16 feet above MSL at 35BSW02. The groundwater elevations at the two monitoring wells were below those of the creek bottom elevations during the November 2022 gauging event; therefore, surface water samples were not collected.

At monitoring well 35BWW01, groundwater elevations have been measured above the creek bottom during some of the previous sampling events (**Table 2-2**). The noticeably higher groundwater elevations measured at 35BWW01, compared to other shallow wells at the site, suggest that the groundwater at 35BWW01 may be perched and could potentially influence the creek. However, during the Year 6 RA-O, the groundwater elevation measured was below the creek bottom and no COCs were detected at 35BWW01; therefore, there is no potential for migration of contaminants from the perched zone to the creek.

2.4 Groundwater Monitoring System Maintenance

Inspections of the conditions/integrity of monitoring wells were conducted during each sampling event, and the information was recorded on the well inspection forms. A summary of the inspections is provided on **Table 2-6**. **Appendix D** includes a photo log and well inspection forms completed for the November 2022 sampling event showing the condition of the wells. A photo was not taken at LHSMW58, but the monitoring well was sampled, and an inspection form was completed for it.

During the Year 5 and Year 6 RA-O well inspections, it was observed that the paint on the stickup casing and bollards at wells 35BWW02 (not sampled or inspected in Year 6) and 35BWW03 was peeling and the labels needed to be repaired. These wells will be repainted and labeled prior to the November 2023 sampling event. During the Year 6 RA-O, four wells (35BWW13, 35BWW16, 35BWW17, and 35BWW19)

were observed to have hinges that were more that 50% rusted. If the rust reaches the point that it impedes the function of the hinge in the future, the well stickup box will be repaired or replaced.

Only minimal encroachment of weeds or brush on the well pads was observed. Mowing the area to control brush and weeds is conducted to allow access to the wells and was performed on October 24, 2022. **Table 2-6** provides a summary of the well inspections that were performed at the site during the sixth annual RA-O period.

No changes to the LHAAP-37 monitoring network are planned for the Year 7 annual sampling to be performed in November 2023. The analyses to be performed at each location for the Year 7 sampling are shown on **Table 2-7** and the monitoring locations are shown on **Figure 2-6**.

3.0 NATURAL ATTENUATION EVALUATION

This chapter presents the results of the natural attenuation evaluation in accordance with the three lines of evidence discussed in the Final RACR for site COCs (AECOM 2016).

3.1 First Line of Evidence: Change in COC Concentrations

Natural attenuation is the combination of multiple mechanisms, including biodegradation, volatilization, dilution, advection, and sorption, which reduce contaminant concentrations. The decrease of COC concentrations over time and distance is evidence of natural attenuation, though the observed decrease may be influenced by potentially short-term fluctuations in groundwater elevations. During periods of short-term increases in groundwater, decreases in contaminant concentrations may occur as additional water enters the system and dilutes contaminant concentrations. An increase in contaminant levels may also be observed as groundwater levels decrease and less water is present in the system. Therefore, an evaluation of concentration trends over time is required to determine if MNA is reducing contaminant levels at the site.

The change in groundwater COC concentrations over time and with distance was evaluated at LHAAP-35B (37). COC concentrations for the sixth year of RA-O sampling event are provided on **Figure 2-4** as well as in **Tables 2-3** and **2-4**. COCs exceeding their respective MCLs are highlighted in light blue. To aid in evaluating COCs, concentrations are shown graphed over time on **Figures 2-5a** and **2-5b**.

3.1.1 In Well COC Concentrations

In the 2016 RACR (AECOM 2016), six wells were discussed as the primary focus of evaluation due to high COC concentrations: 35BWW04, 35BWW05, 35BWW08, 35BWW10, 35BWW14, and 35BWW15. During the Year 6 sampling events, COCs continued to be below the MCLs at 35BWW08 and 35BWW10. At 35BWW05, the COCs were below the MCLs in November 2021 and again in May 2022, for the first time since 2006; however, TCE was 5.2 µg/L in November 2022 which is slightly above the MCL (5 µg/L). At 35BWW04, the COCs were below the MCLs in May 2022 for the first time since 2019. For November 2022, TCE was 5.3 µg/L in 35BWW04 which is slightly above the MCL (5 µg/L). Since 2016, additional wells have been sampled and elevated levels of COCs have also been observed in wells 35BWW09, 35BWW12, 35BWW16, 35BWW20, 35BWW25, and LHSMW58. During the Year 6 sampling event, the highest concentrations of COCs were measured in wells 35BWW14 (PCE at 27 µg/L) and 35BWW09 (TCE at 56 µg/L).

At 35BWW09, the TCE concentration has declined since the highest level was observed in this well at 580 µg/L in November 2018. During the Year 5 RA-O sampling, TCE concentrations increased slightly from 23 µg/L in November 2021 to 34 µg/L in May 2022. During the Year 6 RA-O sampling, TCE increased again to 56 µg/L in November 2022. Since August 2018, groundwater elevations have increased from 178.45 ft above MSL to as high as 182.91 ft above MSL in May 2021, as shown on **Figure 2-5a**. During

this same time period, TCE decreased from 580 µg/L in November 2018 to 20 µg/L in May 2019 and has remained at or below 70.0 µg/L since that time. The fluctuating low levels of TCE, ranging from 20 to 70 µg/L since 2019 may be due to the increases in groundwater elevations. However, groundwater elevations have declined since peaking in May 2021 with only a slight increase in TCE concentrations.

At 35BWW04, PCE was detected at 66.5 J µg/L and TCE was detected at 11.4 J µg/L during the 2013 baseline sampling event. Since the baseline sampling, the only COC above the MCL at this well has been PCE, which was detected at 5.3 µg/L in November 2022.

At 35BWW05, TCE was detected at 14 µg/L during the 2013 baseline sampling and was slightly above the MCL at 5.2 µg/L in November 2022. Future sampling will determine if the TCE concentrations remain at or below the MCL.

At 35BWW08, TCE was detected at 150 µg/L in 2007 and declined to 43.8 µg/L in the 2013 baseline event. PCE and TCE concentrations have been below their respective MCLs since February 2018 and remained below the MCL during the Year 6 RA-O.

At 35BWW10, PCE and TCE concentrations have remained below their respective MCLs during the Year 6 RA-O, as they have been since August 2019. Future data will determine whether levels remain below the MCLs.

At 35BWW12, PCE concentrations have fluctuated from 15.3 µg/L during the baseline sampling in 2013, to 3.4 µg/L in May 2021, which is below the MCL of 5 µg/L. During the Year 6 RA-O sampling event, PCE increased to slightly above the MCL at 5.2 µg/L in November 2022.

At 35BWW14, PCE has fluctuated from 19 µg/L in 2013 to 40 µg/L in May 2020 to 27 µg/L in November 2022. TCE concentrations decreased since the baseline in 2013 from 82.8 µg/L to 6.0 µg/L in November 2022, as seen on **Figure 2-5a**.

At 35BWW15, PCE concentrations have remained relatively consistent with fluctuations within a range between 8.69 and 14 µg/L since 2014. During the Year 6 RA-O, PCE concentrations remained within that range at 11 µg/L in November 2022. TCE has decreased from 43.5 µg/L during baseline sampling in 2014 to 5.3 µg/L in November 2022.

At 35BWW16, PCE concentrations have fluctuated from below the 5 µg/L MCL during the 2013 baseline to a high of 15 µg/L in November 2018. During the Year 6 RA-O, PCE was detected above the MCL at 7.2 µg/L in November 2022.

At 35BWW20, PCE concentrations increased from the 2013 baseline concentration of 31.1 µg/L to a high of 34 µg/L in February 2019, before decreasing to the lowest level observed in this well at 5.4 µg/L in November 2021. The decrease in concentrations detected in May 2021 and November 2021 coincides with a period of higher groundwater elevations that began in May 2020. In 2022 PCE concentration

rebounded slightly to 9.4 µg/L in May 2022 and continued to increase to 17 µg/L in November 2022. This suggests that the higher groundwater elevations may have been the cause of the previous concentration decreases at this location.

The concentrations of TCE in groundwater at the downgradient well 35BWW25 have an inverse correlation with groundwater elevations. TCE concentrations increased when groundwater elevations were lower and decreased when the groundwater elevations were higher. Overall, TCE has increased from 5.55 µg/L in August 2016 to 14 µg/L in November 2022.

At LHSMW58, PCE concentrations have fluctuated from a high of 20.3 µg/L detected during the baseline sampling event in October 2013 to a low of 4.2 µg/L during the Year 3 RA-O sampling in November 2019. PCE increased from 9.5 µg/L during the Year 5 RA-O in May 2022, to 15 µg/L in November 2022.

3.1.2 COC Concentrations Based on Groundwater Flow

Based on the general direction of groundwater flow, monitoring well 35BWW11 is a consistent upgradient background monitoring well, and monitoring wells 35BWW23 and 35BWW24 are downgradient monitoring wells. Site COCs have not been observed above the MCLs in these wells, which aids in delineating the plume configuration to the north-northeast.

Within the site boundary, the groundwater flows primarily to the northeast from monitoring well 35BWW11 towards LHSMW58, 35BWW14, and 35BWW24 as shown on **Figure 2-2**.

At LHAAP-35B (37), contaminant concentrations decrease significantly as groundwater moves downgradient from the wells with the highest contaminant levels. In November 2022, PCE and TCE concentrations decreased from 27 µg/L and 6.0 µg/L, respectively, at 35BWW14, to below the MCLs of 5 µg/L at the two downgradient wells (35BWW24 and 35BWW23). Although groundwater flow contours do not show groundwater migrating directly from 35BWW14 to 35BWW25, it is downgradient directionally from 35BWW09 during times when the flow in the western portion of the site is more to the north. In 2013, TCE was shown to originally migrate north/northeast from contaminated wells 35BWW05, 35BWW08, and 35BWW10 towards 35BWW25; however, MNA processes have decreased the COC concentrations in the three wells to below reporting limits or to low levels below MCLs.

In November 2022, a decrease in TCE was observed from the upgradient well 35BWW09 at 56 µg/L to the two clean downgradient wells 35BWW08 and 35BWW10. During the same sampling event, the TCE concentration increased slightly to 14 µg/L at the farther downgradient well 35BWW25 but there was an overall decreasing trend between 35BWW09 and 35BWW25 in the direction of the overall groundwater flow (**Figure 2-4**). A decrease in TCE concentrations was also observed at wells located on the west side of the site near the LUC boundary, as TCE concentrations decreased between 35BWW09 at 56 µg/L to below the detection limit or MCL at 35BWW08 in November 2022.

3.1.3 Mann-Kendall Analysis

Mann-Kendall analysis for the Year 6 RA-O monitoring period was completed for locations with PCE and/or TCE above the MCL. A summary table of the Mann-Kendall results is presented in **Table 3-1**. The results are presented in **Appendix E** in graphical format with the statistical results presented on the bottom of the page. The GSI Mann-Kendall Tool Kit was used for this analysis. The concentrations of COCs are presented in µg/L. Half the reporting limit was used for samples with no detected concentrations. For locations with duplicate samples, the regular sample was used. The level of statistical significance is calculated for each analysis and provided on the trend analysis sheet. It should be noted that the trends identified in the Mann-Kendall analysis may have been influenced by groundwater elevation increases during Years 4 and 5, and the decreases measured in Year 6.

During the Years 4, 5, and 6 RA-O, no statistically significant increasing trends were calculated for any well with a COC above the MCL. A stable trend was observed for PCE at monitoring wells 35BWW14, 35BWW15, 35BWW16, and LHSMW58 during the Year 6 RA-O evaluation, as shown on **Table 3-1**. Locations with significantly decreasing trends are discussed below.

Significant Decreases

During the Year 6 RA-O, the number of wells with statistically significant decreasing trends increased from five (Year 5 RA-O) to six, due to one additional well that was included in the Mann-Kendall analysis (35BWW12). Mann-Kendall analysis identified statistically significant evidence of decreasing trends at the following locations:

- **Monitoring Well 35BWW05 – TCE.** The TCE trend at this well has changed from stable in the Year 2 RA-O to probably decreasing in Year 3 to decreasing in Years 4, 5, and 6. In November 2021 and May 2022, TCE concentrations were below the MCL for the first time (since 2006); however, TCE concentrations increased slightly to 5.2 µg/L (above the MCL) in November 2022. Concentrations of TCE have decreased from 14 µg/L in October 2013 to 5.2 µg/L in November 2022. An overall decreasing trend has been seen at this location and may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends.
- **Monitoring Well 35BWW09 – TCE.** The TCE trend at this well has changed from stable in the Year 3 RA-O to decreasing in Years 4, 5, and 6. Concentrations of TCE have decreased from 580 µg/L in November 2018 to 56 µg/L in November 2022. Although the trend is decreasing, the TCE concentration increased from 34 µg/L in May 2022 to 56 µg/L in November 2022. Results from future sampling events will continue to be evaluated for COC concentration trends.
- **Monitoring Well 35BWW12 – PCE.** The PCE trend at this well was calculated during the Year 6 RA-O due to the concentrations being above the MCL at 5.2 µg/L. The PCE

concentration was below the MCL from November 2020 to November 2022. Although the concentration increased, the overall trend in this well is decreasing. Results from future sampling events will continue to be evaluated for COC concentration trends.

- **Monitoring Well 35BWW14 – TCE.** At this well, the decreasing trend has continued during the Years 3, 4, 5, and 6 RA-Os. Concentrations of TCE have decreased from 82.8 µg/L in October 2013 to 6.0 µg/L in November 2022. Results from future sampling events will continue to be evaluated for COC concentration trends.
- **Monitoring Well 35BWW15 – TCE.** Concentrations of TCE have continued to decrease since 2014 to and have fluctuated near the MCL since November 2020. The TCE concentration was below the MCL for the first time (since 2014) in May 2022 at 4.9 µg/L, however the level increased slightly above the MCL at 5.3 µg/L in November 2022. The decreasing trends may be the result of natural attenuation (i.e., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends and to determine if the levels decrease back below the MCL.
- **Monitoring Well 35BWW20 – PCE.** Concentrations of PCE decreased from 34 µg/L in 2018 to its lowest level at 5.4 µg/L in November 2021. The concentrations then increased to 9.4 µg/L in May 2022 and increased again to 17 µg/L in November 2022. The overall decreasing trends may be the result of natural attenuation (e.g., dilution from clean upgradient groundwater). Results from future sampling events will continue to be evaluated for COC concentration trends.

3.1.4 Predictive Modeling

Calculation of time-based attenuation rates were performed as required by the RAWP (AECOM 2013). However, the trends for monitoring wells at LHAAP-37 may be skewed by the seasonal fluctuations of groundwater being higher in May (spring) and lower during the November (fall) sampling events. Therefore, although estimates of the time to achieve the MCL have been provided in the discussion below, the current trends may not accurately predict the future declines in COC concentrations.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW05. A time-dependent attenuation rate was calculated to determine the estimated time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for TCE at 35BWW05 was determined to be 0.0004 day^{-1}, and the estimated time to achieve the MCL of 5 µg/L is 0.3 years. This is an increase in the time to reach the MCL since May 2022 because TCE increased from below the MCL in May 2022 to above the MCL at 5.2 µg/L in November 2022.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW09. A time-dependent attenuation rate was calculated to determine the estimated time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for

TCE at 35BWW09 was determined to be 0.0006 day^{-1}, and the estimated time to achieve the MCL of 5 µg/L increased from an estimated time of 7.5 years during the Year 5 RA-O to 11.0 years in Year 6.

A significant decreasing trend was also determined by Mann-Kendall analysis at 35BWW12. A time-dependent attenuation rate was calculated to determine the estimated time to reach the MCL in the groundwater and is provided in **Appendix F**. The first order rate constant for PCE at 35BWW12 was determined to be 0.0004 day^{-1}, and the estimated time to achieve the MCL of 5 µg/L is 0.3 years. This is an increase from being below the MCL in Year 5 for November 2021 and May 2022 to slightly above the MCL at 5.2 µg/L for November 2022.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW14. A time-dependent attenuation rate was calculated to determine a time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The time to achieve the MCL of 5 µg/L during the Year 5 RA-O was estimated to be 0.1 years. During the Year 6 RA-O, the first order rate constant for TCE was determined to be 0.0009 day^{-1} and the estimated time to achieve the MCL of 5 µg/L increased slightly to 0.6 years.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW15. A time-dependent attenuation rate was calculated to determine a time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for TCE at 35BWW15 was determined to be 0.0007 day^{-1}. The estimated time to achieve the MCL of 5 µg/L for Year 6 RA-O is 0.2 years. This well was below the MCL in May 2022 and increased slightly to 5.3 in November of 2022.

A significant decreasing trend was determined by Mann-Kendall analysis at 35BWW20. A time-dependent attenuation rate was calculated to determine a time to achieve the MCL in the groundwater associated with this well and is provided in **Appendix F**. The first order rate constant for PCE at 35BWW20 changed from 0.0006 day^{-1} in May 2022 to 0.0005 day^{-1} in November 2022. The TCE concentration increased from 9.4 µg/L in May 2022 to 17 µg/L in November 2022 increased the estimated cleanup time from 2.9 to 6.7 years.

The Mann-Kendall analysis determined that the trend has changed from probably decreasing to stable at LHSMW58 during the Year 6 RA-O and therefore a time-dependent attenuation rate was not calculated to determine a time to achieve the MCL in the groundwater.

During the Year 6 RA-O, the maximum estimated time for wells with decreasing trends to reach their respective MCLs is 11 years based on the value from 35BWW09, which is an increase from the Year 5 RA-O with a maximum of 8.8 years. While these calculations provide an estimated time to achieve the MCLs, the actual time necessary to achieve the MCLs may vary by an order of magnitude or more given lithologic variability and significant seasonal groundwater elevation fluctuations at the site during Years

2 through 6. Additionally, the rate of reduction could diminish over time as the residual concentrations decrease, and the time to achieve the MCLs may be longer than estimated by these calculations.

3.1.5 Plume Stability

A COC plume map for the November 2022 first annual sampling event is presented in **Figure 2-4**. COC concentrations at perimeter wells 35BWW07, 35BWW08, 35BWW11, 35BWW18, 35BWW19, 35BWW23, 35BWW24, and 35BWW26 have remained below their respective MCLs during the Year 6 RA-O.

Overall, the groundwater elevations were lower in most wells during the Year 6 RA-O compared to the Year 5 RA-O. The water level fluctuations appear to be correlated to some of the increases and decreases in COC concentrations.

At the northernmost impacted monitoring well, 35BWW25, TCE concentrations increased slightly from 10 µg/L for Year 5 RA-O sampling events to 14 µg/L for the Year 6 RA-O sampling event. The slight increase in TCE concentrations and no trend indicates that the plume boundary is relatively stable. Shallow groundwater samples collected from direct push boring locations SB-02 (2018) and DPT-034 (2020) located north of 35BWW25, as part of the *Final LHAAP-47 Post Screening Investigation Addendum No. 2 Report for LHAAP-47, Plant 3 Area, Solid Rocket Motor Fuel Production* (HDR 2021) did not detect TCE above the 0.5 µg/L detection limit.

On the east-southeast side of the plume, TCE concentrations at 35BWW15 have increased to slightly above the MCL in November 2022, at 5.3 µg/L, which caused an increase in plume size in this area as shown in **Figure 2-4**.

At 35BWW24, located to the northeast, TCE was observed for the first time during the Year 2 RA-O in November 2018 at 2.9 µg/L, below the MCL of 5 µg/L. TCE has continued to be observed at this well and was detected at 4.7 µg/L during the Year 6 RA-O, which is slightly higher than the levels observed during the Year 5 RA-O, at 2.9 and 3.9 µg/L (May and November 2022). TCE will continue to be evaluated further during the Year 7 RA-O to determine if the plume is migrating to the northeast, closer to 35BWW24.

At 35WW12, located on the south side of the plume, PCE was slightly above the MCL at 5.2 µg/L during the Year 6 RA-O sampling. An increase in PCE levels have been observed at this well between the Years 4 and 5 RA-O sampling events when all VOCs were below MCLs. At 35BWW04, located downgradient of 35WW12, PCE was also slightly above the MCL at 5.3 µg/L during the November 2022 sampling. The slight increases at both 35BWW04 and 35WW12 may be seasonal and could indicate that the plume is slightly expanding in this area.

On the west side of the plume, TCE was above the MCL at monitoring well 35BWW05 (5.2 µg/L) during November 2022 sampling event after being below the MCLs for all COCs during both Year 5 RA-O

sampling events for the first time since 2006. Also, on the west side of the plume, at 35BWW10, PCE and TCE have continued to be below their respective MCLs since August 2019.

At 35BWW09, located on the southwest side of the TCE plume, the TCE concentration increased from 49 to 580 µg/L between the 2013 baseline and the November 2018 sampling event; however, concentrations have decreased since November 2018. In May 2021, TCE was detected at the lowest level observed at this well at 13 µg/L and has increased during the Years 5 and 6 RA-O sampling events to 56 µg/L in November 2022. PCE concentrations were detected above the MCL at 41 µg/L in May 2019 but have continued to be below the detection limit or MCL since that time during the Years 3, 4, 5, and 6 RA-O sampling events. The changes in TCE at this location will continue to be evaluated.

3.2 Second Line of Evidence: Geochemical Indicators

Select monitoring wells were sampled for MNA parameters, 35BWW04, 35BWW08, 35BWW12, 35BWW14, 35BWW23, and 35BWW26, as shown in **Table 2-1**. **Table 2-3** includes the geochemical data used to determine if the site groundwater conditions are favorable for MNA biological degradation processes. The list of MNA parameters was reduced after the Year 2 RA-O Quarter 2 sampling event. The MNA parameters for LHAAP-35B (37) wells include nitrate, sulfate, chloride, methane, ethane, ethene, carbon dioxide, and TOC analyzed at an off-site laboratory, and dissolved iron measured in the field (Bhate 2019b). The field parameters for LHAAP-35B (37) wells include dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, conductivity, turbidity, and temperature.

Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used by microbes for biodegradation of organic carbon, whether natural or anthropogenic (USEPA 1998). Anaerobic bacteria, which are the primary microbes able to degrade the site COCs, may be inhibited at DO concentrations greater than 0.5 milligram per liter (mg/L). In monitoring wells where COCs were above the MCL, the DO concentrations ranged from 0.03 to 1.39 mg/L. Approximately half of the locations were above 0.5 mg/L during Year 6 RA-O. The locations with DO levels below 0.5 mg/L are favorable for reductive dechlorination. The DO levels above 0.5 mg/L suggest that not all of the groundwater may be favorable for the biological reduction of site COCs.

Oxidation-Reduction Potential

The ORP levels indicate the oxidative or reductive potential in the aquifer and provide real-time data to determine if conditions are conducive for biodegradation. ORP values less than 50 millivolts (mV) indicate that the aquifer is reaching anaerobic conditions and are favorable for biological reductive dechlorination of chlorinated ethenes and ethanes (USEPA 1998). During the Year 6 RA-O monitoring, the ORP measurements ranged from 6 mV at 35BWW11 to 263 mV at 35BWW17. Only three locations had ORP values less than 50 mV (35BWW11, 35BWW05, 35BWW07). Overall, these measurements indicate oxidative conditions which are not favorable for reductive dechlorination.

Nitrate

After DO has been depleted by microbes in the treatment zone, nitrate may be used as an electron acceptor and is reduced to nitrite. Nitrate levels above 1.0 mg/L may compete with reductive dechlorination (USEPA 1998). The nitrate concentrations continue to be below 1.0 mg/L during the Year 6 RA-O sampling, indicating that nitrate will not inhibit anaerobic degradation of site COCs.

Iron Reduction

After nitrate is utilized, iron (III) (ferric iron) is used as an electron acceptor during anaerobic biodegradation of organic carbon. During this process, iron (III) is reduced to iron (II) (ferrous iron), which is soluble in water, and the presence of ferrous iron can indicate reducing groundwater conditions. During the Year 6 RA-O, ferrous iron continues to be present in measurable quantities at each of the MNA monitoring wells except 35BWW26, indicating that iron-reducing conditions exist in the site groundwater.

Sulfate

After DO, nitrate, and iron have been depleted in the groundwater, sulfate is used as an electron acceptor. Concentrations of sulfate greater than 20 mg/L may compete with reductive dechlorination of the site COCs. However, in many plumes with high concentrations of sulfate, reductive dechlorination still occurs (USEPA 1998). Sulfate was sampled in monitoring wells designated for MNA analysis during the Year 6 RA-O and ranged from 24.5 to 76.5 mg/L during the Year 6 RA-O sampling events. Sulfate levels are slightly elevated and may compete as an electron acceptor with site COCs.

Methane

Methanogenesis occurs in highly reducing conditions and generally occurs after oxygen, nitrate, iron, and sulfate have been depleted. Methane levels above 500 µg/L are considered indicative of methanogenic conditions (USEPA 1998). Methane concentrations ranged from 0.932 to 1.41 µg/L during the Year 6 RA-O in the six wells sampled for MNA parameters, which suggests that methanogenic conditions are not present in the groundwater.

Total Organic Carbon

Regardless of the electron acceptor being used, organic carbon is a required source of reduced carbon and energy to sustain microbial activity. TOC is utilized as an energy and hydrogen source to support the reductive dechlorination of the chlorinated COCs. TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity (USEPA 1998). TOC ranged from an estimated value of 0.578 J to 1.05 mg/L during the Year 6 RA-O sampling. This indicates that carbon concentrations in the groundwater are not supportive of reductive dechlorination.

pH

The pH of the groundwater has an effect on the activity of microbial populations. Microbes capable of degrading chlorinated aliphatic hydrocarbons generally prefer pH values from 6 to 8 standard units (SUs) (USEPA 1998). The Shallow Zone groundwater pH during the Year 6 RA-O period ranged from 5.03 to 7.7 SUs, with an average of value of 6.70 SUs and three locations with pH less than 6. The data from the Year 6 RA-O indicates that the pH of the groundwater is mostly supportive of biological activity and reductive dechlorination.

Ethane and Ethene

Ethane and ethene are the two end products of the reductive dechlorination pathways for chlorinated ethanes and ethenes. During the Year 6 RA-O, ethane and ethene concentrations were below or near the laboratory reporting limits at all wells, except for 35BWW23. This well had an ethene detection of 0.925 J on November 3, 2022. The ethane and ethene data may indicate that complete reductive dechlorination is not occurring at LHAAP-35B (37).

Geochemical Indicator MNA Parameter Summary

The qualitative assessment indicates that geochemical indicators during the Year 6 RA-O period in the groundwater at LHAAP-35B (37) are similar to the Years 3, 4, and 5 RA-O values and that the current geochemical conditions are not favorable for MNA processes via biological reduction. The presence of the biological degradation product cis-1,2-DCE and the abiotic degradation product 1,1-DCE suggest that limited biological degradation may be occurring; however, the primary MNA processes reducing concentrations are abiotic.

3.3 Third Line of Evidence: Microbial Analysis

Dechlorinating bacteria, *Dehalococcoides sp.* (DHC), were not analyzed during the Year 6 RA-O sampling event due to the reduction of MNA parameters after the Year 2 RA-O Quarter 2 sampling event (Bhate 2019b). During the last sampling event in February 2019, DHC concentrations were 2.3 cells per milliliter and lower, indicating that the population of the species required for complete reductive dechlorination is not present.

4.0 SUMMARY AND CONCLUSIONS

The LUC for this site is groundwater restriction, which prohibits residential groundwater use and water well installation for any purpose other than environmental monitoring and testing until the levels of COCs in the groundwater allow for unrestricted use and unlimited exposure. The annual LUC compliance inspection for the Year 6 RA-O was conducted on November 1, 2022. No compliance issues or concerns were identified during the annual inspection. Inspections of the monitoring wells were conducted during the November 2022 sampling event and the maintenance required during the Year 7 RA-O will be to paint select well casings and determine if repairs are required to the hinges at select wells. Site monitoring wells were in good condition, and periodic clearing and mowing were conducted, as needed.

VOC data and geochemical indicators were collected over the course of the monitoring period to evaluate effectiveness of MNA as a site remedy. A tiered approach was used to evaluate the occurrence of natural attenuation in site groundwater.

Groundwater elevations at 35BWW05 and 35BWW12 were below the creek elevation, indicating that shallow groundwater is not influencing the creek; therefore, surface water samples were not collected during the Year 6 RA-O.

An assessment of the first line of evidence included an evaluation of the groundwater flow and COC degradation trends. Based on the Year 6 RA-O groundwater level measurements, the groundwater primarily flows to the northeast.

The highest levels of VOCs have historically been observed at 35BWW09, and during the Year 6 RA-O, the highest level of TCE was observed at this well again at 56 µg/L in November 2022. The highest level of PCE was observed at 35BWW14 at 27 µg/L in November 2022. At 35BWW10, PCE and TCE decreased to below the MCL in August 2019 and have remained below the MCLs during the Years 4, 5, and 6 RA-O monitoring events. At 35BWW12, COCs decreased to below their respective MCLs in November 2020 for the first time since November 2017, and remained below detection limits during the Year 5 RA-O, however PCE increased to slightly above the MCL to 5.2 µg/L during the Year 6 RA-O.

The Year 6 RA-O marked the change from semiannual to annual sampling and will minimize the observed seasonal fluctuations for a more reliable MNA analysis going forward. During the Year 6 RA-O sampling, groundwater elevations decreased between November 2021 and November 2022.

PCE, TCE, cis-1,2-DCE, and vinyl chloride concentrations at 35BWW14 and 35BWW15, near the center of the plume, have overall, been declining over the six years of RA-O. Future RA-O monitoring will aid in determining if the statistically stable PCE and statistically significant decreasing TCE trends continue at these monitoring wells and if MNA is operating successfully.

Decreases in contaminants continue to be observed along the groundwater flow path. Concentrations of PCE and TCE have decreased between the locations of 35BWW14 and 35BWW24. On the west side, near the LUC boundary, a decrease in TCE was also observed from elevated levels at 35BWW09 to below the detection limit at 35BWW08. The PCE concentrations at 35BWW16 increased from below the MCL (0.447 J µg/L) during the 2013 baseline sampling to a high of 15 µg/L in November 2018. PCE concentrations then decreased to below the detection limit of 0.5 µg/L in May 2022 and then rebounded to 7.2 µg/L in November 2022. This well is located northeast of the main plume and downgradient of the higher concentration areas of the plume.

Mann-Kendall analysis for the Year 6 RA-O monitoring period was completed to determine concentration trends. Six wells were determined to have statistically significant decreasing trends. The maximum estimated time for any well with a decreasing trend to have COCs below MCLs has increased from 8.8 years to 11 years between Year 5 and Year 6 RA-O at 35BWW09. While these calculations provide an estimated time to achieve the MCL, given lithologic variability and significant seasonal groundwater elevation fluctuations at the site, the time necessary to achieve the MCL may vary by an order of magnitude or more.

The COC data from the RA-O monitoring indicate that the plume has been relatively stable during the first six years of RA-O sampling. At 35BWW25, located on the northern side of the plume, TCE concentrations increased slightly to 14 µg/L during the Year 6 RA-O sampling event. TCE was observed for the first time at 35BWW24 in November 2018 and has remained below MCL during the Years 2 through 6 RA-O events, suggesting the plume is stable to the northeast. The recent increases in TCE concentrations at 35BWW24, while still below the MCL, warrant continued observation to determine if the plume is migrating in this direction. At 35WW12, located on the south side of the plume, all VOCs were below their respective MCLs except for PCE which was slightly above at 5.2 µg/L during the Year 6 RA-O. Also, at 35BWW04, located downgradient of 35WW12, PCE was slightly above the MCL at 5.3 µg/L. Both slight increases may be seasonal. The PCE and TCE concentrations have also fluctuated in the southwestern part of the plume. At 35BWW10, concentrations of PCE and TCE decreased to below their respective MCLs during the Year 2 RA-O and have remained below the MCL during the Years 4 through 6 RA-O sampling events. At 35BWW09, PCE increased above the MCL in one sampling event during the Year 2 RA-O but has remained below the MCL during the Years 3 through 6 RA-Os. These data suggest that the plume is not migrating to the southwest, however the changes in TCE will continue to be evaluated.

The qualitative assessment of geochemical indicators performed as the second line of evidence at LHAAP-35B (37) indicates current geochemical conditions continue to be inadequate to support biological degradation MNA processes. Although degradation products cis-1,2-DCE and 1,1-DCE have been detected in certain monitoring wells, groundwater conditions within the impacted area are not reducing, which is not favorable for biological degradation of site COCs and suggests that reductions in concentrations are due to abiotic MNA processes.

The third line of evidence to assess MNA is to evaluate microorganisms that demonstrate biological degradation. Previous microbial data indicated that the reductive dechlorinating bacteria DHC are not present at levels expected to aid in biological degradation and were removed from the list of analysis as part of the reduction of MNA parameters after the Year 2 RA-O Quarter 2 sampling event (Bhate 2019b).

The evaluation of MNA at LHAAP-35B (37) indicates that, based on the data collected thus far, decreases observed in COCs are occurring and are primarily due to abiotic MNA processes, including dispersion, dilution, sorption, and volatilization. The data also indicates that decreases in COCs are not likely to be associated with biodegradation. Increases in groundwater elevations during the Year 2 groundwater sampling and continued fluctuations through Year 6 may have potentially affected the observed trends in the COC concentration data. Future sampling events will be annual and will assist in determining if the COC trends continue without seasonal influence on groundwater elevations.

At 35BWW25, located near the northern LUC boundary, TCE concentrations were observed at the highest level of 19 µg/L in November 2018. Since that time TCE levels have been decreasing via MNA processes before increasing in the Year 6 monitoring. Data from monitoring wells located in LHAAP-47 (HDR 2021), north of the LHAAP-37 LUC boundary, indicate that the plume is constrained.

The seventh year of RA-O monitoring will be implemented in compliance with the RACR (AECOM 2016) as shown in **Table 2-7** and on **Figure 2-6**.

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5.0 REFERENCES

AECOM Technical Services, Inc. (AECOM). 2013. *Final Remedial Action Work Plan, LHAAP-35B (37), Chemical Laboratory, Longhorn Army Ammunition Plant, Karnack, Texas*. June.

AECOM. 2016. *Final Remedial Action Completion Report, LHAAP-35B (37), Chemical Laboratory, Longhorn Army Ammunition Plant, Karnack, Texas*. September.

AECOM. 2017. *Memorandum for Record – Groundwater Rebound Evaluation for LHAAP-35B (37) at Longhorn Army Ammunition Plant, Karnack, Texas*. February.

Bhate Environmental Associates, Inc. (Bhate). 2018. *Final Installation-Wide Work Plan, Longhorn Army Ammunition Plant, Karnack, Texas*. March.

Bhate. 2019a. *Draft Final First Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory)*. Longhorn Army Ammunition Plant, Karnack, Texas. March.

Bhate. 2019b. *Final Technical Memorandum – Monitored Natural Attenuation Parameters*. Longhorn Army Ammunition Plant, Karnack, Texas. February.

Bhate. 2020a. *Final Second Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory)*. Longhorn Army Ammunition Plant, Karnack, Texas. April.

Bhate. 2020b. *Final Third Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory)*. Longhorn Army Ammunition Plant, Karnack, Texas. December.

Bhate. 2022. *Draft Final Fourth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant, Karnack, Texas*, January.

Bhate. 2023. *Draft Final Fifth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant, Karnack, Texas*, January.

HDR, Inc. (HDR) (formerly Henningson, Durham, and Richardson, Inc.). 2021. *Final LHAAP-47 Post Screening Investigation Addendum No. 2 Report, LHAAP-47, Plant 3 Area, Solid Rocket Motor Fuel Production, Longhorn Army Ammunition Plant, Karnack, Texas*. February.

Jacobs Engineering Group, Inc. 2002. *Final Remedial Investigation Report for the Group 4 sites, Sites 35A, 35B, 35C, 46, 47, 48, 50, and 60, and Goose Prairie Creek, Longhorn Army Ammunition Plant, Karnack, Texas, Oak Ridge, Tennessee*. January.

Shaw Environmental & Infrastructure, Inc. 2007. *Final Modeling Report, Derivation of Soil and Groundwater Concentrations Protective of Surface Water and Sediment, Longhorn Army Ammunition Plant, Karnack, Texas*. February.

U.S. Army Corps of Engineers (USACE). 2010. *Final Record of Decision, LHAAP-35B (37), Chemical Laboratory and LHAAP-67, Above Ground Storage Tank Farm, Longhorn Army Ammunition Plant, Karnack, Texas*. June.

USACE. 2011. *Final Remedial Design, LHAAP-35B (37), Chemical Laboratory and LHAAP-67, Aboveground Storage Tank Farm Longhorn Army Ammunition Plant, Karnack, Texas*. August.

U.S. Environmental Protection Agency (USEPA). 1998. *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water*. USEPA/600/R-98/128. September.

Tables

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Table 2-1
Groundwater RA-O Sampling – 2022

Well ID	Groundwater Unit	Year 6 Annual November 2022		
		VOC	Field Parameters	MNA
35BWW01	Shallow	X	X	
35BWW04	Shallow	X	X	X
35BWW05	Shallow	X	X	
35BWW07	Shallow	X	X	
35BWW08	Shallow	X	X	X
35BWW09	Shallow	X	X	
35BWW10	Shallow	X	X	
35BWW11	Shallow	X	X	
35BWW12	Shallow	X	X	X
35BWW13	Shallow	X	X	
35BWW14	Shallow	X	X	X
35BWW15	Shallow	X	X	
35BWW16	Shallow	X	X	
35BWW17	Shallow	X	X	
35BWW18	Shallow	X	X	
35BWW19	Shallow	X	X	
35BWW20	Shallow	X	X	
35BWW23	Shallow	X	X	X
35BWW24	Shallow	X	X	
35BWW25	Shallow	X	X	
35BWW26	Shallow	X	X	X
LHSMW58	Shallow	X	X	
35BSW01	Goose Prairie Creek			
35BSW02	Goose Prairie Creek			

Field parameters to be monitored for all wells: pH, temperature, conductivity, turbidity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and ferrous iron.

MNA parameters include nitrate, sulfate, chloride, dissolved gases (methane, ethane, ethene), carbon dioxide, and TOC.

X - well was analyzed for that parameter.

ID - identifier

MNA - monitored natural attenuation

RA-O - remedial action operation

TOC - total organic carbon

VOC - volatile organic compound

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW01	1/1/2013	202.42	200.31	Dry	Dry	9	19	191.31	181.31	Dry
	8/18/2016	202.42	200.31	17.00	14.89	9	19	191.31	181.31	185.42
	11/8/2017	202.42	200.31	15.42	13.31	9	19	191.31	181.31	187.00
	2/14/2018	202.42	200.31	14.80	12.69	9	19	191.31	181.31	187.62
	3/29/2018	202.42	200.31	12.94	10.83	9	19	191.31	181.31	189.48
	5/24/2018	202.42	200.31	12.28	10.17	9	19	191.31	181.31	190.14
	8/16/2018	202.42	200.31	14.22	12.11	9	19	191.31	181.31	188.20
	11/15/2018	202.42	200.31	14.15	12.04	9	19	191.31	181.31	188.27
	2/12/2019	202.42	200.31	8.11	6.00	9	19	191.31	181.31	194.31
	5/20/2019	202.42	200.31	7.18	5.07	9	19	191.31	181.31	195.24
	8/5/2019	202.42	200.31	11.93	9.82	9	19	191.31	181.31	190.49
	11/21/2019	202.42	200.31	14.35	12.24	9	19	191.31	181.31	188.07
	5/6/2020	202.42	200.31	8.28	6.17	9	19	191.31	181.31	194.14
	11/9/2020	202.42	200.31	14.18	12.07	9	19	191.31	181.31	188.24
	5/13/2021	202.42	200.31	6.97	4.86	9	19	191.31	181.31	195.45
	11/15/2021	202.42	200.31	14.58	12.47	9	19	191.31	181.31	187.84
	5/17/2022	202.42	200.31	20.72	18.61	9	19	191.31	181.31	181.70
	11/1/2022	202.42	200.31	15.65	13.54	9	19	191.31	181.31	186.77
35BWW02	1/1/2013	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	8/19/2016	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	11/7/2017	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	2/13/2018	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	3/28/2018	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	5/24/2018	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	11/16/2018	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	2/14/2019	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	11/17/2021	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
	5/16/2022	203.95	201.54	Dry	Dry	9	14	192.54	187.54	Dry
35BWW04	1/1/2013	202.11	199.26	23.50	20.65	20	30	179.26	169.26	178.61
	8/17/2016	202.11	199.26	22.00	19.15	20	30	179.26	169.26	180.11
	11/9/2017	202.11	199.26	23.80	20.95	20	30	179.26	169.26	178.31
	2/14/2018	202.11	199.26	23.53	20.68	20	30	179.26	169.26	178.58
	5/22/2018	202.11	199.26	22.55	19.70	20	30	179.26	169.26	179.56
	8/22/2018	202.11	199.26	24.09	21.24	20	30	179.26	169.26	178.02
	11/20/2018	202.11	199.26	23.02	20.17	20	30	179.26	169.26	179.09
	2/13/2019	202.11	199.26	21.75	18.90	20	30	179.26	169.26	180.36
	5/20/2019	202.11	199.26	19.07	16.22	20	30	179.26	169.26	183.04
	8/5/2019	202.11	199.26	20.78	17.93	20	30	179.26	169.26	181.33
	11/21/2019	202.11	199.26	22.95	20.10	20	30	179.26	169.26	179.16
	5/6/2020	202.11	199.26	20.59	17.74	20	30	179.26	169.26	181.52
	11/10/2020	202.11	199.26	22.08	19.23	20	30	179.26	169.26	180.03
	5/13/2021	202.11	199.26	18.54	15.69	20	30	179.26	169.26	183.57
	11/17/2021	202.11	199.26	22.00	19.15	20	30	179.26	169.26	180.11
	5/17/2022	202.11	199.26	21.27	18.42	20	30	179.26	169.26	180.84
	11/3/2022	202.11	199.26	23.80	20.95	20	30	179.26	169.26	178.31
35BWW05	1/1/2013	202.57	199.97	24.08	21.48	26	36	173.97	163.97	178.49
	8/18/2016	202.57	199.97	22.65	20.05	26	36	173.97	163.97	179.92
	11/8/2017	202.57	199.97	24.30	21.70	26	36	173.97	163.97	178.27
	2/16/2018	202.57	199.97	24.00	21.40	26	36	173.97	163.97	178.57
	3/27/2018	202.57	199.97	23.35	20.75	26	36	173.97	163.97	179.22
	5/21/2018	202.57	199.97	23.20	20.60	26	36	173.97	163.97	179.37
	8/21/2018	202.57	199.97	24.63	22.03	26	36	173.97	163.97	177.94
	11/18/2018	202.57	199.97	23.59	20.99	26	36	173.97	163.97	178.98
	2/13/2019	202.57	199.97	22.57	19.97	26	36	173.97	163.97	180.00
	5/21/2019	202.57	199.97	20.47	17.87	26	36	173.97	163.97	182.10
	8/6/2019	202.57	199.97	21.83	19.23	26	36	173.97	163.97	180.74
	11/25/2019	202.57	199.97	23.60	21.00	26	36	173.97	163.97	178.97
	5/6/2020	202.57	199.97	21.61	19.01	26	36	173.97	163.97	180.96
	11/9/2020	202.57	199.97	22.90	20.30	26	36	173.97	163.97	179.67

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW05 (cont.)	5/13/2021	202.57	199.97	19.93	17.33	26	36	173.97	163.97	182.64
	11/15/2021	202.57	199.97	22.20	19.60	26	36	173.97	163.97	180.37
	5/16/2022	202.57	199.97	22.08	19.48	26	36	173.97	163.97	180.49
	11/1/2022	202.57	199.97	24.43	21.83	26	36	173.97	163.97	178.14
35BWW06	1/1/2013	203.04	200.01	24.70	21.67	42	52	158.01	148.01	178.34
	8/18/2016	203.04	200.01	23.27	20.24	42	52	158.01	148.01	179.77
	11/8/2017	203.04	200.01	24.50	21.47	42	52	158.01	148.01	178.54
	2/16/2018	203.04	200.01	24.70	21.67	42	52	158.01	148.01	178.34
	3/27/2018	203.04	200.01	24.80	21.77	42	52	158.01	148.01	178.24
	5/21/2018	203.04	200.01	24.02	20.99	42	52	158.01	148.01	179.02
	8/21/2018	203.04	200.01	25.30	22.27	42	52	158.01	148.01	177.74
	11/18/2018	203.04	200.01	24.34	21.31	42	52	158.01	148.01	178.70
	11/15/2021	203.04	200.01	23.53	20.50	42	52	158.01	148.01	179.51
	5/17/2022	203.04	200.01	22.70	19.67	42	52	158.01	148.01	180.34
35BWW07	1/1/2013	203.53	200.86	27.85	25.18	18	28	182.86	172.86	175.68
	8/18/2016	203.53	200.86	25.50	22.83	18	28	182.86	172.86	178.03
	11/8/2017	203.53	200.86	27.94	25.27	18	28	182.86	172.86	175.59
	2/13/2018	203.53	200.86	27.25	24.58	18	28	182.86	172.86	176.28
	3/29/2018	203.53	200.86	26.52	23.85	18	28	182.86	172.86	177.01
	5/23/2018	203.53	200.86	26.11	23.44	18	28	182.86	172.86	177.42
	8/20/2018	203.53	200.86	28.05	25.38	18	28	182.86	172.86	175.48
	11/18/2018	203.53	200.86	27.45	24.78	18	28	182.86	172.86	176.08
	2/14/2019	203.53	200.86	25.76	23.09	18	28	182.86	172.86	177.77
	5/22/2019	203.53	200.86	25.11	22.44	18	28	182.86	172.86	178.42
	8/5/2019	203.53	200.86	23.90	21.23	18	28	182.86	172.86	179.63
	11/25/2019	203.53	200.86	25.97	23.30	18	28	182.86	172.86	177.56
	5/11/2020	203.53	200.86	23.95	21.28	18	28	182.86	172.86	179.58
	11/11/2020	203.53	200.86	25.20	22.53	18	28	182.86	172.86	178.33
	5/17/2021	203.53	200.86	22.73	20.06	18	28	182.86	172.86	180.80
	11/17/2021	203.53	200.86	25.09	22.42	18	28	182.86	172.86	178.44
	5/16/2022	203.53	200.86	24.39	21.72	18	28	182.86	172.86	179.14
	11/2/2022	203.53	200.86	27.33	24.66	18	28	182.86	172.86	176.20
35BWW08	1/1/2013	204.12	201.4	25.10	22.38	22	32	179.4	169.4	179.02
	8/17/2016	204.12	201.4	23.74	21.02	22	32	179.4	169.4	180.38
	11/7/2017	204.12	201.4	25.40	22.68	22	32	179.4	169.4	178.72
	2/14/2018	204.12	201.4	25.07	22.35	22	32	179.4	169.4	179.05
	5/23/2018	204.12	201.4	24.43	21.71	22	32	179.4	169.4	179.69
	8/22/2018	204.12	201.4	25.73	23.01	22	32	179.4	169.4	178.39
	11/20/2018	204.12	201.4	24.54	21.82	22	32	179.4	169.4	179.58
	2/12/2019	204.12	201.4	23.67	20.95	22	32	179.4	169.4	180.45
	5/20/2019	204.12	201.4	21.40	18.68	22	32	179.4	169.4	182.72
	8/5/2019	204.12	201.4	20.50	17.78	22	32	179.4	169.4	183.62
	11/21/2019	204.12	201.4	24.75	22.03	22	32	179.4	169.4	179.37
	5/6/2020	204.12	201.4	22.63	19.91	22	32	179.4	169.4	181.49
	11/11/2020	204.12	201.4	24.10	21.38	22	32	179.4	169.4	180.02
	5/13/2021	204.12	201.4	20.95	18.23	22	32	179.4	169.4	183.17
	11/17/2021	204.12	201.4	23.80	21.08	22	32	179.4	169.4	180.32
	5/17/2022	204.12	201.4	23.13	20.41	22	32	179.4	169.4	180.99
	11/2/2022	204.12	201.4	25.49	22.77	22	32	179.4	169.4	178.63
35BWW09	1/1/2013	205.16	203.15	26.40	24.39	25	35	178.15	168.15	178.76
	8/16/2016	205.16	203.15	24.85	22.84	25	35	178.15	168.15	180.31
	11/7/2017	205.16	203.15	26.45	24.44	25	35	178.15	168.15	178.71
	2/16/2018	205.16	203.15	26.43	24.42	25	35	178.15	168.15	178.73
	3/27/2018	205.16	203.15	25.57	23.56	25	35	178.15	168.15	179.59
	5/21/2018	205.16	203.15	25.50	23.49	25	35	178.15	168.15	179.66
	8/16/2018	205.16	203.15	26.71	24.70	25	35	178.15	168.15	178.45
	11/19/2018	205.16	203.15	25.73	23.72	25	35	178.15	168.15	179.43
	2/13/2019	205.16	203.15	24.77	22.76	25	35	178.15	168.15	180.39
	5/21/2019	205.16	203.15	22.82	20.81	25	35	178.15	168.15	182.34

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW09 (cont.)	8/5/2019	205.16	203.15	23.95	21.94	25	35	178.15	168.15	181.21
	11/26/2019	205.16	203.15	25.83	23.82	25	35	178.15	168.15	179.33
	5/11/2020	205.16	203.15	23.63	21.62	25	35	178.15	168.15	181.53
	11/9/2020	205.16	203.15	25.17	23.16	25	35	178.15	168.15	179.99
	5/17/2021	205.16	203.15	22.25	20.24	25	35	178.15	168.15	182.91
	11/15/2021	205.16	203.15	24.80	22.79	25	35	178.15	168.15	180.36
	5/18/2022	205.16	203.15	24.18	22.17	25	35	178.15	168.15	180.98
	11/1/2022	205.16	203.15	26.57	24.56	25	35	178.15	168.15	178.59
35BWW10	1/1/2013	203.79	200.79	24.97	21.97	18.23	33	182.56	167.79	178.82
	8/18/2016	203.79	200.79	23.47	20.47	18.23	33	182.56	167.79	180.32
	11/7/2017	203.79	200.79	25.50	22.50	18.23	33	182.56	167.79	178.29
	2/16/2018	203.79	200.79	24.87	21.87	18.23	33	182.56	167.79	178.92
	3/27/2018	203.79	200.79	24.21	21.21	18.23	33	182.56	167.79	179.58
	5/24/2018	203.79	200.79	24.17	21.17	18.23	33	182.56	167.79	179.62
	8/17/2018	203.79	200.79	25.43	22.43	18.23	33	182.56	167.79	178.36
	11/18/2018	203.79	200.79	24.34	21.34	18.23	33	182.56	167.79	179.45
	2/12/2019	203.79	200.79	23.31	20.31	18.23	33	182.56	167.79	180.48
	5/20/2019	203.79	200.79	21.02	18.02	18.23	33	182.56	167.79	182.77
	8/6/2019	203.79	200.79	22.68	19.68	18.23	33	182.56	167.79	181.11
	11/26/2019	203.79	200.79	24.45	21.45	18.23	33	182.56	167.79	179.34
	5/6/2020	203.79	200.79	22.30	19.30	18.23	33	182.56	167.79	181.49
	11/9/2020	203.79	200.79	23.73	20.73	18.23	33	182.56	167.79	180.06
	5/13/2021	203.79	200.79	20.45	17.45	18.23	33	182.56	167.79	183.34
	11/15/2021	203.79	200.79	23.53	20.53	18.23	33	182.56	167.79	180.26
	5/16/2022	203.79	200.79	22.79	19.79	18.23	33	182.56	167.79	181.00
	11/1/2022	203.79	200.79	25.25	22.25	18.23	33	182.56	167.79	178.54
35BWW11	1/1/2013	203.31	200.9	24.47	22.06	25	35	175.9	165.9	178.84
	8/18/2016	203.31	200.9	22.42	20.01	25	35	175.9	165.9	180.89
	11/8/2017	203.31	200.9	24.30	21.89	25	35	175.9	165.9	179.01
	2/12/2018	203.31	200.9	24.06	21.65	25	35	175.9	165.9	179.25
	3/27/2018	203.31	200.9	23.16	20.75	25	35	175.9	165.9	180.15
	5/21/2018	203.31	200.9	22.64	20.23	25	35	175.9	165.9	180.67
	8/17/2018	203.31	200.9	24.46	22.05	25	35	175.9	165.9	178.85
	11/18/2018	203.31	200.9	22.77	20.36	25	35	175.9	165.9	180.54
	2/13/2019	203.31	200.9	21.49	19.08	25	35	175.9	165.9	181.82
	5/21/2019	203.31	200.9	18.53	16.12	25	35	175.9	165.9	184.78
	8/7/2019	203.31	200.9	19.66	17.25	25	35	175.9	165.9	183.65
	11/21/2019	203.31	200.9	23.28	20.87	25	35	175.9	165.9	180.03
	5/6/2020	203.31	200.9	20.13	17.72	25	35	175.9	165.9	183.18
	11/9/2020	203.31	200.9	22.52	20.11	25	35	175.9	165.9	180.79
	5/17/2021	203.31	200.9	18.22	15.81	25	35	175.9	165.9	185.09
	11/17/2021	203.31	200.9	22.53	20.12	25	35	175.9	165.9	180.78
	5/17/2022	203.31	200.9	21.18	18.77	25	35	175.9	165.9	182.13
	11/1/2022	203.31	200.9	24.33	21.92	25	35	175.9	165.9	178.98
35BWW12	1/1/2013	201.17	198.52	22.55	19.90	20.3	35	178.22	163.52	178.62
	8/17/2016	201.17	198.52	20.86	18.21	20.3	35	178.22	163.52	180.31
	11/9/2017	201.17	198.52	22.75	20.10	20.3	35	178.22	163.52	178.42
	2/14/2018	201.17	198.52	22.40	19.75	20.3	35	178.22	163.52	178.77
	5/23/2018	201.17	198.52	21.34	18.69	20.3	35	178.22	163.52	179.83
	8/22/2018	201.17	198.52	22.96	20.31	20.3	35	178.22	163.52	178.21
	11/20/2018	201.17	198.52	21.86	19.21	20.3	35	178.22	163.52	179.31
	2/13/2019	201.17	198.52	20.52	17.87	20.3	35	178.22	163.52	180.65
	5/21/2019	201.17	198.52	17.78	15.13	20.3	35	178.22	163.52	183.39
	8/5/2019	201.17	198.52	19.54	16.89	20.3	35	178.22	163.52	181.63
	11/25/2019	201.17	198.52	21.74	19.09	20.3	35	178.22	163.52	179.43
	5/6/2020	201.17	198.52	20.31	17.66	20.3	35	178.22	163.52	180.86
	11/11/2020	201.17	198.52	21.00	18.35	20.3	35	178.22	163.52	180.17
	5/18/2021	201.17	198.52	17.32	14.67	20.3	35	178.22	163.52	183.85
	11/22/2021	201.17	198.52	20.90	18.25	20.3	35	178.22	163.52	180.27

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW12 (cont.)	5/18/2022	201.17	198.52	20.08	17.43	20.3	35	178.22	163.52	181.09
	11/2/2022	201.17	198.52	22.68	20.03	20.3	35	178.22	163.52	178.49
35BWW13	1/1/2013	203.52	201.07	25.55	23.10	19.8	34.5	181.27	166.57	177.97
	8/19/2016	203.52	201.07	23.51	21.06	19.8	34.5	181.27	166.57	180.01
	11/7/2017	203.52	201.07	25.50	23.05	19.8	34.5	181.27	166.57	178.02
	2/13/2018	203.52	201.07	25.36	22.91	19.8	34.5	181.27	166.57	178.16
	3/28/2018	203.52	201.07	24.25	21.80	19.8	34.5	181.27	166.57	179.27
	5/24/2018	203.52	201.07	24.00	21.55	19.8	34.5	181.27	166.57	179.52
	8/21/2018	203.52	201.07	25.71	23.26	19.8	34.5	181.27	166.57	177.81
	11/16/2018	203.52	201.07	25.08	22.63	19.8	34.5	181.27	166.57	178.44
	2/14/2019	203.52	201.07	22.75	20.30	19.8	34.5	181.27	166.57	180.77
	5/22/2019	203.52	201.07	20.17	17.72	19.8	34.5	181.27	166.57	183.35
	8/6/2019	203.52	201.07	22.02	19.57	19.8	34.5	181.27	166.57	181.50
	11/25/2019	203.52	201.07	24.35	21.90	19.8	34.5	181.27	166.57	179.17
	5/7/2020	203.52	201.07	21.65	19.20	19.8	34.5	181.27	166.57	181.87
	11/11/2020	203.52	201.07	23.64	21.19	19.8	34.5	181.27	166.57	179.88
	5/17/2021	203.52	201.07	19.80	17.35	19.8	34.5	181.27	166.57	183.72
	11/17/2021	203.52	201.07	23.40	20.95	19.8	34.5	181.27	166.57	180.12
	5/16/2022	203.52	201.07	22.80	20.35	19.8	34.5	181.27	166.57	180.72
	11/2/2022	203.52	201.07	25.35	22.90	19.8	34.5	181.27	166.57	178.17
35BWW14	1/1/2013	201.26	199.55	23.15	21.44	25	35	174.55	164.55	178.11
	8/17/2016	201.26	199.55	21.65	19.94	25	35	174.55	164.55	179.61
	11/7/2017	201.26	199.55	23.40	21.69	25	35	174.55	164.55	177.86
	2/15/2018	201.26	199.55	23.11	21.40	25	35	174.55	164.55	178.15
	5/22/2018	201.26	199.55	22.20	20.49	25	35	174.55	164.55	179.06
	8/22/2018	201.26	199.55	23.67	21.96	25	35	174.55	164.55	177.59
	11/20/2018	201.26	199.55	22.83	21.12	25	35	174.55	164.55	178.43
	2/12/2019	201.26	199.55	21.54	19.83	25	35	174.55	164.55	179.72
	5/21/2019	201.26	199.55	19.30	17.59	25	35	174.55	164.55	181.96
	8/6/2019	201.26	199.55	20.57	18.86	25	35	174.55	164.55	180.69
	11/25/2019	201.26	199.55	22.52	20.81	25	35	174.55	164.55	178.74
	5/7/2020	201.26	199.55	20.41	18.70	25	35	174.55	164.55	180.85
	11/10/2020	201.26	199.55	21.73	20.02	25	35	174.55	164.55	179.53
	5/18/2021	201.26	199.55	18.74	17.03	25	35	174.55	164.55	182.52
	11/22/2021	201.26	199.55	21.50	19.79	25	35	174.55	164.55	179.76
	5/18/2022	201.26	199.55	21.06	19.35	25	35	174.55	164.55	180.20
	11/3/2022	201.26	199.55	23.41	21.70	25	35	174.55	164.55	177.85
35BWW15	1/1/2013	201.75	200.01	23.60	21.86	17.8	47.5	182.21	152.51	178.15
	8/19/2016	201.75	200.01	22.04	20.30	17.8	47.5	182.21	152.51	179.71
	11/7/2017	201.75	200.01	23.77	22.03	17.8	47.5	182.21	152.51	177.98
	2/13/2018	201.75	200.01	23.64	21.90	17.8	47.5	182.21	152.51	178.11
	3/29/2018	201.75	200.01	22.43	20.69	17.8	47.5	182.21	152.51	179.32
	5/21/2018	201.75	200.01	23.65	21.91	17.8	47.5	182.21	152.51	178.10
	8/20/2018	201.75	200.01	24.07	22.33	17.8	47.5	182.21	152.51	177.68
	11/16/2018	201.75	200.01	23.23	21.49	17.8	47.5	182.21	152.51	178.52
	2/14/2019	201.75	200.01	21.81	20.07	17.8	47.5	182.21	152.51	179.94
	5/22/2019	201.75	200.01	20.35	18.61	17.8	47.5	182.21	152.51	181.40
	8/7/2019	201.75	200.01	21.20	19.46	17.8	47.5	182.21	152.51	180.55
	11/25/2019	201.75	200.01	22.98	21.24	17.8	47.5	182.21	152.51	178.77
	5/7/2020	201.75	200.01	21.10	19.36	17.8	47.5	182.21	152.51	180.65
	11/10/2020	201.75	200.01	22.38	20.64	17.8	47.5	182.21	152.51	179.37
	5/18/2021	201.75	200.01	19.65	17.91	17.8	47.5	182.21	152.51	182.10
	11/22/2021	201.75	200.01	22.00	20.26	17.8	47.5	182.21	152.51	179.75
	5/18/2022	201.75	200.01	21.53	19.79	17.8	47.5	182.21	152.51	180.22
	11/3/2022	201.75	200.01	23.87	22.13	17.8	47.5	182.21	152.51	177.88
35BWW16	1/1/2013	201.2	198.34	23.36	20.50	18.8	33.5	179.54	164.84	177.84
	8/19/2016	201.2	198.34	21.71	18.85	18.8	33.5	179.54	164.84	179.49
	11/7/2017	201.2	198.34	23.51	20.65	18.8	33.5	179.54	164.84	177.69
	2/13/2018	201.2	198.34	23.33	20.47	18.8	33.5	179.54	164.84	177.87

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW16 (cont.)	3/29/2018	201.2	198.34	22.25	19.39	18.8	33.5	179.54	164.84	178.95
	5/24/2018	201.2	198.34	22.28	19.42	18.8	33.5	179.54	164.84	178.92
	8/17/2018	201.2	198.34	23.70	20.84	18.8	33.5	179.54	164.84	177.50
	11/16/2018	201.2	198.34	23.09	20.23	18.8	33.5	179.54	164.84	178.11
	2/15/2019	201.2	198.34	21.57	18.71	18.8	33.5	179.54	164.84	179.63
	5/23/2019	201.2	198.34	20.15	17.29	18.8	33.5	179.54	164.84	181.05
	8/7/2019	201.2	198.34	20.86	18.00	18.8	33.5	179.54	164.84	180.34
	11/25/2019	201.2	198.34	22.65	19.79	18.8	33.5	179.54	164.84	178.55
	5/7/2020	201.2	198.34	20.70	17.84	18.8	33.5	179.54	164.84	180.50
	11/11/2020	201.2	198.34	21.89	19.03	18.8	33.5	179.54	164.84	179.31
	5/18/2021	201.2	198.34	19.32	16.46	18.8	33.5	179.54	164.84	181.88
	11/17/2021	201.2	198.34	21.65	18.79	18.8	33.5	179.54	164.84	179.55
	5/16/2022	201.2	198.34	21.21	18.35	18.8	33.5	179.54	164.84	179.99
	11/2/2022	201.2	198.34	23.50	20.64	18.8	33.5	179.54	164.84	177.70
35BWW17	1/1/2013	201.00	198.16	22.85	20.01	18.3	33	179.86	165.16	178.15
	8/19/2016	201.00	198.16	20.95	18.11	18.3	33	179.86	165.16	180.05
	11/7/2017	201.00	198.16	22.89	20.05	18.3	33	179.86	165.16	178.11
	2/13/2018	201.00	198.16	22.73	19.89	18.3	33	179.86	165.16	178.27
	3/29/2018	201.00	198.16	21.38	18.54	18.3	33	179.86	165.16	179.62
	5/24/2018	201.00	198.16	21.42	18.58	18.3	33	179.86	165.16	179.58
	8/17/2018	201.00	198.16	23.11	20.27	18.3	33	179.86	165.16	177.89
	11/16/2018	201.00	198.16	22.33	19.49	18.3	33	179.86	165.16	178.67
	2/21/2019	201.00	198.16	20.12	17.28	18.3	33	179.86	165.16	180.88
	5/22/2019	201.00	198.16	17.95	15.11	18.3	33	179.86	165.16	183.05
	8/7/2019	201.00	198.16	14.63	11.79	18.3	33	179.86	165.16	186.37
	11/25/2019	201.00	198.16	21.85	19.01	18.3	33	179.86	165.16	179.15
	5/7/2020	201.00	198.16	19.18	16.34	18.3	33	179.86	165.16	181.82
	11/11/2020	201.00	198.16	21.12	18.28	18.3	33	179.86	165.16	179.88
	5/18/2021	201.00	198.16	17.32	14.48	18.3	33	179.86	165.16	183.68
	11/22/2021	201.00	198.16	21.05	18.21	18.3	33	179.86	165.16	179.95
	5/16/2022	201.00	198.16	20.27	17.43	18.3	33	179.86	165.16	180.73
	11/2/2022	201.00	198.16	22.84	20.00	18.3	33	179.86	165.16	178.16
35BWW18	1/1/2013	206.72	203.8	27.94	25.02	17.77	32.5	186.03	171.3	178.78
	8/16/2016	206.72	203.8	26.24	23.32	17.77	32.5	186.03	171.3	180.48
	11/7/2017	206.72	203.8	27.50	24.58	17.77	32.5	186.03	171.3	179.22
	2/13/2018	206.72	203.8	27.90	24.98	17.77	32.5	186.03	171.3	178.82
	3/27/2018	206.72	203.8	27.18	24.26	17.77	32.5	186.03	171.3	179.54
	5/21/2018	206.72	203.8	27.00	24.08	17.77	32.5	186.03	171.3	179.72
	8/16/2018	206.72	203.8	27.95	25.03	17.77	32.5	186.03	171.3	178.77
	11/19/2018	206.72	203.8	27.39	24.47	17.77	32.5	186.03	171.3	179.33
	2/14/2019	206.72	203.8	26.37	23.45	17.77	32.5	186.03	171.3	180.35
	5/20/2019	206.72	203.8	25.60	22.68	17.77	32.5	186.03	171.3	181.12
	8/5/2019	206.72	203.8	25.61	22.69	17.77	32.5	186.03	171.3	181.11
	11/25/2019	206.72	203.8	26.92	24.00	17.77	32.5	186.03	171.3	179.80
	5/11/2020	206.72	203.8	25.70	22.78	17.77	32.5	186.03	171.3	181.02
	11/9/2020	206.72	203.8	26.15	23.23	17.77	32.5	186.03	171.3	180.57
	5/18/2021	206.72	203.8	24.20	21.28	17.77	32.5	186.03	171.3	182.52
	11/15/2021	206.72	203.8	25.78	22.86	17.77	32.5	186.03	171.3	180.94
	5/18/2022	206.72	203.8	25.65	22.73	17.77	32.5	186.03	171.3	181.07
	11/1/2022	206.72	203.8	27.47	24.55	17.77	32.5	186.03	171.3	179.25
35BWW19	1/1/2013	206.66	204.1	27.75	25.19	18.75	33.48	185.35	170.62	178.91
	8/16/2016	206.66	204.1	25.82	23.26	18.75	33.48	185.35	170.62	180.84
	11/7/2017	206.66	204.1	27.20	24.64	18.75	33.48	185.35	170.62	179.46
	2/13/2018	206.66	204.1	27.48	24.92	18.75	33.48	185.35	170.62	179.18
	3/27/2018	206.66	204.1	26.99	24.43	18.75	33.48	185.35	170.62	179.67
	5/21/2018	206.66	204.1	26.70	24.14	18.75	33.48	185.35	170.62	179.96
	8/16/2018	206.66	204.1	27.55	24.99	18.75	33.48	185.35	170.62	179.11
	11/19/2018	206.66	204.1	27.21	24.65	18.75	33.48	185.35	170.62	179.45
	2/14/2019	206.66	204.1	26.19	23.63	18.75	33.48	185.35	170.62	180.47

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW19 (cont.)	5/20/2019	206.66	204.1	25.66	23.10	18.75	33.48	185.35	170.62	181.00
	8/5/2019	206.66	204.1	25.42	22.86	18.75	33.48	185.35	170.62	181.24
	11/25/2019	206.66	204.1	26.50	23.94	18.75	33.48	185.35	170.62	180.16
	5/11/2020	206.66	204.1	25.63	23.07	18.75	33.48	185.35	170.62	181.03
	11/9/2020	206.66	204.1	25.75	23.19	18.75	33.48	185.35	170.62	180.91
	5/18/2021	206.66	204.1	24.22	21.66	18.75	33.48	185.35	170.62	182.44
	11/15/2021	206.66	204.1	25.48	22.92	18.75	33.48	185.35	170.62	181.18
	5/18/2022	206.66	204.1	25.24	22.68	18.75	33.48	185.35	170.62	181.42
	11/1/2022	206.66	204.1	26.85	24.29	18.75	33.48	185.35	170.62	179.81
35BWW20	1/1/2013	205.23	202.67	26.30	23.74	15.14	29.9	187.53	172.77	178.93
	8/18/2016	205.23	202.67	24.78	22.22	15.14	29.9	187.53	172.77	180.45
	11/8/2017	205.23	202.67	26.50	23.94	15.14	29.9	187.53	172.77	178.73
	2/12/2018	205.23	202.67	26.35	23.79	15.14	29.9	187.53	172.77	178.88
	3/27/2018	205.23	202.67	25.45	22.89	15.14	29.9	187.53	172.77	179.78
	5/24/2018	205.23	202.67	25.40	22.84	15.14	29.9	187.53	172.77	179.83
	8/20/2018	205.23	202.67	26.80	24.24	15.14	29.9	187.53	172.77	178.43
	11/18/2018	205.23	202.67	25.58	23.02	15.14	29.9	187.53	172.77	179.65
	2/13/2019	205.23	202.67	24.47	21.91	15.14	29.9	187.53	172.77	180.76
	5/22/2019	205.23	202.67	21.95	19.39	15.14	29.9	187.53	172.77	183.28
	8/6/2019	205.23	202.67	23.67	21.11	15.14	29.9	187.53	172.77	181.56
	11/25/2019	205.23	202.67	25.75	23.19	15.14	29.9	187.53	172.77	179.48
	5/11/2020	205.23	202.67	23.05	20.49	15.14	29.9	187.53	172.77	182.18
	11/9/2020	205.23	202.67	24.80	22.24	15.14	29.9	187.53	172.77	180.43
	5/13/2021	205.23	202.67	21.57	19.01	15.14	29.9	187.53	172.77	183.66
	11/17/2021	205.23	202.67	24.82	22.26	15.14	29.9	187.53	172.77	180.41
	5/17/2022	205.23	202.67	24.02	21.46	15.14	29.9	187.53	172.77	181.21
	11/1/2022	205.23	202.67	26.55	23.99	15.14	29.9	187.53	172.77	178.68
35BWW23	1/1/2013	205.37	202.74	27.03	24.40	20	30	182.74	172.74	178.34
	8/17/2016	205.37	202.74	27.03	24.40	20	30	182.74	172.74	178.34
	11/9/2017	205.37	202.74	28.56	25.93	20	30	182.74	172.74	176.81
	2/15/2018	205.37	202.74	28.35	25.72	20	30	182.74	172.74	177.02
	5/22/2018	205.37	202.74	27.63	25.00	20	30	182.74	172.74	177.74
	8/22/2018	205.37	202.74	28.86	26.23	20	30	182.74	172.74	176.51
	11/20/2018	205.37	202.74	28.48	25.85	20	30	182.74	172.74	176.89
	2/12/2019	205.37	202.74	27.55	24.92	20	30	182.74	172.74	177.82
	5/21/2019	205.37	202.74	26.55	23.92	20	30	182.74	172.74	178.82
	8/6/2019	205.37	202.74	26.49	23.86	20	30	182.74	172.74	178.88
	11/25/2019	205.37	202.74	27.77	25.14	20	30	182.74	172.74	177.60
	5/7/2020	205.37	202.74	26.77	24.14	20	30	182.74	172.74	178.60
	11/10/2020	205.37	202.74	27.00	24.37	20	30	182.74	172.74	178.37
	5/18/2021	205.37	202.74	25.93	23.30	20	30	182.74	172.74	179.44
	11/22/2021	205.37	202.74	27.00	24.37	20	30	182.74	172.74	178.37
	5/18/2022	205.37	202.74	26.76	24.13	20	30	182.74	172.74	178.61
	11/3/2022	205.37	202.74	28.71	26.08	20	30	182.74	172.74	176.66
35BWW24	8/19/2016	206.64	203.82	27.89	25.07	19.9	29.6	183.92	174.22	178.75
	2/16/2018	206.64	203.82	29.37	26.55	19.9	29.6	183.92	174.22	177.27
	3/28/2018	206.64	203.82	28.83	26.01	19.9	29.6	183.92	174.22	177.81
	5/24/2018	206.64	203.82	28.65	25.83	19.9	29.6	183.92	174.22	177.99
	8/21/2018	206.64	203.82	29.80	26.98	19.9	29.6	183.92	174.22	176.84
	11/16/2018	206.64	203.82	29.41	26.59	19.9	29.6	183.92	174.22	177.23
	2/15/2019	206.64	203.82	28.27	25.45	19.9	29.6	183.92	174.22	178.37
	5/22/2019	206.64	203.82	27.53	24.71	19.9	29.6	183.92	174.22	179.11
	8/7/2019	206.64	203.82	27.45	24.63	19.9	29.6	183.92	174.22	179.19
	11/25/2019	206.64	203.82	28.77	25.95	19.9	29.6	183.92	174.22	177.87
	5/7/2020	206.64	203.82	27.22	24.40	19.9	29.6	183.92	174.22	179.42
	11/10/2020	206.64	203.82	28.22	25.40	19.9	29.6	183.92	174.22	178.42
	5/17/2021	206.64	203.82	26.82	24.00	19.9	29.6	183.92	174.22	179.82
	11/22/2021	206.64	203.82	28.00	25.18	19.9	29.6	183.92	174.22	178.64
	5/16/2022	206.64	203.82	27.75	24.93	19.9	29.6	183.92	174.22	178.89

Table 2-2
Groundwater Elevation Data, LHAAP-35B (37)

Well ID	Sampling Date	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Depth to Water (ft from TOC)	Depth to Water (ft bgs)	Screen Interval (ft bgs)		Screen Interval (ft MSL)		Water Elevation (ft MSL)
						Top	Bottom	Top	Bottom	
35BWW24 (cont.)	11/3/2022	206.64	203.82	29.67	26.85	19.9	29.6	183.92	174.22	176.97
35BWW25	8/19/2016	204.31	201.74	25.45	22.88	19.9	29.6	181.84	172.14	178.86
	11/8/2017	204.31	201.74	27.27	24.70	19.9	29.6	181.84	172.14	177.04
	2/16/2018	204.31	201.74	26.92	24.35	19.9	29.6	181.84	172.14	177.39
	3/28/2018	204.31	201.74	26.38	23.81	19.9	29.6	181.84	172.14	177.93
	5/23/2018	204.31	201.74	26.32	23.75	19.9	29.6	181.84	172.14	177.99
	8/20/2018	204.31	201.74	27.31	24.74	19.9	29.6	181.84	172.14	177.00
	11/16/2018	204.31	201.74	26.92	24.35	19.9	29.6	181.84	172.14	177.39
	2/15/2019	204.31	201.74	25.80	23.23	19.9	29.6	181.84	172.14	178.51
	5/22/2019	204.31	201.74	25.23	22.66	19.9	29.6	181.84	172.14	179.08
	8/7/2019	204.31	201.74	25.28	22.71	19.9	29.6	181.84	172.14	179.03
	11/25/2019	204.31	201.74	26.52	23.95	19.9	29.6	181.84	172.14	177.79
	5/7/2020	204.31	201.74	25.36	22.79	19.9	29.6	181.84	172.14	178.95
	11/10/2020	204.31	201.74	25.92	23.35	19.9	29.6	181.84	172.14	178.39
	5/17/2021	204.31	201.74	24.38	21.81	19.9	29.6	181.84	172.14	179.93
	11/22/2021	204.31	201.74	25.77	23.20	19.9	29.6	181.84	172.14	178.54
	5/16/2022	204.31	201.74	25.42	22.85	19.9	29.6	181.84	172.14	178.89
	11/3/2022	204.31	201.74	27.25	24.68	19.9	29.6	181.84	172.14	177.06
35BWW26	8/17/2016	205.86	230.41	26.13	50.68	25.2	34.9	205.21	195.51	179.73
	11/9/2017	205.86	230.41	27.71	52.26	25.2	34.9	205.21	195.51	178.15
	2/14/2018	205.86	230.41	27.60	52.15	25.2	34.9	205.21	195.51	178.26
	5/22/2018	205.86	230.41	26.97	51.52	25.2	34.9	205.21	195.51	178.89
	8/22/2018	205.86	230.41	28.07	52.62	25.2	34.9	205.21	195.51	177.79
	11/20/2018	205.86	230.41	27.48	52.03	25.2	34.9	205.21	195.51	178.38
	2/12/2019	205.86	230.41	26.50	51.05	25.2	34.9	205.21	195.51	179.36
	5/20/2019	205.86	230.41	25.31	49.86	25.2	34.9	205.21	195.51	180.55
	8/6/2019	205.86	230.41	25.60	50.15	25.2	34.9	205.21	195.51	180.26
	11/25/2019	205.86	230.41	27.07	51.62	25.2	34.9	205.21	195.51	178.79
	5/6/2020	205.86	230.41	25.75	50.30	25.2	34.9	205.21	195.51	180.11
	11/10/2020	205.86	230.41	26.11	50.66	25.2	34.9	205.21	195.51	179.75
	5/13/2021	205.86	230.41	25.50	50.05	25.2	34.9	205.21	195.51	180.36
	11/17/2021	205.86	230.41	26.05	50.60	25.2	34.9	205.21	195.51	179.81
	5/17/2022	205.86	230.41	25.80	50.35	25.2	34.9	205.21	195.51	180.06
	11/2/2022	205.86	230.41	27.80	52.35	25.2	34.9	205.21	195.51	178.06
LHSMW58	1/1/2013	203.56	200.78	24.77	21.99	21.4	31.4	179.38	169.38	178.79
	8/18/2016	203.56	200.78	23.26	20.48	21.4	31.4	179.38	169.38	180.30
	11/8/2017	203.56	200.78	25.05	22.27	21.4	31.4	179.38	169.38	178.51
	2/12/2018	203.56	200.78	24.87	22.09	21.4	31.4	179.38	169.38	178.69
	3/27/2018	203.56	200.78	23.95	21.17	21.4	31.4	179.38	169.38	179.61
	5/24/2018	203.56	200.78	23.87	21.09	21.4	31.4	179.38	169.38	179.69
	8/20/2018	203.56	200.78	25.21	22.43	21.4	31.4	179.38	169.38	178.35
	11/18/2018	203.56	200.78	24.13	21.35	21.4	31.4	179.38	169.38	179.43
	2/13/2019	203.56	200.78	22.98	20.20	21.4	31.4	179.38	169.38	180.58
	5/22/2019	203.56	200.78	20.22	17.44	21.4	31.4	179.38	169.38	183.34
	8/7/2019	203.56	200.78	22.12	19.34	21.4	31.4	179.38	169.38	181.44
	11/25/2019	203.56	200.78	24.22	21.44	21.4	31.4	179.38	169.38	179.34
	5/11/2020	203.56	200.78	21.48	18.70	21.4	31.4	179.38	169.38	182.08
	11/9/2020	203.56	200.78	23.40	20.62	21.4	31.4	179.38	169.38	180.16
	5/13/2021	203.56	200.78	19.68	16.90	21.4	31.4	179.38	169.38	183.88
	11/15/2021	203.56	200.78	23.27	20.49	21.4	31.4	179.38	169.38	180.29
	5/17/2022	203.56	200.78	22.50	19.72	21.4	31.4	179.38	169.38	181.06
	11/1/2022	203.56	200.78	25.07	22.29	21.4	31.4	179.38	169.38	178.49

Notes:
bgs - below ground surface
Dry - insufficient or no water in well
ft - feet
ID - Identifier
MSL - mean sea level
TOC - top of casing

Table 2-3
Year 6 Groundwater RA-O Results

			Location Code	35BWW01		35BWW04		35BWW05		35BWW07		35BWW08		35BWW09		35BWW10		35BWW11	
			Sample ID	35BWW01-221101		35BWW04-221103		35BWW05-221101		35BWW07-221102		35BWW08-221102		35BWW09-221101		35BWW10-221101		35BWW11-221101	
			Sample Date	11/1/2022		11/3/2022		11/1/2022		11/2/2022		11/2/2022		11/1/2022		11/1/2022		11/1/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Field Measurements																			
Dissolved oxygen	mg/L	NV		0.24		1.39		0.16		0.1		1.39		0.05		0.76		0.11	
Ferrous Iron	mg/L	NV		NM		0.12		NM		NM		0.08		NM		NM		NM	
Oxidation Reduction Potential	mV	NV		220		165		8		11		172		72		169		6	
pH	SU	NV		5.03		6.94		6.95		7.51		7.2		7.7		6.13		6.87	
Dissolved Gases																			
Carbon dioxide	µg/L	NV		NA		67,000		NA		NA		43,000		NA		NA		NA	
Ethane	µg/L	NV		NA		< 0.5	U	NA		NA		< 0.5	UJ	NA		NA		NA	
Ethylene	µg/L	NV		NA		< 0.5	UJ	NA		NA		< 0.5	UJ	NA		NA		NA	
Methane	µg/L	NV		NA		1.26	J	NA		NA		1.41		NA		NA		NA	
General Chemistry																			
Chloride	mg/L	NV		NA		3.21		NA		NA		4.6		NA		NA		NA	
Nitrate	mg/L	NV		NA		0.0327	J	NA		NA		0.284		NA		NA		NA	
Sulfate	mg/L	NV		NA		26.7		NA		NA		35.2		NA		NA		NA	
Total organic carbon	mg/L	NV		NA		1.05		NA		NA		0.711	J	NA		NA		NA	
Volatile Organic Compounds																			
1,1-Dichloroethene	µg/L	7		<1	U	< 1	U	<1	U	<1	U	< 1	U	<1	U	< 1	U	<1	U
cis-1,2-Dichloroethene	µg/L	70		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Tetrachloroethene	µg/L	5		< 1	U	**5.3**		3.2		< 1	U	< 1	U	1.1		2.6		< 1	U
Trichloroethene	µg/L	5		< 1	U	< 1	U	**5.2**		< 1	U	0.56	J	**56**		1.1		< 1	U
Vinyl chloride	µg/L	2		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U

Notes:

Blue highlighting indicates concentrations above the MCL.

< The analyte was not detected above the concentration shown.

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

UJ - Undetected estimated: The analyte was analyzed for but, was not detected. Even though the analyte was not detected, certain discrepancies in meeting analyte specific quality control were not met.

FD - field duplicate

ID - Identifier

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NM - not measured

NV - no value; MCLs only shown for constituents of concern.

REG - regular sample

SU - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 6 Groundwater RA-O Results

			Location Code	35BWW12		35BWW12		35BWW13		35BWW14		35BWW15		35BWW16		35BWW17			
			Sample ID	35BWW12-221102		35BWW12-221102-FD		35BWW13-221102		35BWW14-221103		35BWW15-221103		35BWW16-221102		35BWW17-221102		35BWW17-221102-FD	
			Sample Date	11/2/2022		11/2/2022		11/2/2022		11/3/2022		11/3/2022		11/2/2022		11/2/2022		11/2/2022	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		FD	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Field Measurements																			
Dissolved oxygen	mg/L	NV		0.04		0.04		0.83		0.03		0.9		0.37		0.05		0.05	
Ferrous Iron	mg/L	NV		0.94		0.94		NM		0.11		NM		NM		NM		NM	
Oxidation Reduction Potential	mV	NV		122		122		232		142		131		159		263		263	
pH	SU	NV		6.8		6.8		5.42		7.27		7.12		6.24		5.49		5.49	
Dissolved Gases																			
Carbon dioxide	µg/L	NV		93,000		95,000		NA		31,000		NA		NA		NA		NA	
Ethane	µg/L	NV		< 0.5	UJ	< 0.5	UJ	NA		< 0.5	U	NA		NA		NA		NA	
Ethylene	µg/L	NV		< 0.5	UJ	< 0.5	UJ	NA		< 0.5	UJ	NA		NA		NA		NA	
Methane	µg/L	NV		1.35	J	6.23	J	NA		0.932	J	NA		NA		NA		NA	
General Chemistry																			
Chloride	mg/L	NV		8.82		8.84		NA		9.6		NA		NA		NA		NA	
Nitrate	mg/L	NV		< 0.1	U	< 0.05	U	NA		0.0507	J	NA		NA		NA		NA	
Sulfate	mg/L	NV		40.6		41.1		NA		49.1		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		0.617	J	0.636	J	NA		0.772	J	NA		NA		NA		NA	
Volatile Organic Compounds																			
1,1-Dichloroethene	µg/L	7		< 1	U	<1	U	< 1	U	<1	U	< 1	U	<1	U	< 1	U	<1	U
cis-1,2-Dichloroethene	µg/L	70		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Tetrachloroethene	µg/L	5		**5.2**		**5.3**		1.8		**27**		**11**		**7.2**		< 1	U	< 1	U
Trichloroethene	µg/L	5		0.58	J	0.53	J	< 1	U	**6.0**		**5.3**		2		< 1	U	< 1	U
Vinyl chloride	µg/L	2		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U

Notes:

Blue highlighting indicates concentrations above the MCL.

< The analyte was not detected above the concentration shown.

µg/L - micrograms per liter

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ID - Identifier

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NM - not measured

NV - no value; MCLs only shown for constituents of concern.

REG - regular sample

SU - standard pH units

Val Qual - validation qualifier

Table 2-3
Year 6 Groundwater RA-O Results

			Location Code	35BWW18		35BWW19		35BWW20		35BWW23		35BWW24				35BWW25		35BWW26		LHSMW58	
			Sample ID	35BWW18-221101		35BWW19-221101		35BWW20-221101		35BWW23-221103		35BWW24-221103		35BWW24-221103-FD		35BWW25-221103		35BWW26-221102		LHSMW58-221101	
			Sample Date	11/1/2022		11/1/2022		11/1/2022		11/3/2022		11/3/2022		11/3/2022		11/3/2022		11/2/2022		11/1/2022	
			Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Field Measurements																					
Dissolved oxygen	mg/L	NV		0.26		0.59		1.08		1.62		2.11		2.11		1		0.32		0.41	
Ferrous Iron	mg/L	NV		NM		NM		NM		0.17		NM		NM		NM		0		NM	
Oxidation Reduction Potential	mV	NV		164		140		85		172		178		178		184		199		138	
pH	SU	NV		6.86		6.96		7.19		6.97		6.93		6.93		6.86		6.51		6.48	
Dissolved Gases																					
Carbon dioxide	µg/L	NV		NA		NA		NA		55,000		NA		NA		NA		100,000		NA	
Ethane	µg/L	NV		NA		NA		NA		< 0.5	U	NA		NA		NA		< 0.5	UJ	NA	
Ethylene	µg/L	NV		NA		NA		NA		0.925	J	NA		NA		NA		< 0.5	UJ	NA	
Methane	µg/L	NV		NA		NA		NA		1.23	J	NA		NA		NA		1.22		NA	
General Chemistry																					
Chloride	mg/L	NV		NA		NA		NA		17.6		NA		NA		NA		30.7		NA	
Nitrate	mg/L	NV		NA		NA		NA		< 0.05	U	NA		NA		NA		0.108		NA	
Sulfate	mg/L	NV		NA		NA		NA		76.5		NA		NA		NA		24.5		NA	
Total organic carbon	mg/L	NV		NA		NA		NA		0.578	J	NA		NA		NA		0.594	J	NA	
Volatile Organic Compounds																					
1,1-Dichloroethene	µg/L	7		< 1	U	<1	U	< 1	U	< 1	U	<1	U	< 1	U	1.3		< 1	U	<1	U
cis-1,2-Dichloroethene	µg/L	70		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
Tetrachloroethene	µg/L	5		< 1	U	< 1	U	**17**		< 1	U	< 1	U	< 1	U	1.4		< 1	U	**15**	
Trichloroethene	µg/L	5		< 1	U	< 1	U	3.2		< 1	U	4.7		5		**14**		< 1	U	0.94	J
Vinyl chloride	µg/L	2		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U

Notes:

Blue highlighting indicates concentrations above the MCL.

< The analyte was not detected above the concentration shown.

µg/L - micrograms per liter

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FD - field duplicate

ID - Identifier

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NM - not measured

NV - no value; MCLs only shown for constituents of concern.

REG - regular sample

SU - standard pH units

Val Qual - validation qualifier

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BSW01										35BSW02									
		Sample ID	35BSW01-101713		35BSW01-021218		35BSW01-180327		35BSW01-181116		35BSW01-200511		35BSW02-101713		35BSW02-021218		35BSW02-180327		35BSW02-181116		35BSW02-200511	
		Sample Date	10/17/2013		2/12/2018		3/27/2018		11/16/2018		5/11/2020		10/17/2013		2/12/2018		3/27/2018		11/16/2018		5/11/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	NA		0.110		0.167		0.055		NA		NA		0.105		0.161		0.083		NA	
Dissolved oxygen	**mg/L**	**NV**	NA		12.35		7.43		11.5		NA		NA		11.29		7.09		11.14		NA	
Oxidation Reduction Potential	**mV**	**NV**	NA		92.3		153.6		190.4		NA		NA		108.5		168.9		211.3		NA	
pH	**SU**	**NV**	NA		7.2		6.34		5.95		NA		NA		6.78		6.09		5.16		NA	
Turbidity	**NTU**	**NV**	NA		45.5		11.8		30.6		NA		NA		43.6		16.7		29.5		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		< 0.0004	U	NA		NA		NA		NA		< 0.0004	U	NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.5	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.5	U	< 0.2	U	NA		< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.25	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.25	U	< 0.2	U	NA		< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.25	U	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.25	U	< 0.3	U	NA		< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.25	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.25	U	< 0.2	U	NA		< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.25	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.25	U	< 0.2	U	NA		< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW01																	
		Sample ID	35BWW01-131007		35BWW01-151020		35BWW01-102015		35BWW01F-102015		35BWW01-160217		35BWW01-021716		35BWW01F-021716		35BWW01-160819		35BWW01-081916		35BWW01-110817	
		Sample Date	10/7/2013		10/20/2015		10/20/2015		10/20/2015		2/17/2016		2/17/2016		2/17/2016		8/19/2016		8/19/2016		11/8/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		< 0.2	U	NA		NA		< 0.1	U	NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		25.5		NA		NA		24.7		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	-99	-	0.145		NA		NA		0.111		NA		NA		0.21		NA		0.201	
Dissolved oxygen	**mg/L**	**NV**	-	-	-	-	NA		NA		-	-	NA		NA		-	-	NA		2.32	
Oxidation Reduction Potential	**mV**	**NV**	-	-	101		NA		NA		251		NA		NA		-	-	NA		204.3	
pH	**SU**	**NV**	-	-	6.06		NA		NA		5.72		NA		NA		4.53		NA		6.6	
Turbidity	**NTU**	**NV**	-	-	708		NA		NA		216		NA		NA		316		NA		140.6	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		< 0.08	U	NM		NM		< 0.1	U	NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		0.179		NA		NA		0.0365		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW01																			
		Sample ID	35BWW01-021418		35BWW01-180329		35BWW01-180524		35BWW01-180524FD		35BWW01-180816		35BWW01-180816-FD		35BWW01-181115		35BWW01-190212		35BWW01-190212-FD		35BWW01-190520	
		Sample Date	2/14/2018		3/29/2018		5/24/2018		5/24/2018		8/16/2018		8/16/2018		11/15/2018		2/12/2019		2/12/2019		5/20/2019	
		Sample Purpose	REG		REG		REG		FD		REG		FD		REG		REG		FD		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.106		0.105		0.082		NA		0.195		NA		0.089		0.104		NA		0.117	
Dissolved oxygen	**mg/L**	**NV**	6		5.26		0		NA		1.06		NA		2.87		3.91		NA		1.04	
Oxidation Reduction Potential	**mV**	**NV**	185.6		257.3		491		NA		261		NA		240.2		354		NA		357	
pH	**SU**	**NV**	5.46		4.49		4.03		NA		4.93		NA		4.84		5.57		NA		4.06	
Turbidity	**NTU**	**NV**	124.7		130.9		59.7		NA		76.4		NA		121.9		33.5		NA		53.1	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		< 0.0004	U	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW01																	
			Sample ID	35BWW01-190520-FD		35BWW01-190805		35BWW01-190805-FD		35BWW01-191121		35BWW01-200506		35BWW01-200506-FD		35BWW01-201109		35BWW01-210513		35BWW01-211115		35BWW01-220517	
			Sample Date	5/20/2019		8/5/2019		8/5/2019		11/21/2019		5/6/2020		5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/17/2022	
			Sample Purpose	FD		REG		FD		REG		REG		FD		REG		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.113		NA		0.079		0.102		NA		0.076		0.113		0.098		0.114	
Dissolved oxygen	**mg/L**	**NV**		NA		0.15		NA		1.29		1.5		NA		0.55		0.23		0.67		0.08	
Oxidation Reduction Potential	**mV**	**NV**		NA		292		NA		371		238		NA		267		231		258		51	
pH	**SU**	**NV**		NA		5.4		NA		5.41		5.1		NA		4.39		4.63		4.76		4.42	
Turbidity	**NTU**	**NV**		NA		26.3		NA		37.7		63.1		NA		11.2		23.5		16.4		43.1	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW01		35BWW02				35BWW03													
		Sample ID	35BWW01-221101		35BWW02-131004		35BWW02-160819		35BWW03-131005		35BWW03-100513		35BWW03-151020		35BWW03-102015		35BWW03-151222		35BWW03-122215		35BWW03-160217	
		Sample Date	11/1/2022		10/4/2013		8/19/2016		10/5/2013		10/5/2013		10/20/2015		10/20/2015		12/22/2015		12/22/2015		2/17/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		0.252	J	NA		< 0.1	U	NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		3.82		NA		3.69		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.131		-	-	-	-	0.572		NA		0.675		NA		1.07		NA		0.971	
Dissolved oxygen	**mg/L**	**NV**	0.24		-	-	-	-	3.87		NA		0.34		NA		0.88		NA		0.61	
Oxidation Reduction Potential	**mV**	**NV**	220		-	-	-	-	-207		NA		-13		NA		-27		NA		-12	
pH	**SU**	**NV**	5.03		-	-	-	-	9.45		NA		6.39		NA		6.95		NA		6.69	
Turbidity	**NTU**	**NV**	354		-	-	-	-	1.8		NA		2.1		NA		8.9		NA		3.9	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		< 0.02	U	NM		< 0.02	U	NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		0.0183		NA		0.0496		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	NA		NA		NA		< 0.5	U	NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	NA		NA		NA		< 0.25	U	NA		NA		NA		NA		NA	
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	NA		NA		NA		< 0.25	U	NA		NA		NA		NA		NA	
Trichloroethene	**µg/L**	**5**	< 0.2	U	NA		NA		NA		< 0.25	U	NA		NA		NA		NA		NA	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	NA		NA		NA		< 0.25	U	NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW03										35BWW04							
			Sample ID	35BWW03-021716		35BWW03FD-021716		35BWW03-160818		35BWW03-081816		35BWW03FD-081816		35BWW03-211115		35BWW04-131003		35BWW04-100313		35BWW04-151019		35BWW04-101915	
			Sample Date	2/17/2016		2/17/2016		8/18/2016		8/18/2016		8/18/2016		11/15/2021		10/3/2013		10/3/2013		10/19/2015		10/19/2015	
			Sample Purpose	REG		FD		REG		REG		FD		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		11		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		< 0.1	U	< 0.1	U	NA		NA		NA		NA		NA		1.06		NA		0.334	J
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		< 0.1	U	NA		NA	
Sulfate	**mg/L**	**NV**		3.43		3.54		NA		NA		NA		NA		NA		41.6		NA		43.3	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		NA		1.07		NA		NA		0.787		0.257		NA		0.261		NA	
Dissolved oxygen	**mg/L**	**NV**		NA		NA		0.74		NA		NA		1.57		1.08		NA		1.87		NA	
Oxidation Reduction Potential	**mV**	**NV**		NA		NA		-17		NA		NA		43		108		NA		170		NA	
pH	**SU**	**NV**		NA		NA		6.13		NA		NA		6.02		6.46		NA		6.13		NA	
Turbidity	**NTU**	**NV**		NA		NA		0		NA		NA		5.3		8.5		NA		38.3		NA	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		< 1	U	NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		< 1	U	NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		< 1	U	NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		0.0757		0.0808		NM		NM		NM		NM		NM		< 0.02	U	NM		< 0.02	U
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		8.4		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		2.01		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		0.0405		0.0419		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		NA		NA		NA		< 0.5	U	< 0.5	U	< 0.2	U	NA		2.3	J	NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.2	U	NA		0.673	J	NA		NA	
Tetrachloroethene	**µg/L**	**5**		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.3	U	NA		**66.5**	J	NA		NA	
Trichloroethene	**µg/L**	**5**		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.2	U	NA		**11.4**	J	NA		NA	
Vinyl chloride	**µg/L**	**2**		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.2	U	NA		< 0.25	U	NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW04																	
			Sample ID	35BWW04F-101915		35BWW04-151221		35BWW04-122115		35BWW04-160217		35BWW04-021716		35BWW04-160817		35BWW04-081716		35BWW04-110917		35BWW04-110917-FD		35BWW04-021418	
			Sample Date	10/19/2015		12/21/2015		12/21/2015		2/17/2016		2/17/2016		8/17/2016		8/17/2016		11/9/2017		11/9/2017		2/14/2018	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		< 0.03	U	0.209		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		11.5		5.67		5.82		6.96	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		0.244		0.249		NA	
Nitrate	**mg/L**	**NV**		NA		NA		0.379	J	NA		0.434		NA		0.376	J	0.187		0.173		0.124	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		< 0.1	U	< 0.03	U	< 0.03	U	< 0.03	U
Sulfate	**mg/L**	**NV**		NA		NA		39.6		NA		33.8		NA		35.1		33.1		33.8		31.8	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		< 0.333	U	NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.287		NA		0.309		NA		0.366		NA		0.277		NA		0.312	
Dissolved oxygen	**mg/L**	**NV**		NA		1.32		NA		2.53		NA		0.84		NA		2.2		NA		3.03	
Oxidation Reduction Potential	**mV**	**NV**		NA		233		NA		185		NA		449		NA		183.5		NA		126.1	
pH	**SU**	**NV**		NA		5.3		NA		5.57		NA		4.17		NA		6.5		NA		6.34	
Turbidity	**NTU**	**NV**		NA		9.3		NA		8.2		NA		49.2		NA		0		NA		1.7	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		1070000		38000		35000		40000	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		< 1	U	< 0.076	U	< 0.076	U	< 0.16	U
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		< 1	U	< 0.071	U	< 0.071	U	< 0.24	U
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		< 1	U	0.49	J	< 0.3	U	< 0.51	U
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		0.1		NM		< 0.02	U	NM		< 0.02	U	NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		76.4		40		33		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		15.2	J+	1.12		1.21		1.52	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.00187	J
Manganese	**mg/L**	**14**		0.00111	J	NA		0.00594		NA		0.00612		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		NA		NA		NA		NA		NA		NA		< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		NA		NA		NA		NA		NA		NA		**6.1**		**7.3**		**8.2**		**10**	
Trichloroethene	**µg/L**	**5**		NA		NA		NA		NA		NA		NA		0.786	J	1		1.1		1.3	
Vinyl chloride	**µg/L**	**2**		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW04															
			Sample ID	35BWW04-021418-FD		35BWW04-180522		35BWW04-180822		35BWW04-181120		35BWW04-181120-FD		35BWW04-190213		35BWW04-190520		35BWW04-190805		35BWW04-191121		35BWW04-191121-FD	
			Sample Date	2/14/2018		5/22/2018		8/22/2018		11/20/2018		11/20/2018		2/13/2019		5/20/2019		8/5/2019		11/21/2019		11/21/2019	
			Sample Purpose	FD		REG		REG		REG		FD		REG		REG		REG		REG		FD	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		7.06		4.87		3.78		3.65		3.66		3.24		2.96		3.17		3.51		3.48	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		0.105		0.099	J	0.049	J	0.1		0.101		0.174		0.174		0.187		0.145		0.132	
Nitrite	**mg/L**	**NV**		< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		32.2		36.5		26.5		25.1		25.5		34.6		22		24		28.9		26.5	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		< 0.2		NA		< 0.1	U	NA		0.4	J	NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.216		0.398		0.330		NA		0.333		0.327		0.327		0.238		NA	
Dissolved oxygen	**mg/L**	**NV**		NA		0		0.33		4.73		NA		1.16		1.98		0.37		0.03		NA	
Oxidation Reduction Potential	**mV**	**NV**		NA		411		281		152.7		NA		364		273		262		296		NA	
pH	**SU**	**NV**		NA		5.12		5.17		6.02		NA		5.43		6.39		5.93		5.82		NA	
Turbidity	**NTU**	**NV**		NA		58.3		229		0		NA		4.9		3.3		0		39.9		NA	
GASES																							
Carbon dioxide	**µg/L**	**NV**		43000		770000		500000	J	NA		NA		800000	J	670000		280000		100000	J	87000	J
Ethane	**µg/L**	**NV**		< 0.16	U	< 0.16	UJ	< 0.16	U	0.238	J	0.574	J	< 0.16	UJ	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U
Ethylene	**µg/L**	**NV**		< 0.24	U	< 0.24	U	< 0.24	U	0.524	J	0.959	J	< 0.24	UJ	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U
Methane	**µg/L**	**NV**		< 0.51	U	< 0.51	UJ	< 0.51	U	2.23		1.82		< 0.51	UJ	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		123		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		1.52		1.7		1.73		2.31		2.23		3.81		3.21		2.66	J	1.17		1.28	
METALS																							
Antimony	**mg/L**	**0.006**		0.000913	J	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		**10**		**5.3**		2.2		**6.3**		**5.3**		**5.3**		4.7		**7.9**		**8.3**		**7.7**	
Trichloroethene	**µg/L**	**5**		1.2		< 0.2	U	< 0.2	U	0.95	J	0.73	J	0.59	J	0.58	J	0.93	J	0.93	J	0.93	J
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW04														35BWW05					
			Sample ID	35BWW04-200506		35BWW04-201110		35BWW04-210513		35BWW04-211117		35BWW04-220517		35BWW04-220517-FD		35BWW04-221103		35BWW05-131004		35BWW05-100413		35BWW05-151019	
			Sample Date	5/6/2020		11/10/2020		5/13/2021		11/17/2021		5/17/2022		5/17/2022		11/3/2022		10/4/2013		10/4/2013		10/19/2015	
			Sample Purpose	REG		REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		4.52		4.01		4.46		3.56		3.81		3.77		3.21		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		0.132		0.206		0.135		0.116		0.0361	J	0.0352	J	0.0327	J	NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		26.6		26.1		28.6		27.6		27.1		26.9		26.7		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		0.289		0.235		0.290		0.277		0.323		NA		0.278		0.237		NA		0.328	
Dissolved oxygen	**mg/L**	**NV**		3.1		1.1		3.88		1.18		3.29		NA		1.39		0.59		NA		0.13	
Oxidation Reduction Potential	**mV**	**NV**		147		212		170		240		228		NA		165		-146		NA		75	
pH	**SU**	**NV**		6.38		5.96		6.54		5.71		5.43		NA		6.94		7.06		NA		5.69	
Turbidity	**NTU**	**NV**		13		1.2		0		2.7		24.2		NA		52.2		43.3		NA		118	
GASES																							
Carbon dioxide	**µg/L**	**NV**		46000		94000		150000		376000		253000	J	215000	J	67000		NA		NA		NA	
Ethane	**µg/L**	**NV**		< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U	< 0.144	U	< 0.144	U	< 0.144	U	NA		NA		NA	
Ethylene	**µg/L**	**NV**		< 0.24	U	< 0.24	U	< 0.24	U	< 0.234	UJ	2.49	J	< 0.234	UJ	< 0.234	UJ	NA		NA		NA	
Methane	**µg/L**	**NV**		< 0.51	U	< 0.51	U	< 0.51	U	2.55		2.9		2.74		1.26	J	NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		1.96		0.76		0.96	J	4.06		0.675	J	0.941	J	1.05		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA	
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		0.295	J	NA	
Tetrachloroethene	**µg/L**	**5**		**6.4**		**5.2**		**6.8**		**6.3**		3.9		3.6		**5.3**		NA		1.57		NA	
Trichloroethene	**µg/L**	**5**		0.71	J	0.72	J	0.61	J	0.88	J	< 0.2	U	< 0.2	U	< 0.2	U	NA		**14**		NA	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW05																	
		Sample ID	35BWW05-101915		35BWW05F-101915		35BWW05-151221		35BWW05-122115		35BWW05F-122115		35BWW05-160216		35BWW05-021616		35BWW05F-021616		35BWW05-160818		35BWW05-081816	
		Sample Date	10/19/2015		10/19/2015		12/21/2015		12/21/2015		12/21/2015		2/16/2016		2/16/2016		2/16/2016		8/18/2016		8/18/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	0.728		NA		NA		0.897	J	NA		NA		0.862		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	33.4		NA		NA		37.8		NA		NA		41		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	NA		NA		0.368		NA		NA		0.356		NA		NA		0.379		NA	
Dissolved oxygen	**mg/L**	**NV**	NA		NA		0.36		NA		NA		0.43		NA		NA		0.56		NA	
Oxidation Reduction Potential	**mV**	**NV**	NA		NA		115		NA		NA		129		NA		NA		283		NA	
pH	**SU**	**NV**	NA		NA		5.39		NA		NA		5.24		NA		NA		4.41		NA	
Turbidity	**NTU**	**NV**	NA		NA		151		NA		NA		214		NA		NA		123		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	0.379		NM		NM		0.473		NM		NM		0.559		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		0.0541		NA		NA		0.0555		NA		NA		0.0505		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.5	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		NA		NA		NA		NA		NA		NA		NA		0.497	J
Tetrachloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		NA		NA		NA		1.25	
Trichloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		NA		NA		NA		**8.87**	
Vinyl chloride	**µg/L**	**2**	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.25	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW05																	
		Sample ID	35BWW05-110817		35BWW05-021618		35BWW05-180327		35BWW05-180521		35BWW05-180821		35BWW05-181118		35BWW05-190213		35BWW05-190521		35BWW05-190806		35BWW05-191125	
		Sample Date	11/8/2017		2/16/2018		3/27/2018		5/21/2018		8/21/2018		11/18/2018		2/13/2019		5/21/2019		8/6/2019		11/25/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.338		0.306		0.317		0.213		0.310		0.270		0.324		0.321		0.317		0.251	
Dissolved oxygen	**mg/L**	**NV**	0.78		0.65		1.72		0		0.7		1.51		0.56		0.88		0.05		0.03	
Oxidation Reduction Potential	**mV**	**NV**	-0.3		84.6		125.1		269		111		75.1		168		207		116		150	
pH	**SU**	**NV**	6.8		6.73		6.35		5.14		5.29		6.55		6.5		5.12		5.99		5.29	
Turbidity	**NTU**	**NV**	19		0		0		779		657		0		221		139		225		304	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		< 0.0004	U	NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	1.5		2.8		NA		2		1.7		2.7		1.9		1.1		1.9		1.4	
Trichloroethene	**µg/L**	**5**	**7**		**10**		NA		**8.5**		**7.3**		**12**		**9.6**		**5.5**		**8.6**		**6**	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW05												35BWW06							
		Sample ID	35BWW05-200506		35BWW05-201109		35BWW05-210513		35BWW05-211115		35BWW05-220516		35BWW05-221101		35BWW06-131004		35BWW06-100413		35BWW06-151019		35BWW06-101915	
		Sample Date	5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/16/2022		11/1/2022		10/4/2013		10/4/2013		10/19/2015		10/19/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.1	U
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		168	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.313		0.293		0.330		0.344		0.328		0.284		1.09		NA		1.16		NA	
Dissolved oxygen	**mg/L**	**NV**	0.04		0.09		0.56		0.35		0.47		0.16		0.073		NA		0		NA	
Oxidation Reduction Potential	**mV**	**NV**	79		254		162		191		149		8		-143		NA		-50		NA	
pH	**SU**	**NV**	6.1		4.65		5.41		5.35		5.64		6.95		6.98		NA		7.15		NA	
Turbidity	**NTU**	**NV**	208		317		338		517		88.8		598		5.1		NA		7.9		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		< 0.02	U
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		0.147	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	
Tetrachloroethene	**µg/L**	**5**	2.4		2.1		2.5		1.8		4.1		3.2		NA		< 0.25	U	NA		NA	
Trichloroethene	**µg/L**	**5**	**7.3**		**5.5**		**6.3**		3.5		1.8		**5.2**		NA		< 0.25	U	NA		NA	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW06															
			Sample ID	35BWW06FD-101915		35BWW06-151222		35BWW06-122215		35BWW06-160216		35BWW06-021616		35BWW06FD-021616		35BWW06-160818		35BWW06-081816		35BWW06FD-081816		35BWW06-110817	
			Sample Date	10/19/2015		12/22/2015		12/22/2015		2/16/2016		2/16/2016		2/16/2016		8/18/2016		8/18/2016		8/18/2016		11/8/2017	
			Sample Purpose	FD		REG		REG		REG		REG		FD		REG		REG		FD		REG	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		< 0.1	U	NA		< 0.1	U	NA		< 0.1	U	< 0.1	U	NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		161		NA		172		NA		146	J	142	J	NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		1.24		NA		1.04		NA		NA		1.06		NA		NA		0.706	
Dissolved oxygen	**mg/L**	**NV**		NA		0.51		NA		0.71		NA		NA		0.69		NA		NA		0.8	
Oxidation Reduction Potential	**mV**	**NV**		NA		-74		NA		-58		NA		NA		215		NA		NA		-11.2	
pH	**SU**	**NV**		NA		6.93		NA		6.45		NA		NA		4.87		NA		NA		6.39	
Turbidity	**NTU**	**NV**		NA		0		NA		0		NA		NA		6		NA		NA		0	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		< 0.02	U	NM		< 0.02	U	NM		6.55		6.24		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		0.148		NA		0.134		NA		0.176		0.187		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		NA		NA		NA		NA		NA		NA		NA		< 0.5	U	< 0.5	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.3	U
Trichloroethene	**µg/L**	**5**		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**		NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.25	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW06												35BWW07							
		Sample ID	35BWW06-021618		35BWW06-180327		35BWW06-180521		35BWW06-180821		35BWW06-181118		35BWW06-211115		35BWW07-131005		35BWW07-100513		35BWW07-151020		35BWW07-102015	
		Sample Date	2/16/2018		3/27/2018		5/21/2018		8/21/2018		11/18/2018		11/15/2021		10/5/2013		10/5/2013		10/20/2015		10/20/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.1	U
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		94.5	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.763		0.751		0.629		0.911		0.928		0.726		0.837		NA		0.918		NA	
Dissolved oxygen	**mg/L**	**NV**	0.57		0.37		0		0.44		1.15		0.38		10.86		NA		-	-	NA	
Oxidation Reduction Potential	**mV**	**NV**	-46.5		-95.6		180		92		-20		109		187		NA		251		NA	
pH	**SU**	**NV**	7.22		8.34		5.57		5.57		5.82		5.65		6.77		NA		6.25		NA	
Turbidity	**NTU**	**NV**	0		0		0		162		0		3.8		27.6		NA		9.5		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		< 0.02	U
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		0.00128	J	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		0.0672	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	NA		< 0.25	U	NA		NA	
Trichloroethene	**µg/L**	**5**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW07																			
		Sample ID	35BWW07-151222		35BWW07-122215		35BWW07-160217		35BWW07-021716		35BWW07-160819		35BWW07-081916		35BWW07-110917		35BWW07-021318		35BWW07-180329		35BWW07-180523	
		Sample Date	12/22/2015		12/22/2015		2/17/2016		2/17/2016		8/19/2016		8/19/2016		11/9/2017		2/13/2018		3/29/2018		5/23/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		< 0.1	U	NA		< 0.1	U	NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		93.1		NA		86.1		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	1.02		NA		0.952		NA		0.974		NA		1.112		1.031		0.931		0.613	
Dissolved oxygen	**mg/L**	**NV**	-	-	NA		-	-	NA		-	-	NA		1.86		0.84		0.97		0	
Oxidation Reduction Potential	**mV**	**NV**	223		NA		258		NA		-	-	NA		135.7		94.7		119.1		364	
pH	**SU**	**NV**	6.05		NA		6.04		NA		5.22		NA		6.87		6.82		6.16		5.61	
Turbidity	**NTU**	**NV**	9.4		NA		9.7		NA		9.6		NA		5.9		0		0		35.3	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		0.0212	J	NM		< 0.02	U	NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.0004	U	NA	
Manganese	**mg/L**	**14**	NA		0.0232		NA		0.0641		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		NA		NA		NA		< 0.5	U	< 0.2	U	< 0.2	U	NA		< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		< 0.25	U	< 0.3	U	< 0.3	U	NA		< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U
Vinyl chloride	**µg/L**	**2**	NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW07																			
		Sample ID	35BWW07-180820		35BWW07-181118		35BWW07-190214		35BWW07-190522		35BWW07-190805		35BWW07-191125		35BWW07-200511		35BWW07-201111		35BWW07-210517		35BWW07-211117	
		Sample Date	8/20/2018		11/18/2018		2/14/2019		5/22/2019		8/5/2019		11/25/2019		5/11/2020		11/11/2020		5/17/2021		11/17/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.951		0.938		0.881		0.632		0.659		0.637		0.753		0.689		0.587		0.709	
Dissolved oxygen	**mg/L**	**NV**	0.63		1.18		0.14		0.08		0.11		0.1		0.59		0.16		0.3		0.44	
Oxidation Reduction Potential	**mV**	**NV**	112		77.4		325		268		51		50		158		228		-34		80	
pH	**SU**	**NV**	6.02		7.01		5.8		5.83		6.89		6.08		6.91		6.54		6.73		5.52	
Turbidity	**NTU**	**NV**	59.1		0		0		0		0		7.6		16.1		47.4		57.3		20	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW07						35BWW08											
			Sample ID	35BWW07-211117-FD		35BWW07-220516		35BWW07-221102		35BWW08-131009		35BWW08-100913		35BWW08-151020		35BWW08-102015		35BWW08-151221		35BWW08-122115		35BWW08-160216	
			Sample Date	11/17/2021		5/16/2022		11/2/2022		10/9/2013		10/9/2013		10/20/2015		10/20/2015		12/21/2015		12/21/2015		2/16/2016	
			Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		71.5		NA		NA		NA		NA		NA	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	mg/L	NV		NA		NA		NA		NA		2.3		NA		1.22		NA		0.828	J	NA	
Nitrite	mg/L	NV		NA		NA		NA		NA		< 0.1	U	NA		NA		NA		NA		NA	
Sulfate	mg/L	NV		NA		NA		NA		NA		115		NA		118		NA		84.1		NA	
DHC																							
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		7.1	U	NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	µmhos/cm	NV		NA		0.772		0.714		0.647		NA		0.56		NA		0.512		NA		0.594	
Dissolved oxygen	mg/L	NV		NA		0.36		0.1		1.06		NA		4.05		NA		4.35		NA		1.85	
Oxidation Reduction Potential	mV	NV		NA		162		11		99		NA		71		NA		57		NA		258	
pH	SU	NV		NA		6.1		7.51		6.86		NA		8.97		NA		8.64		NA		5.43	
Turbidity	NTU	NV		NA		57.3		36.1		1.1		NA		8.1		NA		8.4		NA		3.3	
GASES																							
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV		NA		NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
Ethylene	µg/L	NV		NA		NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
Methane	µg/L	NV		NA		NA		NA		NA		< 1	U	NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	mg/L	NV		NM		NM		NM		NM		< 0.02	U	NM		< 0.02	U	NM		< 0.02	U	NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		28.7		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV		NA		NA		NA		NA		4.19		NA		NA		NA		NA		NA	
METALS																							
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	14		NA		NA		NA		NA		NA		NA		0.00292	J	NA		0.00277	J	NA	
VOLATILES																							
1,1-Dichloroethene	µg/L	7		< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	µg/L	70		< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA		NA		NA		NA	
Tetrachloroethene	µg/L	5		< 0.3	U	1.1		< 0.3	U	NA		< 0.25	U	NA		NA		NA		NA		NA	
Trichloroethene	µg/L	5		< 0.2	U	3.7		< 0.2	U	NA		**43.8**		NA		NA		NA		NA		NA	
Vinyl chloride	µg/L	2		< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW08																	
		Sample ID	35BWW08-021616		35BWW08-160817		35BWW08-081716		35BWW08-110717		35BWW08-021418		35BWW08-180523		35BWW08-180822		35BWW08-181120		35BWW08-190212		35BWW08-190520	
		Sample Date	2/16/2016		8/17/2016		8/17/2016		11/7/2017		2/14/2018		5/23/2018		8/22/2018		11/20/2018		2/12/2019		5/20/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		2.11		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		20.6		11.3		11.2		12.2		10.3		9.14		7.22		4.57	
Fluoride	**mg/L**	**NV**	NA		NA		NA		0.53		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	0.583		NA		0.392	J	< 0.03	U	0.465		0.265		0.311		0.169		0.206		0.185	
Nitrite	**mg/L**	**NV**	NA		NA		< 0.1	U	< 0.03	U	< 0.03	U	0.04	J	< 0.03	U	< 0.03	U	< 0.03	U	NA	
Sulfate	**mg/L**	**NV**	92.7		NA		73.2		62.3		55.8		51		64.4		36.2		27.4		19.3	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		< 0.095	U	NA		< 0.093		NA		0.2	J	< 0.1	U	NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	NA		0.583		NA		0.408		0.418		0.318		0.481		0.343		0.318		0.497	
Dissolved oxygen	**mg/L**	**NV**	NA		1.81		NA		3.2		3.2		0.58		1.6		4.57		3.76		1.18	
Oxidation Reduction Potential	**mV**	**NV**	NA		413		NA		176.5		25.5		380		236		66.5		245		289	
pH	**SU**	**NV**	NA		4.6		NA		8		9.06		5.53		5.49		9.92		9.54		5.83	
Turbidity	**NTU**	**NV**	NA		2.5		NA		0		0		0.8		42.8		0		10.5		0	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		767000		2200		< 370	U	580000		350000	J	NA		390	J	610000	
Ethane	**µg/L**	**NV**	NA		NA		< 1	U	< 0.076	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U	< 0.16	U	< 0.16	U
Ethylene	**µg/L**	**NV**	NA		NA		< 1	U	< 0.071	U	< 0.24	U	< 0.24	U	< 0.24	U	2.31		< 0.24	U	< 0.24	U
Methane	**µg/L**	**NV**	NA		NA		< 1	U	< 0.3	U	< 0.51	U	< 0.51	U	< 0.51	U	1.82		< 0.51	U	< 0.51	U
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	< 0.02	U	NM		< 0.02	U	NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		33.1		34		NA		NA		NA		NA		33		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		7.18	J	0.875	J	0.87	J	0.812	J	0.854	J	0.87		0.86		1.83	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		< 0.0004	U	NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	0.00718		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		NA		< 0.25	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		NA		1.01		0.89	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW08																		35BWW09	
			Sample ID	35BWW08-190805		35BWW08-191121		35BWW08-200506		35BWW08-201111		35BWW08-201111-FD		35BWW08-210513		35BWW08-211117		35BWW08-220517		35BWW08-221102		35BWW09-131008	
			Sample Date	8/5/2019		11/21/2019		5/6/2020		11/11/2020		11/11/2020		5/13/2021		11/7/2021		5/17/2022		11/2/2022		10/8/2013	
			Sample Purpose	REG		REG		REG		REG		FD		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		2.43		6.66		2.38		4.56		4.72		1.25		3.36		3.15		4.6		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		0.18		0.301		0.137		0.215	J-	0.226	J-	0.0796	J	0.27		0.106		0.284		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		17		30.1		15.9		24.7		24.9		12.6		22.7		22.5		35.2		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		0.391		0.344		0.302		0.313		NA		0.236		0.306		0.27		0.313		1.02	
Dissolved oxygen	**mg/L**	**NV**		1.65		1.61		4.66		1.2		NA		1.88		1.33		1.35		1.39		0.74	
Oxidation Reduction Potential	**mV**	**NV**		212		268		102		277		NA		183		260		185		172		-13	
pH	**SU**	**NV**		7.57		6.84		7.15		5.19		NA		5.19		5.54		5.89		7.2		7.06	
Turbidity	**NTU**	**NV**		19.1		44.2		52.4		20.6		NA		15		23.4		39		48.2		0.6	
GASES																							
Carbon dioxide	**µg/L**	**NV**		15000		14000	J	11000		590000	J	470000		680000		555000		55800	J	43000		NA	
Ethane	**µg/L**	**NV**		< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	UJ	< 0.144	U	< 0.144	U	< 0.144	UJ	NA	
Ethylene	**µg/L**	**NV**		< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	0.889	J	< 0.234	UJ	< 0.234	UJ	NA	
Methane	**µg/L**	**NV**		< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	UJ	1.34		1.8	J	1.41		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		2.5		0.73		1.14	J	0.99		0.74		0.928	J	3.36		0.828	J	0.711	J	NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA	
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA	
Tetrachloroethene	**µg/L**	**5**		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	NA	
Trichloroethene	**µg/L**	**5**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	0.56	J	NA	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW09																	
		Sample ID	35BWW09-100813		35BWW09-151019		35BWW09-101915		35BWW09-151222		35BWW09-122215		35BWW09-160217		35BWW09-021716		35BWW09-160816		35BWW09-081616		35BWW09-110717	
		Sample Date	10/8/2013		10/19/2015		10/19/2015		12/22/2015		12/22/2015		2/17/2016		2/17/2016		8/16/2016		8/16/2016		11/7/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		< 0.1	U	NA		< 0.1	U	NA		< 0.1	U	NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		148		NA		153	J	NA		165		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	NA		0.779		NA		0.841		NA		0.861		NA		0.927		NA		0.776	
Dissolved oxygen	**mg/L**	**NV**	NA		0.23		NA		0.33		NA		0.44		NA		0.62		NA		0.59	
Oxidation Reduction Potential	**mV**	**NV**	NA		172		NA		184		NA		135		NA		365		NA		-38.6	
pH	**SU**	**NV**	NA		7.01		NA		5.59		NA		5.39		NA		4.6		NA		6.68	
Turbidity	**NTU**	**NV**	NA		8.5		NA		0		NA		0		NA		4.1		NA		18.5	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		< 0.02	U	NM		0.0222	J	NM		0.116		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		0.146		NA		0.0558		NA		0.0548		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.5	U	NA		NA		NA		NA		NA		NA		NA		< 0.5	U	0.84	J
cis-1,2-Dichloroethene	**µg/L**	**70**	0.529	J	NA		NA		NA		NA		NA		NA		NA		0.759	J	1.7	
Tetrachloroethene	**µg/L**	**5**	< 0.25	U	NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	**49**		NA		NA		NA		NA		NA		NA		NA		**149**		**180**	
Vinyl chloride	**µg/L**	**2**	< 0.25	U	NA		NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U

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Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW09																	
		Sample ID	35BWW09-021318		35BWW09-180327		35BWW09-180521		35BWW09-180816		35BWW09-181119		35BWW09-190213		35BWW09-190521		35BWW09-190805		35BWW09-191126		35BWW09-200511	
		Sample Date	2/13/2018		3/20/2018		5/21/2018		8/16/2018		11/19/2018		2/13/2019		5/21/2019		8/5/2019		11/26/2019		5/11/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.926		0.850		0.591		0.534		0.754		0.693		0.638		0.533		0.437		0.513	
Dissolved oxygen	**mg/L**	**NV**	0.48		2.09		0		0.61		1.14		1.01		0.05		0.82		0.69		0.4	
Oxidation Reduction Potential	**mV**	**NV**	41.9		139.1		355		214		118		273		296		229		195		151	
pH	**SU**	**NV**	7.15		6.33		5.47		6.02		7.07		6.63		5.6		7.39		6.84		7.65	
Turbidity	**NTU**	**NV**	0		0		0		72.6		0		0		0		3.3		12.8		2.1	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		< 0.0004	U	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	NA		< 0.2	U	< 0.2	U	0.78	J	< 0.2	U	5.5		< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	NA		0.96	J	0.84	J	1.9		1.1		1.8		< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	**41**		< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	**180**		NA		**240**		**180**		**580**		**410**		**20**		**70**	J	**47**		**42**	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	NA		< 0.2	U	< 0.2	U	0.6	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW09										35BWW10							
			Sample ID	35BWW09-201109		35BWW09-210517		35BWW09-211115		35BWW09-220518		35BWW09-221101		35BWW10-131004		35BWW10-100413		35BWW10FD-100413		35BWW10-160818		35BWW10-081816	
			Sample Date	11/9/2020		5/17/2021		11/15/2021		5/18/2022		11/1/2022		10/4/2013		10/4/2013		10/4/2013		8/18/2016		8/18/2016	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		FD		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		0.391		0.463		0.407		0.495		0.48		0.309		NA		NA		0.399		NA	
Dissolved oxygen	**mg/L**	**NV**		0.1		1.06		0.5		0.54		0.05		1.38		NA		NA		0.52		NA	
Oxidation Reduction Potential	**mV**	**NV**		162		175		149		242		72		96		NA		NA		328		NA	
pH	**SU**	**NV**		6.83		6.36		5.98		5.25		7.7		7.24		NA		NA		4.59		NA	
Turbidity	**NTU**	**NV**		18.6		0		3		26.8		54.2		20.2		NA		NA		371		NA	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	< 0.5	U	NA		< 0.5	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U	NA		< 0.25	U
Tetrachloroethene	**µg/L**	**5**		< 0.3	U	< 0.3	U	1.1		< 0.3	U	1.1		NA		4.45		4.52		NA		**21**	
Trichloroethene	**µg/L**	**5**		**23**		**13**		**23**		**34**		**56**		NA		**56.3**		**56.9**		NA		**23.9**	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U	NA		< 0.25	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW10																	
		Sample ID	35BWW10-110717		35BWW10-021618		35BWW10-180327		35BWW10-180524		35BWW10-180817		35BWW10-181118		35BWW10-190212		35BWW10-190520		35BWW10-190806		35BWW10-191126	
		Sample Date	11/7/2017		2/16/2018		3/27/2018		5/24/2018		8/17/2018		11/18/2018		2/12/2019		5/20/2019		8/6/2019		11/26/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.318		0.357		0.354		0.245		0.366		0.365		0.370		0.344		0.293		0.258	
Dissolved oxygen	**mg/L**	**NV**	0.69		0.45		0.5		0		1.11		0.58		0.08		0.56		1.57		2.51	
Oxidation Reduction Potential	**mV**	**NV**	86.2		57.3		118.1		379		208		62.1		312		283		227		237	
pH	**SU**	**NV**	7.02		7.18		6.53		5.43		7.16		7.24		7.27		5.48		7.26		6.78	
Turbidity	**NTU**	**NV**	0		0		0		88.3		277		0		40.7		182		216		153	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		< 0.0004	U	NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	**31**		**29**		NA		**30**		**24**		**45**		**37**		**5.5**		1.6		0.84	J
Trichloroethene	**µg/L**	**5**	**33**		**39**		NA		**36**		**28**		**53**		**50**		**9.4**		2.6		0.9	J
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW10												35BWW11							
		Sample ID	35BWW10-200506		35BWW10-201109		35BWW10-210513		35BWW10-211115		35BWW10-220516		35BWW10-221101		35BWW11-131008		35BWW11-100813		35BWW11-151019		35BWW11-101915	
		Sample Date	5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/16/2022		11/1/2022		10/8/2013		10/8/2013		10/19/2015		10/19/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.1	U
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		62.7	J
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.281		0.220		0.215		0.208		0.203		0.188		0.518		NA		0.467		NA	
Dissolved oxygen	**mg/L**	**NV**	1.51		0.7		1.17		2.91		1.27		0.76		1.3		NA		0.12		NA	
Oxidation Reduction Potential	**mV**	**NV**	101		248		211		235		209		169		-59		NA		41		NA	
pH	**SU**	**NV**	6.73		4.84		5.49		5.55		5.19		6.13		6.44		NA		6.61		NA	
Turbidity	**NTU**	**NV**	116		173		167		204		75.2		155		2.1		NA		8.2		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		0.0346	J
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		0.226	J
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	2.6		NA		0.252	J	NA		NA	
Trichloroethene	**µg/L**	**5**	0.64	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	1.1		NA		< 0.25	U	NA		NA	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW11																	
		Sample ID	35BWW11-151222		35BWW11-122215		35BWW11-160216		35BWW11-021616		35BWW11-160818		35BWW11-081816		35BWW11-110817		35BWW11-021218		35BWW11-180327		35BWW11-180521	
		Sample Date	12/22/2015		12/22/2015		2/16/2016		2/16/2016		8/18/2016		8/18/2016		11/8/2017		2/12/2018		3/27/2018		5/21/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		< 0.1	U	NA		< 0.1	U	NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		36.1		NA		37.6		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.384		NA		0.35		NA		0.477		NA		0.586		0.595		0.471		0.306	
Dissolved oxygen	**mg/L**	**NV**	1.01		NA		1.17		NA		0.58		NA		0.77		0.82		1.31		0	
Oxidation Reduction Potential	**mV**	**NV**	197		NA		204		NA		388		NA		93		20.9		195.8		342	
pH	**SU**	**NV**	5.66		NA		5.28		NA		4.53		NA		6.17		6.95		5.68		5.71	
Turbidity	**NTU**	**NV**	9.2		NA		0		NA		0		NA		66.8		0		0		0	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		< 0.02	UJ	NM		< 0.02	U	NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		< 0.0004	U	NA	
Manganese	**mg/L**	**14**	NA		0.0214		NA		0.0148		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		NA		NA		NA		< 0.5	U	< 0.2	U	< 0.2	U	NA		< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		0.798	J	< 0.3	U	< 0.3	U	NA		< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U
Vinyl chloride	**µg/L**	**2**	NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW11																			
		Sample ID	35BWW11-180817		35BWW11-181118		35BWW11-190213		35BWW11-190521		35BWW11-190807		35BWW11-191121		35BWW11-200506		35BWW11-201109		35BWW11-210517		35BWW11-211117	
		Sample Date	8/17/2018		11/18/2018		2/13/2019		5/21/2019		8/7/2019		11/21/2019		5/6/2020		11/9/2020		5/17/2021		11/17/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.333		0.446		0.348		0.385		0.339		0.326		0.381		0.296		0.382		0.351	
Dissolved oxygen	**mg/L**	**NV**	0.48		0.68		0.27		0.05		0.04		0.05		0.08		0.15		0.15		0.49	
Oxidation Reduction Potential	**mV**	**NV**	170		103.5		358		220		216		116		120		188		217		119	
pH	**SU**	**NV**	6.33		6.44		5.8		5.86		6.46		6.07		6.17		5.85		5.26		5.48	
Turbidity	**NTU**	**NV**	66.7		0		0		0		0		5.7		22.8		15.9		0		1	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW11				35BWW12													
		Sample ID	35BWW11-220517		35BWW11-221101		35BWW12-131003		35BWW12-100313		35BWW12-151019		35BWW12-101915		35BWW12F-101915		35BWW12-151222		35BWW12-122215		35BWW12F-122215	
		Sample Date	5/17/2022		11/1/2022		10/3/2013		10/3/2013		10/19/2015		10/19/2015		10/19/2015		12/22/2015		12/22/2015		12/22/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		10.5		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		< 0.1	U	NA		< 0.1	U	NA		NA		< 0.1	U	NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		< 0.1	U	NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		38.5		NA		37.5		NA		NA		38.9		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.369		0.505		0.322		NA		0.349		NA		NA		0.392		NA		NA	
Dissolved oxygen	**mg/L**	**NV**	0.71		0.11		0.68		NA		0.28		NA		NA		2.65		NA		NA	
Oxidation Reduction Potential	**mV**	**NV**	240		6		119		NA		175		NA		NA		202		NA		NA	
pH	**SU**	**NV**	5.18		6.87		5.98		NA		6.3		NA		NA		6.16		NA		NA	
Turbidity	**NTU**	**NV**	20.3		30.2		42		NA		164		NA		NA		184		NA		NA	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		< 1	U	NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		< 0.02	U	NM		< 0.02	U	NM		NM		0.149		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		14.9		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		3.2		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		0.0054		NA		NA		0.0219	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA		NA		NA		NA		NA	
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	NA		**15.3**		NA		NA		NA		NA		NA		NA	
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	NA		2.04		NA		NA		NA		NA		NA		NA	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW12																	
			Sample ID	35BWW12-160217		35BWW12-021716		35BWW12F-021716		35BWW12-160817		35BWW12-081716		35BWW12-110917		35BWW12-021418		35BWW12-180523		35BWW12-180523FD		35BWW12-180822	
			Sample Date	2/17/2016		2/17/2016		2/17/2016		8/17/2016		8/17/2016		11/9/2017		2/14/2018		5/23/2018		5/23/2018		8/22/2018	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	mg/L	NV		NA		NA		NA		NA		NA		0.086	J	NA		NA		NA		NA	
Chloride	mg/L	NV		NA		NA		NA		NA		12.9		10.8		9.3		9.08		9.68		8.4	
Fluoride	mg/L	NV		NA		NA		NA		NA		NA		0.159		NA		NA		NA		NA	
Nitrate	mg/L	NV		NA		< 0.1	U	NA		NA		< 0.1	U	0.161		< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U
Nitrite	mg/L	NV		NA		NA		NA		NA		< 0.1	U	0.032	J	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U
Sulfate	mg/L	NV		NA		37.4		NA		NA		42		48.5		46.5		48.7		58.6		47.2	
DHC																							
Dehalococcoides	cells/mL	NV		NA		NA		NA		NA		NA		< 0.094	U	NA		< 0.7		NA		NA	
FIELD TESTS																							
Specific conductivity	µmhos/cm	NV		0.363		NA		NA		0.458		NA		0.402		0.431		0.277		NA		0.460	
Dissolved oxygen	mg/L	NV		0.41		NA		NA		0.44		NA		0.79		0.51		0		NA		0.25	
Oxidation Reduction Potential	mV	NV		231		NA		NA		439		NA		151		122.8		374		NA		201	
pH	SU	NV		5.51		NA		NA		4.42		NA		6		6.39		5.29		NA		5.53	
Turbidity	NTU	NV		161		NA		NA		829		NA		0		5.4		729		NA		356	
GASES																							
Carbon dioxide	µg/L	NV		NA		NA		NA		NA		723000		53000		61000	J	700000		570000		320000	J
Ethane	µg/L	NV		NA		NA		NA		NA		< 1	U	< 0.076	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U
Ethylene	µg/L	NV		NA		NA		NA		NA		< 1	U	< 0.071	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U
Methane	µg/L	NV		NA		NA		NA		NA		1.11	J	0.91	J	0.52	J	0.83	J	0.8	J	< 0.51	UB
GEN CHEMISTRY																							
Ferrous Iron	mg/L	NV		NM		< 0.02	U	NM		NM		0.0652		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	mg/L	NV		NA		NA		NA		NA		55.1		47	J	NA		NA		NA		NA	
Total organic carbon	mg/L	NV		NA		NA		NA		NA		10.7	J+	0.669	J	0.812	J	0.985	J	0.969	J	0.754	J
METALS																							
Antimony	mg/L	0.006		NA		NA		NA		NA		NA		NA		< 0.0004	U	NA		NA		NA	
Manganese	mg/L	14		NA		NA		0.00552		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	µg/L	7		NA		NA		NA		NA		< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	µg/L	70		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	µg/L	5		NA		NA		NA		NA		4.06		4.8		**7.1**		**6.2**		**7**		**7.3**	
Trichloroethene	µg/L	5		NA		NA		NA		NA		0.473	J	0.62	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	µg/L	2		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW12																	
			Sample ID	35BWW12-180822FD		35BWW12-181120		35BWW12-190213		35BWW12-190213-FD		35BWW12-190521		35BWW12-190521-FD		35BWW12-190805		35BWW12-190805-FD		35BWW12-191125		35BWW12-200506	
			Sample Date	8/22/2018		11/20/2018		2/13/2019		2/13/2019		5/21/2019		5/21/2019		8/5/2019		8/5/2019		11/25/2019		5/6/2020	
			Sample Purpose	FD		REG		REG		FD		REG		FD		REG		FD		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		8.14		8.19		9.37		9.61		6.61		6.37		5.65		6.1		7.05		7.21	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		< 0.03	U	0.076	J	< 0.03	U	< 0.03	U	0.104		< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U
Nitrite	**mg/L**	**NV**		< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		44.8		43.6		49.1		47.8		39.9		38.4		33.8		37.6		37.1		41.2	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		1.3		< 0.1	U	NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.414		0.415		NA		0.353		NA		0.296		NA		0.275		0.355	
Dissolved oxygen	**mg/L**	**NV**		NA		1.57		0.1		NA		0.06		NA		0.22		NA		0.03		0.04	
Oxidation Reduction Potential	**mV**	**NV**		NA		140.6		353		NA		256		NA		205		NA		137		142	
pH	**SU**	**NV**		NA		6.37		5.6		NA		5.35		NA		6.35		NA		6.17		6.19	
Turbidity	**NTU**	**NV**		NA		0		134		NA		134		NA		80.8		NA		158		100	
GASES																							
Carbon dioxide	**µg/L**	**NV**		340000	J	NA		570000		640000		590000		580000		140000		140000		73000	J	94000	
Ethane	**µg/L**	**NV**		< 0.16	U	< 0.144	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U
Ethylene	**µg/L**	**NV**		< 0.24	U	2		< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U
Methane	**µg/L**	**NV**		< 0.51	UB	1.7		< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	0.93	J
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		103		132		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		0.851	J	0.89		1.63		2.48		1.27		1.45		0.85		0.92		0.41	J	1.4	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		**7.6**		**8.7**		**8**		**8.2**		**6.2**		**5.7**		**5.8**		**6.3**		**5.8**		**8.5**	
Trichloroethene	**µg/L**	**5**		< 0.2	U	0.92	J	0.91	J	0.88	J	0.55	J	0.53	J	< 0.2	U	0.53	J	0.55	J	0.61	J
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		35BWW12												35BWW13			
			Sample ID	35BWW12-200506-FD		35BWW12-201111		35BWW12-210518		35BWW12-210518-FD		35BWW12-211122		35BWW12-220518		35BWW12-221102		35BWW12-221102-FD		35BWW13-131007		35BWW13-100713	
			Sample Date	5/6/2020		11/11/2020		5/18/2021		5/18/2021		11/22/2021		5/18/2022		11/2/2022		11/2/2022		10/7/2013		10/7/2013	
			Sample Purpose	FD		REG		REG		FD		REG		REG		REG		FD		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		7.23		6.25		6.69		6.61		11.6		11.9		8.82		8.84		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		< 0.03	U	0.0318	J-	< 0.03	UJ	< 0.03	UJ	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		39.4		35.9		34.2		33.8		33.5		32.6		40.6		41.1		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.263		0.294		NA		0.293		0.329		0.317		NA		0.113		NA	
Dissolved oxygen	**mg/L**	**NV**		NA		0.14		0.42		NA		0.32		0.03		0.04		NA		1.18		NA	
Oxidation Reduction Potential	**mV**	**NV**		NA		285		228		NA		211		153		122		NA		230		NA	
pH	**SU**	**NV**		NA		4.85		5.57		NA		5.25		5.65		6.8		NA		5.11		NA	
Turbidity	**NTU**	**NV**		NA		295		141		NA		282		67		219		NA		101		NA	
GASES																							
Carbon dioxide	**µg/L**	**NV**		88000		600000	J	480000		500000		595000		84300	J	93000		95000		NA		NA	
Ethane	**µg/L**	**NV**		< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	UJ	< 0.144	UJ	< 0.144	UJ	< 0.144	UJ	NA		NA	
Ethylene	**µg/L**	**NV**		< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	0.71	J	1.92	J	< 0.234	UJ	< 0.234	UJ	NA		NA	
Methane	**µg/L**	**NV**		0.81	J	< 0.51	UJ	< 0.51	U	< 0.51	U	1.18	J	3.76		1.35	J	6.23	J	NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		1.25		0.93	J	0.981	J	1.15		2.14		1.92		0.617	J	0.636	J	NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.48	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.39	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U
Tetrachloroethene	**µg/L**	**5**		**8.5**		3.1		3.4		3.6		2.1		2		**5.2**		**5.3**		NA		4.14	
Trichloroethene	**µg/L**	**5**		0.72	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.5	U	< 0.2	U	0.58	J	0.53	J	NA		1.84	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW13																	
		Sample ID	35BWW13-151020		35BWW13-102015		35BWW13F-102015		35BWW13-151221		35BWW13-122115		35BWW13F-122115		35BWW13-160216		35BWW13-021616		35BWW13F-021616		35BWW13-160819	
		Sample Date	10/20/2015		10/20/2015		10/20/2015		12/21/2015		12/21/2015		12/21/2015		2/16/2016		2/16/2016		2/16/2016		8/19/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		3.07		NA		NA		2.07	J	NA		NA		2.72		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		33.3		NA		NA		40.6		NA		NA		103		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.112		NA		NA		0.132		NA		NA		0.251		NA		NA		0.306	
Dissolved oxygen	**mg/L**	**NV**	1.95		NA		NA		4.98		NA		NA		2.42		NA		NA		2.55	
Oxidation Reduction Potential	**mV**	**NV**	349		NA		NA		312		NA		NA		376		NA		NA		496	
pH	**SU**	**NV**	4		NA		NA		4.71		NA		NA		4.17		NA		NA		3.3	
Turbidity	**NTU**	**NV**	718		NA		NA		474		NA		NA		123		NA		NA		77.3	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		< 0.08	U	NM		NM		0.462		NM		NM		< 0.02	U	NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		0.0368		NA		NA		0.0895		NA		NA		0.0938		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	**µg/L**	**2**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW13																	
			Sample ID	35BWW13-081916		35BWW13-110717		35BWW13-110717-FD		35BWW13-021318		35BWW13-021318 FD		35BWW13-021318FD		35BWW13-180328		35BWW13-180328-FD		35BWW13-180524		35BWW13-180821	
			Sample Date	8/19/2016		11/7/2017		11/7/2017		2/13/2018		2/13/2018		2/13/2018		3/28/2018		3/28/2018		5/24/2018		8/21/2018	
			Sample Purpose	REG		REG		FD		REG		FD		FD		REG		FD		REG		REG	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.154		NA		0.133		NA		NA		0.141		NA		0.139		0.152	
Dissolved oxygen	**mg/L**	**NV**		NA		4.59		NA		5.59		NA		NA		4.84		NA		0		0.95	
Oxidation Reduction Potential	**mV**	**NV**		NA		289.1		NA		213.1		NA		NA		267		NA		538		376	
pH	**SU**	**NV**		NA		5.27		NA		4.94		NA		NA		4.04		NA		3.77		4.58	
Turbidity	**NTU**	**NV**		NA		4.9		NA		1.5		NA		NA		0		NA		877		191	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		< 0.0004	U	< 0.0004	U	NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		< 0.25	U	0.99	J	0.84	J	1.9		1.9		1.9		NA		NA		< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW13																	
		Sample ID	35BWW13-181116		35BWW13-190214		35BWW13-190522		35BWW13-190806		35BWW13-191125		35BWW13-200507		35BWW13-201111		35BWW13-210517		35BWW13-211117		35BWW13-220516	
		Sample Date	11/16/2018		2/14/2019		5/22/2019		8/6/2019		11/25/2019		5/7/2020		11/11/2020		5/17/2021		11/17/2021		5/16/2022	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.136		0.204		0.185		0.200		0.179		0.204		0.166		0.207		0.182		0.201	
Dissolved oxygen	**mg/L**	**NV**	4.08		0.8		0.08		0.71		3.25		0.08		3.54		0.36		2.12		2.2	
Oxidation Reduction Potential	**mV**	**NV**	235.5		433		387		324		296		315		275		239		342		265	
pH	**SU**	**NV**	5.12		4.26		3.93		4.81		4.85		4.59		4.41		4.31		4.06		4.05	
Turbidity	**NTU**	**NV**	0		283		683		146		141		134		49.3		203		44.2		125	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	1.1		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW13		35BWW14															
			Sample ID	35BWW13-221102		35BWW14-131009		35BWW14-100913		35BWW14-151020		35BWW14-102015		35BWW14-151221		35BWW14-122115		35BWW14FD-122115		35BWW14-160216		35BWW14-021616	
			Sample Date	11/2/2022		10/9/2013		10/9/2013		10/20/2015		10/20/2015		12/21/2015		12/21/2015		12/21/2015		2/16/2016		2/16/2016	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		FD		REG		REG	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		16.3		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		< 0.1	U	NA		0.161	J	NA		< 0.1	U	< 0.1	U	NA		< 0.1	U
Nitrite	**mg/L**	**NV**		NA		NA		< 0.1	U	NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		59.5		NA		73.4		NA		71.1		71.4		NA		75.5	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		0.3	U	NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		0.137		0.368		NA		0.446		NA		0.522		NA		NA		0.51		NA	
Dissolved oxygen	**mg/L**	**NV**		0.83		0.68		NA		0		NA		0.65		NA		NA		1.34		NA	
Oxidation Reduction Potential	**mV**	**NV**		232		-52		NA		187		NA		186		NA		NA		254		NA	
pH	**SU**	**NV**		5.42		6.83		NA		6.64		NA		5.8		NA		NA		5.47		NA	
Turbidity	**NTU**	**NV**		171		1		NA		0		NA		0		NA		NA		0		NA	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		< 1	U	NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		< 1	U	NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		83.6		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		< 0.02	U	NM		< 0.02	U	NM		< 0.02	U	< 0.02	U	NM		< 0.02	U
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		18.3		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		3.84		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		0.0276		NA		0.0275		0.0298		NA		0.0211	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	NA		**57.2**		NA		NA		NA		NA		NA		NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	NA		14.3		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	**µg/L**	**5**		1.8		NA		**19**		NA		NA		NA		NA		NA		NA		NA	
Trichloroethene	**µg/L**	**5**		< 0.2	U	NA		**82.8**		NA		NA		NA		NA		NA		NA		NA	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	NA		**5.09**		NA		NA		NA		NA		NA		NA		NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW14																			
		Sample ID	35BWW14-160817		35BWW14-081716		35BWW14-110717		35BWW14-021518		35BWW14-180522		35BWW14-180822		35BWW14-181120		35BWW14-190212		35BWW14-190521		35BWW14-190806	
		Sample Date	8/17/2016		8/17/2016		11/7/2017		2/15/2018		5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/21/2019		8/6/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		1.09		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		30		11.1		11.9		15.6		10		8.74		12.2		18.4		20.8	
Fluoride	**mg/L**	**NV**	NA		NA		0.476		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		0.537	J	< 0.03	U	0.533		0.349		0.423		0.451		0.483		0.368		0.357	
Nitrite	**mg/L**	**NV**	NA		< 0.1	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	NA		NA	
Sulfate	**mg/L**	**NV**	NA		91.9		55.6		54.5		66.7		52.1		46.2		57.1		72.4		81.4	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		< 0.096	U	NA		< 0.095		NA		0.1		0.5		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.647		NA		0.484		0.440		0.303		0.451		0.409		0.435		0.440		0.430	
Dissolved oxygen	**mg/L**	**NV**	0.47		NA		0.56		2.7		0		0.25		0.73		0.4		0.16		0.05	
Oxidation Reduction Potential	**mV**	**NV**	444		NA		0.56		105.9		388		245		113.1		327		219		158	
pH	**SU**	**NV**	4.41		NA		7.05		6.76		5.11		5.28		7		5.42		6.35		6.85	
Turbidity	**NTU**	**NV**	0		NA		0		0		17.9		66.9		0		0		50.7		37.1	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		1020000		9400		20000		480000		520000	J	NA		770000		160000		42000	
Ethane	**µg/L**	**NV**	NA		< 1	U	< 0.076	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U	< 0.16	U	< 0.16	U	< 0.16	U
Ethylene	**µg/L**	**NV**	NA		< 1	U	< 0.071	U	< 0.24	U	< 0.24	U	< 0.24	U	1.31		< 0.24	U	< 0.24	U	< 0.24	U
Methane	**µg/L**	**NV**	NA		14.4		1.3		< 0.51	U	< 0.51	U	< 0.51	UB	1.48		6.8		< 0.51	U	4.6	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		< 0.02	U	NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		71.5		43		NA		NA		NA		NA		137		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		15.5	J+	0.812	J	0.766	J	1.03		0.961	J	0.89		3.25		0.7		0.93	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		< 0.0004	U	NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	NA		**10**		**8.4**		< 0.2	U	5.1		2.2		2.2		5.6		< 0.2	U	4.2	
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		3.44		2.4		1.1		2.6		1.4		0.91	J	2.1		0.66	J	1.3	
Tetrachloroethene	**µg/L**	**5**	NA		**20.1**		**53**		**44**		**30**		**31**		**37**		**37**		< 0.3	U	**38**	
Trichloroethene	**µg/L**	**5**	NA		**39.7**		**24**		**20**		**23**		**12**		**9.1**		**22**		**110**		**15**	
Vinyl chloride	**µg/L**	**2**	NA		0.301	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW14														35BWW15					
		Sample ID	35BWW14-191125		35BWW14-200507		35BWW14-201110		35BWW14-210518		35BWW14-211122		35BWW14-220518		35BWW14-221103		35BWW15-131008		35BWW15-140114		35BWW15-011414	
		Sample Date	11/25/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		5/18/2022		11/3/2022		10/8/2013		1/14/2014		1/14/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	16.9		18		16.8		17.3		16.1		14.6		9.6		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	0.394		0.394		0.228		0.0589	J	0.114		0.0502	J	0.0507	J	NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	72.7		73.7		73.2		73.3		61.9		59.2		49.1		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.359		0.440		0.372		0.445		0.411		0.439		0.391		0.868		0.519		NA	
Dissolved oxygen	**mg/L**	**NV**	0.05		0.23		0.06		0.48		0.53		0.75		0.03		0.82		0.19		NA	
Oxidation Reduction Potential	**mV**	**NV**	184		157		202		239		223		246		142		-45		107		NA	
pH	**SU**	**NV**	6.07		6.58		6.29		5.74		5.63		6.13		7.27		6.84		7.01		NA	
Turbidity	**NTU**	**NV**	5.1		7		0		0		0.7		31.2		11		1000		22.1		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	31000		29000		42000		320000		535000		86700	J	31000		NA		NA		NA	
Ethane	**µg/L**	**NV**	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U	< 0.144	UJ	< 0.144	U	NA		NA		NA	
Ethylene	**µg/L**	**NV**	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	1.76	J	1.57	J	< 0.234	UJ	NA		NA		NA	
Methane	**µg/L**	**NV**	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	1.03		2.69		0.932	J	NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	0.54	J	0.83	J-	0.52		1.49		1.12		< 0.5	U	0.772	J	NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	4.6		3.6		2.1		1.8		1.3		1.3		< 0.2	U	NA		NA		**35.5**	
cis-1,2-Dichloroethene	**µg/L**	**70**	1.5		1.2		0.64	J	< 0.2	U	0.5	J	< 0.2	U	< 0.2	U	NA		NA		6.25	
Tetrachloroethene	**µg/L**	**5**	**38**		**40**		**23**		**27**		**24**		**19**		**27**		NA		NA		**8.69**	
Trichloroethene	**µg/L**	**5**	**16**		**14**		**7.7**		**6.9**		**6.1**		**5.1**		**6**		NA		NA		**43.5**	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U	< 0.2	U	< 0.2	U	NA		NA		**3.42**	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW15																	
		Sample ID	35BWW15-160819		35BWW15-081916		35BWW15-110717		35BWW15-021318		35BWW15-180329		35BWW15-180521		35BWW15-180820		35BWW15-181116		35BWW15-181116-FD		35BWW15-190214	
		Sample Date	8/19/2016		8/19/2016		11/7/2017		2/13/2018		3/29/2018		5/21/2018		8/20/2018		11/16/2018		11/16/2018		2/14/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		FD		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.534		NA		0.480		0.519		0.500		0.311		0.431		0.521		NA		0.389	
Dissolved oxygen	**mg/L**	**NV**	0.5		NA		0.8		0.61		0.46		0		0.47		0.69		NA		0.05	
Oxidation Reduction Potential	**mV**	**NV**	455		NA		226.3		99.3		144.4		328		208		84.3		NA		374	
pH	**SU**	**NV**	4.63		NA		6.74		6.65		6.28		5.42		5.73		6.98		NA		5.87	
Turbidity	**NTU**	**NV**	21.9		NA		0		0		0		5.4		22.5		0		NA		7.4	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		< 0.0004	U	NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		6.63		4.2		2.2		NA		3.4		1.7		2.6		2.2		1.9	
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		1.73		1.1		< 0.2	U	NA		< 0.2	U	< 0.2	U	0.68	J	< 0.2	U	0.65	J
Tetrachloroethene	**µg/L**	**5**	NA		**14.5**		**12**		**12**		NA		**13**		**11**		**11**		**10**		**12**	
Trichloroethene	**µg/L**	**5**	NA		**20.5**		**15**		**14**		NA		**13**		**9.2**		**12**		**12**		**11**	
Vinyl chloride	**µg/L**	**2**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	0.63	J	0.63	J	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW15																	
		Sample ID	35BWW15-190522		35BWW15-190807		35BWW15-191122		35BWW15-191122-FD		35BWW15-200507		35BWW15-201110		35BWW15-210518		35BWW15-211122		35BWW15-211122-FD		35BWW15-220518	
		Sample Date	5/22/2019		8/7/2019		11/22/2019		11/22/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		11/22/2021		5/18/2022	
		Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG		FD		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.457		0.388		0.310		NA		0.405		0.327		0.496		0.429		NA		0.476	
Dissolved oxygen	**mg/L**	**NV**	0.09		0.32		0.49		NA		0.07		0.69		0.66		0.61		NA		0.55	
Oxidation Reduction Potential	**mV**	**NV**	323		218		280		NA		168		238		221		242		NA		203	
pH	**SU**	**NV**	5.73		6.69		6.37		NA		6.36		5.23		5.92		5.47		NA		6.03	
Turbidity	**NTU**	**NV**	12.5		152		90.2		NA		44.3		38.2		69.2		13.1		NA		45.3	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	1.1		1.2		1.1		0.87	J	0.74	J	0.63	J	< 0.48	U	< 0.48	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	0.39	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.39	U	< 0.39	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	**7.8**		**9.7**		**11**		**11**		**13**		**11**		**14**		**13**		**13**		**9.8**	
Trichloroethene	**µg/L**	**5**	**7.1**		**7.6**		**7.8**		**7.6**		**7.7**		**5.4**		**6.2**		**5.1**		**5.2**		4.9	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U	< 0.38	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW15				35BWW16													
			Sample ID	35BWW15-220518-FD		35BWW15-221103		35BWW16-131007		35BWW16-100713		35BWW16FD-100713		35BWW16-151221		35BWW16-160819		35BWW16-081916		35BWW16-110717		35BWW16-021318	
			Sample Date	5/18/2022		11/3/2022		10/7/2013		10/7/2013		10/7/2013		12/21/2015		8/19/2016		8/19/2016		11/7/2017		2/13/2018	
			Sample Purpose	FD		REG		REG		REG		FD		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.397		0.259		NA		NA		0.291		0.353		NA		0.314		0.320	
Dissolved oxygen	**mg/L**	**NV**		NA		0.9		1.35		NA		NA		0.56		0.44		NA		1.74		0.65	
Oxidation Reduction Potential	**mV**	**NV**		NA		131		213		NA		NA		224		467		NA		178.3		155.4	
pH	**SU**	**NV**		NA		7.12		6		NA		NA		5.68		4.11		NA		6.24		5.71	
Turbidity	**NTU**	**NV**		NA		68		98.9		NA		NA		434		710		NA		5.7		0	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	NA		0.865	J	0.846	J	NA		NA		0.787	J	1.1		< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U	NA		NA		< 0.25	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		**10**		**11**		NA		0.447	J	0.447	J	NA		NA		**5.13**		**9.2**		**12**	
Trichloroethene	**µg/L**	**5**		4.8		**5.3**		NA		2.57		2.45		NA		NA		3.43		4.2		**5.8**	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U	NA		NA		< 0.25	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW16																	
		Sample ID	35BWW16-180329		35BWW16-180524		35BWW16-180817		35BWW16-181116		35BWW16-190215		35BWW16-190523		35BWW16-190807		35BWW16-191121		35BWW16-200507		35BWW16-201111	
		Sample Date	3/29/2018		5/24/2018		8/17/2018		11/16/2018		2/15/2019		5/23/2019		8/7/2019		11/21/2019		5/7/2020		11/11/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.295		0.183		0.198		0.298		0.296		0.296		0.244		0.206		0.259		0.209	
Dissolved oxygen	**mg/L**	**NV**	0.99		0		0.27		0.97		0.08		0.06		0.06		0.23		0.03		0.15	
Oxidation Reduction Potential	**mV**	**NV**	201.3		491		267		152.3		447		343		189		306		198		281	
pH	**SU**	**NV**	5.11		5.02		5.43		6.13		4.61		5.26		5.91		5.5		5.59		4.43	
Turbidity	**NTU**	**NV**	30.9		786		600		0		226		164		106		128		126		357	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	< 0.0004	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		< 0.2	U	< 0.2	U	1.5		1		< 0.2	U	0.79	J	0.75	J	0.61	J	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		**7.8**		**6.6**		**15**		**11**		**9.5**		**9.8**		**8.1**		**9.9**		4.4	
Trichloroethene	**µg/L**	**5**	NA		4		3.3		**6.5**		4.7		3.6		3.5		3.2		3.3		1.8	
Vinyl chloride	**µg/L**	**2**	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW16								35BWW17											
		Sample ID	35BWW16-210518		35BWW16-211117		35BWW16-220516		35BWW16-221102		35BWW17-131008		35BWW17-140204		35BWW17-020414		35BWW17-160819		35BWW17-081916		35BWW17-110717	
		Sample Date	5/18/2021		11/17/2021		5/16/2022		11/2/2022		10/8/2013		2/4/2014		2/4/2014		8/19/2016		8/19/2016		11/7/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.253		0.237		0.271		0.238		0.259		0.066		NA		0.097		NA		0.199	
Dissolved oxygen	**mg/L**	**NV**	0.23		0.32		0.4		0.37		0.6		3.42		NA		1.05		NA		0.64	
Oxidation Reduction Potential	**mV**	**NV**	262		310		225		159		142		256		NA		505		NA		125.4	
pH	**SU**	**NV**	4.99		4.67		4.54		6.24		5.67		5.53		NA		3.4		NA		6.27	
Turbidity	**NTU**	**NV**	165		222		86.4		142		975		78.1		NA		706		NA		0	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.5	U	NA		< 0.5	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.25	U	NA		< 0.25	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	**6**		4.8		< 0.3	U	**7.2**		NA		NA		0.512	J	NA		< 0.25	U	2.6	
Trichloroethene	**µg/L**	**5**	2.1		1.7		< 0.2	U	2		NA		NA		< 0.25	U	NA		< 0.25	U	1.1	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		NA		< 0.25	U	NA		< 0.25	U	< 0.2	UJ

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW17																	
		Sample ID	35BWW17-021318		35BWW17-180329		35BWW17-180524		35BWW17-180821		35BWW17-181116		35BWW17-190214		35BWW17-190523		35BWW17-190807		35BWW17-191121		35BWW17-200507	
		Sample Date	2/13/2018		3/29/2018		5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019		8/7/2019		11/21/2019		5/7/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.234		0.119		0.058		0.085		0.183		0.072		0.080		0.060		0.052		0.062	
Dissolved oxygen	**mg/L**	**NV**	0.45		1.55		0		1.1		0.44		1.12		0.22		1.25		1.29		0.07	
Oxidation Reduction Potential	**mV**	**NV**	201.3		244.9		540		370		214		410		386		350		385		269	
pH	**SU**	**NV**	5.15		4.45		3.81		4.74		5.19		4.67		4.08		4.9		5.12		4.98	
Turbidity	**NTU**	**NV**	0.1		10.1		812		639		0		359		687		235		216		368	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		< 0.0004	U	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	UJ	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	UJ	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	**7.5**		NA		< 0.3	U	< 0.3	U	**5.4**		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	2.9		NA		< 0.2	U	< 0.2	U	1.8		< 0.2	U	< 0.2	U	< 0.2	UJ	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW17														35BWW18					
		Sample ID	35BWW17-201111		35BWW17-210518		35BWW17-210518-FD		35BWW17-211122		35BWW17-220516		35BWW17-221102		35BWW17-221102-FD		35BWW18-131002		35BWW18-100213		35BWWU18-100213	
		Sample Date	11/11/2020		5/18/2021		5/18/2021		11/22/2021		5/16/2022		11/2/2022		11/2/2022		10/2/2013		10/2/2013		10/2/2013	
		Sample Purpose	REG		REG		FD		REG		REG		REG		FD		REG		REG		REG	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.048		0.064		NA		0.061		0.064		0.068		NA		2.42		NA		NA	
Dissolved oxygen	**mg/L**	**NV**	0.43		0.33		NA		0.32		0.09		0.05		NA		1.05		NA		NA	
Oxidation Reduction Potential	**mV**	**NV**	282		224		NA		384		264		263		NA		-166		NA		NA	
pH	**SU**	**NV**	4.52		4.58		NA		3.93		4.45		5.49		NA		12.3		NA		NA	
Turbidity	**NTU**	**NV**	238		268		NA		778		329		298		NA		1		NA		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.48	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.39	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.35	U	< 0.3	U	< 0.3	U	< 0.3	U	NA		< 0.25	U	< 0.25	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW18																	
		Sample ID	35BWW18-160816		35BWW18-081616		35BWW18-110717		35BWW18-021318		35BWW18-180327		35BWW18-180521		35BWW18-180816		35BWW18-181119		35BWW18-190214		35BWW18-190520	
		Sample Date	8/16/2016		8/16/2016		11/7/2017		2/13/2018		3/27/2018		5/21/2018		8/16/2018		11/19/2018		2/14/2019		5/20/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	1.12		NA		0.842		0.979		0.842		0.621		0.865		0.787		0.850		0.988	
Dissolved oxygen	**mg/L**	**NV**	0.84		NA		1.37		0.93		1.73		0		0.82		1.47		0.09		0.05	
Oxidation Reduction Potential	**mV**	**NV**	300		NA		205.6		125.3		184.1		363		227		151.1		369		263	
pH	**SU**	**NV**	4.64		NA		6.04		6.1		5.59		5.4		5.59		6.14		5.61		5.77	
Turbidity	**NTU**	**NV**	21.8		NA		7.3		0		0		312		162		0		1.2		44.9	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		< 0.0004	U	NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		< 0.5	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		< 0.25	U	< 0.3	U	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW18																35BWW19			
		Sample ID	35BWW18-190805		35BWW18-191126		35BWW18-200511		35BWW18-201109		35BWW18-210518		35BWW18-211115		35BWW18-220518		35BWW18-221101		35BWW19-131007		35BWW19-100713	
		Sample Date	8/5/2019		11/26/2019		5/11/2020		11/9/2020		5/18/2021		11/15/2021		5/18/2022		11/1/2022		10/7/2013		10/7/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.735		0.642		2.29		2.22		1.95		2.33		1.42		2.63		2.53		NA	
Dissolved oxygen	**mg/L**	**NV**	1.44		0.88		0.37		0.3		0.35		0.22		0.17		0.26		1.62		NA	
Oxidation Reduction Potential	**mV**	**NV**	269		246		177		168		133		139		229		164		138		NA	
pH	**SU**	**NV**	6.23		6.28		6.6		6.53		6.45		6.29		5.93		6.86		6.23		NA	
Turbidity	**NTU**	**NV**	0		8.3		16.4		12.5		12.6		6.9		6.1		11.3		9.8		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	NA		< 0.25	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW19																	
		Sample ID	35BWW19-160816		35BWW19-081616		35BWW19-110717		35BWW19-021318		35BWW19-180327		35BWW19-180521		35BWW19-180816		35BWW19-181119		35BWW19-190214		35BWW19-190520	
		Sample Date	8/16/2016		8/16/2016		11/7/2017		2/13/2018		3/27/2018		5/21/2018		8/16/2018		11/19/2018		2/14/2019		5/20/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	2.64		NA		2.465		3.035		2.675		2.62		1.36		2.723		2.68		2.58	
Dissolved oxygen	**mg/L**	**NV**	0.76		NA		0.84		1.34		1.21		0		0.48		1.68		1.08		0.37	
Oxidation Reduction Potential	**mV**	**NV**	332		NA		182		114.9		161.2		345		229		144.6		376		263	
pH	**SU**	**NV**	5.24		NA		6.3		6.3		5.73		5.67		6.18		6.48		6.4		5.83	
Turbidity	**NTU**	**NV**	44.5		NA		12		0.4		0		111		356		0		5.7		66.9	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		< 0.0004	U	NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	NA		< 0.5	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		< 0.25	U	< 0.3	U	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW19																35BWW20			
		Sample ID	35BWW19-190805		35BWW19-191126		35BWW19-200511		35BWW19-201109		35BWW19-210518		35BWW19-211115		35BWW19-220518		35BWW19-221101		35BWW20-131004		35BWW20-100413	
		Sample Date	8/5/2019		11/26/2019		5/11/2020		11/9/2020		5/18/2021		11/15/2021		5/18/2022		11/1/2022		10/4/2013		10/4/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	2.60		2.71		2.76		2.83		2.47		2.89		3.17		3.16		0.378		NA	
Dissolved oxygen	**mg/L**	**NV**	1.85		0.84		1.19		1.03		0.51		0.76		0.47		0.59		1.65		NA	
Oxidation Reduction Potential	**mV**	**NV**	258		231		183		177		199		168		221		140		170		NA	
pH	**SU**	**NV**	6.65		6.37		6.62		6.38		6.46		6.34		6.16		6.96		5.23		NA	
Turbidity	**NTU**	**NV**	12.4		139		145		53		101		20.2		65.2		124		35.9		NA	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	NA		**31.1**	
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		**7.04**	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW20																	
		Sample ID	35BWW20-160818		35BWW20-081816		35BWW20-110817		35BWW20-021218		35BWW20-180327		35BWW20-180524		35BWW20-180820		35BWW20-181118		35BWW20-190213		35BWW20-190522	
		Sample Date	8/18/2016		8/18/2016		11/8/2017		2/12/2018		3/27/2018		5/24/2018		8/20/2018		11/18/2018		2/13/2019		5/22/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.352		NA		0.328		0.413		0.366		0.240		0.372		0.376		0.331		0.308	
Dissolved oxygen	**mg/L**	**NV**	2		NA		2.15		3.49		3.97		0.93		1.03		3.52		2.08		1.24	
Oxidation Reduction Potential	**mV**	**NV**	376		NA		136.7		94.3		190.7		366		238		130.1		231		285	
pH	**SU**	**NV**	5.65		NA		6.7		7.09		5.82		5.66		7.13		6.85		6.91		5.65	
Turbidity	**NTU**	**NV**	259		NA		25		20.3		24.1		272		648		0		166		92.8	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		< 0.0004	U	NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	NA		< 0.5	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		**26.7**		**25**		**34**		NA		**29**		**19**		**34**		**34**		**12**	
Trichloroethene	**µg/L**	**5**	NA		**6.75**		4.7		**5.7**		NA		**6.3**		3.6		**6.4**		**6**		2.8	
Vinyl chloride	**µg/L**	**2**	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW20																	
			Sample ID	35BWW20-190522-FD		35BWW20-190806		35BWW20-190806-FD		35BMW20-191122		35BWW20-191122		35BWW20-200511		35BWW20-200511-FD		35BWW20-201109		35BWW20-201109-FD		35BWW20-210513	
			Sample Date	5/22/2019		8/6/2019		8/6/2019		11/22/2019		11/22/2019		5/11/2020		5/11/2020		11/9/2020		11/9/2020		5/13/2021	
			Sample Purpose	FD		REG		FD		REG		REG		REG		FD		REG		FD		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		0.175		NA		NA		0.239		0.250		NA		0.238		NA		0.267	
Dissolved oxygen	**mg/L**	**NV**		NA		3.72		NA		NA		1.88		3.26		NA		1.43		NA		0.85	
Oxidation Reduction Potential	**mV**	**NV**		NA		264		NA		NA		281		190		NA		220		NA		172	
pH	**SU**	**NV**		NA		6.2		NA		NA		6.47		6.37		NA		5.11		NA		5.23	
Turbidity	**NTU**	**NV**		NA		321		NA		NA		437		188		NA		300		NA		174	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		**12**		**7.5**		**7.6**		**15**		NA		**12**		**12**		**12**		**13**		**6.1**	
Trichloroethene	**µg/L**	**5**		2.9		2.1		2		3.1		NA		2.9		2.9		2.2		2.3		1.8	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW20						35BWW23													
		Sample ID	35BWW20-211117		35BWW20-220517		35BWW20-221101		35BWW23-140701		35BWW23-070114		35BWW23-160817		35BWW23-081716		35BWW23-110917		35BWW23-021518		35BWW23-180522	
		Sample Date	11/17/2021		5/17/2022		11/1/2022		7/1/2014		7/1/2014		8/17/2016		8/17/2016		11/9/2017		2/15/2018		5/22/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS																						
Bromide	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		0.469		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA		NA		NA		118		89.8		71.1		68.2	
Fluoride	mg/L	NV	NA		NA		NA		NA		NA		NA		NA		0.184		NA		NA	
Nitrate	mg/L	NV	NA		NA		NA		NA		NA		NA		< 0.1	U	< 0.03	U	< 0.03	U	< 0.03	U
Nitrite	mg/L	NV	NA		NA		NA		NA		NA		NA		0.187	J	< 0.03	U	0.155		< 0.03	U
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		127		123		112		116	
DHC																						
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA		2.2		NA		< 0.096	
FIELD TESTS																						
Specific conductivity	µmhos/cm	NV	0.224		0.282		0.334		1.01		NA		0.961		NA		0.891		0.782		0.466	
Dissolved oxygen	mg/L	NV	0.99		2.91		1.08		2.72		NA		0.64		NA		4.24		2.83		0	
Oxidation Reduction Potential	mV	NV	256		216		85		40		NA		441		NA		153.1		110.5		393	
pH	SU	NV	5.27		6.19		7.19		6.37		NA		4.38		NA		6.45		6.42		5.19	
Turbidity	NTU	NV	618		448		645		1.7		NA		13.5		NA		0		0		0	
GASES																						
Carbon dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		1150000		50000		63000		480000	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		NA		< 1	U	< 0.076	U	< 0.16	U	< 0.16	U
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		NA		< 1	U	< 0.071	U	< 0.24	U	< 0.24	U
Methane	µg/L	NV	NA		NA		NA		NA		NA		NA		< 1	U	0.9	J	< 0.51	U	< 0.51	U
GEN CHEMISTRY																						
Ferrous Iron	mg/L	NV	NM		NM		NM		NM		NM		NM		< 0.02	U	NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		76.5		41		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA		15.3	J+	1.05		0.946	J	1.19	
METALS																						
Antimony	mg/L	0.006	NA		NA		NA		NA		NA		NA		NA		NA		< 0.0004	U	NA	
Manganese	mg/L	14	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	µg/L	7	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	NA		< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	µg/L	70	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	µg/L	5	5.4		9.4		17		NA		< 0.25	U	NA		< 0.25	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	µg/L	5	1.3		1.8		3.2		NA		< 0.25	U	NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	µg/L	2	< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	NA		< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW23																			
		Sample ID	35BWW23-180822		35BWW23-181120		35BWW23-190212		35BWW23-190521		35BWW23-190806		35BWW23-191125		35BWW23-200507		35BWW23-201110		35BWW23-210518		35BWW23-211122	
		Sample Date	8/22/2018		11/20/2018		2/12/2019		5/21/2019		8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	58.1		54.5		55.6		39.8		31.7		28.1		21.1		22.8		18		17.3	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	0.104		0.081	J	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	0.0485	J	0.0303	J	0.0865	J
Nitrite	**mg/L**	**NV**	< 0.03	U	< 0.03	U	< 0.03	U	NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	102		99.7		96		88.1		86.3		85.9		83.8		86.1		80.7		77.5	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		0.4	J	0.3	J	NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.653		0.670		0.667		0.516		0.476		0.404		0.466		0.397		0.434		0.4	
Dissolved oxygen	**mg/L**	**NV**	0.59		1.47		0.71		0.06		1.13		1.31		1.83		0.86		0.67		1.24	
Oxidation Reduction Potential	**mV**	**NV**	261		150.6		325		293		228		222		191		250		205		281	
pH	**SU**	**NV**	5.35		6.41		5.38		5.24		6.63		6.11		6.39		5.03		5.32		5.16	
Turbidity	**NTU**	**NV**	3.7		0		0		22.1		18.1		1.6		7.9		0		0		32	
GASES																						
Carbon dioxide	**µg/L**	**NV**	500000	J	NA		740000		730000		73000		69000		42000		630000		660000		1120000	
Ethane	**µg/L**	**NV**	< 0.16	U	0.859	J	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U
Ethylene	**µg/L**	**NV**	< 0.24	U	1.7		< 0.24	U	< 0.24		< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U	< 0.234	UJ
Methane	**µg/L**	**NV**	< 0.51	U	2.65		< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U	0.779	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		141		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	1.16		1		1.47		1.59		0.94		0.47	J	0.52		1.13		1.37		2.57	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.48	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.39	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.35	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.5	U
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW23				35BWW24													
		Sample ID	35BWW23-220518		35BWW23-221103		35BWW24-160819		35BWW24-081916		35BWW24-110817		35BWW24-021618		35BWW24-180328		35BWW24-180524		35BWW24-180821		35BWW24-181116	
		Sample Date	5/18/2022		11/3/2022		8/19/2016		8/19/2016		11/8/2017		2/16/2018		3/28/2018		5/24/2018		8/21/2018		11/16/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	17		17.6		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	0.031	J	< 0.03	U	NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	74.6		76.5		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.441		0.4		1.59		NA		1.717		1.572		1.490		1.01		1.50		1.483	
Dissolved oxygen	**mg/L**	**NV**	0.59		1.62		0.58		NA		2.18		1.51		2.95		0		0.37		1.69	
Oxidation Reduction Potential	**mV**	**NV**	334		172		335		NA		246.9		109.4		164.7		424		250		88.9	
pH	**SU**	**NV**	4.91		6.97		5.3		NA		6.49		6.35		5.53		5.31		5.69		6.09	
Turbidity	**NTU**	**NV**	22.8		16.2		9.1		NA		9.8		6.7		0		114		48		0	
GASES																				
Carbon dioxide	**µg/L**	**NV**	386000	J	55000		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	< 0.144	UJ	< 0.144	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	1.97	J	0.925	J	NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	2.69		1.23	J	NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	0.601	J	0.578	J	NA		NA		NA		NA		NA		NA		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		< 0.0004	U	NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	NA		< 0.5	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	0.67	J
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	NA		< 0.25	U	< 0.3	U	< 0.3	U	NA		< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	NA		0.415	J	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	2.9	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.2	U	< 0.2	U	NA		< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW24																	
			Sample ID	35BWW24-190215		35BWW24-190522		35BWW24-190807		35BWW24-191125		35BWW24-200507		35BWW24-201110		35BWW24-210517		35BWW24-210517-FD		35BWW24-211122		35BWW24-220516	
			Sample Date	2/15/2019		5/22/2019		8/7/2019		11/25/2019		5/7/2020		11/10/2020		5/17/2021		5/17/2021		11/22/2021		5/16/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		FD		REG		REG	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		1.47		1.46		1.43		1.10		1.44		1.29		1.33		NA		1.31		1.46	
Dissolved oxygen	**mg/L**	**NV**		0.55		1.24		2.23		1.48		3.37		1.68		1.06		NA		0.88		0.76	
Oxidation Reduction Potential	**mV**	**NV**		309		2.86		238		232		182		221		237		NA		279		225	
pH	**SU**	**NV**		5.45		6		6.47		6		6.45		6.04		5.66		NA		5.5		5.65	
Turbidity	**NTU**	**NV**		3.8		0		16.3		7.5		8.5		8.5		0		NA		8.8		23.2	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	0.54	J	< 0.2	U	< 0.2	U	< 0.2	U	< 0.48	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.39	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.35	U	< 0.3	U
Trichloroethene	**µg/L**	**5**		2.6		1.1		1.7		1.8		2.3		1.7		2.4		2.3		2.9		3.9	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

			Location Code	35BWW24						35BWW25											
			Sample ID	35BWW24-220516-FD		35BWW24-221103		35BWW24-221103-FD		35BWW25-160819		35BWW25-081916		35BWW25FD-081916		35BWW25-110817		35BWW25-110817-FD		35BWW25-021618		35BWW25-021618-FD	
			Sample Date	5/16/2022		11/3/2022		11/3/2022		8/19/2016		8/19/2016		8/19/2016		11/8/2017		11/8/2017		2/16/2018		2/16/2018	
			Sample Purpose	FD		REG		FD		REG		REG		FD		REG		FD		REG		FD	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																							
Bromide	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																							
Dehalococcoides	**cells/mL**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																							
Specific conductivity	**µmhos/cm**	**NV**		NA		1.26		NA		1.03		NA		NA		0.974		NA		0.865		NA	
Dissolved oxygen	**mg/L**	**NV**		NA		2.11		NA		0.51		NA		NA		2.32		NA		0.92		NA	
Oxidation Reduction Potential	**mV**	**NV**		NA		178		NA		439		NA		NA		239.2		NA		116.9		NA	
pH	**SU**	**NV**		NA		6.93		NA		4.81		NA		NA		6.42		NA		6.28		NA	
Turbidity	**NTU**	**NV**		NA		65		NA		20.7		NA		NA		0		NA		0		NA	
GASES																							
Carbon dioxide	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																							
Ferrous Iron	**mg/L**	**NV**		NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																							
Total Inorganic Carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																							
Antimony	**mg/L**	**0.006**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																							
1,1-Dichloroethene	**µg/L**	**7**		< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.5	U	< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**		< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**		< 0.3	U	< 0.3	U	< 0.3	U	NA		< 0.25	U	< 0.25	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**		3.9		4.7		5		NA		**5.55**		**5.94**		**7.6**		**7.5**		**11**		**11**	
Vinyl chloride	**µg/L**	**2**		< 0.2	U	< 0.2	U	< 0.2	U	NA		< 0.25	U	< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW25																			
		Sample ID	35BWW25-180328		35BWW25-180328-FD		35BWW25-180523		35BWW25-180523FD		35BWW25-180820		35BWW25-180820-FD		35BWW25-181116		35BWW25-190215		35BWW25-190215-FD		35BWW25-190522	
		Sample Date	3/28/2018		3/28/2018		5/23/2018		5/23/2018		8/20/2018		8/20/2018		11/16/2018		2/15/2019		2/15/2019		5/22/2019	
		Sample Purpose	REG		FD		REG		FD		REG		FD		REG		REG		FD		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.829		NA		0.563		NA		0.697		NA		0.816		0.705		NA		0.746	
Dissolved oxygen	**mg/L**	**NV**	2.38		NA		0		NA		0.36		NA		0.97		0.16		NA		0.82	
Oxidation Reduction Potential	**mV**	**NV**	167.9		NA		383		NA		222		NA		168.5		332		NA		297	
pH	**SU**	**NV**	5.51		NA		5.34		NA		5.93		NA		6.23		5.3		NA		5.56	
Turbidity	**NTU**	**NV**	0		NA		2.5		NA		43.9		NA		0		2		NA		0	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	< 0.0004	U	< 0.0004	U	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	NA		NA		< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	NA		NA		**5.5**		**5.1**		**5.3**		**5.3**		**19**		**14**		**14**		**6.3**	
Vinyl chloride	**µg/L**	**2**	NA		NA		< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW25																		35BWW26	
		Sample ID	35BWW25-190807		35BWW25-191122		35BWW25-191122-FD		35BWW25-200507		35BWW25-201110		35BWW25-210517		35BWW25-211122		35BWW25-220516		35BWW25-221103		35BWW26-160817	
		Sample Date	8/7/2019		11/22/2019		11/22/2019		5/7/2020		11/10/2020		5/17/2021		11/22/2021		5/16/2022		11/3/2022		8/17/2016	
		Sample Purpose	REG		REG		FD		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.749		0.639		NA		0.762		0.672		0.750		0.734		0.765		0.645		0.354	
Dissolved oxygen	**mg/L**	**NV**	0.85		0.76		NA		2.55		0.63		1.31		0.95		0.79		1		1.2	
Oxidation Reduction Potential	**mV**	**NV**	253		308		NA		173		241		229		276		242		184		444	
pH	**SU**	**NV**	6.34		5.94		NA		6.53		5.26		5.56		5.41		5.04		6.86		4.47	
Turbidity	**NTU**	**NV**	0		5.6		NA		8.1		22.2		0		0.8		22.1		17.1		0	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.48	U	< 0.2	U	< 0.2	U	NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.39	U	< 0.2	U	< 0.2	U	NA	
Tetrachloroethene	**µg/L**	**5**	0.33	J	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	0.53	J	0.69	J	1.4		NA	
Trichloroethene	**µg/L**	**5**	**15**		**13**		**13**		**13**		**10**		**8.5**		**10**		**10**		**14**		NA	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.38	U	< 0.2	U	< 0.2	U	NA	

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW26																			
		Sample ID	35BWW26-081716		35BWW26-110917		35BWW26-021418		35BWW26-180522		35BWW26-180822		35BWW26-181120		35BWW26-190212		35BWW26-190520		35BWW26-190806		35BWW26-191121	
		Sample Date	8/17/2016		11/9/2017		2/14/2018		5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/20/2019		8/6/2019		11/21/2019	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		0.169		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	30.2		29.6		30.2		32.2		30.3		30.2		33		30.2		29.3		30.6	
Fluoride	**mg/L**	**NV**	NA		0.295		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	< 0.1	U	0.12		< 0.03	U	0.093	J	0.036	J	0.086	J	0.146		0.126		< 0.03	U	0.0743	J
Nitrite	**mg/L**	**NV**	< 0.1	U	0.033	J	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	< 0.03	U	NA		NA		NA	
Sulfate	**mg/L**	**NV**	28.7		30.2		30.3		31.6		27.6		27.1		30.3		25.7		24.5		26	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		2.2		NA		< 0.094		NA		0.4	J	2.3		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	NA		0.327		0.312		0.222		0.330		0.318		0.330		0.290		0.264		0.230	
Dissolved oxygen	**mg/L**	**NV**	NA		1.02		1.78		0		0.42		1.95		0.27		0.69		0.31		0.13	
Oxidation Reduction Potential	**mV**	**NV**	NA		169.6		139.8		418		277		159.6		339		306		202		301	
pH	**SU**	**NV**	NA		6.21		6.1		4.83		4.89		5.87		5.44		5.06		5.95		5.87	
Turbidity	**NTU**	**NV**	NA		0		0		0		0		0		0		0		0		6.7	
GASES																						
Carbon dioxide	**µg/L**	**NV**	417000		57000		57000		490000		450000	J	NA		630000		580000		140000		100000	J
Ethane	**µg/L**	**NV**	< 1	U	< 0.076	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U	< 0.16	U	< 0.16	U	< 0.16	U	< 0.16	U
Ethylene	**µg/L**	**NV**	< 1	U	< 0.071	U	< 0.24	U	< 0.24	U	< 0.24	U	2.35		< 0.24	U	< 0.24	U	< 0.24	U	< 0.24	U
Methane	**µg/L**	**NV**	< 1	U	< 0.3	U	< 0.51	U	< 0.51	U	< 0.51	U	2.16		< 0.51	U	< 0.51	U	< 0.51	U	< 0.51	U
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	< 0.02	U	NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	112		28		NA		NA		NA		NA		112		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	18.2	J+	0.861	J	0.762	J	1.08		0.865	J	0.94		2.81		1.82		0.56		0.44	J
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		< 0.0004	U	NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.5	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	< 0.25	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U
Trichloroethene	**µg/L**	**5**	< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Vinyl chloride	**µg/L**	**2**	< 0.25	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	35BWW26														37DPT01		37DPT02	
		Sample ID	35BWW26-200506		35BWW26-201110		35BWW26-210513		35BWW26-211117		35BWW26-211117-FD		35BWW26-220517		35BWW26-221102		37DPT01(25-29)300713		37DPT02(21-25)290713	
		Sample Date	5/6/2020		11/10/2020		5/13/2021		11/17/2021		11/17/2021		5/17/2022		11/2/2022		5/1/2014		5/1/2014	
		Sample Purpose	REG		REG		REG		REG		FD		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**		**Result**	
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	31		32.6		32.9		32.2		32.4		33.1		30.7		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	0.133		0.192		0.0817	J	0.13		0.144		0.0881	J	0.108		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	25.3		23.7		25		26.4		24.7		25		24.5		NA		NA	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	0.280		0.231		0.296		0.281		NA		0.298		0.274		NA		NA	
Dissolved oxygen	**mg/L**	**NV**	0.35		0.82		1.25		0.84		NA		1.5		0.32		NA		NA	
Oxidation Reduction Potential	**mV**	**NV**	180		237		193		271		NA		227		199		NA		NA	
pH	**SU**	**NV**	5.83		5.14		5.34		5.21		NA		5.25		6.51		NA		NA	
Turbidity	**NTU**	**NV**	2.7		0		0		0.6		NA		15.5		11		NA		NA	
GASES																				
Carbon dioxide	**µg/L**	**NV**	87000		330000		330000		552000		557000		149000	J	100000		NA		NA	
Ethane	**µg/L**	**NV**	< 0.16	U	< 0.16	U	< 0.16	U	< 0.144	U	< 0.144	U	< 0.144	U	< 0.144	UJ	NA		NA	
Ethylene	**µg/L**	**NV**	< 0.24	U	< 0.24	U	< 0.24	U	0.524	J	< 0.234	UJ	2.58	J	< 0.234	UJ	NA		NA	
Methane	**µg/L**	**NV**	< 0.51	U	< 0.51	U	< 0.51	U	1.28	J	2.04	J	3.71		1.22		NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	2.14	J	0.51		0.857	J	2.12	J	3.33	J	1.3		0.594	J	NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	**11.8**		< 1	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	3.3		< 0.5	U
Tetrachloroethene	**µg/L**	**5**	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	< 0.3	U	**20.9**		0.549	J
Trichloroethene	**µg/L**	**5**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	**41.3**		1.17	
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	0.866	J	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	37DPT02		37DPT03		37DPT03		37DPT04		37DPT05		37DPT06		37DPT06		37DPT07	
		Sample ID	37DPT02(21-25)290713D		37DPT03(26-30)300713		37DPT03(60-62)-270813		37DPT04(21-25)300713		37DPT05(26-30)310713		37DPT06(26-30)300713		37DPT06(70-72)-260813		37DPT07(26-30)310713	
		Sample Date	5/1/2014		5/1/2014		5/1/2014		5/1/2014		5/1/2014		5/1/2014		5/1/2014		5/1/2014	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**		**Result**		**Result**		**Result**		**Result**		**Result**		**Result**		**Result**	
ANIONS																		
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
DHC																		
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																		
Specific conductivity	**µmhos/cm**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Dissolved oxygen	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Oxidation Reduction Potential	**mV**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
pH	**SU**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Turbidity	**NTU**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
GASES																		
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																		
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																		
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA	
METALS																		
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																		
1,1-Dichloroethene	**µg/L**	**7**	< 1	U	< 1	U	< 1.3	UV,T	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.5	U	< 0.5	U	< 1.3	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	**µg/L**	**5**	0.684	J	< 0.5	U	< 2.5	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	**37.6**	
Trichloroethene	**µg/L**	**5**	1.41		< 0.5	U	< 1.3	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	**5.02**	
Vinyl chloride	**µg/L**	**2**	< 0.5	U	< 0.5	U	< 1.3	UV,T	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	37DPT08		37DPT09		37DPT10		37DPT11		37DPT12		LHSMW58							
		Sample ID	37DPT08(23-28)010514		37DPT09(23-28)020514		37DPT10(23-28)030514		37DPT11(23-28)210514		37DPT122328120514		LHSMW58-131003		LHSMW58-100313		LHSMW58-151020		LHSMW58-102015	
		Sample Date	5/1/2014		5/2/2014		5/3/2014		5/21/2014		5/12/2014		10/3/2013		10/3/2013		10/20/2015		10/20/2015	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																				
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		9.83		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		2.32		NA		3.06	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		< 0.1	U	NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		34.9		NA		36.4	
DHC																				
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																				
Specific conductivity	**µmhos/cm**	**NV**	NA		NA		NA		NA		NA		0.232		NA		0.23		NA	
Dissolved oxygen	**mg/L**	**NV**	NA		NA		NA		NA		NA		2.39		NA		2.71		NA	
Oxidation Reduction Potential	**mV**	**NV**	NA		NA		NA		NA		NA		189		NA		159		NA	
pH	**SU**	**NV**	NA		NA		NA		NA		NA		4.88		NA		6.67		NA	
Turbidity	**NTU**	**NV**	NA		NA		NA		NA		NA		1.5		NA		8.3		NA	
GASES																				
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		< 1	U	NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		< 1	U	NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		< 1	J	NA		NA	
GEN CHEMISTRY																				
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		< 0.02	U	NM		< 0.02	U
TOTAL ORGANIC CARBON																				
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		53.9		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		4.43		NA		NA	
METALS																				
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		0.00672	
VOLATILES																				
1,1-Dichloroethene	**µg/L**	**7**	**9.14**		< 0.5	U	< 0.5	U	< 0.5	U	**14.3**		NA		< 0.5	U	NA		NA	
cis-1,2-Dichloroethene	**µg/L**	**70**	1.77		< 0.25	U	< 0.25	U	0.261	J	4.03		NA		< 0.25	U	NA		NA	
Tetrachloroethene	**µg/L**	**5**	**23**		2.41		< 0.25	U	< 0.25	U	< 0.25	UJ	NA		**20.3**		NA		NA	
Trichloroethene	**µg/L**	**5**	**45.3**		**34.6**		< 0.25	U	1.31		**38.6**		NA		4.26		NA		NA	
Vinyl chloride	**µg/L**	**2**	0.907	J	< 0.25	U	< 0.25	U	< 0.25	U	1.05		NA		< 0.25	U	NA		NA	

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Surface Water and Groundwater Results RA-O 2013–2022

			Location Code		LHSMW58															
			Sample ID		LHSMW58FD-102015		LHSMW58-151222		LHSMW58-122215		LHSMW58-160217		LHSMW58-021716		LHSMW58-160818		LHSMW58-081816		LHSMW58-110817		LHSMW58-021218		LHSMW58-180327	
			Sample Date		10/20/2015		12/22/2015		12/22/2015		2/17/2016		2/17/2016		8/18/2016		8/18/2016		11/8/2017		2/12/2018		3/27/2018	
			Sample Purpose		FD		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																								
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	3.04		NA		3.07		NA		NA		1.05		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	36		NA		17.5		NA		12.4		NA		NA		NA		NA		NA		NA	
DHC																								
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																								
Specific conductivity	**µmhos/cm**	**NV**	NA		0.244		NA		0.189		NA		0.289		NA		0.240		0.241		0.203			
Dissolved oxygen	**mg/L**	**NV**	NA		6.41		NA		3.11		NA		2.48		NA		2.6		5.8		6.5			
Oxidation Reduction Potential	**mV**	**NV**	NA		143		NA		306		NA		440		NA		138.8		96.5		213			
pH	**SU**	**NV**	NA		6.5		NA		4.96		NA		4.14		NA		5.98		6.75		5.64			
Turbidity	**NTU**	**NV**	NA		0		NA		6.5		NA		0.8		NA		0		0		0			
GASES																								
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
GEN CHEMISTRY																								
Ferrous Iron	**mg/L**	**NV**	< 0.02	U	NM		< 0.02	U	NM		< 0.02	U	NM		NM		NM		NM		NM			
TOTAL ORGANIC CARBON																								
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
METALS																								
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		< 0.0004	U		
Manganese	**mg/L**	**14**	0.00702		NA		0.00822		NA		0.016		NA		NA		NA		NA		NA			
VOLATILES																								
1,1-Dichloroethene	**µg/L**	**7**	NA		NA		NA		NA		NA		NA		< 0.5	U	< 0.2	U	< 0.2	U	NA			
cis-1,2-Dichloroethene	**µg/L**	**70**	NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA			
Tetrachloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		**19.9**		**20**		**14**		NA			
Trichloroethene	**µg/L**	**5**	NA		NA		NA		NA		NA		NA		1.93		1.6		< 0.2	U	NA			
Vinyl chloride	**µg/L**	**2**	NA		NA		NA		NA		NA		NA		< 0.25	U	< 0.2	U	< 0.2	U	NA			

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Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	LHSMW58																			
		Sample ID	LHSMW58-180524		LHSMW58-180820		LHSMW58-181118		LHSMW58-181118-FD		LHSMW58-190213		LHSMW58-190522		LHSMW58-190807		LHSMW58-191122		LHSMW58-200511		LHSMW58-201109	
		Sample Date	5/24/2018		8/20/2018		11/18/2018		11/18/2018		2/13/2019		5/22/2019		8/7/2019		11/22/2019		5/11/2020		11/9/2020	
		Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG		REG		REG	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
ANIONS																						
Bromide	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chloride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoride	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sulfate	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
DHC																						
Dehalococcoides	**cells/mL**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
FIELD TESTS																						
Specific conductivity	**µmhos/cm**	**NV**	0.148		0.257		0.233		NA		0.200		0.235		0.240		0.167		0.219		0.193	
Dissolved oxygen	**mg/L**	**NV**	2.45		1.37		5.01		NA		6.26		3.25		4.88		5.11		3.02		2.33	
Oxidation Reduction Potential	**mV**	**NV**	386		228		143.9		NA		355		302		223		278		207		213	
pH	**SU**	**NV**	5.14		5.43		6.63		NA		7.02		5.39		6.76		6.63		6.22		5.59	
Turbidity	**NTU**	**NV**	0		42.3		0		NA		1		0		0		5.5		6.3		3.5	
GASES																						
Carbon dioxide	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylene	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methane	**µg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
GEN CHEMISTRY																						
Ferrous Iron	**mg/L**	**NV**	NM		NM		NM		NM		NM		NM		NM		NM		NM		NM	
TOTAL ORGANIC CARBON																						
Total Inorganic Carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	**mg/L**	**NV**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
METALS																						
Antimony	**mg/L**	**0.006**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	**mg/L**	**14**	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
VOLATILES																						
1,1-Dichloroethene	**µg/L**	**7**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	UJ	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	**µg/L**	**70**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	UJ	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	**µg/L**	**5**	**12**		**26**		**26**		**25**		**6.1**		3.6		**6.8**		4.2		**14**		**9.5**	
Trichloroethene	**µg/L**	**5**	1.4		2.2		1.8		1.8		< 0.2	U	< 0.2	U	0.59	J-	< 0.2	U	0.88	J	0.81	J
Vinyl chloride	**µg/L**	**2**	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

		Location Code	LHSMW58							
		Sample ID	LHSMW58-210513		LHSMW58-211115		LHSMW58-220517		LHSMW58-221101	
		Sample Date	5/13/2021		11/15/2021		5/17/2022		11/1/2022	
		Sample Purpose	REG		REG		REG		REG	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
ANIONS										
Bromide	mg/L	NV	NA		NA		NA		NA	
Chloride	mg/L	NV	NA		NA		NA		NA	
Fluoride	mg/L	NV	NA		NA		NA		NA	
Nitrate	mg/L	NV	NA		NA		NA		NA	
Nitrite	mg/L	NV	NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA	
DHC										
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA	
FIELD TESTS										
Specific conductivity	µmhos/cm	NV	0.233		0.216		0.21		0.237	
Dissolved oxygen	mg/L	NV	1.8		2.74		1.39		0.41	
Oxidation Reduction Potential	mV	NV	154		122		216		138	
pH	SU	NV	5.88		6.27		5.96		6.48	
Turbidity	NTU	NV	0		2		16.2		19.2	
GASES										
Carbon dioxide	µg/L	NV	NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		NA	
GEN CHEMISTRY										
Ferrous Iron	mg/L	NV	NM		NM		NM		NM	
TOTAL ORGANIC CARBON										
Total Inorganic Carbon	mg/L	NV	NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		NA	
METALS										
Antimony	mg/L	0.006	NA		NA		NA		NA	
Manganese	mg/L	14	NA		NA		NA		NA	
VOLATILES										
1,1-Dichloroethene	µg/L	7	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
cis-1,2-Dichloroethene	µg/L	70	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U
Tetrachloroethene	µg/L	5	19		13		9.5		15	
Trichloroethene	µg/L	5	1.1		1		< 0.2	U	0.94	J
Vinyl chloride	µg/L	2	< 0.2	U	< 0.2	U	< 0.2	U	< 0.2	U

Table 2-4
Surface Water and Groundwater Results RA-O 2013–2022

Notes:

Blue highlighting indicates concentrations above the MCL.

< less than

µg/L - micrograms per liter

µmhos/cm - microsiemens per centimeter

J - The analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed.

U - Not detected. The analyte was analyzed for, but not detected above the associated reporting limit.

Even though the analyte was not detected, certain discrepancies in meeting

cells/mL - cells per milliliter

DHC - dehalococcoides

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

mV - millivolts

NA - not analyzed

NM - not measured

NTU - nephelometric turbidity unit

NV - no value

REG - regular sample

SU - standard unit

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code	35BSW01								35BSW02							
	Sample ID	35BSW01-101713		35BSW01-021218		35BSW01-181116		35BSW01-200511		35BSW02-101713		35BSW02-021218		35BSW02-181116		35BSW02-200511	
	Sample Date	10/17/2013		2/12/2018		11/16/2018		5/11/2020		10/17/2013		2/12/2018		11/16/2018		5/11/2020	
	Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
	Location Description	Surface Water Location, Upgradient		Surface Water Location, Upgradient		Surface Water Location, Upgradient		Surface Water Location, Upgradient		Surface Water Location, Downgradient		Surface Water Location, Downgradient		Surface Water Location, Downgradient		Surface Water Location, Downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	1	U	0.5	U	1	U	0.5	U	1	U
Trichloroethene	µg/L	5	0.5	U	1	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	1	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW01											
			Sample ID		35BWW01-981108		35BWW01-040910		35BWW01-060810		35BWW01-061217		35BWW01-081916		35BWW01-110817		35BWW01-021418		35BWW01-180524	
			Sample Date		11/8/1998		9/10/2004		8/10/2006		12/17/2006		8/19/2016		11/8/2017		2/14/2018		5/24/2018	
			Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5	1	U	5	U	5	U	5	U	0.5	U	1	U	1	U	1	U	0.5	U
Trichloroethene	µg/L	5	1	U	5	U	5	U	5	U	0.5	U	1	U	1	U	1	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	5	U	5	U	5	U	1	U	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	5	U	10	U	10	U	0.5	U	1	U	1	U	1	U	0.5	U
Vinyl chloride	µg/L	2	1	U	5	U	10	U	10	U	0.5	U	1	U	1	U	1	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW01															
			Sample ID	35BWW01-180524FD		35BWW01-180816		35BWW01-180816-FD		35BWW01-181115		35BWW01-190212		35BWW01-190212-FD		35BWW01-190520		35BWW01-190520-FD	
			Sample Date	5/24/2018		8/16/2018		8/16/2018		11/15/2018		2/12/2019		2/12/2019		5/20/2019		5/20/2019	
			Sample Purpose	FD		REG		FD		REG		REG		FD		REG		FD	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW01															
		Sample ID	35BWW01-190805		35BWW01-190805-FD		35BWW01-191121		35BWW01-200506		35BWW01-200506-FD		35BWW01-201109		35BWW01-210513		35BWW01-211115	
		Sample Date	8/5/2019		8/5/2019		11/21/2019		5/6/2020		5/6/2020		11/9/2020		5/13/2021		11/15/2021	
		Sample Purpose	REG		FD		REG		REG		FD		REG		REG		REG	
		Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U	1	U	1	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code	35BWW01				35BWW02				35BWW03							
	Sample ID	35BWW01-220517		35BWW01-221101		35BWW02-981108		35BWW02-981105FD		35BWW03-040910		35BWW03-060809		35BWW03-060809FD		35BWW03-061216	
	Sample Date	5/17/2022		11/1/2022		11/8/1998		11/5/1998		9/10/2004		8/9/2006		8/9/2006		12/16/2006	
	Sample Purpose	REG		REG		REG		FD		REG		REG		FD		REG	
	Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, dry, crossgradient		Shallow zone, dry, crossgradient		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	1	U	1	U	5	U	5	U	5	U	5	U
Trichloroethene	µg/L	5	0.5	U	1	U	1	U	1	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	µg/L	7	0.5	U	1	U	1	U	1	U	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	1	U	1	U	5	U	10	U	10	U	10	U
Vinyl chloride	µg/L	2	0.5	U	1	U	1	U	1	U	5	U	10	U	10	U	10	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW03								35BWW04							
			Sample ID	35BWW03-100513		35BWW03-081816		35BWW03FD-081816		35BWW03-211115		35BWW04-061216		35BWW04-100313		35BWW04-081716		35BWW04-110917	
			Sample Date	10/5/2013		8/18/2016		8/18/2016		11/15/2021		12/16/2006		10/3/2013		8/17/2016		11/9/2017	
			Sample Purpose	REG		REG		FD		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	1	U	**30.1**		**66.5**	J	**6.1**		**7.3**	
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	**10.8**		**11.4**	J	0.786	J	1	
1,1-Dichloroethene	µg/L	7		1	U	1	U	1	U	0.5	U	3.34	J	2.3	J	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.846	J	0.673	J	0.5	U	1	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	10	U	0.5	U	0.5	U	1	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW04														
			Sample ID	35BWW04-110917-FD		35BWW04-021418		35BWW04-021418-FD		35BWW04-180522		35BWW04-180822		35BWW04-181120		35BWW04-181120-FD		35BWW04-190213	
			Sample Date	11/9/2017		2/14/2018		2/14/2018		5/22/2018		8/22/2018		11/20/2018		11/20/2018		2/13/2019	
			Sample Purpose	FD		REG		FD		REG		REG		REG		FD		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5		**8.2**		**10**		**10**		**5.3**		2.2		**6.3**		**5.3**		**5.3**	
Trichloroethene	µg/L	5		1.1		1.3		1.2		0.5	U	0.5	U	0.95	J	0.73	J	0.59	J
1,1-Dichloroethene	µg/L	7		1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW04															
			Sample ID	35BWW04-190520		35BWW04-190805		35BWW04-191121		35BWW04-191121-FD		35BWW04-200506		35BWW04-201110		35BWW04-210513		35BWW04-211117	
			Sample Date	5/20/2019		8/5/2019		11/21/2019		11/21/2019		5/6/2020		11/10/2020		5/13/2021		11/17/2021	
			Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		4.7		**7.9**		**8.3**		**7.7**		**6.4**		**5.2**		**6.8**		**6.3**	
Trichloroethene	µg/L	5		0.58	J	0.93	J	0.93	J	0.93	J	0.71	J	0.72	J	0.61	J	0.88	J
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code	35BWW04						35BWW05									
	Sample ID	35BWW04-220517		35BWW04-220517-FD		35BWW04-221103		35BWW05-061214		35BWW05-100413		35BWW05-081816		35BWW05-110817		35BWW05-021618	
	Sample Date	5/17/2022		5/17/2022		11/3/2022		12/14/2006		10/4/2013		8/18/2016		11/8/2017		2/16/2018	
	Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG	
	Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	3.9		3.6		**5.3**		1	J	1.57		1.25		1.5		2.8	
Trichloroethene	µg/L	5	0.5	U	0.5	U	1	U	**12.9**		**14**		**8.87**		**7**		**10**	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	1	U	5	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	1	U	10	U	0.295	J	0.497	J	1	U	1	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	1	U	10	U	0.5	U	0.5	U	1	U	1	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW05														
			Sample ID	35BWW05-180521		35BWW05-180821		35BWW05-181118		35BWW05-190213		35BWW05-190521		35BWW05-190806		35BWW05-191125		35BWW05-200506	
			Sample Date	5/21/2018		8/21/2018		11/18/2018		2/13/2019		5/21/2019		8/6/2019		11/25/2019		5/6/2020	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		2		1.7		2.7		1.9		1.1		1.9		1.4		2.4	
Trichloroethene	µg/L	5		**8.5**		**7.3**		**12**		**9.6**		**5.5**		**8.6**		**6**		**7.3**	
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW05										35BWW06					
			Sample ID	35BWW05-201109		35BWW05-210513		35BWW05-211115		35BWW05-220516		35BWW05-221101		35BWW06-061214		35BWW06-100413		35BWW06-081816	
			Sample Date	11/9/2020		5/13/2021		11/15/2021		5/16/2022		11/1/2022		12/14/2006		10/4/2013		8/18/2016	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		2.1		2.5		1.8		4.1		3.2		5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5		**5.5**		**6.3**		3.5		1.8		**5.2**		5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	1	U	5	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	1	U	10	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	1	U	10	U	0.5	U	0.5	U

Notes:

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µg/L - micrograms per liter

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code	35BWW06														35BWW07	
	Sample ID	35BWW06FD-081816		35BWW06-110817		35BWW06-021618		35BWW06-180521		35BWW06-180821		35BWW06-181118		35BWW06-211115		35BWW07-091407	
	Sample Date	8/18/2016		11/8/2017		2/16/2018		5/21/2018		8/21/2018		11/18/2018		11/15/2021		9/14/2007	
	Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG	
	Location Description	Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Lower shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	1	U	1	
Trichloroethene	µg/L	5	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	
Vinyl chloride	µg/L	2	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	1	

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW07											
			Sample ID		35BWW07-100513		35BWW07-081916		35BWW07-110917		35BWW07-021318		35BWW07-180523		35BWW07-180820	
			Sample Date		10/5/2013		8/19/2016		11/9/2017		2/13/2018		5/23/2018		8/20/2018	
			Sample Purpose		REG		REG		REG		REG		REG		REG	
			Location Description		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U

			Location Code		35BWW07			
			Sample ID		35BWW07-181118		35BWW07-190214	
			Sample Date		11/18/2018		2/14/2019	
			Sample Purpose		REG		REG	
			Location Description		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW07															
		Sample ID	35BWW07-190522		35BWW07-190805		35BWW07-191125		35BWW07-200511		35BWW07-201111		35BWW07-210517		35BWW07-211117		35BWW07-211117-FD	
		Sample Date	5/22/2019		8/5/2019		11/25/2019		5/11/2020		11/11/2020		5/17/2021		11/17/2021		11/17/2021	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		FD	
		Location Description	Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U	1	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW07				35BWW08											
			Sample ID	35BWW07-220516		35BWW07-221102		35BWW08-091407		35BWW08-091407FD		35BWW08-100913		35BWW08-081716		35BWW08-110717		35BWW08-021418	
			Sample Date	5/16/2022		11/2/2022		9/14/2007		9/14/2007		10/9/2013		8/17/2016		11/7/2017		2/14/2018	
			Sample Purpose	REG		REG		REG		FD		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted downgradient		Shallow zone, unimpacted downgradient		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		1.1		1	U	0.981	J	0.955	J	0.5	U	0.5	U	1	U	1	U
Trichloroethene	µg/L	5		3.7		1	U	**150**		**151**		**43.8**		1.01		0.89	J	1	U
1,1-Dichloroethene	µg/L	7		0.5	U	1	U	1		1		1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	1	U	0.407		0.388	J	0.5	U	0.5	U	1	U	1	U
Vinyl chloride	µg/L	2		0.5	U	1	U	1		1		0.5	U	0.5	U	1	U	1	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW08														
			Sample ID	35BWW08-180523		35BWW08-180822		35BWW08-181120		35BWW08-190212		35BWW08-190520		35BWW08-190805		35BWW08-191121		35BWW08-200506	
			Sample Date	5/23/2018		8/22/2018		11/20/2018		2/12/2019		5/20/2019		8/5/2019		11/21/2019		5/6/2020	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW08								35BWW09			
			Sample ID	35BWW08-201111		35BWW08-201111-FD		35BWW08-210513		35BWW08-211117		35BWW08-220517		35BWW08-221102		35BWW09-100813		35BWW09-081616	
			Sample Date	11/11/2020		11/11/2020		5/13/2021		11/7/2021		5/17/2022		11/2/2022		10/8/2013		8/16/2016	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		1	U	1	U	1	U	1	U	0.5	U	1	U	0.5	U	0.5	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.56	J	**49**		**149**	
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.529	J	0.759	J
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW09															
			Sample ID	35BWW09-110717		35BWW09-021318		35BWW09-180521		35BWW09-180816		35BWW09-181119		35BWW09-190213		35BWW09-190521		35BWW09-190805	
			Sample Date	11/7/2017		2/13/2018		5/21/2018		8/16/2018		11/19/2018		2/13/2019		5/21/2019		8/5/2019	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5		1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	**41**		0.5	U
Trichloroethene	µg/L	5		**180**		**180**		**240**		**180**		**580**		**410**		**20**		**70**	J
1,1-Dichloroethene	µg/L	7		0.84	J	1	U	0.5	U	0.5	U	0.78	J	0.5	U	5.5		0.5	U
cis-1,2-Dichloroethene	µg/L	70		1.7		1	U	0.96	J	0.84	J	1.9		1.1		1.8		0.5	U
Vinyl chloride	µg/L	2		1	U	1	U	0.5	U	0.5	U	0.6	J	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

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µg/L - micrograms per liter

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW09												35BWW10	
			Sample ID		35BWW09-191126		35BWW09-200511		35BWW09-201109		35BWW09-210517		35BWW09-211115		35BWW09-220518		35BWW09-221101		35BWW10-100413	
			Sample Date		11/26/2019		5/11/2020		11/9/2020		5/17/2021		11/15/2021		5/18/2022		11/1/2022		10/4/2013	
			Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow zone, impacted outside site boundary		Shallow, impacted, within site boundary	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.5	U	1	U	1.1		0.5	U	1.1		4.45	
Trichloroethene	µg/L	5	**47**		**42**		**23**		**13**		**23**		**34**		**56**		**56.3**	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW10															
		Sample ID	35BWW10FD-100413		35BWW10-081816		35BWW10-110717		35BWW10-021618		35BWW10-180524		35BWW10-180817		35BWW10-181118		35BWW10-190212	
		Sample Date	10/4/2013		8/18/2016		11/7/2017		2/16/2018		5/24/2018		8/17/2018		11/18/2018		2/12/2019	
		Sample Purpose	FD		REG		REG		REG		REG		REG		REG		REG	
		Location Description	Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	4.52		**21**		**31**		**29**		**30**		**24**		**45**		**37**	
Trichloroethene	µg/L	5	**56.9**		**23.9**		**33**		**39**		**36**		**28**		**53**		**50**	
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW10															
		Sample ID	35BWW10-190520		35BWW10-190806		35BWW10-191126		35BWW10-200506		35BWW10-201109		35BWW10-210513		35BWW10-211115		35BWW10-220516	
		Sample Date	5/20/2019		8/6/2019		11/26/2019		5/6/2020		11/9/2020		5/13/2021		11/15/2021		5/16/2022	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
		Location Description	Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary		Shallow, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	**5.5**		1.6		0.84	J	1	U	0.5	U	1	U	1	U	0.5	U
Trichloroethene	µg/L	5	**9.4**		2.6		0.9	J	0.64	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code	35BWW10	35BWW11									
	Sample ID	35BWW10-221101	35BWW11-100813		35BWW11-081816		35BWW11-110817		35BWW11-021218		35BWW11-180521	
	Sample Date	11/1/2022	10/8/2013		8/18/2016		11/8/2017		2/12/2018		5/21/2018	
	Sample Purpose	REG	REG		REG		REG		REG		REG	
	Location Description	Shallow, impacted, within site boundary	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	2.6		0.252	J	0.798	J	1	U	1	U	0.5	U
Trichloroethene	µg/L	5	1.1		0.5	U	0.5	U	1	U	1	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U
Vinyl chloride	µg/L	2	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U

	Location Code	35BWW11									
	Sample ID	35BWW11-180817		35BWW11-181118							
	Sample Date	8/17/2018		11/18/2018							
	Sample Purpose	REG		REG							
	Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary							
Parameter	Units	Result	Val Qual	Result	Val Qual						
Tetrachloroethene	µg/L	0.5	U	0.5	U						
Trichloroethene	µg/L	0.5	U	0.5	U						
1,1-Dichloroethene	µg/L	0.5	U	0.5	U						
cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U						
Vinyl chloride	µg/L	0.5	U	0.5	U						

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW11															
			Sample ID	35BWW11-190213		35BWW11-190521		35BWW11-190807		35BWW11-191121		35BWW11-200506		35BWW11-201109		35BWW11-210517		35BWW11-211117	
			Sample Date	2/13/2019		5/21/2019		8/7/2019		11/21/2019		5/6/2020		11/9/2020		5/17/2021		11/17/2021	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U	1	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW11				35BWW12											
			Sample ID	35BWW11-220517		35BWW11-221101		35BWW12-100313		35BWW12-081716		35BWW12-110917		35BWW12-021418		35BWW12-180523		35BWW12-180523FD	
			Sample Date	5/17/2022		11/1/2022		10/3/2013		8/17/2016		11/9/2017		2/14/2018		5/23/2018		5/23/2018	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		FD	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	1	U	**15.3**		4.06		4.8		**7.1**		**6.2**		**7**	
Trichloroethene	µg/L	5		0.5	U	1	U	2.04		0.473	J	0.62	J	1	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	1	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW12														
			Sample ID	35BWW12-180822		35BWW12-180822FD		35BWW12-181120		35BWW12-190213		35BWW12-190213-FD		35BWW12-190521		35BWW12-190521-FD		35BWW12-190805	
			Sample Date	8/22/2018		8/22/2018		11/20/2018		2/13/2019		2/13/2019		5/21/2019		5/21/2019		8/5/2019	
			Sample Purpose	REG		FD		REG		REG		FD		REG		FD		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		7.3		7.6		8.7		8		8.2		6.2		5.7		5.8	
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.92	J	0.91	J	0.88	J	0.55	J	0.53	J	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW12											
			Sample ID	35BWW12-190805-FD		35BWW12-191125		35BWW12-200506		35BWW12-200506-FD		35BWW12-201111		35BWW12-210518		35BWW12-210518-FD		35BWW12-211122	
			Sample Date	8/5/2019		11/25/2019		5/6/2020		5/6/2020		11/11/2020		5/18/2021		5/18/2021		11/22/2021	
			Sample Purpose	FD		REG		REG		FD		REG		REG		FD		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		**6.3**		**5.8**		**8.5**		**8.5**		3.1		3.4		3.6		2.1	
Trichloroethene	µg/L	5		0.53	J	0.55	J	0.61	J	0.72	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.48	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.39	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.38	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code		35BWW12						35BWW13									
	Sample ID		35BWW12-220518		35BWW12-221102		35BWW12-221102-FD		35BWW13-100713		35BWW13-081916		35BWW13-110717		35BWW13-110717-FD		35BWW13-021318	
	Sample Date		5/18/2022		11/2/2022		11/2/2022		10/7/2013		8/19/2016		11/7/2017		11/7/2017		2/13/2018	
	Sample Purpose		REG		REG		FD		REG		REG		REG		FD		REG	
	Location Description		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	2		**5.2**		**5.3**		4.14		0.5	U	0.99	J	0.84	J	1.9	
Trichloroethene	µg/L	5	0.5	U	0.58	J	0.53	J	1.84		0.5	U	1	U	1	U	1	U
1,1-Dichloroethene	µg/L	7	0.5	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	1	U	0.5	U	0.5	U	1	U	1	U	1	U
Vinyl chloride	µg/L	2	0.5	U	1	U	1	U	0.5	U	0.5	U	1	U	1	U	1	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW13											
			Sample ID	35BWW13-021318 FD		35BWW13-021318FD		35BWW13-180524		35BWW13-180821		35BWW13-181116		35BWW13-190214		35BWW13-190522		35BWW13-190806	
			Sample Date	2/13/2018		2/13/2018		5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019		8/6/2019	
			Sample Purpose	FD		FD		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		1.9		1.9		0.5	U	0.5	U	1.1		0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5		1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

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U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW13														35BWW14	
		Sample ID	35BWW13-191125		35BWW13-200507		35BWW13-201111		35BWW13-210517		35BWW13-211117		35BWW13-220516		35BWW13-221102		35BWW14-100913	
		Sample Date	11/25/2019		5/7/2020		11/11/2020		5/17/2021		11/17/2021		5/16/2022		11/2/2022		10/9/2013	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
		Location Description	Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, unimpacted, crossgradient		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	1	U	1	U	1	U	0.5	U	1.8		**19**	
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	**82.8**	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	**57.2**	
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	14.3	
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	**5.09**	

Notes:

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FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

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Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW14														
			Sample ID	35BWW14-081716		35BWW14-110717		35BWW14-021518		35BWW14-180522		35BWW14-180822		35BWW14-181120		35BWW14-190212		35BWW14-190521	
			Sample Date	8/17/2016		11/7/2017		2/15/2018		5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/21/2019	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		**20.1**		**53**		**44**		**30**		**31**		**37**		**37**		0.5	U
Trichloroethene	µg/L	5		**39.7**		**24**		**20**		**23**		**12**		**9.1**		**22**		**110**	
1,1-Dichloroethene	µg/L	7		**10**		**8.4**		1	U	5.1		2.2		2.2		5.6		0.5	U
cis-1,2-Dichloroethene	µg/L	70		3.44		2.4		1.1		2.6		1.4		0.91	J	2.1		0.66	J
Vinyl chloride	µg/L	2		0.301	J	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

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µg/L - micrograms per liter

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW14														
			Sample ID	35BWW14-190806		35BWW14-191125		35BWW14-200507		35BWW14-201110		35BWW14-210518		35BWW14-211122		35BWW14-220518		35BWW14-221103	
			Sample Date	8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021		11/22/2021		5/18/2022		11/3/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		38		38		40		23		27		24		19		27	
Trichloroethene	µg/L	5		15		16		14		7.7		6.9		6.1		5.1		6	
1,1-Dichloroethene	µg/L	7		4.2		4.6		3.6		2.1		1.8		1.3		1.3		1	U
cis-1,2-Dichloroethene	µg/L	70		1.3		1.5		1.2		0.64	J	0.5	U	0.5	J	0.5	U	1	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.38	U	0.5	U	1	U

Notes:

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µg/L - micrograms per liter

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ID - Identifier

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Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			35BWW15															
Sample ID			35BWW15-011414		35BWW15-081916		35BWW15-110717		35BWW15-021318		35BWW15-180521		35BWW15-180820		35BWW15-181116		35BWW15-181116-FD	
Sample Date			1/14/2014		8/19/2016		11/7/2017		2/13/2018		5/21/2018		8/20/2018		11/16/2018		11/16/2018	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		FD	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	**8.69**		**14.5**		**12**		**12**		**13**		**11**		**11**		**10**	
Trichloroethene	µg/L	5	**43.5**		**20.5**		**15**		**14**		**13**		**9.2**		**12**		**12**	
1,1-Dichloroethene	µg/L	7	**35.5**		6.63		4.2		2.2		3.4		1.7		2.6		2.2	
cis-1,2-Dichloroethene	µg/L	70	6.25		1.73		1.1		1	U	0.5	U	0.5	U	0.68	J	0.5	U
Vinyl chloride	µg/L	2	**3.42**		0.5	U	1	U	1	U	0.5	U	0.5	U	0.63	J	0.63	J

Notes:

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µg/L - micrograms per liter

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW15															
			Sample ID	35BWW15-190214		35BWW15-190522		35BWW15-190807		35BWW15-191122		35BWW15-191122-FD		35BWW15-200507		35BWW15-201110		35BWW15-210518	
			Sample Date	2/14/2019		5/22/2019		8/7/2019		11/22/2019		11/22/2019		5/7/2020		11/10/2020		5/18/2021	
			Sample Purpose	REG		REG		REG		REG		FD		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		**12**		**7.8**		**9.7**		**11**		**11**		**13**		**11**		**14**	
Trichloroethene	µg/L	5		**11**		**7.1**		**7.6**		**7.8**		**7.6**		**7.7**		**5.4**		**6.2**	
1,1-Dichloroethene	µg/L	7		1.9		0.5	U	1.1		1.2		1.1		0.87	J	0.74	J	0.63	J
cis-1,2-Dichloroethene	µg/L	70		0.65	J	0.5	U	0.39	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW15										35BWW16					
			Sample ID	35BWW15-211122		35BWW15-211122-FD		35BWW15-220518		35BWW15-220518-FD		35BWW15-221103		35BWW16-100713		35BWW16FD-100713		35BWW16-081916	
			Sample Date	11/22/2021		11/22/2021		5/18/2022		5/18/2022		11/3/2022		10/7/2013		10/7/2013		8/19/2016	
			Sample Purpose	REG		FD		REG		FD		REG		REG		FD		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		**13**		**13**		**9.8**		**10**		**11**		0.447	J	0.447	J	**5.13**	
Trichloroethene	µg/L	5		**5.1**		**5.2**		4.9		4.8		**5.3**		2.57		2.45		3.43	
1,1-Dichloroethene	µg/L	7		0.48	U	0.48	U	0.5	U	0.5	U	1	U	0.865	J	0.846	J	0.787	J
cis-1,2-Dichloroethene	µg/L	70		0.39	U	0.39	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.38	U	0.38	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			35BWW16															
Sample ID			35BWW16-110717		35BWW16-021318		35BWW16-180524		35BWW16-180817		35BWW16-181116		35BWW16-190215		35BWW16-190523		35BWW16-190807	
Sample Date			11/7/2017		2/13/2018		5/24/2018		8/17/2018		11/16/2018		2/15/2019		5/23/2019		8/7/2019	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5	**9.2**		**12**		**7.8**		**6.6**		**15**		**11**		**9.5**		**9.8**	
Trichloroethene	µg/L	5	4.2		**5.8**		4		3.3		**6.5**		4.7		3.6		3.5	
1,1-Dichloroethene	µg/L	7	1.1		1	U	0.5	U	0.5	U	1.5		1		0.5	U	0.79	J
cis-1,2-Dichloroethene	µg/L	70	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code		35BWW16														35BWW17	
	Sample ID		35BWW16-191121		35BWW16-200507		35BWW16-201111		35BWW16-210518		35BWW16-211117		35BWW16-220516		35BWW16-221102		35BWW17-020414	
	Sample Date		11/21/2019		5/7/2020		11/11/2020		5/18/2021		11/17/2021		5/16/2022		11/2/2022		2/4/2014	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG	
	Location Description		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	**8.1**		**9.9**		4.4		**6**		4.8		0.5	U	**7.2**		0.512	J
Trichloroethene	µg/L	5	3.2		3.3		1.8		2.1		1.7		0.5	U	2		0.5	U
1,1-Dichloroethene	µg/L	7	0.75	J	0.61	J	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW17													
			Sample ID	35BWW17-081916		35BWW17-110717		35BWW17-021318		35BWW17-180524		35BWW17-180821		35BWW17-181116		35BWW17-190214		35BWW17-190523	
			Sample Date	8/19/2016		11/7/2017		2/13/2018		5/24/2018		8/21/2018		11/16/2018		2/14/2019		5/22/2019	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	2.6		**7.5**		0.5	U	0.5	U	**5.4**		0.5	U	0.5	U
Trichloroethene	µg/L	5		0.5	U	1.1		2.9		0.5	U	0.5	U	1.8		0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	1	UJ	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

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Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

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ID - Identifier

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			35BWW17														
Sample ID			35BWW17-190807		35BWW17-191121		35BWW17-200507		35BWW17-201111		35BWW17-210518		35BWW17-210518-FD		35BWW17-211122		35BWW17-220516	
Sample Date			8/7/2019		11/21/2019		5/7/2020		11/11/2020		5/18/2021		5/18/2021		11/22/2021		5/16/2022	
Sample Purpose			REG		REG		REG		REG		REG		FD		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	1	U	1	U	1	U	1	U	0.35	U	0.5	U
Trichloroethene	µg/L	5	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.48	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.39	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.38	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW17				35BWW18											
			Sample ID	35BWW17-221102		35BWW17-221102-FD		35BWW18-100213		35BWWU18-100213		35BWW18-081616		35BWW18-110717		35BWW18-021318		35BWW18-180521	
			Sample Date	11/2/2022		11/2/2022		10/2/2013		10/2/2013		8/16/2016		11/7/2017		2/13/2018		5/21/2018	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		1	U	1	U	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U
Trichloroethene	µg/L	5		1	U	1	U	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U
1,1-Dichloroethene	µg/L	7		1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		1	U	1	U	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U
Vinyl chloride	µg/L	2		1	U	1	U	0.5	U	0.5	U	0.5	U	1	U	1	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			35BWW18															
Sample ID			35BWW18-180816		35BWW18-181119		35BWW18-190214		35BWW18-190520		35BWW18-190805		35BWW18-191126		35BWW18-200511		35BWW18-201109	
Sample Date			8/16/2018		11/19/2018		2/14/2019		5/20/2019		8/5/2019		11/26/2019		5/11/2020		11/9/2020	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW18								35BWW19							
			Sample ID	35BWW18-210518		35BWW18-211115		35BWW18-220518		35BWW18-221101		35BWW19-100713		35BWW19-081616		35BWW19-110717		35BWW19-021318	
			Sample Date	5/18/2021		11/15/2021		5/18/2022		11/1/2022		10/7/2013		8/16/2016		11/7/2017		2/13/2018	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		1	U	1	U	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW19															
			Sample ID	35BWW19-180521		35BWW19-180816		35BWW19-181119		35BWW19-190214		35BWW19-190520		35BWW19-190805		35BWW19-191126		35BWW19-200511	
			Sample Date	5/21/2018		8/16/2018		11/19/2018		2/14/2019		5/20/2019		8/5/2019		11/26/2019		5/11/2020	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW19										35BWW20					
		Sample ID	35BWW19-201109		35BWW19-210518		35BWW19-211115		35BWW19-220518		35BWW19-221101		35BWW20-100413		35BWW20-081816		35BWW20-110817	
		Sample Date	11/9/2020		5/18/2021		11/15/2021		5/18/2022		11/1/2022		10/4/2013		8/18/2016		11/8/2017	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
		Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	1	U	0.5	U	1	U	**31.1**		**26.7**		**25**	
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	1	U	**7.04**		**6.75**		4.7	
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	1	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW20															
			Sample ID	35BWW20-021218		35BWW20-180524		35BWW20-180820		35BWW20-181118		35BWW20-190213		35BWW20-190522		35BWW20-190522-FD		35BWW20-190806	
			Sample Date	2/12/2018		5/24/2018		8/20/2018		11/18/2018		2/13/2019		5/22/2019		5/22/2019		8/6/2019	
			Sample Purpose	REG		REG		REG		REG		REG		REG		FD		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5		**34**		**29**		**19**		**34**		**34**		**12**		**12**		**7.5**	
Trichloroethene	µg/L	5		**5.7**		**6.3**		3.6		**6.4**		**6**		2.8		2.9		2.1	
1,1-Dichloroethene	µg/L	7		1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW20														
			Sample ID	35BWW20-190806-FD		35BMW20-191122		35BWW20-200511		35BWW20-200511-FD		35BWW20-201109		35BWW20-201109-FD		35BWW20-210513		35BWW20-211117	
			Sample Date	8/6/2019		11/22/2019		5/11/2020		5/11/2020		11/9/2020		11/9/2020		5/13/2021		11/17/2021	
			Sample Purpose	FD		REG		REG		FD		REG		FD		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5		**7.6**		**15**		**12**		**12**		**12**		**13**		**6.1**		**5.4**	
Trichloroethene	µg/L	5		2		3.1		2.9		2.9		2.2		2.3		1.8		1.3	
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW20		35BWW23									
			Sample ID		35BWW20-220517		35BWW20-221101		35BWW23-070114		35BWW23-081716		35BWW23-110917		35BWW23-021518	
			Sample Date		5/17/2022		11/1/2022		7/1/2014		8/17/2016		11/9/2017		2/15/2018	
			Sample Purpose		REG		REG		REG		REG		REG		REG	
			Location Description		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	**9.4**		**17**		0.5	U	0.5	U	1	U	1	U	0.5	U
Trichloroethene	µg/L	5	1.8		3.2		0.5	U	0.5	U	1	U	1	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	1	U	1	U	1	U	1	U	1	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	1	U	0.5	U	0.5	U	1	U	1	U	0.5	U

			Location Code	35BWW23			
			Sample ID	35BWW23-180522		35BWW23-180822	
			Sample Date	5/22/2018		8/22/2018	
			Sample Purpose	REG		REG	
			Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U
Trichloroethene	µg/L	5		0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW23															
			Sample ID	35BWW23-181120		35BWW23-190212		35BWW23-190521		35BWW23-190806		35BWW23-191125		35BWW23-200507		35BWW23-201110		35BWW23-210518	
			Sample Date	11/20/2018		2/12/2019		5/21/2019		8/6/2019		11/25/2019		5/7/2020		11/10/2020		5/18/2021	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

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µg/L - micrograms per liter

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW23						35BWW24									
		Sample ID	35BWW23-211122		35BWW23-220518		35BWW23-221103		35BWW24-081916		35BWW24-110817		35BWW24-021618		35BWW24-180524		35BWW24-180821	
		Sample Date	11/22/2021		5/18/2022		11/3/2022		8/19/2016		11/8/2017		2/16/2018		5/24/2018		8/21/2018	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
		Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.35	U	0.5	U	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	1	U	0.415	J	1	U	1	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.48	U	0.5	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.39	U	0.5	U	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.38	U	0.5	U	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			35BWW24															
Sample ID			35BWW24-181116		35BWW24-190215		35BWW24-190522		35BWW24-190807		35BWW24-191125		35BWW24-200507		35BWW24-201110		35BWW24-210517	
Sample Date			11/16/2018		2/15/2019		5/22/2019		8/7/2019		11/25/2019		5/7/2020		11/10/2020		5/17/2021	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary	
Parameter	**Units**	**MCL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	1	U
Trichloroethene	µg/L	5	2.9		2.6		1.1		1.7		1.8		2.3		1.7		2.4	
1,1-Dichloroethene	µg/L	7	0.67	J	0.5	U	0.5	U	0.5	U	0.5	U	0.54	J	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

	Location Code	35BWW24												35BWW25			
	Sample ID	35BWW24-210517-FD		35BWW24-211122		35BWW24-220516		35BWW24-220516-FD		35BWW24-221103		35BWW24-221103-FD		35BWW25-081916		35BWW25FD-081916	
	Sample Date	5/17/2021		11/22/2021		5/16/2022		5/16/2022		11/3/2022		11/3/2022		8/19/2016		8/19/2016	
	Sample Purpose	FD		REG		REG		FD		REG		FD		REG		FD	
	Location Description	Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, unimpacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	1	U	0.35	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U
Trichloroethene	µg/L	5	2.3		2.9		3.9		3.9		4.7		5		**5.55**		**5.94**	
1,1-Dichloroethene	µg/L	7	0.5	U	0.48	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.39	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.38	U	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW25															
			Sample ID	35BWW25-110817		35BWW25-110817-FD		35BWW25-021618		35BWW25-021618-FD		35BWW25-180523		35BWW25-180523FD		35BWW25-180820		35BWW25-180820-FD	
			Sample Date	11/8/2017		11/8/2017		2/16/2018		2/16/2018		5/23/2018		5/23/2018		8/20/2018		8/20/2018	
			Sample Purpose	REG		FD		REG		FD		REG		FD		REG		FD	
			Location Description	Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	µg/L	5		**7.6**		**7.5**		**11**		**11**		**5.5**		**5.1**		**5.3**		**5.3**	
1,1-Dichloroethene	µg/L	7		1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		1	U	1	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW25															
			Sample ID	35BWW25-181116		35BWW25-190215		35BWW25-190215-FD		35BWW25-190522		35BWW25-190807		35BWW25-191122		35BWW25-191122-FD		35BWW25-200507	
			Sample Date	11/16/2018		2/15/2019		2/15/2019		5/22/2019		8/7/2019		11/22/2019		11/22/2019		5/7/2020	
			Sample Purpose	REG		REG		FD		REG		REG		REG		FD		REG	
			Location Description	Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.33	J	0.5	U	0.5	U	1	U
Trichloroethene	µg/L	5		**19**		**14**		**14**		**6.3**		**15**		**13**		**13**		**13**	
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		35BWW25								35BWW26					
			Sample ID		35BWW25-201110		35BWW25-210517		35BWW25-211122		35BWW25-220516		35BWW25-221103		35BWW26-081716		35BWW26-110917		35BWW26-021418	
			Sample Date		11/10/2020		5/17/2021		11/22/2021		5/16/2022		11/3/2022		8/17/2016		11/9/2017		2/14/2018	
			Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, impacted, outside site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	1	U	0.53	J	0.69	J	1.4		0.5	U	1	U	1	U		
Trichloroethene	µg/L	5	**10**		**8.5**		**10**		**10**		**14**		0.5	U	1	U	1	U		
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.48	U	0.5	U	1	U	1	U	1	U	1	U		
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.39	U	0.5	U	1	U	0.5	U	1	U	1	U		
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.38	U	0.5	U	1	U	0.5	U	1	U	1	U		

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

		Location Code	35BWW26															
		Sample ID	35BWW26-180522		35BWW26-180822		35BWW26-181120		35BWW26-190212		35BWW26-190520		35BWW26-190806		35BWW26-191121		35BWW26-200506	
		Sample Date	5/22/2018		8/22/2018		11/20/2018		2/12/2019		5/20/2019		8/6/2019		11/21/2019		5/6/2020	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
		Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Trichloroethene	µg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code	35BWW26										LHSMW58			
			Sample ID	35BWW26-201110		35BWW26-210513		35BWW26-211117		35BWW26-211117-FD		35BWW26-220517		35BWW26-221102		LHSMW58-941211		LHSMW58-941211FD	
			Sample Date	11/10/2020		5/13/2021		11/17/2021		11/17/2021		5/17/2022		11/2/2022		12/11/1994		12/11/1994	
			Sample Purpose	REG		REG		REG		FD		REG		REG		REG		FD	
			Location Description	Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, unimpacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	**Units**	**MCL**		**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Tetrachloroethene	µg/L	5		0.5	U	1	U	1	U	1	U	0.5	U	1	U	**21**		**34**	
Trichloroethene	µg/L	5		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	**26**		ND	
1,1-Dichloroethene	µg/L	7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	**58**		**53**	
cis-1,2-Dichloroethene	µg/L	70		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	ND		ND	
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	ND		ND	

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			LHSMW58															
Sample ID			LHSMW58-960210		LHSMW58-960821		LHSMW58-980520		LHSMW58-040910		LHSMW58-060809		LHSMW58-061216		LHSMW58-100313		LHSMW58-081816	
Sample Date			2/10/1996		8/21/1996		5/20/1998		9/10/2004		8/9/2006		12/16/2006		10/3/2013		8/18/2016	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	**8**		**7.9**		**9.5**		**20**		**21.8**	J	**9.01**		**20.3**		**19.9**	
Trichloroethene	µg/L	5	**9**		**11.5**		**9.4**		**33**		**21.8**	J	**13.7**		4.26		1.93	
1,1-Dichloroethene	µg/L	7	**18**		**25.4**		4.2		4	J	2.11	JH	3.17	J	1	U	1	U
cis-1,2-Dichloroethene	µg/L	70	1.8		2.1		0.53	J	5	U	0.716	JH	0.629	J	0.5	U	0.5	U
Vinyl chloride	µg/L	2	ND		0.24	U	1	U	5	U	10	U	10	U	0.5	U	0.5	U

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Table 2-5
Contaminants of Concern Concentrations 1994–2022

Location Code			LHSMW58															
Sample ID			LHSMW58-110817		LHSMW58-021218		LHSMW58-180524		LHSMW58-180820		LHSMW58-181118		LHSMW58-181118-FD		LHSMW58-190213		LHSMW58-190522	
Sample Date			11/8/2017		2/12/2018		5/24/2018		8/20/2018		11/18/2018		11/18/2018		2/13/2019		5/22/2019	
Sample Purpose			REG		REG		REG		REG		REG		FD		REG		REG	
Location Description			Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5	**20**		**14**		**12**		**26**		**26**		**25**		**6.1**		3.6	
Trichloroethene	µg/L	5	1.6		1	U	1.4		2.2		1.8		1.8		0.5	U	0.5	U
1,1-Dichloroethene	µg/L	7	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	µg/L	70	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	µg/L	2	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		LHSMW58									
			Sample ID	LHSMW58-190807		LHSMW58-191122		LHSMW58-200511		LHSMW58-201109		LHSMW58-210513		LHSMW58-211115		LHSMW58-220517		LHSMW58-221101	
			Sample Date	8/7/2019		11/22/2019		5/11/2020		11/9/2020		5/13/2021		11/15/2021		5/17/2022		11/1/2022	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		**6.8**		4.2		**14**		**9.5**		**19**		**13**		**9.5**		**15**	
Trichloroethene	µg/L	5		0.59	J-	0.5	U	0.88	J	0.81	J	1.1		1		0.5	U	0.94	J
1,1-Dichloroethene	µg/L	7		0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
cis-1,2-Dichloroethene	µg/L	70		0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U
Vinyl chloride	µg/L	2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-5
Contaminants of Concern Concentrations 1994–2022

			Location Code		LHSMW59											
			Sample ID	LHSMW59-941211		LHSMW59-941211FD		LHSMW59-960210		LHSMW59-960821		LHSMW59-980520		LHSMW59-040910		LHSMW59-060810		LHSMW59-061213	
			Sample Date	12/11/1994		12/11/1994		2/10/1996		8/21/1996		5/20/1998		9/10/2004		8/10/2006		12/13/2006	
			Sample Purpose	REG		FD		REG		REG		REG		REG		REG		REG	
			Location Description	Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary		Shallow zone, impacted, within site boundary	
Parameter	Units	MCL		Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
Tetrachloroethene	µg/L	5		**11**		**11**		**16**		**16.9**		**7**		3	J	1.19	J	1.15	J
Trichloroethene	µg/L	5		**120**		ND		**249**		**327**		**330**		**180**		**135**		**166**	
1,1-Dichloroethene	µg/L	7		5	U	5	U	ND		2.2		1	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	µg/L	70		ND		ND		ND		0.2	U	1	U	5	U	0.521	J	0.463	J
Vinyl chloride	µg/L	2		ND		ND		ND		0.24	U	1	U	5	U	10	U	10	U

Notes:

Blue Highlighting Indicates concentrations or detection limits above the MCL.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration

µg/L - micrograms per liter

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

FD - Field Duplicate

ID - Identifier

MCL - Maximum Contaminant Level

ND - not detected, reporting limit not available

REG - regular sample

Val Qual - validation qualifier

Table 2-6
Well Maintenance Activities, Year 6 RA-O

Well ID	Date Inspected	Pads	Bollards	Protective Casings	Locks	Photos	Comments
35BWW01	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW03	11/1/2022	Good	Good	Good	In Place	Yes	Needs paint.
35BWW04	11/3/2022	Good	Good	Good	In Place	Yes	
35BWW05	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW06	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW07	11/2/2022	Good	Good	Good	In Place	Yes	
35BWW08	11/2/2022	Good	Good	Good	In Place	Yes	
35BWW09	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW10	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW11	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW12	11/2/2022	Good	Good	Good	In Place	Yes	
35BWW13	11/2/2022	Good	Good	Good	In Place	Yes	Hinge more than 50% rusted.
35BWW14	11/3/2022	Good	Good	Good	In Place	Yes	
35BWW15	11/3/2022	Good	Good	Good	In Place	Yes	
35BWW16	11/2/2022	Good	Good	Good	In Place	Yes	Hinge more than 50% rusted.
35BWW17	11/2/2022	Good	Good	Good	In Place	Yes	Hinge more than 50% rusted.
35BWW18	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW19	11/1/2022	Good	Good	Good	In Place	Yes	Hinge more than 50% rusted.
35BWW20	11/1/2022	Good	Good	Good	In Place	Yes	
35BWW23	11/3/2022	Good	Good	Good	In Place	Yes	
35BWW24	11/3/2022	Good	Good	Good	In Place	Yes	
35BWW25	11/3/2022	Good	Good	Good	In Place	Yes	
35BWW26	11/2/2022	Good	Good	Good	In Place	Yes	
LHSMW58	11/1/2022	Good	Good	Good	In Place	No	

Notes:

ID - identifier

RA-O - remedial action operation

Table 2-7
Year 7 RA-O Annual Sampling

Well ID	VOC	Field Parameters	MNA Parameters	Water Levels
35BWW01	X	X		X
35BWW02 [a]				
35BWW03 [b]				X
35BWW04	X	X	X	X
35BWW05	X	X		X
35BWW06 [b]				X
35BWW07	X	X		X
35BWW08	X	X	X	X
35BWW09	X	X		X
35BWW10	X	X		X
35BWW11	X	X		X
35BWW12	X	X	X	X
35BWW13	X	X		X
35BWW14	X	X	X	X
35BWW15	X	X		X
35BWW16	X	X		X
35BWW17	X	X		X
35BWW18	X	X		X
35BWW19	X	X		X
35BWW20	X	X		X
35BWW23	X	X	X	X
35BWW24	X	X		X
35BWW25	X	X		X
35BWW26	X	X	X	X
LHSMW58	X	X		X
35BSW01 [c]	X	X		X
35BSW02 [c]	X	X		X

Notes:

MNA parameters include nitrate, sulfate, chloride, TOC, carbon dioxide, and dissolved gases (methane, ethane, ethene).

Field parameters to be monitored for all wells: pH, temperature, conductivity, turbidity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and ferrous iron.

[a] Well was removed from the sampling list.

[b] Monitoring wells 35BWW03 and 35BWW06 will continue to be sampled once every five years to support the Five Year Reviews, and the next sampling event for these wells will be in November 2026.

[c] Surface water locations to be sampled annually if water meets criteria per the RACR.

X - well will be analyzed for that parameter.

ID - identifier

MNA - monitored natural attenuation

RA-O - remedial action operation

RACR - Response Action Completion Report

TOC - total organic carbon

VOC - volatile organic compound

Table 3-1
RA-O Mann-Kendall Trend Summary, LHAAP-35B (37)

Monitoring Well	PCE	TCE
35BWW04	No Trend	NA
35BWW05	NA	**Decreasing**
35BWW09	NA	**Decreasing**
35BWW12	**Decreasing**	NA
35BWW14	Stable	**Decreasing**
35BWW15	Stable	**Decreasing**
35BWW16	Stable	NA
35BWW20	**Decreasing**	NA
35BWW25	NA	No Trend
LHSMW58	Stable	NA

Notes:

NA - Not analyzed due to concentrations below the maximum contaminant level.

PCE - tetrachloroethene

RA-O - remedial action operation

TCE - trichloroethene

Figures

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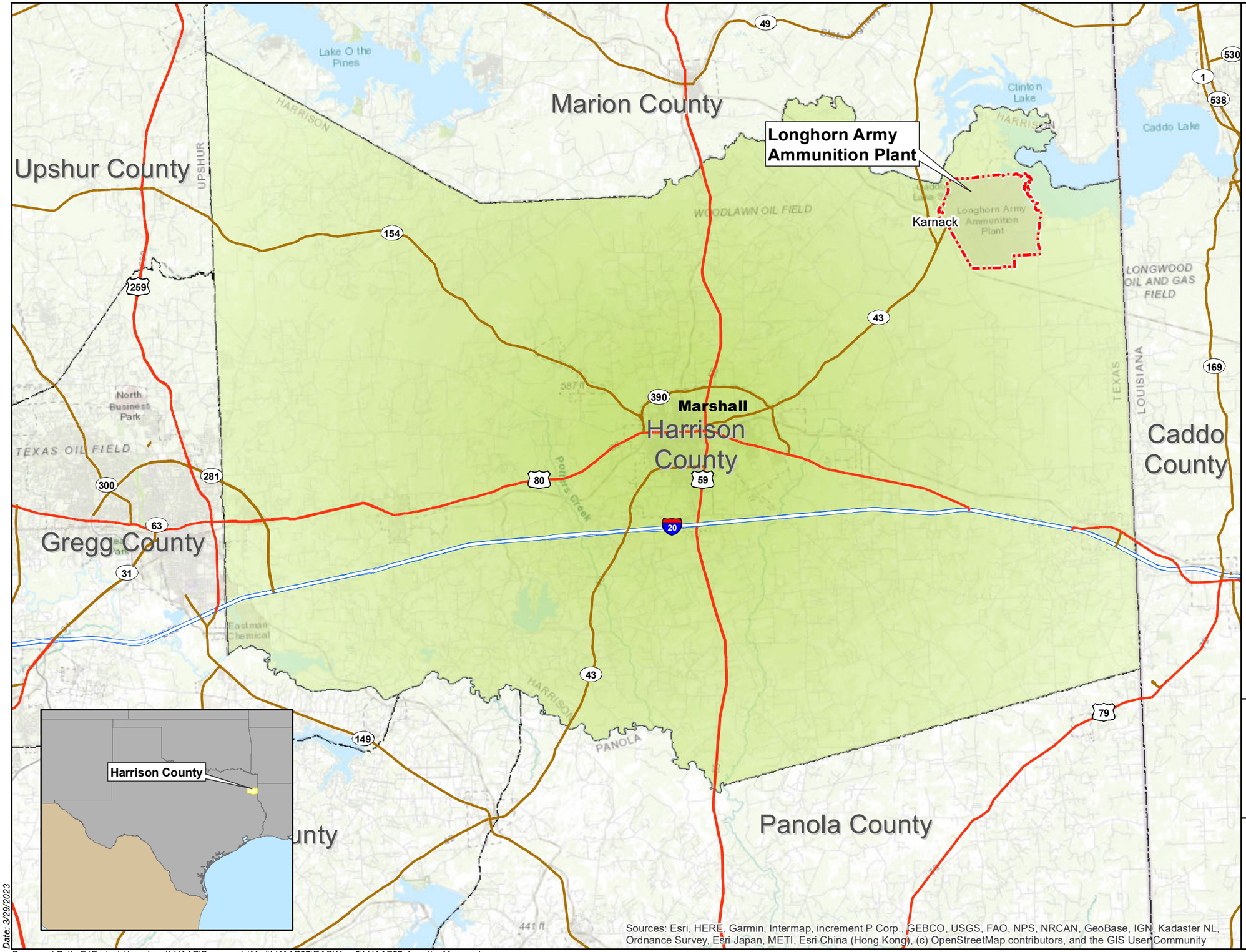

Note:
1. RA-O = Remedial Action Operations
2. LHAAP = Longhorn Army Ammunition Plant

N

0 2 4 Miles

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TULSA, OKLAHOMA

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Figure 1-1

LHAAP Location Map
Sixth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Date: 3/29/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_LocationMap.mxd

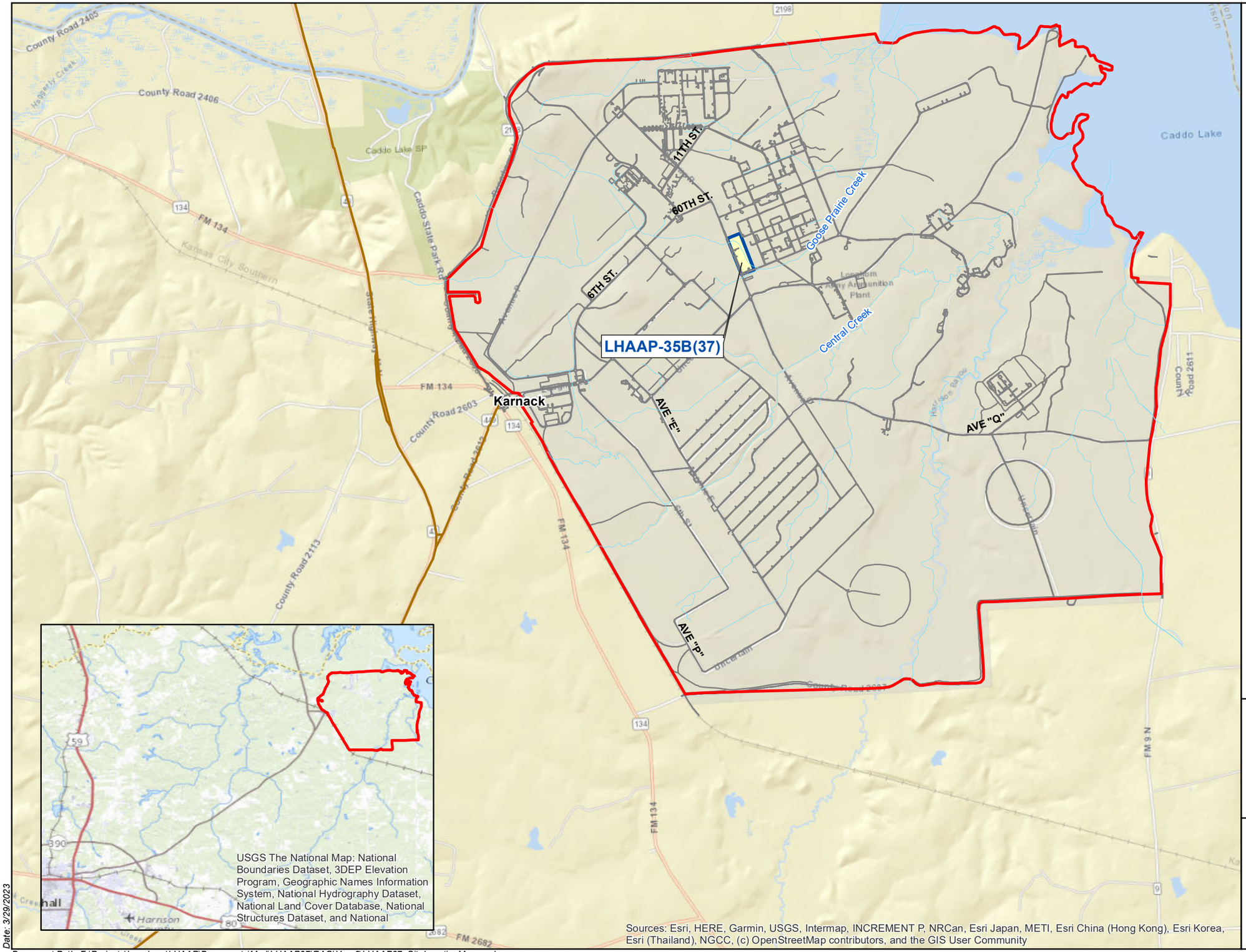

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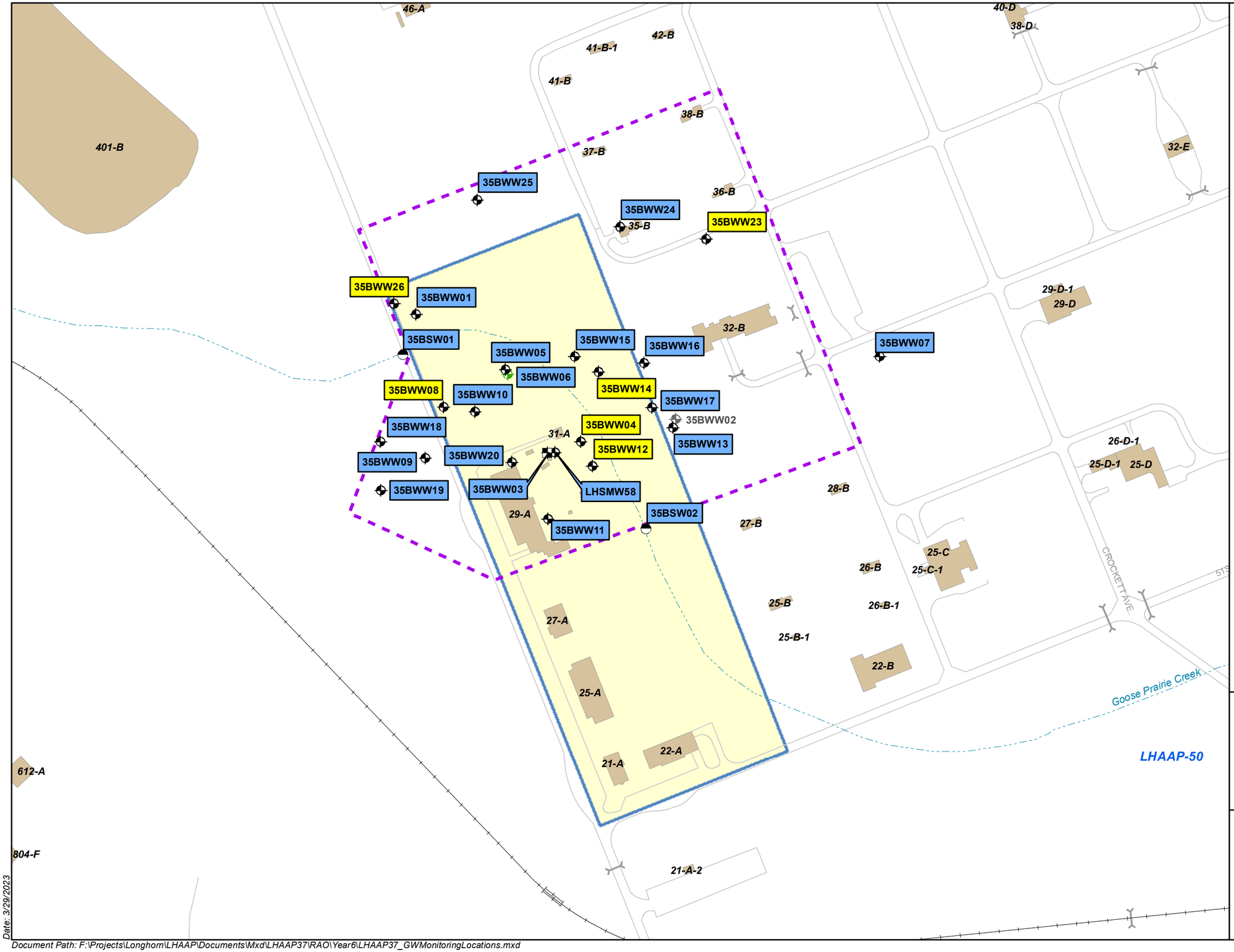
Figure 1-2

LHAAP-35B (37) Site Location Map
Sixth Annual RA-O Report
LHAAP-35B (37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 3/29/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_SiteLocationMap.mxd



- Shallow Zone Monitoring Well
- Monitoring Well - Not Sampled
- Lower Shallow Zone Monitoring Well
- Intermediate Zone Monitoring Well
- Surface Water Location
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations

35BWW15 Sampling Location

35BWW14 Sampling Location including Monitored Natural Attenuation (MNA) Parameters

2. 35BWW01 is screened above shallow zone
3. 35BWW02 is no longer sampled
4. 35BWW03 and 35BWW06 are sampled every 5 years

N

0 100 200 Feet

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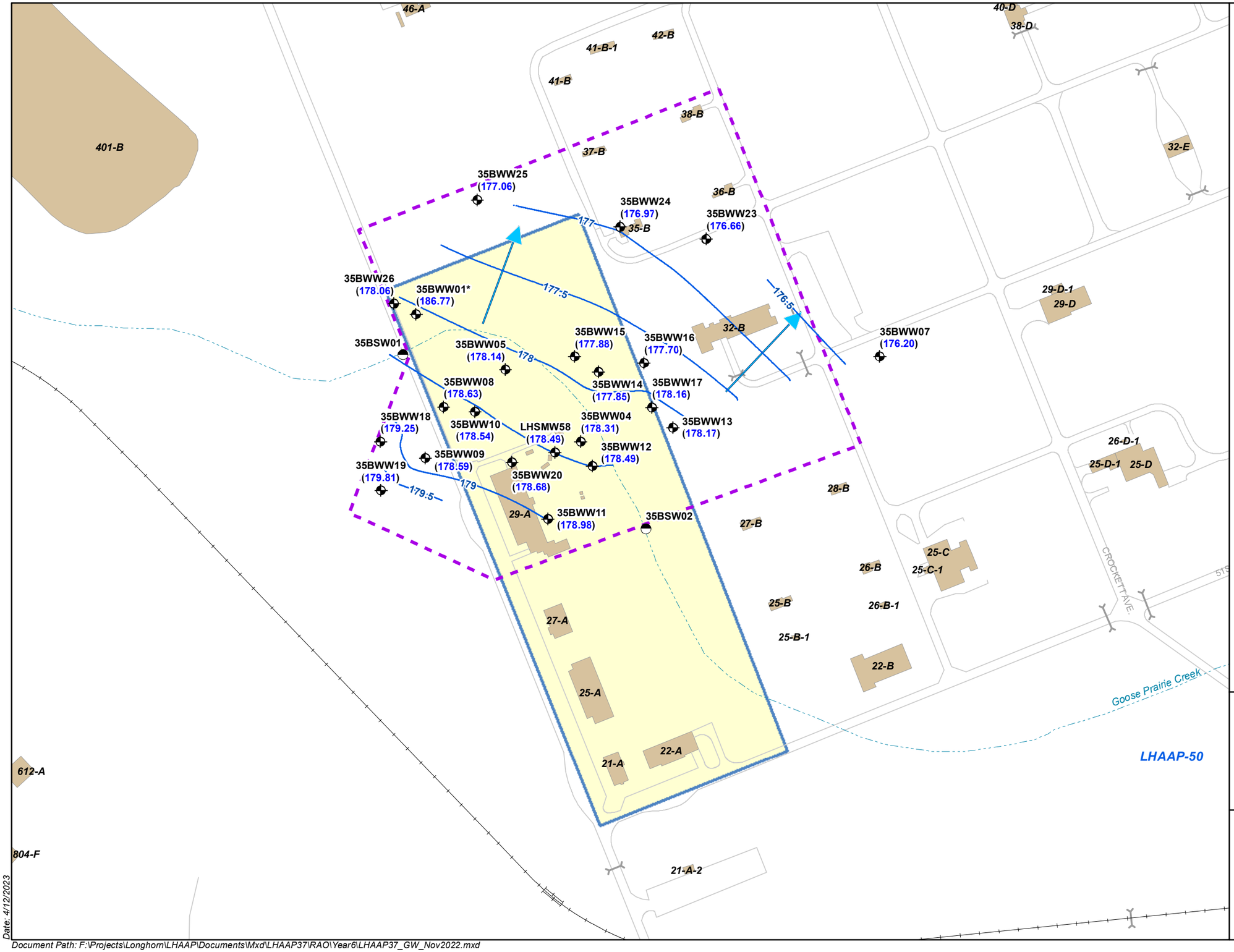
Figure 2-1

Groundwater Monitoring Well Locations
Sixth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 3/29/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_GWMonitoringLocations.mxd



- Shallow Zone Monitoring Well
- Surface Water Location
- Former Railroad Location
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. * = Well was not used to create potentiometric surface
3. Groundwater elevations are feet above mean sea level.

N

0 100 200 Feet

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Figure 2-2
Shallow Zone Potentiometric Map,
November 2022
Sixth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 4/12/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_GW_Nov2022.mxd

35BWW05		
Analyte	MCL	Oct-13
Tetrachloroethene	5	1.57
Trichloroethene	5	**14**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.295 J
Vinyl Chloride	2	0.5 U

35BWW06		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW08		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	**43.8**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW18		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW10		
Analyte	MCL	Oct-13
Tetrachloroethene	5	4.45
Trichloroethene	5	**56.3**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW19		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW09		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	**49**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.529 J
Vinyl Chloride	2	0.5 U

35BWW03		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW23		
Analyte	MCL	Jul-14
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW15		
Analyte	MCL	Jan-14
Tetrachloroethene	5	**8.69**
Trichloroethene	5	**43.5**
1,1-Dichloroethene	7	**35.5**
cis-1,2-Dichloroethene	70	6.25
Vinyl Chloride	2	**3.42**

35BWW07		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.5 U
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW16		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.447 J
Trichloroethene	5	2.57
1,1-Dichloroethene	7	0.865 J
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW14		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**19**
Trichloroethene	5	**82.8**
1,1-Dichloroethene	7	**57.2**
cis-1,2-Dichloroethene	70	14.3
Vinyl Chloride	2	**5.09**

35BWW13		
Analyte	MCL	Oct-13
Tetrachloroethene	5	4.14
Trichloroethene	5	1.84
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW17		
Analyte	MCL	Feb-14
Tetrachloroethene	5	0.512 J
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW04		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**66.5 J**
Trichloroethene	5	**11.4 J**
1,1-Dichloroethene	7	2.3 J
cis-1,2-Dichloroethene	70	0.673 J
Vinyl Chloride	2	0.5 U

LHSMW58		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**20.3**
Trichloroethene	5	4.26
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW20		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**31.1**
Trichloroethene	5	**7.04**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW11		
Analyte	MCL	Oct-13
Tetrachloroethene	5	0.252 J
Trichloroethene	5	0.5 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

35BWW12		
Analyte	MCL	Oct-13
Tetrachloroethene	5	**15.3**
Trichloroethene	5	2.04
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	0.5 U
Vinyl Chloride	2	0.5 U

401-B
46-A
38-B
37-B
37-E
40-D
38-D
804-E
35BWW25
35BWW24
35BWW26
35BWW01
35BSW01
35BSW02
5 µg/L
5 µg/L

- Shallow Zone Monitoring Well
- Lower Shallow Zone Monitoring Well
- Intermediate Zone Monitoring Well
- Surface Water Location
- Groundwater Flow Direction
- Tetrachloroethene Contour
- Trichloroethene Contour
- 1,1-Dichloroethene Contour
- Vinyl Chloride Contour
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. MCL = Maximum Contaminant Level
3. J = estimated level
4. U = below detection limit
5. Groundwater flow arrows are from October 2013.

N
0 100 200
Feet

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Figure 2-3
Groundwater Results
Baseline 2013-2014
Sixth Annual RA-O Report

LHAAP-35B(37)
LONGHORN ARMY AMMUNITION
PLANT KARNACK, TEXAS

Date: 3/29/2023
Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_GW_Results_Oct2013.mxd

35BWW01		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

DPT-034		
Parameter	MCL	6/4/2020
Tetrachloroethene	5	5 U
Trichloroethene	5	5 U
1,1-Dichloroethene	7	5 U
cis-1,2-Dichloroethene	70	5 U
Vinyl chloride	2	5 U

SB-02		
Parameter	MCL	5/24/2018
Tetrachloroethene	5	5 U
Trichloroethene	5	5 U
1,1-Dichloroethene	7	5 U
cis-1,2-Dichloroethene	70	5 U
Vinyl chloride	2	5 U

35BWW25		
Parameter	MCL	11/3/2022
Tetrachloroethene	5	1.4
Trichloroethene	5	**14**
1,1-Dichloroethene	7	1.3
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW24		
Parameter	MCL	11/3/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	4.7
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW23		
Parameter	MCL	11/3/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW26		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW15		
Parameter	MCL	11/3/2022
Tetrachloroethene	5	**11**
Trichloroethene	5	**5.3**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW05		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	3.2
Trichloroethene	5	**5.2**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW07		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW08		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	0.56 J
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW16		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	**7.2**
Trichloroethene	5	2
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW18		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW14		
Parameter	MCL	11/3/2022
Tetrachloroethene	5	**27**
Trichloroethene	5	**6**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW10		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	2.6
Trichloroethene	5	1.1
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW13		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	1.8
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW19		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW17		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

LHSMW58		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	**15**
Trichloroethene	5	0.94 J
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

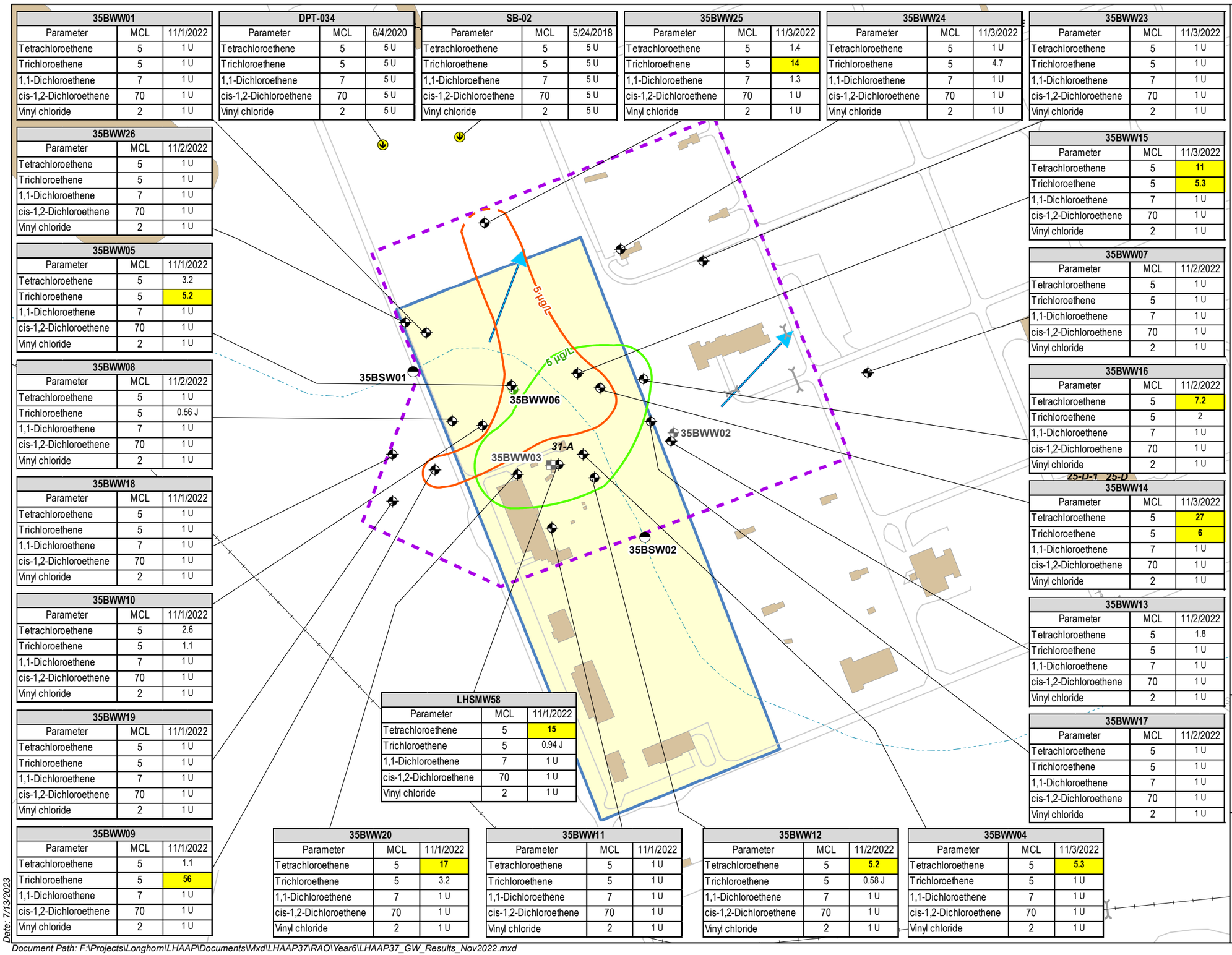
35BWW09		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	1.1
Trichloroethene	5	**56**
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW20		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	**17**
Trichloroethene	5	3.2
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW11		
Parameter	MCL	11/1/2022
Tetrachloroethene	5	1 U
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW12		
Parameter	MCL	11/2/2022
Tetrachloroethene	5	**5.2**
Trichloroethene	5	0.58 J
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U

35BWW04		
Parameter	MCL	11/3/2022
Tetrachloroethene	5	**5.3**
Trichloroethene	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
Vinyl chloride	2	1 U



- Shallow Zone Monitoring Well
- Shallow Zone Monitoring Well - Not Sampled
- Lower Shallow Zone Monitoring Well - Not Sampled
- Intermediate Zone Monitoring Well - Not Sampled
- Surface Water Location
- 2018/2020 LHAAP-47 DPT Location
- Groundwater Flow Direction
- Tetrachloroethene Contour
- Trichloroethene Contour (*Dashed where inferred*)
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. MCL = Maximum Contaminant Level
3. J = estimated level
4. U = below detection limit
5. Y6 = Year 6
6. DPT = Direct Push Technology
7. Source of the LHAAP-47 groundwater data:
HDR, Inc. 2021. Final LHAAP-47 Post Screening Investigation Addendum No. 2 Report, LHAAP-47, Plant 3 Area, Solid Rocket Motor Fuel Production, Longhorn Army Ammunition Plant, Karnack, Texas. February.

N

0 100 200 Feet

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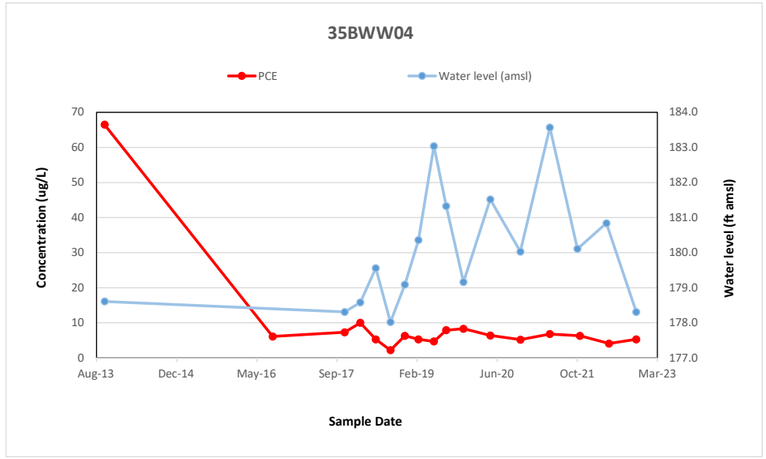
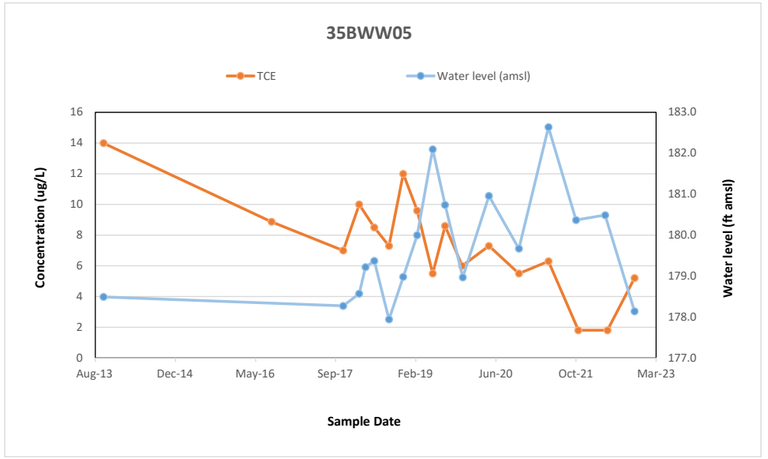
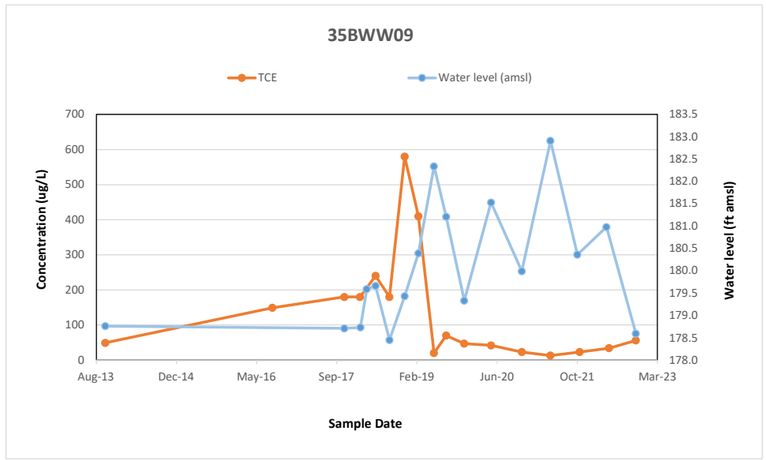
Figure 2-4
Groundwater Results
November 2022 Y6 Annual
Sixth Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

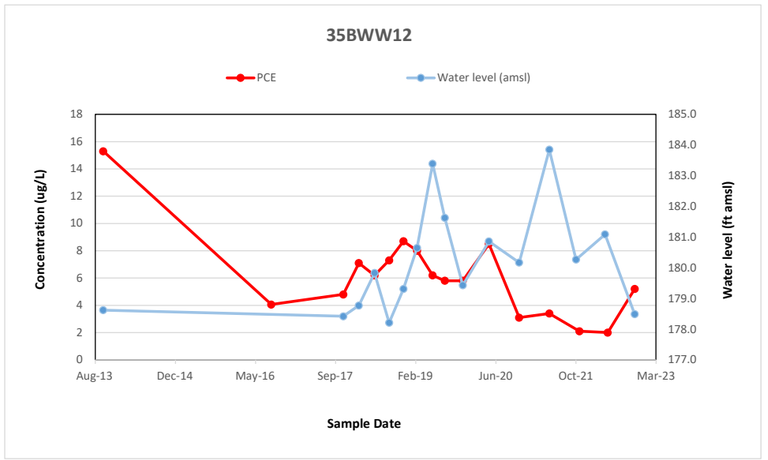
Date: 7/13/2023

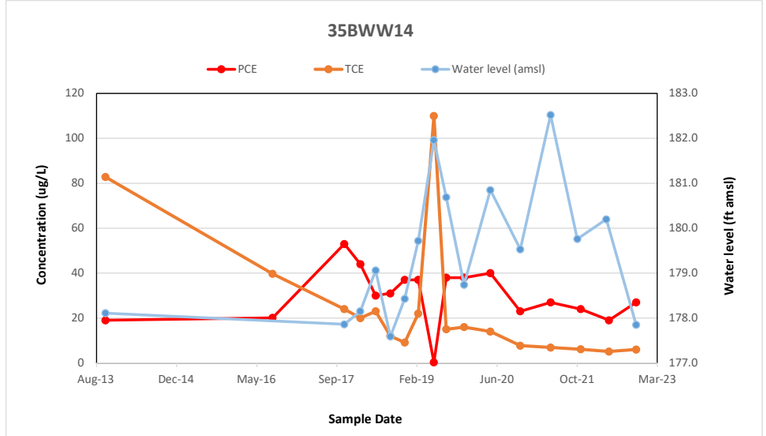
Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_GW_Results_Nov2022.mxd

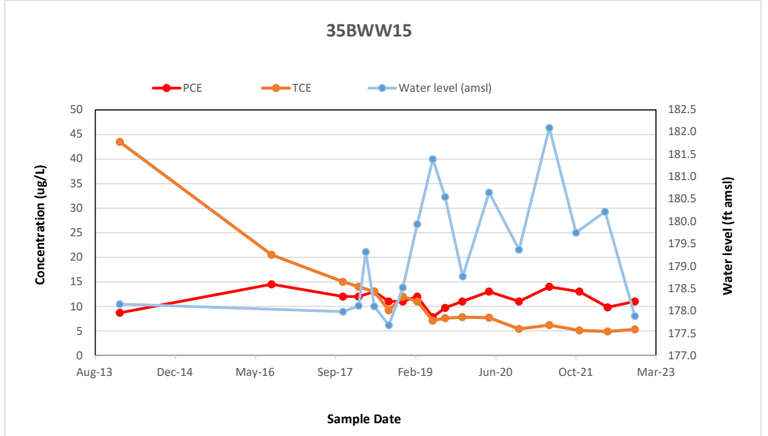












Cleanup Levels:
Tetrachloroethene = 5 µg/L
Trichloroethene = 5 µg/L

Notes:
1. RA-O = Remedial Action Operations
2. PCE = Tetrachloroethene
3. TCE = Trichloroethene
4. µg/L = microgram per liter
5. ft = feet
6. amsl = above mean sea level
7. COC = contaminant of concern

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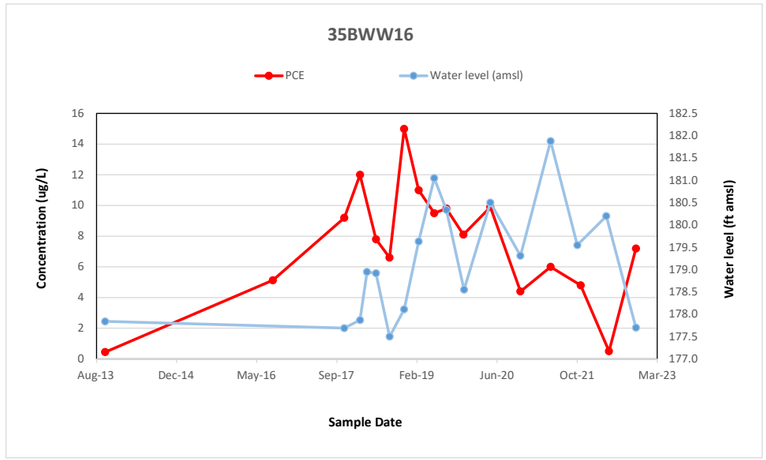
Figure 2-5a

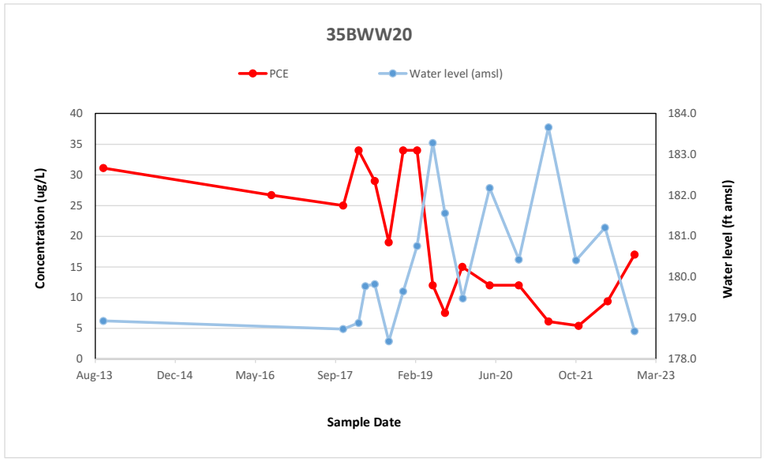
COC Concentration Trends
Sixth Annual RA-O Report
LHAAP-35B(37)

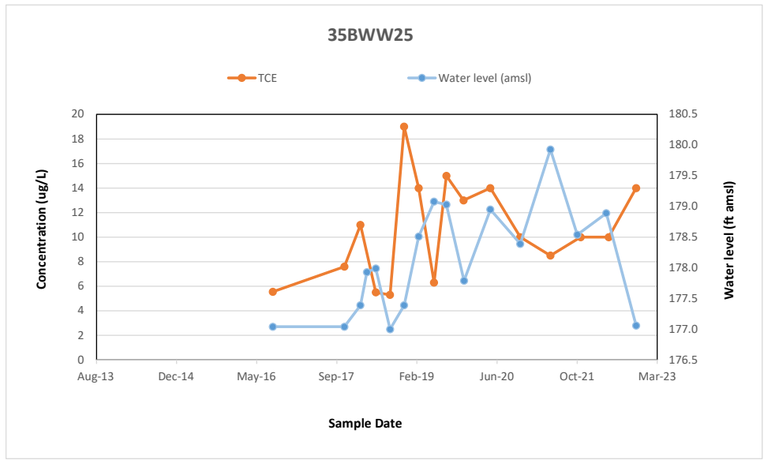
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

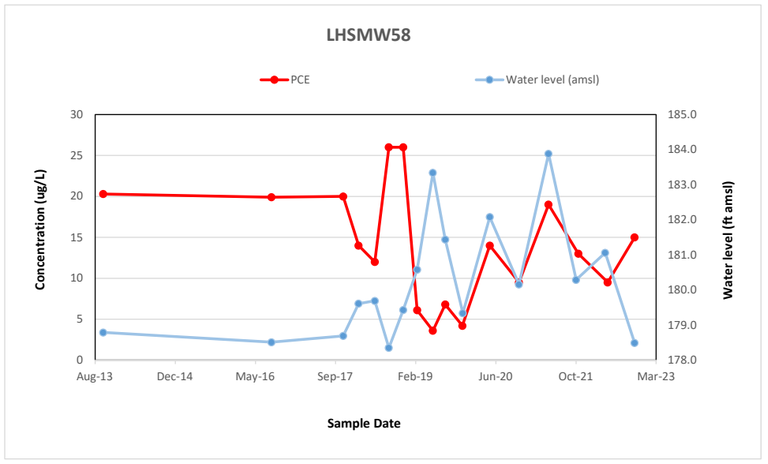
Date: 4/28/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_COC_Concentrations.mxd









Cleanup Levels:
Tetrachloroethene = 5 µg/L
Trichloroethene = 5 µg/L

Notes:
1. RA-O = Remedial Action Operations
2. PCE = Tetrachloroethene
3. TCE = Trichloroethene
4. µg/L = microgram per liter
5. ft = feet
6. amsl = above mean sea level
7. COC = contaminant of concern

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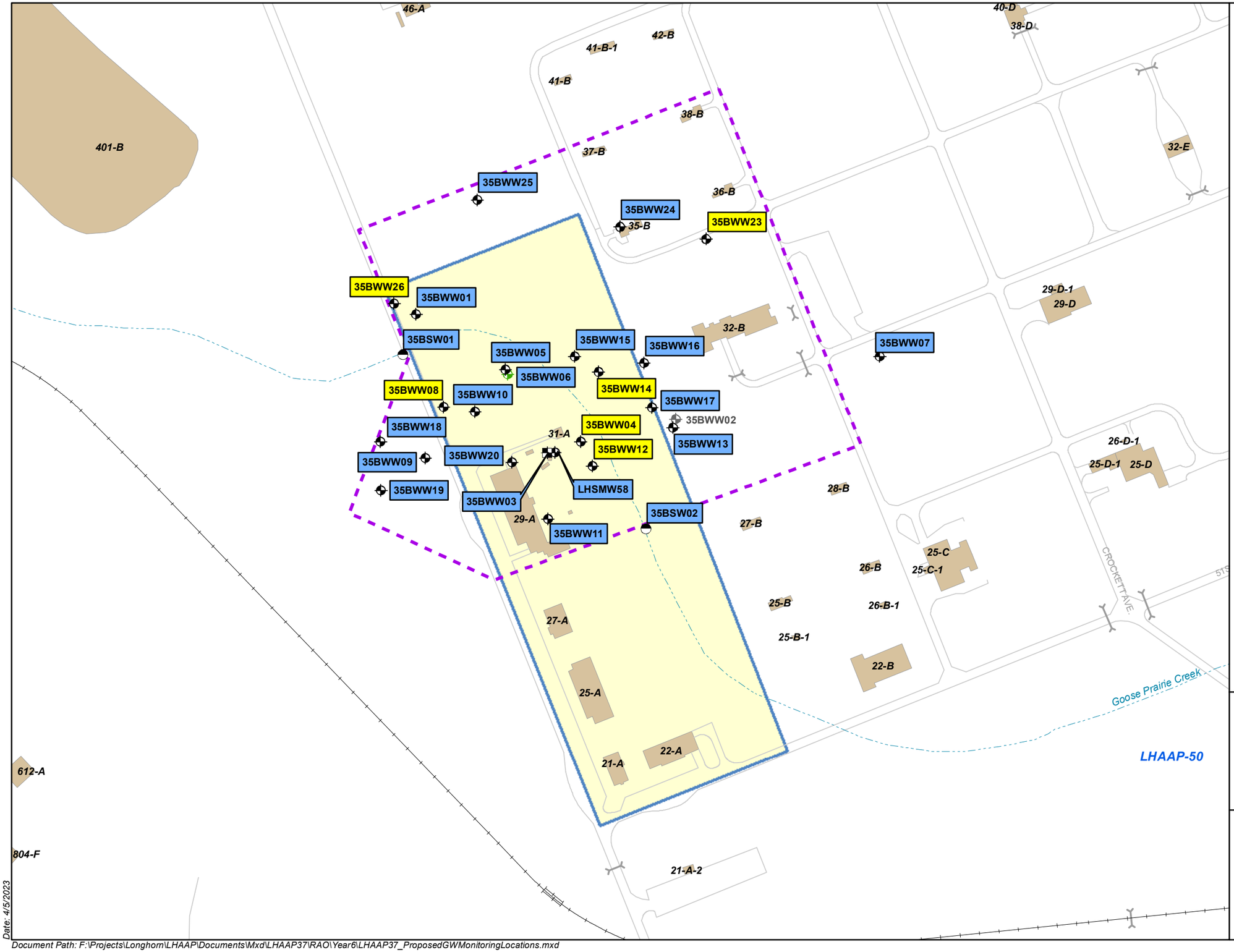
Figure 2-5b

COC Concentration Trends
Sixth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 4/28/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_COC_Concentrations_2.mxd



- Shallow Zone Monitoring Well
- Lower Shallow Zone Monitoring Well
- Intermediate Zone Monitoring Well
- Surface Water Location
- Shallow Zone Monitoring Well - Not Sampled
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations

35BWW15 Proposed Sampling Location

35BWW14 Proposed Sampling Location including Monitored Natural Attenuation (MNA) Parameters

2. Monitoring wells 35BWW03 and 35BWW06 will continue to be sampled once every five years to support the Five Year Reviews. The next sampling event for these wells will be in 2026.

N

0 100 200 Feet

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TULSA, OKLAHOMA

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Figure 2-6

Year 7 Sampling Locations
Sixth Annual RA-O Report
LHAAP-35B(37)

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 4/5/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\Year6\LHAAP37_ProposedGWMonitoringLocations.mxd

Appendix A

Annual Land Use Control Compliance Certification and Documentation

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Annual Land Use Control Compliance Certification Documentation

In accordance with the Remedial Action Work Plan dated June 2013 for LHAAP-35B (37) a certification of site was conducted by APTIM [indicate transferee] on 11/1/22.

A summary of land use control mechanism is as follows:

Groundwater restriction – restriction of the use of groundwater to environmental monitoring and testing until cleanup levels are met. A restriction against residential use of groundwater will remain in effect until the levels of the COCs in groundwater and soil allow unrestricted use and unlimited exposure (UUUE).

[Indicate whether groundwater restrictions are still required at LHAAP-35B (37)]

A summary of compliance with land use and restriction covenants is as follows:

No use of groundwater, installation of new groundwater wells, or tampering with existing wells at LHAAP-35B (37).

I, the undersigned, do document that the certification was performed as indicated above, and that the above information is true and correct to the best of my knowledge, information, and belief. I also certify that the non-residential use assumption that forms the basis of the remedy remains the same.

Date: NOVEMBER 1, 2022

Name/Title: SCOTT BERSINGAR / SENIOR ENVIRONMENTAL TECH

Signature: Scott Bersingar

Annual compliance certification forms shall be completed no later than March 1 of each year for the previous calendar year.

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Appendix B

Groundwater Sampling Forms

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APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BSW01**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BSW01-221103 **DATE/TIME:** 11/3/22 1157 **Pump Inlet Depth:** NA

Sampling Method: GRAB **Sample Purpose: REG** **Sample Matrix: SW**

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

NO SAmples Collected

CREEK is DRY

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BSW02**

Sampler(s): Scott Bassinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BSW02-221103 **DATE/TIME:** 11/3/22 1201 **Pump Inlet Depth:** NA

Sampling Method: GRAB **Sample Purpose:** REG **Sample Matrix:** SW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

NO Samples Collected

Creek is Dry

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW01**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW01-221101 **DATE/TIME:** 11/1/22 0718 **Pump Inlet Depth:** 16.11

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/1/22 0730

Depth to Water - Initial (DTWi) (ft) 15.65

Purge End Date/Time: 11/1/22 0800

Depth to Well Bottom (ft) 20.70

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 11.11 - 21.11

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 16.11

Pump Start Time: 0730

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 15.65

APTIM

Sample Collection Log

Location ID: 35BWW01		Sample No: 35BWW01-2211_01								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	0735	100	.5	15.73	0.139	18.37	7.84	371	139	0.72
	0740	100	1.0	15.79	0.146	18.81	5.29	363	195	0.33
	0745	100	1.5	15.83	0.132	18.96	5.05	357	217	0.24
	0750	100	2.0	15.86	0.132	19.03	5.04	356	218	0.25
	0755	100	2.5	15.89	0.132	19.08	5.03	355	219	0.24
↓	0800	100	3.0	15.91	0.131	19.13	5.03	354	220	0.24

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW04**

Sampler(s): Scott Baesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW04-221103 **DATE/TIME:** 11/3/22 0710 **Pump Inlet Depth:** 27.85

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Casing ID (in.): 4

Depth to Water - Initial (DTWi) (ft) 23.80

Depth to Well Bottom (ft) ~ 33.23

Screen Interval (ft): 22.85 - 32.85

Approximate depth of pump inlet*(ft): ~ 27.85

Ferrous Iron (Required (Y) or N) 0.12 mg/L

Purging Method/Equipment: Low flow/BLADDER Pump

Purge Start Date/Time: 11/3/22 0720

Purge End Date/Time: 11/3/22 0750

Discharge Tube Length: NA PID Reading: NA

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Pump Start Time: 0720

2ND DTW - 23.80

APTIM

Sample Collection Log

Location ID: 35BWW04		Sample No: 35BWW04-221103								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	0725	100	.5	23.87	0.273	18.43	6.67	64.8	162	1.89
	0730	100	1.0	23.92	0.277	18.27	6.86	57.0	162	1.60
	0735	100	1.5	23.95	0.277	18.21	6.92	54.1	164	1.45
	0740	100	2.0	23.97	0.278	18.17	6.93	53.6	164	1.43
	0745	100	2.5	23.99	0.278	18.13	6.94	52.9	165	1.41
↓	0750	100	3.0	24.01	0.278	18.10	6.94	52.2	165	1.39

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW04**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW04-221103-MS **DATE/TIME:** 11/3/22 0710 **Pump Inlet Depth:** 27.85

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 0720

Depth to Water - Initial (DTWi) (ft) 23.80

Purge End Date/Time: 11/3/22 0750

Depth to Well Bottom (ft) 33.23

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.85 - 32.85

Discharge Tube Diameter: 1/4"

Immiscible Layer: Y / N

Approximate depth of pump inlet*(ft): 27.85

Pump Start Time: 0720

Ferrous Iron (Required Y or N) 0.12 mg/L

2ND DTW - 23.80

APTIM

Sample Collection Log

Location ID: 35BWW04		Sample No: 35BWW04-221103-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	0725	100	.5	23.87	0.273	18.43	6.67	64.8	162	1.89
	0730	100	1.0	23.92	0.277	18.27	6.86	57.0	162	1.60
	0735	100	1.5	23.95	0.277	18.21	6.92	54.1	164	1.45
	0740	100	2.0	23.97	0.278	18.17	6.93	53.6	164	1.43
	0745	100	2.5	23.99	0.278	18.13	6.94	52.9	165	1.41
↓	0750	100	3.0	24.01	0.278	18.10	6.94	52.2	165	1.39

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW04**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW04-221103-MSD **DATE/TIME:** 11/3/22 0710 **Pump Inlet Depth:** 27.85

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 0720

Depth to Water - Initial (DTWi) (ft) 23.80

Purge End Date/Time: 11/3/22 0750

Depth to Well Bottom (ft) 33.23

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.85-32.85

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 27.85

Pump Start Time: 0720

Ferrous Iron (Required (Y) or N) 0.12 mg/L

2ND DTW- 23.80

APTIM

Sample Collection Log

Location ID: 35BWW04	Sample No: 35BWW04-221103-MSD									
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	0725	100	.5	23.87	0.273	18.43	6.67	64.8	162	1.89
	0730	100	1.0	23.92	0.277	18.27	6.86	57.0	162	1.60
	0735	100	1.5	23.95	0.277	18.21	6.92	54.1	164	1.45
	0740	100	2.0	23.97	0.278	18.17	6.93	53.6	164	1.43
	0745	100	2.5	23.99	0.278	18.13	6.94	52.9	165	1.41
↓	0750	100	3.0	24.01	0.278	18.10	6.94	52.2	165	1.39

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW05**

Sampler(s): Scott Beasinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW05-221101 **DATE/TIME:** 11/1/22 0846 **Pump Inlet Depth:** 33.60

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2"

Purge Start Date/Time: 11/1/22 0850

Depth to Water - Initial (DTWi) (ft) 24.43

Purge End Date/Time: 11/1/22 0920

Depth to Well Bottom (ft) 38.02

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 28.60-38.60

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / N

Approximate depth of pump inlet*(ft): 33.60

Pump Start Time: 0850

Ferrous Iron (Required Y or N) _____ mg/L

2ND DTW~ 24.43

APTIM

Sample Collection Log

Location ID: 35BWW05		Sample No: 35BWW05-2211 01								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	0855	100	.5	24.50	0.289	16.69	6.47	653	40	0.75
	0900	100	1.0	24.56	0.288	17.51	6.86	621	20	0.34
	0905	100	1.5	24.60	0.285	17.69	6.94	603	9	0.17
	0910	100	2.0	24.62	0.284	17.75	6.95	601	9	0.17
	0915	100	2.5	24.64	0.284	17.80	6.95	599	8	0.16
	0920	100	3.0	24.65	0.284	17.85	6.95	598	8	0.16

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW07**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW07-221102 **DATE/TIME:** 11/2/22 0945 **Pump Inlet Depth:** 28.00

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 0955

Depth to Water - Initial (DTWi) (ft) 27.33

Purge End Date/Time: 11/2/22 1025

Depth to Well Bottom (ft) ~~28.5~~ 31.33

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 20.67 - 30.67

Discharge Tube Diameter: 1/4"

Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~28~~ 28.00

Pump Start Time: 0955

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 27.33

APTIM

Sample Collection Log

Location ID: 35BWW07				Sample No: 35BWW07-221102						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	1000	100	.5	27.40	0.685	17.34	7.30	45.7	-17	0.75
	1005	100	1.0	27.46	0.713	17.60	7.47	40.5	-13	0.31
	1010	100	1.5	27.50	0.713	17.89	7.50	37.7	9	0.11
	1015	100	2.0	27.53	0.714	17.95	7.51	37.2	10	0.11
	1020	100	2.5	27.56	0.714	18.02	7.51	36.6	11	0.10
↓	1025	100	3.0	27.58	0.714	18.08	7.51	36.1	11	0.10

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW08**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW08-2211 02 **DATE/TIME:** 11/2/22 0805 **Pump Inlet Depth:** 29.72

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 0810

Depth to Water - Initial (DTWi) (ft) 25.49

Purge End Date/Time: 11/2/22 0840

Depth to Well Bottom (ft) 34.12

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 24.72-34.72

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.72

Pump Start Time: 0810

Ferrous Iron (Required (Y) or N) 0.08 mg/L

2ND DTW - 25.49

APTIM

Sample Collection Log

Location ID: 35BWW08				Sample No: 35BWW08-221102						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	0815	100	.5	25.57	0.306	17.12	7.07	60.2	166	1.81
	0820	100	1.0	25.63	0.309	18.48	7.13	55.7	170	1.60
	0825	100	1.5	25.67	0.312	18.85	7.19	50.1	170	1.45
	0830	100	2.0	25.70	0.312	18.91	7.20	49.5	171	1.43
	0835	100	2.5	25.72	0.313	18.97	7.20	48.8	172	1.41
↓	0840	100	3.0	25.74	0.313	19.03	7.20	48.2	172	1.39

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW09**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW09-221101 **DATE/TIME:** 11/1/22 1126 **Pump Inlet Depth:** 32.01

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/1/22 1130

Depth to Water - Initial (DTWi) (ft) 26.57

Purge End Date/Time: 11/1/22 1200

Depth to Well Bottom (ft) 37.01

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 27.01 - 37.01

Discharge Tube Diameter: 1/4"

Immiscible Layer: Y (N)

Approximate depth of pump inlet*(ft): 32.01

Pump Start Time: 1130

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 26.57

APTIM

Sample Collection Log

Location ID: 35BWW09		Sample No: 35BWW09-221101								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	1135	100	.5	26.64	0.456	20.54	7.55	67.9	89	0.82
	1140	100	1.0	26.70	0.468	19.80	7.61	59.6	84	0.25
	1145	100	1.5	26.73	0.479	19.63	7.69	56.0	74	0.06
	1150	100	2.0	26.75	0.480	19.57	7.69	55.5	73	0.06
	1155	100	2.5	26.77	0.480	19.53	7.70	54.8	72	0.05
	1200	100	3.0	26.78	0.480	19.49	7.70	54.2	72	0.05

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Location ID: **35BWW10**

Project No: **501032**

Sampler(s): Scott Beasinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW10-2211_01 **DATE/TIME:** 11/1/22 0805 **Pump Inlet Depth:** 28.62

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/1/22 0810

Depth to Water - Initial (DTWi) (ft) 25.25

Purge End Date/Time: 11/1/22 0840

Depth to Well Bottom (ft) ~~38~~ 36.33

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 21.23 - 36.00

Discharge Tube Diameter: 1/4"

Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~25~~ 28.62

Pump Start Time: 0810

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.25

APTIM

Sample Collection Log

Location ID: 35BWW10					Sample No: 35BWW10-2211 01					
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	0815	100	.5	25.32	0.175	17.62	6.01	180	105	1.17
	0820	100	1.0	25.38	0.183	17.69	6.24	164	127	0.90
	0825	100	1.5	25.42	0.187	17.75	6.15	158	165	0.79
	0830	100	2.0	25.45	0.188	17.80	6.14	157	167	0.78
	0835	100	2.5	25.47	0.188	17.84	6.14	156	168	0.77
	0840	100	3.0	25.49	0.188	17.87	6.13	155	169	0.76

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW11**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW11-2211 01 **DATE/TIME:** 11/1/22 1006 **Pump Inlet Depth:** 32.41

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/1/22 1010

Depth to Water - Initial (DTWi) (ft) 24.33

Purge End Date/Time: 11/1/22 1040

Depth to Well Bottom (ft) 37.62

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 27.41 - 37.41

Discharge Tube Diameter: 1/4" Immiscible Layer: Y (N)

Approximate depth of pump inlet*(ft): 32.41

Pump Start Time: 1010

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 24.33

APTIM

Sample Collection Log

Location ID: 35BWW11				Sample No: 35BWW11-2211 01						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	1015	100	.5	24.40	0.490	17.74	7.00	42.6	67	0.71
	1020	100	1.0	24.46	0.501	17.85	6.93	35.5	19	0.30
	1025	100	1.5	24.50	0.504	18.18	6.88	31.8	7	0.12
	1030	100	2.0	24.52	0.505	18.24	6.87	31.3	7	0.12
	1035	100	2.5	24.53	0.505	18.30	6.87	30.6	6	0.12
	1040	100	3.0	24.54	0.505	18.34	6.87	30.2	6	0.11

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Location ID: **35BWW12**

Project No: **501032**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW12-221102 **DATE/TIME:** 11/2/22 0854 **Pump Inlet Depth:** 30.30

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 0900

Depth to Water - Initial (DTWi) (ft) 22.68

Purge End Date/Time: 11/2/22 0930

Depth to Well Bottom (ft) ~~35.8~~ 38.39

Discharge Tube Length: NA

PID Reading: NA

Screen Interval (ft): 22.95 - 37.65

Discharge Tube Diameter: 1/4"

Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~27.95~~ 30.30

Pump Start Time: 0900

Ferrous Iron (Required (Y) or N) 0.94 mg/L

2ND DTW - 22.68

APTIM

Sample Collection Log

Location ID: 35BWW12		Sample No: 35BWW12-221102								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	0905	100	.5	22.75	0.295	17.32	7.51	263	163	0.69
	0910	100	1.0	22.80	0.301	17.71	6.94	237	152	0.29
	0915	100	1.5	22.83	0.316	17.80	6.82	225	126	0.05
	0920	100	2.0	22.85	0.316	17.86	6.81	223	124	0.04
	0925	100	2.5	22.87	0.317	17.93	6.81	221	123	0.04
↓	0930	100	3.0	22.88	0.317	17.98	6.80	219	122	0.04

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW12**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW12-221102-FD **DATE/TIME:** 11/2/22 0854 **Pump Inlet Depth:** 30.30

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 0900

Depth to Water - Initial (DTWi) (ft) 22.68

Purge End Date/Time: 11/2/22 0930

Depth to Well Bottom (ft) 38.39

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.95 - 37.65

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 30.30

Pump Start Time: 0900

Ferrous Iron (Required (Y) or N) 0.94 mg/L

2ND DTW - 22.68

APTIM

Sample Collection Log

Location ID: 35BWW12		Sample No: 35BWW12-221102-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	0905	100	.5	22.75	0.295	17.32	7.51	263	163	0.69
	0910	100	1.0	22.80	0.301	17.71	6.94	237	152	0.29
	0915	100	1.5	22.83	0.316	17.80	6.82	225	126	0.05
	0920	100	2.0	22.85	0.316	17.86	6.81	223	124	0.04
	0925	100	2.5	22.87	0.317	17.93	6.81	221	123	0.04
↓	0930	100	3.0	22.88	0.317	17.98	6.80	219	122	0.04

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW13**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW13-221102 **DATE/TIME:** 11/2/22 1031 **Pump Inlet Depth:** 29.60

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 1035

Depth to Water - Initial (DTWi) (ft) 25.35

Purge End Date/Time: 11/2/22 1105

Depth to Well Bottom (ft) 37.68

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.25 - 36.95

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 29.60 Pump Start Time: 1035

Ferrous Iron (Required Y or (N)) _____ mg/L

2nd DTW - 25.35

APTIM

Sample Collection Log

Location ID: 35BWW13		Sample No: 35BWW13-221102								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	1040	100	.5	25.42	0.168	17.39	7.51	203	115	1.18
	1045	100	1.0	25.48	0.148	18.04	5.77	188	200	0.96
	1050	100	1.5	25.52	0.138	18.31	5.45	176	230	0.85
	1055	100	2.0	25.54	0.137	18.37	5.44	174	231	0.84
	1100	100	2.5	25.56	0.137	18.42	5.43	172	231	0.83
↓	1105	100	3.0	25.57	0.137	18.47	5.42	171	232	0.83

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW14**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW14-221103 **DATE/TIME:** 11/3/22 0815 **Pump Inlet Depth:** 31.71

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 0820

Depth to Water - Initial (DTWi) (ft) 23.41

Purge End Date/Time: 11/3/22 0850

Depth to Well Bottom (ft) 37.27

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 26.71-36.71

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): 31.71

Pump Start Time: 0820

Ferrous Iron (Required (Y) or N) 0.11 mg/L

2ND DTW - 23.41

APTIM

Sample Collection Log

Location ID: 35BWW14				Sample No: 35BWW14-2211 03						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	0825	100	.5	23.48	0.391	17.20	7.41	18.3	146	0.65
	0830	100	1.0	23.53	0.390	18.29	7.34	13.0	147	0.20
	0835	100	1.5	23.56	0.390	18.38	7.28	12.6	143	0.04
	0840	100	2.0	23.58	0.390	18.45	7.27	12.2	143	0.04
	0845	100	2.5	23.60	0.391	18.51	7.27	11.5	142	0.03
	0850	100	3.0	23.62	0.391	18.56	7.27	11.0	142	0.03

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW15**

Sampler(s): Scott Baessler

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW15-221103 **DATE/TIME:** 11/3/22 0859 **Pump Inlet Depth:** 34.34

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/3/22 0905

Depth to Water - Initial (DTWi) (ft) 23.87

Purge End Date/Time: 11/3/22 0935

Depth to Well Bottom (ft) ~~47.58~~ 50.15

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 19.34-49.34

Discharge Tube Diameter: 1/4" Immiscible Layer: Y /(N)

Approximate depth of pump inlet*(ft): ~~32.8~~ 34.34

Pump Start Time: 0905

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW-23.87

APTIM

Sample Collection Log

Location ID: 35BWW15		Sample No: 35BWW15-2211 03								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	0910	100	.5	23.94	0.391	17.71	7.43	77.4	140	1.37
	0915	100	1.0	23.99	0.392	17.95	7.21	74.6	142	1.14
	0920	100	1.5	24.03	0.396	18.08	7.13	70.2	133	0.92
	0925	100	2.0	24.06	0.396	18.14	7.13	69.4	132	0.91
	0930	100	2.5	24.08	0.397	18.18	7.12	68.5	131	0.91
↓	0935	100	3.0	24.10	0.397	18.22	7.12	68.0	131	0.90

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW16**

Sampler(s): Scott Beasinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW16-221102 **DATE/TIME:** 11/2/22 1111 **Pump Inlet Depth:** 29.01

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 1115

Depth to Water - Initial (DTWi) (ft) 23.50

Purge End Date/Time: 11/2/22 1145

Depth to Well Bottom (ft) ~~36.~~36.86

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.66-36.36

Discharge Tube Diameter: 1/4" Immiscible Layer: Y (N)

Approximate depth of pump inlet*(ft): ~~26.15~~ 29.01

Pump Start Time: 1115

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 23.50

APTIM

Sample Collection Log

Location ID: 35BWW16		Sample No: 35BWW16-221102								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	1120	100	.5	23.62	0.232	18.89	6.20	171	161	1.17
	1125	100	1.0	23.67	0.233	19.05	6.22	155	163	0.67
	1130	100	1.5	23.70	0.237	19.07	6.24	146	160	0.40
	1135	100	2.0	23.72	0.238	19.09	6.24	145	159	0.39
	1140	100	2.5	23.73	0.238	19.11	6.24	143	159	0.38
↓	1145	100	3.0	23.74	0.238	19.13	6.24	142	159	0.37

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW17**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW17-2211 02 **DATE/TIME:** 11/2/22 1151 **Pump Inlet Depth:** 28.49

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 1220

Depth to Water - Initial (DTWi) (ft) 22.84

Purge End Date/Time: 11/2/22 1250

Depth to Well Bottom (ft) ~~33.5~~ 36.18

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.14 - ~~35~~.84

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~25.50~~ 28.49

Pump Start Time: 1220

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 22.84

APTIM

Sample Collection Log

Location ID: 35BWW17										Sample No: 35BWW17-221102
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	1225	100	.5	22.91	0.078	19.23	5.92	351	208	0.72
	1230	100	1.0	22.97	0.071	19.07	5.64	322	235	0.31
	1235	100	1.5	23.01	0.068	19.03	5.51	303	260	0.06
	1240	100	2.0	23.03	0.068	19.00	5.50	301	261	0.05
	1245	100	2.5	23.05	0.068	18.97	5.50	299	262	0.05
↓	1250	100	3.0	23.06	0.068	18.94	5.49	298	263	0.05

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW17**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW17-221102-FD **DATE/TIME:** 11/2/22 1157 **Pump Inlet Depth:** 28.49

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/2/22 1220

Depth to Water - Initial (DTWi) (ft) 22.84

Purge End Date/Time: 11/2/22 1250

Depth to Well Bottom (ft) ~~35.5~~ 36.18

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.14-35.84

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~25.93~~ 28.49

Pump Start Time: 1220

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 22.84

APTIM

Sample Collection Log

Location ID: 35BWW17		Sample No: 35BWW17-2211**02**-FD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	1225	100	.5	22.91	0.078	19.23	5.92	351	208	0.72
	1230	100	1.0	22.97	0.071	19.07	5.64	322	235	0.31
	1235	100	1.5	23.01	0.068	19.03	5.51	303	260	0.06
	1240	100	2.0	23.03	0.068	19.00	5.50	301	261	0.05
	1245	100	2.5	23.05	0.068	18.97	5.50	299	262	0.05
↓	1250	100	3.0	23.06	0.068	18.94	5.49	298	263	0.05

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW18**

Sampler(s): Scott Bessinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW18-221101 **DATE/TIME:** 11/1/22 1246 **Pump Inlet Depth:** 28.06

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/1/22 1250

Depth to Water - Initial (DTWi) (ft) 27.47

Purge End Date/Time: 11/1/22 1320

Depth to Well Bottom (ft) ~~33.2~~ 35.45

Discharge Tube Length: ~~1/4"~~ NA PID Reading: NA

Screen Interval (ft): 20.69-35.42

Discharge Tube Diameter: 1/4" Immiscible Layer: Y /(N)

Approximate depth of pump inlet*(ft): ~~25-435~~ 28.06 Pump Start Time: 1250

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 27.47

APTIM

Sample Collection Log

Location ID: 35BWW18		Sample No: 35BWW18-2211_01								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	1255	100	.5	27.54	2.43	19.43	7.27	21.2	137	0.77
	1300	100	1.0	27.60	2.54	19.12	7.05	15.6	153	0.40
	1305	100	1.5	27.63	2.61	18.97	6.88	12.7	162	0.28
	1310	100	2.0	27.66	2.62	18.93	6.87	12.2	163	0.27
	1315	100	2.5	27.68	2.63	18.90	6.87	11.8	163	0.26
	1320	100	3.0	27.70	2.63	18.87	6.86	11.3	164	0.26

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW19**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW19-221101 **DATE/TIME:** 11/1/22 1206 **Pump Inlet Depth:** 28.68

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/1/22 1210

Depth to Water - Initial (DTWi) (ft) 26.85

Purge End Date/Time: 11/1/22 1240

Depth to Well Bottom (ft) ~~36.2~~ 36.58

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 21.31 - 36.04

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~25.45~~ 28.68 Pump Start Time: 1210

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 26.85

APTIM

Sample Collection Log

Location ID: 35BWW19 Sample No: 35BWW19-2211 01

Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	1215	100	.5	26.92	2.89	19.65	7.39	157	126	0.97
	1220	100	1.0	26.98	3.05	19.29	7.02	138	132	0.71
	1225	100	1.5	27.02	3.14	19.17	6.96	126	139	0.62
	1230	100	2.0	27.04	3.15	19.12	6.96	125	140	0.61
	1235	100	2.5	27.06	3.16	19.07	6.96	124	140	0.60
	1240	100	3.0	27.08	3.16	19.03	6.96	124	140	0.59

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW20**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW20-2211 01 **DATE/TIME:** 11/1/22 1046 **Pump Inlet Depth:** 27.25

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 2

Purge Start Date/Time: 11/1/22 1050

Depth to Water - Initial (DTWi) (ft) 26.55

Purge End Date/Time: 11/1/22 1120

Depth to Well Bottom (ft) ~~29.4~~ 32.95

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 17.70 - 32.46

Discharge Tube Diameter: 1/4" Immiscible Layer: Y (N)

Approximate depth of pump inlet*(ft): ~~29.52~~ 27.25 Pump Start Time: 1050

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 26.55

APTIM

Sample Collection Log

Location ID: 35BWW20		Sample No: 35BWW20-2211 01								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	1055	100	.5	26.62	0.348	19.09	7.25	701	51	1.45
	1100	100	1.0	26.68	0.339	20.55	7.20	660	68	1.22
	1105	100	1.5	26.72	0.335	20.82	7.20	650	83	1.12
	1110	100	2.0	26.76	0.335	20.88	7.19	648	84	1.10
	1115	100	2.5	26.79	0.334	20.96	7.19	646	84	1.09
	1120	100	3.0	26.82	0.334	21.04	7.19	645	85	1.08

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW23**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW23-221103 **DATE/TIME:** 11/3/22 0942 **Pump Inlet Depth:** 29.50

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 0945

Depth to Water - Initial (DTWi) (ft) 28.71

Purge End Date/Time: 11/3/22 1015

Depth to Well Bottom (ft) ~~35.6~~ 33.62

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.63-32.63

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~25~~ 29.50

Pump Start Time: 0945

Ferrous Iron (Required) (Y or N) 0.17 mg/L

2ND DTW - 28.71

APTIM

Sample Collection Log

Location ID: 35BWW23		Sample No: 35BWW23-221103								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	0950	100	.5	28.79	0.400	17.96	7.41	20.8	121	1.97
	0955	100	1.0	28.85	0.401	18.17	7.09	18.6	155	1.80
	1000	100	1.5	28.89	0.401	18.28	6.99	17.7	170	1.67
	1005	100	2.0	28.92	0.400	18.33	6.98	17.3	171	1.65
	1010	100	2.5	28.95	0.400	18.38	6.98	16.6	172	1.63
↓	1015	100	3.0	28.98	0.400	18.43	6.97	16.2	172	1.62

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW24-221103 **DATE/TIME:** 11/3/22 1025 **Pump Inlet Depth:** 30.25

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 1030

Depth to Water - Initial (DTWi) (ft) 29.67

Purge End Date/Time: 11/3/22 1100

Depth to Well Bottom (ft) ~~32.42~~ 32.71

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.72-32.42

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~24.25~~ 30.25 Pump Start Time: 1030

Ferrous Iron (Required Y or (N)) [redacted] mg/L

2ND DTW - 29.67

APTIM

Sample Collection Log

Location ID: 35BWW24		Sample No: 35BWW24-221103								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	1035	100	.5	29.74	1.10	18.38	7.16	78.3	164	2.71
	1040	100	1.0	29.80	1.20	18.65	7.03	70.5	172	2.33
	1045	100	1.5	29.83	1.24	18.80	6.95	66.7	176	2.17
	1050	100	2.0	29.86	1.25	18.85	6.94	66.2	177	2.15
	1055	100	2.5	29.89	1.26	18.89	6.93	65.6	178	2.13
	1100	100	3.0	29.91	1.26	18.94	6.93	65.0	178	2.11

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW24**

Sampler(s): Scott Beasinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW24-221103-FD **DATE/TIME:** 11/3/22 1025 **Pump Inlet Depth:** 30.25

Sampling Method: LF **Sample Purpose:** FD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 1030

Depth to Water - Initial (DTWi) (ft) 29.67

Purge End Date/Time: 11/3/22 1100

Depth to Well Bottom (ft) ~~32.2~~ 32.71

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.72-32.42

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~31.25~~ 30.25 Pump Start Time: 1030

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 29.67

APTIM

Sample Collection Log

Location ID: 35BWW24				Sample No: 35BWW24-2211**03**-FD						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	1035	100	.5	29.74	1.10	18.38	7.16	78.3	164	2.71
	1040	100	1.0	29.80	1.20	18.65	7.03	70.5	172	2.38
	1045	100	1.5	29.83	1.24	18.80	6.95	66.7	176	2.17
	1050	100	2.0	29.86	1.25	18.85	6.94	66.2	177	2.15
	1055	100	2.5	29.89	1.26	18.89	6.93	65.6	178	2.13
↓	1100	100	3.0	29.91	1.26	18.94	6.93	65.0	178	2.11

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW25**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: 35BWW25-221103 **DATE/TIME:** 11/3/22 1108 **Pump Inlet Depth:** 28.00

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 1115

Depth to Water - Initial (DTWi) (ft) 27.25

Purge End Date/Time: 11/3/22 1145

Depth to Well Bottom (ft) ~~32.2~~ 32.52

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.47 - 32.17

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~24.78~~ 28.00 Pump Start Time: 1115

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - 27.25

APTIM

Sample Collection Log

Location ID: 35BWW25		Sample No: 35BWW25-221103								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	1120	100	.5	27.32	0.675	19.31	7.61	25.7	147	1.51
	1125	100	1.0	27.38	0.654	19.45	7.00	21.5	181	1.29
	1130	100	1.5	27.42	0.646	19.49	6.88	18.8	183	1.06
	1135	100	2.0	27.45	0.646	19.53	6.87	18.3	184	1.04
	1140	100	2.5	27.47	0.645	19.57	6.86	17.6	184	1.02
↓	1145	100	3.0	27.49	0.645	19.60	6.86	17.1	184	1.00

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW25**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW25-221103-MS **DATE/TIME:** 11/3/22 1108 **Pump Inlet Depth:** 28.00

Sampling Method: LF **Sample Purpose:** MS **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 1115

Depth to Water - Initial (DTWi) (ft) 27.25

Purge End Date/Time: 11/3/22 1145

Depth to Well Bottom (ft) ~~30.2~~ 32.52

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.47 - 32.17

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~27.5~~ 28.00 Pump Start Time: 1115

Ferrous Iron (Required Y or (N)) _____ mg/L

2ND DTW - ~~31~~ 27.25

APTIM

Sample Collection Log

Location ID: 35BWW25		Sample No: 35BWW25-221103-MS								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	1120	100	.5	27.32	0.675	19.31	7.61	25.7	147	1.51
	1125	100	1.0	27.38	0.654	19.45	7.00	21.5	181	1.29
	1130	100	1.5	27.42	0.646	19.49	6.88	18.8	183	1.06
	1135	100	2.0	27.45	0.646	19.53	6.87	18.3	184	1.04
	1140	100	2.5	27.47	0.645	19.57	6.86	17.6	184	1.02
	1145	100	3.0	27.49	0.645	19.60	6.86	17.1	184	1.00

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW25**

Sampler(s): Scott Bressinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW25-221103-MSD **DATE/TIME:** 11/3/22 1108 **Pump Inlet Depth:** 28.00

Sampling Method: LF **Sample Purpose:** MSD **Sample Matrix:** GW

Appearance of Sample	Assoc. QC Samples	Decontamination Procedures

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/3/22 1115

Depth to Water - Initial (DTWi) (ft) 27.25

Purge End Date/Time: 11/3/22 1145

Depth to Well Bottom (ft) ~~32.2~~ 32.52

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 22.47-32.17

Discharge Tube Diameter: 1/4" Immiscible Layer: Y (N)

Approximate depth of pump inlet*(ft): ~~27.35~~ 28.00

Pump Start Time: 1115

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW 27.25

APTIM

Sample Collection Log

Location ID: 35BWW25		Sample No: 35BWW25-221103-MSD								
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/3/22	1120	100	.5	27.32	0.675	19.31	7.61	25.7	147	1.51
	1125	100	1.0	27.38	0.654	19.45	7.00	21.5	181	1.29
	1130	100	1.5	27.42	0.646	19.49	6.88	18.8	183	1.06
	1135	100	2.0	27.45	0.646	19.53	6.87	18.3	184	1.04
	1140	100	2.5	27.47	0.645	19.57	6.86	17.6	184	1.02
↓	1145	100	3.0	27.49	0.645	19.60	6.86	17.1	184	1.00

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **35BWW26**

Sampler(s): Scott Beesinger

FIELD CONDITIONS Cloudy

SAMPLING INFORMATION

Sample No: 35BWW26-221102 **DATE/TIME:** 11/2/22 0714 **Pump Inlet Depth:** 32.50

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample **Assoc. QC Samples** **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	Anions (chloride/nitrate/sulfate) in Water by SW9056	1 x 125 mL HPDE	Cool 4C
		ALSHT	Carbon Dioxide in Water by RSK175	3 x 40 mL Glass	Cool 4C
		ALSHT	Dissolved Gases in Water by RSK175	3 x 40 mL Glass	HCL<pH2
		ALSHT	TOC in Water by SM5310C	2 x 40 mL Amber	H2SO4
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low Flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/2/22 0725

Depth to Water - Initial (DTWi) (ft) 27.80

Purge End Date/Time: 11/2/22 0755

Depth to Well Bottom (ft) ~~38.05~~ 38.02

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 27.65-37.35

Discharge Tube Diameter: 1/4" Immiscible Layer: Y / (N)

Approximate depth of pump inlet*(ft): ~~32.95~~ 32.50 Pump Start Time: 0725

Ferrous Iron (Required (Y) or N) 0.00 mg/L

2ND DTW - 27.80

APTIM

Sample Collection Log

Location ID: 35BWW26				Sample No: 35BWW26-221102						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/2/22	0730	100	.5	27.87	0.476	17.41	7.48	16.9	153	0.89
	0735	100	1.0	27.93	0.306	18.37	6.71	14.5	188	0.51
	0740	100	1.5	27.97	0.276	18.58	6.54	12.5	197	0.34
	0745	100	2.0	28.00	0.275	18.64	6.53	12.0	198	0.33
	0750	100	2.5	28.02	0.274	18.69	6.52	11.6	199	0.33
↓	0755	100	3.0	28.04	0.274	18.73	6.51	11.0	199	0.32

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

APTIM

Sample Collection Log

Project Name: **Longhorn AAP**

Project No: **501032**

Location ID: **LHSMW58**

Sampler(s): Scott Beesinger

FIELD CONDITIONS

Cloudy

SAMPLING INFORMATION

Sample No: LHSMW58-221101 **DATE/TIME:** 11/1/22 0926 **Pump Inlet Depth:** 29.18

Sampling Method: LF **Sample Purpose:** REG **Sample Matrix:** GW

Appearance of Sample | **Assoc. QC Samples** | **Decontamination Procedures**

Chain of Custody	COC Notes	Lab	Analyses	Container	Preserv
		ALSHT	VOCs in Water by 8260C	3 x 40 mL Glass	HCL<pH2

WELL AND PURGING INFORMATION

Measuring Point : Top of Casing

Purging Method/Equipment: Low flow/Bladder Pump

Casing ID (in.): 4

Purge Start Date/Time: 11/1/22 0930

Depth to Water - Initial (DTWi) (ft) 25.07

Purge End Date/Time: 11/1/22 1000

Depth to Well Bottom (ft) ~~34.9~~ 35.17

Discharge Tube Length: NA PID Reading: NA

Screen Interval (ft): 24.18 - 34.18

Discharge Tube Diameter: 1/4" Immiscible Layer: Y (N)

Approximate depth of pump inlet*(ft): ~~29.4~~ 29.18

Pump Start Time: 0930

Ferrous Iron (Required Y or (N) _____ mg/L

2ND DTW - 25.07

APTIM

Sample Collection Log

Location ID: LHSMW58				Sample No: LHSMW58-221101						
Date of Reading	Time of Reading	Purge Rate	Total Purge	DTW	Cond.	Temp.	pH	Turbidity	ORP	DO
		(ml/min)	(L)	(ft)	(mS/cm)	(°C)		(NTU)	(mV)	(mg/L)
	Purge Stabilization Criteria	-	-	Drawdown limit 0.3 ft	±10%		±0.1 units	No criteria		± 10% or 0.2 mg/L
11/1/22	0935	100	.5	25.15	0.238	16.85	7.17	29.7	88	1.06
	0940	100	1.0	25.20	0.237	18.17	6.70	23.6	119	0.88
	0945	100	1.5	25.23	0.237	18.49	6.50	20.7	135	0.44
	0950	100	2.0	25.25	0.237	18.56	6.49	20.4	136	0.43
	0955	100	2.5	25.27	0.237	18.62	6.48	19.8	137	0.42
↓	1000	100	3.0	25.28	0.237	18.68	6.48	19.2	138	0.41

Logged by: _____ Date: _____

QC'd by: _____ Date: _____

Appendix C

Laboratory Analytical Data Package

(Provided electronically on CD and the Portal)

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February 07, 2023

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22110180**

Laboratory Results for: **LHAAP 37 November 2022**

Dear Vicki Graves ,

ALS Environmental received 10 sample(s) on Nov 03, 2022 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: DANE.WACASEY
Dane J. Wacasey

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Work Order: HS22110180

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110180-01	35BWW26-221102	Groundwater		02-Nov-2022 07:55	03-Nov-2022 09:00	☐
HS22110180-02	35BWW08-221102	Groundwater		02-Nov-2022 08:40	03-Nov-2022 09:00	☐
HS22110180-03	35BWW12-221102	Groundwater		02-Nov-2022 09:30	03-Nov-2022 09:00	☐
HS22110180-04	35BWW12-221102-FD	Groundwater		02-Nov-2022 09:30	03-Nov-2022 09:00	☐
HS22110180-05	35BWW07-221102	Groundwater		02-Nov-2022 10:25	03-Nov-2022 09:00	☐
HS22110180-06	35BWW13-221102	Groundwater		02-Nov-2022 11:05	03-Nov-2022 09:00	☐
HS22110180-07	35BWW16-221102	Groundwater		02-Nov-2022 11:45	03-Nov-2022 09:00	☐
HS22110180-08	35BWW17-221102	Groundwater		02-Nov-2022 12:50	03-Nov-2022 09:00	☐
HS22110180-09	35BWW17-221102-FD	Groundwater		02-Nov-2022 12:50	03-Nov-2022 09:00	☐
HS22110180-10	Trip Blank-221102	Water	CG-090622-778	02-Nov-2022 00:00	03-Nov-2022 09:00	☐

Revision:1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2022
Work Order: HS22110180

Work Order Comments

• This report was revised February 7, 2023, to adjust the VOC analyte list to include the compounds related to site LHAAP 37.

Work Order Comments

• The analysis for CO2 by RSK175 was performed by Eurofins in Lancaster, PA. The Final report is appended.

GC Semivolatiles by Method RSK-175

Batch ID: R421147

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R421126

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM5310B

Batch ID: R422070

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R420977

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW26-221102 Lab ID:HS22110180-01
Collection Date: 02-Nov-2022 07:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 15:08
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 15:08
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW26-221102 Lab ID:HS22110180-01
Collection Date: 02-Nov-2022 07:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 15:08
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 15:08*
Surr: 4-Bromofluorobenzene	*92.7*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 15:08*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 15:08*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 15:08*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 10:35
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 10:35
Methane	**0.00122**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 10:35
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.594**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 12:22

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW26-221102
Collection Date: 02-Nov-2022 07:55

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**30.7**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:07
Nitrogen, Nitrate (As N)	**0.108**		**0.0300**	**0.0500**	**0.100**	**mg/L**	1	03-Nov-2022 22:07
Sulfate	**24.5**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:07
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW08-221102
Collection Date: 02-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 17:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW08-221102 Lab ID:HS22110180-02
Collection Date: 02-Nov-2022 08:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Trichloroethene	**0.56**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 17:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Surr: 1,2-Dichloroethane-d4	*86.6*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 17:57*
Surr: 4-Bromofluorobenzene	*92.7*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 17:57*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 17:57*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 17:57*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 11:01
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 11:01
Methane	**0.00141**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 11:01
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.711**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 12:49

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW08-221102
Collection Date: 02-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**4.60**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:23
Nitrogen, Nitrate (As N)	**0.284**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	03-Nov-2022 22:23
Sulfate	**35.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:23
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 18:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Tetrachloroethene	**5.2**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:18
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Trichloroethene	**0.58**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Surr: 1,2-Dichloroethane-d4	*85.6*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 18:18*
Surr: 4-Bromofluorobenzene	*92.5*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 18:18*
Surr: Dibromofluoromethane	*90.3*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 18:18*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 18:18*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 11:14
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 11:14
Methane	**0.00135**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 11:14
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.617**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 13:02

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**8.82**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:28
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	03-Nov-2022 22:28
Sulfate	**40.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:28
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW12-221102-FD Lab ID:HS22110180-04
Collection Date: 02-Nov-2022 09:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:39
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 18:39
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW12-221102-FD Lab ID:HS22110180-04
Collection Date: 02-Nov-2022 09:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:39
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Tetrachloroethene	**5.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:39
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Trichloroethene	**0.53**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:39
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Surr: 1,2-Dichloroethane-d4	*86.1*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 18:39*
Surr: 4-Bromofluorobenzene	*92.5*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 18:39*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 18:39*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 18:39*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 11:29
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 11:29
Methane	**0.00623**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 11:29
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.636**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 13:15

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102-FD
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**8.84**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:33
Nitrogen, Nitrate (As N)	0.0500	U	0.0300	0.0500	0.100	mg/L	1	03-Nov-2022 22:33
Sulfate	**41.1**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:33
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW07-221102 Lab ID:HS22110180-05
Collection Date: 02-Nov-2022 10:25 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:00
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 19:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW07-221102 Lab ID:HS22110180-05
Collection Date: 02-Nov-2022 10:25 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Surr: 1,2-Dichloroethane-d4	*86.0*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 19:00*
Surr: 4-Bromofluorobenzene	*92.2*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 19:00*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 19:00*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 19:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW13-221102 Lab ID:HS22110180-06
Collection Date: 02-Nov-2022 11:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:21
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 19:21
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW13-221102 Lab ID:HS22110180-06
Collection Date: 02-Nov-2022 11:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:21
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Tetrachloroethene	**1.8**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:21
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Surr: 1,2-Dichloroethane-d4	*86.3*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 19:21*
Surr: 4-Bromofluorobenzene	*92.9*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 19:21*
Surr: Dibromofluoromethane	*91.5*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 19:21*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 19:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW16-221102 Lab ID:HS22110180-07
Collection Date: 02-Nov-2022 11:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1,2-Trichlor-1,2,2-trifluoroethane	**4.4**		**0.50**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:42
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 19:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW16-221102 Lab ID:HS22110180-07
Collection Date: 02-Nov-2022 11:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Tetrachloroethene	**7.2**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:42
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Trichloroethene	**2.0**		**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:42
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 19:42*
Surr: 4-Bromofluorobenzene	*90.9*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 19:42*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 19:42*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 19:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW17-221102 Lab ID:HS22110180-08
Collection Date: 02-Nov-2022 12:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 20:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW17-221102 Lab ID:HS22110180-08
Collection Date: 02-Nov-2022 12:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 20:03*
Surr: 4-Bromofluorobenzene	*92.0*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 20:03*
Surr: Dibromofluoromethane	*91.1*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 20:03*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 20:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW17-221102-FD
Collection Date: 02-Nov-2022 12:50

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:24
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 20:24
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: 35BWW17-221102-FD Lab ID:HS22110180-09
Collection Date: 02-Nov-2022 12:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:24
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Surr: 1,2-Dichloroethane-d4	*85.4*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 20:24*
Surr: 4-Bromofluorobenzene	*91.1*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 20:24*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 20:24*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 20:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110180
Sample ID: Trip Blank-221102 Lab ID:HS22110180-10
Collection Date: 02-Nov-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 14:47
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 14:47
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221102
Collection Date: 02-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 14:47
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Surr: 1,2-Dichloroethane-d4	*87.1*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 14:47*
Surr: 4-Bromofluorobenzene	*92.4*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 14:47*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 14:47*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 14:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R420977 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			03 Nov 2022 22:07	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			03 Nov 2022 22:23	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			03 Nov 2022 22:28	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			03 Nov 2022 22:33	1
Batch ID: R421126 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110180-10	Trip Blank-221102	02 Nov 2022 00:00			06 Nov 2022 14:47	1
Batch ID: R421126 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			06 Nov 2022 15:08	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			06 Nov 2022 17:57	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			06 Nov 2022 18:18	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			06 Nov 2022 18:39	1
HS22110180-05	35BWW07-221102	02 Nov 2022 10:25			06 Nov 2022 19:00	1
HS22110180-06	35BWW13-221102	02 Nov 2022 11:05			06 Nov 2022 19:21	1
HS22110180-07	35BWW16-221102	02 Nov 2022 11:45			06 Nov 2022 19:42	1
HS22110180-08	35BWW17-221102	02 Nov 2022 12:50			06 Nov 2022 20:03	1
HS22110180-09	35BWW17-221102-FD	02 Nov 2022 12:50			06 Nov 2022 20:24	1
Batch ID: R421147 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			05 Nov 2022 10:35	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			05 Nov 2022 11:01	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			05 Nov 2022 11:14	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			05 Nov 2022 11:29	1
Batch ID: R422070 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			17 Nov 2022 12:22	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			17 Nov 2022 12:49	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			17 Nov 2022 13:02	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			17 Nov 2022 13:15	1
Batch ID: R422079 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			17 Nov 2022 15:14	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			17 Nov 2022 15:14	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			17 Nov 2022 15:14	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			17 Nov 2022 15:14	1

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421147 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-221105** Units: **mg/L** Analysis Date: **05-Nov-2022 08:48**
Client ID: Run ID: **FID-4_421147** SeqNo: **6965069** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-221105** Units: **mg/L** Analysis Date: **05-Nov-2022 08:56**
Client ID: Run ID: **FID-4_421147** SeqNo: **6965070** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0202	0.00100	0.01804	0	112	75 - 125				
Ethene	0.0186	0.00100	0.0168	0	110	75 - 125				
Methane	0.00898	0.000500	0.009647	0	93.1	75 - 125				

LCSD Sample ID: **LCSD-221105** Units: **mg/L** Analysis Date: **05-Nov-2022 09:18**
Client ID: Run ID: **FID-4_421147** SeqNo: **6965071** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0213	0.00100	0.01804	0	118	75 - 125	0.02023	5.32	30	
Ethene	0.0194	0.00100	0.0168	0	115	75 - 125	0.01856	4.34	30	
Methane	0.00909	0.000500	0.009647	0	94.2	75 - 125	0.008985	1.17	30	

The following samples were analyzed in this batch: HS22110180-01 HS22110180-02 HS22110180-03 HS22110180-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.08*	*1.0*	*50*	*0*	*88.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.28*	*1.0*	*50*	*0*	*92.6*	*85 - 114*				
Surr: Dibromofluoromethane	*45.48*	*1.0*	*50*	*0*	*91.0*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54*	*1.0*	*50*	*0*	*108*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.11	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	18.22	1.0	20	0	91.1	74 - 131				
1,1,2,2-Tetrachloroethane	20.88	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.06	1.0	20	0	95.3	70 - 136				
1,1,2-Trichloroethane	20.28	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	18.86	1.0	20	0	94.3	77 - 125				
1,1-Dichloroethene	18.88	1.0	20	0	94.4	71 - 131				
1,1-Dichloropropene	17.87	1.0	20	0	89.3	78 - 125				
1,2,3-Trichlorobenzene	20.55	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	21.68	1.0	20	0	108	73 - 122				
1,2,4-Trichlorobenzene	19.45	1.0	20	0	97.3	69 - 130				
1,2,4-Trimethylbenzene	18.74	1.0	20	0	93.7	76 - 124				
1,2-Dibromo-3-chloropropane	22.91	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.15	1.0	20	0	106	77 - 121				
1,2-Dichlorobenzene	20.05	1.0	20	0	100	80 - 119				
1,2-Dichloroethane	20.57	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	18.44	1.0	20	0	92.2	75 - 124				
1,3-Dichlorobenzene	19.59	1.0	20	0	98.0	80 - 119				
1,3-Dichloropropane	20.76	1.0	20	0	104	80 - 119				
1,4-Dichlorobenzene	20.06	1.0	20	0	100	79 - 118				
2,2-Dichloropropane	19.87	1.0	20	0	99.3	60 - 139				
2-Butanone	42.55	2.0	40	0	106	56 - 143				
2-Chlorotoluene	19.18	1.0	20	0	95.9	79 - 122				
2-Hexanone	44.99	2.0	40	0	112	57 - 139				
4-Chlorotoluene	19.64	1.0	20	0	98.2	78 - 122				
4-Isopropyltoluene	17.56	1.0	20	0	87.8	77 - 127				
4-Methyl-2-pentanone	43.09	2.0	40	0	108	67 - 130				
Acetone	47.99	2.0	40	0	120	39 - 160				
Benzene	19.73	1.0	20	0	98.7	79 - 120				
Bromobenzene	20.28	1.0	20	0	101	80 - 120				
Bromochloromethane	19.89	1.0	20	0	99.5	78 - 123				
Bromodichloromethane	20.23	1.0	20	0	101	79 - 125				
Bromoform	20.38	1.0	20	0	102	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	22.26	1.0	20	0	111	53 - 141				
Carbon disulfide	37.81	2.0	40	0	94.5	64 - 133				
Carbon tetrachloride	19.35	1.0	20	0	96.8	72 - 136				
Chlorobenzene	20.01	1.0	20	0	100	82 - 118				
Chloroethane	19.7	1.0	20	0	98.5	60 - 138				
Chloroform	19.14	1.0	20	0	95.7	79 - 124				
Chloromethane	21.74	1.0	20	0	109	50 - 139				
cis-1,2-Dichloroethene	20.17	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	20.89	1.0	20	0	104	75 - 124				
Dibromochloromethane	20.29	1.0	20	0	101	74 - 126				
Dibromomethane	20.55	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.4	1.0	20	0	97.0	32 - 152				
Ethylbenzene	18.57	1.0	20	0	92.9	79 - 121				
Hexachlorobutadiene	18.68	1.0	20	0	93.4	66 - 134				
Isopropylbenzene	17.88	1.0	20	0	89.4	72 - 131				
m,p-Xylene	38.78	2.0	40	0	97.0	80 - 121				
Methylene chloride	21.18	2.0	20	0	106	74 - 124				
Naphthalene	21.5	1.0	20	0	107	61 - 128				
n-Butylbenzene	17.98	1.0	20	0	89.9	75 - 128				
n-Propylbenzene	18.05	1.0	20	0	90.3	76 - 126				
o-Xylene	19.49	1.0	20	0	97.4	78 - 122				
sec-Butylbenzene	18.03	1.0	20	0	90.2	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	18.32	1.0	20	0	91.6	78 - 124				
Tetrachloroethene	19.1	1.0	20	0	95.5	74 - 129				
Toluene	19.53	1.0	20	0	97.6	80 - 121				
trans-1,2-Dichloroethene	19.03	1.0	20	0	95.1	75 - 124				
trans-1,3-Dichloropropene	20.57	1.0	20	0	103	73 - 127				
Trichloroethene	19.25	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.45	1.0	20	0	97.3	65 - 141				
Vinyl chloride	19.12	1.0	20	0	95.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.42*	*1.0*	*50*	*0*	*98.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.79*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*50.48*	*1.0*	*50*	*0*	*101*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.85*	*1.0*	*50*	*0*	*102*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.65	1.0	20	0	98.3	78 - 124				
1,1,1-Trichloroethane	18.8	1.0	20	0	94.0	74 - 131				
1,1,2,2-Tetrachloroethane	18.36	1.0	20	0	91.8	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.26	1.0	20	0	116	70 - 136				
1,1,2-Trichloroethane	19.01	1.0	20	0	95.0	80 - 119				
1,1-Dichloroethane	18	1.0	20	0	90.0	77 - 125				
1,1-Dichloroethene	19.8	1.0	20	0	99.0	71 - 131				
1,1-Dichloropropene	21.48	1.0	20	0	107	78 - 125				
1,2,3-Trichlorobenzene	17.01	1.0	20	0	85.0	69 - 129				
1,2,3-Trichloropropane	19.17	1.0	20	0	95.8	73 - 122				
1,2,4-Trichlorobenzene	18.4	1.0	20	0	92.0	69 - 130				
1,2,4-Trimethylbenzene	20.67	1.0	20	0	103	76 - 124				
1,2-Dibromo-3-chloropropane	17.82	1.0	20	0	89.1	62 - 128				
1,2-Dibromoethane	19.79	1.0	20	0	99.0	77 - 121				
1,2-Dichlorobenzene	19.67	1.0	20	0	98.4	80 - 119				
1,2-Dichloroethane	18.91	1.0	20	0	94.5	73 - 128				
1,2-Dichloropropane	18.84	1.0	20	0	94.2	78 - 122				
1,3,5-Trimethylbenzene	21.36	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	20.21	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	19.75	1.0	20	0	98.7	80 - 119				
1,4-Dichlorobenzene	20.38	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	19.87	1.0	20	0	99.3	60 - 139				
2-Butanone	29.58	2.0	40	0	74.0	56 - 143				
2-Chlorotoluene	20.6	1.0	20	0	103	79 - 122				
2-Hexanone	36.73	2.0	40	0	91.8	57 - 139				
4-Chlorotoluene	20.83	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	21.66	1.0	20	0	108	77 - 127				
4-Methyl-2-pentanone	38.68	2.0	40	0	96.7	67 - 130				
Acetone	25.41	2.0	40	0	63.5	39 - 160				
Benzene	19.89	1.0	20	0	99.5	79 - 120				
Bromobenzene	20.14	1.0	20	0	101	80 - 120				
Bromochloromethane	17.62	1.0	20	0	88.1	78 - 123				
Bromodichloromethane	18.61	1.0	20	0	93.1	79 - 125				
Bromoform	18.4	1.0	20	0	92.0	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.02	1.0	20	0	100	53 - 141				
Carbon disulfide	35.7	2.0	40	0	89.3	64 - 133				
Carbon tetrachloride	22.56	1.0	20	0	113	72 - 136				
Chlorobenzene	20.7	1.0	20	0	104	82 - 118				
Chloroethane	18.44	1.0	20	0	92.2	60 - 138				
Chloroform	17.21	1.0	20	0	86.1	79 - 124				
Chloromethane	17.97	1.0	20	0	89.9	50 - 139				
cis-1,2-Dichloroethene	17.83	1.0	20	0	89.2	78 - 123				
cis-1,3-Dichloropropene	18.66	1.0	20	0	93.3	75 - 124				
Dibromochloromethane	19.14	1.0	20	0	95.7	74 - 126				
Dibromomethane	18.57	1.0	20	0	92.9	79 - 123				
Dichlorodifluoromethane	15.59	1.0	20	0	77.9	32 - 152				
Ethylbenzene	21.14	1.0	20	0	106	79 - 121				
Hexachlorobutadiene	22.88	1.0	20	0	114	66 - 134				
Isopropylbenzene	22.03	1.0	20	0	110	72 - 131				
m,p-Xylene	42.85	2.0	40	0	107	80 - 121				
Methylene chloride	18.24	2.0	20	0	91.2	74 - 124				
Naphthalene	16.25	1.0	20	0	81.3	61 - 128				
n-Butylbenzene	22.23	1.0	20	0	111	75 - 128				
n-Propylbenzene	21.89	1.0	20	0	109	76 - 126				
o-Xylene	20.94	1.0	20	0	105	78 - 122				
sec-Butylbenzene	22.71	1.0	20	0	114	77 - 126				
Styrene	20.97	1.0	20	0	105	78 - 123				
tert-Butylbenzene	22.55	1.0	20	0	113	78 - 124				
Tetrachloroethene	23.46	1.0	20	0	117	74 - 129				
Toluene	20.74	1.0	20	0	104	80 - 121				
trans-1,2-Dichloroethene	18.64	1.0	20	0	93.2	75 - 124				
trans-1,3-Dichloropropene	18.19	1.0	20	0	90.9	73 - 127				
Trichloroethene	20.54	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	20.85	1.0	20	0	104	65 - 141				
Vinyl chloride	17.95	1.0	20	0	89.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.12*	*1.0*	*50*	*0*	*86.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.34*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.09*	*1.0*	*50*	*0*	*90.2*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.6*	*1.0*	*50*	*0*	*107*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.46	1.0	20	0	97.3	78 - 124	19.65	1	20	
1,1,1-Trichloroethane	18.21	1.0	20	0	91.0	74 - 131	18.8	3.21	20	
1,1,2,2-Tetrachloroethane	19.33	1.0	20	0	96.6	71 - 121	18.36	5.15	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	22.45	1.0	20	0	112	70 - 136	23.26	3.55	20	
1,1,2-Trichloroethane	19.06	1.0	20	0	95.3	80 - 119	19.01	0.294	20	
1,1-Dichloroethane	17.73	1.0	20	0	88.7	77 - 125	18	1.48	20	
1,1-Dichloroethene	18.92	1.0	20	0	94.6	71 - 131	19.8	4.57	20	
1,1-Dichloropropene	20.69	1.0	20	0	103	78 - 125	21.48	3.76	20	
1,2,3-Trichlorobenzene	20.83	1.0	20	0	104	69 - 129	17.01	20.2	20	R
1,2,3-Trichloropropane	18.6	1.0	20	0	93.0	73 - 122	19.17	3	20	
1,2,4-Trichlorobenzene	20.42	1.0	20	0	102	69 - 130	18.4	10.4	20	
1,2,4-Trimethylbenzene	20.6	1.0	20	0	103	76 - 124	20.67	0.314	20	
1,2-Dibromo-3-chloropropane	20.34	1.0	20	0	102	62 - 128	17.82	13.2	20	
1,2-Dibromoethane	19.97	1.0	20	0	99.9	77 - 121	19.79	0.908	20	
1,2-Dichlorobenzene	20.16	1.0	20	0	101	80 - 119	19.67	2.46	20	
1,2-Dichloroethane	18.51	1.0	20	0	92.5	73 - 128	18.91	2.15	20	
1,2-Dichloropropane	18.62	1.0	20	0	93.1	78 - 122	18.84	1.14	20	
1,3,5-Trimethylbenzene	21.39	1.0	20	0	107	75 - 124	21.36	0.156	20	
1,3-Dichlorobenzene	20.08	1.0	20	0	100	80 - 119	20.21	0.631	20	
1,3-Dichloropropane	19.51	1.0	20	0	97.5	80 - 119	19.75	1.22	20	
1,4-Dichlorobenzene	20.57	1.0	20	0	103	79 - 118	20.38	0.931	20	
2,2-Dichloropropane	19.34	1.0	20	0	96.7	60 - 139	19.87	2.71	20	
2-Butanone	30.19	2.0	40	0	75.5	56 - 143	29.58	2.04	20	
2-Chlorotoluene	20.48	1.0	20	0	102	79 - 122	20.6	0.578	20	
2-Hexanone	38.26	2.0	40	0	95.7	57 - 139	36.73	4.07	20	
4-Chlorotoluene	20.71	1.0	20	0	104	78 - 122	20.83	0.615	20	
4-Isopropyltoluene	21.68	1.0	20	0	108	77 - 127	21.66	0.132	20	
4-Methyl-2-pentanone	39.65	2.0	40	0	99.1	67 - 130	38.68	2.46	20	
Acetone	26.55	2.0	40	0	66.4	39 - 160	25.41	4.39	20	
Benzene	19.31	1.0	20	0	96.6	79 - 120	19.89	2.97	20	
Bromobenzene	20.01	1.0	20	0	100	80 - 120	20.14	0.659	20	
Bromochloromethane	17.37	1.0	20	0	86.9	78 - 123	17.62	1.41	20	
Bromodichloromethane	18.37	1.0	20	0	91.8	79 - 125	18.61	1.31	20	
Bromoform	19.17	1.0	20	0	95.8	66 - 130	18.4	4.07	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.14	1.0	20	0	95.7	53 - 141	20.02	4.5	20	
Carbon disulfide	34.64	2.0	40	0	86.6	64 - 133	35.7	3.02	20	
Carbon tetrachloride	22.55	1.0	20	0	113	72 - 136	22.56	0.0299	20	
Chlorobenzene	20.05	1.0	20	0	100	82 - 118	20.7	3.19	20	
Chloroethane	18.03	1.0	20	0	90.2	60 - 138	18.44	2.23	20	
Chloroform	16.97	1.0	20	0	84.9	79 - 124	17.21	1.42	20	
Chloromethane	17.23	1.0	20	0	86.1	50 - 139	17.97	4.24	20	
cis-1,2-Dichloroethene	17.78	1.0	20	0	88.9	78 - 123	17.83	0.266	20	
cis-1,3-Dichloropropene	18.83	1.0	20	0	94.1	75 - 124	18.66	0.879	20	
Dibromochloromethane	19	1.0	20	0	95.0	74 - 126	19.14	0.716	20	
Dibromomethane	18.71	1.0	20	0	93.6	79 - 123	18.57	0.762	20	
Dichlorodifluoromethane	15.18	1.0	20	0	75.9	32 - 152	15.59	2.62	20	
Ethylbenzene	20.68	1.0	20	0	103	79 - 121	21.14	2.2	20	
Hexachlorobutadiene	23	1.0	20	0	115	66 - 134	22.88	0.524	20	
Isopropylbenzene	21.58	1.0	20	0	108	72 - 131	22.03	2.03	20	
m,p-Xylene	41.41	2.0	40	0	104	80 - 121	42.85	3.43	20	
Methylene chloride	18.2	2.0	20	0	91.0	74 - 124	18.24	0.209	20	
Naphthalene	20.49	1.0	20	0	102	61 - 128	16.25	23.1	20	R
n-Butylbenzene	22.21	1.0	20	0	111	75 - 128	22.23	0.0937	20	
n-Propylbenzene	21.56	1.0	20	0	108	76 - 126	21.89	1.51	20	
o-Xylene	20.27	1.0	20	0	101	78 - 122	20.94	3.24	20	
sec-Butylbenzene	22.71	1.0	20	0	114	77 - 126	22.71	0.00884	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.97	1.01	20	
tert-Butylbenzene	22.37	1.0	20	0	112	78 - 124	22.55	0.818	20	
Tetrachloroethene	22.88	1.0	20	0	114	74 - 129	23.46	2.49	20	
Toluene	20.31	1.0	20	0	102	80 - 121	20.74	2.14	20	
trans-1,2-Dichloroethene	18.2	1.0	20	0	91.0	75 - 124	18.64	2.4	20	
trans-1,3-Dichloropropene	18.65	1.0	20	0	93.2	73 - 127	18.19	2.51	20	
Trichloroethene	19.73	1.0	20	0	98.7	79 - 123	20.54	4.02	20	
Trichlorofluoromethane	20.64	1.0	20	0	103	65 - 141	20.85	1.01	20	
Vinyl chloride	17.3	1.0	20	0	86.5	58 - 137	17.95	3.66	20	
Surr: 1,2-Dichloroethane-d4	*43.71*	*1.0*	*50*	*0*	*87.4*	*81 - 118*	*43.12*	*1.36*	*20*	
Surr: 4-Bromofluorobenzene	*48.92*	*1.0*	*50*	*0*	*97.8*	*85 - 114*	*49.34*	*0.865*	*20*	
Surr: Dibromofluoromethane	*45.16*	*1.0*	*50*	*0*	*90.3*	*80 - 119*	*45.09*	*0.137*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.9*	*1.0*	*50*	*0*	*106*	*89 - 112*	*53.6*	*1.31*	*20*	

The following samples were analyzed in this batch:

HS22110180-01	HS22110180-02	HS22110180-03	HS22110180-04
HS22110180-05	HS22110180-06	HS22110180-07	HS22110180-08
HS22110180-09	HS22110180-10		

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R420977 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **03-Nov-2022 21:56**
Client ID: Run ID: **ICS-Integrion_420977** SeqNo: **6960592** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.250	0.500								U
Nitrogen, Nitrate (As N)	0.0500	0.100								U
Sulfate	0.250	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **03-Nov-2022 22:02**
Client ID: Run ID: **ICS-Integrion_420977** SeqNo: **6960593** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.41	0.500	20	0	97.1	80 - 120				
Nitrogen, Nitrate (As N)	3.943	0.100	4	0	98.6	80 - 120				
Sulfate	19.69	0.500	20	0	98.4	80 - 120				

MS Sample ID: **HS22110180-01MS** Units: **mg/L** Analysis Date: **03-Nov-2022 22:12**
Client ID: **35BWW26-221102** Run ID: **ICS-Integrion_420977** SeqNo: **6960595** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	40.02	0.500	10	30.66	93.6	80 - 120				
Nitrogen, Nitrate (As N)	2.033	0.100	2	0.1079	96.3	80 - 120				
Sulfate	33.98	0.500	10	24.49	95.0	80 - 120				

MSD Sample ID: **HS22110180-01MSD** Units: **mg/L** Analysis Date: **03-Nov-2022 22:18**
Client ID: **35BWW26-221102** Run ID: **ICS-Integrion_420977** SeqNo: **6960596** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	40.26	0.500	10	30.66	95.9	80 - 120	40.02	0.58	20	
Nitrogen, Nitrate (As N)	2.058	0.100	2	0.1079	97.5	80 - 120	2.033	1.21	20	
Sulfate	34.45	0.500	10	24.49	99.6	80 - 120	33.98	1.36	20	

The following samples were analyzed in this batch: HS22110180-01 HS22110180-02 HS22110180-03 HS22110180-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R422070 (0) **Instrument:** TOC_05 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11172022** Units: **mg/L** Analysis Date: **17-Nov-2022 11:41**
Client ID: Run ID: **TOC_05_422070** SeqNo: **6987106** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11172022** Units: **mg/L** Analysis Date: **17-Nov-2022 11:55**
Client ID: Run ID: **TOC_05_422070** SeqNo: **6987107** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.14	1.00	10	0	101	85 - 115				

LCSD Sample ID: **LCSD-11172022** Units: **mg/L** Analysis Date: **17-Nov-2022 12:09**
Client ID: Run ID: **TOC_05_422070** SeqNo: **6987108** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.16	1.00	10	0	102	85 - 115	10.14	0.197	20	

MS Sample ID: **HS22110180-01MS** Units: **mg/L** Analysis Date: **17-Nov-2022 12:36**
Client ID: **35BWW26-221102** Run ID: **TOC_05_422070** SeqNo: **6987110** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.69	1.00	10	0.5938	101	80 - 120				

The following samples were analyzed in this batch: HS22110180-01 HS22110180-02 HS22110180-03 HS22110180-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: **HS22110180**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Feb-23

Sample Receipt Checklist

Work Order ID: HS22110180 **Date/Time Received:** **03-Nov-2022 09:00**

Client Name: CBI-Houston **Received by:** **Corey Grandits**

Completed By: */S/ Paresh M. Giga* (eSignature) 03-Nov-2022 11:18 (Date/Time) **Reviewed by:** */S/ Dane J. Wacasey* (eSignature) 04-Nov-2022 08:20 (Date/Time)

Matrices: **GW/Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.0C/1.5C U/C	IR31
Cooler(s)/Kit(s):	49072	
Date/Time sample(s) sent to storage:	11/3/22 11:30	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

HS22110180

Aptim Environmental & Infrastucture, Inc.

LHAAP 37 November 2022

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35Bww26-221102	wG	11/2/22 0755		12	X	X	X	X	X		
35Bww08-221102	wG	11/2/22 0840		12	X	X	X	X	X		
35Bww12-221102	wG	11/2/22 0930		12	X	X	X	X	X		
35Bww12-221102-FD	wG	11/2/22 0930		12	X	X	X	X	X		
35Bww07-221102	wG	11/2/22 1025		3	X						
35Bww13-221102	wG	11/2/22 1105		3	X						
35Bww16-221102	wG	11/2/22 1145		3	X						
35Bww17-221102	wG	11/2/22 1250		3	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/2/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 49022 IRON (F-CS 2.0

(Word) S:\Ll-ces\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

HS22110180

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 November 2022

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW17-221102-FD	W6	11/2/22 1250		3	X						
TRIP BLANK-221102	W	11/2/22		2	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

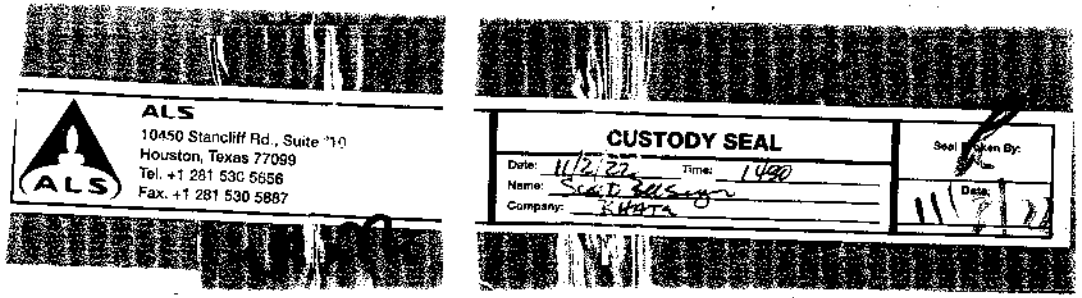
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/2/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 11/2/22 Time: 1490
Name: Scott Sweeney
Company: KHATA
Seal Broken By:
Date:

FedEx.
TRK# 0221 5789 1999 9894
THU - 03 NOV AA
PRIORITY OVERNIGHT
AB SGRA
49072
77099
TX-US
IAH

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-104531-1
Client Project/Site: HS22110180

For:
ALS Group USA, Corp
10450 Stancliff Rd.
Suite 210
Houston, Texas 77099

Attn: Dane Wacasey

Kelly Bauer

Authorized for release by:
11/8/2022 9:17:48 AM

Kelly Bauer, Project Manager
(717)556-7262
Kelly.Bauer@et.eurofinsus.com

LINKS

Review your project results through my EOL

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Results relate only to the items tested and the sample(s) as received by the laboratory.

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

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Kelly Bauer
Project Manager
11/8/2022 9:17:48 AM

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Definitions/Glossary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Job ID: 410-104531-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-104531-1

Receipt

The samples were received on 11/4/2022 1:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01 — Lab Sample ID: 410-104531-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	100000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-02 — Lab Sample ID: 410-104531-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	43000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-03 — Lab Sample ID: 410-104531-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	93000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-04 — Lab Sample ID: 410-104531-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	95000		12000	2600	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ALS Group USA, Corp
Job ID: 410-104531-1
Project/Site: HS22110180

Client Sample ID: HS22110180-01
Lab Sample ID: 410-104531-1
Date Collected: 11/02/22 07:55
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	100000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:30	1

Client Sample ID: HS22110180-02
Lab Sample ID: 410-104531-2
Date Collected: 11/02/22 08:40
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	43000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:38	1

Client Sample ID: HS22110180-03
Lab Sample ID: 410-104531-3
Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	93000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:46	1

Client Sample ID: HS22110180-04
Lab Sample ID: 410-104531-4
Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	95000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:53	1

QC Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-315038/1-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315038

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	2600	U M	12000	2600	ug/L		11/08/22 07:23	11/08/22 07:59	1

Lab Sample ID: LCS 410-315038/2-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon dioxide	35800	37500		ug/L		105	80 - 122

Lab Sample ID: LCSD 410-315038/3-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315038

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon dioxide	35800	37900		ug/L		106	80 - 122	1	20

QC Association Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

GC VOA

Prep Batch: 315038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104531-1	HS22110180-01	Total/NA	Water	RSK-175	
410-104531-2	HS22110180-02	Total/NA	Water	RSK-175	
410-104531-3	HS22110180-03	Total/NA	Water	RSK-175	
410-104531-4	HS22110180-04	Total/NA	Water	RSK-175	
MB 410-315038/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-315038/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-315038/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 315041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104531-1	HS22110180-01	Total/NA	Water	RSK-175	315038
410-104531-2	HS22110180-02	Total/NA	Water	RSK-175	315038
410-104531-3	HS22110180-03	Total/NA	Water	RSK-175	315038
410-104531-4	HS22110180-04	Total/NA	Water	RSK-175	315038
MB 410-315038/1-A	Method Blank	Total/NA	Water	RSK-175	315038
LCS 410-315038/2-A	Lab Control Sample	Total/NA	Water	RSK-175	315038
LCSD 410-315038/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	315038

Lab Chronicle

Client: ALS Group USA, Corp
Job ID: 410-104531-1
Project/Site: HS22110180

Client Sample ID: HS22110180-01
Lab Sample ID: 410-104531-1
Date Collected: 11/02/22 07:55
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:30

Client Sample ID: HS22110180-02
Lab Sample ID: 410-104531-2
Date Collected: 11/02/22 08:40
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:38

Client Sample ID: HS22110180-03
Lab Sample ID: 410-104531-3
Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:46

Client Sample ID: HS22110180-04
Lab Sample ID: 410-104531-4
Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:53

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22

Method Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-104531-1	HS22110180-01	Water	11/02/22 07:55	11/04/22 13:20
410-104531-2	HS22110180-02	Water	11/02/22 08:40	11/04/22 13:20
410-104531-3	HS22110180-03	Water	11/02/22 09:30	11/04/22 13:20
410-104531-4	HS22110180-04	Water	11/02/22 09:30	11/04/22 13:20

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20264**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110180
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110180-01**	**35BWW26-221102**	**Groundwater**	**02 Nov 2022 07:55**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
2.	**HS22110180-02**	**35BWW08-221102**	**Groundwater**	**02 Nov 2022 08:40**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
3.	**HS22110180-03**	**35BWW12-221102**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
4.	**HS22110180-04**	**35BWW12-221102-FD**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022

Comments: DOD QSM 5.3; Please analyze RSK-175 CO2, DL/LOD/LOQ Level II and Level IV Report, LHAAP EQUIS EDD
Send report and EDD to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 11/4/22 1320

Cooler ID(s): _____ Temperature(s): 2.2 °C

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Purchase Order

PO: HS22110180

VENDOR:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	20264
TSR:	Ron Martino

	Item	Catalog No	Unit Price	Quantity	Ext Price
1.	RSK - CO2; Keesler; Level IV, EQUIS EDD	NA	$115.25	4	$461.00

Order Total: $461.00

10450 Stancliff Rd, Ste 210
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20264**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601 **Phone:** +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110180
TSR:	Ron Martino

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS22110180-01**	**35BWW26-221102**	**Groundwater**	**02 Nov 2022 07:55**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
2.	**HS22110180-02**	**35BWW08-221102**	**Groundwater**	**02 Nov 2022 08:40**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
3.	**HS22110180-03**	**35BWW12-221102**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
4.	**HS22110180-04**	**35BWW12-221102-FD**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: CODE 14 Date/Time: 11/3/22 1811
Received By: Date/Time: 11/4/22 1320
Cooler ID(s): Temperature(s): 2.2°C

RIGHT SOLUTIONS | RIGHT PARTNER

SR

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
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Purchase Order

PO: HS22110180

VENDOR:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	20264
TSR:	Ron Martino

	Item	Catalog No	Unit Price	Quantity	Ext Price
1.	RSK - CO2; Keesler; Level IV, EQUIS EDD	NA		4	

Order Total:

RIGHT SOLUTIONS | RIGHT PARTNER

03 Nov 2022

Login Sample Receipt Checklist

Client: ALS Group USA, Corp

Job Number: 410-104531-1

Login Number: 104531

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Roth, Stephanie

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

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February 07, 2023

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22110211**

Laboratory Results for: **LHAAP 37 November 2022**

Dear Vicki Graves ,

ALS Environmental received 10 sample(s) on Nov 02, 2022 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: DANE.WACASEY
Dane J. Wacasey

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Work Order: HS22110211

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110211-01	35BWW01-221101	Groundwater		01-Nov-2022 08:00	02-Nov-2022 09:35	☐
HS22110211-02	35BWW10-221101	Groundwater		01-Nov-2022 08:40	02-Nov-2022 09:35	☐
HS22110211-03	35BWW05-221101	Groundwater		01-Nov-2022 09:20	02-Nov-2022 09:35	☐
HS22110211-04	LHSWW58-221101	Groundwater		01-Nov-2022 10:00	02-Nov-2022 09:35	☐
HS22110211-05	35BWW11-221101	Groundwater		01-Nov-2022 10:40	02-Nov-2022 09:35	☐
HS22110211-06	35BWW20-221101	Groundwater		01-Nov-2022 11:20	02-Nov-2022 09:35	☐
HS22110211-07	35BWW09-221101	Groundwater		01-Nov-2022 12:00	02-Nov-2022 09:35	☐
HS22110211-08	35BWW19-221101	Groundwater		01-Nov-2022 12:40	02-Nov-2022 09:35	☐
HS22110211-09	35BWW18-221101	Groundwater		01-Nov-2022 13:20	02-Nov-2022 09:35	☐
HS22110211-10	Trip Blank-221101	Water	CG-090622-779	01-Nov-2022 00:00	02-Nov-2022 09:35	☐

Revision:1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2022
Work Order: HS22110211

Work Order Comments

- This report was revised February 7, 2023, to adjust the VOC analyte list to include the compounds related to site LHAAP 37.

GCMS Volatiles by Method SW8260

Batch ID: R421679

Sample ID: HS22110281-01MS

- MS and MSD are for an unrelated sample

Sample ID: HS22110281-07MS

- MS and MSD are for an unrelated sample

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW01-221101
Collection Date: 01-Nov-2022 08:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:27
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 20:27
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW01-221101 Lab ID:HS22110211-01
Collection Date: 01-Nov-2022 08:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:27
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:27*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:27*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:27*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW10-221101
Collection Date: 01-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 20:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW10-221101
Collection Date: 01-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Tetrachloroethene	**2.6**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 20:49
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Trichloroethene	**1.1**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 20:49
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:49*
Surr: 4-Bromofluorobenzene	*95.5*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:49*
Surr: Dibromofluoromethane	*92.6*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:49*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW05-221101
Collection Date: 01-Nov-2022 09:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 21:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW05-221101 Lab ID:HS22110211-03
Collection Date: 01-Nov-2022 09:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Tetrachloroethene	**3.2**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:12
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Trichloroethene	**5.2**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:12
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 21:12*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 21:12*
Surr: Dibromofluoromethane	*90.9*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 21:12*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 21:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: LHSWW58-221101
Collection Date: 01-Nov-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:34
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 21:34
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: LHSWW58-221101 Lab ID:HS22110211-04
Collection Date: 01-Nov-2022 10:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:34
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Tetrachloroethene	**15**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:34
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Trichloroethene	**0.94**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:34
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Surr: 1,2-Dichloroethane-d4	*92.2*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 21:34*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 21:34*
Surr: Dibromofluoromethane	*92.8*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 21:34*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 21:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW11-221101 Lab ID:HS22110211-05
Collection Date: 01-Nov-2022 10:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:56
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 21:56
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW11-221101 Lab ID:HS22110211-05
Collection Date: 01-Nov-2022 10:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:56
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 21:56*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 21:56*
Surr: Dibromofluoromethane	*93.2*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 21:56*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 21:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW20-221101 Lab ID:HS22110211-06
Collection Date: 01-Nov-2022 11:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1,2-Trichlor-1,2,2-trifluoroethane	**3.6**		**0.50**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:19
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:19
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 22:19
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW20-221101 Lab ID:HS22110211-06
Collection Date: 01-Nov-2022 11:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:19
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Tetrachloroethene	**17**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:19
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Trichloroethene	**3.2**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:19
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Surr: 1,2-Dichloroethane-d4	*94.8*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 22:19*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 22:19*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 22:19*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 22:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW09-221101
Collection Date: 01-Nov-2022 12:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1,2-Trichlor-1,2,2-trifluoroethane	**3.9**		**0.50**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:41
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:41
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 22:41
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW09-221101 Lab ID:HS22110211-07
Collection Date: 01-Nov-2022 12:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:41
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Tetrachloroethene	**1.1**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:41
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Trichloroethene	**56**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:41
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 22:41*
Surr: 4-Bromofluorobenzene	*96.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 22:41*
Surr: Dibromofluoromethane	*92.1*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 22:41*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 22:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: 35BWW19-221101 Lab ID:HS22110211-08
Collection Date: 01-Nov-2022 12:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 23:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW19-221101
Collection Date: 01-Nov-2022 12:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Surr: 1,2-Dichloroethane-d4	*93.6*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 23:03*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 23:03*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 23:03*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 23:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW18-221101
Collection Date: 01-Nov-2022 13:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 23:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW18-221101
Collection Date: 01-Nov-2022 13:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Surr: 1,2-Dichloroethane-d4	*94.7*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 23:26*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 23:26*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 23:26*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 23:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221101
Collection Date: 01-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 19:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 19:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110211
Sample ID: Trip Blank-221101 Lab ID:HS22110211-10
Collection Date: 01-Nov-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 19:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Surr: 1,2-Dichloroethane-d4	*90.3*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 19:42*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 19:42*
Surr: Dibromofluoromethane	*91.4*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 19:42*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 19:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110211-10	Trip Blank-221101	01 Nov 2022 00:00			11 Nov 2022 19:42	1
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS22110211-01	35BWW01-221101	01 Nov 2022 08:00			11 Nov 2022 20:27	1
HS22110211-02	35BWW10-221101	01 Nov 2022 08:40			11 Nov 2022 20:49	1
HS22110211-03	35BWW05-221101	01 Nov 2022 09:20			11 Nov 2022 21:12	1
HS22110211-04	LHSWW58-221101	01 Nov 2022 10:00			11 Nov 2022 21:34	1
HS22110211-05	35BWW11-221101	01 Nov 2022 10:40			11 Nov 2022 21:56	1
HS22110211-06	35BWW20-221101	01 Nov 2022 11:20			11 Nov 2022 22:19	1
HS22110211-07	35BWW09-221101	01 Nov 2022 12:00			11 Nov 2022 22:41	1
HS22110211-08	35BWW19-221101	01 Nov 2022 12:40			11 Nov 2022 23:03	1
HS22110211-09	35BWW18-221101	01 Nov 2022 13:20			11 Nov 2022 23:26	1

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Cyclohexane	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methyl acetate	1.0	1.0								U
Methyl tert-butyl ether	1.0	1.0								U
Methylcyclohexane	1.0	1.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	1.0	1.0								U
Xylenes, Total	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.84*	*1.0*	*50*	*0*	*97.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.6*	*1.0*	*50*	*0*	*91.2*	*80 - 119*				
Surr: Toluene-d8	*53.49*	*1.0*	*50*	*0*	*107*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.76	1.0	20	0	98.8	78 - 124				
1,1,1-Trichloroethane	20	1.0	20	0	100.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.64	1.0	20	0	118	70 - 136				
1,1,2-Trichloroethane	19.59	1.0	20	0	98.0	80 - 119				
1,1-Dichloroethane	18.56	1.0	20	0	92.8	77 - 125				
1,1-Dichloroethene	18.55	1.0	20	0	92.8	71 - 131				
1,1-Dichloropropene	19.43	1.0	20	0	97.1	78 - 125				
1,2,3-Trichlorobenzene	20.6	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	19.12	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	20.67	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	21.75	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	17.7	1.0	20	0	88.5	62 - 128				
1,2-Dibromoethane	20.64	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	19.34	1.0	20	0	96.7	80 - 119				
1,2-Dichloroethane	19.35	1.0	20	0	96.8	73 - 128				
1,2-Dichloropropane	19.19	1.0	20	0	96.0	78 - 122				
1,3,5-Trimethylbenzene	21.56	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	20.24	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	20.17	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	19.23	1.0	20	0	96.2	79 - 118				
2,2-Dichloropropane	17.76	1.0	20	0	88.8	60 - 139				
2-Butanone	39.58	2.0	40	0	99.0	56 - 143				
2-Chlorotoluene	20.57	1.0	20	0	103	79 - 122				
2-Hexanone	38.74	2.0	40	0	96.8	57 - 139				
4-Chlorotoluene	20.7	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	20.89	1.0	20	0	104	77 - 127				
4-Methyl-2-pentanone	39.67	2.0	40	0	99.2	67 - 130				
Acetone	43.31	2.0	40	0	108	39 - 160				
Benzene	19.25	1.0	20	0	96.2	79 - 120				
Bromobenzene	20.48	1.0	20	0	102	80 - 120				
Bromochloromethane	18.31	1.0	20	0	91.6	78 - 123				
Bromodichloromethane	18.79	1.0	20	0	94.0	79 - 125				
Bromoform	17.25	1.0	20	0	86.2	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.91	1.0	20	0	99.5	53 - 141				
Carbon disulfide	36.73	2.0	40	0	91.8	64 - 133				
Carbon tetrachloride	18.95	1.0	20	0	94.8	72 - 136				
Chlorobenzene	19.44	1.0	20	0	97.2	82 - 118				
Chloroethane	18.47	1.0	20	0	92.3	60 - 138				
Chloroform	19.19	1.0	20	0	96.0	79 - 124				
Chloromethane	18.64	1.0	20	0	93.2	50 - 139				
cis-1,2-Dichloroethene	19.38	1.0	20	0	96.9	78 - 123				
cis-1,3-Dichloropropene	17.21	1.0	20	0	86.1	75 - 124				
Cyclohexane	26.77	1.0	20	0	134	71 - 130				S
Dibromochloromethane	17.79	1.0	20	0	89.0	74 - 126				
Dibromomethane	19.44	1.0	20	0	97.2	79 - 123				
Dichlorodifluoromethane	21.07	1.0	20	0	105	32 - 152				
Ethylbenzene	20.18	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	23.47	1.0	20	0	117	66 - 134				
Isopropylbenzene	21	1.0	20	0	105	72 - 131				
m,p-Xylene	40.86	2.0	40	0	102	80 - 121				
Methyl acetate	18.86	1.0	20	0	94.3	56 - 136				
Methyl tert-butyl ether	19.35	1.0	20	0	96.8	71 - 124				
Methylcyclohexane	21.14	1.0	20	0	106	72 - 132				
Methylene chloride	21.12	2.0	20	0	106	74 - 124				
Naphthalene	20.83	1.0	20	0	104	61 - 128				
n-Butylbenzene	20.76	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.94	1.0	20	0	105	76 - 126				
o-Xylene	20.56	1.0	20	0	103	78 - 122				
sec-Butylbenzene	20.21	1.0	20	0	101	77 - 126				
Styrene	19.21	1.0	20	0	96.1	78 - 123				
tert-Butylbenzene	20.4	1.0	20	0	102	78 - 124				
Tetrachloroethene	19.86	1.0	20	0	99.3	74 - 129				
Toluene	20.44	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	18.65	1.0	20	0	93.3	75 - 124				
trans-1,3-Dichloropropene	16.59	1.0	20	0	83.0	73 - 127				
Trichloroethene	19.52	1.0	20	0	97.6	79 - 123				
Trichlorofluoromethane	19.64	1.0	20	0	98.2	65 - 141				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	17.64	1.0	20	0	88.2	58 - 137				
Xylenes, Total	61.42	1.0	60	0	102	78 - 122				
Surr: 1,2-Dichloroethane-d4	*49.74*	*1.0*	*50*	*0*	*99.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.58*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.69*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*52.1*	*1.0*	*50*	*0*	*104*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.96	1.0	20	0	110	78 - 124				
1,1,1-Trichloroethane	22.5	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	20.81	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	28.23	1.0	20	0	141	70 - 136				S
1,1,2-Trichloroethane	20.43	1.0	20	0	102	80 - 119				
1,1-Dichloroethane	19.53	1.0	20	0	97.7	77 - 125				
1,1-Dichloroethene	21.15	1.0	20	0	106	71 - 131				
1,1-Dichloropropene	23.81	1.0	20	0	119	78 - 125				
1,2,3-Trichlorobenzene	21.67	1.0	20	0	108	69 - 129				
1,2,3-Trichloropropane	19.13	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	21.37	1.0	20	0	107	69 - 130				
1,2,4-Trimethylbenzene	23.64	1.0	20	0	118	76 - 124				
1,2-Dibromo-3-chloropropane	18.31	1.0	20	0	91.6	62 - 128				
1,2-Dibromoethane	21.64	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.5	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.62	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.78	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	25.04	1.0	20	0	125	75 - 124				S
1,3-Dichlorobenzene	22.47	1.0	20	0	112	80 - 119				
1,3-Dichloropropane	21.81	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	15.18	1.0	20	0	75.9	60 - 139				
2-Butanone	34.26	2.0	40	0	85.7	56 - 143				
2-Chlorotoluene	23.89	1.0	20	0	119	79 - 122				
2-Hexanone	37.29	2.0	40	0	93.2	57 - 139				
4-Chlorotoluene	24.01	1.0	20	0	120	78 - 122				
4-Isopropyltoluene	24.72	1.0	20	0	124	77 - 127				
4-Methyl-2-pentanone	40.65	2.0	40	0	102	67 - 130				
Acetone	26.25	2.0	40	0	65.6	39 - 160				
Benzene	21.46	1.0	20	0	107	79 - 120				
Bromobenzene	22.3	1.0	20	0	112	80 - 120				
Bromochloromethane	18.37	1.0	20	0	91.8	78 - 123				
Bromodichloromethane	20.45	1.0	20	0	102	79 - 125				
Bromoform	17.56	1.0	20	0	87.8	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.36	1.0	20	0	102	53 - 141				
Carbon disulfide	39.29	2.0	40	0	98.2	64 - 133				
Carbon tetrachloride	25.94	1.0	20	0	130	72 - 136				
Chlorobenzene	22.18	1.0	20	0	111	82 - 118				
Chloroethane	21.25	1.0	20	0	106	60 - 138				
Chloroform	19.62	1.0	20	0	98.1	79 - 124				
Chloromethane	19.95	1.0	20	0	99.7	50 - 139				
cis-1,2-Dichloroethene	19.25	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.2	1.0	20	0	86.0	75 - 124				
Cyclohexane	30.98	1.0	20	0	155	71 - 130				S
Dibromochloromethane	19.04	1.0	20	0	95.2	74 - 126				
Dibromomethane	19.84	1.0	20	0	99.2	79 - 123				
Dichlorodifluoromethane	22.92	1.0	20	0	115	32 - 152				
Ethylbenzene	24.02	1.0	20	0	120	79 - 121				
Hexachlorobutadiene	27.49	1.0	20	0	137	66 - 134				S
Isopropylbenzene	25.87	1.0	20	0	129	72 - 131				
m,p-Xylene	47.54	2.0	40	0	119	80 - 121				
Methyl acetate	13.57	1.0	20	0	67.8	56 - 136				
Methyl tert-butyl ether	15	1.0	20	0	75.0	71 - 124				
Methylcyclohexane	20.24	1.0	20	0	101	72 - 132				
Methylene chloride	19.29	2.0	20	0	96.5	74 - 124				
Naphthalene	21	1.0	20	0	105	61 - 128				
n-Butylbenzene	24.25	1.0	20	0	121	75 - 128				
n-Propylbenzene	24.86	1.0	20	0	124	76 - 126				
o-Xylene	23.84	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.47	1.0	20	0	122	77 - 126				
Styrene	20.4	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.74	1.0	20	0	129	78 - 124				S
Tetrachloroethene	25.46	1.0	20	1.371	120	74 - 129				
Toluene	23.83	1.0	20	0	119	80 - 121				
trans-1,2-Dichloroethene	20.36	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	16.21	1.0	20	0	81.0	73 - 127				
Trichloroethene	36.74	1.0	20	13.95	114	79 - 123				
Trichlorofluoromethane	22.97	1.0	20	0	115	65 - 141				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	20.94	1.0	20	0	105	58 - 137				
Xylenes, Total	71.38	1.0	60	0	119	78 - 122				
Surr: 1,2-Dichloroethane-d4	*44.28*	*1.0*	*50*	*0*	*88.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.1*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				
Surr: Toluene-d8	*54.31*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.26	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	22.69	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	21.14	1.0	20	0	106	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	29.45	1.0	20	0	147	70 - 136				S
1,1,2-Trichloroethane	21.19	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	20.15	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	21.59	1.0	20	0	108	71 - 131				
1,1-Dichloropropene	24.96	1.0	20	0	125	78 - 125				
1,2,3-Trichlorobenzene	19.53	1.0	20	0	97.6	69 - 129				
1,2,3-Trichloropropane	19.8	1.0	20	0	99.0	73 - 122				
1,2,4-Trichlorobenzene	19.31	1.0	20	0	96.6	69 - 130				
1,2,4-Trimethylbenzene	23.7	1.0	20	0	119	76 - 124				
1,2-Dibromo-3-chloropropane	17.66	1.0	20	0	88.3	62 - 128				
1,2-Dibromoethane	21.66	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.23	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.75	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	21.62	1.0	20	0	108	78 - 122				
1,3,5-Trimethylbenzene	24.67	1.0	20	0	123	75 - 124				
1,3-Dichlorobenzene	22.11	1.0	20	0	111	80 - 119				
1,3-Dichloropropane	21.79	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	20.94	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	15.59	1.0	20	0	78.0	60 - 139				
2-Butanone	35.85	2.0	40	0	89.6	56 - 143				
2-Chlorotoluene	23.43	1.0	20	0	117	79 - 122				
2-Hexanone	38.08	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	23.46	1.0	20	0	117	78 - 122				
4-Isopropyltoluene	24.23	1.0	20	0	121	77 - 127				
4-Methyl-2-pentanone	42.8	2.0	40	0	107	67 - 130				
Acetone	27.47	2.0	40	0	68.7	39 - 160				
Benzene	22.18	1.0	20	0	111	79 - 120				
Bromobenzene	21.81	1.0	20	0	109	80 - 120				
Bromochloromethane	18.77	1.0	20	0	93.9	78 - 123				
Bromodichloromethane	20.68	1.0	20	0	103	79 - 125				
Bromoform	17.9	1.0	20	0	89.5	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.73	1.0	20	0	109	53 - 141				
Carbon disulfide	40.33	2.0	40	0	101	64 - 133				
Carbon tetrachloride	26.39	1.0	20	0	132	72 - 136				
Chlorobenzene	22.36	1.0	20	0	112	82 - 118				
Chloroethane	20.64	1.0	20	0	103	60 - 138				
Chloroform	19.87	1.0	20	0	99.4	79 - 124				
Chloromethane	20.58	1.0	20	0	103	50 - 139				
cis-1,2-Dichloroethene	20.01	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	17.25	1.0	20	0	86.2	75 - 124				
Cyclohexane	32.19	1.0	20	0	161	71 - 130				S
Dibromochloromethane	19.06	1.0	20	0	95.3	74 - 126				
Dibromomethane	20.89	1.0	20	0	104	79 - 123				
Dichlorodifluoromethane	23.85	1.0	20	0	119	32 - 152				
Ethylbenzene	24.12	1.0	20	0	121	79 - 121				
Hexachlorobutadiene	25.48	1.0	20	0	127	66 - 134				
Isopropylbenzene	25.86	1.0	20	0	129	72 - 131				
m,p-Xylene	47.78	2.0	40	0	119	80 - 121				
Methyl acetate	12.82	1.0	20	0	64.1	56 - 136				
Methyl tert-butyl ether	15.17	1.0	20	0	75.9	71 - 124				
Methylcyclohexane	19.65	1.0	20	0	98.2	72 - 132				
Methylene chloride	19.96	2.0	20	0	99.8	74 - 124				
Naphthalene	17.59	1.0	20	0	87.9	61 - 128				
n-Butylbenzene	23.57	1.0	20	0	118	75 - 128				
n-Propylbenzene	24.76	1.0	20	0	124	76 - 126				
o-Xylene	23.71	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.19	1.0	20	0	121	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.68	1.0	20	0	128	78 - 124				S
Tetrachloroethene	29.57	1.0	20	5.324	121	74 - 129				
Toluene	24.32	1.0	20	0	122	80 - 121				S
trans-1,2-Dichloroethene	20.7	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	16.19	1.0	20	0	81.0	73 - 127				
Trichloroethene	24.22	1.0	20	0	121	79 - 123				
Trichlorofluoromethane	23.76	1.0	20	0	119	65 - 141				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	21.47	1.0	20	0	107	58 - 137				
Xylenes, Total	71.49	1.0	60	0	119	78 - 122				
Surr: 1,2-Dichloroethane-d4	*45.47*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.38*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*46.78*	*1.0*	*50*	*0*	*93.6*	*80 - 119*				
Surr: Toluene-d8	*54.45*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.46	1.0	20	0	107	78 - 124	21.96	2.3	20	
1,1,1-Trichloroethane	21.76	1.0	20	0	109	74 - 131	22.5	3.38	20	
1,1,2,2-Tetrachloroethane	20.79	1.0	20	0	104	71 - 121	20.81	0.125	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	27.43	1.0	20	0	137	70 - 136	28.23	2.85	20	S
1,1,2-Trichloroethane	20.89	1.0	20	0	104	80 - 119	20.43	2.19	20	
1,1-Dichloroethane	18.66	1.0	20	0	93.3	77 - 125	19.53	4.55	20	
1,1-Dichloroethene	20.5	1.0	20	0	102	71 - 131	21.15	3.13	20	
1,1-Dichloropropene	23.98	1.0	20	0	120	78 - 125	23.81	0.736	20	
1,2,3-Trichlorobenzene	21.78	1.0	20	0	109	69 - 129	21.67	0.501	20	
1,2,3-Trichloropropane	19.42	1.0	20	0	97.1	73 - 122	19.13	1.5	20	
1,2,4-Trichlorobenzene	21.31	1.0	20	0	107	69 - 130	21.37	0.254	20	
1,2,4-Trimethylbenzene	23.98	1.0	20	0	120	76 - 124	23.64	1.45	20	
1,2-Dibromo-3-chloropropane	17.85	1.0	20	0	89.3	62 - 128	18.31	2.56	20	
1,2-Dibromoethane	21.7	1.0	20	0	108	77 - 121	21.64	0.284	20	
1,2-Dichlorobenzene	21.02	1.0	20	0	105	80 - 119	21.5	2.25	20	
1,2-Dichloroethane	21.09	1.0	20	0	105	73 - 128	20.62	2.26	20	
1,2-Dichloropropane	21.68	1.0	20	0	108	78 - 122	20.78	4.25	20	
1,3,5-Trimethylbenzene	24.61	1.0	20	0	123	75 - 124	25.04	1.73	20	
1,3-Dichlorobenzene	22.19	1.0	20	0	111	80 - 119	22.47	1.25	20	
1,3-Dichloropropane	21.48	1.0	20	0	107	80 - 119	21.81	1.53	20	
1,4-Dichlorobenzene	20.76	1.0	20	0	104	79 - 118	21.15	1.87	20	
2,2-Dichloropropane	14.61	1.0	20	0	73.1	60 - 139	15.18	3.83	20	
2-Butanone	34.24	2.0	40	0	85.6	56 - 143	34.26	0.0692	20	
2-Chlorotoluene	23.55	1.0	20	0	118	79 - 122	23.89	1.42	20	
2-Hexanone	40.04	2.0	40	0	100	57 - 139	37.29	7.11	20	
4-Chlorotoluene	23.13	1.0	20	0	116	78 - 122	24.01	3.75	20	
4-Isopropyltoluene	24.55	1.0	20	0	123	77 - 127	24.72	0.679	20	
4-Methyl-2-pentanone	43.64	2.0	40	0	109	67 - 130	40.65	7.09	20	
Acetone	26.26	2.0	40	0	65.7	39 - 160	26.25	0.062	20	
Benzene	21.75	1.0	20	0	109	79 - 120	21.46	1.33	20	
Bromobenzene	22.1	1.0	20	0	110	80 - 120	22.3	0.913	20	
Bromochloromethane	18.43	1.0	20	0	92.1	78 - 123	18.37	0.324	20	
Bromodichloromethane	20.39	1.0	20	0	102	79 - 125	20.45	0.266	20	
Bromoform	17.69	1.0	20	0	88.4	66 - 130	17.56	0.714	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.2	1.0	20	0	96.0	53 - 141	20.36	5.85	20	
Carbon disulfide	37.68	2.0	40	0	94.2	64 - 133	39.29	4.18	20	
Carbon tetrachloride	25.79	1.0	20	0	129	72 - 136	25.94	0.571	20	
Chlorobenzene	21.88	1.0	20	0	109	82 - 118	22.18	1.38	20	
Chloroethane	19.88	1.0	20	0	99.4	60 - 138	21.25	6.67	20	
Chloroform	19.05	1.0	20	0	95.2	79 - 124	19.62	2.95	20	
Chloromethane	18.96	1.0	20	0	94.8	50 - 139	19.95	5.08	20	
cis-1,2-Dichloroethene	18.55	1.0	20	0	92.8	78 - 123	19.25	3.68	20	
cis-1,3-Dichloropropene	17.54	1.0	20	0	87.7	75 - 124	17.2	1.97	20	
Cyclohexane	30.29	1.0	20	0	151	71 - 130	30.98	2.23	20	S
Dibromochloromethane	18.83	1.0	20	0	94.2	74 - 126	19.04	1.08	20	
Dibromomethane	20.88	1.0	20	0	104	79 - 123	19.84	5.1	20	
Dichlorodifluoromethane	22.12	1.0	20	0	111	32 - 152	22.92	3.55	20	
Ethylbenzene	23.77	1.0	20	0	119	79 - 121	24.02	1.04	20	
Hexachlorobutadiene	25.62	1.0	20	0	128	66 - 134	27.49	7.05	20	
Isopropylbenzene	25.35	1.0	20	0	127	72 - 131	25.87	2.04	20	
m,p-Xylene	46.87	2.0	40	0	117	80 - 121	47.54	1.42	20	
Methyl acetate	14.11	1.0	20	0	70.6	56 - 136	13.57	3.92	20	
Methyl tert-butyl ether	15.48	1.0	20	0	77.4	71 - 124	15	3.11	20	
Methylcyclohexane	20.69	1.0	20	0	103	72 - 132	20.24	2.22	20	
Methylene chloride	18.96	2.0	20	0	94.8	74 - 124	19.29	1.73	20	
Naphthalene	21.8	1.0	20	0	109	61 - 128	21	3.73	20	
n-Butylbenzene	24.11	1.0	20	0	121	75 - 128	24.25	0.569	20	
n-Propylbenzene	24.84	1.0	20	0	124	76 - 126	24.86	0.0937	20	
o-Xylene	22.96	1.0	20	0	115	78 - 122	23.84	3.75	20	
sec-Butylbenzene	23.92	1.0	20	0	120	77 - 126	24.47	2.24	20	
Styrene	20.27	1.0	20	0	101	78 - 123	20.4	0.606	20	
tert-Butylbenzene	25.02	1.0	20	0	125	78 - 124	25.74	2.85	20	S
Tetrachloroethene	24.96	1.0	20	1.371	118	74 - 129	25.46	2	20	
Toluene	23.42	1.0	20	0	117	80 - 121	23.83	1.73	20	
trans-1,2-Dichloroethene	19.46	1.0	20	0	97.3	75 - 124	20.36	4.51	20	
trans-1,3-Dichloropropene	16.25	1.0	20	0	81.3	73 - 127	16.21	0.266	20	
Trichloroethene	35.68	1.0	20	13.95	109	79 - 123	36.74	2.94	20	
Trichlorofluoromethane	21.65	1.0	20	0	108	65 - 141	22.97	5.91	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	19.8	1.0	20	0	99.0	58 - 137	20.94	5.59	20	
Xylenes, Total	69.83	1.0	60	0	116	78 - 122	71.38	2.19	20	
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*	*44.28*	*0.592*	*20*	
Surr: 4-Bromofluorobenzene	*51.97*	*1.0*	*50*	*0*	*104*	*85 - 114*	*51.1*	*1.68*	*20*	
Surr: Dibromofluoromethane	*45.85*	*1.0*	*50*	*0*	*91.7*	*80 - 119*	*45.97*	*0.261*	*20*	
Surr: Toluene-d8	*54.93*	*1.0*	*50*	*0*	*110*	*89 - 112*	*54.31*	*1.12*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.24	1.0	20	0	111	78 - 124	22.26	0.0852	20	
1,1,1-Trichloroethane	22.44	1.0	20	0	112	74 - 131	22.69	1.1	20	
1,1,2,2-Tetrachloroethane	20.92	1.0	20	0	105	71 - 121	21.14	1.02	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	28.65	1.0	20	0	143	70 - 136	29.45	2.72	20	S
1,1,2-Trichloroethane	21.55	1.0	20	0	108	80 - 119	21.19	1.73	20	
1,1-Dichloroethane	18.83	1.0	20	0	94.2	77 - 125	20.15	6.74	20	
1,1-Dichloroethene	20.86	1.0	20	0	104	71 - 131	21.59	3.43	20	
1,1-Dichloropropene	24.92	1.0	20	0	125	78 - 125	24.96	0.177	20	
1,2,3-Trichlorobenzene	21	1.0	20	0	105	69 - 129	19.53	7.26	20	
1,2,3-Trichloropropane	19.09	1.0	20	0	95.5	73 - 122	19.8	3.65	20	
1,2,4-Trichlorobenzene	20.79	1.0	20	0	104	69 - 130	19.31	7.4	20	
1,2,4-Trimethylbenzene	23.34	1.0	20	0	117	76 - 124	23.7	1.54	20	
1,2-Dibromo-3-chloropropane	17.45	1.0	20	0	87.2	62 - 128	17.66	1.19	20	
1,2-Dibromoethane	22.31	1.0	20	0	112	77 - 121	21.66	2.96	20	
1,2-Dichlorobenzene	21.2	1.0	20	0	106	80 - 119	21.23	0.149	20	
1,2-Dichloroethane	21.61	1.0	20	0	108	73 - 128	20.75	4.08	20	
1,2-Dichloropropane	21.32	1.0	20	0	107	78 - 122	21.62	1.42	20	
1,3,5-Trimethylbenzene	23.98	1.0	20	0	120	75 - 124	24.67	2.84	20	
1,3-Dichlorobenzene	22.27	1.0	20	0	111	80 - 119	22.11	0.686	20	
1,3-Dichloropropane	21.88	1.0	20	0	109	80 - 119	21.79	0.414	20	
1,4-Dichlorobenzene	20.73	1.0	20	0	104	79 - 118	20.94	1.04	20	
2,2-Dichloropropane	15.09	1.0	20	0	75.4	60 - 139	15.59	3.28	20	
2-Butanone	34.86	2.0	40	0	87.2	56 - 143	35.85	2.8	20	
2-Chlorotoluene	23.09	1.0	20	0	115	79 - 122	23.43	1.48	20	
2-Hexanone	39.49	2.0	40	0	98.7	57 - 139	38.08	3.65	20	
4-Chlorotoluene	22.82	1.0	20	0	114	78 - 122	23.46	2.78	20	
4-Isopropyltoluene	24.05	1.0	20	0	120	77 - 127	24.23	0.751	20	
4-Methyl-2-pentanone	42.56	2.0	40	0	106	67 - 130	42.8	0.551	20	
Acetone	25.91	2.0	40	0	64.8	39 - 160	27.47	5.85	20	
Benzene	21.88	1.0	20	0	109	79 - 120	22.18	1.35	20	
Bromobenzene	22.15	1.0	20	0	111	80 - 120	21.81	1.53	20	
Bromochloromethane	18.57	1.0	20	0	92.8	78 - 123	18.77	1.09	20	
Bromodichloromethane	20.61	1.0	20	0	103	79 - 125	20.68	0.311	20	
Bromoform	17.93	1.0	20	0	89.6	66 - 130	17.9	0.159	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	20.76	1.0	20	0	104	53 - 141	21.73	4.57	20	
Carbon disulfide	39.03	2.0	40	0	97.6	64 - 133	40.33	3.3	20	
Carbon tetrachloride	26.24	1.0	20	0	131	72 - 136	26.39	0.575	20	
Chlorobenzene	22.49	1.0	20	0	112	82 - 118	22.36	0.561	20	
Chloroethane	20.62	1.0	20	0	103	60 - 138	20.64	0.0959	20	
Chloroform	19.64	1.0	20	0	98.2	79 - 124	19.87	1.19	20	
Chloromethane	19.7	1.0	20	0	98.5	50 - 139	20.58	4.41	20	
cis-1,2-Dichloroethene	19.14	1.0	20	0	95.7	78 - 123	20.01	4.44	20	
cis-1,3-Dichloropropene	17.22	1.0	20	0	86.1	75 - 124	17.25	0.144	20	
Cyclohexane	31.06	1.0	20	0	155	71 - 130	32.19	3.58	20	S
Dibromochloromethane	19.22	1.0	20	0	96.1	74 - 126	19.06	0.87	20	
Dibromomethane	19.99	1.0	20	0	100.0	79 - 123	20.89	4.38	20	
Dichlorodifluoromethane	22.95	1.0	20	0	115	32 - 152	23.85	3.85	20	
Ethylbenzene	24.01	1.0	20	0	120	79 - 121	24.12	0.458	20	
Hexachlorobutadiene	25.75	1.0	20	0	129	66 - 134	25.48	1.08	20	
Isopropylbenzene	26.02	1.0	20	0	130	72 - 131	25.86	0.583	20	
m,p-Xylene	48.64	2.0	40	0	122	80 - 121	47.78	1.79	20	S
Methyl acetate	13.52	1.0	20	0	67.6	56 - 136	12.82	5.26	20	
Methyl tert-butyl ether	15.09	1.0	20	0	75.4	71 - 124	15.17	0.541	20	
Methylcyclohexane	20.01	1.0	20	0	100	72 - 132	19.65	1.85	20	
Methylene chloride	19.44	2.0	20	0	97.2	74 - 124	19.96	2.61	20	
Naphthalene	20.3	1.0	20	0	102	61 - 128	17.59	14.3	20	
n-Butylbenzene	23.93	1.0	20	0	120	75 - 128	23.57	1.54	20	
n-Propylbenzene	24.29	1.0	20	0	121	76 - 126	24.76	1.91	20	
o-Xylene	23.54	1.0	20	0	118	78 - 122	23.71	0.716	20	
sec-Butylbenzene	23.97	1.0	20	0	120	77 - 126	24.19	0.912	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.46	1.47	20	
tert-Butylbenzene	24.99	1.0	20	0	125	78 - 124	25.68	2.73	20	S
Tetrachloroethene	29.89	1.0	20	5.324	123	74 - 129	29.57	1.07	20	
Toluene	24.13	1.0	20	0	121	80 - 121	24.32	0.792	20	
trans-1,2-Dichloroethene	20.11	1.0	20	0	101	75 - 124	20.7	2.86	20	
trans-1,3-Dichloropropene	16.41	1.0	20	0	82.0	73 - 127	16.19	1.32	20	
Trichloroethene	23.46	1.0	20	0	117	79 - 123	24.22	3.19	20	
Trichlorofluoromethane	22.95	1.0	20	0	115	65 - 141	23.76	3.46	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	20.94	1.0	20	0	105	58 - 137	21.47	2.5	20	
Xylenes, Total	72.18	1.0	60	0	120	78 - 122	71.49	0.968	20	
Surr: 1,2-Dichloroethane-d4	*45.4*	*1.0*	*50*	*0*	*90.8*	*81 - 118*	*45.47*	*0.159*	*20*	
Surr: 4-Bromofluorobenzene	*52.46*	*1.0*	*50*	*0*	*105*	*85 - 114*	*51.38*	*2.09*	*20*	
Surr: Dibromofluoromethane	*46.14*	*1.0*	*50*	*0*	*92.3*	*80 - 119*	*46.78*	*1.38*	*20*	
Surr: Toluene-d8	*55.27*	*1.0*	*50*	*0*	*111*	*89 - 112*	*54.45*	*1.5*	*20*	

The following samples were analyzed in this batch:

HS22110211-01	HS22110211-02	HS22110211-03	HS22110211-04
HS22110211-05	HS22110211-06	HS22110211-07	HS22110211-08
HS22110211-09	HS22110211-10		

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client:	Aptim Environmental & Infrastucture, Inc.	**QUALIFIERS, ACRONYMS, UNITS**
Project:	LHAAP 37 November 2022	
WorkOrder:	**HS22110211**	

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Feb-23

Sample Receipt Checklist

Work Order ID: HS22110211 **Date/Time Received:** **02-Nov-2022 09:35**

Client Name: CBI-Houston **Received by:** **Corey Grandits**

Completed By: /S/ Malcolm Burleson (eSignature) 03-Nov-2022 15:09 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 14-Nov-2022 11:36 (Date/Time)

Matrices: **GW** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	3.0UC 2.5C	IR31
Cooler(s)/Kit(s):	46743	
Date/Time sample(s) sent to storage:	11032022/1513	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX, 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: LHAAP 37 November 2022

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW01-221101	WG	11/1/22 0800		3	X						
35BWW10-221101	WG	11/1/22 0840		3	X						
35BWW05-221101	WG	11/1/22 0920		3	X						
LHSMW58-221101	WG	11/1/22 1000		3	X						
35BWW11-221101	WG	11/1/22 1040		3	X						
35BWW20-221101	WG	11/1/22 1120		3	X						
35BWW09-221101	WG	11/1/22 1200		3	X						
35BWW19-221101	WG	11/1/22 1240		3	X						

HS22110211
Aptim Environmental & Infrastucture, Inc.
35BWW01-221101

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/1/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW18-221101	WG	11/1/22 1320		3	X						
TRIP BLANK-221101	W	11/1/22		2	X						

HS22110211
Aptim Environmental & Infrastucture, Inc.
35BWW01-221101

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/1/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\U-ces\Forms\Chain of Custody - Bi Weekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

46743

CUSTODY SEAL

Date: 11/1/22 Time: 1930
Name: Scott Beesinger
Company: ALS Houston

Seal Broken By: SM
Date: 11/02/22

46743

46743

ORIGIN ID:SGRA (903) 930-6193
ATT: SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE PMB202

MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 26OCT22
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3616
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-37-88653-DW

RMA:

FedEx Express

FedEx 0221 3789 1999 9883

PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

3973287 01Nov2022 GGGA 5B1G2/4540/C0BB

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

February 07, 2023

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22110281**

Laboratory Results for: **LHAAP 37 November 2022**

Dear Vicki Graves ,

ALS Environmental received 8 sample(s) on Nov 04, 2022 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: DANE.WACASEY
Dane J. Wacasey

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Work Order: HS22110281

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110281-01	35BWW04-221103	Groundwater		03-Nov-2022 07:50	04-Nov-2022 09:00	☐
HS22110281-02	35BWW14-221103	Groundwater		03-Nov-2022 08:50	04-Nov-2022 09:00	☐
HS22110281-03	35BWW15-221103	Groundwater		03-Nov-2022 09:35	04-Nov-2022 09:00	☐
HS22110281-04	35BWW23-221103	Groundwater		03-Nov-2022 10:15	04-Nov-2022 09:00	☐
HS22110281-05	35BWW24-221103	Groundwater		03-Nov-2022 11:00	04-Nov-2022 09:00	☐
HS22110281-06	35BWW24-221103-FD	Groundwater		03-Nov-2022 11:00	04-Nov-2022 09:00	☐
HS22110281-07	35BWW25-221103	Groundwater		03-Nov-2022 11:45	04-Nov-2022 09:00	☐
HS22110281-08	Trip Blank-221103	Water	cg-090622-884	03-Nov-2022 00:00	04-Nov-2022 09:00	☐

Revision:1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2022
Work Order: HS22110281

Work Order Comments

- This report was revised February 7, 2023, to adjust the VOC analyte list to include the compounds related to site LHAAP 37.

Work Order Comments

- The analysis for CO2 by RSK175 was performed by Eurofins in Lancaster, PA. The Final report is appended.

GC Semivolatiles by Method RSK-175

Batch ID: R421701

Sample ID: 35BWW04-221103 (HS22110281-01MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 35BWW04-221103 (HS22110281-01MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R421679

Sample ID: 35BWW04-221103 (HS22110281-01MS)

- MS and MSD failed QC limit for select compounds due to suspect matrix effect.

Sample ID: 35BWW25-221103 (HS22110281-07MS)

- MS and MSD failed QC limit for select compounds due to suspect matrix effect.

WetChemistry by Method SM5310B

Batch ID: R422135,R422136

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R421072

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW04-221103
Collection Date: 03-Nov-2022 07:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:48
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 23:48
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW04-221103 Lab ID:HS22110281-01
Collection Date: 03-Nov-2022 07:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:48
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Tetrachloroethene	**5.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 23:48
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 23:48*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 23:48*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 23:48*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 23:48*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	11-Nov-2022 12:49
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	11-Nov-2022 12:49
Methane	**0.00126**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	11-Nov-2022 12:49
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.05**		**0.500**	**1.00**	**1.00**	**mg/L**	1	18-Nov-2022 06:03

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW04-221103
Collection Date: 03-Nov-2022 07:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**3.21**		**0.200**	**0.250**	**0.500**	**mg/L**	1	04-Nov-2022 15:02
Nitrogen, Nitrate (As N)	**0.0327**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	04-Nov-2022 15:02
Sulfate	**26.7**		**0.200**	**0.250**	**0.500**	**mg/L**	1	04-Nov-2022 15:02
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	16-Nov-2022 08:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW14-221103 Lab ID:HS22110281-02
Collection Date: 03-Nov-2022 08:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1,2-Trichlor-1,2,2-trifluoroethane	**8.4**		**0.50**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:10
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:10
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 00:10
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW14-221103 Lab ID:HS22110281-02
Collection Date: 03-Nov-2022 08:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:10
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Tetrachloroethene	**27**		**0.30**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:10
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Trichloroethene	**6.0**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:10
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Surr: 1,2-Dichloroethane-d4	*96.5*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 00:10*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 00:10*
Surr: Dibromofluoromethane	*94.0*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 00:10*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 00:10*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	11-Nov-2022 14:40
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	11-Nov-2022 14:40
Methane	**0.000932**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	11-Nov-2022 14:40
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.772**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	18-Nov-2022 07:40

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW14-221103
Collection Date: 03-Nov-2022 08:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**9.60**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 15:18
Nitrogen, Nitrate (As N)	**0.0507**	J	**0.0300**	**0.0500**	**0.100**	**mg/L**	1	04-Nov-2022 15:18
Sulfate	**49.1**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 15:18
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	16-Nov-2022 08:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW15-221103 Lab ID:HS22110281-03
Collection Date: 03-Nov-2022 09:35 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 00:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW15-221103 Lab ID:HS22110281-03
Collection Date: 03-Nov-2022 09:35 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Tetrachloroethene	**11**		**0.30**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:33
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Trichloroethene	**5.3**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Surr: 1,2-Dichloroethane-d4	*95.2*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 00:33*
Surr: 4-Bromofluorobenzene	*94.4*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 00:33*
Surr: Dibromofluoromethane	*94.1*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 00:33*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 00:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW23-221103 Lab ID:HS22110281-04
Collection Date: 03-Nov-2022 10:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:55
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 00:55
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW23-221103 Lab ID:HS22110281-04
Collection Date: 03-Nov-2022 10:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:55
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 00:55*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 00:55*
Surr: Dibromofluoromethane	*92.1*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 00:55*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 00:55*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	11-Nov-2022 14:52
Ethene	**0.000925**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	11-Nov-2022 14:52
Methane	**0.00123**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	11-Nov-2022 14:52
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.578**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	18-Nov-2022 08:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW23-221103
Collection Date: 03-Nov-2022 10:15

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**17.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 15:23
Nitrogen, Nitrate (As N)	0.0500	U	0.0300	0.0500	0.100	mg/L	1	04-Nov-2022 15:23
Sulfate	**76.5**		**0.200**	**0.250**	**0.500**	**mg/L**	1	04-Nov-2022 15:23
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	16-Nov-2022 08:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW24-221103 Lab ID:HS22110281-05
Collection Date: 03-Nov-2022 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1,2-Trichlor-1,2,2-trifluoroethane	**9.9**		**0.50**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:17
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:17
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 01:17
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW24-221103 Lab ID:HS22110281-05
Collection Date: 03-Nov-2022 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:17
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Trichloroethene	**4.7**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:17
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Surr: 1,2-Dichloroethane-d4	*93.6*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 01:17*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 01:17*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 01:17*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 01:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW24-221103-FD Lab ID:HS22110281-06
Collection Date: 03-Nov-2022 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1,2-Trichlor-1,2,2-trifluoroethane	**9.6**		**0.50**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:40
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:40
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 01:40
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW24-221103-FD Lab ID:HS22110281-06
Collection Date: 03-Nov-2022 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:40
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Trichloroethene	**5.0**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:40
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Surr: 1,2-Dichloroethane-d4	*92.3*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 01:40*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 01:40*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 01:40*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 01:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW25-221103 Lab ID:HS22110281-07
Collection Date: 03-Nov-2022 11:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 02:02
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 02:02
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: 35BWW25-221103 Lab ID:HS22110281-07
Collection Date: 03-Nov-2022 11:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 02:02
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Tetrachloroethene	**1.4**		**0.30**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 02:02
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Trichloroethene	**14**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 02:02
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Surr: 1,2-Dichloroethane-d4	*94.1*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 02:02*
Surr: 4-Bromofluorobenzene	*95.7*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 02:02*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 02:02*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 02:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: Trip Blank-221103 Lab ID:HS22110281-08
Collection Date: 03-Nov-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:05
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 20:05
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 37 November 2022 WorkOrder:HS22110281
Sample ID: Trip Blank-221103 Lab ID:HS22110281-08
Collection Date: 03-Nov-2022 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:05
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Surr: 1,2-Dichloroethane-d4	*90.6*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:05*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:05*
Surr: Dibromofluoromethane	*90.9*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:05*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421072 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			04 Nov 2022 15:02	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			04 Nov 2022 15:18	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			04 Nov 2022 15:23	1
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110281-08	Trip Blank-221103	03 Nov 2022 00:00			11 Nov 2022 20:05	1
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			11 Nov 2022 23:48	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			12 Nov 2022 00:10	1
HS22110281-03	35BWW15-221103	03 Nov 2022 09:35			12 Nov 2022 00:33	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			12 Nov 2022 00:55	1
HS22110281-05	35BWW24-221103	03 Nov 2022 11:00			12 Nov 2022 01:17	1
HS22110281-06	35BWW24-221103-FD	03 Nov 2022 11:00			12 Nov 2022 01:40	1
HS22110281-07	35BWW25-221103	03 Nov 2022 11:45			12 Nov 2022 02:02	1
Batch ID: R421701 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			11 Nov 2022 12:49	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			11 Nov 2022 14:40	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			11 Nov 2022 14:52	1
Batch ID: R421901 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			16 Nov 2022 08:49	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			16 Nov 2022 08:49	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			16 Nov 2022 08:49	1
Batch ID: R422135 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			18 Nov 2022 06:03	1
Batch ID: R422136 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			18 Nov 2022 07:40	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			18 Nov 2022 08:07	1

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421701 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-221111** Units: **mg/L** Analysis Date: **11-Nov-2022 08:52**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978931** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-221111** Units: **mg/L** Analysis Date: **11-Nov-2022 09:00**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978932** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0201	0.00100	0.01804	0	112	75 - 125				
Ethene	0.0186	0.00100	0.0168	0	111	75 - 125				
Methane	0.00859	0.000500	0.009647	0	89.0	75 - 125				

LCSD Sample ID: **LCSD-221111** Units: **mg/L** Analysis Date: **11-Nov-2022 09:08**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978933** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0206	0.00100	0.01804	0	114	75 - 125	0.02012	2.54	30	
Ethene	0.0190	0.00100	0.0168	0	113	75 - 125	0.01862	2.1	30	
Methane	0.00887	0.000500	0.009647	0	91.9	75 - 125	0.008588	3.23	30	

MS Sample ID: **HS22110582-05MS** Units: **mg/L** Analysis Date: **11-Nov-2022 17:06**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978955** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0212	0.00100	0.01804	0	118	75 - 125				
Ethene	0.0187	0.00100	0.0168	0	111	75 - 125				
Methane	0.00886	0.000500	0.009647	0	91.8	75 - 125				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421701 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MS Sample ID: **HS22110281-01MS** Units: **mg/L** Analysis Date: **11-Nov-2022 14:15**
Client ID: **35BWW04-221103** Run ID: **FID-4_421701** SeqNo: **6978947** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0240	0.00100	0.01804	0	133	75 - 125				S
Ethene	0.0223	0.00100	0.0168	0	133	75 - 125				S
Methane	0.00937	0.000500	0.009647	0.001261	84.1	75 - 125				

MSD Sample ID: **HS22110582-05MSD** Units: **mg/L** Analysis Date: **11-Nov-2022 17:18**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978956** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0216	0.00100	0.01804	0	119	75 - 125	0.02121	1.61	30	
Ethene	0.0195	0.00100	0.0168	0	116	75 - 125	0.01872	4.3	30	
Methane	0.00912	0.000500	0.009647	0	94.5	75 - 125	0.008861	2.83	30	

MSD Sample ID: **HS22110281-01MSD** Units: **mg/L** Analysis Date: **11-Nov-2022 14:32**
Client ID: **35BWW04-221103** Run ID: **FID-4_421701** SeqNo: **6978948** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0250	0.00100	0.01804	0	139	75 - 125	0.02404	3.91	30	S
Ethene	0.0227	0.00100	0.0168	0	135	75 - 125	0.02233	1.62	30	S
Methane	0.00951	0.000500	0.009647	0.001261	85.5	75 - 125	0.009369	1.48	30	

The following samples were analyzed in this batch: HS22110281-01 HS22110281-02 HS22110281-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.84*	*1.0*	*50*	*0*	*97.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.6*	*1.0*	*50*	*0*	*91.2*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.49*	*1.0*	*50*	*0*	*107*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.76	1.0	20	0	98.8	78 - 124				
1,1,1-Trichloroethane	20	1.0	20	0	100.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.64	1.0	20	0	118	70 - 136				
1,1,2-Trichloroethane	19.59	1.0	20	0	98.0	80 - 119				
1,1-Dichloroethane	18.56	1.0	20	0	92.8	77 - 125				
1,1-Dichloroethene	18.55	1.0	20	0	92.8	71 - 131				
1,1-Dichloropropene	19.43	1.0	20	0	97.1	78 - 125				
1,2,3-Trichlorobenzene	20.6	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	19.12	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	20.67	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	21.75	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	17.7	1.0	20	0	88.5	62 - 128				
1,2-Dibromoethane	20.64	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	19.34	1.0	20	0	96.7	80 - 119				
1,2-Dichloroethane	19.35	1.0	20	0	96.8	73 - 128				
1,2-Dichloropropane	19.19	1.0	20	0	96.0	78 - 122				
1,3,5-Trimethylbenzene	21.56	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	20.24	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	20.17	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	19.23	1.0	20	0	96.2	79 - 118				
2,2-Dichloropropane	17.76	1.0	20	0	88.8	60 - 139				
2-Butanone	39.58	2.0	40	0	99.0	56 - 143				
2-Chlorotoluene	20.57	1.0	20	0	103	79 - 122				
2-Hexanone	38.74	2.0	40	0	96.8	57 - 139				
4-Chlorotoluene	20.7	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	20.89	1.0	20	0	104	77 - 127				
4-Methyl-2-pentanone	39.67	2.0	40	0	99.2	67 - 130				
Acetone	43.31	2.0	40	0	108	39 - 160				
Benzene	19.25	1.0	20	0	96.2	79 - 120				
Bromobenzene	20.48	1.0	20	0	102	80 - 120				
Bromochloromethane	18.31	1.0	20	0	91.6	78 - 123				
Bromodichloromethane	18.79	1.0	20	0	94.0	79 - 125				
Bromoform	17.25	1.0	20	0	86.2	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.91	1.0	20	0	99.5	53 - 141				
Carbon disulfide	36.73	2.0	40	0	91.8	64 - 133				
Carbon tetrachloride	18.95	1.0	20	0	94.8	72 - 136				
Chlorobenzene	19.44	1.0	20	0	97.2	82 - 118				
Chloroethane	18.47	1.0	20	0	92.3	60 - 138				
Chloroform	19.19	1.0	20	0	96.0	79 - 124				
Chloromethane	18.64	1.0	20	0	93.2	50 - 139				
cis-1,2-Dichloroethene	19.38	1.0	20	0	96.9	78 - 123				
cis-1,3-Dichloropropene	17.21	1.0	20	0	86.1	75 - 124				
Dibromochloromethane	17.79	1.0	20	0	89.0	74 - 126				
Dibromomethane	19.44	1.0	20	0	97.2	79 - 123				
Dichlorodifluoromethane	21.07	1.0	20	0	105	32 - 152				
Ethylbenzene	20.18	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	23.47	1.0	20	0	117	66 - 134				
Isopropylbenzene	21	1.0	20	0	105	72 - 131				
m,p-Xylene	40.86	2.0	40	0	102	80 - 121				
Methylene chloride	21.12	2.0	20	0	106	74 - 124				
Naphthalene	20.83	1.0	20	0	104	61 - 128				
n-Butylbenzene	20.76	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.94	1.0	20	0	105	76 - 126				
o-Xylene	20.56	1.0	20	0	103	78 - 122				
sec-Butylbenzene	20.21	1.0	20	0	101	77 - 126				
Styrene	19.21	1.0	20	0	96.1	78 - 123				
tert-Butylbenzene	20.4	1.0	20	0	102	78 - 124				
Tetrachloroethene	19.86	1.0	20	0	99.3	74 - 129				
Toluene	20.44	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	18.65	1.0	20	0	93.3	75 - 124				
trans-1,3-Dichloropropene	16.59	1.0	20	0	83.0	73 - 127				
Trichloroethene	19.52	1.0	20	0	97.6	79 - 123				
Trichlorofluoromethane	19.64	1.0	20	0	98.2	65 - 141				
Vinyl chloride	17.64	1.0	20	0	88.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.74*	*1.0*	*50*	*0*	*99.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.58*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.69*	*1.0*	*50*	*0*	*101*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.1*	*1.0*	*50*	*0*	*104*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.96	1.0	20	0	110	78 - 124				
1,1,1-Trichloroethane	22.5	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	20.81	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	28.23	1.0	20	0	141	70 - 136				S
1,1,2-Trichloroethane	20.43	1.0	20	0	102	80 - 119				
1,1-Dichloroethane	19.53	1.0	20	0	97.7	77 - 125				
1,1-Dichloroethene	21.15	1.0	20	0	106	71 - 131				
1,1-Dichloropropene	23.81	1.0	20	0	119	78 - 125				
1,2,3-Trichlorobenzene	21.67	1.0	20	0	108	69 - 129				
1,2,3-Trichloropropane	19.13	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	21.37	1.0	20	0	107	69 - 130				
1,2,4-Trimethylbenzene	23.64	1.0	20	0	118	76 - 124				
1,2-Dibromo-3-chloropropane	18.31	1.0	20	0	91.6	62 - 128				
1,2-Dibromoethane	21.64	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.5	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.62	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.78	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	25.04	1.0	20	0	125	75 - 124				S
1,3-Dichlorobenzene	22.47	1.0	20	0	112	80 - 119				
1,3-Dichloropropane	21.81	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	15.18	1.0	20	0	75.9	60 - 139				
2-Butanone	34.26	2.0	40	0	85.7	56 - 143				
2-Chlorotoluene	23.89	1.0	20	0	119	79 - 122				
2-Hexanone	37.29	2.0	40	0	93.2	57 - 139				
4-Chlorotoluene	24.01	1.0	20	0	120	78 - 122				
4-Isopropyltoluene	24.72	1.0	20	0	124	77 - 127				
4-Methyl-2-pentanone	40.65	2.0	40	0	102	67 - 130				
Acetone	26.25	2.0	40	0	65.6	39 - 160				
Benzene	21.46	1.0	20	0	107	79 - 120				
Bromobenzene	22.3	1.0	20	0	112	80 - 120				
Bromochloromethane	18.37	1.0	20	0	91.8	78 - 123				
Bromodichloromethane	20.45	1.0	20	0	102	79 - 125				
Bromoform	17.56	1.0	20	0	87.8	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.36	1.0	20	0	102	53 - 141				
Carbon disulfide	39.29	2.0	40	0	98.2	64 - 133				
Carbon tetrachloride	25.94	1.0	20	0	130	72 - 136				
Chlorobenzene	22.18	1.0	20	0	111	82 - 118				
Chloroethane	21.25	1.0	20	0	106	60 - 138				
Chloroform	19.62	1.0	20	0	98.1	79 - 124				
Chloromethane	19.95	1.0	20	0	99.7	50 - 139				
cis-1,2-Dichloroethene	19.25	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.2	1.0	20	0	86.0	75 - 124				
Dibromochloromethane	19.04	1.0	20	0	95.2	74 - 126				
Dibromomethane	19.84	1.0	20	0	99.2	79 - 123				
Dichlorodifluoromethane	22.92	1.0	20	0	115	32 - 152				
Ethylbenzene	24.02	1.0	20	0	120	79 - 121				
Hexachlorobutadiene	27.49	1.0	20	0	137	66 - 134				S
Isopropylbenzene	25.87	1.0	20	0	129	72 - 131				
m,p-Xylene	47.54	2.0	40	0	119	80 - 121				
Methylene chloride	19.29	2.0	20	0	96.5	74 - 124				
Naphthalene	21	1.0	20	0	105	61 - 128				
n-Butylbenzene	24.25	1.0	20	0	121	75 - 128				
n-Propylbenzene	24.86	1.0	20	0	124	76 - 126				
o-Xylene	23.84	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.47	1.0	20	0	122	77 - 126				
Styrene	20.4	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.74	1.0	20	0	129	78 - 124				S
Tetrachloroethene	25.46	1.0	20	1.371	120	74 - 129				
Toluene	23.83	1.0	20	0	119	80 - 121				
trans-1,2-Dichloroethene	20.36	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	16.21	1.0	20	0	81.0	73 - 127				
Trichloroethene	36.74	1.0	20	13.95	114	79 - 123				
Trichlorofluoromethane	22.97	1.0	20	0	115	65 - 141				
Vinyl chloride	20.94	1.0	20	0	105	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.28*	*1.0*	*50*	*0*	*88.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.1*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.31*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.26	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	22.69	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	21.14	1.0	20	0	106	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	29.45	1.0	20	0	147	70 - 136				S
1,1,2-Trichloroethane	21.19	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	20.15	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	21.59	1.0	20	0	108	71 - 131				
1,1-Dichloropropene	24.96	1.0	20	0	125	78 - 125				
1,2,3-Trichlorobenzene	19.53	1.0	20	0	97.6	69 - 129				
1,2,3-Trichloropropane	19.8	1.0	20	0	99.0	73 - 122				
1,2,4-Trichlorobenzene	19.31	1.0	20	0	96.6	69 - 130				
1,2,4-Trimethylbenzene	23.7	1.0	20	0	119	76 - 124				
1,2-Dibromo-3-chloropropane	17.66	1.0	20	0	88.3	62 - 128				
1,2-Dibromoethane	21.66	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.23	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.75	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	21.62	1.0	20	0	108	78 - 122				
1,3,5-Trimethylbenzene	24.67	1.0	20	0	123	75 - 124				
1,3-Dichlorobenzene	22.11	1.0	20	0	111	80 - 119				
1,3-Dichloropropane	21.79	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	20.94	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	15.59	1.0	20	0	78.0	60 - 139				
2-Butanone	35.85	2.0	40	0	89.6	56 - 143				
2-Chlorotoluene	23.43	1.0	20	0	117	79 - 122				
2-Hexanone	38.08	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	23.46	1.0	20	0	117	78 - 122				
4-Isopropyltoluene	24.23	1.0	20	0	121	77 - 127				
4-Methyl-2-pentanone	42.8	2.0	40	0	107	67 - 130				
Acetone	27.47	2.0	40	0	68.7	39 - 160				
Benzene	22.18	1.0	20	0	111	79 - 120				
Bromobenzene	21.81	1.0	20	0	109	80 - 120				
Bromochloromethane	18.77	1.0	20	0	93.9	78 - 123				
Bromodichloromethane	20.68	1.0	20	0	103	79 - 125				
Bromoform	17.9	1.0	20	0	89.5	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.73	1.0	20	0	109	53 - 141				
Carbon disulfide	40.33	2.0	40	0	101	64 - 133				
Carbon tetrachloride	26.39	1.0	20	0	132	72 - 136				
Chlorobenzene	22.36	1.0	20	0	112	82 - 118				
Chloroethane	20.64	1.0	20	0	103	60 - 138				
Chloroform	19.87	1.0	20	0	99.4	79 - 124				
Chloromethane	20.58	1.0	20	0	103	50 - 139				
cis-1,2-Dichloroethene	20.01	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	17.25	1.0	20	0	86.2	75 - 124				
Dibromochloromethane	19.06	1.0	20	0	95.3	74 - 126				
Dibromomethane	20.89	1.0	20	0	104	79 - 123				
Dichlorodifluoromethane	23.85	1.0	20	0	119	32 - 152				
Ethylbenzene	24.12	1.0	20	0	121	79 - 121				
Hexachlorobutadiene	25.48	1.0	20	0	127	66 - 134				
Isopropylbenzene	25.86	1.0	20	0	129	72 - 131				
m,p-Xylene	47.78	2.0	40	0	119	80 - 121				
Methylene chloride	19.96	2.0	20	0	99.8	74 - 124				
Naphthalene	17.59	1.0	20	0	87.9	61 - 128				
n-Butylbenzene	23.57	1.0	20	0	118	75 - 128				
n-Propylbenzene	24.76	1.0	20	0	124	76 - 126				
o-Xylene	23.71	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.19	1.0	20	0	121	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.68	1.0	20	0	128	78 - 124				S
Tetrachloroethene	29.57	1.0	20	5.324	121	74 - 129				
Toluene	24.32	1.0	20	0	122	80 - 121				S
trans-1,2-Dichloroethene	20.7	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	16.19	1.0	20	0	81.0	73 - 127				
Trichloroethene	24.22	1.0	20	0	121	79 - 123				
Trichlorofluoromethane	23.76	1.0	20	0	119	65 - 141				
Vinyl chloride	21.47	1.0	20	0	107	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.47*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.38*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*46.78*	*1.0*	*50*	*0*	*93.6*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.45*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.46	1.0	20	0	107	78 - 124	21.96	2.3	20	
1,1,1-Trichloroethane	21.76	1.0	20	0	109	74 - 131	22.5	3.38	20	
1,1,2,2-Tetrachloroethane	20.79	1.0	20	0	104	71 - 121	20.81	0.125	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	27.43	1.0	20	0	137	70 - 136	28.23	2.85	20	S
1,1,2-Trichloroethane	20.89	1.0	20	0	104	80 - 119	20.43	2.19	20	
1,1-Dichloroethane	18.66	1.0	20	0	93.3	77 - 125	19.53	4.55	20	
1,1-Dichloroethene	20.5	1.0	20	0	102	71 - 131	21.15	3.13	20	
1,1-Dichloropropene	23.98	1.0	20	0	120	78 - 125	23.81	0.736	20	
1,2,3-Trichlorobenzene	21.78	1.0	20	0	109	69 - 129	21.67	0.501	20	
1,2,3-Trichloropropane	19.42	1.0	20	0	97.1	73 - 122	19.13	1.5	20	
1,2,4-Trichlorobenzene	21.31	1.0	20	0	107	69 - 130	21.37	0.254	20	
1,2,4-Trimethylbenzene	23.98	1.0	20	0	120	76 - 124	23.64	1.45	20	
1,2-Dibromo-3-chloropropane	17.85	1.0	20	0	89.3	62 - 128	18.31	2.56	20	
1,2-Dibromoethane	21.7	1.0	20	0	108	77 - 121	21.64	0.284	20	
1,2-Dichlorobenzene	21.02	1.0	20	0	105	80 - 119	21.5	2.25	20	
1,2-Dichloroethane	21.09	1.0	20	0	105	73 - 128	20.62	2.26	20	
1,2-Dichloropropane	21.68	1.0	20	0	108	78 - 122	20.78	4.25	20	
1,3,5-Trimethylbenzene	24.61	1.0	20	0	123	75 - 124	25.04	1.73	20	
1,3-Dichlorobenzene	22.19	1.0	20	0	111	80 - 119	22.47	1.25	20	
1,3-Dichloropropane	21.48	1.0	20	0	107	80 - 119	21.81	1.53	20	
1,4-Dichlorobenzene	20.76	1.0	20	0	104	79 - 118	21.15	1.87	20	
2,2-Dichloropropane	14.61	1.0	20	0	73.1	60 - 139	15.18	3.83	20	
2-Butanone	34.24	2.0	40	0	85.6	56 - 143	34.26	0.0692	20	
2-Chlorotoluene	23.55	1.0	20	0	118	79 - 122	23.89	1.42	20	
2-Hexanone	40.04	2.0	40	0	100	57 - 139	37.29	7.11	20	
4-Chlorotoluene	23.13	1.0	20	0	116	78 - 122	24.01	3.75	20	
4-Isopropyltoluene	24.55	1.0	20	0	123	77 - 127	24.72	0.679	20	
4-Methyl-2-pentanone	43.64	2.0	40	0	109	67 - 130	40.65	7.09	20	
Acetone	26.26	2.0	40	0	65.7	39 - 160	26.25	0.062	20	
Benzene	21.75	1.0	20	0	109	79 - 120	21.46	1.33	20	
Bromobenzene	22.1	1.0	20	0	110	80 - 120	22.3	0.913	20	
Bromochloromethane	18.43	1.0	20	0	92.1	78 - 123	18.37	0.324	20	
Bromodichloromethane	20.39	1.0	20	0	102	79 - 125	20.45	0.266	20	
Bromoform	17.69	1.0	20	0	88.4	66 - 130	17.56	0.714	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.2	1.0	20	0	96.0	53 - 141	20.36	5.85	20	
Carbon disulfide	37.68	2.0	40	0	94.2	64 - 133	39.29	4.18	20	
Carbon tetrachloride	25.79	1.0	20	0	129	72 - 136	25.94	0.571	20	
Chlorobenzene	21.88	1.0	20	0	109	82 - 118	22.18	1.38	20	
Chloroethane	19.88	1.0	20	0	99.4	60 - 138	21.25	6.67	20	
Chloroform	19.05	1.0	20	0	95.2	79 - 124	19.62	2.95	20	
Chloromethane	18.96	1.0	20	0	94.8	50 - 139	19.95	5.08	20	
cis-1,2-Dichloroethene	18.55	1.0	20	0	92.8	78 - 123	19.25	3.68	20	
cis-1,3-Dichloropropene	17.54	1.0	20	0	87.7	75 - 124	17.2	1.97	20	
Dibromochloromethane	18.83	1.0	20	0	94.2	74 - 126	19.04	1.08	20	
Dibromomethane	20.88	1.0	20	0	104	79 - 123	19.84	5.1	20	
Dichlorodifluoromethane	22.12	1.0	20	0	111	32 - 152	22.92	3.55	20	
Ethylbenzene	23.77	1.0	20	0	119	79 - 121	24.02	1.04	20	
Hexachlorobutadiene	25.62	1.0	20	0	128	66 - 134	27.49	7.05	20	
Isopropylbenzene	25.35	1.0	20	0	127	72 - 131	25.87	2.04	20	
m,p-Xylene	46.87	2.0	40	0	117	80 - 121	47.54	1.42	20	
Methylene chloride	18.96	2.0	20	0	94.8	74 - 124	19.29	1.73	20	
Naphthalene	21.8	1.0	20	0	109	61 - 128	21	3.73	20	
n-Butylbenzene	24.11	1.0	20	0	121	75 - 128	24.25	0.569	20	
n-Propylbenzene	24.84	1.0	20	0	124	76 - 126	24.86	0.0937	20	
o-Xylene	22.96	1.0	20	0	115	78 - 122	23.84	3.75	20	
sec-Butylbenzene	23.92	1.0	20	0	120	77 - 126	24.47	2.24	20	
Styrene	20.27	1.0	20	0	101	78 - 123	20.4	0.606	20	
tert-Butylbenzene	25.02	1.0	20	0	125	78 - 124	25.74	2.85	20	S
Tetrachloroethene	24.96	1.0	20	1.371	118	74 - 129	25.46	2	20	
Toluene	23.42	1.0	20	0	117	80 - 121	23.83	1.73	20	
trans-1,2-Dichloroethene	19.46	1.0	20	0	97.3	75 - 124	20.36	4.51	20	
trans-1,3-Dichloropropene	16.25	1.0	20	0	81.3	73 - 127	16.21	0.266	20	
Trichloroethene	35.68	1.0	20	13.95	109	79 - 123	36.74	2.94	20	
Trichlorofluoromethane	21.65	1.0	20	0	108	65 - 141	22.97	5.91	20	
Vinyl chloride	19.8	1.0	20	0	99.0	58 - 137	20.94	5.59	20	
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*	*44.28*	*0.592*	*20*	
Surr: 4-Bromofluorobenzene	*51.97*	*1.0*	*50*	*0*	*104*	*85 - 114*	*51.1*	*1.68*	*20*	
Surr: Dibromofluoromethane	*45.85*	*1.0*	*50*	*0*	*91.7*	*80 - 119*	*45.97*	*0.261*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.93*	*1.0*	*50*	*0*	*110*	*89 - 112*	*54.31*	*1.12*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.24	1.0	20	0	111	78 - 124	22.26	0.0852	20	
1,1,1-Trichloroethane	22.44	1.0	20	0	112	74 - 131	22.69	1.1	20	
1,1,2,2-Tetrachloroethane	20.92	1.0	20	0	105	71 - 121	21.14	1.02	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	28.65	1.0	20	0	143	70 - 136	29.45	2.72	20	S
1,1,2-Trichloroethane	21.55	1.0	20	0	108	80 - 119	21.19	1.73	20	
1,1-Dichloroethane	18.83	1.0	20	0	94.2	77 - 125	20.15	6.74	20	
1,1-Dichloroethene	20.86	1.0	20	0	104	71 - 131	21.59	3.43	20	
1,1-Dichloropropene	24.92	1.0	20	0	125	78 - 125	24.96	0.177	20	
1,2,3-Trichlorobenzene	21	1.0	20	0	105	69 - 129	19.53	7.26	20	
1,2,3-Trichloropropane	19.09	1.0	20	0	95.5	73 - 122	19.8	3.65	20	
1,2,4-Trichlorobenzene	20.79	1.0	20	0	104	69 - 130	19.31	7.4	20	
1,2,4-Trimethylbenzene	23.34	1.0	20	0	117	76 - 124	23.7	1.54	20	
1,2-Dibromo-3-chloropropane	17.45	1.0	20	0	87.2	62 - 128	17.66	1.19	20	
1,2-Dibromoethane	22.31	1.0	20	0	112	77 - 121	21.66	2.96	20	
1,2-Dichlorobenzene	21.2	1.0	20	0	106	80 - 119	21.23	0.149	20	
1,2-Dichloroethane	21.61	1.0	20	0	108	73 - 128	20.75	4.08	20	
1,2-Dichloropropane	21.32	1.0	20	0	107	78 - 122	21.62	1.42	20	
1,3,5-Trimethylbenzene	23.98	1.0	20	0	120	75 - 124	24.67	2.84	20	
1,3-Dichlorobenzene	22.27	1.0	20	0	111	80 - 119	22.11	0.686	20	
1,3-Dichloropropane	21.88	1.0	20	0	109	80 - 119	21.79	0.414	20	
1,4-Dichlorobenzene	20.73	1.0	20	0	104	79 - 118	20.94	1.04	20	
2,2-Dichloropropane	15.09	1.0	20	0	75.4	60 - 139	15.59	3.28	20	
2-Butanone	34.86	2.0	40	0	87.2	56 - 143	35.85	2.8	20	
2-Chlorotoluene	23.09	1.0	20	0	115	79 - 122	23.43	1.48	20	
2-Hexanone	39.49	2.0	40	0	98.7	57 - 139	38.08	3.65	20	
4-Chlorotoluene	22.82	1.0	20	0	114	78 - 122	23.46	2.78	20	
4-Isopropyltoluene	24.05	1.0	20	0	120	77 - 127	24.23	0.751	20	
4-Methyl-2-pentanone	42.56	2.0	40	0	106	67 - 130	42.8	0.551	20	
Acetone	25.91	2.0	40	0	64.8	39 - 160	27.47	5.85	20	
Benzene	21.88	1.0	20	0	109	79 - 120	22.18	1.35	20	
Bromobenzene	22.15	1.0	20	0	111	80 - 120	21.81	1.53	20	
Bromochloromethane	18.57	1.0	20	0	92.8	78 - 123	18.77	1.09	20	
Bromodichloromethane	20.61	1.0	20	0	103	79 - 125	20.68	0.311	20	
Bromoform	17.93	1.0	20	0	89.6	66 - 130	17.9	0.159	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	20.76	1.0	20	0	104	53 - 141	21.73	4.57	20	
Carbon disulfide	39.03	2.0	40	0	97.6	64 - 133	40.33	3.3	20	
Carbon tetrachloride	26.24	1.0	20	0	131	72 - 136	26.39	0.575	20	
Chlorobenzene	22.49	1.0	20	0	112	82 - 118	22.36	0.561	20	
Chloroethane	20.62	1.0	20	0	103	60 - 138	20.64	0.0959	20	
Chloroform	19.64	1.0	20	0	98.2	79 - 124	19.87	1.19	20	
Chloromethane	19.7	1.0	20	0	98.5	50 - 139	20.58	4.41	20	
cis-1,2-Dichloroethene	19.14	1.0	20	0	95.7	78 - 123	20.01	4.44	20	
cis-1,3-Dichloropropene	17.22	1.0	20	0	86.1	75 - 124	17.25	0.144	20	
Dibromochloromethane	19.22	1.0	20	0	96.1	74 - 126	19.06	0.87	20	
Dibromomethane	19.99	1.0	20	0	100.0	79 - 123	20.89	4.38	20	
Dichlorodifluoromethane	22.95	1.0	20	0	115	32 - 152	23.85	3.85	20	
Ethylbenzene	24.01	1.0	20	0	120	79 - 121	24.12	0.458	20	
Hexachlorobutadiene	25.75	1.0	20	0	129	66 - 134	25.48	1.08	20	
Isopropylbenzene	26.02	1.0	20	0	130	72 - 131	25.86	0.583	20	
m,p-Xylene	48.64	2.0	40	0	122	80 - 121	47.78	1.79	20	S
Methylene chloride	19.44	2.0	20	0	97.2	74 - 124	19.96	2.61	20	
Naphthalene	20.3	1.0	20	0	102	61 - 128	17.59	14.3	20	
n-Butylbenzene	23.93	1.0	20	0	120	75 - 128	23.57	1.54	20	
n-Propylbenzene	24.29	1.0	20	0	121	76 - 126	24.76	1.91	20	
o-Xylene	23.54	1.0	20	0	118	78 - 122	23.71	0.716	20	
sec-Butylbenzene	23.97	1.0	20	0	120	77 - 126	24.19	0.912	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.46	1.47	20	
tert-Butylbenzene	24.99	1.0	20	0	125	78 - 124	25.68	2.73	20	S
Tetrachloroethene	29.89	1.0	20	5.324	123	74 - 129	29.57	1.07	20	
Toluene	24.13	1.0	20	0	121	80 - 121	24.32	0.792	20	
trans-1,2-Dichloroethene	20.11	1.0	20	0	101	75 - 124	20.7	2.86	20	
trans-1,3-Dichloropropene	16.41	1.0	20	0	82.0	73 - 127	16.19	1.32	20	
Trichloroethene	23.46	1.0	20	0	117	79 - 123	24.22	3.19	20	
Trichlorofluoromethane	22.95	1.0	20	0	115	65 - 141	23.76	3.46	20	
Vinyl chloride	20.94	1.0	20	0	105	58 - 137	21.47	2.5	20	
Surr: 1,2-Dichloroethane-d4	*45.4*	*1.0*	*50*	*0*	*90.8*	*81 - 118*	*45.47*	*0.159*	*20*	
Surr: 4-Bromofluorobenzene	*52.46*	*1.0*	*50*	*0*	*105*	*85 - 114*	*51.38*	*2.09*	*20*	
Surr: Dibromofluoromethane	*46.14*	*1.0*	*50*	*0*	*92.3*	*80 - 119*	*46.78*	*1.38*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.27*	*1.0*	*50*	*0*	*111*	*89 - 112*	*54.45*	*1.5*	*20*	

The following samples were analyzed in this batch: HS22110281-01 HS22110281-02 HS22110281-03 HS22110281-04 HS22110281-05 HS22110281-06 HS22110281-07 HS22110281-08

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421072 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **04-Nov-2022 13:22**
Client ID: Run ID: **ICS-Integrion_421072** SeqNo: **6962840** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.0500	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **04-Nov-2022 13:27**
Client ID: Run ID: **ICS-Integrion_421072** SeqNo: **6962841** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.6	0.500	20	0	103	80 - 120				
Nitrogen, Nitrate (As N)	4.201	0.100	4	0	105	80 - 120				
Sulfate	21.14	0.500	20	0	106	80 - 120				

MS Sample ID: **HS22110281-01MS** Units: **mg/L** Analysis Date: **04-Nov-2022 15:07**
Client ID: **35BWW04-221103** Run ID: **ICS-Integrion_421072** SeqNo: **6962857** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.25	0.500	10	3.208	100	80 - 120				
Nitrogen, Nitrate (As N)	2.006	0.100	2	0.0327	98.7	80 - 120				
Sulfate	36.01	0.500	10	26.65	93.6	80 - 120				

MSD Sample ID: **HS22110281-01MSD** Units: **mg/L** Analysis Date: **04-Nov-2022 15:13**
Client ID: **35BWW04-221103** Run ID: **ICS-Integrion_421072** SeqNo: **6962858** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.26	0.500	10	3.208	100	80 - 120	13.25	0.0453	20	
Nitrogen, Nitrate (As N)	2.012	0.100	2	0.0327	99.0	80 - 120	2.006	0.299	20	
Sulfate	36.07	0.500	10	26.65	94.2	80 - 120	36.01	0.171	20	

The following samples were analyzed in this batch: HS22110281-01 HS22110281-02 HS22110281-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R422135 (0) **Instrument: TOC_05** **Method: TOTAL ORGANIC CARBON - SM5310B-2011**

MBLK Sample ID: **MBLK-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 02:44**
Client ID: Run ID: **TOC_05_422135** SeqNo: **6988799** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 02:58**
Client ID: Run ID: **TOC_05_422135** SeqNo: **6988800** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.676	1.00	10	0	96.8	85 - 115				

LCSD Sample ID: **LCSD-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 03:12**
Client ID: Run ID: **TOC_05_422135** SeqNo: **6988801** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.889	1.00	10	0	98.9	85 - 115	9.676	2.18	20	

MS Sample ID: **HS22110281-01MS** Units: **mg/L** Analysis Date: **18-Nov-2022 06:18**
Client ID: **35BWW04-221103** Run ID: **TOC_05_422135** SeqNo: **6988814** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.67	1.00	10	1.049	96.2	80 - 120				

The following samples were analyzed in this batch: HS22110281-01

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R422136 (0) **Instrument: TOC_05** **Method: TOTAL ORGANIC CARBON - SM5310B-2011**

MBLK Sample ID: **MBLK-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 06:59**
Client ID: Run ID: **TOC_05_422136** SeqNo: **6988827** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 07:13**
Client ID: Run ID: **TOC_05_422136** SeqNo: **6988828** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.554	1.00	10	0	95.5	85 - 115				

LCSD Sample ID: **LCSD-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 07:27**
Client ID: Run ID: **TOC_05_422136** SeqNo: **6988829** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.789	1.00	10	0	97.9	85 - 115	9.554	2.43	20	

MS Sample ID: **HS22110281-02MS** Units: **mg/L** Analysis Date: **18-Nov-2022 07:54**
Client ID: **35BWW14-221103** Run ID: **TOC_05_422136** SeqNo: **6988831** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.7	1.00	10	0.7717	99.3	80 - 120				

The following samples were analyzed in this batch: HS22110281-02 HS22110281-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: **HS22110281**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Feb-23

Sample Receipt Checklist

Work Order ID: HS22110281 **Date/Time Received:** **04-Nov-2022 09:00**

Client Name: CBI-Houston **Received by:** **Corey Grandits**

Completed By: */S/ Paresh M. Giga* (eSignature) 04-Nov-2022 12:30 (Date/Time) **Reviewed by:** */S/ Dane J. Wacasey* (eSignature) 18-Nov-2022 15:22 (Date/Time)

Matrices: **W** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.0UC/3.5C	IR31
Cooler(s)/Kit(s):	Lg Blue	
Date/Time sample(s) sent to storage:	11/4/22	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No.: 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number:

HS22110281

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 November 2022

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175					Remarks (Preservatives, etc.)	Lab I.D.#
35BWW04-221103	WG	11/3/22 0750		12	X	X	X	X	X						
35BWW04-221103-MS	WG	11/3/22 0750		12	X	X	X	X	X						
35BWW04-221103-MSD	WG	11/3/22 0750		12	X	X	X	X	X						
35BWW14-221103	WG	11/3/22 0850		12	X	X	X	X	X						
35BWW15-221103	WG	11/3/22 0935		3	X										
35BWW23-221103	WG	11/3/22 1015		12	X	X	X	X	X	X					
35BWW24-221103	WG	11/3/22 1100		3	X										
35BWW24-221103-FD	WG	11/3/22 1100		3	X										

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	11/3/22	1330									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\M-ces\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: LHAAP 37 November 2022

Prepared By: Scott Beesinger

P.O. Number

HS22110281

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 November 2022

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BwW25-221103	wG	11/3/22 1145		3	X						
35BwW25-221103-MS	wG	11/3/22 1145		3	X						
35BwW25-221103-MSD	wG	11/3/22 1145		3	X						
TRIP BLANK-221103	W	11/3/22		2	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

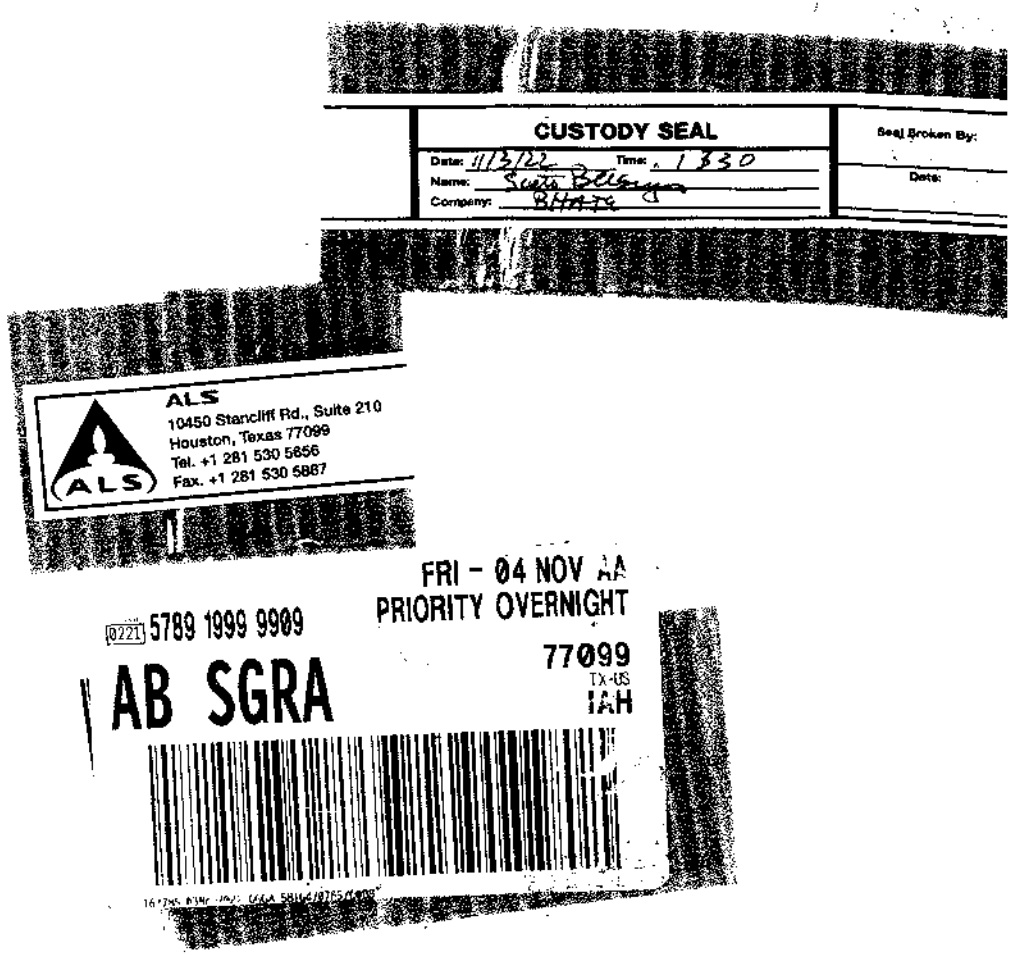
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/3/22	1330									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly


CUSTODY SEAL
Date: 11/3/22 Time: 1330
Name:
Company: BHATE
Seal Broken By:
Date:
ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
0221 5789 1999 9909
FRI - 04 NOV
PRIORITY OVERNIGHT
77099
TX-US
IAH
AB SGRA

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-104775-1
Client Project/Site: HS22110281

For:
ALS Group USA, Corp
10450 Stancliff Rd.
Suite 210
Houston, Texas 77099

Attn: Dane Wacasey

Kelly Bauer

Authorized for release by:
11/11/2022 9:24:21 AM

Kelly Bauer, Project Manager
(717)556-7262
Kelly.Bauer@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Kelly Bauer
Project Manager
11/11/2022 9:24:21 AM

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Definitions/Glossary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Job ID: 410-104775-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-104775-1

Receipt

The samples were received on 11/8/2022 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01 — Lab Sample ID: 410-104775-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	67000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110281-02 — Lab Sample ID: 410-104775-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	31000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110281-04 — Lab Sample ID: 410-104775-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	55000		12000	2600	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01

Lab Sample ID: 410-104775-1

Date Collected: 11/03/22 07:50
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	67000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:29	1

Client Sample ID: HS22110281-02

Lab Sample ID: 410-104775-2

Date Collected: 11/03/22 08:50
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	31000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:52	1

Client Sample ID: HS22110281-04

Lab Sample ID: 410-104775-3

Date Collected: 11/03/22 10:15
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	55000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:59	1

QC Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-316465/1-A
Matrix: Water
Analysis Batch: 316466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316465

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	2600	U M	12000	2600	ug/L		11/11/22 05:25	11/11/22 08:13	1

Lab Sample ID: LCS 410-316465/2-A
Matrix: Water
Analysis Batch: 316466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon dioxide	35800	35300		ug/L		99	80 - 122

QC Association Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

GC VOA

Prep Batch: 316465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104775-1	HS22110281-01	Total/NA	Water	RSK-175	
410-104775-2	HS22110281-02	Total/NA	Water	RSK-175	
410-104775-3	HS22110281-04	Total/NA	Water	RSK-175	
MB 410-316465/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-316465/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
410-104775-1 MS	HS22110281-01	Total/NA	Water	RSK-175	
410-104775-1 MSD	HS22110281-01	Total/NA	Water	RSK-175	

Analysis Batch: 316466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104775-1	HS22110281-01	Total/NA	Water	RSK-175	316465
410-104775-2	HS22110281-02	Total/NA	Water	RSK-175	316465
410-104775-3	HS22110281-04	Total/NA	Water	RSK-175	316465
MB 410-316465/1-A	Method Blank	Total/NA	Water	RSK-175	316465
LCS 410-316465/2-A	Lab Control Sample	Total/NA	Water	RSK-175	316465
410-104775-1 MS	HS22110281-01	Total/NA	Water	RSK-175	316465
410-104775-1 MSD	HS22110281-01	Total/NA	Water	RSK-175	316465

Lab Chronicle

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01

Lab Sample ID: 410-104775-1

Date Collected: 11/03/22 07:50
Matrix: Water
Date Received: 11/08/22 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:29

Client Sample ID: HS22110281-02

Lab Sample ID: 410-104775-2

Date Collected: 11/03/22 08:50
Matrix: Water
Date Received: 11/08/22 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:52

Client Sample ID: HS22110281-04

Lab Sample ID: 410-104775-3

Date Collected: 11/03/22 10:15
Matrix: Water
Date Received: 11/08/22 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:59

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22

Method Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-104775-1	HS22110281-01	Water	11/03/22 07:50	11/08/22 10:20
410-104775-2	HS22110281-02	Water	11/03/22 08:50	11/08/22 10:20
410-104775-3	HS22110281-04	Water	11/03/22 10:15	11/08/22 10:20

410-104775 Chain of Custody

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20270**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601 **Phone:** +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110281
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110281-01**	**35BWW04-221103**	**Groundwater**	**03 Nov 2022 07:50**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022
2.	**HS22110281-02**	**35BWW14-221103**	**Groundwater**	**03 Nov 2022 08:50**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022
3.	**HS22110281-04**	**35BWW23-221103**	**Groundwater**	**03 Nov 2022 10:15**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022

Comments: HS22110281-01 designate as MS/MSD

Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: [signature] Date/Time: 11/7/22 1800

Received By: Date/Time:

Cooler ID(s): Temperature(s):

11-8-22 1020

RIGHT SOLUTIONS | RIGHT PARTNER

04 Nov 2022

4.2

Login Sample Receipt Checklist

Client: ALS Group USA, Corp

Job Number: 410-104775-1

Login Number: 104775

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Ballard, Megan

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

Appendix D

Photographic Log and Well Inspection Forms

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November 2022
PHOTO LOG

Photo No.	Date	Task and Description
1	11-4-22	Well Inspection, 35BWW01
2	11-4-22	Well Inspection, 35BWW03
3	11-4-22	Well Inspection, 35BWW04
4	11-4-22	Well Inspection, 35BWW05
5	11-4-22	Well Inspection, 35BWW06
6	11-4-22	Well Inspection, 35BWW07
7	11-4-22	Well Inspection, 35BWW08
8	11-4-22	Well Inspection, 35BWW09
9	11-4-22	Well Inspection, 35BWW10
10	11-4-22	Well Inspection, 35BWW11
11	11-4-22	Well Inspection, 35BWW12
12	11-4-22	Well Inspection, 35BWW13
13	11-4-22	Well Inspection, 35BWW14
14	11-4-22	Well Inspection, 35BWW15
15	11-4-22	Well Inspection, 35BWW16
16	11-4-22	Well Inspection, 35BWW17
17	11-4-22	Well Inspection, 35BWW18
18	11-4-22	Well Inspection, 35BWW19
19	11-4-22	Well Inspection, 35BWW20
20	11-4-22	Well Inspection, 35BWW23
21	11-4-22	Well Inspection, 35BWW24
22	11-4-22	Well Inspection, 35BWW25
23	11-4-22	Well Inspection, 35BWW26

PHOTO 1: 35BWW01
DATE: November 4, 2022

PHOTO 2: 35BWW03
DATE: November 4, 2022

PHOTO 3: 35BWW04
DATE: November 4, 2022

PHOTO 4: 35BWW05
DATE: November 4, 2022

PHOTO 5: 35BWW06
DATE: November 4, 2022

PHOTO 6: 35BWW07
DATE: November 4, 2022

PHOTO 7: 35BWW08
DATE: November 4, 2022

PHOTO 8: 35BWW09
DATE: November 4, 2022

PHOTO 9: 35BWW10
DATE: November 4, 2022

PHOTO 10: 35BWW11
DATE: November 4, 2022

PHOTO 11: 35BWW12
DATE: November 4, 2022

PHOTO 12: 35BWW13
DATE: November 4, 2022

PHOTO 13: 35BWW14
DATE: November 4, 2022

PHOTO 14: 35BWW15
DATE: November 4, 2022

PHOTO 15: 35BWW16
DATE: November 4, 2022

PHOTO 16: 35BWW17
DATE: November 4, 2022

PHOTO 17: 35BWW18
DATE: November 4, 2022

PHOTO 18: 35BWW19
DATE: November 4, 2022

PHOTO 19: 35BWW20
DATE: November 4, 2022

PHOTO 20: 35BWW23
DATE: November 4, 2022

PHOTO 21: 35BWW24
DATE: November 4, 2022

PHOTO 22: 35BWW25
DATE: November 4, 2022

PHOTO 23: 35BWW26
DATE: November 4, 2022

01192250

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BMW01
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 20.70
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192251

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW03
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 82.59
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192252

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW04
Inspection Date: 11/3/22
Well Completion Depth/ Measured Depth: 33.23
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192253

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: Army
Site Name: 37
Well ID: 35BWW05
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 38.02
Inspector: Scott Beasinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192254

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW06
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 53.31
Inspector: Scott Baesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192255

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW07
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 31.33
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ **FLUSH MOUNTED**
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192256

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW08
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 34.12
Inspector: Scott Beesinger

☒ ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192257

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW09
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 37.01
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4 11
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192258

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW10
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 36.33
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192259

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: ARMY
Site Name: 37
Well ID: 35BWW11
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 37.62
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192260

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW12
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 38.39
Inspector: SCOTT BEESINGER

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192261

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BMW13
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 37.68
Inspector: Scott Baesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192262

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW14
Inspection Date: 11/3/22
Well Completion Depth/ Measured Depth: 37.25
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ **FLUSH MOUNTED** NA
Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192263

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: Army
Site Name: 37
Well ID: 35BWW15
Inspection Date: 11/3/22
Well Completion Depth/ Measured Depth: 50.15
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192264

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW16
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 36.86
Inspector: Scott Baesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192265

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW17
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 36.18
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible?					☒ Yes ☐ No
Protective casing?					☒ Yes ☐ No
Material	METAL				
Condition:	☒ Good	☐ Broken	☐ Cracked	☐ Need Paint	
Lid Condition:	☒ Good	☐ Broken	☐ Cracked		
Hinge Condition:	☐ Good	☐ Less than 50% rusted	☒ More than 50% rusted		

☐ FLUSH MOUNTED

Well cover present?	NA			☐ Yes ☐ No
Condition:	☐ Good	☐ Broken	☐ Cracked	
Condition of Sump:	☐ Clean	☐ Dry	☐ Standing Water	

CONCRETE PAD:

Sloped away from casing?	☒ Yes ☐ No
Pad Area Cleared of Vegetation?	☒ Yes ☐ No

Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)

Cap present?	☒ Yes ☐ No
Well lock present?	☒ Yes ☐ No
Lock functioning properly?	☒ Yes ☐ No
Are bollards present and stable?	☒ Yes ☐ No
Well ID visible?	☒ Yes ☐ No

WELL INTEGRITY:

Bailer present?	☐ Yes ☒ No
Visual obstruction?	☐ Yes ☒ No
Is well open to completed depth? (complete when gauging)	☒ Yes ☐ No
Is silt present in well? (complete when gauging)	☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging)	☐ Yes ☒ No

COMMENTS:

01192266

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: ARMY
Site Name: 37
Well ID: 35BWW18
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 35.45
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches) 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192267

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35AWW19
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 36.58
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☐ Good ☐ Less than 50% rusted ☒ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192268

WELL INSPECTION FORM

Job Name: LMTAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW20
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 32.95
Inspector: Scott Beesinger

ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 2"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☒ Yes ☐ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192269

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW23
Inspection Date: 11/3/22
Well Completion Depth/ Measured Depth: 33.62
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ **FLUSH MOUNTED**
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192270

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35BWW24
Inspection Date: 11/3/22
Well Completion Depth/ Measured Depth: 32.71
Inspector: Scott Beesinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192271

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 50132
Client: Army
Site Name: 37
Well ID: 35BWW25
Inspection Date: 11/3/22
Well Completion Depth/ Measured Depth: 32.52
Inspector: Scott Baessinger

ABOVE GROUND
Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED
Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:
Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:
Inner Diameter (inches) 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:
Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192272

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: 35Bmw26
Inspection Date: 11/2/22
Well Completion Depth/ Measured Depth: 38.02
Inspector: Scott Beesinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED NA

Well cover present? ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

01192273

WELL INSPECTION FORM

Job Name: LHAAP
Job No.: 501032
Client: Army
Site Name: 37
Well ID: LHSMW58
Inspection Date: 11/1/22
Well Completion Depth/ Measured Depth: 35.17
Inspector: Scott Beasinger

☒ ABOVE GROUND

Well Accessible? ☒ Yes ☐ No
Protective casing? ☒ Yes ☐ No
Material: METAL
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Need Paint
Lid Condition: ☒ Good ☐ Broken ☐ Cracked
Hinge Condition: ☒ Good ☐ Less than 50% rusted ☐ More than 50% rusted

☐ FLUSH MOUNTED

Well cover present? NA ☐ Yes ☐ No
Condition: ☐ Good ☐ Broken ☐ Cracked
Condition of Sump: ☐ Clean ☐ Dry ☐ Standing Water

CONCRETE PAD:

Sloped away from casing? ☒ Yes ☐ No
Pad Area Cleared of Vegetation? ☒ Yes ☐ No
Check any of the following features that apply:
☐ Many Cracks ☐ Gap Around Casing ☐ Few Cracks ☐ Ponded Water ☐ No Pad Present

WELL CONDITION:

Inner Diameter (inches): 4"
Condition: ☒ Good ☐ Broken ☐ Cracked ☐ Other (describe)
Cap present? ☒ Yes ☐ No
Well lock present? ☒ Yes ☐ No
Lock functioning properly? ☒ Yes ☐ No
Are bollards present and stable? ☒ Yes ☐ No
Well ID visible? ☒ Yes ☐ No

WELL INTEGRITY:

Bailer present? ☐ Yes ☒ No
Visual obstruction? ☐ Yes ☒ No
Is well open to completed depth? (complete when gauging) ☒ Yes ☐ No
Is silt present in well? (complete when gauging) ☐ Yes ☒ No
Is silt greater than 10% of well screen length? (complete when gauging) ☐ Yes ☒ No

COMMENTS:

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Appendix E

Mann-Kendall Trend Test Results

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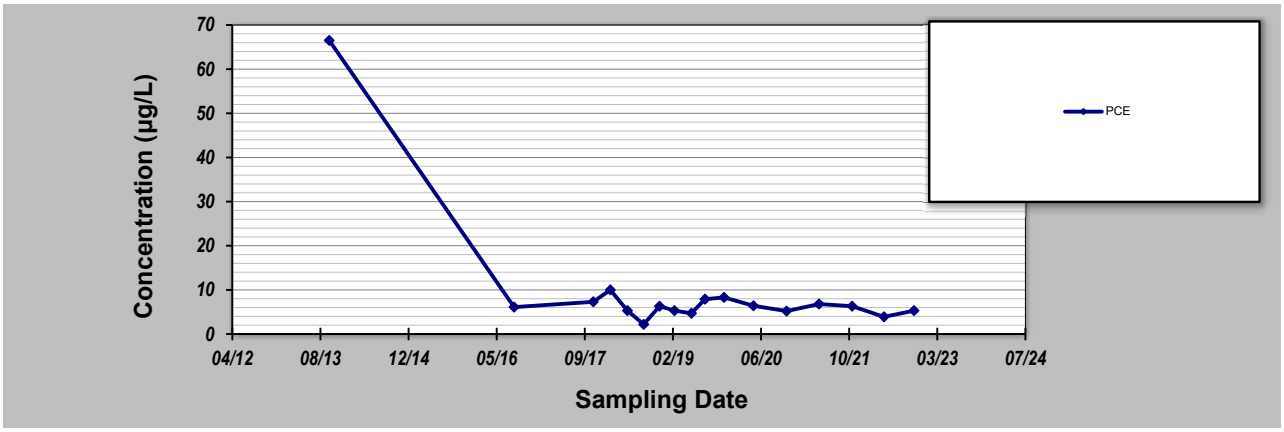
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW04
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID:	PCE

Sampling Event	Sampling Date	35BWW04 CONCENTRATION (µg/L)
1	3-Oct-13	67
2	17-Aug-16	6.1
3	9-Nov-17	7.3
4	14-Feb-18	10
5	22-May-18	5.3
6	22-Aug-18	2.2
7	20-Nov-18	6.3
8	13-Feb-19	5.3
9	20-May-19	4.7
10	5-Aug-19	7.9
11	21-Nov-19	8.3
12	6-May-20	6.4
13	10-Nov-20	5.2
14	13-May-21	6.8
15	17-Nov-21	6.3
16	17-May-22	3.9
17	3-Nov-22	5.3
18		
19		
20		
Coefficient of Variation:		1.53
Mann-Kendall Statistic (S):		-32
Confidence Factor:		89.8%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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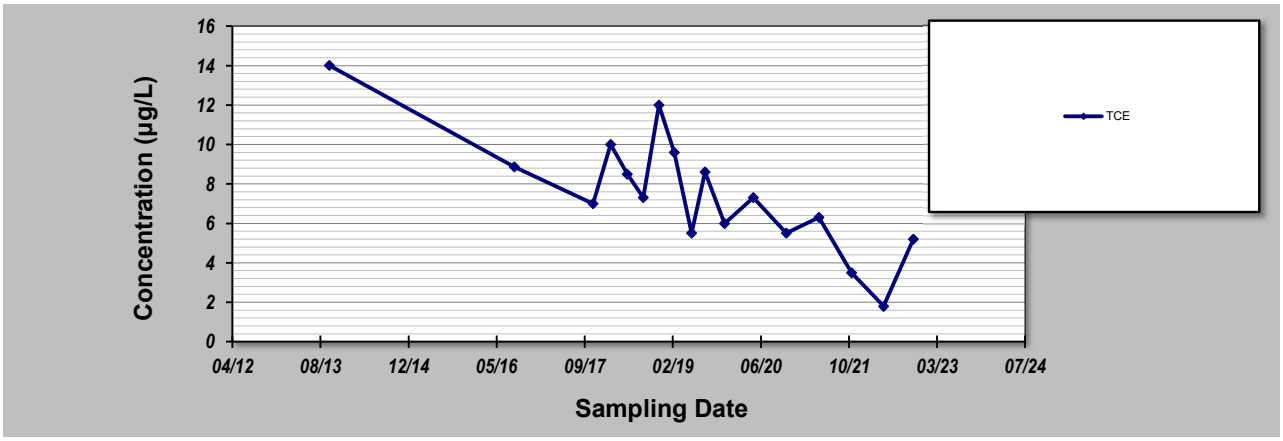
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW05
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID: TCE

Sampling Event	Sampling Date	35BWW05 CONCENTRATION (µg/L)
1	4-Oct-13	14
2	18-Aug-16	8.9
3	8-Nov-17	7.0
4	16-Feb-18	10
5	21-May-18	8.5
6	21-Aug-18	7.3
7	18-Nov-18	12
8	13-Feb-19	9.6
9	21-May-19	5.5
10	6-Aug-19	8.6
11	25-Nov-19	6
12	6-May-20	7.3
13	9-Nov-20	5.5
14	13-May-21	6.3
15	15-Nov-21	3.5
16	16-May-22	1.8
17	1-Nov-22	5.2
18		
19		
20		
Coefficient of Variation:		0.40
Mann-Kendall Statistic (S):		-82
Confidence Factor:		>99.9%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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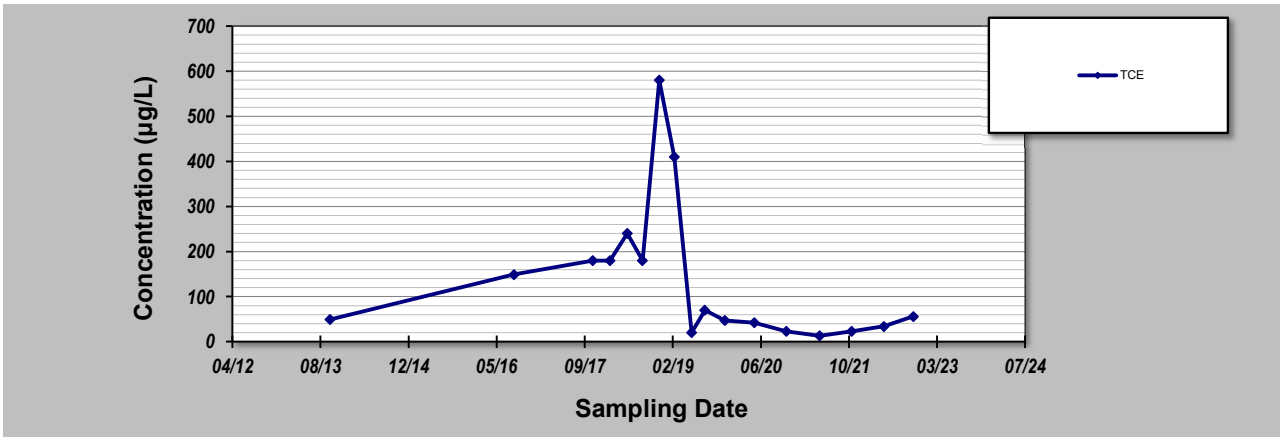
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW09
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID: TCE

Sampling Event	Sampling Date	35BWW09 CONCENTRATION (µg/L)
1	8-Oct-13	49
2	16-Aug-16	149
3	7-Nov-17	180
4	13-Feb-18	180
5	21-May-18	240
6	16-Aug-18	180
7	19-Nov-18	580
8	13-Feb-19	410
9	21-May-19	20
10	5-Aug-19	70
11	26-Nov-19	47
12	11-May-20	42
13	9-Nov-20	23
14	17-May-21	13
15	15-Nov-21	23
16	18-May-22	34
17	1-Nov-22	56
18		
19		
20		
Coefficient of Variation:		1.15
Mann-Kendall Statistic (S):		-48
Confidence Factor:		97.4%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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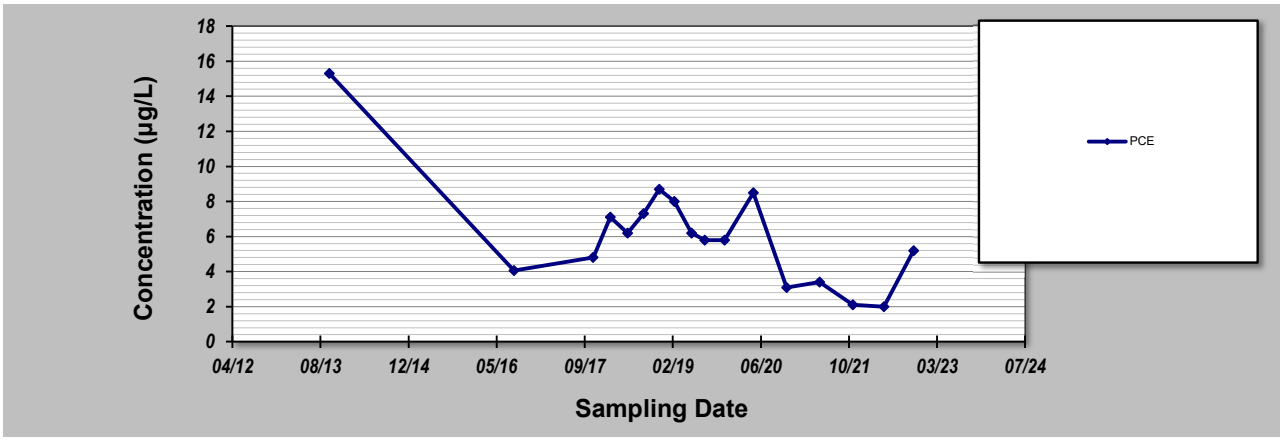
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW12
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID: PCE

Sampling Event	Sampling Date	35BWW12 CONCENTRATION (µg/L)
1	3-Oct-13	15
2	17-Aug-16	4
3	9-Nov-17	4.8
4	14-Feb-18	7.1
5	23-May-18	6.2
6	22-Aug-18	7.3
7	20-Nov-18	8.7
8	13-Feb-19	8
9	21-May-19	6.2
10	5-Aug-19	5.8
11	25-Nov-19	5.8
12	6-May-20	8.5
13	11-Nov-20	3.1
14	18-May-21	3.4
15	22-Nov-21	2.1
16	18-May-22	2
17	2-Nov-22	5.2
18		
19		
20		
Coefficient of Variation:		0.52
Mann-Kendall Statistic (S):		-52
Confidence Factor:		98.3%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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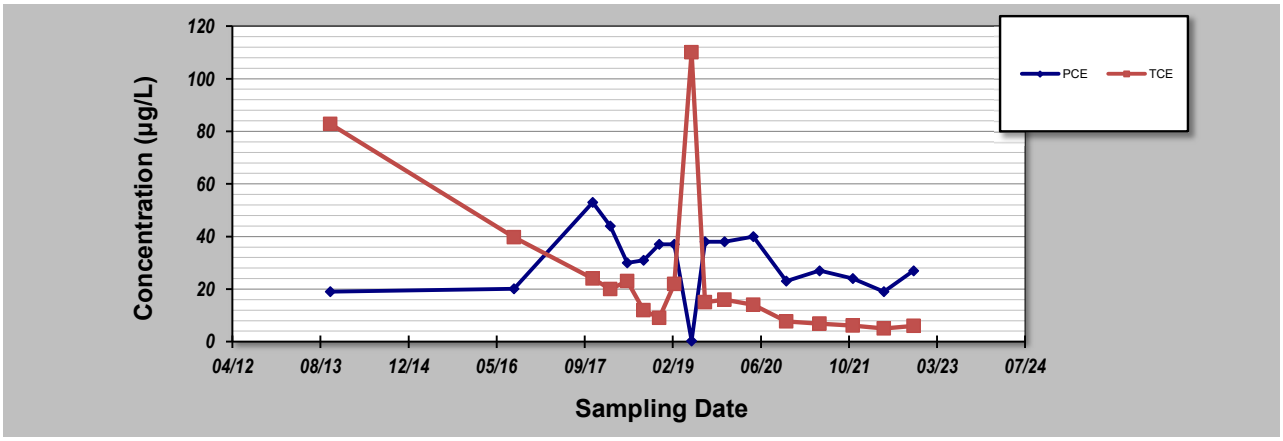
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW14
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID:	PCE	TCE					
Sampling Event	Sampling Date	35BWW14 CONCENTRATION (µg/L)						
1	9-Oct-13	19	83					
2	17-Aug-16	20	40					
3	7-Nov-17	53	24					
4	15-Feb-18	44	20					
5	22-May-18	30	23					
6	22-Aug-18	31	12					
7	20-Nov-18	37	9.1					
8	12-Feb-19	37	22					
9	21-May-19	0.25	110					
10	6-Aug-19	38	15					
11	25-Nov-19	38	16					
12	7-May-20	40	14					
13	10-Nov-20	23	7.7					
14	18-May-21	27	6.9					
15	22-Nov-21	24	6.1					
16	18-May-22	19	5.1					
17	3-Nov-22	27	6					
18								
19								
20								
Coefficient of Variation:		0.41	1.17					
Mann-Kendall Statistic (S):		-14	-96					
Confidence Factor:		70.1%	>99.9%					
Concentration Trend:		Stable	Decreasing					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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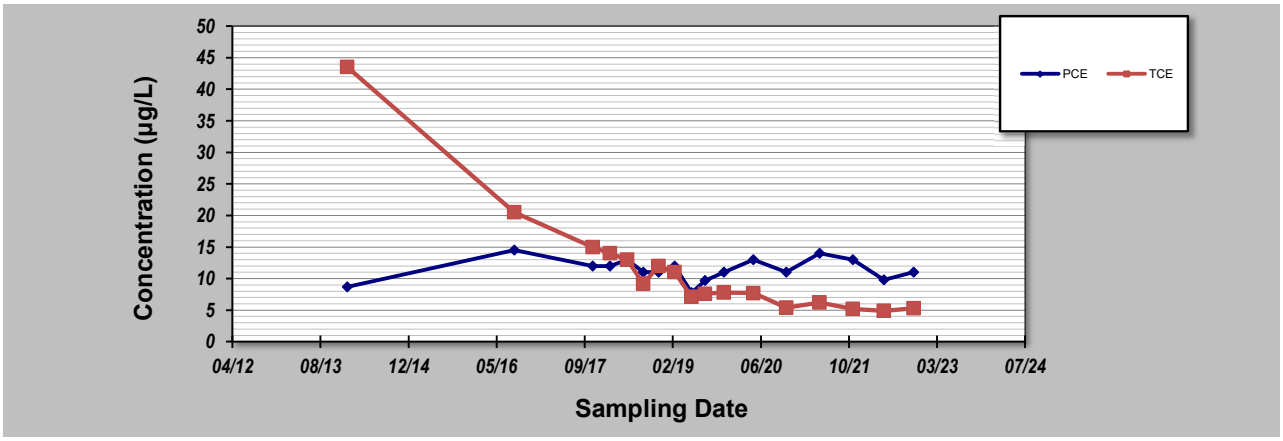
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW15
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID:	PCE	TCE					
Sampling Event	Sampling Date	35BWW15 CONCENTRATION (µg/L)						
1	14-Jan-14	8.7	44					
2	19-Aug-16	15	21					
3	7-Nov-17	12	15					
4	13-Feb-18	12	14					
5	21-May-18	13	13					
6	20-Aug-18	11	9.2					
7	16-Nov-18	11	12					
8	14-Feb-19	12	11					
9	21-May-19	7.8	7.1					
10	7-Aug-19	9.7	7.6					
11	22-Nov-19	11	7.8					
12	7-May-20	13	7.7					
13	10-Nov-20	11	5.4					
14	18-May-21	14	6.2					
15	22-Nov-21	13	5.2					
16	18-May-22	9.8	4.9					
17	3-Nov-22	11	5.3					
18								
19								
20								
Coefficient of Variation:		0.16	0.81					
Mann-Kendall Statistic (S):		-6	-116					
Confidence Factor:		58.0%	>99.9%					
Concentration Trend:		Stable	Decreasing					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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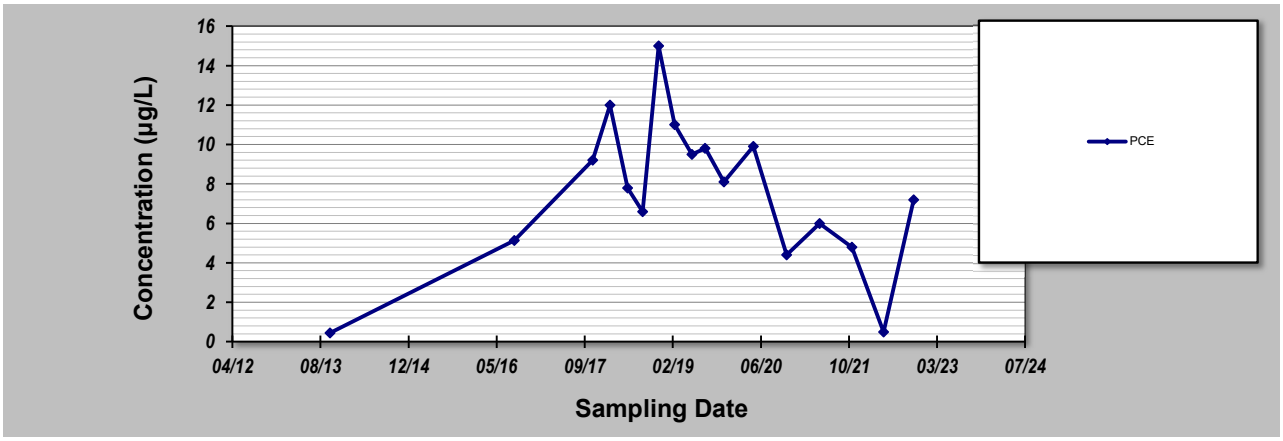
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW16
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID:	PCE

Sampling Event	Sampling Date	35BWW16 CONCENTRATION (µg/L)
1	7-Oct-13	0.45
2	19-Aug-16	5.13
3	7-Nov-17	9.2
4	13-Feb-18	12
5	24-May-18	7.8
6	17-Aug-18	6.6
7	16-Nov-18	15
8	15-Feb-19	11
9	23-May-19	9.5
10	7-Aug-19	9.8
11	21-Nov-19	8.1
12	7-May-20	9.9
13	11-Nov-20	4.4
14	18-May-21	6
15	17-Nov-21	4.8
16	16-May-22	0.5
17	2-Nov-22	7.2
18		
19		
20		
Coefficient of Variation:		0.51
Mann-Kendall Statistic (S):		-20
Confidence Factor:		78.0%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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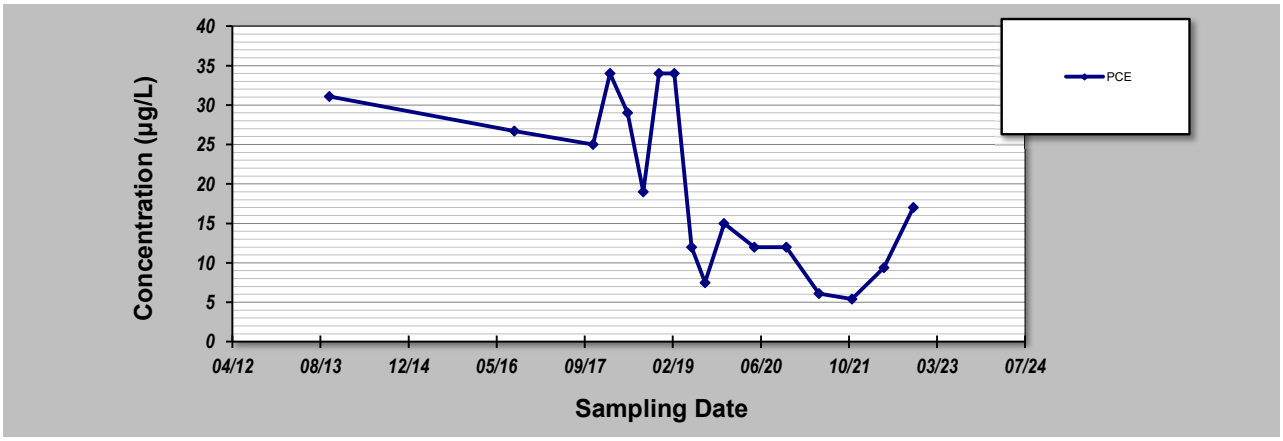
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW20
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID: PCE

Sampling Event	Sampling Date	35BWW20 CONCENTRATION (µg/L)
1	4-Oct-13	31
2	18-Aug-16	27
3	8-Nov-17	25
4	12-Feb-18	34
5	24-May-18	29
6	20-Aug-18	19
7	18-Nov-18	34
8	13-Feb-19	34
9	22-May-19	12
10	6-Aug-19	7.5
11	22-Nov-19	15
12	11-May-20	12
13	9-Nov-20	12
14	13-May-21	6.1
15	17-Nov-21	5.4
16	17-May-22	9.4
17	1-Nov-22	17
18		
19		
20		
Coefficient of Variation:		0.54
Mann-Kendall Statistic (S):		-70
Confidence Factor:		99.8%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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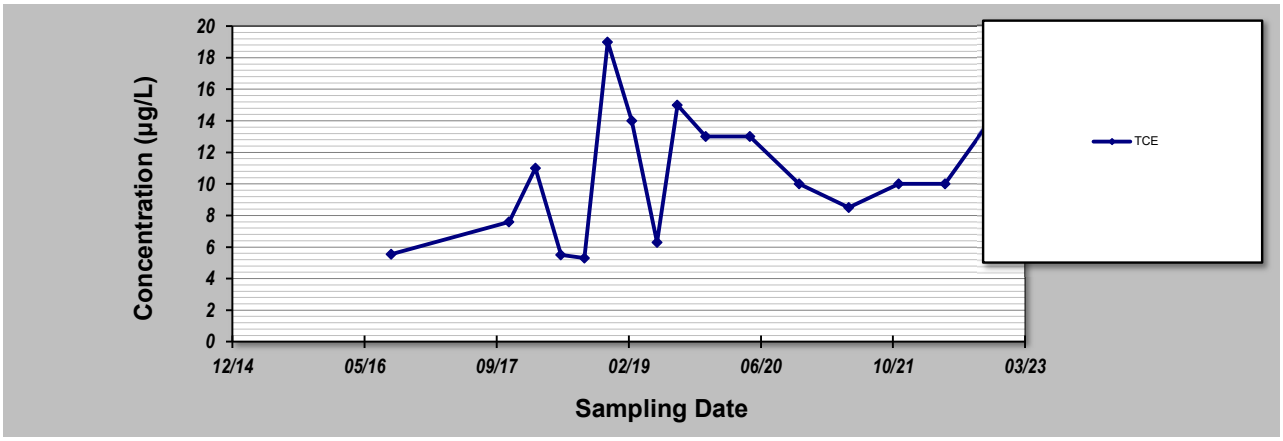
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	35BWW25
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID: TCE

Sampling Event	Sampling Date	35BWW25 CONCENTRATION (µg/L)
1	19-Aug-16	5.55
2	8-Nov-17	7.6
3	16-Feb-18	11
4	23-May-18	5.5
5	20-Aug-18	5.3
6	16-Nov-18	19
7	15-Feb-19	14
8	22-May-19	6.3
9	7-Aug-19	15
10	22-Nov-19	13
11	7-May-20	13
12	10-Nov-20	10
13	17-May-21	8.5
14	22-Nov-21	10
15	16-May-22	10
16	3-Nov-22	14
17		
18		
19		
20		
Coefficient of Variation:		0.38
Mann-Kendall Statistic (S):		23
Confidence Factor:		83.6%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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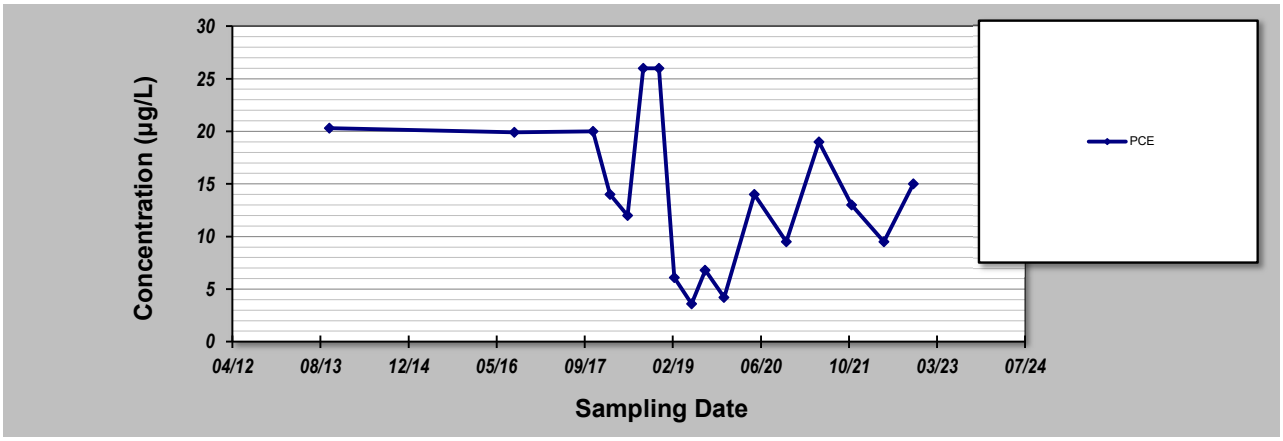
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Mar-23	Job ID:	501032
Facility Name:	LHAAP-37	Constituent:	LHSMW58
Conducted By:	Rebecca Lenz	Concentration Units:	µg/L

Sampling Point ID: PCE

Sampling Event	Sampling Date	LHSMW58 CONCENTRATION (µg/L)
1	3-Oct-13	20
2	18-Aug-16	20
3	8-Nov-17	20
4	12-Feb-18	14
5	24-May-18	12
6	20-Aug-18	26
7	18-Nov-18	26
8	13-Feb-19	6.1
9	22-May-19	3.6
10	7-Aug-19	6.8
11	22-Nov-19	4.2
12	11-May-20	14
13	9-Nov-20	9.5
14	13-May-21	19
15	15-Nov-21	13
16	17-May-22	9.5
17	1-Nov-22	15
18		
19		
20		
Coefficient of Variation:		0.50
Mann-Kendall Statistic (S):		-31
Confidence Factor:		89.0%
Concentration Trend:		Stable



Notes:

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2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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Appendix F

Regression Analysis

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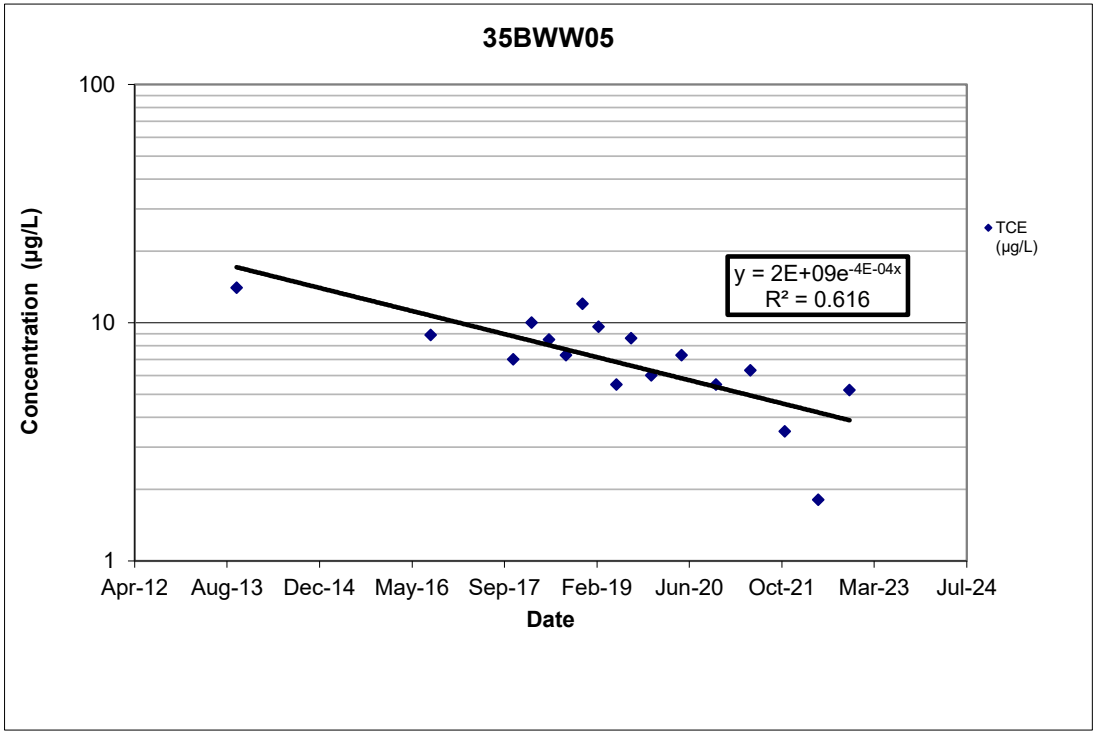
Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW05

Date	TCE (µg/L)
4-Oct-13	14
18-Aug-16	8.9
8-Nov-17	7.0
16-Feb-18	10
21-May-18	8.5
21-Aug-18	7.3
18-Nov-18	12
13-Feb-19	9.6
21-May-19	5.5
6-Aug-19	8.6
25-Nov-19	6
6-May-20	7.3
9-Nov-20	5.5
13-May-21	6.3
15-Nov-21	3.5
16-May-22	1.8
1-Nov-22	5.2



Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
TCE	4.00E-04	1732.9	4.7	5.2	5	0.3

Notes:

The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.

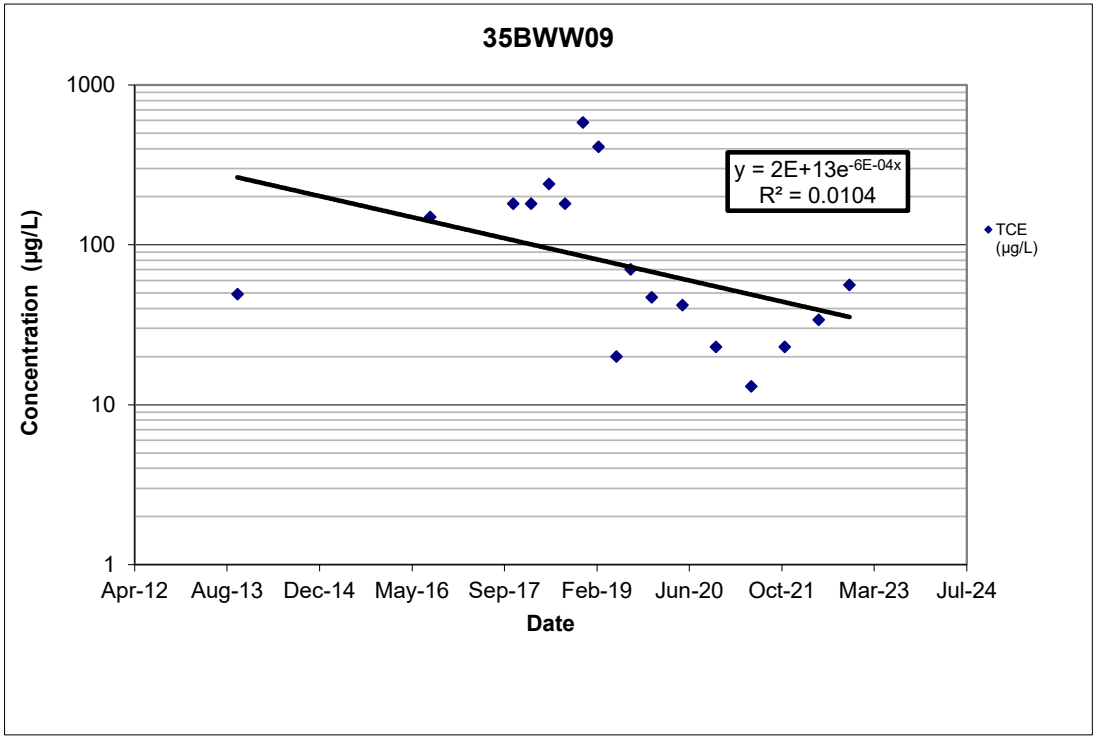
µg/L - micrograms per liter

MCL - maximum contaminant level

TCE - trichloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW09

Date	TCE (µg/L)
8-Oct-13	49
16-Aug-16	149
7-Nov-17	180
13-Feb-18	180
21-May-18	240
16-Aug-18	180
19-Nov-18	580
13-Feb-19	410
21-May-19	20
5-Aug-19	70
26-Nov-19	47
11-May-20	42
9-Nov-20	23
17-May-21	13
15-Nov-21	23
18-May-22	34
1-Nov-22	56

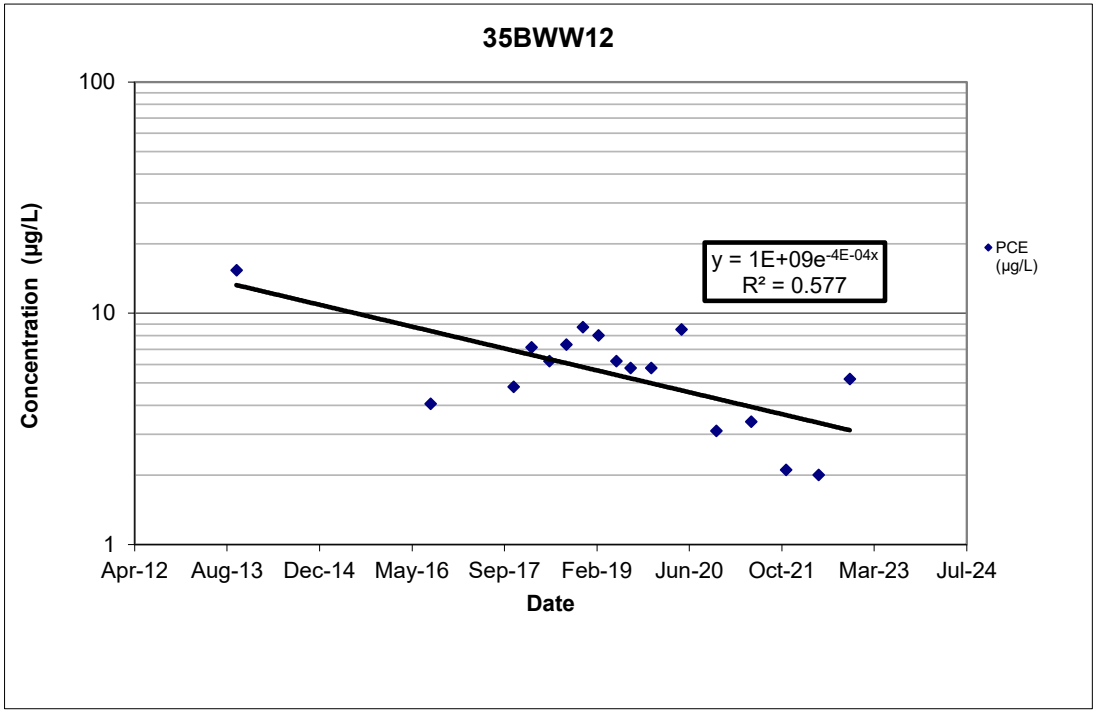


Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
TCE	6.00E-04	1155.2	3.2	56	5	11.0

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.
µg/L - micrograms per liter
MCL - maximum contaminant level
TCE - trichloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW12

Date	PCE (µg/L)
3-Oct-13	15
17-Aug-16	4.06
9-Nov-17	4.8
14-Feb-18	7.1
23-May-18	6.2
22-Aug-18	7.3
20-Nov-18	8.7
13-Feb-19	8
21-May-19	6.2
5-Aug-19	5.8
25-Nov-19	5.8
6-May-20	8.5
11-Nov-20	3.1
18-May-21	3.4
22-Nov-21	2.1
18-May-22	2
2-Nov-22	5.2



Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
TCE	4.00E-04	1732.9	4.7	5.2	5	0.3

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected TCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.

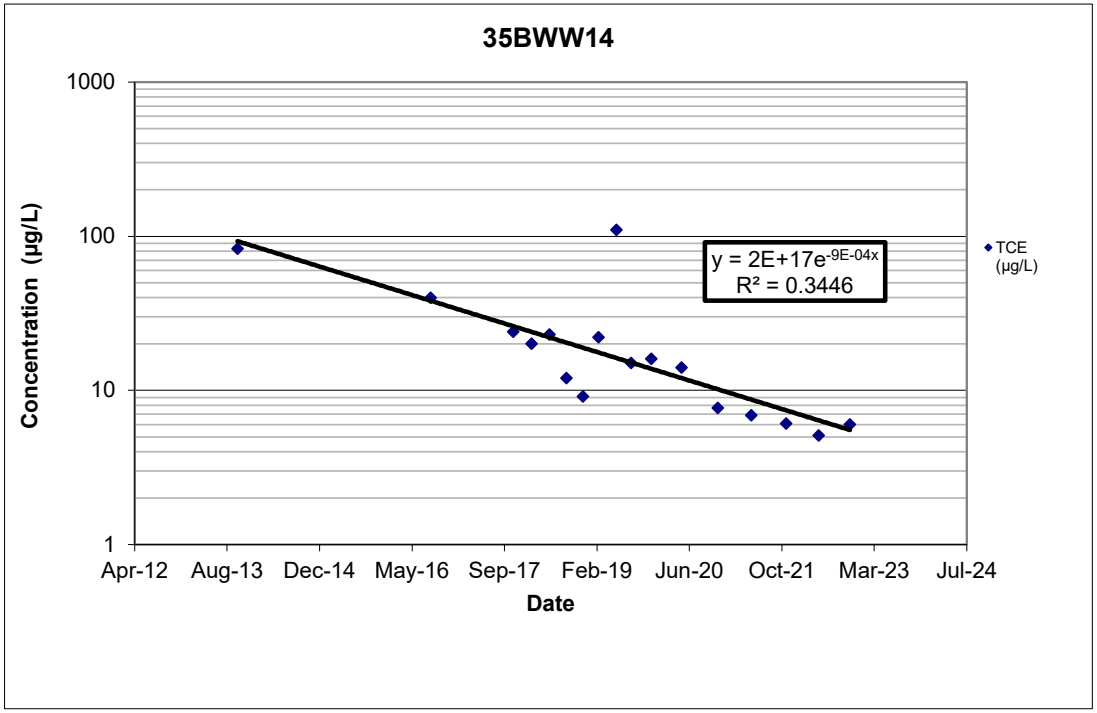
µg/L - micrograms per liter

MCL - maximum contaminant level

PCE - tetrachloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW14

Date	TCE (µg/L)
9-Oct-13	83
17-Aug-16	39.7
7-Nov-17	24
15-Feb-18	20
22-May-18	23
22-Aug-18	12
20-Nov-18	9.1
12-Feb-19	22
21-May-19	110
6-Aug-19	15
25-Nov-19	16
7-May-20	14
19-Nov-20	7.7
18-May-21	6.9
22-Nov-21	6.1
18-May-22	5.1
3-Nov-22	6.0

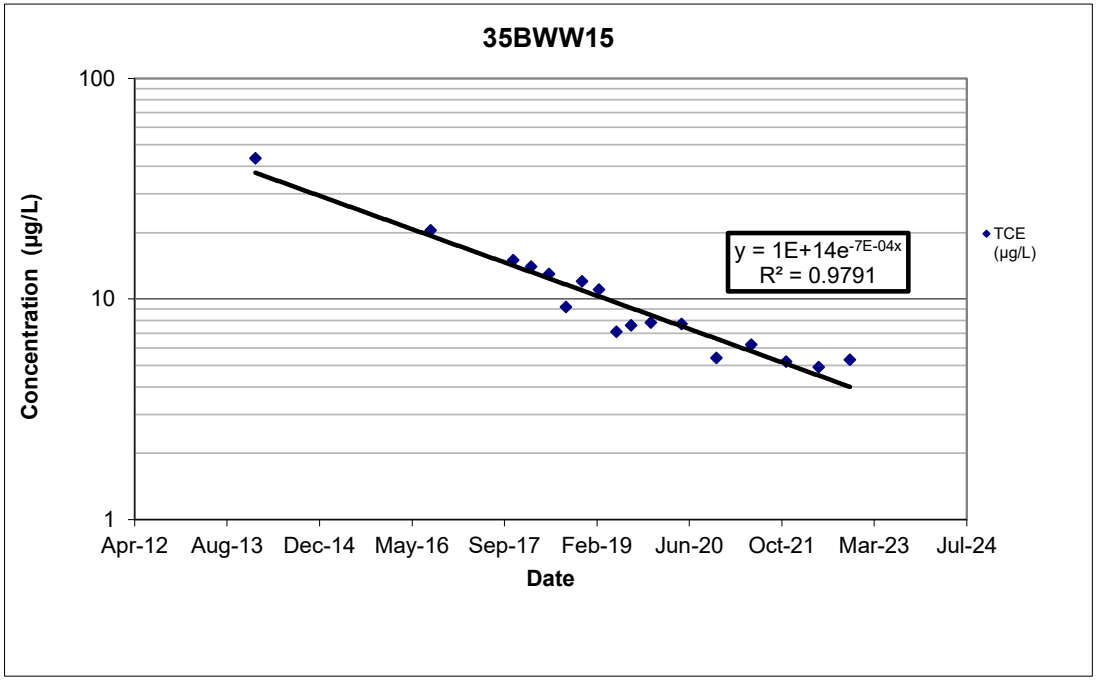


Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
TCE	9.00E-04	770.2	2.1	6	5	0.6

Notes:
The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.
µg/L - micrograms per liter
MCL - maximum contaminant level
TCE - trichloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW15

Date	TCE (µg/L)
14-Jan-14	44
19-Aug-16	20.5
7-Nov-17	15
13-Feb-18	14
21-May-18	13
20-Aug-18	9.2
16-Nov-18	12
14-Feb-19	11
21-May-19	7.1
7-Aug-19	7.6
22-Nov-19	7.8
7-May-20	7.7
10-Nov-20	5.4
18-May-21	6.2
22-Nov-21	5.2
18-May-22	4.9
3-Nov-22	5.3



Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
PCE	7.00E-04	990.2	2.7	5.3	5	0.2

Notes:

The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.

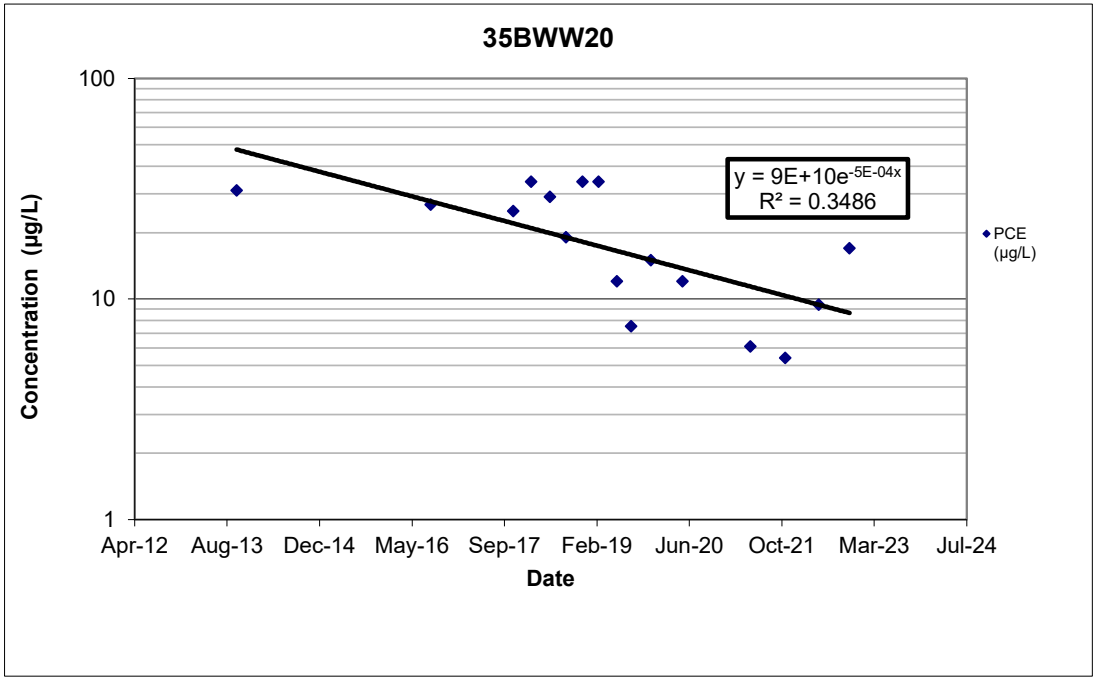
µg/L - micrograms per liter

MCL - maximum contaminant level

TCE - trichloroethene

Time-Dependent Attenuation Rate Constant and Estimated Cleanup Time
35BWW20

Date	PCE (µg/L)
4-Oct-13	31
18-Aug-16	26.7
8-Nov-17	25
12-Feb-18	34
24-May-18	29
20-Aug-18	19
18-Nov-18	34
13-Feb-19	34
22-May-19	12
6-Aug-19	7.5
22-Nov-19	15
11-May-20	12
13-May-21	6.1
17-Nov-21	5.4
17-May-22	9.4
1-Nov-22	17



Chemical	Attenuation Rate Constant (day^{-1})	Attenuation Half-life (days)	Attenuation Half-life (years)	Current Conc. (µg/L)	Target Concentration (µg/L)	Estimated Cleanup Time (years)
PCE	5.00E-04	1386.3	3.8	17	5	6.7

Notes:

The estimated cleanup time was calculated as the time it would take the most recent detected PCE concentration to reach the MCL using the site-specific attenuation rate, and assuming first order degradation kinetics.

µg/L - micrograms per liter

MCL - maximum contaminant level

PCE - tetrachloroethene

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WorkOrder: HS22110180

LHAAP 37 November 2022

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
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Houston TX 77042

28-Nov-2022

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HS22110180 LHAAP 37 November 2022 Level II REV1

ALS WO# HS22110180

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February 07, 2023

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22110180**

Laboratory Results for: **LHAAP 37 November 2022**

Dear Vicki Graves ,

ALS Environmental received 10 sample(s) on Nov 03, 2022 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: DANE.WACASEY
Dane J. Wacasey

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Work Order: HS22110180

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110180-01	35BWW26-221102	Groundwater		02-Nov-2022 07:55	03-Nov-2022 09:00	☐
HS22110180-02	35BWW08-221102	Groundwater		02-Nov-2022 08:40	03-Nov-2022 09:00	☐
HS22110180-03	35BWW12-221102	Groundwater		02-Nov-2022 09:30	03-Nov-2022 09:00	☐
HS22110180-04	35BWW12-221102-FD	Groundwater		02-Nov-2022 09:30	03-Nov-2022 09:00	☐
HS22110180-05	35BWW07-221102	Groundwater		02-Nov-2022 10:25	03-Nov-2022 09:00	☐
HS22110180-06	35BWW13-221102	Groundwater		02-Nov-2022 11:05	03-Nov-2022 09:00	☐
HS22110180-07	35BWW16-221102	Groundwater		02-Nov-2022 11:45	03-Nov-2022 09:00	☐
HS22110180-08	35BWW17-221102	Groundwater		02-Nov-2022 12:50	03-Nov-2022 09:00	☐
HS22110180-09	35BWW17-221102-FD	Groundwater		02-Nov-2022 12:50	03-Nov-2022 09:00	☐
HS22110180-10	Trip Blank-221102	Water	CG-090622-778	02-Nov-2022 00:00	03-Nov-2022 09:00	☐

Revision:1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2022
Work Order: HS22110180

Work Order Comments

• This report was revised February 7, 2023, to adjust the VOC analyte list to include the compounds related to site LHAAP 37.

Work Order Comments

• The analysis for CO2 by RSK175 was performed by Eurofins in Lancaster, PA. The Final report is appended.

GC Semivolatiles by Method RSK-175

Batch ID: R421147

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R421126

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM5310B

Batch ID: R422070

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R420977

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW26-221102
Collection Date: 02-Nov-2022 07:55

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 15:08
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 15:08
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW26-221102
Collection Date: 02-Nov-2022 07:55

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 15:08
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 15:08
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 15:08
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 15:08
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 15:08*
Surr: 4-Bromofluorobenzene	*92.7*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 15:08*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 15:08*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 15:08*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 10:35
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 10:35
Methane	**0.00122**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 10:35
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.594**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 12:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW26-221102
Collection Date: 02-Nov-2022 07:55

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**30.7**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:07
Nitrogen, Nitrate (As N)	**0.108**		**0.0300**	**0.0500**	**0.100**	**mg/L**	1	03-Nov-2022 22:07
Sulfate	**24.5**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:07
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW08-221102
Collection Date: 02-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 17:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW08-221102
Collection Date: 02-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:57
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Trichloroethene	**0.56**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 17:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:57
Surr: 1,2-Dichloroethane-d4	*86.6*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 17:57*
Surr: 4-Bromofluorobenzene	*92.7*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 17:57*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 17:57*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 17:57*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 11:01
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 11:01
Methane	**0.00141**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 11:01
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.711**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 12:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW08-221102
Collection Date: 02-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**4.60**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:23
Nitrogen, Nitrate (As N)	**0.284**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	03-Nov-2022 22:23
Sulfate	**35.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:23
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 18:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:18
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Tetrachloroethene	**5.2**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:18
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Trichloroethene	**0.58**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:18
Surr: 1,2-Dichloroethane-d4	*85.6*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 18:18*
Surr: 4-Bromofluorobenzene	*92.5*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 18:18*
Surr: Dibromofluoromethane	*90.3*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 18:18*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 18:18*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 11:14
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 11:14
Methane	**0.00135**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 11:14
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.617**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 13:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**8.82**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:28
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	03-Nov-2022 22:28
Sulfate	**40.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	03-Nov-2022 22:28
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102-FD
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:39
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 18:39
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102-FD
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 18:39
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 18:39
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 18:39
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Tetrachloroethene	**5.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:39
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Trichloroethene	**0.53**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 18:39
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 18:39
Surr: 1,2-Dichloroethane-d4	*86.1*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 18:39*
Surr: 4-Bromofluorobenzene	*92.5*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 18:39*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 18:39*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 18:39*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	05-Nov-2022 11:29
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	05-Nov-2022 11:29
Methane	**0.00623**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	05-Nov-2022 11:29
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.636**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	17-Nov-2022 13:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW12-221102-FD
Collection Date: 02-Nov-2022 09:30

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**8.84**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:33
Nitrogen, Nitrate (As N)	0.0500	U	0.0300	0.0500	0.100	mg/L	1	03-Nov-2022 22:33
Sulfate	**41.1**		**0.200**	**0.250**	**0.500**	**mg/L**	1	03-Nov-2022 22:33
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	17-Nov-2022 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW07-221102
Collection Date: 02-Nov-2022 10:25

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:00
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 19:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW07-221102
Collection Date: 02-Nov-2022 10:25

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:00
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:00
Surr: 1,2-Dichloroethane-d4	*86.0*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 19:00*
Surr: 4-Bromofluorobenzene	*92.2*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 19:00*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 19:00*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 19:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW13-221102
Collection Date: 02-Nov-2022 11:05

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:21
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 19:21
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW13-221102
Collection Date: 02-Nov-2022 11:05

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:21
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:21
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:21
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Tetrachloroethene	**1.8**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:21
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:21
Surr: 1,2-Dichloroethane-d4	*86.3*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 19:21*
Surr: 4-Bromofluorobenzene	*92.9*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 19:21*
Surr: Dibromofluoromethane	*91.5*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 19:21*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 19:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW16-221102
Collection Date: 02-Nov-2022 11:45

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1,2-Trichlor-1,2,2-trifluoroethane	**4.4**		**0.50**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:42
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 19:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW16-221102
Collection Date: 02-Nov-2022 11:45

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 19:42
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 19:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 19:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Tetrachloroethene	**7.2**		**0.30**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:42
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Trichloroethene	**2.0**		**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 19:42
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 19:42
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 19:42*
Surr: 4-Bromofluorobenzene	*90.9*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 19:42*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 19:42*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 19:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW17-221102
Collection Date: 02-Nov-2022 12:50

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 20:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW17-221102
Collection Date: 02-Nov-2022 12:50

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:03
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:03
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 20:03*
Surr: 4-Bromofluorobenzene	*92.0*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 20:03*
Surr: Dibromofluoromethane	*91.1*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 20:03*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 20:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW17-221102-FD
Collection Date: 02-Nov-2022 12:50

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:24
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 20:24
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW17-221102-FD
Collection Date: 02-Nov-2022 12:50

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 20:24
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 20:24
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 20:24
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 20:24
Surr: 1,2-Dichloroethane-d4	*85.4*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 20:24*
Surr: 4-Bromofluorobenzene	*91.1*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 20:24*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 20:24*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 20:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221102
Collection Date: 02-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 14:47
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 14:47
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221102
Collection Date: 02-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110180
Lab ID:HS22110180-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 14:47
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 14:47
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 14:47
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 14:47
Surr: 1,2-Dichloroethane-d4	*87.1*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 14:47*
Surr: 4-Bromofluorobenzene	*92.4*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 14:47*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 14:47*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 14:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R420977 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			03 Nov 2022 22:07	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			03 Nov 2022 22:23	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			03 Nov 2022 22:28	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			03 Nov 2022 22:33	1
Batch ID: R421126 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110180-10	Trip Blank-221102	02 Nov 2022 00:00			06 Nov 2022 14:47	1
Batch ID: R421126 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			06 Nov 2022 15:08	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			06 Nov 2022 17:57	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			06 Nov 2022 18:18	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			06 Nov 2022 18:39	1
HS22110180-05	35BWW07-221102	02 Nov 2022 10:25			06 Nov 2022 19:00	1
HS22110180-06	35BWW13-221102	02 Nov 2022 11:05			06 Nov 2022 19:21	1
HS22110180-07	35BWW16-221102	02 Nov 2022 11:45			06 Nov 2022 19:42	1
HS22110180-08	35BWW17-221102	02 Nov 2022 12:50			06 Nov 2022 20:03	1
HS22110180-09	35BWW17-221102-FD	02 Nov 2022 12:50			06 Nov 2022 20:24	1
Batch ID: R421147 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			05 Nov 2022 10:35	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			05 Nov 2022 11:01	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			05 Nov 2022 11:14	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			05 Nov 2022 11:29	1
Batch ID: R422070 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			17 Nov 2022 12:22	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			17 Nov 2022 12:49	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			17 Nov 2022 13:02	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			17 Nov 2022 13:15	1
Batch ID: R422079 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS22110180-01	35BWW26-221102	02 Nov 2022 07:55			17 Nov 2022 15:14	1
HS22110180-02	35BWW08-221102	02 Nov 2022 08:40			17 Nov 2022 15:14	1
HS22110180-03	35BWW12-221102	02 Nov 2022 09:30			17 Nov 2022 15:14	1
HS22110180-04	35BWW12-221102-FD	02 Nov 2022 09:30			17 Nov 2022 15:14	1

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421147 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-221105** Units: **mg/L** Analysis Date: **05-Nov-2022 08:48**
Client ID: Run ID: **FID-4_421147** SeqNo: **6965069** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-221105** Units: **mg/L** Analysis Date: **05-Nov-2022 08:56**
Client ID: Run ID: **FID-4_421147** SeqNo: **6965070** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0202	0.00100	0.01804	0	112	75 - 125				
Ethene	0.0186	0.00100	0.0168	0	110	75 - 125				
Methane	0.00898	0.000500	0.009647	0	93.1	75 - 125				

LCSD Sample ID: **LCSD-221105** Units: **mg/L** Analysis Date: **05-Nov-2022 09:18**
Client ID: Run ID: **FID-4_421147** SeqNo: **6965071** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0213	0.00100	0.01804	0	118	75 - 125	0.02023	5.32	30	
Ethene	0.0194	0.00100	0.0168	0	115	75 - 125	0.01856	4.34	30	
Methane	0.00909	0.000500	0.009647	0	94.2	75 - 125	0.008985	1.17	30	

The following samples were analyzed in this batch: HS22110180-01 HS22110180-02 HS22110180-03 HS22110180-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.08*	*1.0*	*50*	*0*	*88.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.28*	*1.0*	*50*	*0*	*92.6*	*85 - 114*				
Surr: Dibromofluoromethane	*45.48*	*1.0*	*50*	*0*	*91.0*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54*	*1.0*	*50*	*0*	*108*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.11	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	18.22	1.0	20	0	91.1	74 - 131				
1,1,2,2-Tetrachloroethane	20.88	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	19.06	1.0	20	0	95.3	70 - 136				
1,1,2-Trichloroethane	20.28	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	18.86	1.0	20	0	94.3	77 - 125				
1,1-Dichloroethene	18.88	1.0	20	0	94.4	71 - 131				
1,1-Dichloropropene	17.87	1.0	20	0	89.3	78 - 125				
1,2,3-Trichlorobenzene	20.55	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	21.68	1.0	20	0	108	73 - 122				
1,2,4-Trichlorobenzene	19.45	1.0	20	0	97.3	69 - 130				
1,2,4-Trimethylbenzene	18.74	1.0	20	0	93.7	76 - 124				
1,2-Dibromo-3-chloropropane	22.91	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.15	1.0	20	0	106	77 - 121				
1,2-Dichlorobenzene	20.05	1.0	20	0	100	80 - 119				
1,2-Dichloroethane	20.57	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	18.44	1.0	20	0	92.2	75 - 124				
1,3-Dichlorobenzene	19.59	1.0	20	0	98.0	80 - 119				
1,3-Dichloropropane	20.76	1.0	20	0	104	80 - 119				
1,4-Dichlorobenzene	20.06	1.0	20	0	100	79 - 118				
2,2-Dichloropropane	19.87	1.0	20	0	99.3	60 - 139				
2-Butanone	42.55	2.0	40	0	106	56 - 143				
2-Chlorotoluene	19.18	1.0	20	0	95.9	79 - 122				
2-Hexanone	44.99	2.0	40	0	112	57 - 139				
4-Chlorotoluene	19.64	1.0	20	0	98.2	78 - 122				
4-Isopropyltoluene	17.56	1.0	20	0	87.8	77 - 127				
4-Methyl-2-pentanone	43.09	2.0	40	0	108	67 - 130				
Acetone	47.99	2.0	40	0	120	39 - 160				
Benzene	19.73	1.0	20	0	98.7	79 - 120				
Bromobenzene	20.28	1.0	20	0	101	80 - 120				
Bromochloromethane	19.89	1.0	20	0	99.5	78 - 123				
Bromodichloromethane	20.23	1.0	20	0	101	79 - 125				
Bromoform	20.38	1.0	20	0	102	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	22.26	1.0	20	0	111	53 - 141				
Carbon disulfide	37.81	2.0	40	0	94.5	64 - 133				
Carbon tetrachloride	19.35	1.0	20	0	96.8	72 - 136				
Chlorobenzene	20.01	1.0	20	0	100	82 - 118				
Chloroethane	19.7	1.0	20	0	98.5	60 - 138				
Chloroform	19.14	1.0	20	0	95.7	79 - 124				
Chloromethane	21.74	1.0	20	0	109	50 - 139				
cis-1,2-Dichloroethene	20.17	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	20.89	1.0	20	0	104	75 - 124				
Dibromochloromethane	20.29	1.0	20	0	101	74 - 126				
Dibromomethane	20.55	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.4	1.0	20	0	97.0	32 - 152				
Ethylbenzene	18.57	1.0	20	0	92.9	79 - 121				
Hexachlorobutadiene	18.68	1.0	20	0	93.4	66 - 134				
Isopropylbenzene	17.88	1.0	20	0	89.4	72 - 131				
m,p-Xylene	38.78	2.0	40	0	97.0	80 - 121				
Methylene chloride	21.18	2.0	20	0	106	74 - 124				
Naphthalene	21.5	1.0	20	0	107	61 - 128				
n-Butylbenzene	17.98	1.0	20	0	89.9	75 - 128				
n-Propylbenzene	18.05	1.0	20	0	90.3	76 - 126				
o-Xylene	19.49	1.0	20	0	97.4	78 - 122				
sec-Butylbenzene	18.03	1.0	20	0	90.2	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	18.32	1.0	20	0	91.6	78 - 124				
Tetrachloroethene	19.1	1.0	20	0	95.5	74 - 129				
Toluene	19.53	1.0	20	0	97.6	80 - 121				
trans-1,2-Dichloroethene	19.03	1.0	20	0	95.1	75 - 124				
trans-1,3-Dichloropropene	20.57	1.0	20	0	103	73 - 127				
Trichloroethene	19.25	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.45	1.0	20	0	97.3	65 - 141				
Vinyl chloride	19.12	1.0	20	0	95.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.42*	*1.0*	*50*	*0*	*98.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.79*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*50.48*	*1.0*	*50*	*0*	*101*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*50.85*	*1.0*	*50*	*0*	*102*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.65	1.0	20	0	98.3	78 - 124				
1,1,1-Trichloroethane	18.8	1.0	20	0	94.0	74 - 131				
1,1,2,2-Tetrachloroethane	18.36	1.0	20	0	91.8	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.26	1.0	20	0	116	70 - 136				
1,1,2-Trichloroethane	19.01	1.0	20	0	95.0	80 - 119				
1,1-Dichloroethane	18	1.0	20	0	90.0	77 - 125				
1,1-Dichloroethene	19.8	1.0	20	0	99.0	71 - 131				
1,1-Dichloropropene	21.48	1.0	20	0	107	78 - 125				
1,2,3-Trichlorobenzene	17.01	1.0	20	0	85.0	69 - 129				
1,2,3-Trichloropropane	19.17	1.0	20	0	95.8	73 - 122				
1,2,4-Trichlorobenzene	18.4	1.0	20	0	92.0	69 - 130				
1,2,4-Trimethylbenzene	20.67	1.0	20	0	103	76 - 124				
1,2-Dibromo-3-chloropropane	17.82	1.0	20	0	89.1	62 - 128				
1,2-Dibromoethane	19.79	1.0	20	0	99.0	77 - 121				
1,2-Dichlorobenzene	19.67	1.0	20	0	98.4	80 - 119				
1,2-Dichloroethane	18.91	1.0	20	0	94.5	73 - 128				
1,2-Dichloropropane	18.84	1.0	20	0	94.2	78 - 122				
1,3,5-Trimethylbenzene	21.36	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	20.21	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	19.75	1.0	20	0	98.7	80 - 119				
1,4-Dichlorobenzene	20.38	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	19.87	1.0	20	0	99.3	60 - 139				
2-Butanone	29.58	2.0	40	0	74.0	56 - 143				
2-Chlorotoluene	20.6	1.0	20	0	103	79 - 122				
2-Hexanone	36.73	2.0	40	0	91.8	57 - 139				
4-Chlorotoluene	20.83	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	21.66	1.0	20	0	108	77 - 127				
4-Methyl-2-pentanone	38.68	2.0	40	0	96.7	67 - 130				
Acetone	25.41	2.0	40	0	63.5	39 - 160				
Benzene	19.89	1.0	20	0	99.5	79 - 120				
Bromobenzene	20.14	1.0	20	0	101	80 - 120				
Bromochloromethane	17.62	1.0	20	0	88.1	78 - 123				
Bromodichloromethane	18.61	1.0	20	0	93.1	79 - 125				
Bromoform	18.4	1.0	20	0	92.0	66 - 130				

Revision: 1

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.02	1.0	20	0	100	53 - 141				
Carbon disulfide	35.7	2.0	40	0	89.3	64 - 133				
Carbon tetrachloride	22.56	1.0	20	0	113	72 - 136				
Chlorobenzene	20.7	1.0	20	0	104	82 - 118				
Chloroethane	18.44	1.0	20	0	92.2	60 - 138				
Chloroform	17.21	1.0	20	0	86.1	79 - 124				
Chloromethane	17.97	1.0	20	0	89.9	50 - 139				
cis-1,2-Dichloroethene	17.83	1.0	20	0	89.2	78 - 123				
cis-1,3-Dichloropropene	18.66	1.0	20	0	93.3	75 - 124				
Dibromochloromethane	19.14	1.0	20	0	95.7	74 - 126				
Dibromomethane	18.57	1.0	20	0	92.9	79 - 123				
Dichlorodifluoromethane	15.59	1.0	20	0	77.9	32 - 152				
Ethylbenzene	21.14	1.0	20	0	106	79 - 121				
Hexachlorobutadiene	22.88	1.0	20	0	114	66 - 134				
Isopropylbenzene	22.03	1.0	20	0	110	72 - 131				
m,p-Xylene	42.85	2.0	40	0	107	80 - 121				
Methylene chloride	18.24	2.0	20	0	91.2	74 - 124				
Naphthalene	16.25	1.0	20	0	81.3	61 - 128				
n-Butylbenzene	22.23	1.0	20	0	111	75 - 128				
n-Propylbenzene	21.89	1.0	20	0	109	76 - 126				
o-Xylene	20.94	1.0	20	0	105	78 - 122				
sec-Butylbenzene	22.71	1.0	20	0	114	77 - 126				
Styrene	20.97	1.0	20	0	105	78 - 123				
tert-Butylbenzene	22.55	1.0	20	0	113	78 - 124				
Tetrachloroethene	23.46	1.0	20	0	117	74 - 129				
Toluene	20.74	1.0	20	0	104	80 - 121				
trans-1,2-Dichloroethene	18.64	1.0	20	0	93.2	75 - 124				
trans-1,3-Dichloropropene	18.19	1.0	20	0	90.9	73 - 127				
Trichloroethene	20.54	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	20.85	1.0	20	0	104	65 - 141				
Vinyl chloride	17.95	1.0	20	0	89.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.12*	*1.0*	*50*	*0*	*86.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.34*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.09*	*1.0*	*50*	*0*	*90.2*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.6*	*1.0*	*50*	*0*	*107*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.46	1.0	20	0	97.3	78 - 124	19.65	1	20	
1,1,1-Trichloroethane	18.21	1.0	20	0	91.0	74 - 131	18.8	3.21	20	
1,1,2,2-Tetrachloroethane	19.33	1.0	20	0	96.6	71 - 121	18.36	5.15	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	22.45	1.0	20	0	112	70 - 136	23.26	3.55	20	
1,1,2-Trichloroethane	19.06	1.0	20	0	95.3	80 - 119	19.01	0.294	20	
1,1-Dichloroethane	17.73	1.0	20	0	88.7	77 - 125	18	1.48	20	
1,1-Dichloroethene	18.92	1.0	20	0	94.6	71 - 131	19.8	4.57	20	
1,1-Dichloropropene	20.69	1.0	20	0	103	78 - 125	21.48	3.76	20	
1,2,3-Trichlorobenzene	20.83	1.0	20	0	104	69 - 129	17.01	20.2	20	R
1,2,3-Trichloropropane	18.6	1.0	20	0	93.0	73 - 122	19.17	3	20	
1,2,4-Trichlorobenzene	20.42	1.0	20	0	102	69 - 130	18.4	10.4	20	
1,2,4-Trimethylbenzene	20.6	1.0	20	0	103	76 - 124	20.67	0.314	20	
1,2-Dibromo-3-chloropropane	20.34	1.0	20	0	102	62 - 128	17.82	13.2	20	
1,2-Dibromoethane	19.97	1.0	20	0	99.9	77 - 121	19.79	0.908	20	
1,2-Dichlorobenzene	20.16	1.0	20	0	101	80 - 119	19.67	2.46	20	
1,2-Dichloroethane	18.51	1.0	20	0	92.5	73 - 128	18.91	2.15	20	
1,2-Dichloropropane	18.62	1.0	20	0	93.1	78 - 122	18.84	1.14	20	
1,3,5-Trimethylbenzene	21.39	1.0	20	0	107	75 - 124	21.36	0.156	20	
1,3-Dichlorobenzene	20.08	1.0	20	0	100	80 - 119	20.21	0.631	20	
1,3-Dichloropropane	19.51	1.0	20	0	97.5	80 - 119	19.75	1.22	20	
1,4-Dichlorobenzene	20.57	1.0	20	0	103	79 - 118	20.38	0.931	20	
2,2-Dichloropropane	19.34	1.0	20	0	96.7	60 - 139	19.87	2.71	20	
2-Butanone	30.19	2.0	40	0	75.5	56 - 143	29.58	2.04	20	
2-Chlorotoluene	20.48	1.0	20	0	102	79 - 122	20.6	0.578	20	
2-Hexanone	38.26	2.0	40	0	95.7	57 - 139	36.73	4.07	20	
4-Chlorotoluene	20.71	1.0	20	0	104	78 - 122	20.83	0.615	20	
4-Isopropyltoluene	21.68	1.0	20	0	108	77 - 127	21.66	0.132	20	
4-Methyl-2-pentanone	39.65	2.0	40	0	99.1	67 - 130	38.68	2.46	20	
Acetone	26.55	2.0	40	0	66.4	39 - 160	25.41	4.39	20	
Benzene	19.31	1.0	20	0	96.6	79 - 120	19.89	2.97	20	
Bromobenzene	20.01	1.0	20	0	100	80 - 120	20.14	0.659	20	
Bromochloromethane	17.37	1.0	20	0	86.9	78 - 123	17.62	1.41	20	
Bromodichloromethane	18.37	1.0	20	0	91.8	79 - 125	18.61	1.31	20	
Bromoform	19.17	1.0	20	0	95.8	66 - 130	18.4	4.07	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.14	1.0	20	0	95.7	53 - 141	20.02	4.5	20	
Carbon disulfide	34.64	2.0	40	0	86.6	64 - 133	35.7	3.02	20	
Carbon tetrachloride	22.55	1.0	20	0	113	72 - 136	22.56	0.0299	20	
Chlorobenzene	20.05	1.0	20	0	100	82 - 118	20.7	3.19	20	
Chloroethane	18.03	1.0	20	0	90.2	60 - 138	18.44	2.23	20	
Chloroform	16.97	1.0	20	0	84.9	79 - 124	17.21	1.42	20	
Chloromethane	17.23	1.0	20	0	86.1	50 - 139	17.97	4.24	20	
cis-1,2-Dichloroethene	17.78	1.0	20	0	88.9	78 - 123	17.83	0.266	20	
cis-1,3-Dichloropropene	18.83	1.0	20	0	94.1	75 - 124	18.66	0.879	20	
Dibromochloromethane	19	1.0	20	0	95.0	74 - 126	19.14	0.716	20	
Dibromomethane	18.71	1.0	20	0	93.6	79 - 123	18.57	0.762	20	
Dichlorodifluoromethane	15.18	1.0	20	0	75.9	32 - 152	15.59	2.62	20	
Ethylbenzene	20.68	1.0	20	0	103	79 - 121	21.14	2.2	20	
Hexachlorobutadiene	23	1.0	20	0	115	66 - 134	22.88	0.524	20	
Isopropylbenzene	21.58	1.0	20	0	108	72 - 131	22.03	2.03	20	
m,p-Xylene	41.41	2.0	40	0	104	80 - 121	42.85	3.43	20	
Methylene chloride	18.2	2.0	20	0	91.0	74 - 124	18.24	0.209	20	
Naphthalene	20.49	1.0	20	0	102	61 - 128	16.25	23.1	20	R
n-Butylbenzene	22.21	1.0	20	0	111	75 - 128	22.23	0.0937	20	
n-Propylbenzene	21.56	1.0	20	0	108	76 - 126	21.89	1.51	20	
o-Xylene	20.27	1.0	20	0	101	78 - 122	20.94	3.24	20	
sec-Butylbenzene	22.71	1.0	20	0	114	77 - 126	22.71	0.00884	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.97	1.01	20	
tert-Butylbenzene	22.37	1.0	20	0	112	78 - 124	22.55	0.818	20	
Tetrachloroethene	22.88	1.0	20	0	114	74 - 129	23.46	2.49	20	
Toluene	20.31	1.0	20	0	102	80 - 121	20.74	2.14	20	
trans-1,2-Dichloroethene	18.2	1.0	20	0	91.0	75 - 124	18.64	2.4	20	
trans-1,3-Dichloropropene	18.65	1.0	20	0	93.2	73 - 127	18.19	2.51	20	
Trichloroethene	19.73	1.0	20	0	98.7	79 - 123	20.54	4.02	20	
Trichlorofluoromethane	20.64	1.0	20	0	103	65 - 141	20.85	1.01	20	
Vinyl chloride	17.3	1.0	20	0	86.5	58 - 137	17.95	3.66	20	
Surr: 1,2-Dichloroethane-d4	*43.71*	*1.0*	*50*	*0*	*87.4*	*81 - 118*	*43.12*	*1.36*	*20*	
Surr: 4-Bromofluorobenzene	*48.92*	*1.0*	*50*	*0*	*97.8*	*85 - 114*	*49.34*	*0.865*	*20*	
Surr: Dibromofluoromethane	*45.16*	*1.0*	*50*	*0*	*90.3*	*80 - 119*	*45.09*	*0.137*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: **35BWW26-221102** Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.9*	*1.0*	*50*	*0*	*106*	*89 - 112*	*53.6*	*1.31*	*20*	

The following samples were analyzed in this batch:

HS22110180-01	HS22110180-02	HS22110180-03	HS22110180-04
HS22110180-05	HS22110180-06	HS22110180-07	HS22110180-08
HS22110180-09	HS22110180-10		

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R420977 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **03-Nov-2022 21:56**
Client ID: Run ID: **ICS-Integrion_420977** SeqNo: **6960592** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.250	0.500								U
Nitrogen, Nitrate (As N)	0.0500	0.100								U
Sulfate	0.250	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **03-Nov-2022 22:02**
Client ID: Run ID: **ICS-Integrion_420977** SeqNo: **6960593** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.41	0.500	20	0	97.1	80 - 120				
Nitrogen, Nitrate (As N)	3.943	0.100	4	0	98.6	80 - 120				
Sulfate	19.69	0.500	20	0	98.4	80 - 120				

MS Sample ID: **HS22110180-01MS** Units: **mg/L** Analysis Date: **03-Nov-2022 22:12**
Client ID: **35BWW26-221102** Run ID: **ICS-Integrion_420977** SeqNo: **6960595** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	40.02	0.500	10	30.66	93.6	80 - 120				
Nitrogen, Nitrate (As N)	2.033	0.100	2	0.1079	96.3	80 - 120				
Sulfate	33.98	0.500	10	24.49	95.0	80 - 120				

MSD Sample ID: **HS22110180-01MSD** Units: **mg/L** Analysis Date: **03-Nov-2022 22:18**
Client ID: **35BWW26-221102** Run ID: **ICS-Integrion_420977** SeqNo: **6960596** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	40.26	0.500	10	30.66	95.9	80 - 120	40.02	0.58	20	
Nitrogen, Nitrate (As N)	2.058	0.100	2	0.1079	97.5	80 - 120	2.033	1.21	20	
Sulfate	34.45	0.500	10	24.49	99.6	80 - 120	33.98	1.36	20	

The following samples were analyzed in this batch: HS22110180-01 HS22110180-02 HS22110180-03 HS22110180-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110180

QC BATCH REPORT

Batch ID: R422070 (0) **Instrument:** TOC_05 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11172022** Units: **mg/L** Analysis Date: **17-Nov-2022 11:41**
Client ID: Run ID: **TOC_05_422070** SeqNo: **6987106** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11172022** Units: **mg/L** Analysis Date: **17-Nov-2022 11:55**
Client ID: Run ID: **TOC_05_422070** SeqNo: **6987107** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.14	1.00	10	0	101	85 - 115				

LCSD Sample ID: **LCSD-11172022** Units: **mg/L** Analysis Date: **17-Nov-2022 12:09**
Client ID: Run ID: **TOC_05_422070** SeqNo: **6987108** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.16	1.00	10	0	102	85 - 115	10.14	0.197	20	

MS Sample ID: **HS22110180-01MS** Units: **mg/L** Analysis Date: **17-Nov-2022 12:36**
Client ID: **35BWW26-221102** Run ID: **TOC_05_422070** SeqNo: **6987110** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.69	1.00	10	0.5938	101	80 - 120				

The following samples were analyzed in this batch: HS22110180-01 HS22110180-02 HS22110180-03 HS22110180-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: **HS22110180**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Feb-23

Sample Receipt Checklist

Work Order ID: HS22110180 **Date/Time Received:** 03-Nov-2022 09:00

Client Name: CBI-Houston **Received by:** Corey Grandits

Completed By: /S/ Paresh M. Giga (eSignature) 03-Nov-2022 11:18 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 04-Nov-2022 08:20 (Date/Time)

Matrices: GW/Water Carrier name: FedEx Priority Overnight

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.0C/1.5C U/C	IR31	
Cooler(s)/Kit(s):	49072		
Date/Time sample(s) sent to storage:	11/3/22 11:30		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

HS22110180

Aptim Environmental & Infrastucture, Inc.

LHAAP 37 November 2022

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BwW26-221102	wG	11/2/22 0755		12	X	X	X	X	X		
35BwW08-221102	wG	11/2/22 0840		12	X	X	X	X	X		
35BwW12-221102	wG	11/2/22 0930		12	X	X	X	X	X		
35BwW12-221102-FD	wG	11/2/22 0930		12	X	X	X	X	X		
35BwW07-221102	wG	11/2/22 1025		3	X						
35BwW13-221102	wG	11/2/22 1105		3	X						
35BwW16-221102	wG	11/2/22 1145		3	X						
35BwW17-221102	wG	11/2/22 1250		3	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/2/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 49072 IRN CF=0.5 2.0°

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

HS22110180

Aptim Environmental & Infrastucture, Inc.
LHAAP 37 November 2022

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW17-221102-FD	Wb	11/2/22 1250		3	X						
TRIP BLANK-221102	W	11/2/22		2	X						

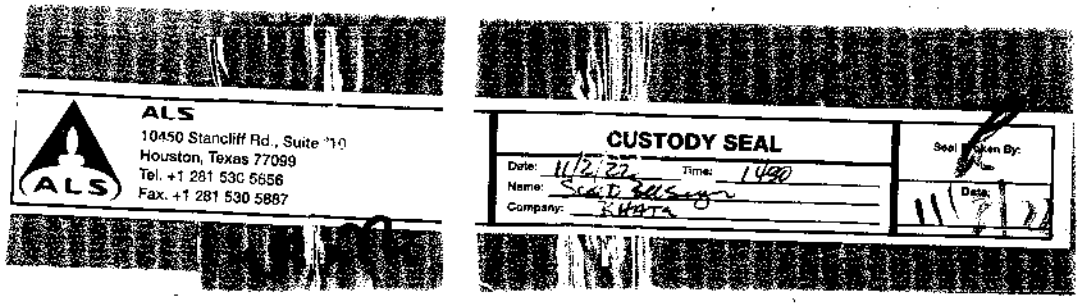
Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/2/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 11/2/22
Time: 1490
Name: Scott Sellers
Company: KHTA
Seal Broken By:
Date:

FedEx.
TRK# 0221 5789 1999 9894
THU - 03 NOV AA
PRIORITY OVERNIGHT
AB SGRA
49072
77099
TX-US
IAH

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-104531-1
Client Project/Site: HS22110180

For:
ALS Group USA, Corp
10450 Stancliff Rd.
Suite 210
Houston, Texas 77099

Attn: Dane Wacasey

Authorized for release by:
11/8/2022 9:17:48 AM

Kelly Bauer, Project Manager
(717)556-7262
Kelly.Bauer@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Kelly Bauer
Project Manager
11/8/2022 9:17:48 AM

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Definitions/Glossary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Job ID: 410-104531-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-104531-1

Receipt

The samples were received on 11/4/2022 1:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01 — Lab Sample ID: 410-104531-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	100000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-02 — Lab Sample ID: 410-104531-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	43000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-03 — Lab Sample ID: 410-104531-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	93000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-04 — Lab Sample ID: 410-104531-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	95000		12000	2600	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01
Lab Sample ID: 410-104531-1

Date Collected: 11/02/22 07:55
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	100000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:30	1

Client Sample ID: HS22110180-02
Lab Sample ID: 410-104531-2

Date Collected: 11/02/22 08:40
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	43000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:38	1

Client Sample ID: HS22110180-03
Lab Sample ID: 410-104531-3

Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	93000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:46	1

Client Sample ID: HS22110180-04
Lab Sample ID: 410-104531-4

Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	95000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:53	1

QC Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-315038/1-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315038

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	2600	U M	12000	2600	ug/L		11/08/22 07:23	11/08/22 07:59	1

Lab Sample ID: LCS 410-315038/2-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon dioxide	35800	37500		ug/L		105	80 - 122

Lab Sample ID: LCSD 410-315038/3-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315038

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon dioxide	35800	37900		ug/L		106	80 - 122	1	20

QC Association Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

GC VOA

Prep Batch: 315038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104531-1	HS22110180-01	Total/NA	Water	RSK-175	
410-104531-2	HS22110180-02	Total/NA	Water	RSK-175	
410-104531-3	HS22110180-03	Total/NA	Water	RSK-175	
410-104531-4	HS22110180-04	Total/NA	Water	RSK-175	
MB 410-315038/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-315038/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-315038/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 315041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104531-1	HS22110180-01	Total/NA	Water	RSK-175	315038
410-104531-2	HS22110180-02	Total/NA	Water	RSK-175	315038
410-104531-3	HS22110180-03	Total/NA	Water	RSK-175	315038
410-104531-4	HS22110180-04	Total/NA	Water	RSK-175	315038
MB 410-315038/1-A	Method Blank	Total/NA	Water	RSK-175	315038
LCS 410-315038/2-A	Lab Control Sample	Total/NA	Water	RSK-175	315038
LCSD 410-315038/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	315038

Lab Chronicle

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01

Lab Sample ID: 410-104531-1

Date Collected: 11/02/22 07:55
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:30

Client Sample ID: HS22110180-02

Lab Sample ID: 410-104531-2

Date Collected: 11/02/22 08:40
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:38

Client Sample ID: HS22110180-03

Lab Sample ID: 410-104531-3

Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:46

Client Sample ID: HS22110180-04

Lab Sample ID: 410-104531-4

Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:53

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ALS Group USA, Corp
Job ID: 410-104531-1
Project/Site: HS22110180

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22

Method Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-104531-1	HS22110180-01	Water	11/02/22 07:55	11/04/22 13:20
410-104531-2	HS22110180-02	Water	11/02/22 08:40	11/04/22 13:20
410-104531-3	HS22110180-03	Water	11/02/22 09:30	11/04/22 13:20
410-104531-4	HS22110180-04	Water	11/02/22 09:30	11/04/22 13:20

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

410-104531 Chain of Custody

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20264**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601 **Phone:** +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110180
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110180-01**	**35BWW26-221102**	**Groundwater**	**02 Nov 2022 07:55**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
2.	**HS22110180-02**	**35BWW08-221102**	**Groundwater**	**02 Nov 2022 08:40**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
3.	**HS22110180-03**	**35BWW12-221102**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
4.	**HS22110180-04**	**35BWW12-221102-FD**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022

Comments: DOD QSM 5.3; Please analyze RSK-175 CO2, DL/LOD/LOQ Level II and Level IV Report, LHAAP EQUIS EDD
Send report and EDD to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 11/4/22 1320

Cooler ID(s): _____ Temperature(s): 2.2 °C

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10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Purchase Order

PO: HS22110180

VENDOR:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	20264
TSR:	Ron Martino

Item	Catalog No	Unit Price	Quantity	Ext Price
1. RSK - CO2; Keesler; Level IV, EQUIS EDD	NA	$115.25	4	$461.00

Order Total: $461.00

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20264**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601 **Phone:** +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110180
TSR:	Ron Martino

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS22110180-01**	**35BWW26-221102**	**Groundwater**	**02 Nov 2022 07:55**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
2.	**HS22110180-02**	**35BWW08-221102**	**Groundwater**	**02 Nov 2022 08:40**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
3.	**HS22110180-03**	**35BWW12-221102**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
4.	**HS22110180-04**	**35BWW12-221102-FD**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: CODE14 Date/Time: 11/3/22 1811
Received By: Date/Time: 11/4/22 1320
Cooler ID(s): Temperature(s): 2.2°C

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Purchase Order

PO: HS22110180

VENDOR:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	20264
TSR:	Ron Martino

	Item	Catalog No	Unit Price	Quantity	Ext Price
1.	RSK - CO2; Keesler; Level IV, EQUIS EDD	NA		4	

Order Total:

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03 Nov 2022

Login Sample Receipt Checklist

Client: ALS Group USA, Corp

Job Number: 410-104531-1

Login Number: 104531
List Number: 1
Creator: Roth, Stephanie

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

HS22110180-MSVOA-SW8260 REV01

ALS WO# HS22110180

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

02/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-01				Collected	Received	Matrix	Basis
35BWW26-221102				11/02/22 07:55	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-01				Collected	Received	Matrix	Basis
35BWW26-221102				11/02/22 07:55	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 15:08	VOA6_421126	X110610
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 15:08	VOA6_421126	X110610

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-02	Collected	Received	Matrix	Basis
35BWW08-221102	11/02/22 08:40	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-02				Collected	Received	Matrix	Basis
35BWW08-221102				11/02/22 08:40	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 17:57	VOA6_421126	X110618
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Trichloroethene	ug/L	0.56	J	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:57	VOA6_421126	X110618

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-03	Collected	Received	Matrix	Basis
35BWW12-221102	11/02/22 09:30	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-03

35BWW12-221102

Collected	Received	Matrix	Basis
11/02/22 09:30	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 18:18	VOA6_421126	X110619
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Tetrachloroethene	ug/L	5.2		0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Trichloroethene	ug/L	0.58	J	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:18	VOA6_421126	X110619

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-04	Collected	Received	Matrix	Basis
35BWW12-221102-FD	11/02/22 09:30	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-04	Collected	Received	Matrix	Basis
35BWW12-221102-FD	11/02/22 09:30	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 18:39	VOA6_421126	X110620
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Tetrachloroethene	ug/L	5.3		0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Trichloroethene	ug/L	0.53	J	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 18:39	VOA6_421126	X110620

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-05				Collected	Received	Matrix	Basis
35BWW07-221102				11/02/22 10:25	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-05	Collected	Received	Matrix	Basis
35BWW07-221102	11/02/22 10:25	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 19:00	VOA6_421126	X110621
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:00	VOA6_421126	X110621

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-06	Collected	Received	Matrix	Basis
35BWW13-221102	11/02/22 11:05	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-06				Collected	Received	Matrix	Basis
35BWW13-221102				11/02/22 11:05	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 19:21	VOA6_421126	X110622
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Tetrachloroethene	ug/L	1.8		0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:21	VOA6_421126	X110622

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-07	Collected	Received	Matrix	Basis
35BWW16-221102	11/02/22 11:45	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1,2-Trichlor-1,2,2-	ug/L	4.4		0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-07

Collected	Received	Matrix	Basis
11/02/22 11:45	11/03/22 09:00	Groundwater	Wet

35BWW16-221102

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 19:42	VOA6_421126	X110623
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Tetrachloroethene	ug/L	7.2		0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Trichloroethene	ug/L	2.0		0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 19:42	VOA6_421126	X110623

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-08	Collected	Received	Matrix	Basis
35BWW17-221102	11/02/22 12:50	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-08	Collected	Received	Matrix	Basis
35BWW17-221102	11/02/22 12:50	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 20:03	VOA6_421126	X110624
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:03	VOA6_421126	X110624

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-09	Collected	Received	Matrix	Basis
35BWW17-221102-FD	11/02/22 12:50	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

Volatiles by EPA 8260

HS22110180-09				Collected	Received	Matrix	Basis
35BWW17-221102-FD				11/02/22 12:50	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 20:24	VOA6_421126	X110625
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 20:24	VOA6_421126	X110625

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-10	Collected	Received	Matrix	Basis
Trip Blank-221102	11/02/22 00:00	11/03/22 09:00	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

HS22110180-10	Collected	Received	Matrix	Basis
Trip Blank-221102	11/02/22 00:00	11/03/22 09:00	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 14:47	VOA6_421126	X110609
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:47	VOA6_421126	X110609

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

VBLKW-221106	Collected	Received	Matrix	Basis
VBLKW-221106	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

VBLKW-221106	Collected	Received	Matrix	Basis
VBLKW-221106	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608

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Form 2

System Monitoring Compound Recovery

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421126

Volatiles by by EPA 8260

CCV	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.17	50	98.3	80-120	
4-Bromofluorobenzene	50.6	50	101	80-120	
Dibromofluoromethane	50.47	50	101	80-120	
Toluene-d8	51.67	50	103	80-120	

CCB	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.18	50	88.4	80-120	
4-Bromofluorobenzene	47.34	50	94.7	80-120	
Dibromofluoromethane	45.69	50	91.4	80-120	
Toluene-d8	53.74	50	107	80-120	

VLCSW-221106	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.42	50	98.8	81-118	
4-Bromofluorobenzene	49.79	50	99.6	85-114	
Dibromofluoromethane	50.48	50	101	80-119	
Toluene-d8	50.85	50	102	89-112	

VBLKW-221106	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.08	50	88.2	81-118	
4-Bromofluorobenzene	46.28	50	92.6	85-114	
Dibromofluoromethane	45.48	50	91.0	80-119	
Toluene-d8	54	50	108	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421126

Volatiles by by EPA 8260

HS22110180-10	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44	50	87.1	81-118	
4-Bromofluorobenzene	46	50	92.4	85-114	
Dibromofluoromethane	45	50	90.5	80-119	
Toluene-d8	55	50	109	89-112	

HS22110180-01	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44	50	87.2	81-118	
4-Bromofluorobenzene	46	50	92.7	85-114	
Dibromofluoromethane	45	50	90.7	80-119	
Toluene-d8	54	50	109	89-112	

HS22110180-01MS	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43.12	50	86.2	81-118	
4-Bromofluorobenzene	49.34	50	98.7	85-114	
Dibromofluoromethane	45.09	50	90.2	80-119	
Toluene-d8	53.6	50	107	89-112	

HS22110180-01MSD	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43.71	50	87.4	81-118	
4-Bromofluorobenzene	48.92	50	97.8	85-114	
Dibromofluoromethane	45.16	50	90.3	80-119	
Toluene-d8	52.9	50	106	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421126

Volatiles by by EPA 8260

HS22110180-02	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	86.6	81-118	
4-Bromofluorobenzene	46	50	92.7	85-114	
Dibromofluoromethane	45	50	90.0	80-119	
Toluene-d8	54	50	108	89-112	

HS22110180-03	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	85.6	81-118	
4-Bromofluorobenzene	46	50	92.5	85-114	
Dibromofluoromethane	45	50	90.3	80-119	
Toluene-d8	54	50	108	89-112	

HS22110180-04	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	86.1	81-118	
4-Bromofluorobenzene	46	50	92.5	85-114	
Dibromofluoromethane	45	50	89.9	80-119	
Toluene-d8	54	50	108	89-112	

HS22110180-05	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	86.0	81-118	
4-Bromofluorobenzene	46	50	92.2	85-114	
Dibromofluoromethane	46	50	91.3	80-119	
Toluene-d8	55	50	109	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421126

Volatiles by by EPA 8260

HS22110180-06	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	86.3	81-118	
4-Bromofluorobenzene	46	50	92.9	85-114	
Dibromofluoromethane	46	50	91.5	80-119	
Toluene-d8	54	50	108	89-112	

HS22110180-07	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	85.7	81-118	
4-Bromofluorobenzene	45	50	90.9	85-114	
Dibromofluoromethane	45	50	90.5	80-119	
Toluene-d8	54	50	108	89-112	

HS22110180-08	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44	50	87.7	81-118	
4-Bromofluorobenzene	46	50	92.0	85-114	
Dibromofluoromethane	46	50	91.1	80-119	
Toluene-d8	54	50	109	89-112	

HS22110180-09	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	85.4	81-118	
4-Bromofluorobenzene	46	50	91.1	85-114	
Dibromofluoromethane	45	50	89.9	80-119	
Toluene-d8	54	50	109	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

02/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

35BWW26-221102		HS22110180-01		HS22110180-01MS				HS22110180-01MSD						
Sample Matrix	Aqueous	Run Date	11/06/22	11/06/22				11/06/22						
Units	µg/L	Run Time	15:08	15:50				16:11						
		Data File	X110610.D	X110612.D				X110613.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	19.65	20.00	98		19.46	20.00	97		20	1.00	
1,1,1-Trichloroethane	74-131	1	0	18.80	20.00	94		18.21	20.00	91		20	3.20	
1,1,2,2-Tetrachloroethane	71-121	1	0	18.36	20.00	92		19.33	20.00	97		20	5.20	
1,1,2-Trichlor-1,2,2-	70-136	1	0	23.26	20.00	116		22.45	20.00	112		20	3.50	
1,1,2-Trichloroethane	80-119	1	0	19.01	20.00	95		19.06	20.00	95		20	0.300	
1,1-Dichloroethane	77-125	1	0	18.00	20.00	90		17.73	20.00	89		20	1.50	
1,1-Dichloroethene	71-131	1	0	19.80	20.00	99		18.92	20.00	95		20	4.60	
1,1-Dichloropropene	78-125	1	0	21.48	20.00	107		20.69	20.00	103		20	3.80	
1,2,3-Trichlorobenzene	69-129	1	0	17.01	20.00	85		20.83	20.00	104		20	20.2	
1,2,3-Trichloropropane	73-122	1	0	19.17	20.00	96		18.6	20.00	93		20	3.00	
1,2,4-Trichlorobenzene	69-130	1	0	18.40	20.00	92		20.42	20.00	102		20	10.4	
1,2,4-Trimethylbenzene	76-124	1	0	20.67	20.00	103		20.6	20.00	103		20	0.300	
1,2-Dibromo-3-	62-128	1	0	17.82	20.00	89		20.34	20.00	102		20	13.2	
1,2-Dibromoethane	77-121	1	0	19.79	20.00	99		19.97	20.00	100		20	0.900	
1,2-Dichlorobenzene	80-119	1	0	19.67	20.00	98		20.16	20.00	101		20	2.50	
1,2-Dichloroethane	73-128	1	0	18.91	20.00	95		18.51	20.00	93		20	2.10	
1,2-Dichloropropane	78-122	1	0	18.84	20.00	94		18.62	20.00	93		20	1.10	
1,3,5-Trimethylbenzene	75-124	1	0	21.36	20.00	107		21.39	20.00	107		20	0.200	
1,3-Dichlorobenzene	80-119	1	0	20.21	20.00	101		20.08	20.00	100		20	0.600	
1,3-Dichloropropane	80-119	1	0	19.75	20.00	99		19.51	20.00	98		20	1.20	
1,4-Dichlorobenzene	79-118	1	0	20.38	20.00	102		20.57	20.00	103		20	0.900	
2,2-Dichloropropane	60-139	1	0	19.87	20.00	99		19.34	20.00	97		20	2.70	
2-Butanone	56-143	1	0	29.58	40.00	74		30.19	40.00	76		20	2.00	
2-Chlorotoluene	79-122	1	0	20.60	20.00	103		20.48	20.00	102		20	0.600	
2-Hexanone	57-139	1	0	36.73	40.00	92		38.26	40.00	96		20	4.10	
4-Chlorotoluene	78-122	1	0	20.83	20.00	104		20.71	20.00	104		20	0.600	
4-Isopropyltoluene	77-127	1	0	21.66	20.00	108		21.68	20.00	108		20	0.100	
4-Methyl-2-pentanone	67-130	1	0	38.68	40.00	97		39.65	40.00	99		20	2.50	
Acetone	39-160	1	0	25.41	40.00	64		26.55	40.00	66		20	4.40	
Benzene	79-120	1	0	19.89	20.00	100		19.31	20.00	97		20	3.00	
Bromobenzene	80-120	1	0	20.14	20.00	101		20.01	20.00	100		20	0.700	
Bromochloromethane	78-123	1	0	17.62	20.00	88		17.37	20.00	87		20	1.40	
Bromodichloromethane	79-125	1	0	18.61	20.00	93		18.37	20.00	92		20	1.30	
Bromoform	66-130	1	0	18.40	20.00	92		19.17	20.00	96		20	4.10	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110180**

35BWW26-221102		HS22110180-01		HS22110180-01MS				HS22110180-01MSD						
Sample Matrix Aqueous		**Run Date**	11/06/22	11/06/22				11/06/22						
Units µg/L		**Run Time**	15:08	15:50				16:11						
		Data File	X110610.D	X110612.D				X110613.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Bromomethane	53-141	1	0	20.02	20.00	100		19.14	20.00	96		20	4.50	
Carbon disulfide	64-133	1	0	35.70	40.00	89		34.64	40.00	87		20	3.00	
Carbon tetrachloride	72-136	1	0	22.56	20.00	113		22.55	20.00	113		20	0	
Chlorobenzene	82-118	1	0	20.70	20.00	104		20.05	20.00	100		20	3.20	
Chloroethane	60-138	1	0	18.44	20.00	92		18.03	20.00	90		20	2.20	
Chloroform	79-124	1	0	17.21	20.00	86		16.97	20.00	85		20	1.40	
Chloromethane	50-139	1	0	17.97	20.00	90		17.23	20.00	86		20	4.20	
cis-1,2-Dichloroethene	78-123	1	0	17.83	20.00	89		17.78	20.00	89		20	0.300	
cis-1,3-Dichloropropene	75-124	1	0	18.66	20.00	93		18.83	20.00	94		20	0.900	
Dibromochloromethane	74-126	1	0	19.14	20.00	96		19	20.00	95		20	0.700	
Dibromomethane	79-123	1	0	18.57	20.00	93		18.71	20.00	94		20	0.800	
Dichlorodifluoromethane	32-152	1	0	15.59	20.00	78		15.18	20.00	76		20	2.60	
Ethylbenzene	79-121	1	0	21.14	20.00	106		20.68	20.00	103		20	2.20	
Hexachlorobutadiene	66-134	1	0	22.88	20.00	114		23	20.00	115		20	0.500	
Isopropylbenzene	72-131	1	0	22.03	20.00	110		21.58	20.00	108		20	2.00	
m,p-Xylene	80-121	1	0	42.85	40.00	107		41.41	40.00	104		20	3.40	
Methylene chloride	74-124	1	0	18.24	20.00	91		18.2	20.00	91		20	0.200	
n-Butylbenzene	75-128	1	0	22.23	20.00	111		22.21	20.00	111		20	0.100	
n-Propylbenzene	76-126	1	0	21.89	20.00	109		21.56	20.00	108		20	1.50	
Naphthalene	61-128	1	0	16.25	20.00	81		20.49	20.00	102		20	23.1	
o-Xylene	78-122	1	0	20.94	20.00	105		20.27	20.00	101		20	3.20	
sec-Butylbenzene	77-126	1	0	22.71	20.00	114		22.71	20.00	114		20	0	
Styrene	78-123	1	0	20.97	20.00	105		20.76	20.00	104		20	1.00	
tert-Butylbenzene	78-124	1	0	22.55	20.00	113		22.37	20.00	112		20	0.800	
Tetrachloroethene	74-129	1	0	23.46	20.00	117		22.88	20.00	114		20	2.50	
Toluene	80-121	1	0	20.74	20.00	104		20.31	20.00	102		20	2.10	
trans-1,2-Dichloroethene	75-124	1	0	18.64	20.00	93		18.2	20.00	91		20	2.40	
trans-1,3-Dichloropropene	73-127	1	0	18.19	20.00	91		18.65	20.00	93		20	2.50	
Trichloroethene	79-123	1	0	20.54	20.00	103		19.73	20.00	99		20	4.00	
Trichlorofluoromethane	65-141	1	0	20.85	20.00	104		20.64	20.00	103		20	1.00	
Vinyl chloride	58-137	1	0	17.95	20.00	90		17.3	20.00	87		20	3.70	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

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Form 3B

Laboratory Control Sample Recovery

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

02/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

VOA6_421126		QC ID	VLCSW-221106			
QC Matrix Aqueous	Units	Run Date	11/06/22			
	ug/L	Run Time	13:23			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	20.11	101		
1,1,1-Trichloroethane	74-131	20	18.22	91		
1,1,2,2-Tetrachloroethane	71-121	20	20.88	104		
1,1,2-Trichlor-1,2,2-trifluoroethane	70-136	20	19.06	95		
1,1,2-Trichloroethane	80-119	20	20.28	101		
1,1-Dichloroethane	77-125	20	18.86	94		
1,1-Dichloroethene	71-131	20	18.88	94		
1,1-Dichloropropene	78-125	20	17.87	89		
1,2,3-Trichlorobenzene	69-129	20	20.55	103		
1,2,3-Trichloropropane	73-122	20	21.68	108		
1,2,4-Trichlorobenzene	69-130	20	19.45	97		
1,2,4-Trimethylbenzene	76-124	20	18.74	94		
1,2-Dibromo-3-chloropropane	62-128	20	22.91	115		
1,2-Dibromoethane	77-121	20	21.15	106		
1,2-Dichlorobenzene	80-119	20	20.05	100		
1,2-Dichloroethane	73-128	20	20.57	103		
1,2-Dichloroethane-d4	81-118	50	49.42	99		
1,2-Dichloropropane	78-122	20	19.98	100		
1,3,5-Trimethylbenzene	75-124	20	18.44	92		
1,3-Dichlorobenzene	80-119	20	19.59	98		
1,3-Dichloropropane	80-119	20	20.76	104		
1,4-Dichlorobenzene	79-118	20	20.06	100		
2,2-Dichloropropane	60-139	20	19.87	99		
2-Butanone	56-143	40	42.55	106		
2-Chlorotoluene	79-122	20	19.18	96		
2-Hexanone	57-139	40	44.99	112		
4-Bromofluorobenzene	85-114	50	49.79	100		
4-Chlorotoluene	78-122	20	19.64	98		
4-Isopropyltoluene	77-127	20	17.56	88		
4-Methyl-2-pentanone	67-130	40	43.09	108		
Acetone	39-160	40	47.99	120		
Benzene	79-120	20	19.73	99		
Bromobenzene	80-120	20	20.28	101		
Bromochloromethane	78-123	20	19.89	100		
Bromodichloromethane	79-125	20	20.23	101		
Bromoform	66-130	20	20.38	102		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by EPA 8260

VOA6_421126		QC ID	VLCSW-221106			
QC Matrix Aqueous	Units	Run Date	11/06/22			
	ug/L	Run Time	13:23			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Bromomethane	53-141	20	22.26	111		
Carbon disulfide	64-133	40	37.81	94		
Carbon tetrachloride	72-136	20	19.35	97		
Chlorobenzene	82-118	20	20.01	100		
Chloroethane	60-138	20	19.7	98		
Chloroform	79-124	20	19.14	96		
Chloromethane	50-139	20	21.74	109		
cis-1,2-Dichloroethene	78-123	20	20.17	101		
cis-1,3-Dichloropropene	75-124	20	20.89	104		
Dibromochloromethane	74-126	20	20.29	101		
Dibromofluoromethane	80-119	50	50.48	101		
Dibromomethane	79-123	20	20.55	103		
Dichlorodifluoromethane	32-152	20	19.4	97		
Ethylbenzene	79-121	20	18.57	93		
Hexachlorobutadiene	66-134	20	18.68	93		
Isopropylbenzene	72-131	20	17.88	89		
m,p-Xylene	80-121	40	38.78	97		
Methylene chloride	74-124	20	21.18	106		
Naphthalene	61-128	20	21.5	107		
n-Butylbenzene	75-128	20	17.98	90		
n-Propylbenzene	76-126	20	18.05	90		
o-Xylene	78-122	20	19.49	97		
sec-Butylbenzene	77-126	20	18.03	90		
Styrene	78-123	20	20.46	102		
tert-Butylbenzene	78-124	20	18.32	92		
Tetrachloroethene	74-129	20	19.1	96		
Toluene	80-121	20	19.53	98		
Toluene-d8	89-112	50	50.85	102		
trans-1,2-Dichloroethene	75-124	20	19.03	95		
trans-1,3-Dichloropropene	73-127	20	20.57	103		
Trichloroethene	79-123	20	19.25	96		
Trichlorofluoromethane	65-141	20	19.45	97		
Vinyl chloride	58-137	20	19.12	96		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Volatiles by by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-221106	X110608.D	11/06/22 14:26	VOA6_421126
VLCSW-221106	LCS	VLCSW-221106	X110605.D	11/06/22 13:23	VOA6_421126
Trip Blank-221102	SAMP	HS22110180-10	X110609.D	11/06/22 14:47	VOA6_421126
35BWW26-221102	SAMP	HS22110180-01	X110610.D	11/06/22 15:08	VOA6_421126
35BWW26-221102	MS	HS22110180-01MS	X110612.D	11/06/22 15:50	VOA6_421126
35BWW26-221102	MSD	HS22110180-01MSD	X110613.D	11/06/22 16:11	VOA6_421126
35BWW08-221102	SAMP	HS22110180-02	X110618.D	11/06/22 17:57	VOA6_421126
35BWW12-221102	SAMP	HS22110180-03	X110619.D	11/06/22 18:18	VOA6_421126
35BWW12-221102-FD	SAMP	HS22110180-04	X110620.D	11/06/22 18:39	VOA6_421126
35BWW07-221102	SAMP	HS22110180-05	X110621.D	11/06/22 19:00	VOA6_421126
35BWW13-221102	SAMP	HS22110180-06	X110622.D	11/06/22 19:21	VOA6_421126
35BWW16-221102	SAMP	HS22110180-07	X110623.D	11/06/22 19:42	VOA6_421126
35BWW17-221102	SAMP	HS22110180-08	X110624.D	11/06/22 20:03	VOA6_421126
35BWW17-221102-FD	SAMP	HS22110180-09	X110625.D	11/06/22 20:24	VOA6_421126

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Form 5

Instrument Performance Check

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 5 - Instrument Performance Check

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_420865

Tune File X110201.D 11/02/22 11:00

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	19.8 (19.8)
75	30.0 - 60.0% of mass 95	48.7 (48.7)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.9 (7.86)
173	Less than 2.0% of mass 174	0.7 (0.845) 1
174	50.0 - 120.0% of mass 95	87.7 (87.7)
175	4.0 - 9.0% of mass 174	7.4 (8.48) 1
176	93.0 - 101.0% of mass 174	85.8 (97.9) 1
177	5.0 - 9.0% of mass 176	5.9 (6.82) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	ICAL1	11/02/22 11:21	X110202	VSTD000.25
2	ICAL2	11/02/22 12:03	X110203	VSTD000.5
3	ICAL3	11/02/22 12:24	X110204	VSTD001
4	ICAL4	11/02/22 12:45	X110205	VSTD002
5	ICAL5	11/02/22 13:06	X110206	VSTD005
6	ICAL6	11/02/22 13:27	X110207	VSTD020
7	ICAL7	11/02/22 13:48	X110208	VSTD050
8	ICAL8	11/02/22 14:09	X110209	VSTD100
9	ICAL9	11/02/22 14:29	X110210	VSTD150
10	ICAL	11/02/22 14:50	X110211	VSTD200
11	ICV	11/02/22 15:53	X110214	CCV

Form 5 - Instrument Performance Check

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421126

Tune File X110601.D 11/06/22 11:59

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	18.6 (18.6)
75	30.0 - 60.0% of mass 95	49.2 (49.2)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	6.9 (6.91)
173	Less than 2.0% of mass 174	0.7 (0.818) 1
174	50.0 - 120.0% of mass 95	87.4 (87.4)
175	4.0 - 9.0% of mass 174	6.5 (7.49) 1
176	93.0 - 101.0% of mass 174	83.4 (95.4) 1
177	5.0 - 9.0% of mass 176	5.1 (6.15) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	11/06/22 12:20	X110602	CCV
2	CCB	11/06/22 13:02	X110604	CCB
3	LCS	11/06/22 13:23	X110605	VLCSW-221106
4	MBLK	11/06/22 14:26	X110608	VBLKW-221106
5	SAMP	11/06/22 14:47	X110609	Trip Blank-221102
6	SAMP	11/06/22 15:08	X110610	35BWW26-221102
7	MS	11/06/22 15:50	X110612	HS22110180-01MS
8	MSD	11/06/22 16:11	X110613	HS22110180-01MSD
9	SAMP	11/06/22 17:57	X110618	35BWW08-221102
10	SAMP	11/06/22 18:18	X110619	35BWW12-221102
11	SAMP	11/06/22 18:39	X110620	35BWW12-221102-FD
12	SAMP	11/06/22 19:00	X110621	35BWW07-221102
13	SAMP	11/06/22 19:21	X110622	35BWW13-221102
14	SAMP	11/06/22 19:42	X110623	35BWW16-221102
15	SAMP	11/06/22 20:03	X110624	35BWW17-221102
16	SAMP	11/06/22 20:24	X110625	35BWW17-221102-FD
17	CCV_EN	11/06/22 22:30	X110631	CCV-END

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Form 6

Initial Calibration Data

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121
ICAL End Date 02-NOV-2022 1450

Calibration Files

Level 1 ..voa6.i\X221102.b\X110202.D
Level 2 ..voa6.i\X221102.b\X110203.D
Level 3 ..voa6.i\X221102.b\X110204.D
Level 4 ..voa6.i\X221102.b\X110205.D
Level 5 ..voa6.i\X221102.b\X110206.D
Level 6 ..voa6.i\X221102.b\X110207.D
Level 7 ..voa6.i\X221102.b\X110208.D
Level 8 ..voa6.i\X221102.b\X110209.D
Level 9 ..voa6.i\X221102.b\X110210.D
Level 10 ..voa6.i\X221102.b\X110211.D

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dichlorodifluoromethane	NE 297188	3429 545177	6530 845446	12780 1230194	26672	106595	LINR	0.01212	0.46533		0.99702	
Chloromethane	NE 323298	4459 632506	7717 1037088	14962 1465350	34823	122267	LINR	0.02762	0.55867		0.99678	
Propionitrile	NE 0.06017	0.06103 0.05952	0.07418 0.06311	0.05761 0.06398	0.06503	0.06091	AVRG		0.06284		7.70028	
Vinyl Chloride	NE 0.56880	0.59793 0.51233	0.66139 0.54332	0.57481 0.55661	0.55479	0.52923	AVRG		0.56658		7.68389	
Bromomethane	NE 209754	2842 422631	4926 681885	9723 954942	22869	78782	LINR	0.02537	0.36556		0.99773	
Chloroethane	NE 0.35285	0.40329 0.32246	0.35851 0.34233	0.36278 0.34236	0.34852	0.34560	AVRG		0.35319		6.24332	
Trichlorofluoromethane	NE 0.73842	0.83246 0.67828	0.73499 0.70338	0.73445 0.72281	0.66774	0.68629	AVRG		0.72209		6.79714	
Acrolein	NE 33355	462 92414	845 142790	1752 207953	4394	13448	QUAD	0.03963	31.24923	-20.88143	0.99830	
Acetone	NE 218510	4640 425910	6765 654774	13965 911307	26617	88131	LINR	-0.02975	0.17399		0.99912	
1,1-Dichloroethene	NE 0.42450	0.49196 0.39338	0.44737 0.40708	0.43346 0.41576	0.41098	0.40413	AVRG		0.42540		6.99928	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isobutyl Alcohol	NE 0.07236	0.08118 0.06959	0.06875 0.07482	0.07900 0.07511	0.07863	0.07272	AVRG		0.07468		5.73986	
Acetonitrile	NE 0.05553	0.06985 0.05662	0.06026 0.06035	0.05598 0.06249	0.06447	0.05362	AVRG		0.05991		8.58442	
Allyl Chloride	NE 1.02397	1.27366 1.02976	1.26555 1.10910	1.08432 1.14461	1.17004	1.02900	AVRG		1.12556		8.58311	
Iodomethane	NE 699146	2633 1484901	5322 2411390	13190 3520582	42677	219182	QUAD	0.04612	1.82986	-0.06910	0.99961	
Acrylonitrile	NE 0.16167	0.17066 0.16129	0.15644 0.17360	0.14773 0.17854	0.16920	0.15195	AVRG		0.16345		6.31449	
Methylene Chloride	NE 0.52806	0.52624 0.47720	0.66334 0.51695	0.58304 0.51581	0.53685	0.54792	AVRG		0.54394		9.72605	
Methyl tert-butyl ether	NE 1.38749	1.62553 1.36292	1.71631 1.45919	1.51484 1.48239	1.55003	1.38192	AVRG		1.49785		7.92046	
Carbon Disulfide	NE 1.27996	1.43130 1.18188	1.35361 1.27516	1.31896 1.34155	1.24131	1.20524	AVRG		1.29211		6.05899	
trans-1,2-Dichloroethene	NE 0.46803	0.52146 0.43281	0.49426 0.46992	0.48342 0.47833	0.45453	0.44531	AVRG		0.47201		5.64813	
Vinyl Acetate	NE 1.32081	1.43393 1.30935	1.34623 1.38678	1.16518 1.35654	1.35174	1.30478	AVRG		1.33059		5.55947	
1,1-Dichloroethane	NE 0.82097	0.97453 0.76961	0.88991 0.83865	0.83081 0.85021	0.86123	0.81055	AVRG		0.84961		6.78490	
Chloroprene	NE 0.19292	0.23238 0.17674	0.18951 0.18349	0.20339 0.18837	0.18390	0.17255	AVRG		0.19147		9.28306	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
2-Butanone	NE	0.15814	0.18070	0.17370	0.15325	0.17284						
	0.18256	0.18391	0.20125	0.20260			AVRG		0.17877		9.39260	
Methacrylonitrile	NE	0.45900	0.49163	0.46960	0.42179	0.42751						
	0.41798	0.42801	0.45829	0.45798			AVRG		0.44798		5.63851	
2,2-Dichloropropane	NE	4986	8534	18203	40842	154367						
	420710	855682	1354293	1890675			LINR	0.02442	0.72608		0.99852	
cis-1,2-Dichloroethene	NE	0.58936	0.55345	0.55409	0.56050	0.53402						
	0.54098	0.51732	0.55490	0.55878			AVRG		0.55149		3.61194	
Chloroform	NE	1.06748	1.07425	0.96249	0.95008	0.86783						
	0.90046	0.85520	0.92220	0.92060			AVRG		0.94673		8.27759	
Bromochloromethane	NE	0.31001	0.31221	0.31079	0.30452	0.28216						
	0.28579	0.27044	0.29551	0.29433			AVRG		0.29620		4.92471	
1,1,1-Trichloroethane	NE	0.82718	0.75738	0.74590	0.68270	0.66076						
	0.71018	0.67713	0.73755	0.75544			AVRG		0.72825		7.09268	
1,1-Dichloropropene	NE	0.47711	0.40348	0.39512	0.38529	0.36628						
	0.39689	0.37727	0.39527	0.41179			AVRG		0.40094		7.89427	
1,2-Dichloroethane	NE	0.47100	0.47820	0.44658	0.46782	0.43866						
	0.45061	0.42627	0.45237	0.45724			AVRG		0.45430		3.60765	
Carbon Tetrachloride	NE	3603	6722	14550	29235	115509						
	330146	675692	1088682	1571835			QUAD	-0.00312	3.10063	-0.33339	0.99973	
Benzene	NE	1.31960	1.33103	1.22790	1.24664	1.17580						
	1.23105	1.16003	1.23615	1.23706			AVRG		1.24058		4.54471	
Trichloroethene	NE	0.35222	0.36754	0.35244	0.35799	0.32993						
	0.34553	0.32593	0.34912	0.35584			AVRG		0.34851		3.79471	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Bromodichloromethane	NE 0.43466	0.45920 0.42500	0.43474 0.46135	0.42786 0.46375	0.43596	0.41991	AVRG		0.44027		3.79770	
Methyl Methacrylate	NE 0.43567	0.48075 0.44618	0.53479 0.46749	0.42419 0.47841	0.47275	0.42154	AVRG		0.46242		7.67422	
2-Chloroethylvinyl ether	NE 0.15211	0.15052 0.14908	0.13252 0.16202	0.13568 0.16050	0.13710	0.14054	AVRG		0.14668		7.34043	
1,2-Dichloropropane	NE 0.33161	0.32758 0.31619	0.37232 0.33800	0.33438 0.33725	0.35210	0.31636	AVRG		0.33620		5.20975	
Dibromomethane	NE 0.22059	0.24018 0.21280	0.24555 0.22625	0.23064 0.22656	0.23174	0.21418	AVRG		0.22761		4.80760	
4-Methyl-2-Pentanone	NE 0.32047	0.27927 0.31556	0.33023 0.32934	0.31420 0.33187	0.34731	0.32285	AVRG		0.32123		5.80852	
cis-1,3-Dichloropropene	NE 0.56053	0.55134 0.55212	0.53525 0.59082	0.53024 0.59137	0.55074	0.53149	AVRG		0.55488		4.14525	
Ethyl Methacrylate	NE 0.49673	0.50669 0.50932	0.49662 0.52207	0.47258 0.52538	0.47329	0.47389	AVRG		0.49740		4.12697	
Toluene	NE 1.40184	1.60135 1.34037	1.49798 1.39440	1.47136 1.40064	1.41498	1.34679	AVRG		1.42997		5.73479	
trans-1,3-Dichloropropene	NE 0.48715	0.50175 0.48431	0.44865 0.51870	0.42091 0.51731	0.45683	0.46118	AVRG		0.47742		6.92189	
2-Hexanone	NE 0.22240	0.17690 0.22005	0.20528 0.23183	0.19306 0.23182	0.24033	0.22493	AVRG		0.21629		9.53063	
1,1,2-Trichloroethane	NE 0.27760	0.31259 0.26766	0.29921 0.27876	0.30223 0.27906	0.29464	0.26835	AVRG		0.28668		5.56326	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,3-Dichloropropane	NE 0.55753	0.59716 0.54667	0.57890 0.56603	0.56778 0.56294	0.58939	0.55414	AVRG		0.56895		2.91802	
Dibromochloromethane	NE 0.36360	0.41098 0.36705	0.36601 0.39044	0.33127 0.39285	0.35543	0.33956	AVRG		0.36858		6.98690	
Tetrachloroethene	NE 265562	3113 537869	5774 820825	11325 1158518	24282	93484	LINR	0.01088	0.28885		0.99938	
1,2-Dibromoethane	NE 0.35641	0.37147 0.34557	0.37198 0.36086	0.34606 0.36086	0.36660	0.34432	AVRG		0.35824		3.04745	
1-Chlorohexane	NE 271539	2660 542443	4864 825800	10330 1185153	22049	94062	QUAD	-0.00258	3.78290	-0.28973	0.99962	
Chlorobenzene	NE 0.95693	1.05204 0.91609	1.00983 0.95596	0.97163 0.95706	0.96043	0.91338	AVRG		0.96593		4.46923	
1,1,1,2-Tetrachloroethane	NE 0.34448	0.36224 0.33868	0.34874 0.35563	0.32561 0.35867	0.33163	0.31912	AVRG		0.34276		4.41305	
Ethylbenzene	NE 0.48391	0.57093 0.46243	0.53384 0.47560	0.51361 0.48330	0.45422	0.44506	AVRG		0.49143		8.31572	
m,p-Xylenes	NE 0.61540	0.70381 0.58247	0.61638 0.60400	0.62234 0.61170	0.58078	0.56587	AVRG		0.61142		6.49174	
o-Xylene	NE 0.59652	0.67843 0.57019	0.56914 0.59283	0.61124 0.59972	0.57854	0.55783	AVRG		0.59494		5.99901	
Styrene	NE 1.04627	1.05001 1.00074	0.96018 1.04999	0.92641 1.04720	0.95812	0.96748	AVRG		1.00071		4.89232	
Bromoform	NE 213545	1417 455371	3497 743207	6935 1034542	16655	70538	LINR	0.04886	0.25986		0.99812	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isopropylbenzene	NE 1.47554	1.70975 1.39897	1.43840 1.43246	1.51181 1.46037	1.34077	1.31912	AVRG		1.45413		7.84119	
1,1,2,2-Tetrachloroethane	NE 0.77217	0.93455 0.75616	0.88153 0.79987	0.87644 0.79363	0.85280	0.78783	AVRG		0.82833		7.27421	
1,2,3-Trichloropropane	NE 0.60146	0.66291 0.64425	0.63129 0.62441	0.64408 0.61801	0.65087	0.59344	AVRG		0.63008		3.65711	
trans-1,4-Dichloro-2-butene	NE 0.11550	0.11020 0.11585	0.10945 0.12372	0.10046 0.12583	0.10065	0.10624	AVRG		0.11199		8.11368	
n-Propylbenzene	NE 3.28862	3.85903 3.15617	3.09280 3.25930	3.51346 3.32121	3.21711	3.07625	AVRG		3.30933		7.40247	
Bromobenzene	NE 0.83941	0.92002 0.80798	0.92587 0.85380	0.84021 0.85111	0.88060	0.82192	AVRG		0.86010		4.76827	
1,3,5-Trimethylbenzene	NE 2.34689	2.62995 2.24465	2.22016 2.35747	2.46005 2.38498	2.34893	2.19020	AVRG		2.35370		5.72280	
2-Chlorotoluene	NE 2.01962	2.40382 1.91797	2.20694 2.01450	2.19136 2.02216	2.08160	1.94840	AVRG		2.08960		7.32452	
4-Chlorotoluene	NE 2.35947	2.67499 2.24695	2.34522 2.38123	2.39438 2.38552	2.33760	2.23282	AVRG		2.37313		5.36388	
tert-Butylbenzene	NE 943173	10031 1882621	16562 2915343	36475 4031806	85892	319359	LINR	0.01102	1.95583		0.99945	
1,2,4-Trimethylbenzene	NE 2.38470	2.89183 2.27989	2.34183 2.38489	2.50808 2.39888	2.35886	2.27599	AVRG		2.42499		7.76011	
sec-Butylbenzene	NE 1306428	14692 2635190	22328 4032110	49508 5691384	119935	434443	LINR	0.01688	2.74520		0.99914	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
p-Isopropyltoluene	NE 2.37795	2.81034 2.29341	2.29831 2.36382	2.48342 2.42982	2.42389	2.15392	AVRG		2.40387		7.50978	
1,3-Dichlorobenzene	NE 1.41322	1.65251 1.35591	1.43116 1.43755	1.46385 1.43131	1.40600	1.35331	AVRG		1.43831		6.13650	
1,4-Dichlorobenzene	NE 1.45758	1.70374 1.40265	1.51657 1.48639	1.52174 1.47173	1.45185	1.40747	AVRG		1.49108		6.03035	
Benzyl Chloride	NE 517481	3833 1177662	6229 1988635	12986 2765200	30801	154397	LINR	0.08034	0.69815		0.99615	
n-Butylbenzene	NE 2.10134	2.03567 2.04969	1.71592 2.13287	2.05230 2.21557	2.12811	1.86741	AVRG		2.03321		7.49217	
1,2-Dichlorobenzene	NE 1.33412	1.51383 1.28869	1.38156 1.36544	1.34378 1.35428	1.30700	1.28239	AVRG		1.35234		5.13056	
1,2-Dibromo-3-Chloropropane	NE 39321	208 80027	551 131273	1348 190166	3069	13558	LINR	0.05432	0.09102		0.99577	
1,2,4-Trichlorobenzene	NE 0.60935	0.72248 0.61450	0.56098 0.65146	0.59524 0.67123	0.63985	0.58519	AVRG		0.62781		7.84674	
Hexachlorobutadiene	NE 183666	2121 389797	3613 596017	7459 862380	19835	62614	QUAD	-0.01108	2.80395	-0.24906	0.99991	
Naphthalene	NE 0.93769	1.06799 0.93964	0.96963 1.02600	0.98546 1.06424	0.92105	0.88439	AVRG		0.97734		6.57788	
1,2,3-Trichlorobenzene	NE 0.42966	0.52590 0.42241	0.46668 0.45699	0.44514 0.46862	0.44724	0.41280	AVRG		0.45283		7.38732	
Ethyl Acetate	NE 0.49352	0.53184 0.48324	0.57762 0.51507	0.54925 0.50813	0.54763	0.51946	AVRG		0.52508		5.65942	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
n-Butanol	NE 0.00899	0.00996 0.00918	0.00993 0.01093	0.00939 0.01098	0.00794	0.00799	AVRG		0.00948		11.62165	
1,4-Dioxane	0.00534 0.00494	0.00560 0.00483	0.00522 0.00554	0.00530 0.00549	0.00558	0.00549	AVRG		0.00533		4.98260	
n-Hexane	NE 271751	3089 537883	6218 808535	11975 1178645	23621	89079	QUAD	-0.00947	2.51571	-0.17024	0.99931	
Freon TF	NE 253752	2725 483822	5530 718526	10801 1027791	21790	86773	QUAD	-0.01253	2.70148	-0.10532	0.99907	
Methyl Acetate	NE 0.31259	0.32188 0.30211	0.27261 0.32893	0.25062 0.33525	0.30396	0.30595	AVRG		0.30377		8.88907	
Methylcyclohexane	NE 0.65976	0.68560 0.76582	0.65971 0.79008	0.63920 0.82632	0.57369	0.62799	AVRG		0.69202		12.10285	
Isopropyl alcohol	NE 0.02216	0.02248 0.02077	0.02932 0.02363	0.02274 0.02372	0.02184	0.02279	AVRG		0.02327		10.48000	
Allyl alcohol	NE 271751	3753 537883	6218 808535	11975 1178645	23621	89079	QUAD	-0.20205	50.34337	-3.41765	0.99932	
Tert-butyl alcohol	NE 0.04002	0.04131 0.03836	0.04617 0.04379	0.04557 0.04433	0.04390	0.04110	AVRG		0.04273		6.19602	
Diethyl ether	NE 0.37035	0.44334 0.35743	0.44110 0.36869	0.40265 0.37018	0.41648	0.37269	AVRG		0.39366		8.42041	
1,3-Butadiene	NE 0.44574	0.46163 0.38960	0.38115 0.41344	0.44930 0.42854	0.41318	0.38955	AVRG		0.41912		6.94096	
Cyclohexane	NE 364971	3707 712197	7388 1067181	15540 1557359	29825	129515	QUAD	-0.01364	1.88979	-0.09004	0.99917	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Tetrahydrofuran	NE 0.07517	0.09106 0.07406	0.08352 0.07916	0.07936 0.08104	0.07330	0.07710	AVRG		0.07931		6.97035	
alpha-Methylstyrene	NE 1.21593	1.31248 1.17185	1.12382 1.24058	1.16763 1.24211	1.13845	1.13931	AVRG		1.19468		5.22604	
1,2,3-Trimethylbenzene	NE 2.08128	2.72384 2.17580	2.88970 2.23839	2.42190 2.27387	2.38176	2.03722	AVRG		2.35820		12.13600	
Epichlorohydrin	NE 0.02607	0.02954 0.02605	0.03520 0.02750	0.02468 0.02777	0.02683	0.02664	AVRG		0.02781		11.07798	
Acetaldehyde	NE 87732	NE 175492	3990 238390	7954 319029	11340	36475	LINR	-0.37958	0.03085		0.99785	
Dimethyl Disulfide	NE 0.61114	0.62046 0.66910	0.59192 0.71995	0.54613 0.75320	0.55446	0.52580	AVRG		0.62135		12.67486	
1,2-Dichloroethylene (total)	NE 0.50450	0.55541 0.47507	0.52386 0.51241	0.51875 0.51855	0.50752	0.48966	AVRG		0.51175		4.39822	
Xylenes (total)	NE 0.59307	0.65046 0.56341	0.56214 0.58932	0.57890 0.59254	0.54915	0.54021	AVRG		0.57991		5.62425	
Dibromofluoromethane	NE 268120	2793 644427	5826 955571	12360 1291187	33597	118974	LINR	0.01087	0.50369		0.99920	
1,2-Dichloroethane-d4	NE 325660	3566 728330	7575 1107394	14779 1492777	36714	136082	LINR	0.00858	0.58127		0.99951	
Toluene-d8	NE 1.01385	1.27345 1.25259	1.24561 1.20325	1.23261 1.17166	1.23581	1.23088	AVRG		1.20663		6.46014	
4-Bromofluorobenzene	NE 391515	4822 920950	9099 1366640	17955 1839541	43112	161062	LINR	0.00530	0.46798		0.99944	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450 ICAL Summary Page 10 / 10

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

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Form 6I

Initial Calibration Verification (ICV)

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

Instrument ID voa6.i ICAL Date 02-NOV-2022
Lab File ID X110214.D ICAL Time 1348
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachlor	50.00	48.68	97.37	80-120	
1,1,1-Trichloroeth	50.00	42.72	85.45	80-120	
1,1,2,2-Tetrachlor	50.00	45.85	91.72	80-120	
Freon TF	50.00	43.00	86.01	80-120	
Methyl Acetate	50.00	47.23	94.47	80-120	
Cyclohexane	50.00	41.77	83.55	80-120	
Methylcyclohexane	50.00	50.06	100.13	80-120	
Carbon Disulfide	100.00	86.28	86.29	80-120	
2-Hexanone	100.00	97.95	97.96	80-120	
1,1,2-Trichloroeth	50.00	47.12	94.25	80-120	
1,1-Dichloroethane	50.00	44.33	88.67	80-120	
1,1-Dichloroethene	50.00	41.65	83.32	80-120	
1,1-Dichloropropen	50.00	42.85	85.72	80-120	
1,2,3-Trichloroben	50.00	48.64	97.29	80-120	
1,2,3-Trichloropro	50.00	46.19	92.38	80-120	
1,2,4-Trichloroben	50.00	47.95	95.91	80-120	
1,2,4-Trimethylben	50.00	44.06	88.13	80-120	
1,2-Dibromo-3-Chlo	50.00	45.32	90.66	80-120	
1,2-Dibromoethane	50.00	47.72	95.45	80-120	
Acrolein	100.00	99.21	99.21	80-120	
Acrylonitrile	100.00	88.84	88.84	80-120	
1,2-Dichlorobenzen	50.00	46.37	92.75	80-120	
1,2-Dichloroethane	50.00	47.48	94.97	80-120	
1,2-Dichloropropan	50.00	46.52	93.04	80-120	
1,3,5-Trimethylben	50.00	43.95	87.90	80-120	
1,3-Dichlorobenzen	50.00	46.02	92.05	80-120	
1,3-Dichloropropan	50.00	47.58	95.17	80-120	
1,4-Dichlorobenzen	50.00	46.59	93.19	80-120	
1-Chlorohexane	50.00	42.31	84.62	80-120	
2,2-Dichloropropan	50.00	45.35	90.70	80-120	
2-Butanone	100.00	96.49	96.50	80-120	
2-Chlorotoluene	50.00	44.39	88.79	80-120	
4-Chlorotoluene	50.00	45.63	91.26	80-120	
p-Isopropyltoluene	50.00	41.61	83.24	80-120	

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

Instrument ID voa6.i ICAL Date 02-NOV-2022
Lab File ID X110214.D ICAL Time 1348
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
4-Methyl-2-Pentano	100.00	94.29	94.29	80-120	
Acetone	100.00	91.21	91.21	80-120	
Benzene	50.00	45.79	91.59	80-120	
Bromobenzene	50.00	46.80	93.62	80-120	
Bromochloromethane	50.00	45.52	91.04	80-120	
Bromodichlorometha	50.00	47.79	95.60	80-120	
Bromoform	50.00	46.57	93.14	80-120	
Bromomethane	50.00	46.34	92.69	80-120	
Carbon Tetrachlori	50.00	46.32	92.65	80-120	
Chlorobenzene	50.00	46.61	93.23	80-120	
Chloroethane	50.00	43.61	87.23	80-120	
Chloroform	50.00	44.02	88.06	80-120	
Chloromethane	50.00	46.10	92.20	80-120	
cis-1,2-Dichloroet	50.00	45.17	90.36	80-120	
cis-1,3-Dichloropr	50.00	48.76	97.53	80-120	
Dibromochlorometha	50.00	49.27	98.54	80-120	
Dibromomethane	50.00	46.01	92.03	80-120	
Dichlorodifluorome	50.00	44.98	89.97	80-120	
Ethylbenzene	50.00	43.66	87.33	80-120	
Hexachlorobutadien	50.00	48.93	97.87	80-120	
Isopropylbenzene	50.00	41.98	83.97	80-120	
m,p-Xylenes	100.00	88.92	88.92	80-120	
Methyl tert-butyl	50.00	45.23	90.47	80-120	
Methylene Chloride	50.00	45.13	90.28	80-120	
n-Butylbenzene	50.00	43.38	86.77	80-120	
n-Propylbenzene	50.00	42.50	85.02	80-120	
Naphthalene	50.00	49.60	99.21	80-120	
o-Xylene	50.00	45.56	91.14	80-120	
sec-Butylbenzene	50.00	41.38	82.77	80-120	
Styrene	50.00	48.52	97.06	80-120	
tert-Butylbenzene	50.00	42.13	84.27	80-120	
Tetrachloroethene	50.00	43.16	86.33	80-120	
Toluene	50.00	45.51	91.03	80-120	
trans-1,2-Dichloro	50.00	43.86	87.73	80-120	

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_420865

Volatiles Organics by Method 8260C

Instrument ID voa6.i ICAL Date 02-NOV-2022
Lab File ID X110214.D ICAL Time 1348
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
trans-1,3-Dichloro	50.00	50.11	100.23	80-120	
Trichloroethene	50.00	44.09	88.20	80-120	
Trichlorofluoromet	50.00	42.90	85.81	80-120	
Vinyl Chloride	50.00	42.24	84.49	80-120	
1,2-Dichloroethyle	100.00	89.04	89.04	80-120	
Xylenes (total)	150.00	134.48	89.66	80-120	
1,4-Dioxane	1000.00	859.70	85.97	80-120	
Dibromofluorometha	50.00	49.81	99.62	71-125	
1,2-Dichloroethane	50.00	48.66	97.34	70-125	
Toluene-d8	50.00	50.80	101.62	75-125	
4-Bromofluorobenze	50.00	50.85	101.71	72-125	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 1220
Lab File ID X110602.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00533	0.00529	0.00529	0.001	0.86475	20.0	Averaged	
1,3-Butadiene	0.41912	0.38685	0.38685	0.100	7.70165	20.0	Averaged	
Methacrylonitrile	0.44798	0.45711	0.45711	0.100	-2.03825	20.0	Averaged	
Isobutyl Alcohol	0.07468	0.07250	0.07250	0.005	2.92377	20.0	Averaged	
Acetonitrile	0.05991	0.05499	0.05499	0.005	8.21442	20.0	Averaged	
Allyl Chloride	1.12556	1.05018	1.05018	0.100	6.69659	20.0	Averaged	
Propionitrile	0.06284	0.06363	0.06363	0.010	-1.26903	20.0	Averaged	
n-Hexane	50.0	47.00010	0.38758	0.100	5.99981	20.0	Quadratic	
trans-1,4-Dichloro-2-butene	0.11199	0.11631	0.11631	0.050	-3.86179	20.0	Averaged	
Chloroprene	0.19147	0.16789	0.16789	0.100	12.31780	20.0	Averaged	
Ethyl Acetate	0.52508	0.52151	0.52151	0.100	0.68160	20.0	Averaged	
Methyl Methacrylate	0.46242	0.46506	0.46506	0.100	-0.57121	20.0	Averaged	
Ethyl Methacrylate	0.49740	0.52044	0.52044	0.100	-4.63161	20.0	Averaged	
Dichlorodifluoromethane	50.0	46.10123	0.42341	0.100	7.79755	20.0	Linear	
Chloromethane	50.0	46.68344	0.50618	0.100	6.63313	20.0	Linear	
Vinyl Chloride	0.56658	0.49823	0.49823	0.100	12.06334	20.0	Averaged	
Bromomethane	50.0	47.02139	0.33451	0.100	5.95722	20.0	Linear	
Chloroethane	0.35319	0.32173	0.32173	0.100	8.90773	20.0	Averaged	
Trichlorofluoromethane	0.72209	0.66185	0.66185	0.100	8.34227	20.0	Averaged	
Acrolein	100	96.14686	0.03146	0.010	3.85314	20.0	Quadratic	
Acetone	100	108	0.19129	0.100	-8.45687	20.0	Linear	
1,1-Dichloroethene	0.42540	0.37657	0.37657	0.100	11.48015	20.0	Averaged	
Iodomethane	100	98.32854	0.54738	0.100	1.67146	20.0	Quadratic	
Acrylonitrile	0.16345	0.16430	0.16430	0.050	-0.51953	20.0	Averaged	
Methylene Chloride	0.54394	0.49542	0.49542	0.100	8.91971	20.0	Averaged	
Methyl tert-butyl ether	1.49785	1.43567	1.43567	0.100	4.15097	20.0	Averaged	
Carbon Disulfide	1.29211	1.14344	1.14344	0.100	11.50572	20.0	Averaged	
trans-1,2-Dichloroethene	0.47201	0.42716	0.42716	0.100	9.50055	20.0	Averaged	
Vinyl Acetate	1.33059	1.37919	1.37919	0.010	-3.65234	20.0	Averaged	
1,1-Dichloroethane	0.84961	0.77659	0.77659	0.200	8.59469	20.0	Averaged	
2-Butanone	0.17877	0.19821	0.19821	0.100	-10.87142	20.0	Averaged	
2,2-Dichloropropane	50.0	47.18025	0.66740	0.100	5.63949	20.0	Linear	
cis-1,2-Dichloroethene	0.55149	0.51170	0.51170	0.100	7.21515	20.0	Averaged	
Chloroform	0.94673	0.86482	0.86482	0.200	8.65236	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 1220
Lab File ID X110602.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Bromochloromethane	0.29620	0.27677	0.27677	0.100	6.56018	20.0	Averaged	
Dibromofluoromethane	50.0	50.47036	0.50296	0.100	-0.94072	20.0	Linear	
1,1,1-Trichloroethane	0.72825	0.64582	0.64582	0.100	11.31896	20.0	Averaged	
1,1-Dichloropropene	0.40094	0.36047	0.36047	0.100	10.09338	20.0	Averaged	
1,2-Dichloroethane	0.45430	0.44345	0.44345	0.100	2.38870	20.0	Averaged	
Carbon Tetrachloride	50.0	47.84917	0.32071	0.100	4.30166	20.0	Quadratic	
1,2-Dichloroethane-d4	50.0	49.16948	0.56663	0.100	1.66103	20.0	Linear	
Benzene	1.24058	1.17059	1.17059	0.500	5.64175	20.0	Averaged	
Trichloroethene	0.34851	0.31794	0.31794	0.200	8.77020	20.0	Averaged	
Bromodichloromethane	0.44027	0.42892	0.42892	0.200	2.57659	20.0	Averaged	
2-Chloroethylvinyl ether	0.14668	0.14752	0.14752	0.001	-0.57868	20.0	Averaged	
1,2-Dichloropropane	0.33620	0.32173	0.32173	0.100	4.30319	20.0	Averaged	
Dibromomethane	0.22761	0.21981	0.21981	0.100	3.42675	20.0	Averaged	
4-Methyl-2-Pentanone	0.32123	0.33015	0.33015	0.100	-2.77658	20.0	Averaged	
cis-1,3-Dichloropropene	0.55488	0.55591	0.55591	0.200	-0.18637	20.0	Averaged	
Toluene-d8	1.20663	1.24686	1.24686	0.100	-3.33387	20.0	Averaged	
Toluene	1.42997	1.33216	1.33216	0.400	6.83954	20.0	Averaged	
trans-1,3-Dichloropropene	0.47742	0.49026	0.49026	0.100	-2.68883	20.0	Averaged	
2-Hexanone	0.21629	0.23061	0.23061	0.100	-6.62401	20.0	Averaged	
1,1,2-Trichloroethane	0.28668	0.27438	0.27438	0.100	4.28901	20.0	Averaged	
1,3-Dichloropropane	0.56895	0.56120	0.56120	0.100	1.36128	20.0	Averaged	
Dibromochloromethane	0.36858	0.36407	0.36407	0.100	1.22383	20.0	Averaged	
Tetrachloroethene	50.0	46.23449	0.26396	0.200	7.53102	20.0	Linear	
1,2-Dibromoethane	0.35824	0.35909	0.35909	0.100	-0.23935	20.0	Averaged	
1-Chlorohexane	50.0	46.81226	0.25308	0.100	6.37548	20.0	Quadratic	
Chlorobenzene	0.96593	0.91605	0.91605	0.500	5.16334	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.34276	0.33394	0.33394	0.100	2.57129	20.0	Averaged	
Ethylbenzene	0.49143	0.44744	0.44744	0.100	8.95121	20.0	Averaged	
m,p-Xylenes	0.61142	0.56787	0.56787	0.100	7.12221	20.0	Averaged	
o-Xylene	0.59494	0.55583	0.55583	0.300	6.57400	20.0	Averaged	
Styrene	1.00071	0.98474	0.98474	0.300	1.59574	20.0	Averaged	
Bromoform	50.0	47.35572	0.23342	0.100	5.28856	20.0	Linear	
Isopropylbenzene	1.45413	1.31340	1.31340	0.100	9.67791	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.82833	0.81627	0.81627	0.300	1.45566	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 1220
Lab File ID X110602.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Bromofluorobenzene	50.0	50.60000	0.47112	0.100	-1.20000	20.0	Linear	
1,2,3-Trichloropropane	0.63008	0.64161	0.64161	0.100	-1.83056	20.0	Averaged	
n-Propylbenzene	3.30933	3.07444	3.07444	0.100	7.09779	20.0	Averaged	
Bromobenzene	0.86010	0.83990	0.83990	0.100	2.34827	20.0	Averaged	
1,3,5-Trimethylbenzene	2.35370	2.20353	2.20353	0.100	6.38025	20.0	Averaged	
2-Chlorotoluene	2.08960	1.94718	1.94718	0.100	6.81565	20.0	Averaged	
4-Chlorotoluene	2.37313	2.26997	2.26997	0.100	4.34717	20.0	Averaged	
tert-Butylbenzene	50.0	45.84364	1.77169	0.100	8.31271	20.0	Linear	
1,2,4-Trimethylbenzene	2.42499	2.27736	2.27736	0.100	6.08786	20.0	Averaged	
sec-Butylbenzene	50.0	45.77134	2.46669	0.100	8.45732	20.0	Linear	
p-Isopropyltoluene	2.40387	2.18140	2.18140	0.100	9.25490	20.0	Averaged	
1,3-Dichlorobenzene	1.43831	1.36153	1.36153	0.600	5.33843	20.0	Averaged	
1,4-Dichlorobenzene	1.49108	1.43234	1.43234	0.400	3.93955	20.0	Averaged	
n-Butylbenzene	2.03321	1.91293	1.91293	0.500	5.91583	20.0	Averaged	
1,2-Dichlorobenzene	1.35234	1.29062	1.29062	0.400	4.56403	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	53.02768	0.09159	0.040	-6.05535	20.0	Linear	
1,2,4-Trichlorobenzene	0.62781	0.60046	0.60046	0.100	4.35537	20.0	Averaged	
Hexachlorobutadiene	50.0	48.30415	0.36001	0.100	3.39171	20.0	Quadratic	
Naphthalene	0.97734	1.07074	1.07074	0.200	-9.55576	20.0	Averaged	
1,2,3-Trichlorobenzene	0.45283	0.44637	0.44637	0.010	1.42521	20.0	Averaged	
1,2-Dichloroethylene (total	0.51175	0.46943	0.46943	0.200	8.26911	20.0	Averaged	
Xylenes (total)	0.57991	0.54526	0.54526	0.100	5.97525	20.0	Averaged	
Cyclohexane	50.0	46.80336	0.51519	0.100	6.39328	20.0	Quadratic	
Freon TF	50.0	47.02721	0.35779	0.100	5.94559	20.0	Quadratic	
Methylcyclohexane	0.69202	0.71167	0.71167	0.100	-2.84000	20.0	Averaged	
Methyl Acetate	0.30377	0.31477	0.31477	0.100	-3.62374	20.0	Averaged	
Tert-butyl alcohol	0.04273	0.04289	0.04289	0.005	-0.38325	20.0	Averaged	
Isopropyl alcohol	0.02327	0.02359	0.02359	0.005	-1.37016	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 2230
Lab File ID X110631.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00533	0.00566	0.00566	0.001	-6.25189	50.0	Averaged	
1,3-Butadiene	0.41912	0.45456	0.45456	0.100	-8.45528	50.0	Averaged	
Methacrylonitrile	0.44798	0.45022	0.45022	0.100	-0.50039	50.0	Averaged	
Isobutyl Alcohol	0.07468	0.07251	0.07251	0.005	2.90519	50.0	Averaged	
Acetonitrile	0.05991	0.05783	0.05783	0.005	3.46692	50.0	Averaged	
Allyl Chloride	1.12556	1.07427	1.07427	0.100	4.55655	50.0	Averaged	
Propionitrile	0.06284	0.06494	0.06494	0.010	-3.34708	50.0	Averaged	
n-Hexane	50.0	52.41973	0.43320	0.100	-4.83946	50.0	Quadratic	
trans-1,4-Dichloro-2-butene	0.11199	0.11256	0.11256	0.050	-0.50711	50.0	Averaged	
Chloroprene	0.19147	0.20294	0.20294	0.100	-5.99022	50.0	Averaged	
Ethyl Acetate	0.52508	0.52961	0.52961	0.100	-0.86176	50.0	Averaged	
Methyl Methacrylate	0.46242	0.46076	0.46076	0.100	0.35824	50.0	Averaged	
Ethyl Methacrylate	0.49740	0.51023	0.51023	0.100	-2.57901	50.0	Averaged	
Dichlorodifluoromethane	50.0	54.62657	0.50275	0.100	-9.25314	50.0	Linear	
Chloromethane	50.0	45.96256	0.49812	0.100	8.07487	50.0	Linear	
Vinyl Chloride	0.56658	0.57097	0.57097	0.100	-0.77501	50.0	Averaged	
Bromomethane	50.0	46.52811	0.33090	0.100	6.94378	50.0	Linear	
Chloroethane	0.35319	0.36703	0.36703	0.100	-3.91842	50.0	Averaged	
Trichlorofluoromethane	0.72209	0.80083	0.80083	0.100	-10.90431	50.0	Averaged	
Acrolein	100	112	0.03719	0.010	-12.40953	50.0	Quadratic	
Acetone	100	91.43882	0.16168	0.100	8.56118	50.0	Linear	
1,1-Dichloroethene	0.42540	0.43655	0.43655	0.100	-2.61926	50.0	Averaged	
Iodomethane	100	88.27719	0.48779	0.100	11.72281	50.0	Quadratic	
Acrylonitrile	0.16345	0.16796	0.16796	0.050	-2.75835	50.0	Averaged	
Methylene Chloride	0.54394	0.52823	0.52823	0.100	2.88737	50.0	Averaged	
Methyl tert-butyl ether	1.49785	1.43940	1.43940	0.100	3.90190	50.0	Averaged	
Carbon Disulfide	1.29211	1.29423	1.29423	0.100	-0.16414	50.0	Averaged	
trans-1,2-Dichloroethene	0.47201	0.47266	0.47266	0.100	-0.13741	50.0	Averaged	
Vinyl Acetate	1.33059	1.22993	1.22993	0.010	7.56502	50.0	Averaged	
1,1-Dichloroethane	0.84961	0.83218	0.83218	0.200	2.05090	50.0	Averaged	
2-Butanone	0.17877	0.18925	0.18925	0.100	-5.86044	50.0	Averaged	
2,2-Dichloropropane	50.0	45.99928	0.65025	0.100	8.00145	50.0	Linear	
cis-1,2-Dichloroethene	0.55149	0.54843	0.54843	0.100	0.55415	50.0	Averaged	
Chloroform	0.94673	0.89755	0.89755	0.200	5.19513	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 2230
Lab File ID X110631.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Bromochloromethane	0.29620	0.29504	0.29504	0.100	0.39061	50.0	Averaged	
Dibromofluoromethane	50.0	52.24784	0.52086	0.100	-4.49568	50.0	Linear	
1,1,1-Trichloroethane	0.72825	0.72714	0.72714	0.100	0.15232	50.0	Averaged	
1,1-Dichloropropene	0.40094	0.39922	0.39922	0.100	0.43085	50.0	Averaged	
1,2-Dichloroethane	0.45430	0.44796	0.44796	0.100	1.39731	50.0	Averaged	
Carbon Tetrachloride	50.0	52.97699	0.35638	0.100	-5.95398	50.0	Quadratic	
1,2-Dichloroethane-d4	50.0	50.36057	0.58048	0.100	-0.72115	50.0	Linear	
Benzene	1.24058	1.22778	1.22778	0.500	1.03204	50.0	Averaged	
Trichloroethene	0.34851	0.36221	0.36221	0.200	-3.93201	50.0	Averaged	
Bromodichloromethane	0.44027	0.42823	0.42823	0.200	2.73474	50.0	Averaged	
2-Chloroethylvinyl ether	0.14668	0.14584	0.14584	0.001	0.57315	50.0	Averaged	
1,2-Dichloropropane	0.33620	0.32128	0.32128	0.100	4.43782	50.0	Averaged	
Dibromomethane	0.22761	0.22345	0.22345	0.100	1.82665	50.0	Averaged	
4-Methyl-2-Pentanone	0.32123	0.32361	0.32361	0.100	-0.73928	50.0	Averaged	
cis-1,3-Dichloropropene	0.55488	0.54176	0.54176	0.200	2.36457	50.0	Averaged	
Toluene-d8	1.20663	1.22499	1.22499	0.100	-1.52113	50.0	Averaged	
Toluene	1.42997	1.39189	1.39189	0.400	2.66263	50.0	Averaged	
trans-1,3-Dichloropropene	0.47742	0.46583	0.46583	0.100	2.42836	50.0	Averaged	
2-Hexanone	0.21629	0.22354	0.22354	0.100	-3.35439	50.0	Averaged	
1,1,2-Trichloroethane	0.28668	0.27081	0.27081	0.100	5.53440	50.0	Averaged	
1,3-Dichloropropane	0.56895	0.55023	0.55023	0.100	3.29069	50.0	Averaged	
Dibromochloromethane	0.36858	0.35675	0.35675	0.100	3.20860	50.0	Averaged	
Tetrachloroethene	50.0	52.44679	0.29985	0.200	-4.89357	50.0	Linear	
1,2-Dibromoethane	0.35824	0.35782	0.35782	0.100	0.11733	50.0	Averaged	
1-Chlorohexane	50.0	53.09307	0.28772	0.100	-6.18613	50.0	Quadratic	
Chlorobenzene	0.96593	0.94767	0.94767	0.500	1.89041	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.34276	0.33918	0.33918	0.100	1.04404	50.0	Averaged	
Ethylbenzene	0.49143	0.48607	0.48607	0.100	1.09165	50.0	Averaged	
m,p-Xylenes	0.61142	0.61214	0.61214	0.100	-0.11822	50.0	Averaged	
o-Xylene	0.59494	0.59057	0.59057	0.300	0.73345	50.0	Averaged	
Styrene	1.00071	1.04035	1.04035	0.300	-3.96090	50.0	Averaged	
Bromoform	50.0	46.81255	0.23060	0.100	6.37489	50.0	Linear	
Isopropylbenzene	1.45413	1.49870	1.49870	0.100	-3.06453	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.82833	0.75459	0.75459	0.300	8.90279	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 2230
Lab File ID X110631.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Bromofluorobenzene	50.0	52.00307	0.48425	0.100	-4.00614	50.0	Linear	
1,2,3-Trichloropropane	0.63008	0.60222	0.60222	0.100	4.42147	50.0	Averaged	
n-Propylbenzene	3.30933	3.24769	3.24769	0.100	1.86253	50.0	Averaged	
Bromobenzene	0.86010	0.81255	0.81255	0.100	5.52823	50.0	Averaged	
1,3,5-Trimethylbenzene	2.35370	2.31879	2.31879	0.100	1.48311	50.0	Averaged	
2-Chlorotoluene	2.08960	1.97747	1.97747	0.100	5.36586	50.0	Averaged	
4-Chlorotoluene	2.37313	2.28315	2.28315	0.100	3.79180	50.0	Averaged	
tert-Butylbenzene	50.0	50.55688	1.95605	0.100	-1.11375	50.0	Linear	
1,2,4-Trimethylbenzene	2.42499	2.34459	2.34459	0.100	3.31555	50.0	Averaged	
sec-Butylbenzene	50.0	50.04876	2.70154	0.100	-0.09751	50.0	Linear	
p-Isopropyltoluene	2.40387	2.37034	2.37034	0.100	1.39511	50.0	Averaged	
1,3-Dichlorobenzene	1.43831	1.38592	1.38592	0.600	3.64251	50.0	Averaged	
1,4-Dichlorobenzene	1.49108	1.44220	1.44220	0.400	3.27828	50.0	Averaged	
n-Butylbenzene	2.03321	2.06947	2.06947	0.500	-1.78342	50.0	Averaged	
1,2-Dichlorobenzene	1.35234	1.31971	1.31971	0.400	2.41329	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	48.89484	0.08406	0.040	2.21032	50.0	Linear	
1,2,4-Trichlorobenzene	0.62781	0.60706	0.60706	0.100	3.30389	50.0	Averaged	
Hexachlorobutadiene	50.0	51.81491	0.38683	0.100	-3.62983	50.0	Quadratic	
Naphthalene	0.97734	0.97937	0.97937	0.200	-0.20764	50.0	Averaged	
1,2,3-Trichlorobenzene	0.45283	0.44478	0.44478	0.010	1.77744	50.0	Averaged	
1,2-Dichloroethylene (total	0.51175	0.51054	0.51054	0.200	0.23523	50.0	Averaged	
Xylenes (total)	0.57991	0.59605	0.59605	0.100	-2.78319	50.0	Averaged	
Cyclohexane	50.0	57.09523	0.63040	0.100	-14.19046	50.0	Quadratic	
Freon TF	50.0	58.41242	0.44480	0.100	-16.82484	50.0	Quadratic	
Methylcyclohexane	0.69202	0.75571	0.75571	0.100	-9.20412	50.0	Averaged	
Methyl Acetate	0.30377	0.31879	0.31879	0.100	-4.94572	50.0	Averaged	
Tert-butyl alcohol	0.04273	0.04375	0.04375	0.005	-2.39477	50.0	Averaged	
Isopropyl alcohol	0.02327	0.02368	0.02368	0.005	-1.76975	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
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Form 8 - Internal Standard Area and RT Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421124

		IS1				IS2				IS3				IS4			
Sample ID	File ID	Area		RT		Area		RT		Area		RT		Area		RT	
12-HOUR STD (CCV)	X110602	625842	#	4.18	#	962835	#	4.97	#	931081	#	7.67	#	467684	#	9.66	#
CCB	X110604	710320		4.18		1028355		4.97		922625		7.67		425098		9.67	
VLCSW-221106	X110605	599002		4.18		930337		4.97		890133		7.67		452740		9.66	
VBLKM-221106	X110607	703042		4.18		997111		4.97		898309		7.67		405297		9.67	
HS22110180-01	X110610	683042		4.18		975414		4.97		868792		7.67		400753		9.67	
HS22110180-01MS	X110612	699870		4.18		1000924		4.97		908763		7.67		468631		9.66	
HS22110180-01MSD	X110613	690775		4.18		994132		4.97		911007		7.67		466016		9.66	

IS1 - Pentafluorobenzene IS2 - 1,4-Difluorobenzene IS3 - Chlorobenzene-d5 IS4 - 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention Time IS - Internal Standard

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

Form 8 - Internal Standard Area and RT Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RunID
VOA6_421126

		IS1		IS2		IS3		IS4	
Sample ID	File ID	Area	RT	Area	RT	Area	RT	Area	RT
VBLKW-221106	X110608	697823	4.18	1002160	4.97	901110	7.67	421065	9.67
HS22110180-10	X110609	676127	4.18	971953	4.97	856748	7.67	395121	9.67
HS22110180-02	X110618	675182	4.18	976451	4.97	863606	7.67	397755	9.67
HS22110180-03	X110619	688646	4.18	990647	4.97	876043	7.67	403812	9.67
HS22110180-04	X110620	693511	4.18	984827	4.97	880601	7.67	411266	9.67
HS22110180-05	X110621	685780	4.18	981850	4.97	875481	7.67	401751	9.67
HS22110180-06	X110622	683504	4.18	977344	4.97	871024	7.67	414245	9.67
HS22110180-07	X110623	682623	4.18	983889	4.97	866896	7.67	381829	9.67
HS22110180-08	X110624	686323	4.18	978100	4.97	868538	7.67	411237	9.67
HS22110180-09	X110625	693828	4.18	990089	4.97	874304	7.67	407080	9.67
CCV-END	X110631	557188	4.18	874939	4.97	862067	7.67	465883	9.66

IS1 - Pentafluorobenzene IS2 - 1,4-Difluorobenzene IS3 - Chlorobenzene-d5 IS4 - 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention Time IS - Internal Standard

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

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Analysis Run Log

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

MSVOA06 -Logbook

Batch: 51901 **Analyst:** Presenta Cabascango

Date: 11-02-2022 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-02-2022 11:00 am	1.00	50 mL	50 mL	X110201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	11-02-2022 11:21 am	1.00	50 mL	50 mL	X110202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	11-02-2022 12:03 pm	1.00	50 mL	50 mL	X110203.D	Liquid	Y	NA
4	VSTD001	ICAL3	11-02-2022 12:24 pm	1.00	50 mL	50 mL	X110204.D	Liquid	Y	NA
5	VSTD002	ICAL4	11-02-2022 12:45 pm	1.00	50 mL	50 mL	X110205.D	Liquid	Y	NA
6	VSTD005	ICAL5	11-02-2022 01:06 pm	1.00	50 mL	50 mL	X110206.D	Liquid	Y	NA
7	VSTD020	ICAL6	11-02-2022 01:27 pm	1.00	50 mL	50 mL	X110207.D	Liquid	Y	NA
8	VSTD050	ICAL7	11-02-2022 01:48 pm	1.00	50 mL	50 mL	X110208.D	Liquid	Y	NA
9	VSTD100	ICAL8	11-02-2022 02:09 pm	1.00	50 mL	50 mL	X110209.D	Liquid	Y	NA
10	VSTD150	ICAL9	11-02-2022 02:29 pm	1.00	50 mL	50 mL	X110210.D	Liquid	Y	NA
11	VSTD200	ICAL	11-02-2022 02:50 pm	1.00	50 mL	50 mL	X110211.D	Liquid	Y	NA
12	BLANK	SAMP	11-02-2022 03:11 pm	1.00	50 mL	50 mL	X110212.D	Liquid	Y	NA
13	BLANK	SAMP	11-02-2022 03:32 pm	1.00	50 mL	50 mL	X110213.D	Liquid	Y	NA
14	CCV	CCV	11-02-2022 03:53 pm	1.00	50 mL	50 mL	X110214.D	Liquid	Y	NA
15	BFB	TUNE	11-02-2022 04:14 pm	1.00	50 mL	50 mL	Y110201.D	Liquid	Y	NA
16	CCV	CCV	11-02-2022 04:35 pm	1.00	50 mL	50 mL	Y110202a.D	Liquid	Y	NA
17	CCV	CCV	11-02-2022 04:56 pm	1.00	50 mL	50 mL	Y110203.D	Liquid	Y	NA
18	CCB	SAMP	11-02-2022 05:17 pm	1.00	50 mL	50 mL	Y110204.D	Liquid	Y	NA
19	VLCSW-221102	LCS	11-02-2022 05:38 pm	1.00	50 mL	50 mL	Y110205.D	Liquid	Y	NA
20	BLANK	SAMP	11-02-2022 05:59 pm	1.00	50 mL	50 mL	Y110206.D	Liquid	Y	NA
21	VBLKW-221102	MBLK	11-02-2022 06:20 pm	1.00	50 mL	50 mL	Y110207.D	Liquid	Y	NA
22	HS22110018-01	SAMP	11-02-2022 06:41 pm	1.00	50 mL	50 mL	Y110208.D	Liquid	Y	NA
23	HS22110018-06	SAMP	11-02-2022 07:02 pm	1.00	50 mL	50 mL	Y110209.D	Liquid	Y	NA
24	HS22110018-10	SAMP	11-02-2022 07:23 pm	1.00	50 mL	50 mL	Y110210.D	Liquid	Y	NA
25	HS22110018-02	SAMP	11-02-2022 07:44 pm	1.00	50 mL	50 mL	Y110211.D	Liquid	Y	NA
26	HS22101382-02	SAMP	11-02-2022 08:06 pm	5.00	10 mL	50 mL	Y110212.D	Liquid	Y	NA
27	HS22110018-02MS	MS	11-02-2022 08:27 pm	1.00	50 mL	50 mL	Y110213.D	Liquid	Y	NA
28	HS22110018-02MSD	MSD	11-02-2022 08:48 pm	1.00	50 mL	50 mL	Y110214.D	Liquid	Y	NA
29	HS22101382-01	SAMP	11-02-2022 09:09 pm	5.00	10 mL	50 mL	Y110215.D	Liquid	Y	NA
30	HS22101382-08	SAMP	11-02-2022 09:30 pm	5.00	10 mL	50 mL	Y110216.D	Liquid	Y	NA
31	HS22101382-09	SAMP	11-02-2022 09:51 pm	5.00	10 mL	50 mL	Y110217.D	Liquid	Y	NA
32	HS22110018-03	SAMP	11-02-2022 10:12 pm	1.00	50 mL	50 mL	Y110218.D	Liquid	Y	NA
33	HS22110018-07	SAMP	11-02-2022 10:33 pm	1.00	50 mL	50 mL	Y110219.D	Liquid	Y	NA
34	HS22110018-08	SAMP	11-02-2022 10:54 pm	1.00	50 mL	50 mL	Y110220.D	Liquid	Y	NA
35	HS22110018-12	SAMP	11-02-2022 11:15 pm	1.00	50 mL	50 mL	Y110221.D	Liquid	Y	NA
36	HS22110018-16	SAMP	11-02-2022 11:36 pm	1.00	50 mL	50 mL	Y110222.D	Liquid	Y	NA
37	HS22110018-18	SAMP	11-02-2022 11:57 pm	1.00	50 mL	50 mL	Y110223.D	Liquid	Y	NA
38	HS22110018-19	SAMP	11-03-2022 12:18 am	1.00	50 mL	50 mL	Y110224.D	Liquid	Y	NA
39	HS22110018-17	SAMP	11-03-2022 12:39 am	1.00	50 mL	50 mL	Y110225.D	Liquid	Y	NA
40	HS22110018-04	SAMP	11-03-2022 01:00 am	1.00	50 mL	50 mL	Y110226.D	Liquid	Y	NA
41	HS22110018-05	SAMP	11-03-2022 01:21 am	5.00	10 mL	50 mL	Y110227.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS22110018-09	SAMP	11-03-2022 01:43 am	5.00	10 mL	50 mL	Y110228.D	Liquid	Y	NA
43	HS22110018-11	SAMP	11-03-2022 02:04 am	10.00	5 mL	50 mL	Y110229.D	Liquid	Y	NA
44	CCV-END	CCV	11-03-2022 02:25 am	1.00	50 mL	50 mL	Y110230.D	Liquid	Y	NA
45	BLANK	SAMP	11-03-2022 02:46 am	1.00	50 mL	50 mL	Y110231.D	Liquid	Y	NA

Form 13 - Analysis Run Log

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

RUNID
VOA6_421126

Volatiles by by EPA 8260

Run ID VOA6_421126 **Start Date** 11/06/22 **EndDate** 11/06/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
CCV	CCV	CCV	X110602.D	11/06/22 12:20	1
CCB	CCB	CCB	X110604.D	11/06/22 13:02	1
VLCSW-221106	LCS	VLCSW-221106	X110605.D	11/06/22 13:23	1
VBLKW-221106	MBLK	VBLKW-221106	X110608.D	11/06/22 14:26	1
Trip Blank-221102	SAMP	HS22110180-10	X110609.D	11/06/22 14:47	1
35BWW26-221102	SAMP	HS22110180-01	X110610.D	11/06/22 15:08	1
35BWW26-221102	MS	HS22110180-01MS	X110612.D	11/06/22 15:50	1
35BWW26-221102	MSD	HS22110180-01MSD	X110613.D	11/06/22 16:11	1
35BWW08-221102	SAMP	HS22110180-02	X110618.D	11/06/22 17:57	1
35BWW12-221102	SAMP	HS22110180-03	X110619.D	11/06/22 18:18	1
35BWW12-221102-FD	SAMP	HS22110180-04	X110620.D	11/06/22 18:39	1
35BWW07-221102	SAMP	HS22110180-05	X110621.D	11/06/22 19:00	1
35BWW13-221102	SAMP	HS22110180-06	X110622.D	11/06/22 19:21	1
35BWW16-221102	SAMP	HS22110180-07	X110623.D	11/06/22 19:42	1
35BWW17-221102	SAMP	HS22110180-08	X110624.D	11/06/22 20:03	1
35BWW17-221102-FD	SAMP	HS22110180-09	X110625.D	11/06/22 20:24	1

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Raw Data VOA6 420865

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D Page 1
Report Date: 02-Nov-2022 11:19

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 02-NOV-2022 11:00
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\bfb.m
Meth Date : 27-Sep-2022 15:10 Linh.Pham Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
8.695	8.889	(0.000)	95	116096			0.00- 100.00	100.00
8.695	8.889	(0.000)	50	23040			15.00- 40.00	19.85
8.695	8.889	(0.000)	75	56496			30.00- 60.00	48.66
8.695	8.889	(0.000)	96	9130			5.00- 9.00	7.86
8.695	8.889	(0.000)	173	860			0.00- 2.00	0.84
8.695	8.889	(0.000)	174	101808			50.00- 0.00	87.69
8.695	8.889	(0.000)	175	8629			5.00- 9.00	8.48
8.695	8.889	(0.000)	176	99664			95.00- 101.00	97.89
8.695	8.889	(0.000)	177	6801			5.00- 9.00	6.82

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.85
75	30.00 - 60.00% of mass 95	48.66
96	5.00 - 9.00% of mass 95	7.86
173	Less than 2.00% of mass 174	0.74 (0.84)
174	Greater than 50.00% of mass 95	87.69
175	5.00 - 9.00% of mass 174	7.43 (8.48)
176	95.00 - 101.00% of mass 174	85.85 (97.89)
177	5.00 - 9.00% of mass 176	5.86 (6.82)

Data File: X110201.D
Spectrum: Scan 2161 (8.69)
Location of Maximum: 95.00
Number of points: 104

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1118	66.90	291	105.80	714	144.90	103
37.00	6185	68.00	11752	106.90	97	145.70	178
38.00	5634	69.00	11574	109.90	146	146.80	75
38.90	1937	70.00	867	110.70	112	147.60	225
40.00	1034	71.80	632	111.80	55	148.00	190
40.90	112	73.00	5631	112.90	67	148.90	85
42.30	60	74.00	19312	114.90	274	149.80	144
43.00	177	75.00	56496	115.90	478	152.80	73
44.10	1527	76.00	5239	116.80	650	154.70	264
45.00	1022	76.90	780	117.90	381	155.00	248
46.00	271	77.70	437	118.90	564	156.70	205
47.00	1094	78.80	4236	121.70	83	156.90	206
48.00	784	79.90	1188	124.80	106	158.90	203
49.00	5636	80.90	3714	126.70	100	160.70	125
50.00	23040	81.90	903	127.80	367	170.00	67
51.00	7149	82.80	132	128.90	262	171.90	129
52.00	275	86.90	4494	129.90	382	172.90	860
52.70	56	88.00	4451	130.70	145	173.90	101808
54.90	351	90.90	832	133.80	74	174.90	8629
56.00	1768	91.90	3630	134.50	100	175.90	99664
57.00	2791	92.90	4641	135.00	87	176.90	6801
57.90	116	94.00	14141	137.00	151	177.70	275
59.90	1087	95.00	116096	138.80	118	185.90	107
61.00	5096	96.00	9130	140.90	1020		
62.00	5358	97.00	231	142.00	182		
63.00	4049	103.70	579	142.90	872		
63.90	340	104.90	207	143.90	123		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D Page 1

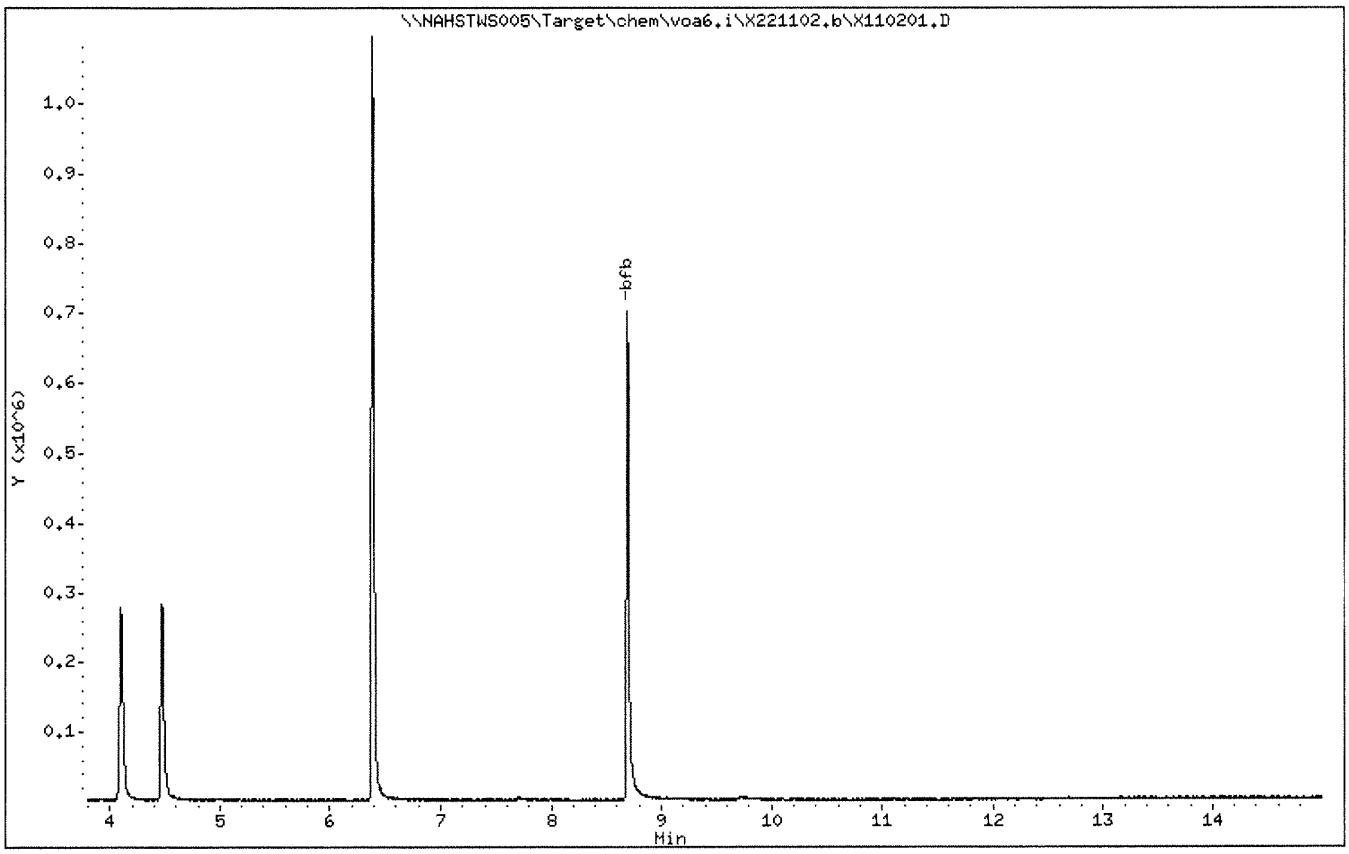
Date : 02-NOV-2022 11:00

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D Page 2

Date : 02-NOV-2022 11:00

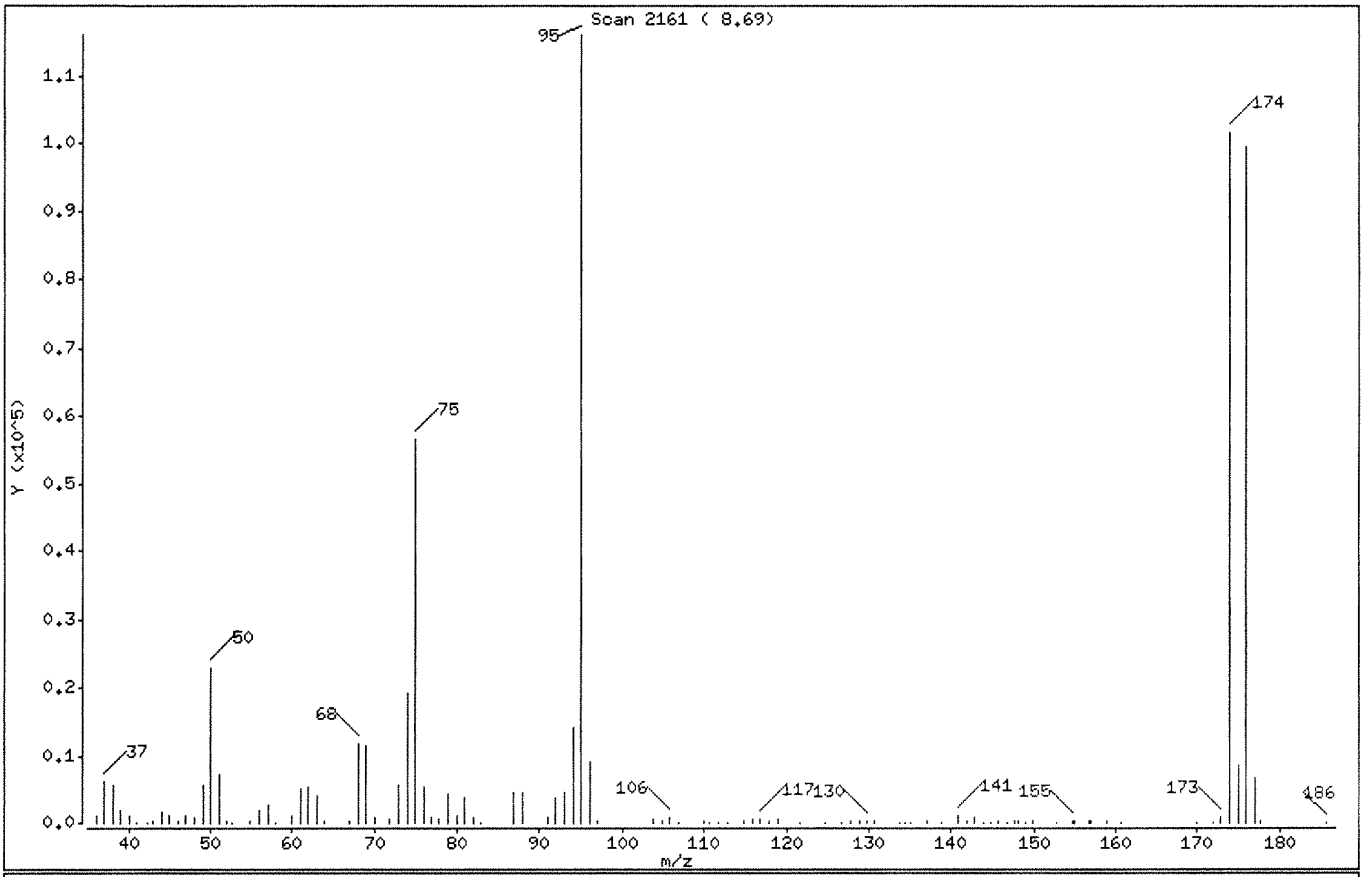
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.85
75	30.00 - 60.00% of mass 95	48.66
96	5.00 - 9.00% of mass 95	7.86
173	Less than 2.00% of mass 174	0.74 (0.84)
174	Greater than 50.00% of mass 95	87.69
175	5.00 - 9.00% of mass 174	7.43 (8.48)
176	95.00 - 101.00% of mass 174	85.85 (97.89)
177	5.00 - 9.00% of mass 176	5.86 (6.82)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D Page 3

Date : 02-NOV-2022 11:00

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X110201.D
Spectrum: Scan 2161 (8.69)
Location of Maximum: 95.00
Number of points: 104

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1118	66.90	291	105.80	714	144.90	103
37.00	6185	68.00	11752	106.90	97	145.70	178
38.00	5634	69.00	11574	109.90	146	146.80	75
38.90	1937	70.00	867	110.70	112	147.60	225
40.00	1034	71.80	632	111.80	55	148.00	190
40.90	112	73.00	5631	112.90	67	148.90	85
42.30	60	74.00	19312	114.90	274	149.80	144
43.00	177	75.00	56496	115.90	478	152.80	73
44.10	1527	76.00	5239	116.80	650	154.70	264
45.00	1022	76.90	780	117.90	381	155.00	248
46.00	271	77.70	437	118.90	564	156.70	205
47.00	1094	78.80	4236	121.70	83	156.90	206
48.00	784	79.90	1188	124.80	106	158.90	203
49.00	5636	80.90	3714	126.70	100	160.70	125
50.00	23040	81.90	903	127.80	367	170.00	67
51.00	7149	82.80	132	128.90	262	171.90	129
52.00	275	86.90	4494	129.90	382	172.90	860
52.70	56	88.00	4451	130.70	145	173.90	101808
54.90	351	90.90	832	133.80	74	174.90	8629
56.00	1768	91.90	3630	134.50	100	175.90	99664
57.00	2791	92.90	4641	135.00	87	176.90	6801
57.90	116	94.00	14141	137.00	151	177.70	275
59.90	1087	95.00	116096	138.80	118	185.90	107
61.00	5096	96.00	9130	140.90	1020		
62.00	5358	97.00	231	142.00	182		
63.00	4049	103.70	579	142.90	872		
63.90	340	104.90	207	143.90	123		

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-NOV-2022 11:21
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 14:50 Cal File: X110211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.181	(1.000)	601442	50.0000	
135 1,4-Dioxane	88	5.632	5.632	(1.347)	321	5.00000	5.00(M)
140 1,3-Butadiene	54	1.160	1.160	(0.277)	1211	0.25000	0.24
25 Methacrylonitrile	41	3.878	3.878	(0.927)	1555	0.25000	0.28(M)
12 Isobutyl Alcohol	43	4.672	4.672	(1.117)	3697	5.00000	4.11(TM)
13 Acetonitrile	39	2.209	2.209	(0.528)	1755	2.50000	2.43
14 Allyl Chloride	41	2.206	2.206	(0.528)	3180	0.25000	0.23
4 Propionitrile	54	3.724	3.724	(0.891)	1543	2.50000	2.04(M)
136 n-Hexane	57	2.779	2.779	(0.665)	1679	0.25000	
145 alpha-Methylstyrene	118	9.279	9.279	(0.960)	2422	0.25000	0.24
200 Dimethyl Disulfide	94	6.209	6.209	(0.809)	2496	0.25000	0.22
139 Diethyl ether	59	1.756	1.756	(0.420)	1253	0.25000	0.26
49 Ethyl Methacrylate	69	6.809	6.809	(1.371)	3024	0.25000	0.31(M)
150 Allyl alcohol	57	2.779	2.779	(0.665)	1679	5.00000	
166 1,2,3-Trimethylbenzene	105	9.740	9.740	(1.008)	5679	0.25000	0.28
2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	1497	0.25000	0.87(M)
3 Chloromethane	50	1.077	1.077	(0.258)	2515	0.25000	1.75
5 Vinyl Chloride	62	1.141	1.141	(0.273)	2417	0.25000	0.35
6 Bromomethane	94	1.336	1.336	(0.320)	2071	0.25000	1.73
7 Chloroethane	64	1.400	1.400	(0.335)	1450	0.25000	0.34

8	Trichlorofluoromethane	101	1.557	1.557 (0.372)	2150	0.25000	0.24
10	Acetone	43	1.981	1.981 (0.474)	2884	0.50000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D Page 2
Report Date: 09-Nov-2022 12:35

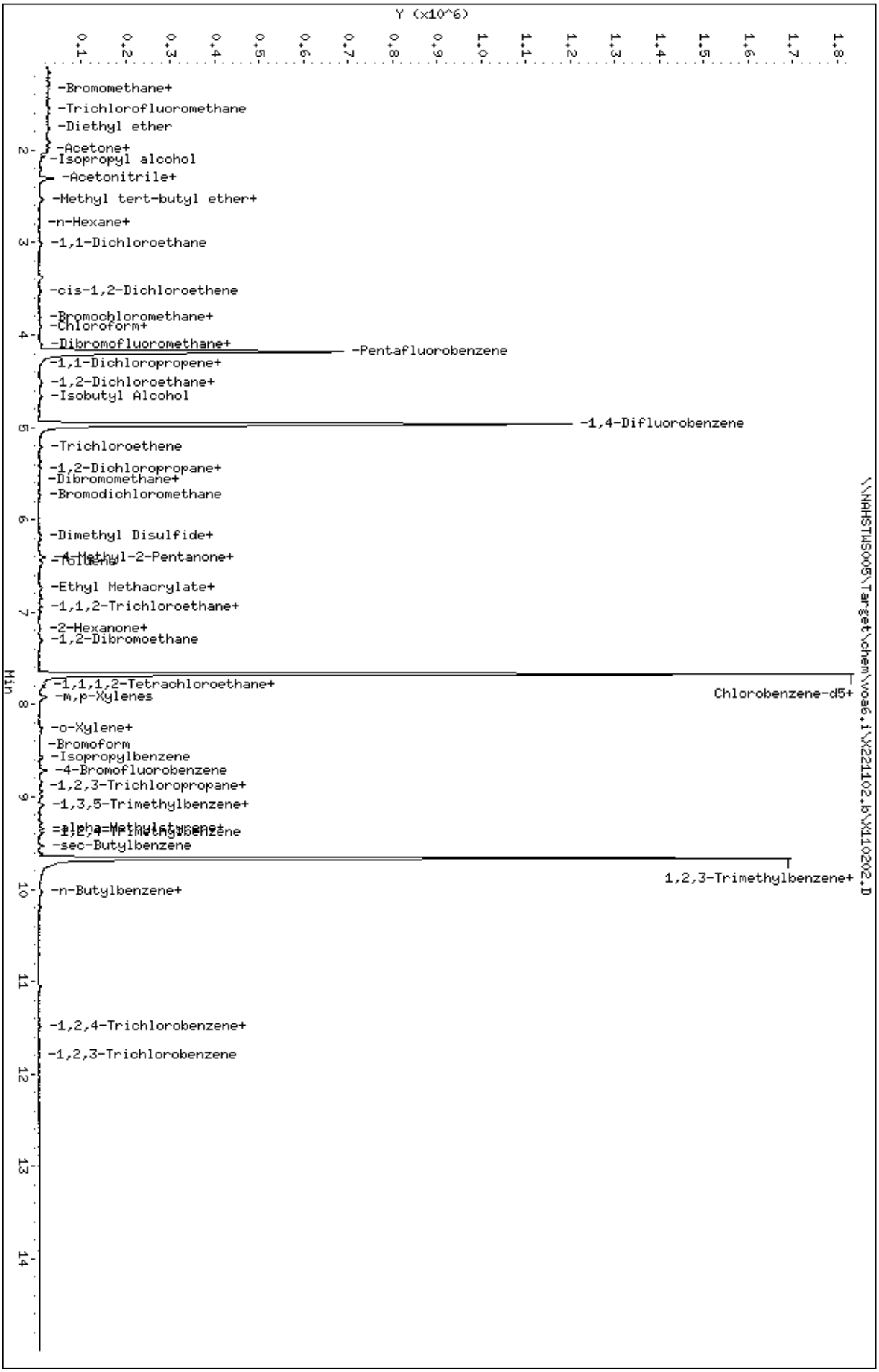
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	1510	0.25000	0.29(M)
	15 Iodomethane	142	2.022	2.022	(0.484)	955	0.50000	2.45(T)
	17 Methylene Chloride	84	2.299	2.299	(0.550)	4172	0.25000	0.63(M)
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	4553	0.25000	0.25
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	8899	0.50000	0.57
	20 trans-1,2-Dichloroethene	96	2.539	2.539	(0.607)	1400	0.25000	0.24
	22 1,1-Dichloroethane	63	2.929	2.929	(0.701)	3287	0.25000	0.32(T)
	27 cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	2053	0.25000	0.30
	28 Chloroform	83	3.911	3.911	(0.935)	3986	0.25000	0.35
	29 Bromochloromethane	128	3.806	3.806	(0.910)	1143	0.25000	0.32
$	30 Dibromofluoromethane	113	4.110	4.110	(0.983)	1420	0.25000	0.77
	31 1,1,1-Trichloroethane	97	4.087	4.087	(0.978)	2098	0.25000	0.23
	32 1,1-Dichloropropene	75	4.290	4.290	(0.864)	2381	0.25000	0.30(M)
	33 1,2-Dichloroethane	62	4.567	4.567	(0.920)	2421	0.25000	0.27
	34 Carbon Tetrachloride	117	4.256	4.256	(0.857)	2172	0.25000	0.19(M)
$	35 1,2-Dichloroethane-d4	65	4.485	4.485	(1.073)	2569	0.25000	0.79(TM)
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	962427	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	7125	0.25000	0.29
	38 Trichloroethene	130	5.216	5.216	(1.051)	1945	0.25000	0.28
	39 Bromodichloromethane	83	5.737	5.737	(1.156)	2132	0.25000	0.25(M)
	42 1,2-Dichloropropane	63	5.444	5.444	(1.097)	1718	0.25000	0.26
	44 Dibromomethane	93	5.557	5.557	(1.119)	1061	0.25000	0.24
	45 4-Methyl-2-Pentanone	43	6.363	6.363	(0.829)	2011	0.50000	0.34(M)
	46 cis-1,3-Dichloropropene	75	6.172	6.172	(1.243)	2602	0.25000	0.24
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	894753	50.0000	
$	48 Toluene-d8	98	6.404	6.404	(0.835)	7338	0.25000	0.33(M)
	50 Toluene	91	6.460	6.460	(0.842)	6782	0.25000	0.26
	51 trans-1,3-Dichloropropene	75	6.715	6.715	(1.353)	2300	0.25000	0.25(M)
	52 2-Hexanone	43	7.154	7.154	(0.933)	1215	0.50000	0.31(T)
	53 1,1,2-Trichloroethane	83	6.854	6.854	(0.893)	1396	0.25000	0.27
	54 1,3-Dichloropropane	76	6.993	6.993	(0.912)	2976	0.25000	0.29
	55 Dibromochloromethane	129	7.188	7.188	(0.937)	1503	0.25000	0.22
	56 Tetrachloroethene	164	6.936	6.936	(0.904)	1003	0.25000	0.73
	57 1,2-Dibromoethane	107	7.281	7.281	(0.949)	1372	0.25000	0.21
	58 1-Chlorohexane	55	7.709	7.709	(1.553)	888	0.25000	0.04(M)
	59 Chlorobenzene	112	7.690	7.690	(1.002)	4923	0.25000	0.28
	60 1,1,1,2-Tetrachloroethane	131	7.780	7.780	(1.014)	1639	0.25000	0.26
	61 Ethylbenzene	106	7.810	7.810	(1.018)	2217	0.25000	0.25
	62 m,p-Xylenes	106	7.919	7.919	(1.032)	5483	0.50000	0.50
	63 o-Xylene	106	8.252	8.252	(1.076)	2539	0.25000	0.23
	64 Styrene	104	8.312	8.312	(1.084)	3792	0.25000	0.21
	66 Bromoform	173	8.432	8.432	(1.099)	672	0.25000	2.58(M)
	67 Isopropylbenzene	105	8.575	8.575	(1.118)	6452	0.25000	0.24
	68 1,1,2,2-Tetrachloroethane	83	8.852	8.852	(0.916)	1994	0.25000	0.28(M)
$	69 4-Bromofluorobenzene	95	8.713	8.713	(1.136)	6237	0.25000	1.00(M)
*	70 1,4-Dichlorobenzene-d4	152	9.665	9.665	(1.000)	415276	50.0000	
	71 1,2,3-Trichloropropane	75	8.878	8.878	(0.919)	1337	0.25000	0.25
	73 n-Propylbenzene	91	8.938	8.938	(0.925)	6455	0.25000	0.23
	74 Bromobenzene	156	8.829	8.829	(0.914)	1759	0.25000	0.24
	75 1,3,5-Trimethylbenzene	105	9.088	9.088	(0.940)	5264	0.25000	0.26
	76 2-Chlorotoluene	91	8.994	8.994	(0.931)	5660	0.25000	0.32
	77 4-Chlorotoluene	91	9.103	9.103	(0.942)	4857	0.25000	0.24

78	tert-Butylbenzene	119	9.343	9.343 (0.967)	4600	0.25000	0.83
79	1,2,4-Trimethylbenzene	105	9.392	9.392 (0.972)	5586	0.25000	0.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	81 sec-Butylbenzene	105	9.527	9.527	(0.986)	5770	0.25000	1.09
	82 p-Isopropyltoluene	119	9.654	9.654	(0.999)	5126	0.25000	0.25
	83 1,3-Dichlorobenzene	146	9.617	9.617	(0.995)	3178	0.25000	0.26
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	3613	0.25000	0.29
	87 n-Butylbenzene	91	10.037	10.037	(1.038)	2214	0.25000	0.13
	88 1,2-Dichlorobenzene	146	10.022	10.022	(1.037)	2249	0.25000	0.20
	90 1,2,4-Trichlorobenzene	180	11.427	11.427	(1.182)	1081	0.25000	0.20(M)
	91 Hexachlorobutadiene	225	11.487	11.487	(1.188)	729	0.25000	(M)
	93 1,2,3-Trichlorobenzene	180	11.795	11.795	(1.220)	735	0.25000	0.19(M)
M	94 1,2-Dichloroethylene (total)	96				3453	0.50000	
M	95 Xylenes (total)	106				8022	0.75000	
	141 Cyclohexane	56	4.125	4.125	(0.987)	1515	0.25000	(M)
	138 Freon TF	101	1.917	1.917	(0.459)	1072	0.25000	
	147 Methylcyclohexane	55	5.452	5.452	(1.098)	2562	0.25000	0.19(M)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



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Dichlorodifluoromethane (75-71-8)

Reason Code:

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08-Nov-2022
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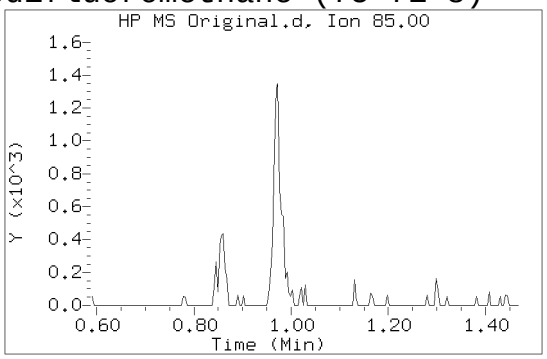

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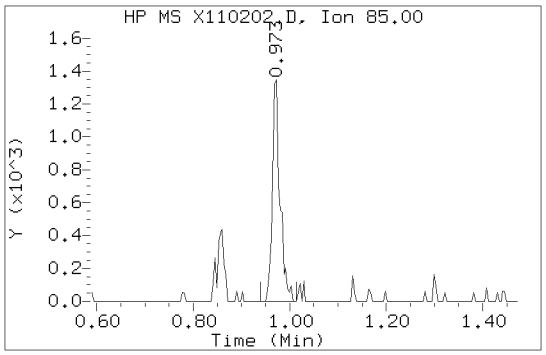

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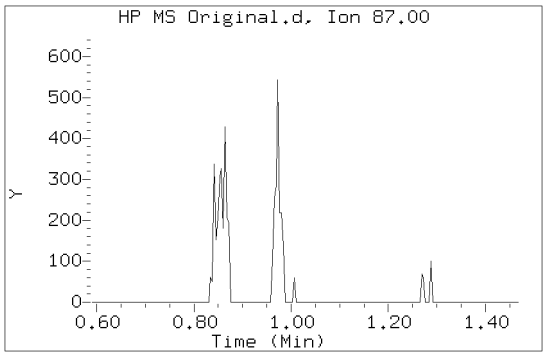

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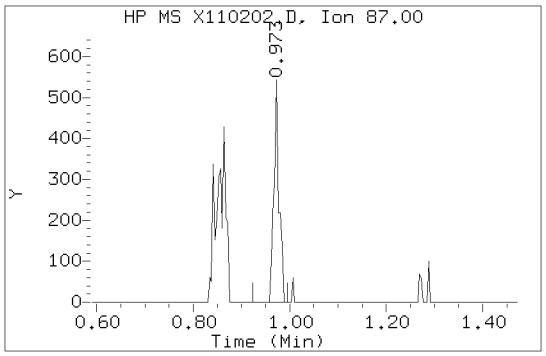

1,1-Dichloroethene (75-35-4)

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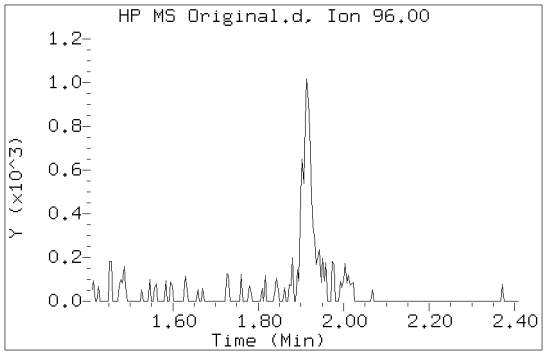

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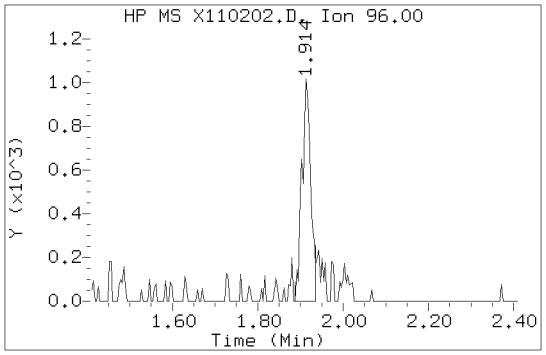

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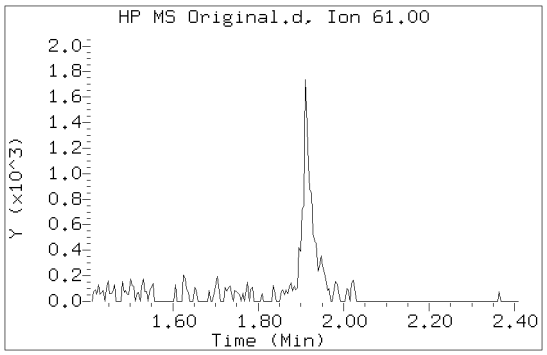

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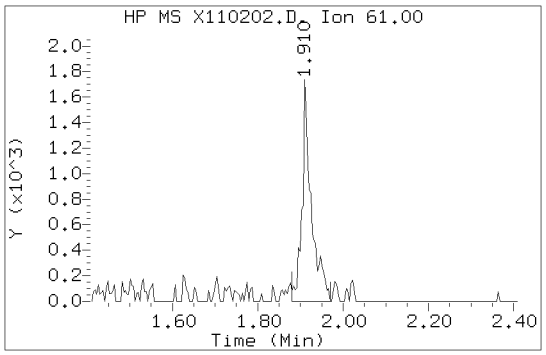

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InstruID : voa6.i
LabSampID : VSTD000.25

1,1-Dichloroethene (75-35-4)

Reason Code:

BEFORE

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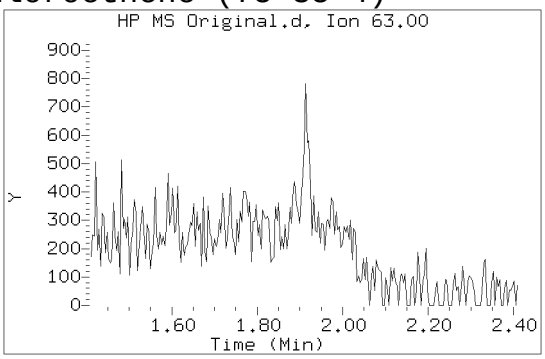

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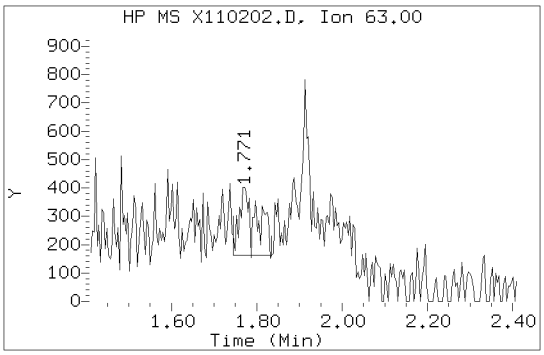

Methylene Chloride (75-09-2)

Reason Code:

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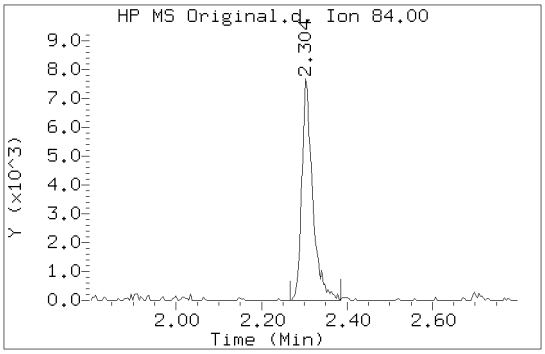

AFTER

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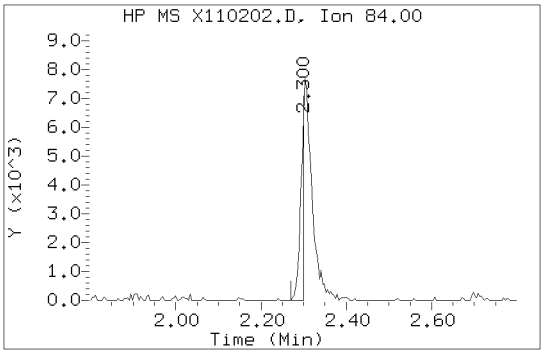

BEFORE

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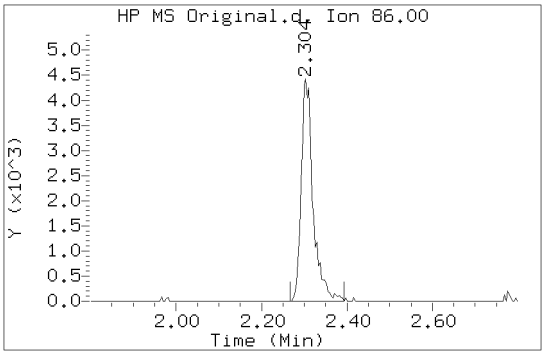

AFTER

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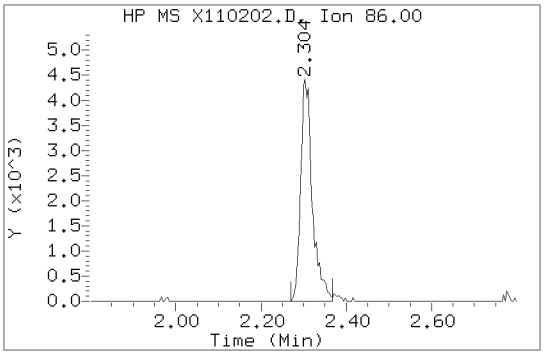

BEFORE

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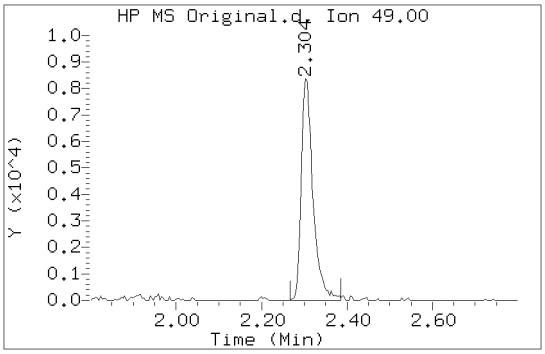

AFTER

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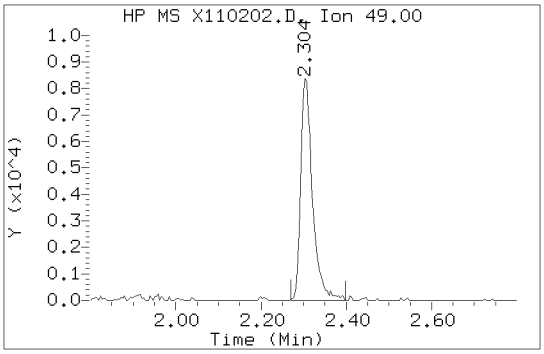

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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE
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08-Nov-2022
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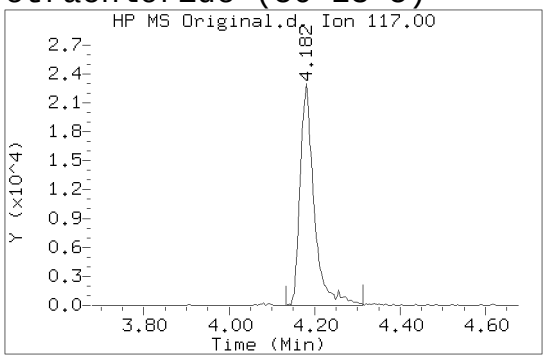

AFTER
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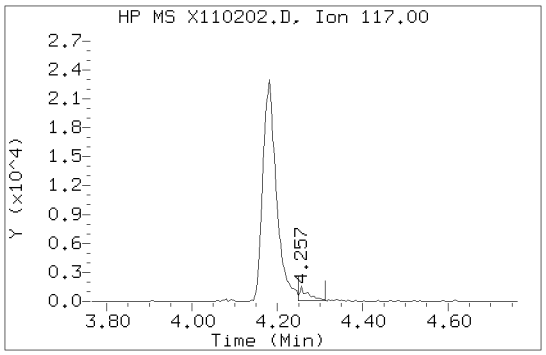

BEFORE
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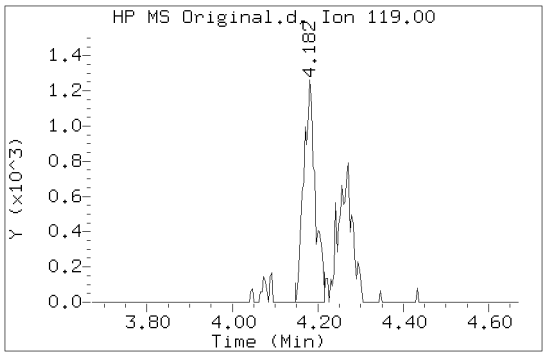

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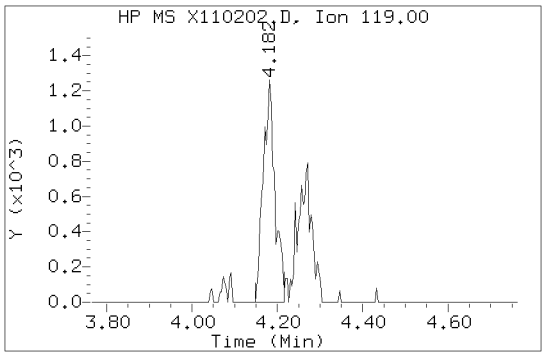

Bromodichloromethane (75-27-4)

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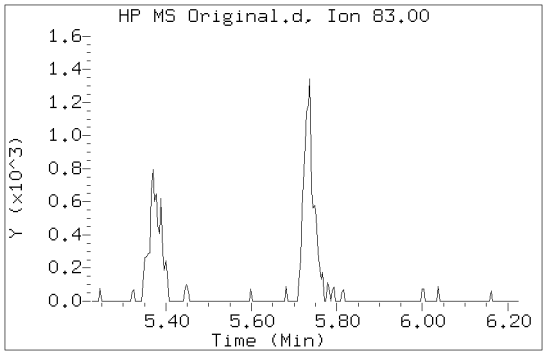

AFTER
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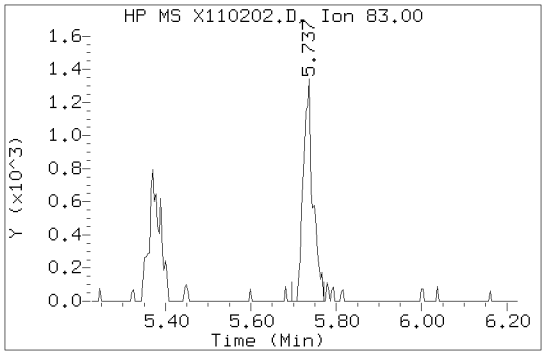
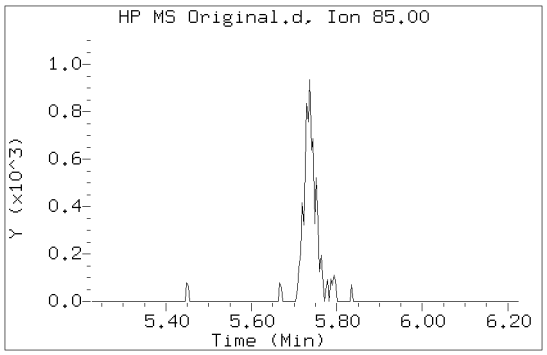
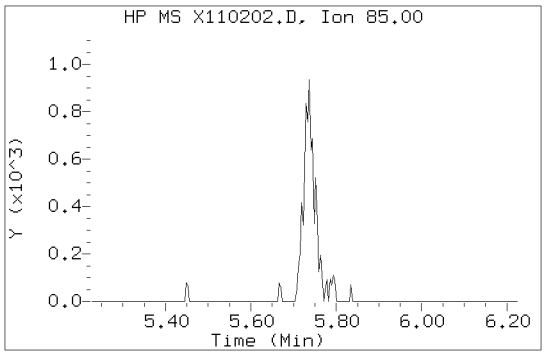
09-Nov-2022
12:35



BEFORE
MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:35



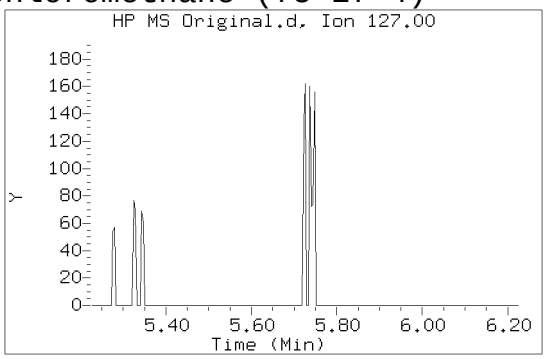
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Bromodichloromethane (75-27-4)

Reason Code:

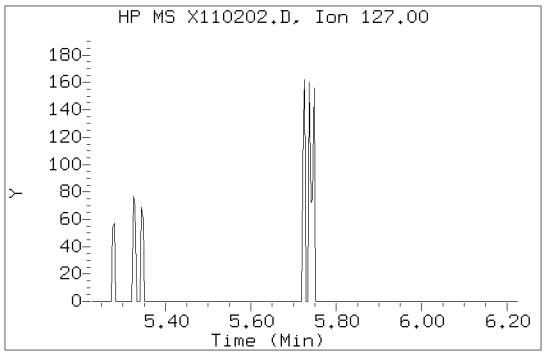
BEFORE

MASS
127
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
09-Nov-2022
12:35

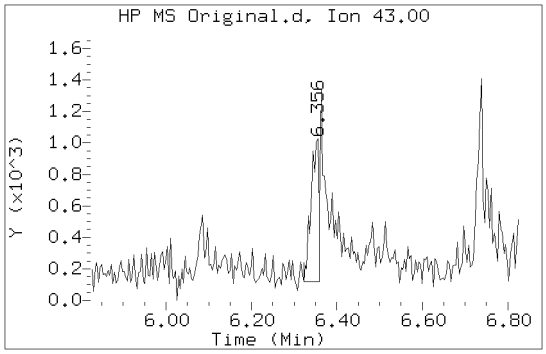


4-Methyl-2-Pentanone (108-10-1)

Reason Code:

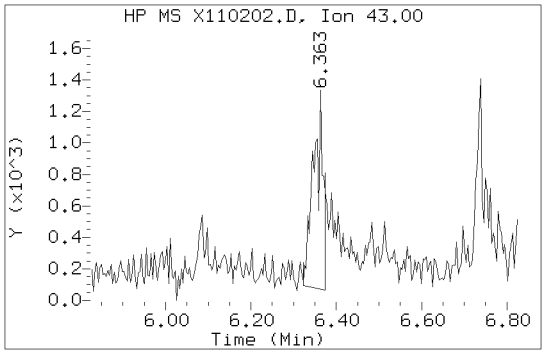
BEFORE

MASS
43
AREA
1181
HEIGHT
909
08-Nov-2022
15:18
linh
pham



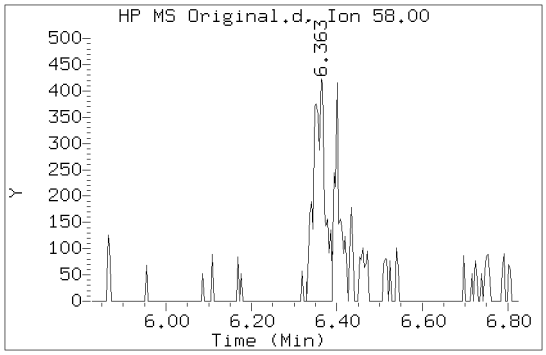
AFTER

MASS
43
AREA
2011
HEIGHT
1260
09-Nov-2022
12:35



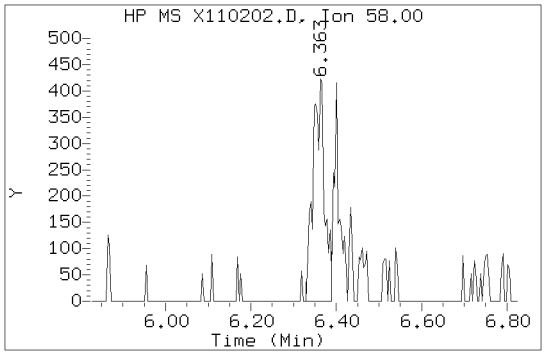
BEFORE

MASS
58
AREA
801
HEIGHT
423
08-Nov-2022
15:18
linh
pham



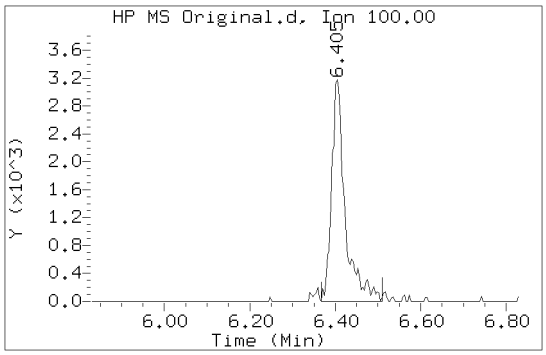
AFTER

MASS
58
AREA
801
HEIGHT
423
09-Nov-2022
12:35



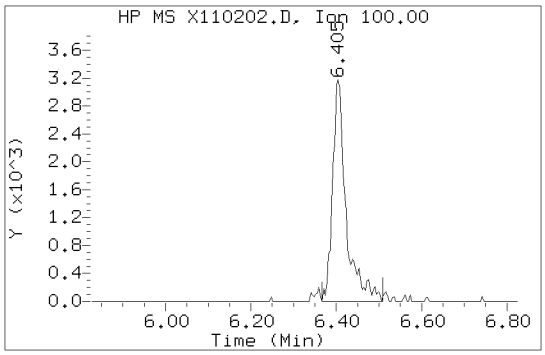
BEFORE

MASS
100
AREA
7019
HEIGHT
3177
08-Nov-2022
15:18
linh
pham



AFTER

MASS
100
AREA
7019
HEIGHT
3177
09-Nov-2022
12:35

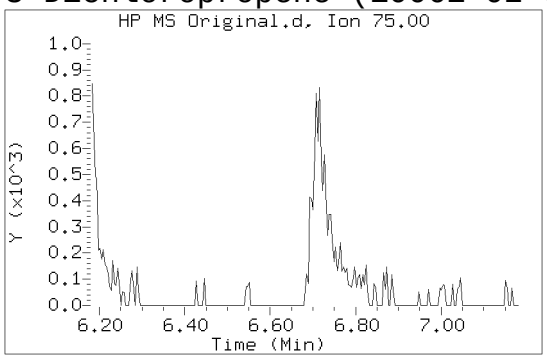


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

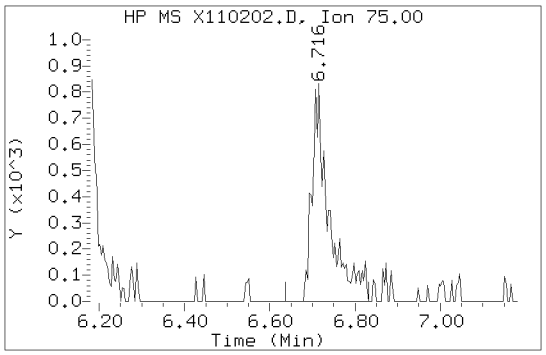
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

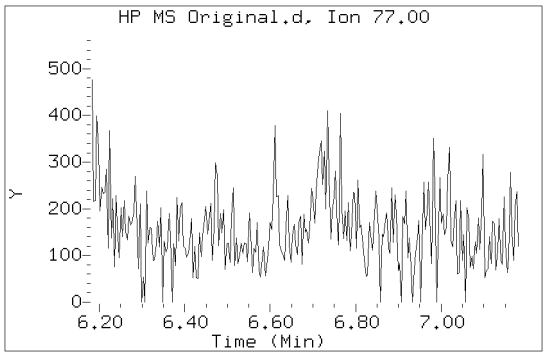
BEFORE
MASS
75
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



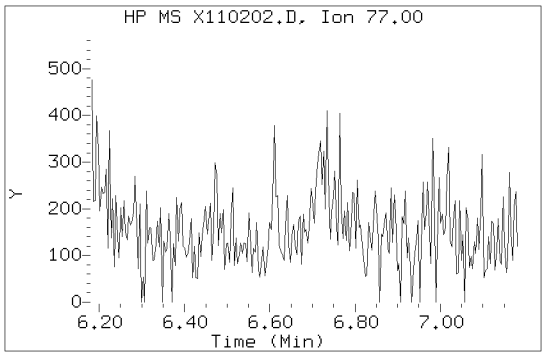
AFTER
MASS
75
AREA
2300
HEIGHT
833
09-Nov-2022
12:35



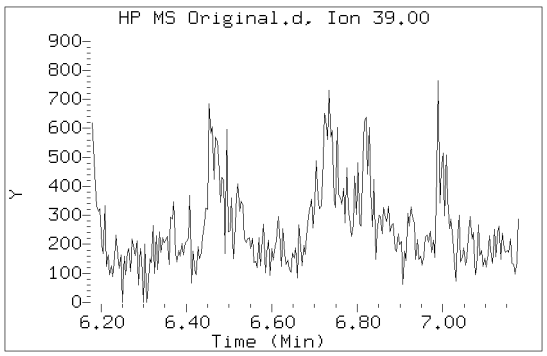
BEFORE
MASS
77
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



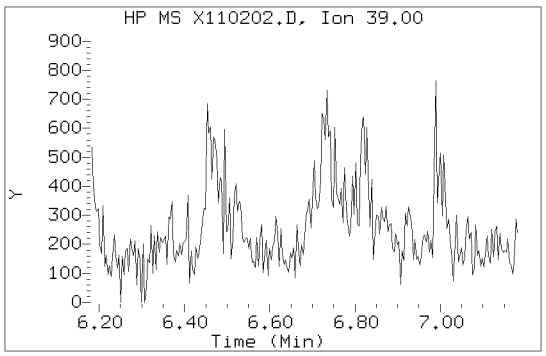
AFTER
MASS
77
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
39
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



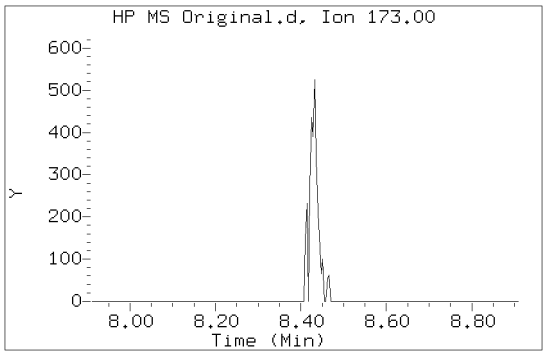
AFTER
MASS
39
AREA
0
HEIGHT
0
09-Nov-2022
12:35



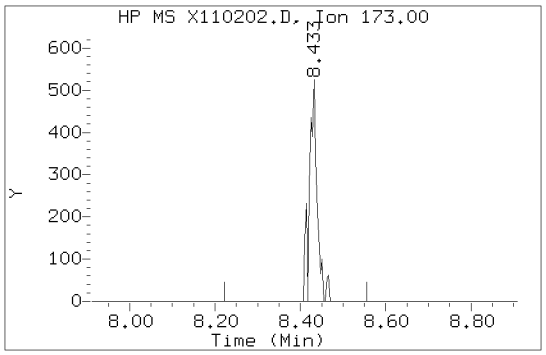
Bromoform (75-25-2)

Reason Code:

BEFORE
MASS
173
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
173
AREA
672
HEIGHT
525
09-Nov-2022
12:35

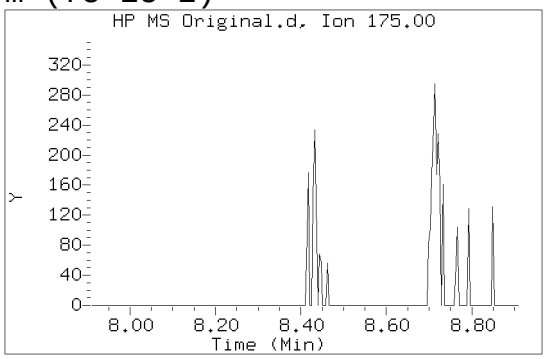


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

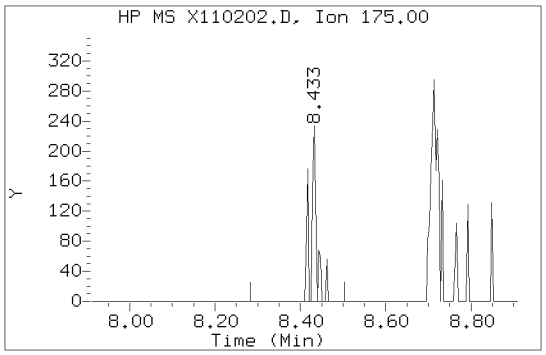
Bromoform (75-25-2)

Reason Code:

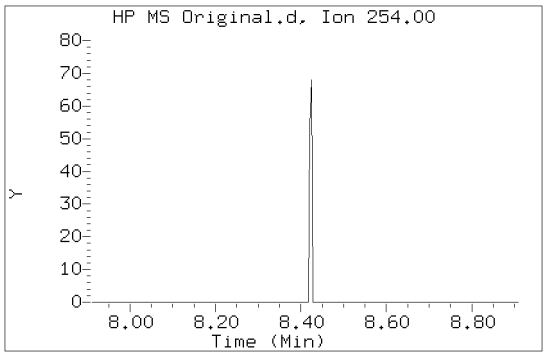
BEFORE
MASS
175
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



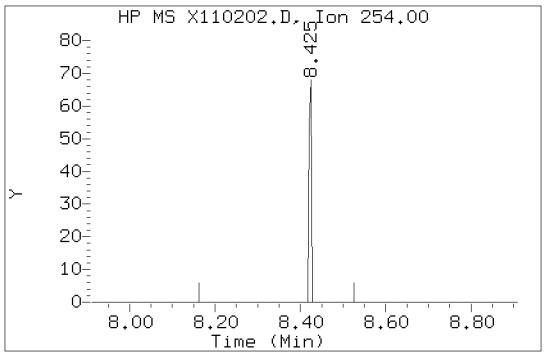
AFTER
MASS
175
AREA
217
HEIGHT
234
09-Nov-2022
12:35



BEFORE
MASS
254
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



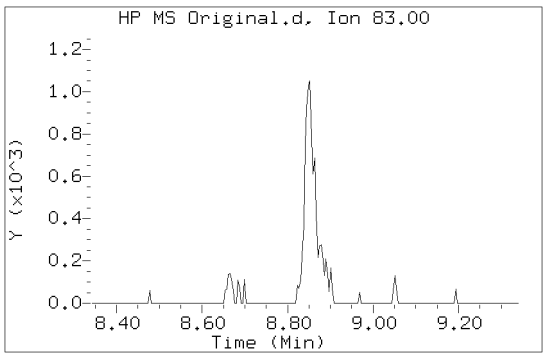
AFTER
MASS
254
AREA
27
HEIGHT
68
09-Nov-2022
12:35



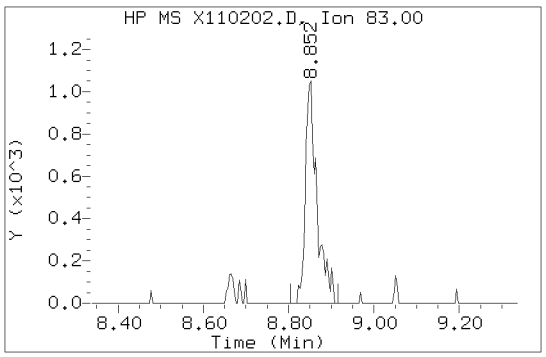
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

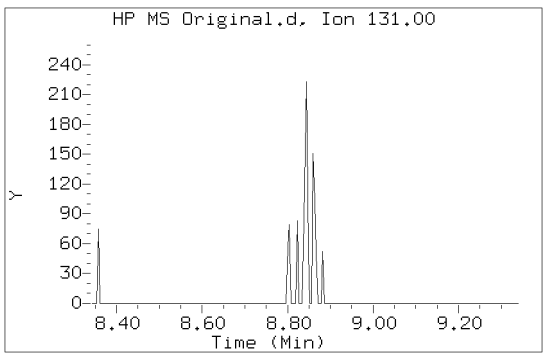
BEFORE
MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



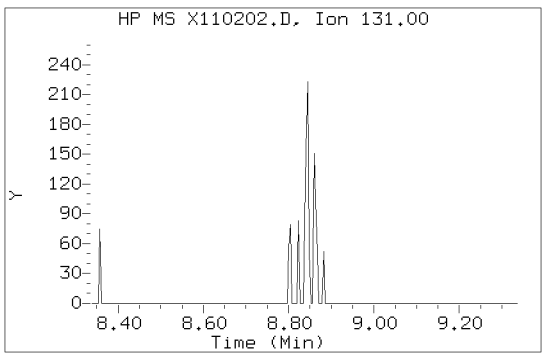
AFTER
MASS
83
AREA
1994
HEIGHT
1051
09-Nov-2022
12:35



BEFORE
MASS
131
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
131
AREA
0
HEIGHT
0
09-Nov-2022
12:35



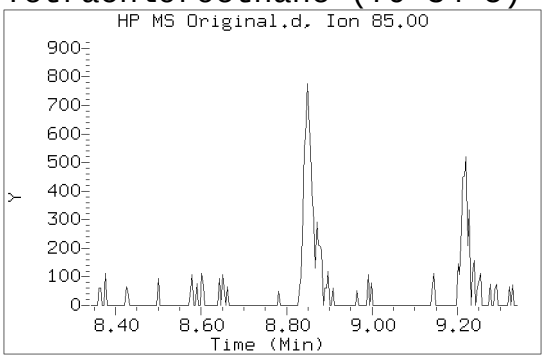
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

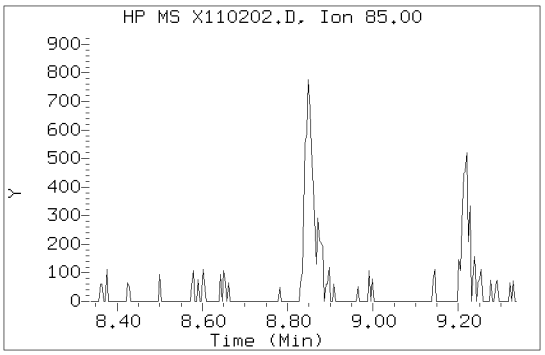
BEFORE

MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:35

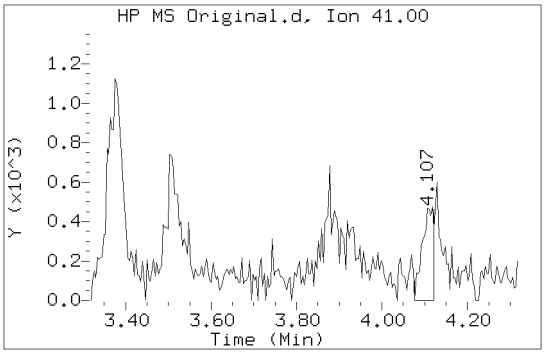


Methacrylonitrile (126-98-7)

Reason Code:

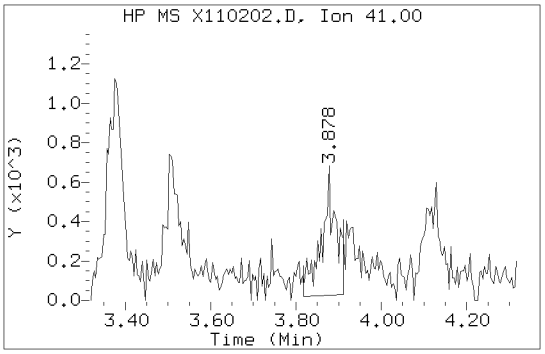
BEFORE

MASS
41
AREA
872
HEIGHT
467
08-Nov-2022
15:18
linh
pham



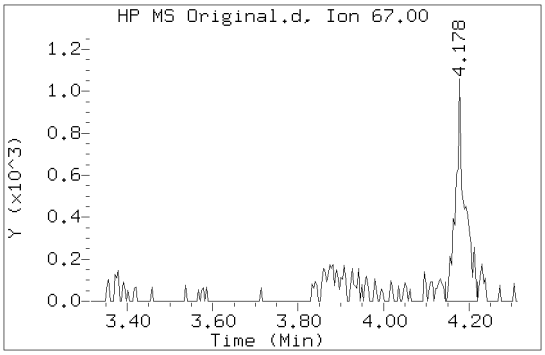
AFTER

MASS
41
AREA
1555
HEIGHT
658
09-Nov-2022
12:35



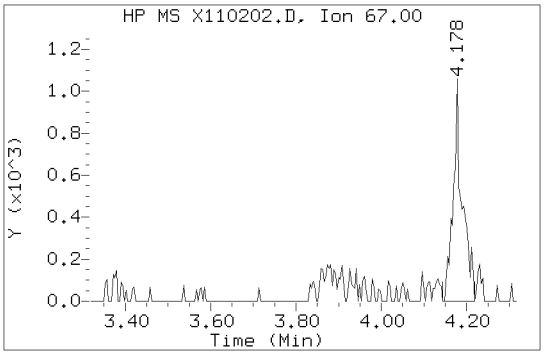
BEFORE

MASS
67
AREA
1567
HEIGHT
1059
08-Nov-2022
15:18
linh
pham



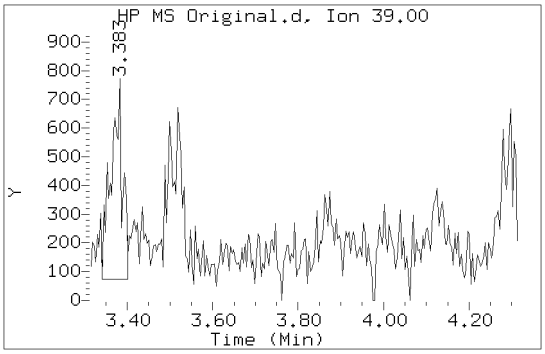
AFTER

MASS
67
AREA
1567
HEIGHT
1059
09-Nov-2022
12:35



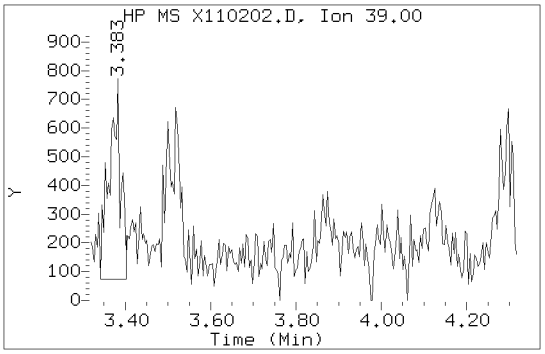
BEFORE

MASS
39
AREA
1290
HEIGHT
699
08-Nov-2022
15:18
linh
pham



AFTER

MASS
39
AREA
1290
HEIGHT
699
09-Nov-2022
12:35



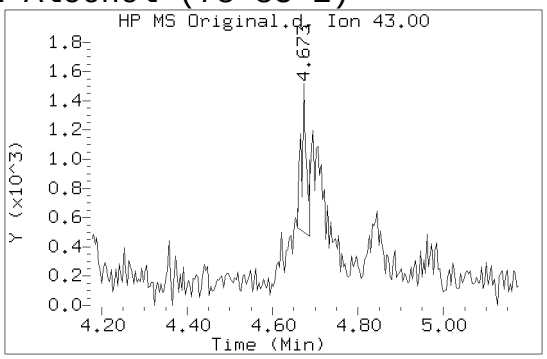
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Isobutyl Alcohol (78-83-1)

Reason Code:

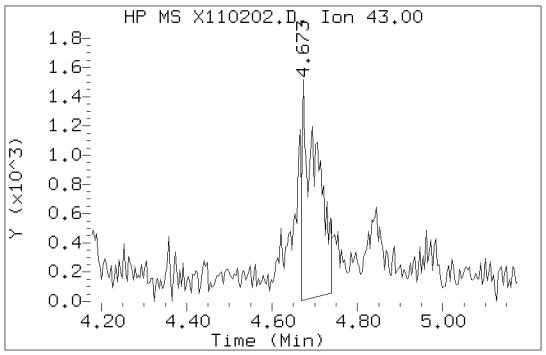
BEFORE

MASS
43
AREA
903
HEIGHT
1014
08-Nov-2022
15:18
linh
pham



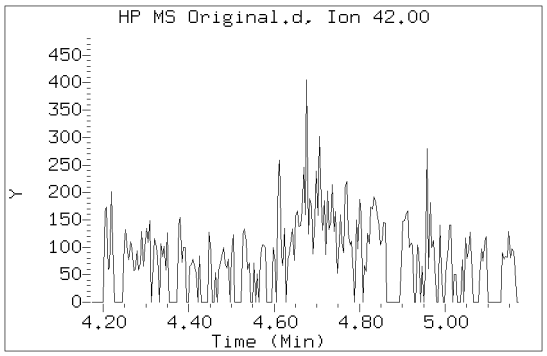
AFTER

MASS
43
AREA
3697
HEIGHT
1511
09-Nov-2022
12:35



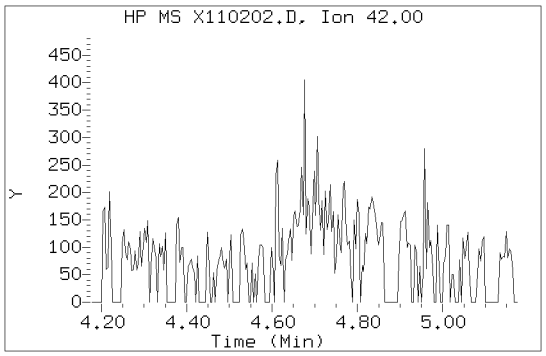
BEFORE

MASS
42
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



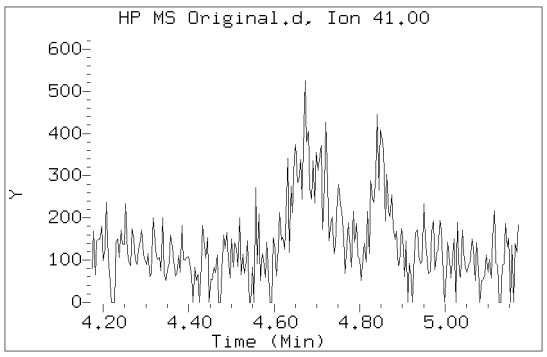
AFTER

MASS
42
AREA
0
HEIGHT
0
09-Nov-2022
12:35



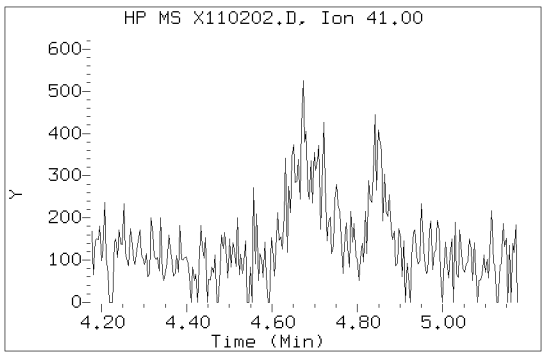
BEFORE

MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35

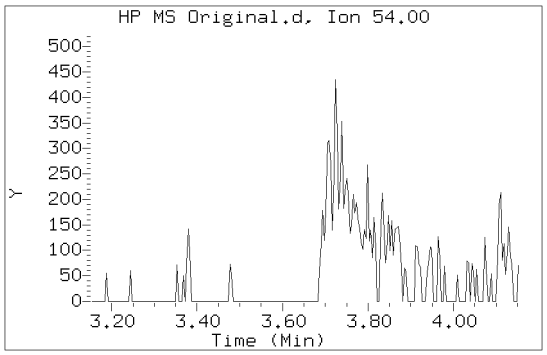


Propionitrile (107-12-0)

Reason Code:

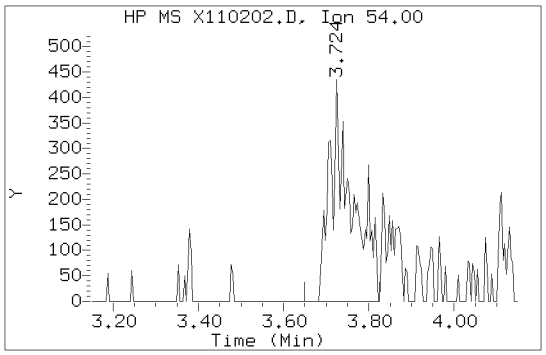
BEFORE

MASS
54
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
54
AREA
1543
HEIGHT
435
09-Nov-2022
12:35

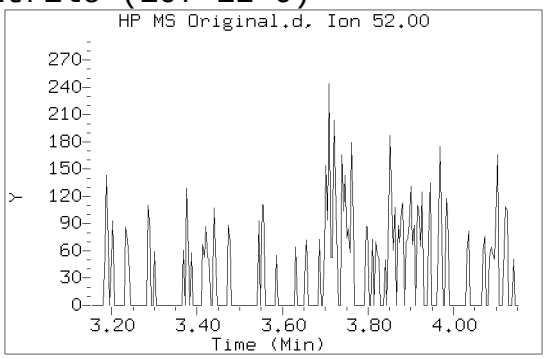


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

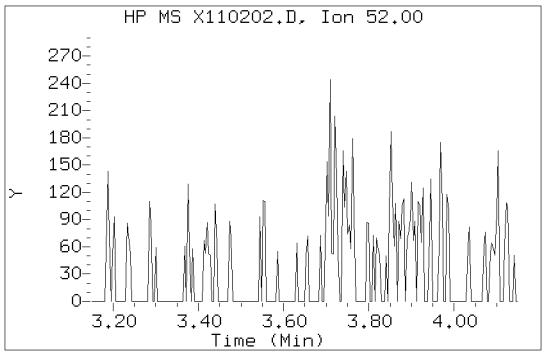
Propionitrile (107-12-0)

Reason Code:

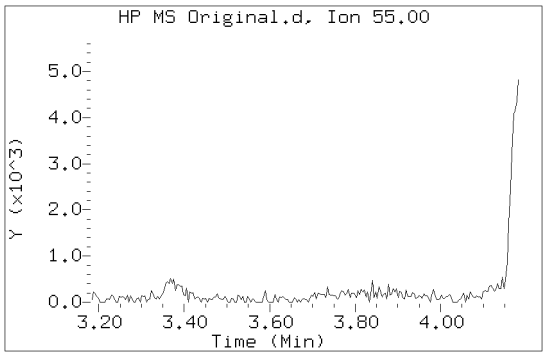
BEFORE
MASS
52
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



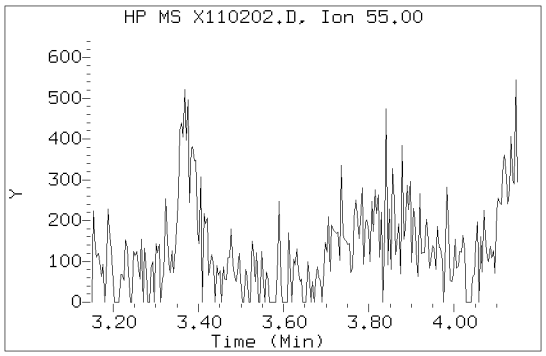
AFTER
MASS
52
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
55
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



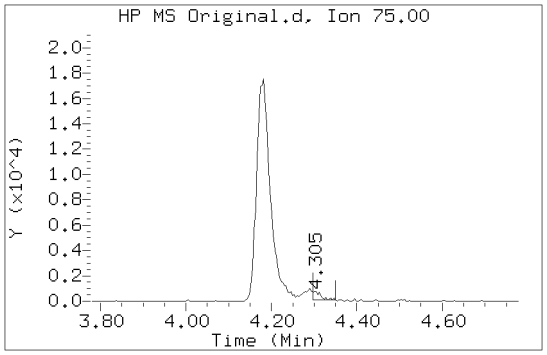
AFTER
MASS
55
AREA
0
HEIGHT
0
09-Nov-2022
12:35



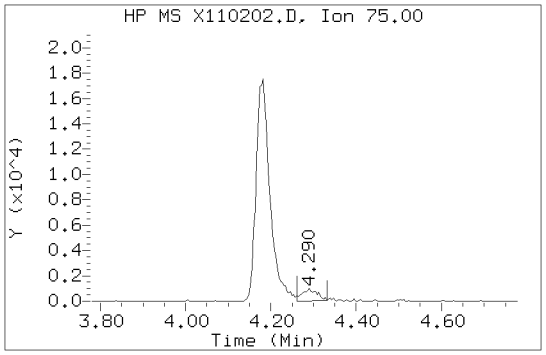
1,1-Dichloropropene (563-58-6)

Reason Code:

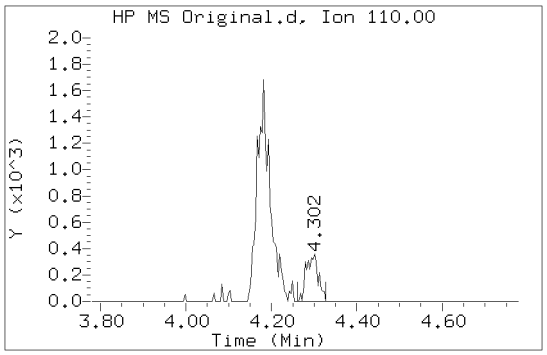
BEFORE
MASS
75
AREA
954
HEIGHT
675
08-Nov-2022
15:18
linh
pham



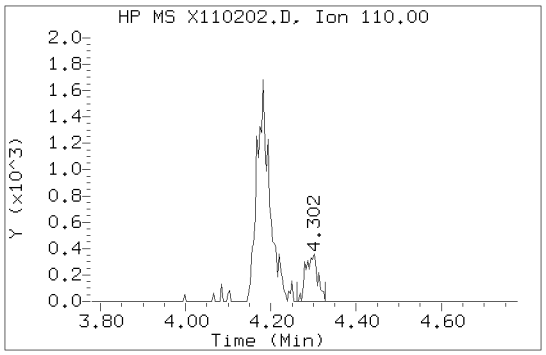
AFTER
MASS
75
AREA
2381
HEIGHT
972
09-Nov-2022
12:35



BEFORE
MASS
110
AREA
710
HEIGHT
362
08-Nov-2022
15:18
linh
pham



AFTER
MASS
110
AREA
710
HEIGHT
362
09-Nov-2022
12:35

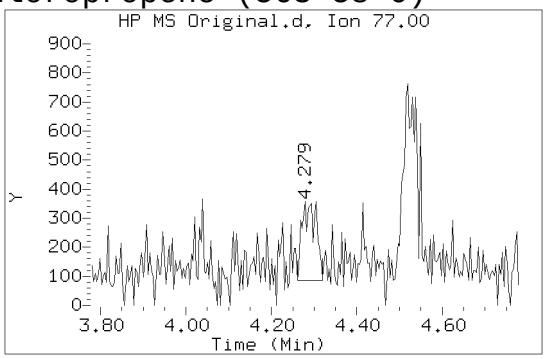


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

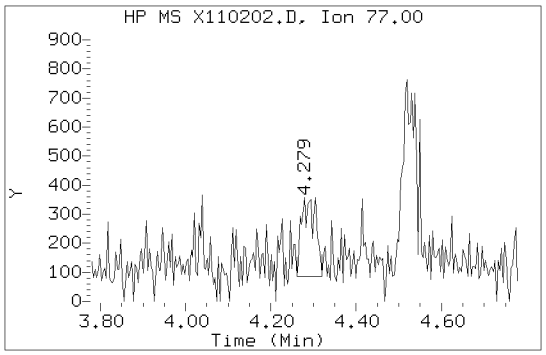
1,1-Dichloropropene (563-58-6)

Reason Code:

BEFORE
MASS
77
AREA
638
HEIGHT
273
08-Nov-2022
15:18
linh
pham



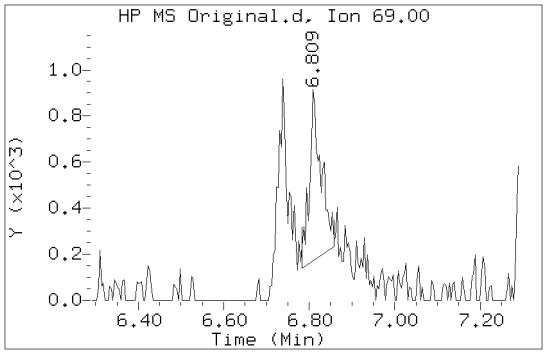
AFTER
MASS
77
AREA
638
HEIGHT
273
09-Nov-2022
12:35



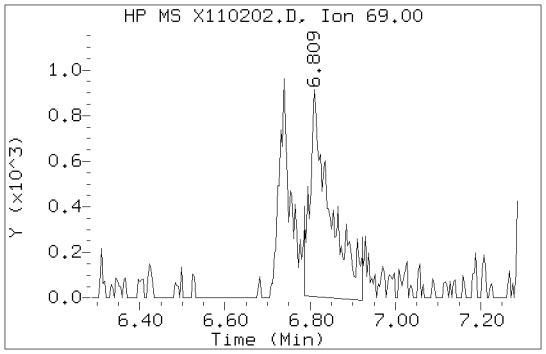
Ethyl Methacrylate (97-63-2)

Reason Code:

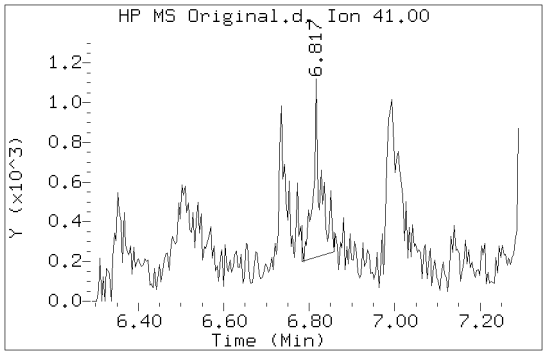
BEFORE
MASS
69
AREA
1409
HEIGHT
744
08-Nov-2022
15:18
linh
pham



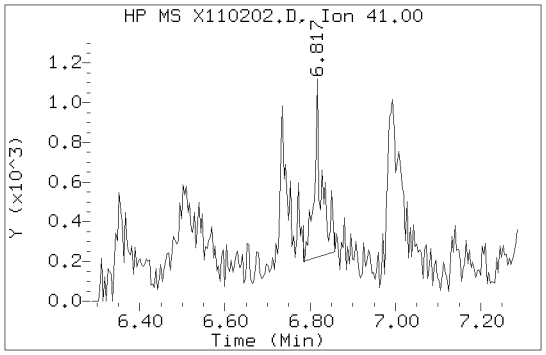
AFTER
MASS
69
AREA
3024
HEIGHT
909
09-Nov-2022
12:35



BEFORE
MASS
41
AREA
1086
HEIGHT
897
08-Nov-2022
15:18
linh
pham



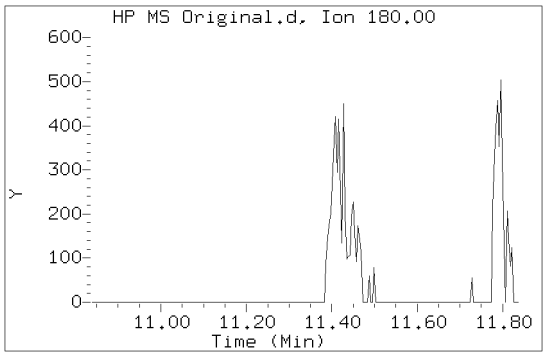
AFTER
MASS
41
AREA
1086
HEIGHT
897
09-Nov-2022
12:35



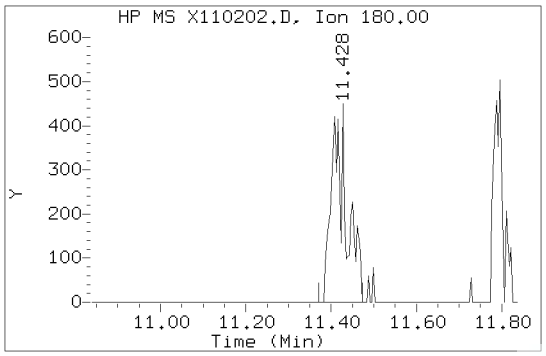
1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

BEFORE
MASS
180
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
180
AREA
1081
HEIGHT
450
09-Nov-2022
12:35

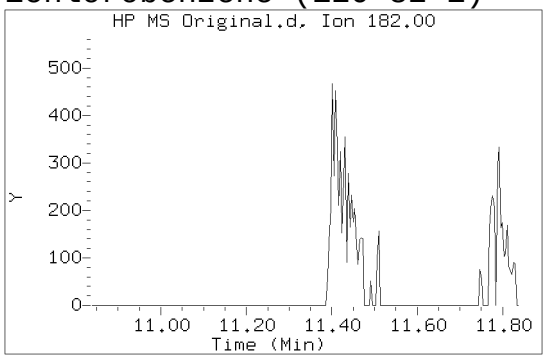


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

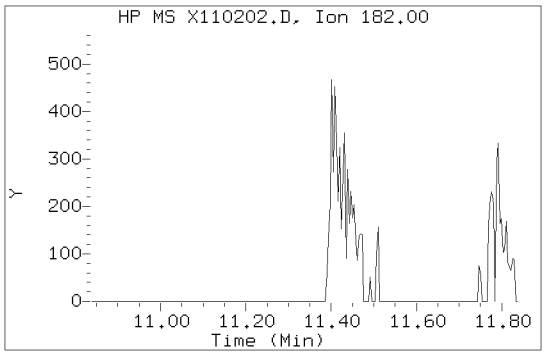
1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

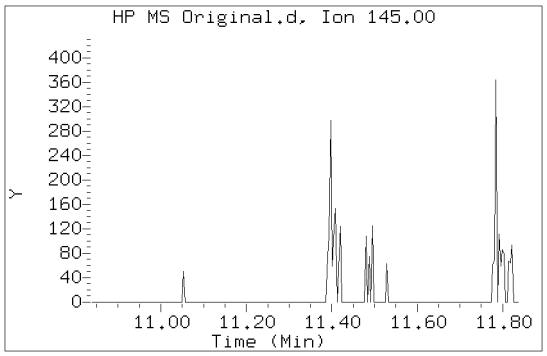
BEFORE
MASS
182
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



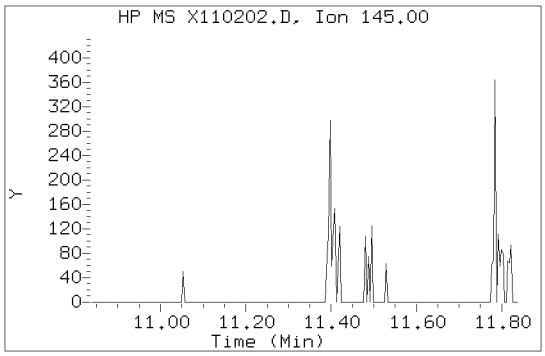
AFTER
MASS
182
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
145
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



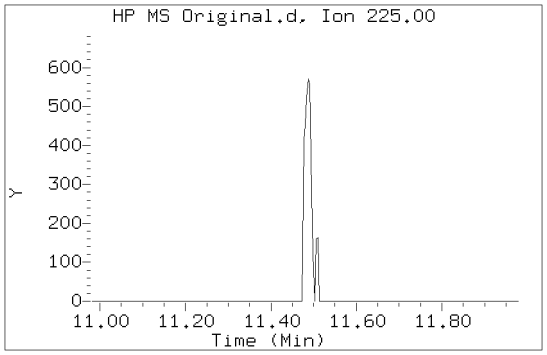
AFTER
MASS
145
AREA
0
HEIGHT
0
09-Nov-2022
12:35



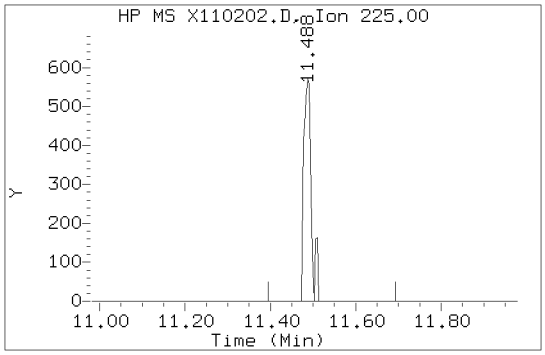
Hexachlorobutadiene (87-68-3)

Reason Code:

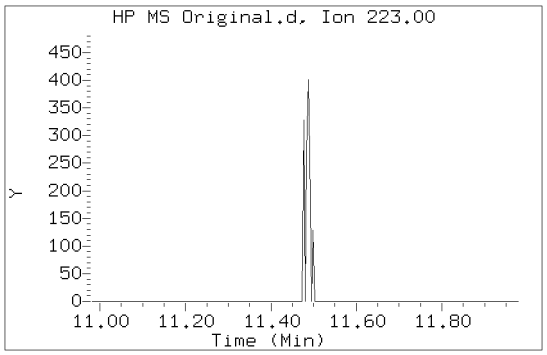
BEFORE
MASS
225
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



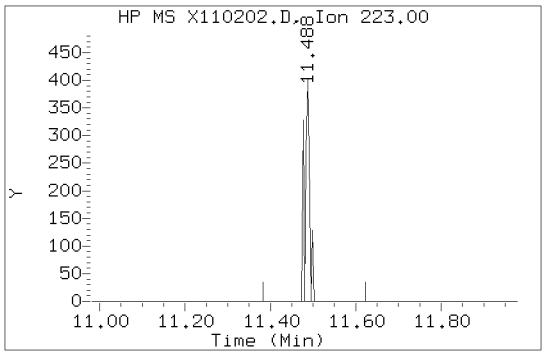
AFTER
MASS
225
AREA
729
HEIGHT
571
09-Nov-2022
12:35



BEFORE
MASS
223
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
223
AREA
313
HEIGHT
401
09-Nov-2022
12:35



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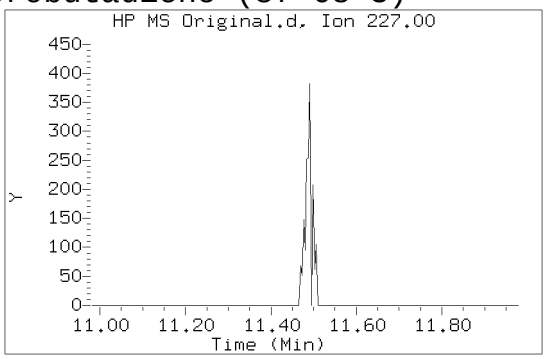
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

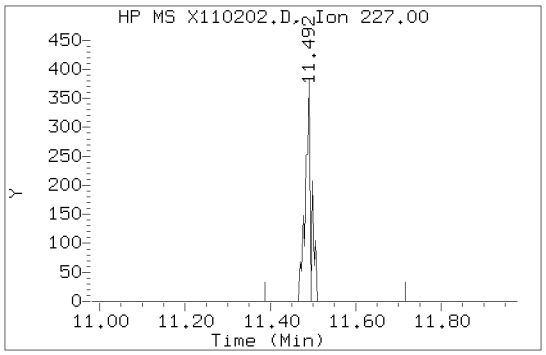
Hexachlorobutadiene (87-68-3)

Reason Code:

BEFORE
MASS
227
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



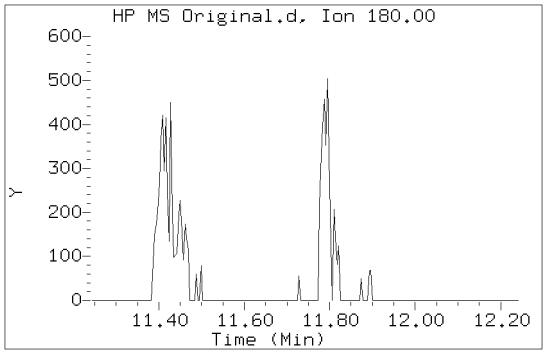
AFTER
MASS
227
AREA
365
HEIGHT
382
09-Nov-2022
12:35



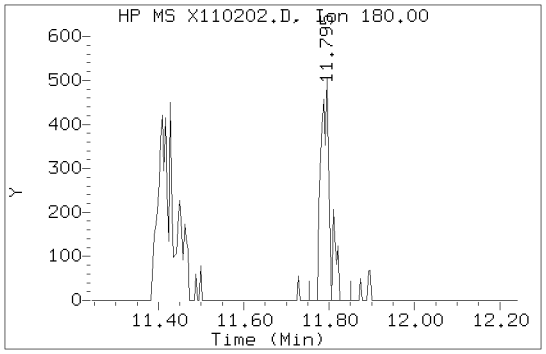
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

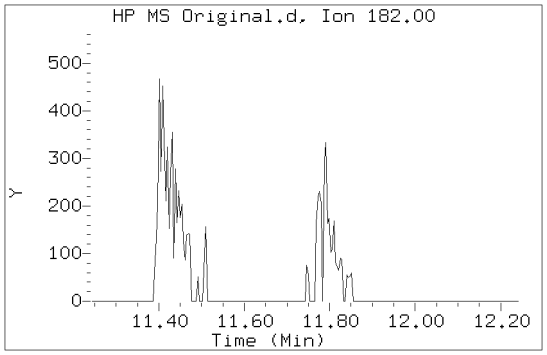
BEFORE
MASS
180
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



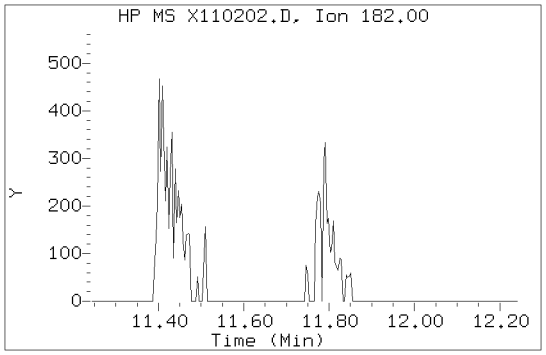
AFTER
MASS
180
AREA
735
HEIGHT
504
09-Nov-2022
12:35



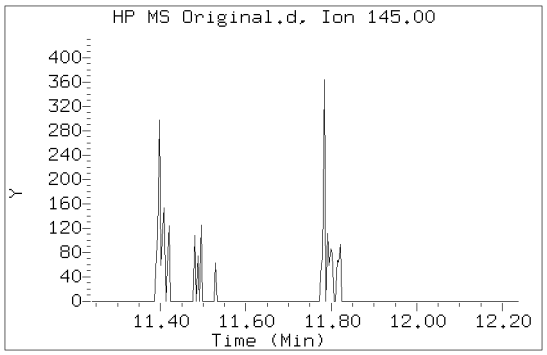
BEFORE
MASS
182
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



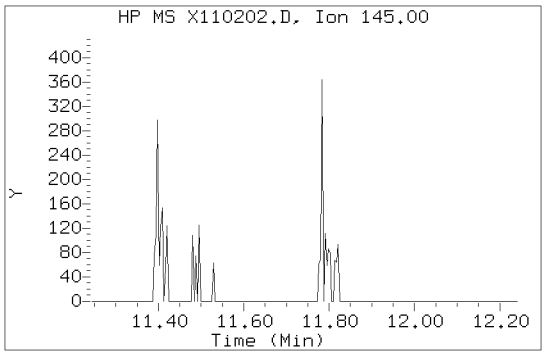
AFTER
MASS
182
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
145
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
145
AREA
0
HEIGHT
0
09-Nov-2022
12:35



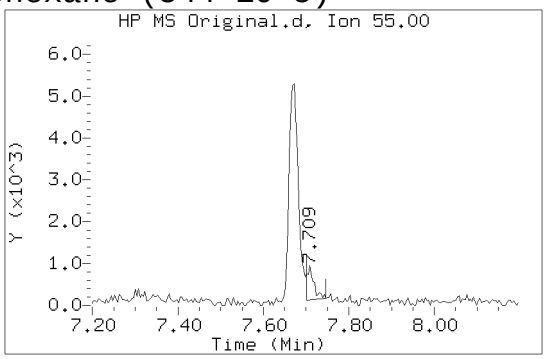
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

1-Chlorohexane (544-10-5)

Reason Code:

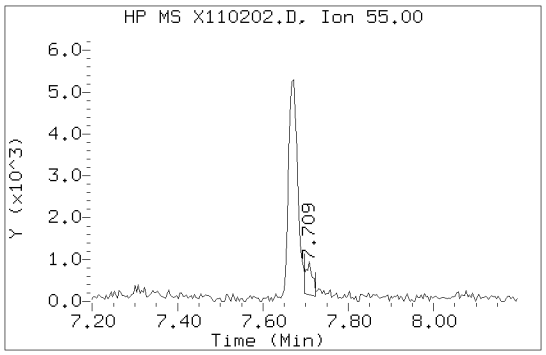
BEFORE

MASS
55
AREA
911
HEIGHT
819
08-Nov-2022
15:18
linh
pham



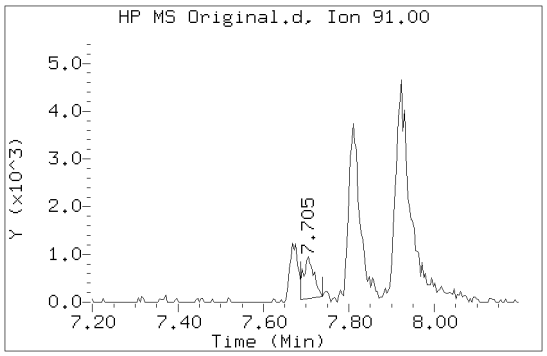
AFTER

MASS
55
AREA
888
HEIGHT
796
09-Nov-2022
12:35



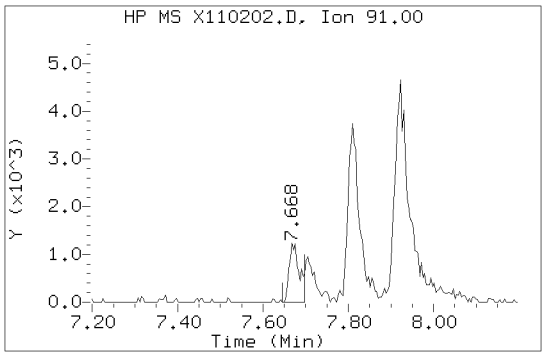
BEFORE

MASS
91
AREA
1535
HEIGHT
889
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
2094
HEIGHT
1232
09-Nov-2022
12:35

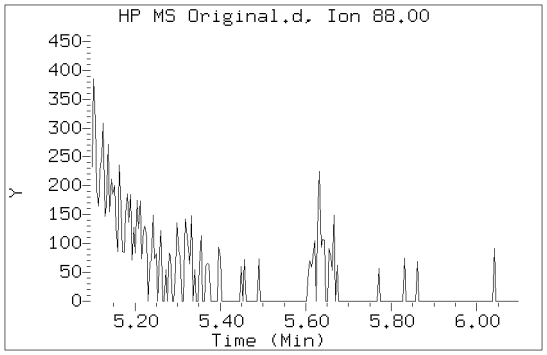


1,4-Dioxane ()

Reason Code:

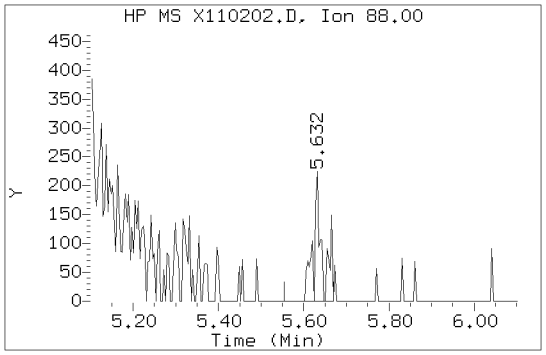
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



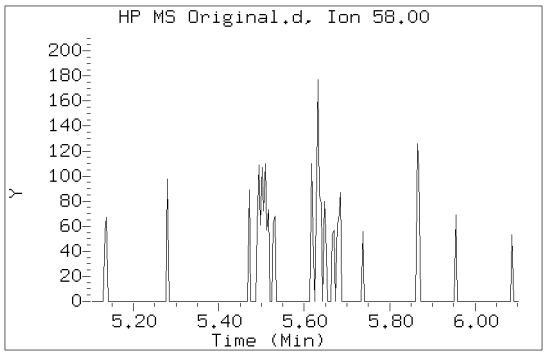
AFTER

MASS
88
AREA
321
HEIGHT
225
09-Nov-2022
12:35



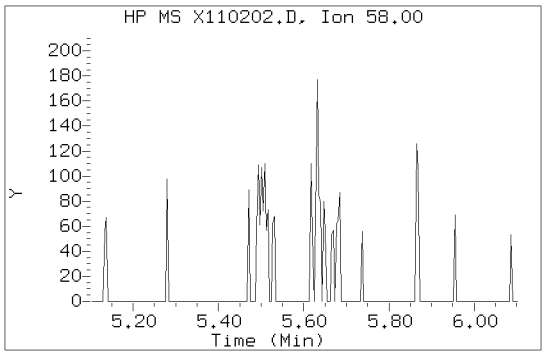
BEFORE

MASS
58
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
09-Nov-2022
12:35

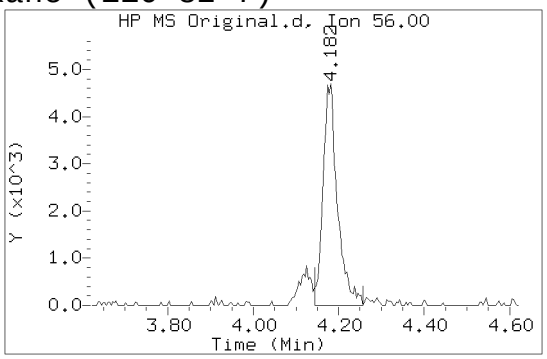


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

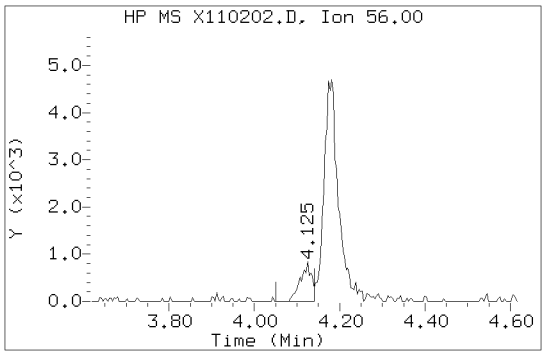
Cyclohexane (110-82-7)

Reason Code:

BEFORE
MASS
56
AREA
11003
HEIGHT
4698
08-Nov-2022
15:18
linh
pham



AFTER
MASS
56
AREA
1515
HEIGHT
840
09-Nov-2022
12:35



BEFORE
MASS
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AREA
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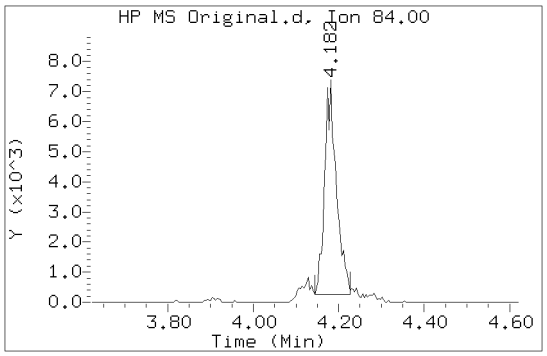
HEIGHT
7137
08-Nov-2022
15:18
linh
pham



AFTER
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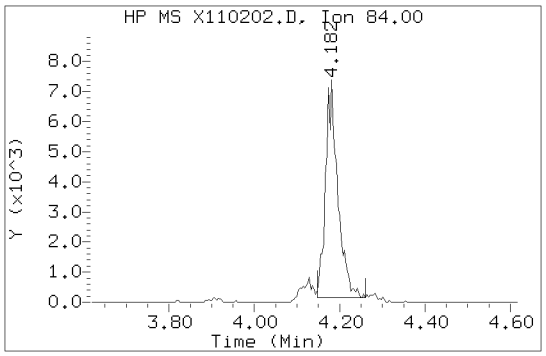
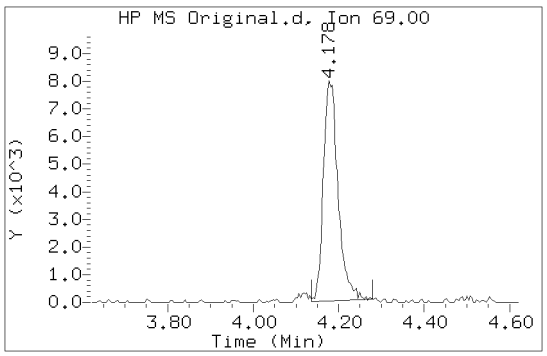
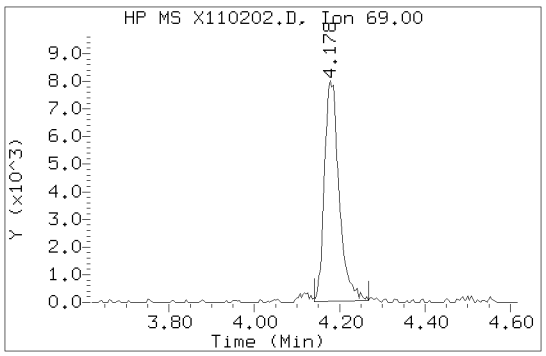
AREA
14332
HEIGHT
7240
09-Nov-2022
12:35



BEFORE
MASS
69
AREA
18969
HEIGHT
7965
08-Nov-2022
15:18
linh
pham



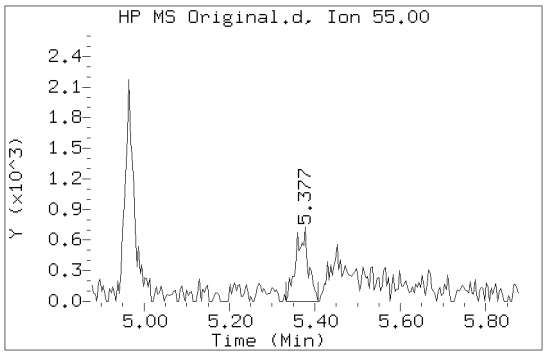
AFTER
MASS
69
AREA
19096
HEIGHT
7981
09-Nov-2022
12:35



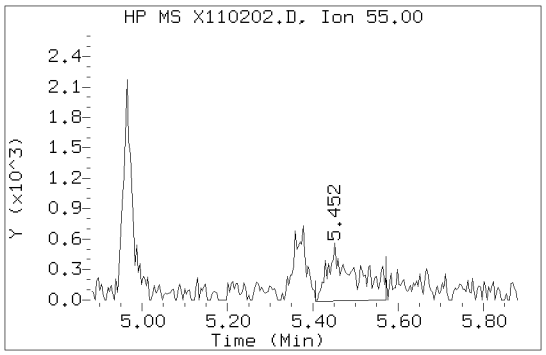
Methylcyclohexane (108-87-2)

Reason Code:

BEFORE
MASS
55
AREA
1461
HEIGHT
730
08-Nov-2022
15:18
linh
pham



AFTER
MASS
55
AREA
2562
HEIGHT
573
09-Nov-2022
12:35



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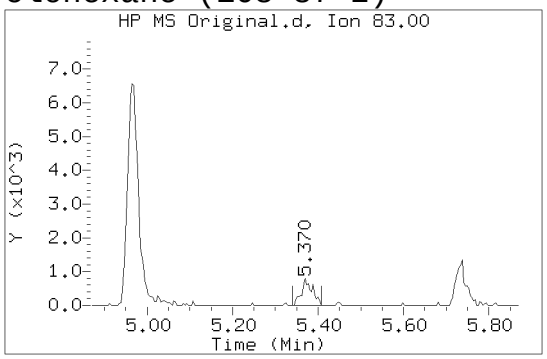
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Methylcyclohexane (108-87-2)

Reason Code:

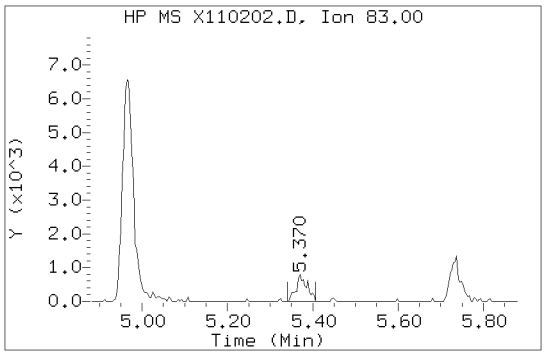
BEFORE

MASS
83
AREA
1428
HEIGHT
795
08-Nov-2022
15:18
linh
pham



AFTER

MASS
83
AREA
1428
HEIGHT
795
09-Nov-2022
12:35

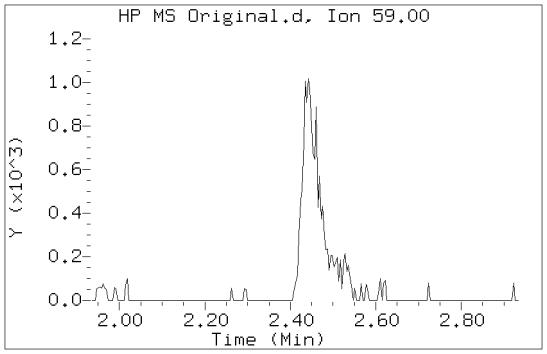


Tert-Butyl alcohol (75-65-0)

Reason Code:

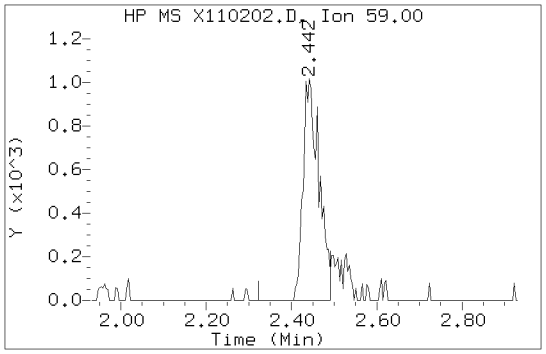
BEFORE

MASS
59
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



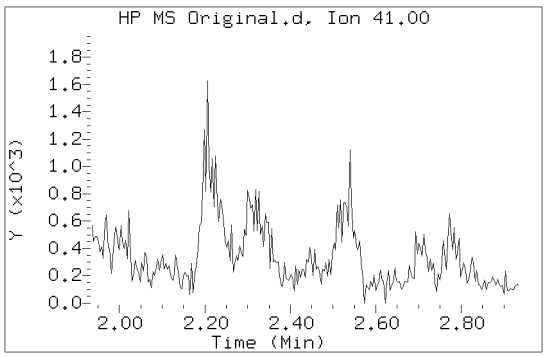
AFTER

MASS
59
AREA
2662
HEIGHT
1016
09-Nov-2022
12:35



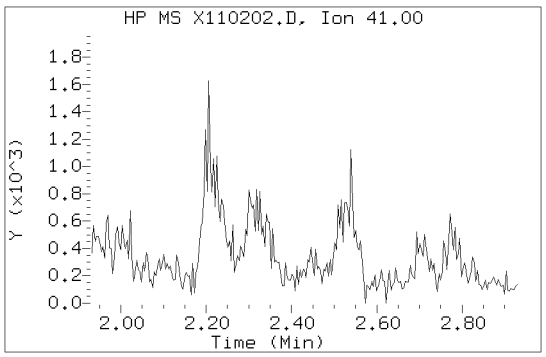
BEFORE

MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35

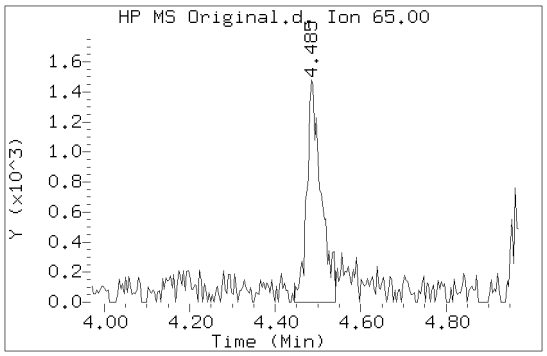


1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

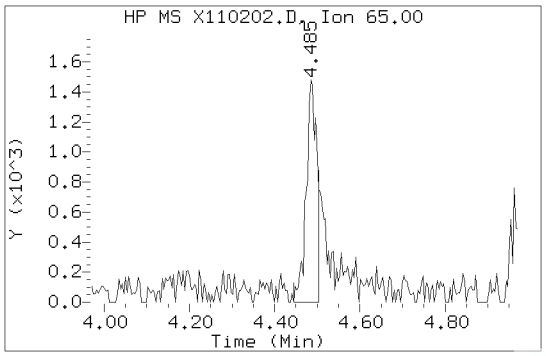
BEFORE

MASS
65
AREA
3468
HEIGHT
1480
08-Nov-2022
15:18
linh
pham



AFTER

MASS
65
AREA
2569
HEIGHT
1480
09-Nov-2022
12:35



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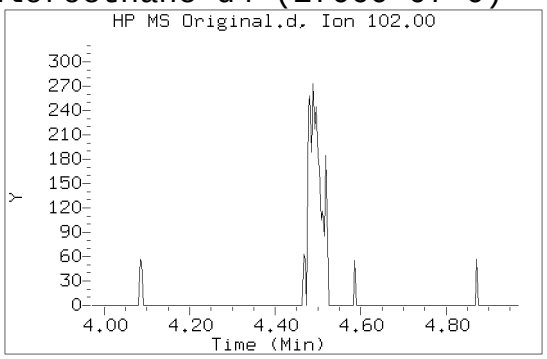
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

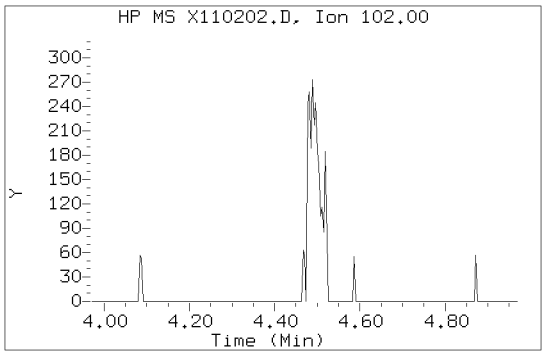
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

BEFORE
MASS
102
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



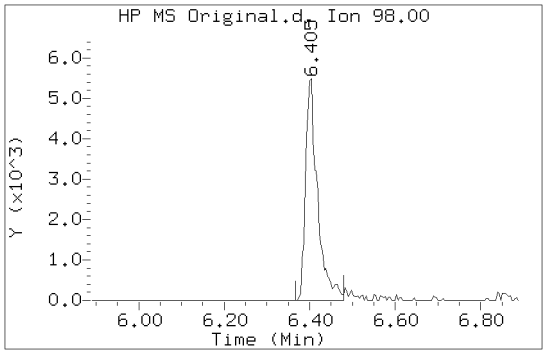
AFTER
MASS
102
AREA
0
HEIGHT
0
09-Nov-2022
12:35



Toluene-d8 (2037-26-5)

Reason Code:

BEFORE
MASS
98
AREA
10803
HEIGHT
5486
08-Nov-2022
15:18
linh
pham



AFTER
MASS
98
AREA
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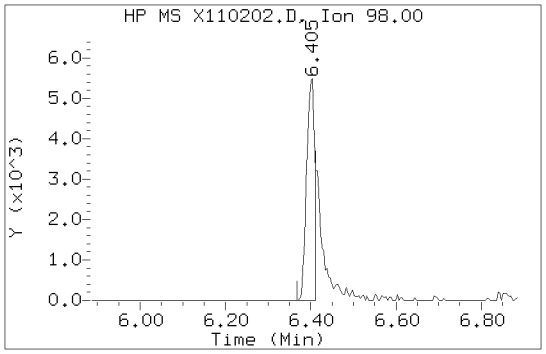
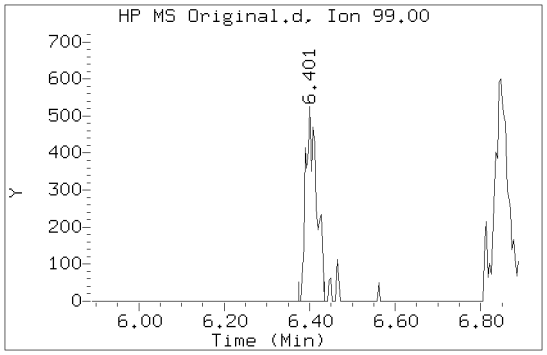
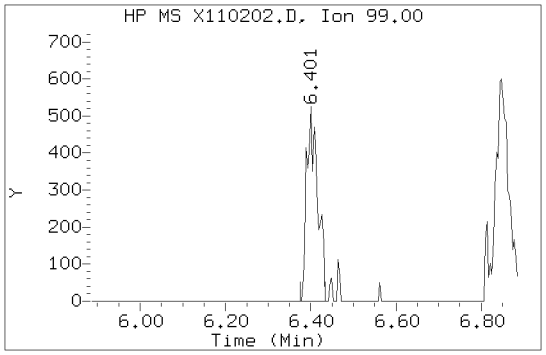
HEIGHT
5486
09-Nov-2022
12:35



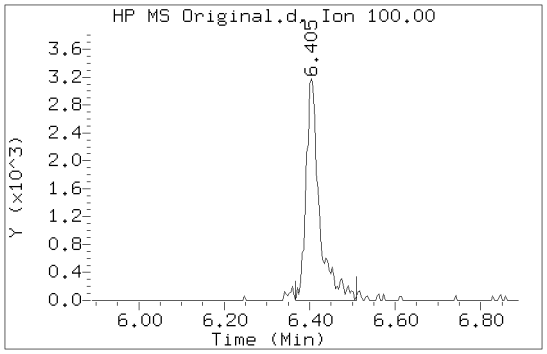
BEFORE
MASS
99
AREA
946
HEIGHT
525
08-Nov-2022
15:18
linh
pham



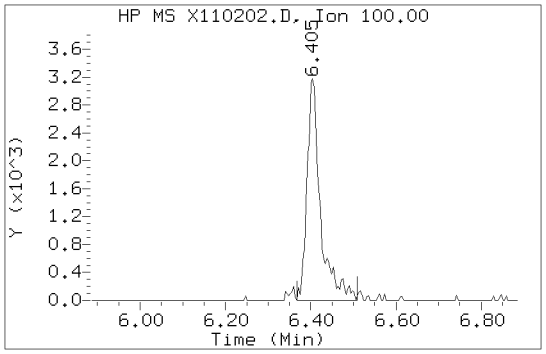
AFTER
MASS
99
AREA
946
HEIGHT
525
09-Nov-2022
12:35



BEFORE
MASS
100
AREA
7019
HEIGHT
3177
08-Nov-2022
15:18
linh
pham



AFTER
MASS
100
AREA
7019
HEIGHT
3177
09-Nov-2022
12:35



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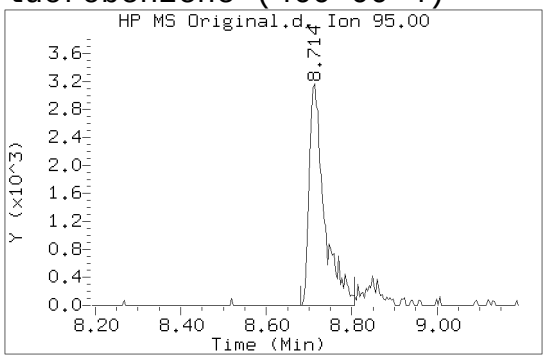
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

4-Bromofluorobenzene (460-00-4)

Reason Code:

BEFORE

MASS
95
AREA
7862
HEIGHT
3169
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
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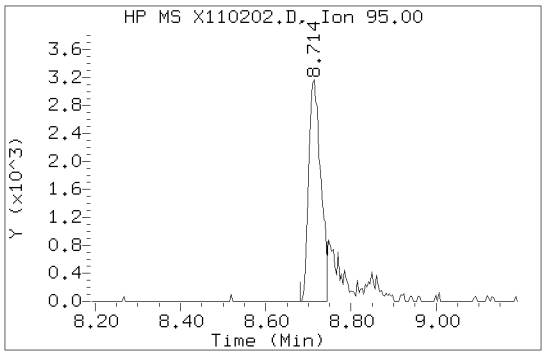
HEIGHT
3169
09-Nov-2022
12:35



BEFORE

MASS
174
AREA
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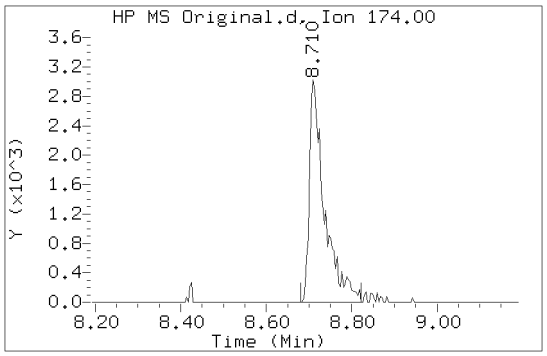
HEIGHT
3024
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
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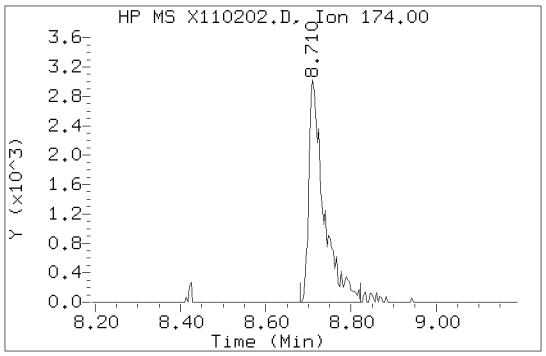
HEIGHT
3024
09-Nov-2022
12:35



BEFORE

MASS
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AREA
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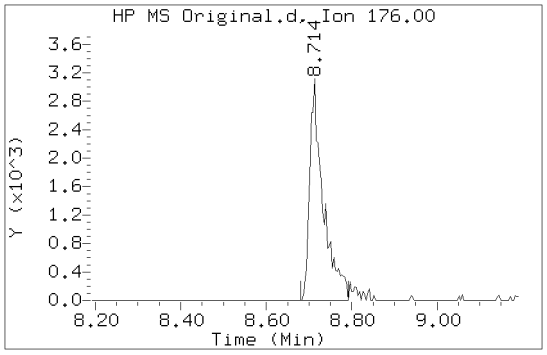
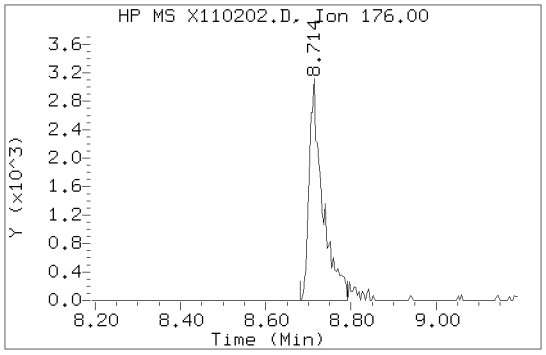
HEIGHT
3117
08-Nov-2022
15:18
linh
pham



AFTER

MASS
176
AREA
6806
HEIGHT
3117
09-Nov-2022
12:35



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
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Inj Date : 02-NOV-2022 12:03
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 11:21 Cal File: X110202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	606757	50.0000	
135 1,4-Dioxane	88	5.643	5.643	(1.351)	679	10.0000	10.49(M)
140 1,3-Butadiene	54	1.160	1.160	(0.278)	2801	0.50000	0.55
25 Methacrylonitrile	41	3.863	3.863	(0.925)	2785	0.50000	0.51(M)
12 Isobutyl Alcohol	43	4.687	4.687	(1.122)	9851	10.0000	10.86(M)
13 Acetonitrile	39	2.198	2.198	(0.526)	4238	5.00000	5.82(M)
14 Allyl Chloride	41	2.198	2.198	(0.526)	7728	0.50000	0.56
4 Propionitrile	54	3.717	3.717	(0.890)	3703	5.00000	4.85(M)
136 n-Hexane	57	2.772	2.772	(0.664)	3089	0.50000	0.16(M)
72 trans-1,4-Dichloro-2-butene	53	8.923	8.923	(1.163)	979	0.50000	0.49(M)
23 Chloroprene	53	1.771	1.771	(0.424)	1410	0.50000	0.60(M)
145 alpha-Methylstyrene	118	9.280	9.280	(0.960)	5508	0.50000	0.54
200 Dimethyl Disulfide	94	6.209	6.209	(0.809)	5512	0.50000	0.49
139 Diethyl ether	59	1.756	1.756	(0.420)	2690	0.50000	0.56
130 Ethyl Acetate	43	3.694	3.694	(0.884)	3227	0.50000	0.50(M)
40 Methyl Methacrylate	41	5.636	5.636	(1.349)	2917	0.50000	0.51
49 Ethyl Methacrylate	69	6.809	6.809	(1.371)	4812	0.50000	0.50(M)
132 n-Butanol	56	5.370	5.370	(1.285)	1209	10.0000	10.51(TM)
142 Tetrahydrofuran	42	3.874	3.874	(0.927)	1105	1.00000	1.14(M)
150 Allyl alcohol	57	2.772	2.772	(0.664)	3753	10.0000	5.46

166	1,2,3-Trimethylbenzene	105	9.737	9.737 (1.008)	11431	0.50000	0.57(M)
2	Dichlorodifluoromethane	85	0.969	0.969 (0.232)	3429	0.50000	1.21(M)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D Page 2
Report Date: 09-Nov-2022 12:35

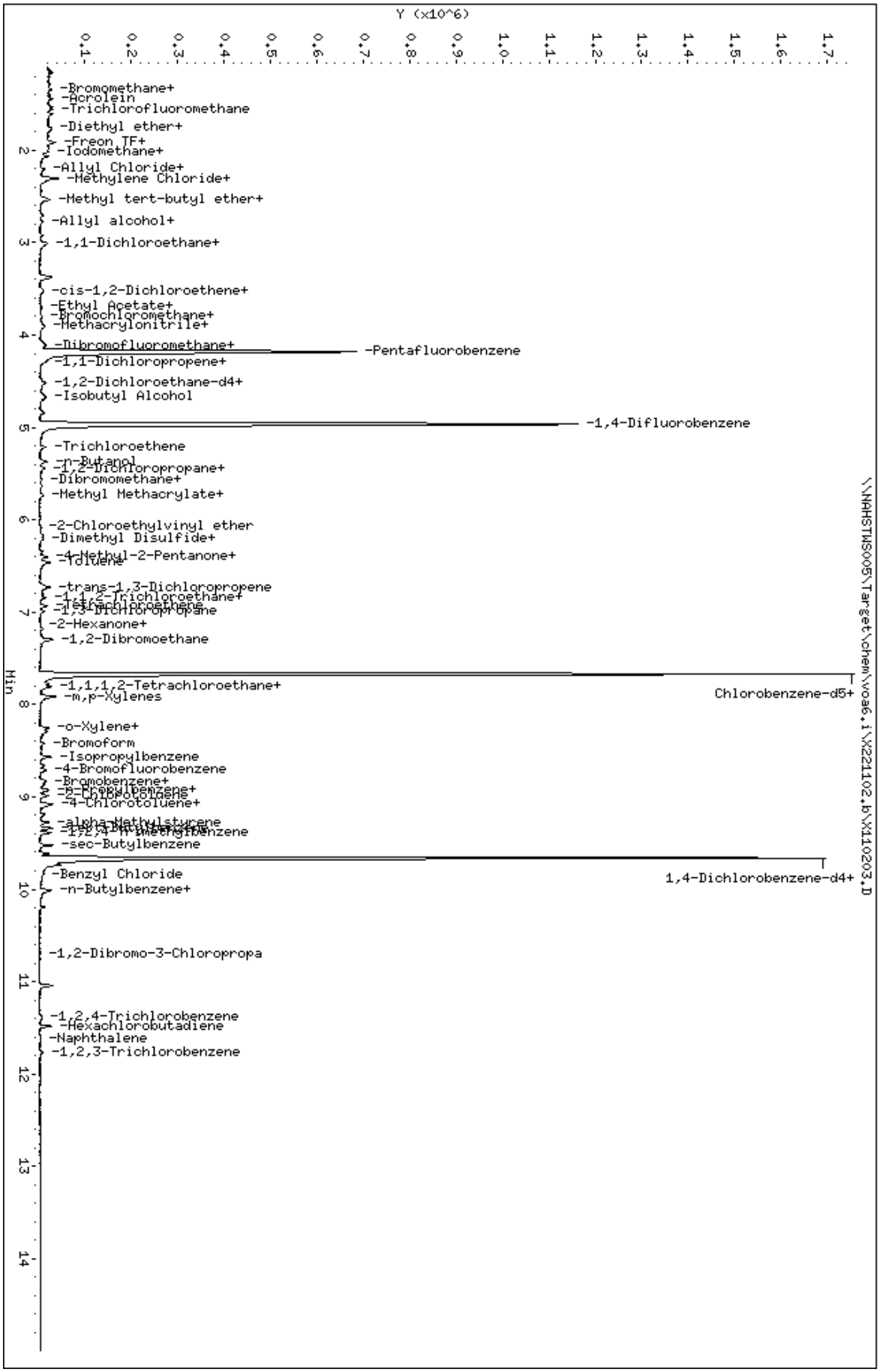
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	3 Chloromethane	50	1.078	1.078	(0.258)	4459	0.50000	2.03
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	3628	0.50000	0.52
	6 Bromomethane	94	1.340	1.340	(0.321)	2842	0.50000	1.90(M)
	7 Chloroethane	64	1.400	1.400	(0.335)	2447	0.50000	0.57(M)
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	5051	0.50000	0.57
	9 Acrolein	56	1.441	1.441	(0.345)	462	1.00000	3.17(M)
	10 Acetone	43	1.973	1.973	(0.472)	4640	1.00000	0.71(M)
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	2985	0.50000	0.57(M)
	15 Iodomethane	142	2.018	2.018	(0.483)	2633	1.00000	2.70
	16 Acrylonitrile	53	2.599	2.599	(0.622)	2071	1.00000	1.04(M)
	17 Methylene Chloride	84	2.296	2.296	(0.550)	3193	0.50000	0.48(M)
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	9863	0.50000	0.54
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	17369	1.00000	1.10
	20 trans-1,2-Dichloroethene	96	2.540	2.540	(0.608)	3164	0.50000	0.55
	21 Vinyl Acetate	43	3.038	3.038	(0.727)	17401	1.00000	1.07(M)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	5913	0.50000	0.57
	24 2-Butanone	43	3.687	3.687	(0.882)	1919	1.00000	0.88(M)
	26 2,2-Dichloropropane	77	3.510	3.510	(0.840)	4986	0.50000	1.78(M)
	27 cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	3576	0.50000	0.53
	28 Chloroform	83	3.915	3.915	(0.937)	6477	0.50000	0.56(M)
	29 Bromochloromethane	128	3.799	3.799	(0.909)	1881	0.50000	0.52
$	30 Dibromofluoromethane	113	4.110	4.110	(0.984)	2793	0.50000	1.00
	31 1,1,1-Trichloroethane	97	4.076	4.076	(0.976)	5019	0.50000	0.56
	32 1,1-Dichloropropene	75	4.290	4.290	(0.864)	4531	0.50000	0.59(M)
	33 1,2-Dichloroethane	62	4.575	4.575	(0.921)	4473	0.50000	0.51(M)
	34 Carbon Tetrachloride	117	4.253	4.253	(0.857)	3603	0.50000	0.43(H)
$	35 1,2-Dichloroethane-d4	65	4.485	4.485	(1.074)	3566	0.50000	0.93
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	949685	50.0000	
	37 Benzene	78	4.523	4.523	(0.911)	12532	0.50000	0.53
	38 Trichloroethene	130	5.212	5.212	(1.050)	3345	0.50000	0.50
	39 Bromodichloromethane	83	5.733	5.733	(1.155)	4361	0.50000	0.52(M)
	41 2-Chloroethylvinyl ether	63	6.071	6.071	(1.223)	2859	1.00000	1.02(M)
	42 1,2-Dichloropropane	63	5.445	5.445	(1.097)	3111	0.50000	0.48(M)
	44 Dibromomethane	93	5.561	5.561	(1.120)	2281	0.50000	0.52
	45 4-Methyl-2-Pentanone	43	6.341	6.341	(0.827)	4962	1.00000	0.86
	46 cis-1,3-Dichloropropene	75	6.168	6.168	(1.242)	5236	0.50000	0.49(M)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	888373	50.0000	
$	48 Toluene-d8	98	6.401	6.401	(0.834)	11313	0.50000	0.52
	50 Toluene	91	6.461	6.461	(0.842)	14226	0.50000	0.55
	51 trans-1,3-Dichloropropene	75	6.700	6.700	(1.350)	4765	0.50000	0.52(M)
	52 2-Hexanone	43	7.132	7.132	(0.930)	3143	1.00000	0.81(M)
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	2777	0.50000	0.54
	54 1,3-Dichloropropane	76	6.989	6.989	(0.911)	5305	0.50000	0.52
	55 Dibromochloromethane	129	7.184	7.184	(0.936)	3651	0.50000	0.55(M)
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	3113	0.50000	1.15
	57 1,2-Dibromoethane	107	7.274	7.274	(0.948)	3300	0.50000	0.51
	58 1-Chlorohexane	55	7.701	7.701	(1.551)	2660	0.50000	0.40(H)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	9346	0.50000	0.54
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	3218	0.50000	0.52
	61 Ethylbenzene	106	7.810	7.810	(1.018)	5072	0.50000	0.58
	62 m,p-Xylenes	106	7.923	7.923	(1.033)	12505	1.00000	1.15
	63 o-Xylene	106	8.256	8.256	(1.076)	6027	0.50000	0.57

64 Styrene	104	8.286	8.286 (1.080)	9328	0.50000	0.52(M)
66 Bromoform	173	8.417	8.417 (1.097)	1417	0.50000	2.74(T)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
	67 Isopropylbenzene	105	8.567	8.567	(1.117)	15189	0.50000	0.58	
	68 1,1,2,2-Tetrachloroethane	83	8.848	8.848	(0.916)	3922	0.50000	0.56(M)	
$	69 4-Bromofluorobenzene	95	8.706	8.706	(1.135)	4822	0.50000	0.84(M)	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	419665	50.0000		
	71 1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	2782	0.50000	0.52(M)	
	73 n-Propylbenzene	91	8.923	8.923	(0.924)	16195	0.50000	0.58	
	74 Bromobenzene	156	8.822	8.822	(0.913)	3861	0.50000	0.53	
	75 1,3,5-Trimethylbenzene	105	9.077	9.077	(0.939)	11037	0.50000	0.55(M)	
	76 2-Chlorotoluene	91	8.991	8.991	(0.931)	10088	0.50000	0.57(M)	
	77 4-Chlorotoluene	91	9.096	9.096	(0.941)	11226	0.50000	0.56	
	78 tert-Butylbenzene	119	9.340	9.340	(0.967)	10031	0.50000	1.16(M)	
	79 1,2,4-Trimethylbenzene	105	9.392	9.392	(0.972)	12136	0.50000	0.59	
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	14692	0.50000	1.48(M)	
	82 p-Isopropyltoluene	119	9.654	9.654	(0.999)	11794	0.50000	0.58(M)	
	83 1,3-Dichlorobenzene	146	9.617	9.617	(0.995)	6935	0.50000	0.57	
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	7150	0.50000	0.57(M)	
	86 Benzyl Chloride	91	9.842	9.842	(1.283)	3833	0.50000	4.32(M)	
	87 n-Butylbenzene	91	10.018	10.018	(1.037)	8543	0.50000	0.50	
	88 1,2-Dichlorobenzene	146	10.011	10.011	(1.036)	6353	0.50000	0.55(M)	
	89 1,2-Dibromo-3-Chloropropane	155	10.700	10.700	(1.107)	208	0.50000	2.98(M)	
	90 1,2,4-Trichlorobenzene	180	11.383	11.383	(1.178)	3032	0.50000	0.57	
	91 Hexachlorobutadiene	225	11.484	11.484	(1.189)	2121	0.50000	0.15(M)	
	92 Naphthalene	128	11.611	11.611	(1.202)	4482	0.50000	0.54	
	93 1,2,3-Trichlorobenzene	180	11.765	11.765	(1.218)	2207	0.50000	0.58(M)	
M	94 1,2-Dichloroethylene (total)	96				6740	1.00000		
M	95 Xylenes (total)	106				18532	1.50000		
	141 Cyclohexane	56	4.125	4.125	(0.987)	3707	0.50000		(MH)
	138 Freon TF	101	1.910	1.910	(0.457)	2725	0.50000		
	147 Methylcyclohexane	55	5.426	5.426	(1.093)	6511	0.50000	0.49(M)	
	146 Methyl Acetate	43	2.258	2.258	(0.541)	1953	0.50000	0.52(M)	

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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-Bromomethane+
-Acrolein
-Trichlorofluoromethane
-Diethyl ether+
-Freon TF+
-Iodomethane+
-Allyl Chloride+
-Methylene Chloride+
-Methyl tert-butyl ether+
-Allyl alcohol+
-1,1-Dichloroethane+
-cis-1,2-Dichloroethene+
-Ethyl Acetate+
-Bromochloromethane+
-Methacrylonitrile+
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol
-1,2-Dichloropropane+
-Dibromomethane+
-Methyl Methacrylate+
-2-Chloroethylvinyl ether
-Dimethyl Disulfide+
-4-Methyl-2-Pentanone+
-Toluene+
-trans-1,3-Dichloropropene
-1,1,2-Trichloroethane+
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone+
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene+
-n-Propylbenzene+
-2-Chlorotoluene
-4-Chlorotoluene+
-alpha-Methylstyrene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
Min
2 3 4 5 6 7 8 9 10 11 12 13 14
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Date : 02-NOV-2022 12:03
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Page 1

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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Dichlorodifluoromethane (75-71-8)

Reason Code:

BEFORE

MASS
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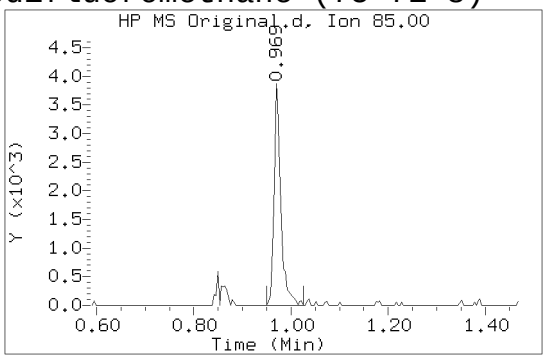
3833
HEIGHT
3872
08-Nov-2022
15:18
linh
pham



AFTER

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HEIGHT
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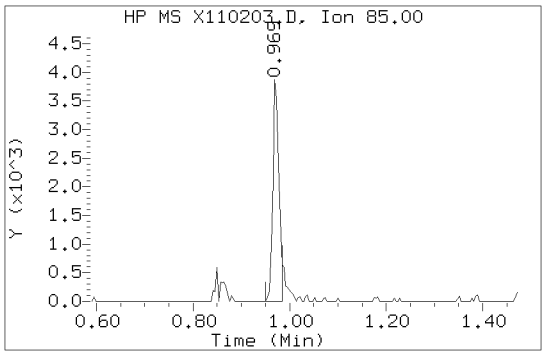
09-Nov-2022
12:34



BEFORE

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1001
HEIGHT
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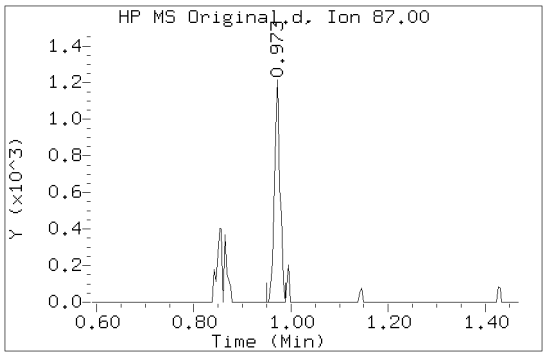
08-Nov-2022
15:18
linh
pham



AFTER

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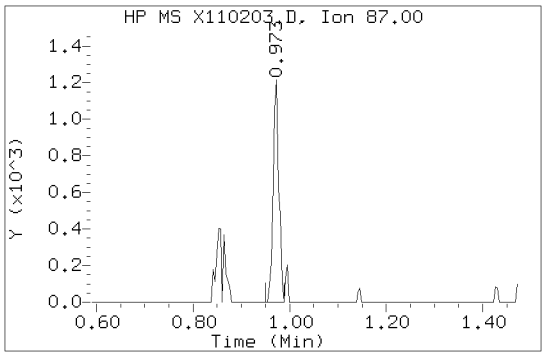
1215
09-Nov-2022
12:34



Bromomethane (74-83-9)

Reason Code:

BEFORE

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AREA
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08-Nov-2022
15:18
linh
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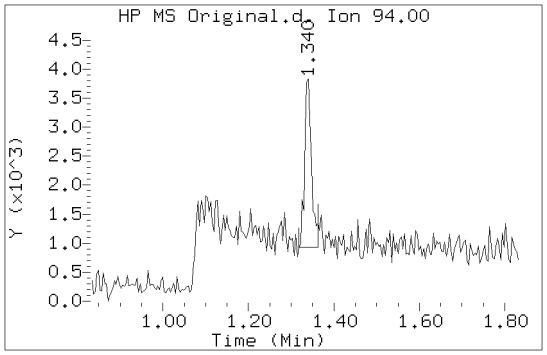

AFTER

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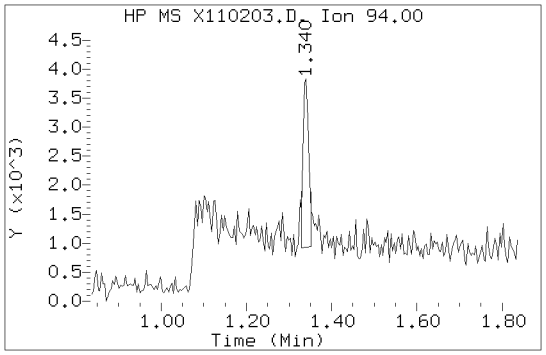
HEIGHT
2901
09-Nov-2022
12:34



BEFORE

MASS
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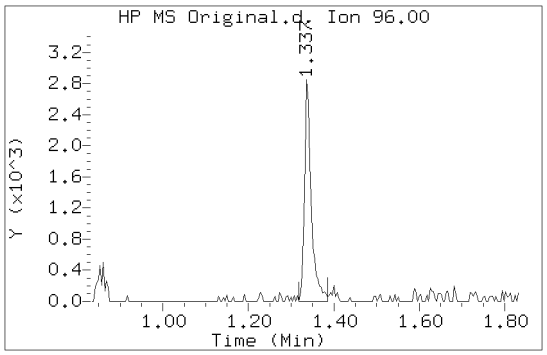
AREA
3217
HEIGHT
2850
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
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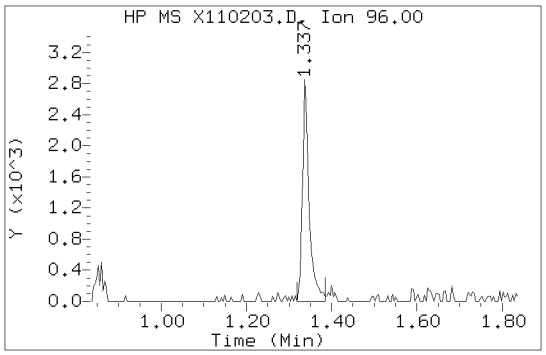
HEIGHT
2850
09-Nov-2022
12:34



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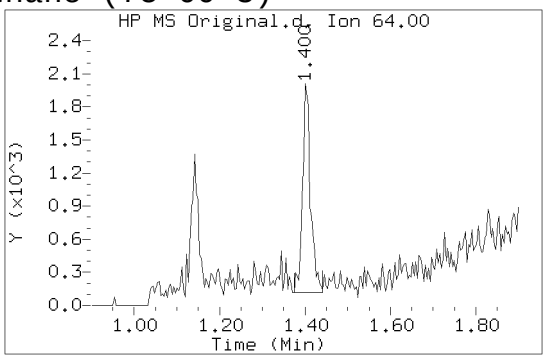
InstruID : voa6.i
LabSampID : VSTD000.5

Chloroethane (75-00-3)

Reason Code:

BEFORE
MASS
64
AREA
2532
HEIGHT
1897
08-Nov-2022
15:18
linh
pham



AFTER
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AREA
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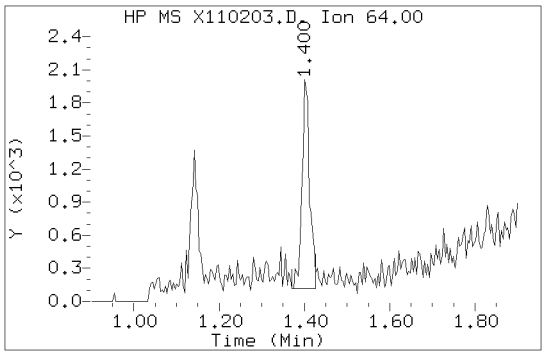
HEIGHT
1897
09-Nov-2022
12:34



BEFORE
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AREA
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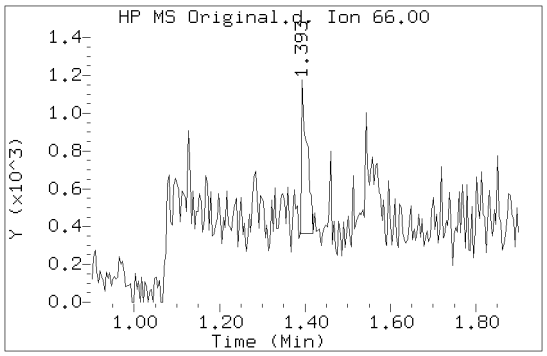
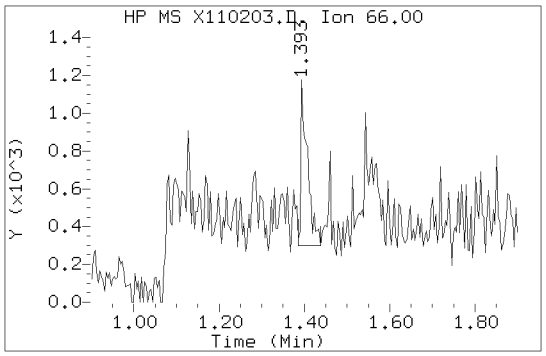
HEIGHT
813
08-Nov-2022
15:18
linh
pham



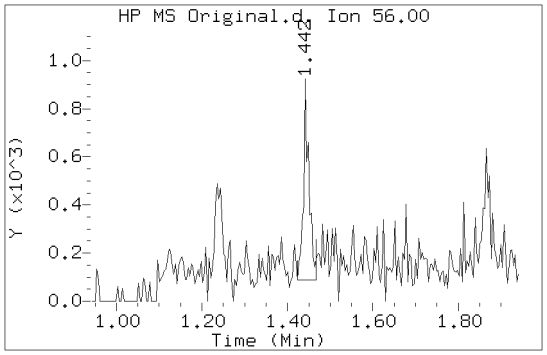
AFTER
MASS
66
AREA
956
HEIGHT
876
09-Nov-2022
12:34



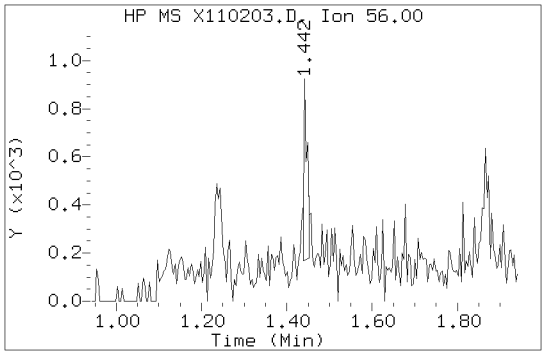
Acrolein (107-02-8)

Reason Code:

BEFORE
MASS
56
AREA
772
HEIGHT
836
08-Nov-2022
15:18
linh
pham



AFTER
MASS
56
AREA
462
HEIGHT
753
09-Nov-2022
12:34



BEFORE
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AREA
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HEIGHT
345
08-Nov-2022
15:18
linh
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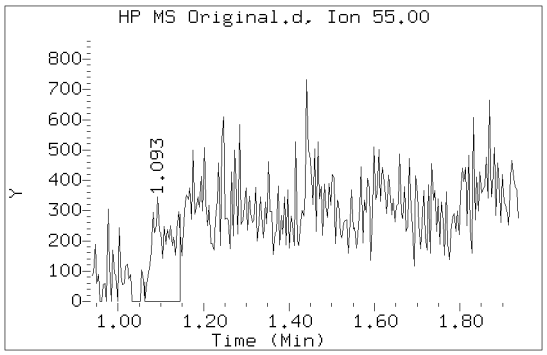

AFTER
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HEIGHT
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09-Nov-2022
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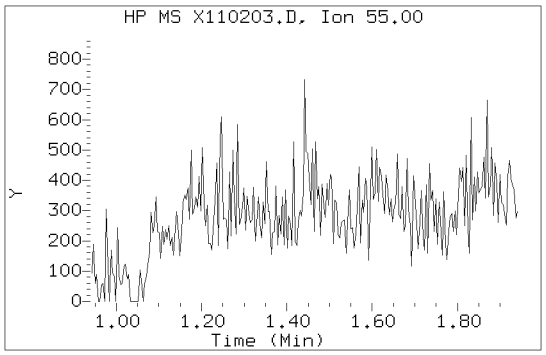

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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Acetone (67-64-1)

Reason Code:

BEFORE
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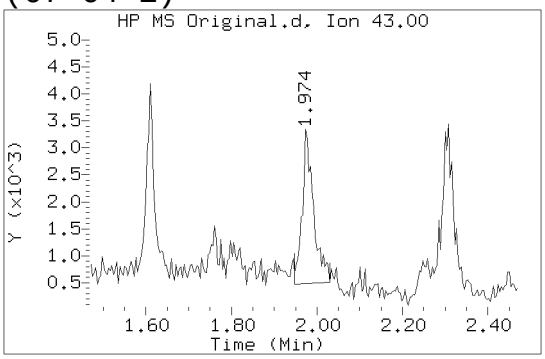
AREA
5328
HEIGHT
2855
08-Nov-2022
15:18
linh
pham



AFTER
MASS
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AREA
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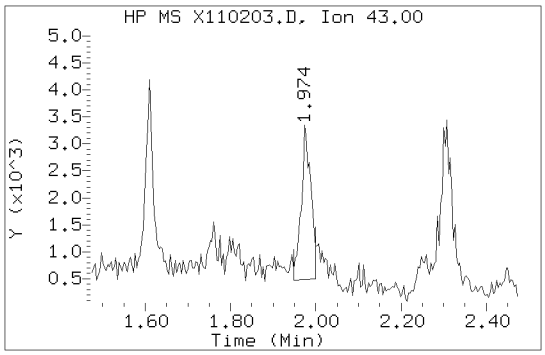
09-Nov-2022
12:34



BEFORE
MASS
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AREA
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HEIGHT
936
08-Nov-2022
15:18
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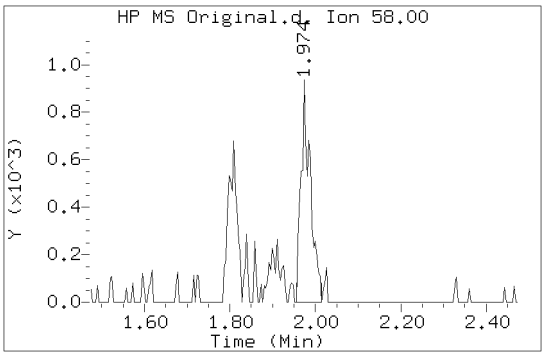
pham



AFTER
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09-Nov-2022
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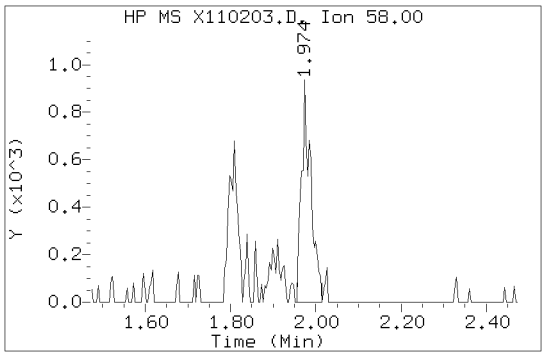

1,1-Dichloroethene (75-35-4)

Reason Code:

BEFORE
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AREA
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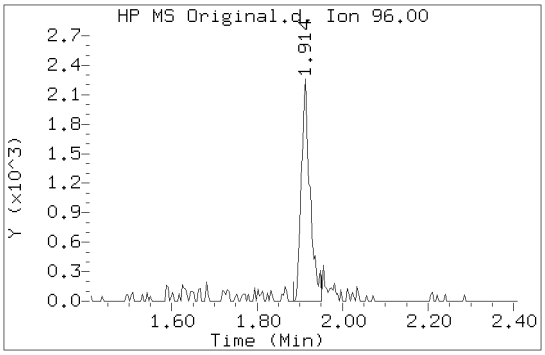
HEIGHT
2261
08-Nov-2022
15:18
linh
pham



AFTER
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09-Nov-2022
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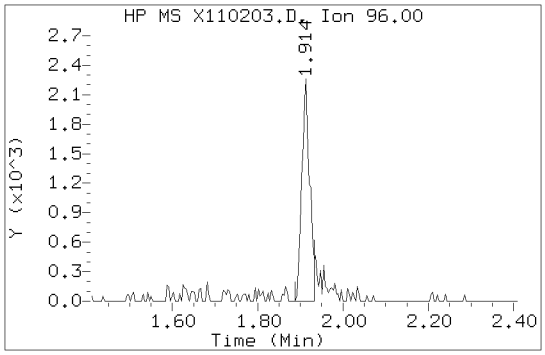

BEFORE
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08-Nov-2022
15:18
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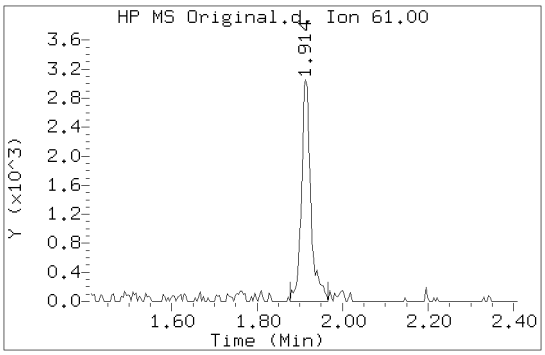

AFTER
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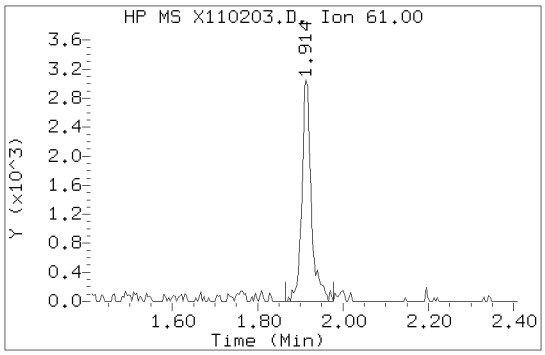
09-Nov-2022
12:34



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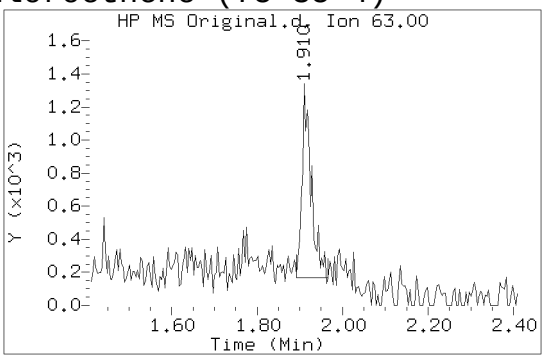
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,1-Dichloroethene (75-35-4)

Reason Code:

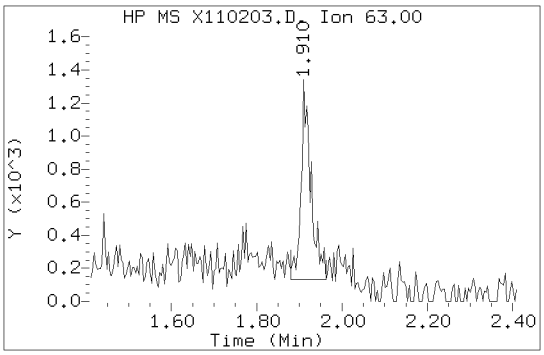
BEFORE

MASS
63
AREA
1758
HEIGHT
1175
08-Nov-2022
15:18
linh
pham



AFTER

MASS
63
AREA
1980
HEIGHT
1209
09-Nov-2022
12:34

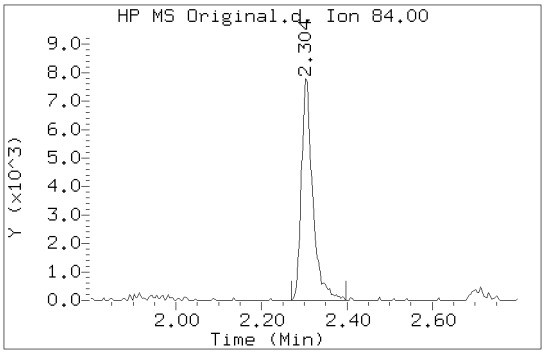


Methylene Chloride (75-09-2)

Reason Code:

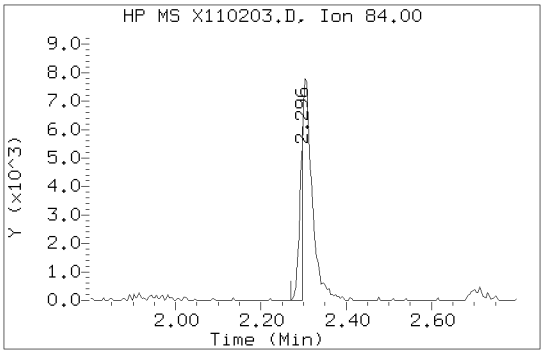
BEFORE

MASS
84
AREA
14664
HEIGHT
7787
08-Nov-2022
15:18
linh
pham



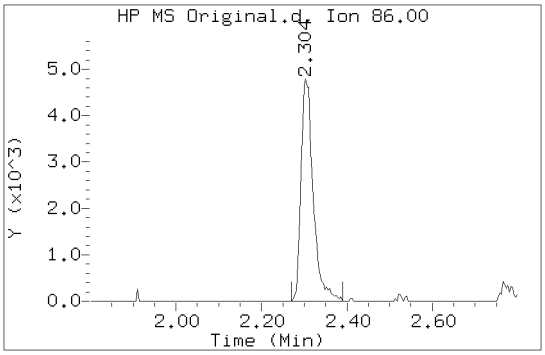
AFTER

MASS
84
AREA
3193
HEIGHT
5421
09-Nov-2022
12:34



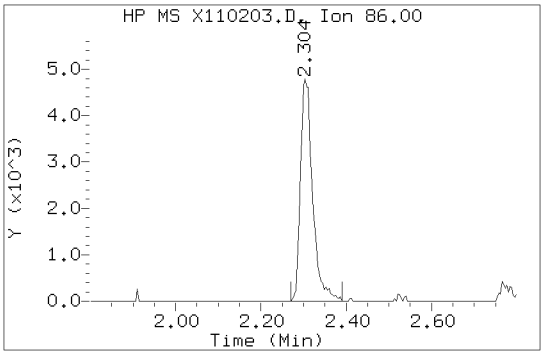
BEFORE

MASS
86
AREA
9713
HEIGHT
4792
08-Nov-2022
15:18
linh
pham



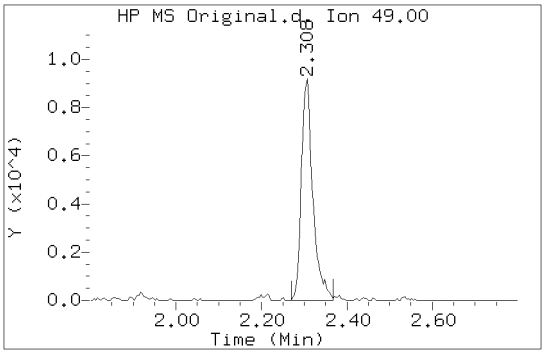
AFTER

MASS
86
AREA
9713
HEIGHT
4792
09-Nov-2022
12:34



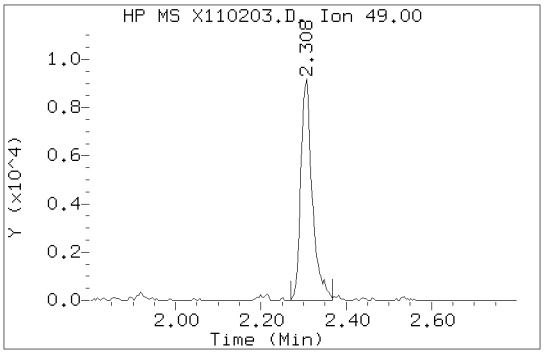
BEFORE

MASS
49
AREA
17470
HEIGHT
9198
08-Nov-2022
15:18
linh
pham



AFTER

MASS
49
AREA
17470
HEIGHT
9198
09-Nov-2022
12:34



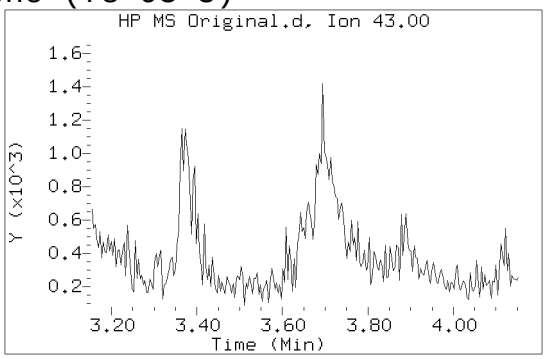
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

2-Butanone (78-93-3)

Reason Code:

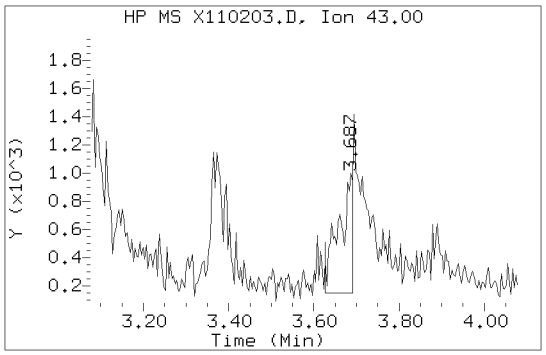
BEFORE

MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



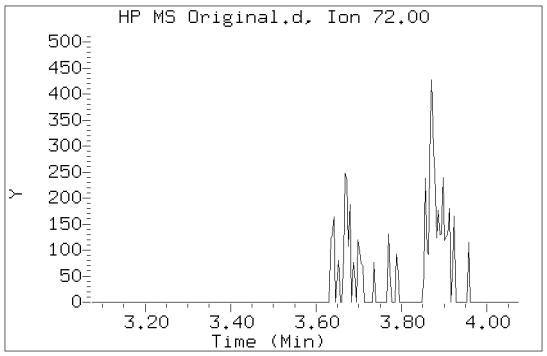
AFTER

MASS
43
AREA
1919
HEIGHT
853
09-Nov-2022
12:34



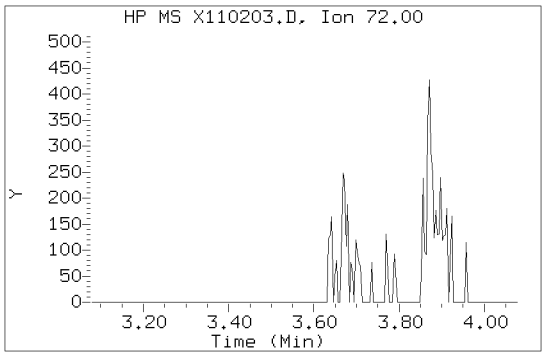
BEFORE

MASS
72
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
72
AREA
0
HEIGHT
0
09-Nov-2022
12:34

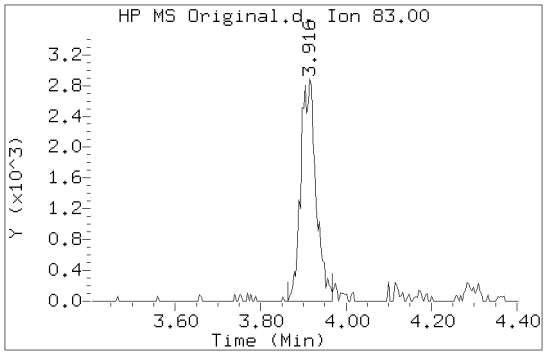


Chloroform (67-66-3)

Reason Code:

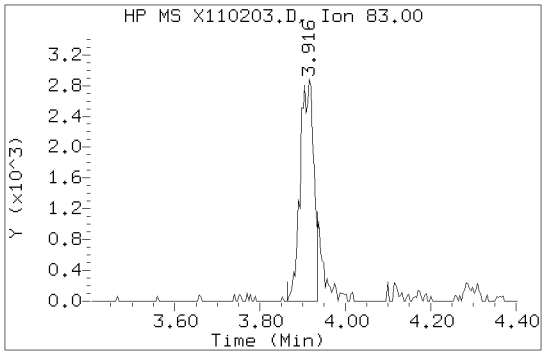
BEFORE

MASS
83
AREA
7302
HEIGHT
2887
08-Nov-2022
15:18
linh
pham



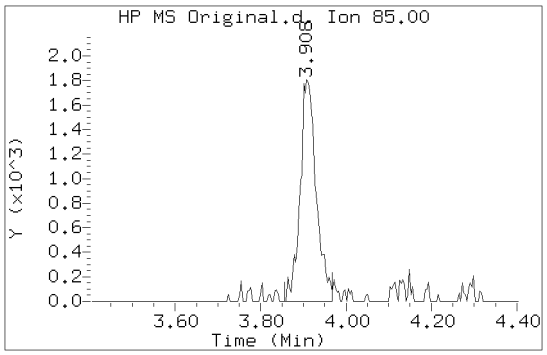
AFTER

MASS
83
AREA
6477
HEIGHT
2887
09-Nov-2022
12:34



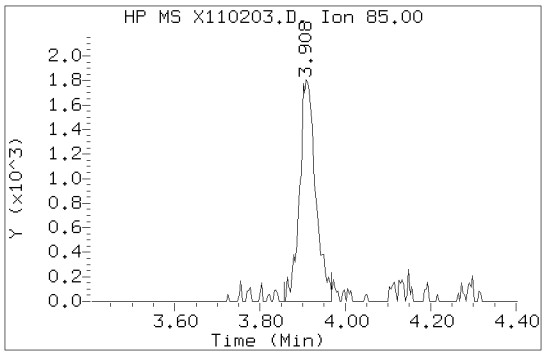
BEFORE

MASS
85
AREA
4798
HEIGHT
1806
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
4798
HEIGHT
1806
09-Nov-2022
12:34



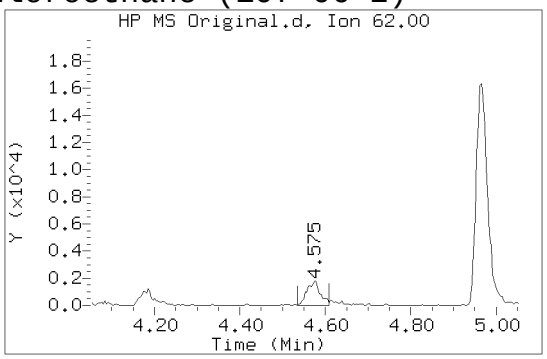
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dichloroethane (107-06-2)

Reason Code:

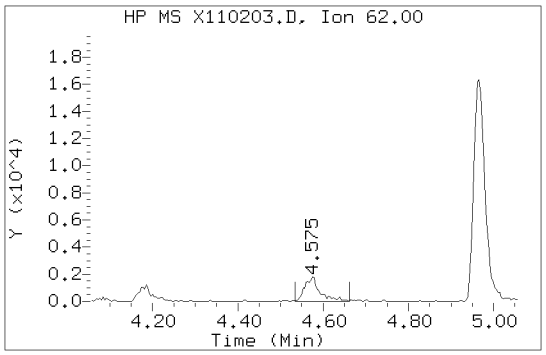
BEFORE

MASS
62
AREA
3911
HEIGHT
1812
08-Nov-2022
15:18
linh
pham



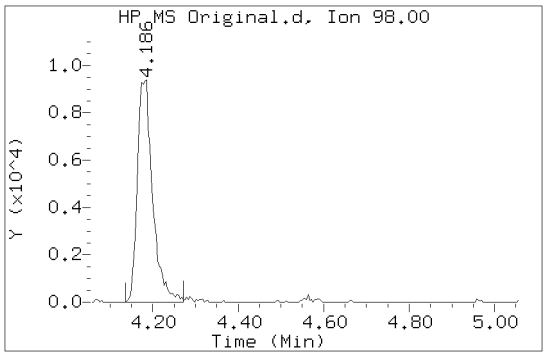
AFTER

MASS
62
AREA
4473
HEIGHT
1812
09-Nov-2022
12:34



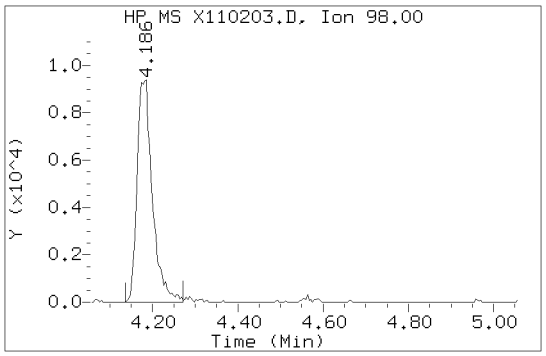
BEFORE

MASS
98
AREA
23326
HEIGHT
9392
08-Nov-2022
15:18
linh
pham



AFTER

MASS
98
AREA
23326
HEIGHT
9392
09-Nov-2022
12:34

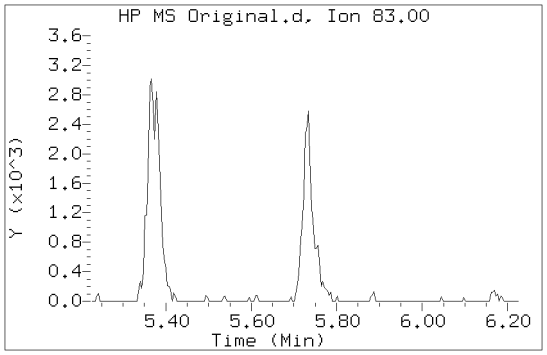


Bromodichloromethane (75-27-4)

Reason Code:

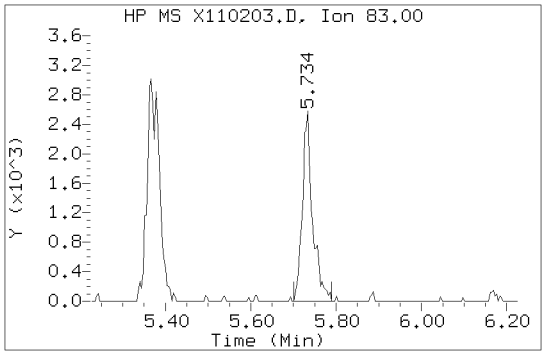
BEFORE

MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



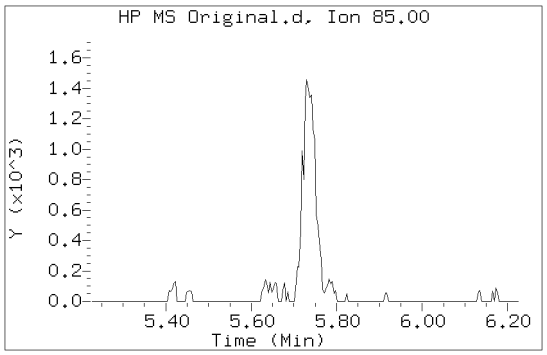
AFTER

MASS
83
AREA
4361
HEIGHT
2579
09-Nov-2022
12:34



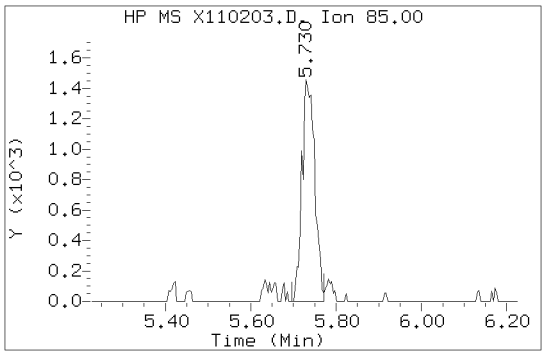
BEFORE

MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
3082
HEIGHT
1457
09-Nov-2022
12:34



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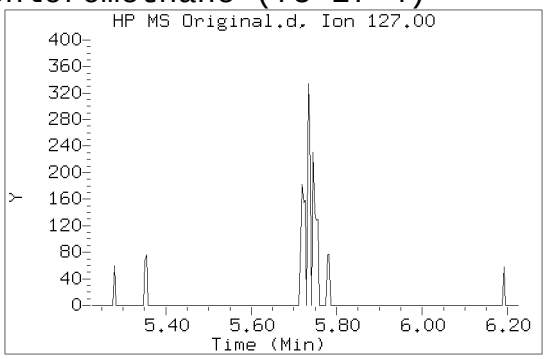
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Bromodichloromethane (75-27-4)

Reason Code:

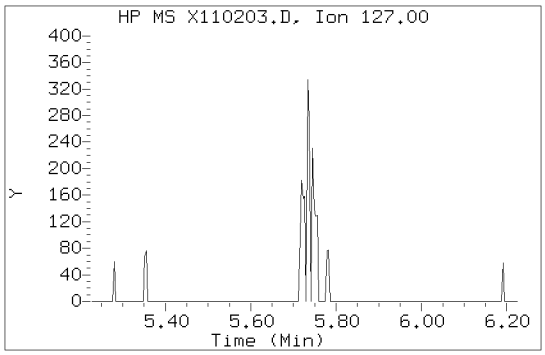
BEFORE

MASS
127
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
09-Nov-2022
12:34

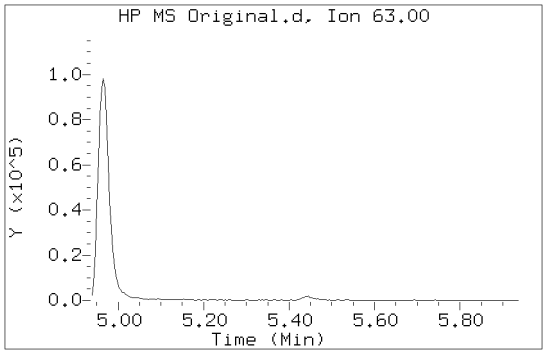


1,2-Dichloropropane (78-87-5)

Reason Code:

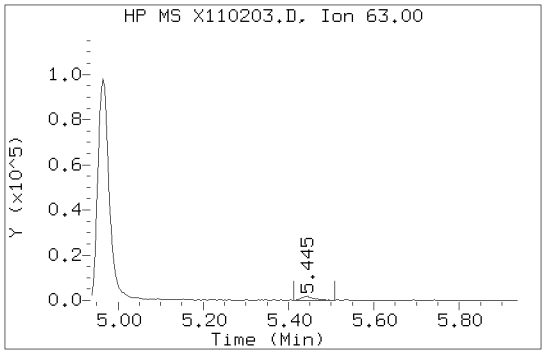
BEFORE

MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



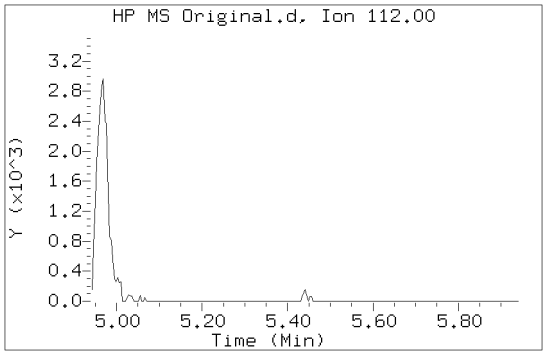
AFTER

MASS
63
AREA
3111
HEIGHT
1904
09-Nov-2022
12:34



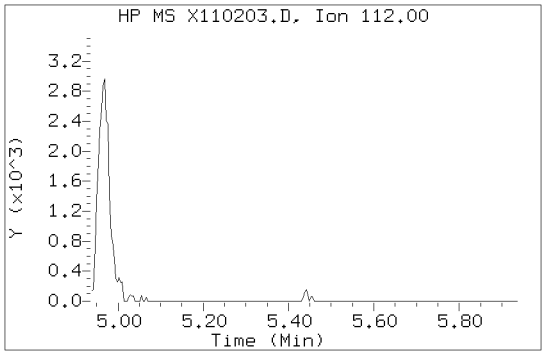
BEFORE

MASS
112
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
09-Nov-2022
12:34

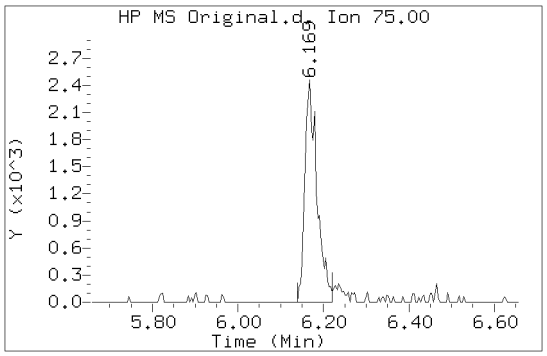


cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

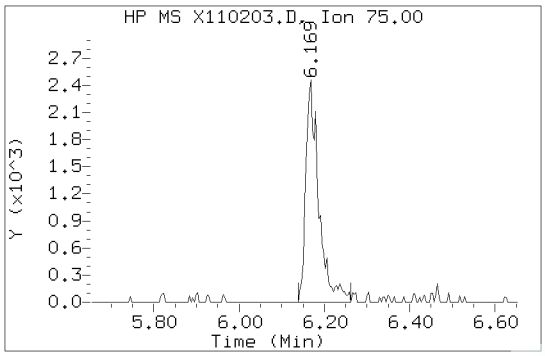
BEFORE

MASS
75
AREA
4929
HEIGHT
2462
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
5236
HEIGHT
2462
09-Nov-2022
12:34



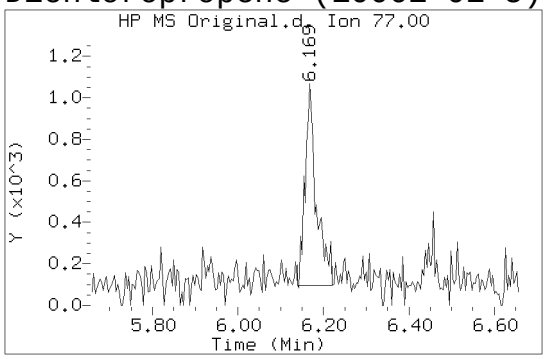
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

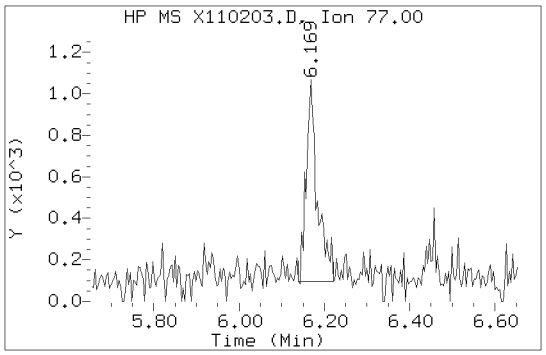
BEFORE

MASS
77
AREA
1780
HEIGHT
973
08-Nov-2022
15:18
linh
pham



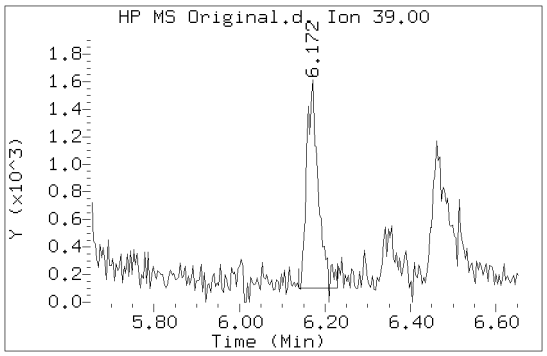
AFTER

MASS
77
AREA
1780
HEIGHT
973
09-Nov-2022
12:34



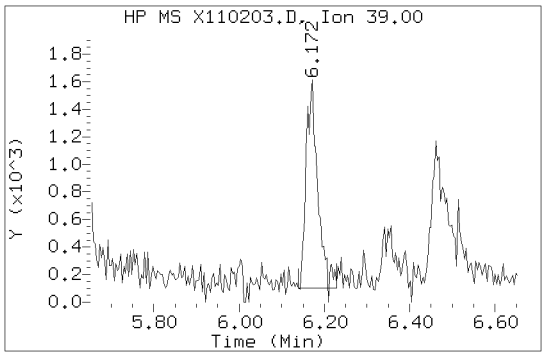
BEFORE

MASS
39
AREA
2854
HEIGHT
1509
08-Nov-2022
15:18
linh
pham



AFTER

MASS
39
AREA
2854
HEIGHT
1509
09-Nov-2022
12:34

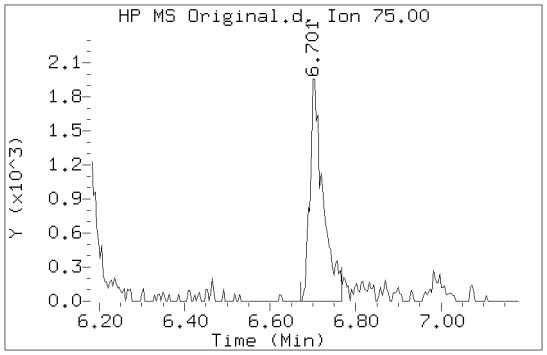


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

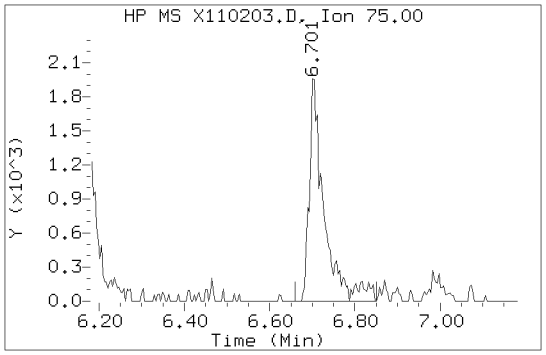
BEFORE

MASS
75
AREA
4210
HEIGHT
1958
08-Nov-2022
15:18
linh
pham



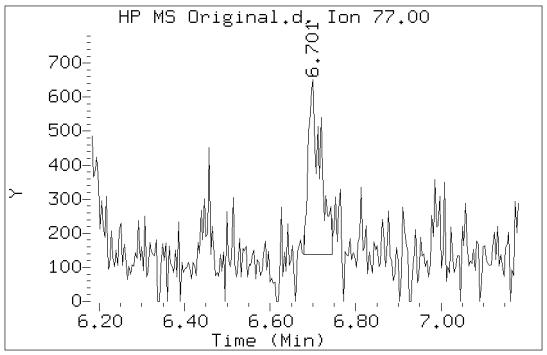
AFTER

MASS
75
AREA
4765
HEIGHT
1958
09-Nov-2022
12:34



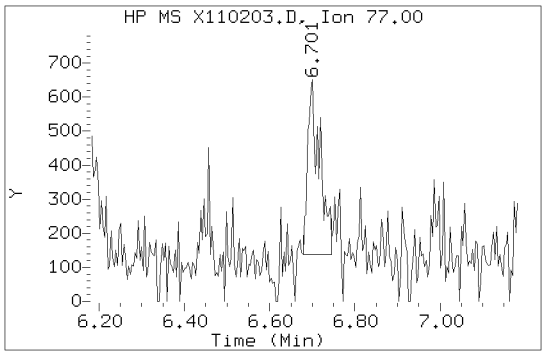
BEFORE

MASS
77
AREA
1001
HEIGHT
513
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
1001
HEIGHT
513
09-Nov-2022
12:34

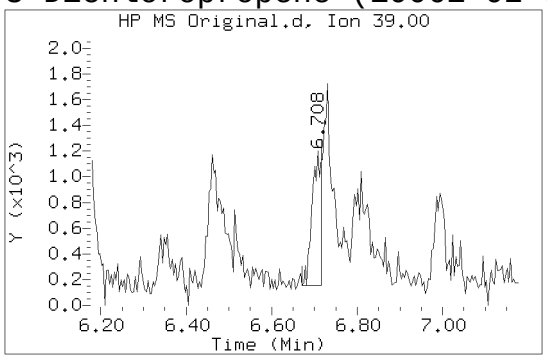


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

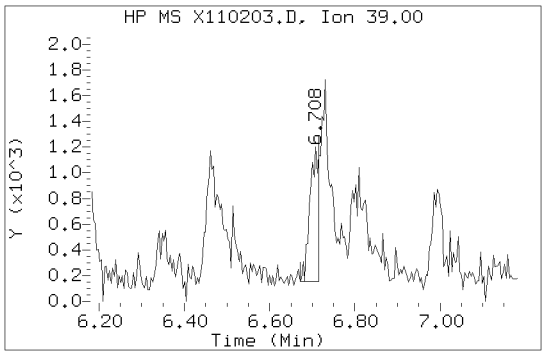
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

BEFORE
MASS
39
AREA
1515
HEIGHT
1046
08-Nov-2022
15:18
linh
pham



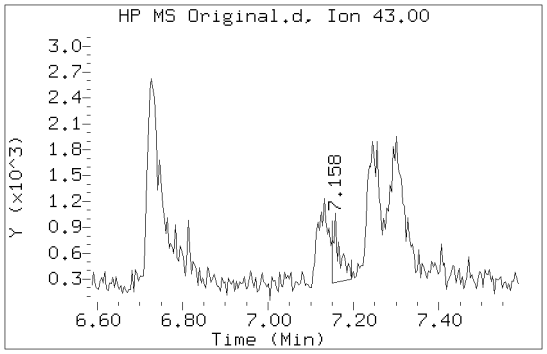
AFTER
MASS
39
AREA
1515
HEIGHT
1046
09-Nov-2022
12:34



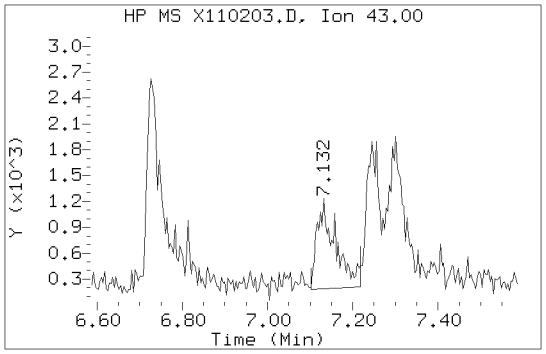
2-Hexanone (591-78-6)

Reason Code:

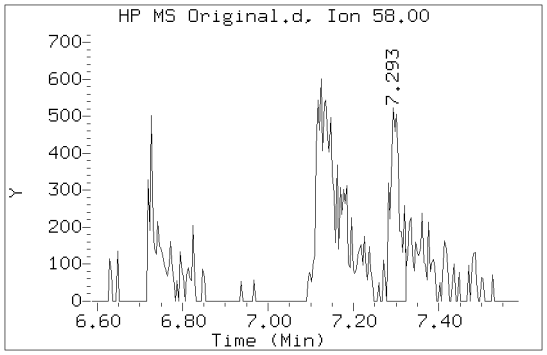
BEFORE
MASS
43
AREA
867
HEIGHT
801
08-Nov-2022
15:18
linh
pham



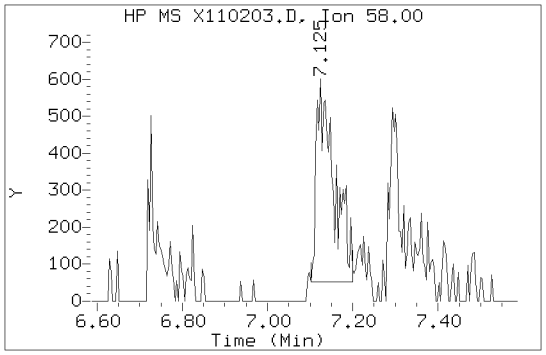
AFTER
MASS
43
AREA
3143
HEIGHT
1046
09-Nov-2022
12:34



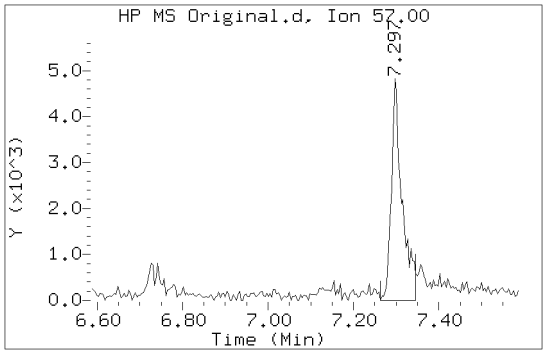
BEFORE
MASS
58
AREA
822
HEIGHT
523
08-Nov-2022
15:18
linh
pham



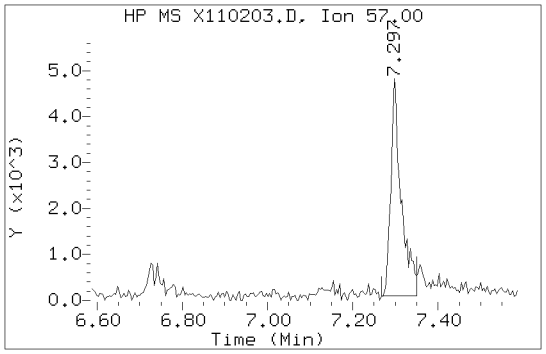
AFTER
MASS
58
AREA
1556
HEIGHT
548
09-Nov-2022
12:34



BEFORE
MASS
57
AREA
8406
HEIGHT
4825
08-Nov-2022
15:18
linh
pham



AFTER
MASS
57
AREA
8033
HEIGHT
4730
09-Nov-2022
12:34



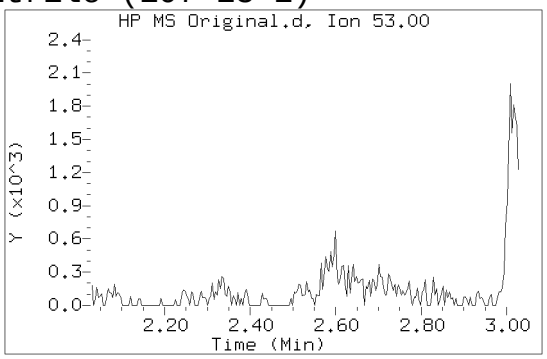
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Acrylonitrile (107-13-1)

Reason Code:

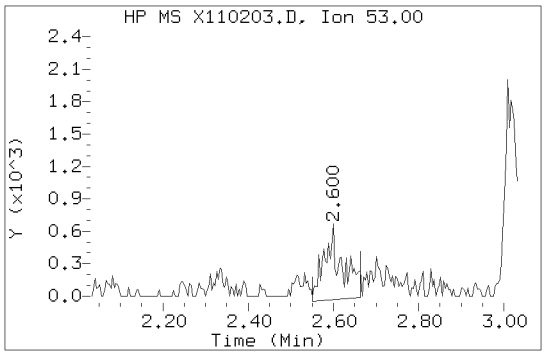
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



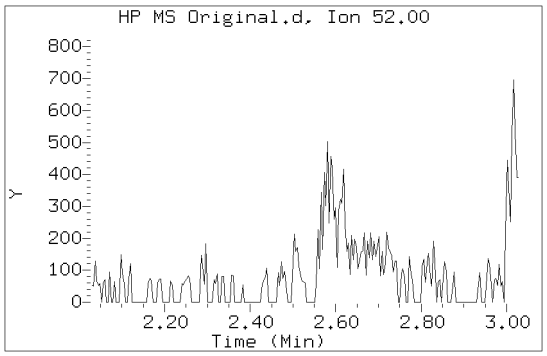
AFTER

MASS
53
AREA
2071
HEIGHT
702
09-Nov-2022
12:34



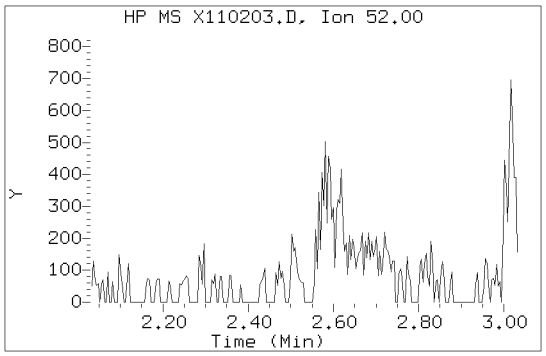
BEFORE

MASS
52
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



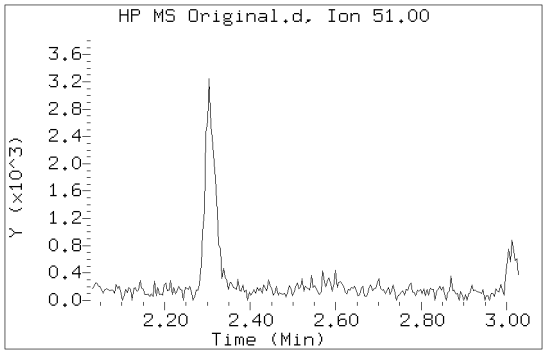
AFTER

MASS
52
AREA
0
HEIGHT
0
09-Nov-2022
12:34



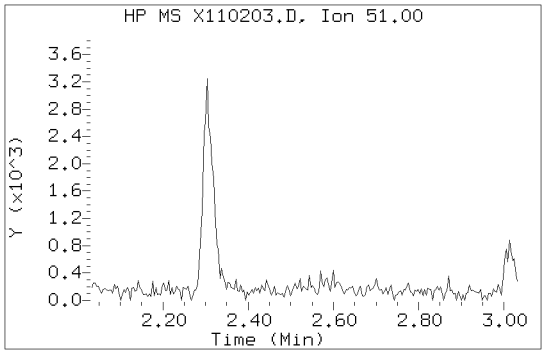
BEFORE

MASS
51
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
51
AREA
0
HEIGHT
0
09-Nov-2022
12:34

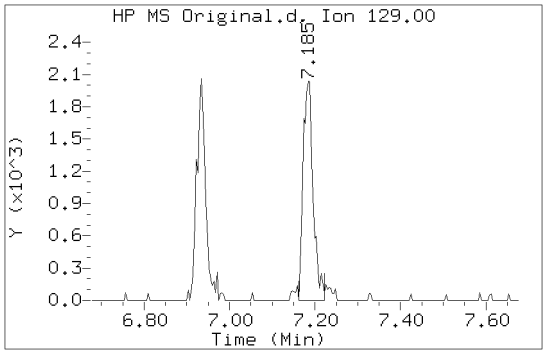


Dibromochloromethane (124-48-1)

Reason Code:

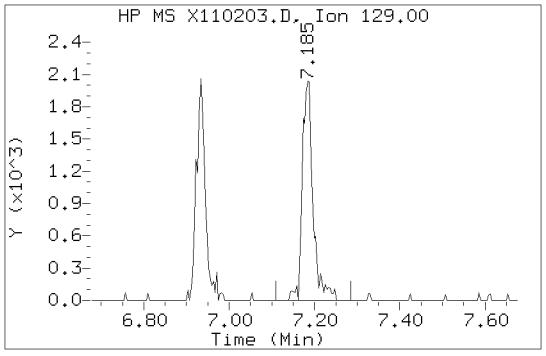
BEFORE

MASS
129
AREA
3387
HEIGHT
2039
08-Nov-2022
15:18
linh
pham



AFTER

MASS
129
AREA
3651
HEIGHT
2039
09-Nov-2022
12:34

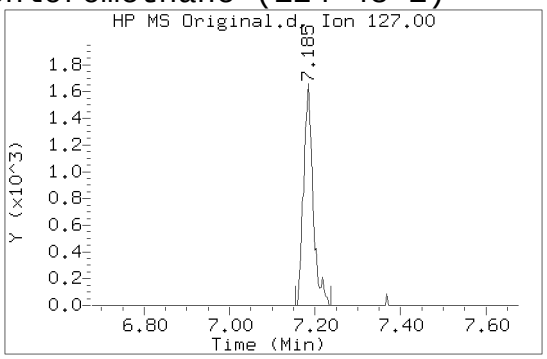


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

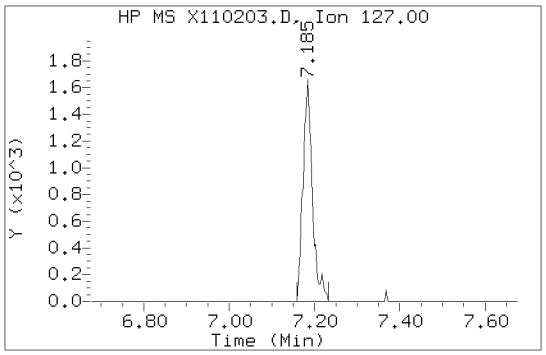
Dibromochloromethane (124-48-1)

Reason Code:

BEFORE
MASS
127
AREA
2594
HEIGHT
1659
08-Nov-2022
15:18
linh
pham



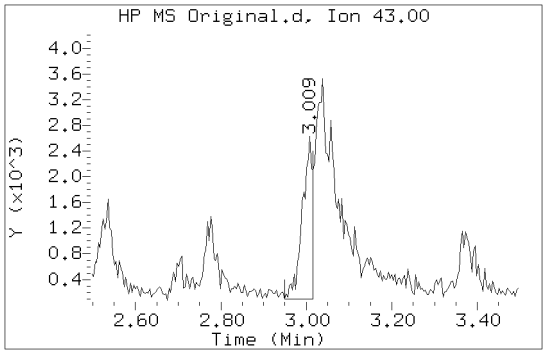
AFTER
MASS
127
AREA
2594
HEIGHT
1659
09-Nov-2022
12:34



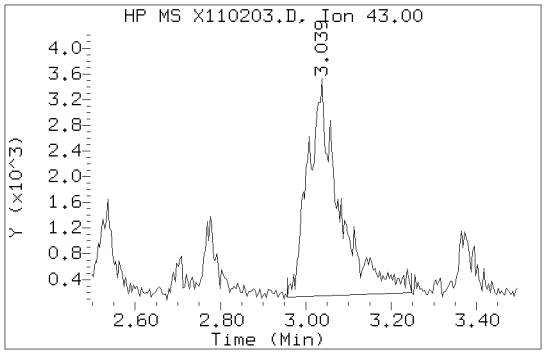
Vinyl Acetate (108-05-4)

Reason Code:

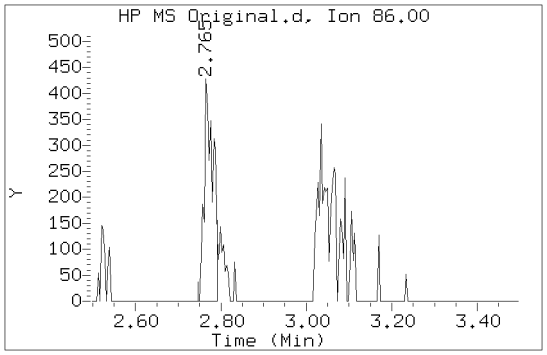
BEFORE
MASS
43
AREA
4272
HEIGHT
2535
08-Nov-2022
15:18
linh
pham



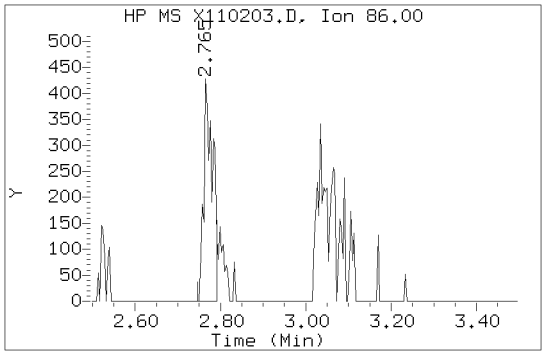
AFTER
MASS
43
AREA
17401
HEIGHT
3376
09-Nov-2022
12:34



BEFORE
MASS
86
AREA
620
HEIGHT
428
08-Nov-2022
15:18
linh
pham



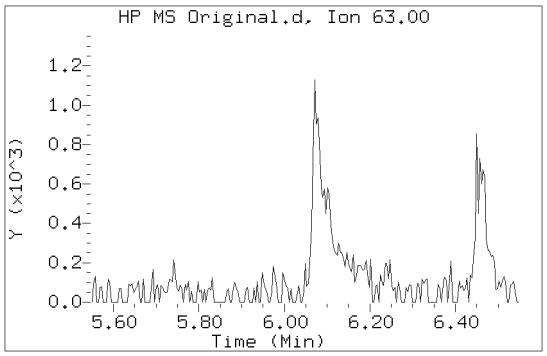
AFTER
MASS
86
AREA
620
HEIGHT
428
09-Nov-2022
12:34



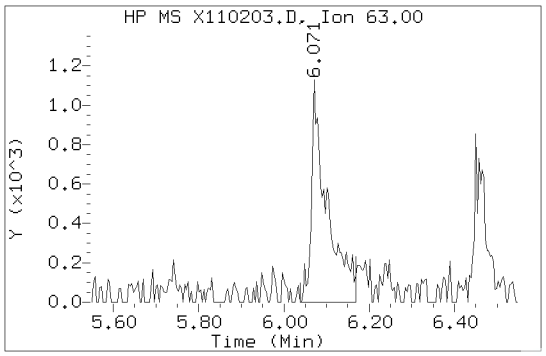
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

BEFORE
MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
63
AREA
2859
HEIGHT
1129
09-Nov-2022
12:34



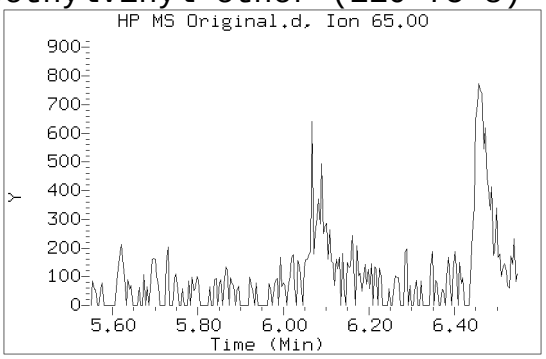
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

2-Chloroethylvinyl ether (110-75-8)

Reason Code:

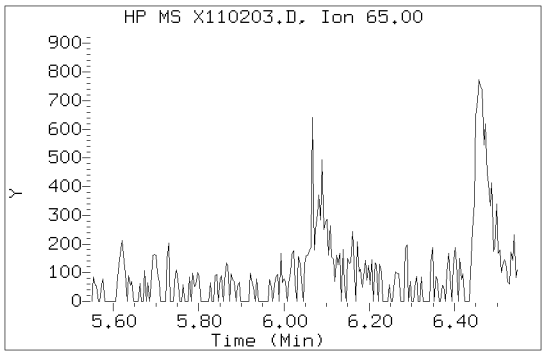
BEFORE

MASS
65
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



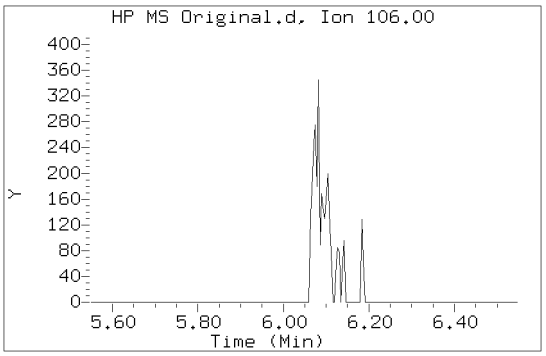
AFTER

MASS
65
AREA
0
HEIGHT
0
09-Nov-2022
12:34



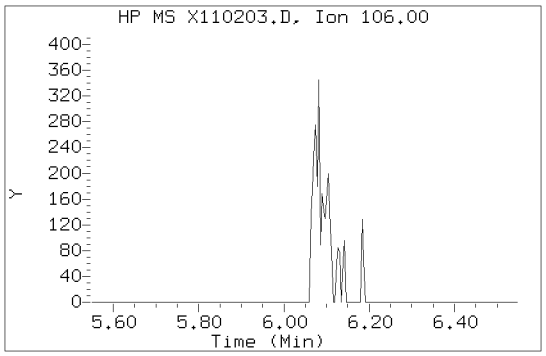
BEFORE

MASS
106
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
106
AREA
0
HEIGHT
0
09-Nov-2022
12:34

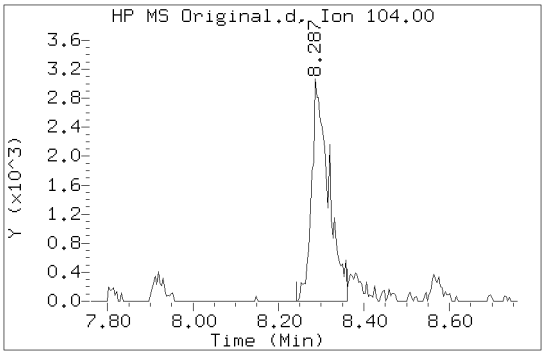


Styrene (100-42-5)

Reason Code:

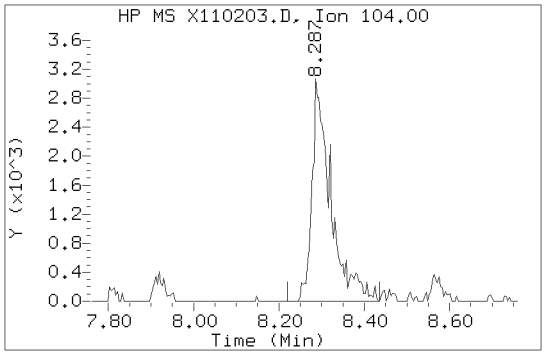
BEFORE

MASS
104
AREA
8459
HEIGHT
3066
08-Nov-2022
15:18
linh
pham



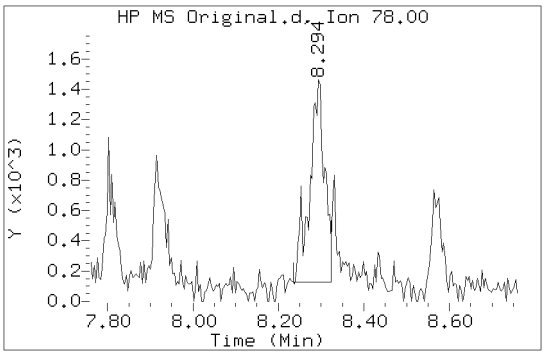
AFTER

MASS
104
AREA
9328
HEIGHT
3066
09-Nov-2022
12:34



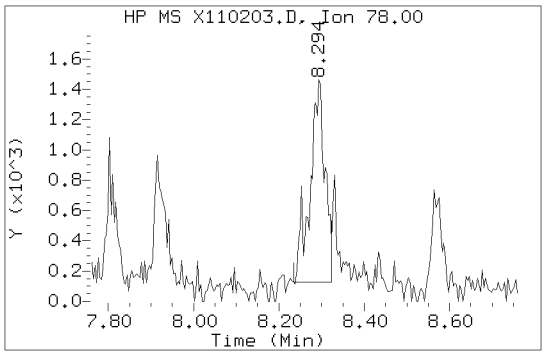
BEFORE

MASS
78
AREA
3286
HEIGHT
1336
08-Nov-2022
15:18
linh
pham



AFTER

MASS
78
AREA
3286
HEIGHT
1336
09-Nov-2022
12:34

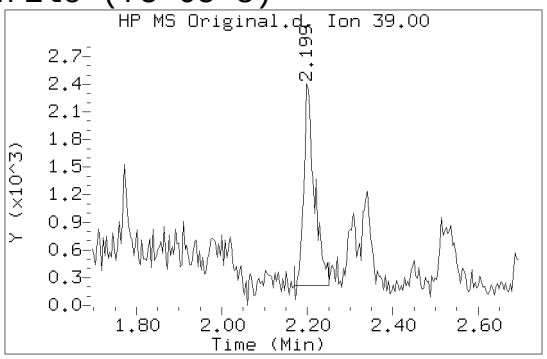


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

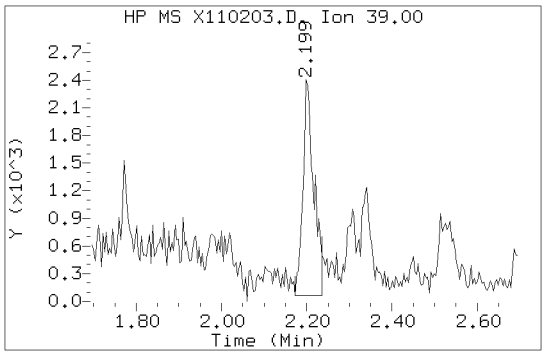
Acetonitrile (75-05-8)

Reason Code:

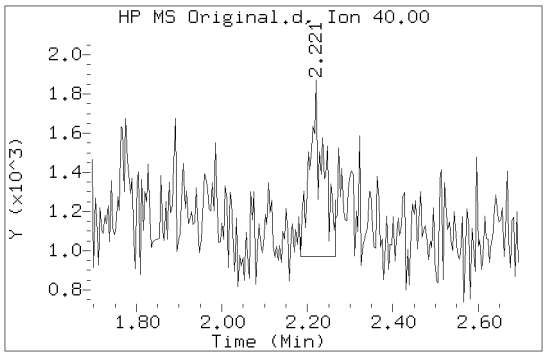
BEFORE
MASS
39
AREA
3786
HEIGHT
2188
08-Nov-2022
15:18
linh
pham



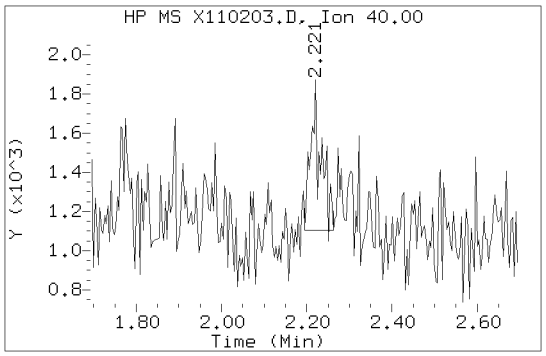
AFTER
MASS
39
AREA
4238
HEIGHT
2339
09-Nov-2022
12:34



BEFORE
MASS
40
AREA
2016
HEIGHT
901
08-Nov-2022
15:18
linh
pham



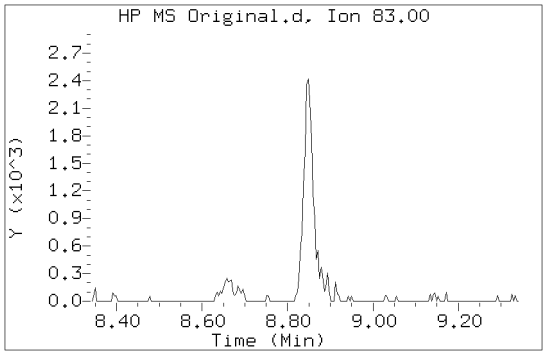
AFTER
MASS
40
AREA
1277
HEIGHT
767
09-Nov-2022
12:34



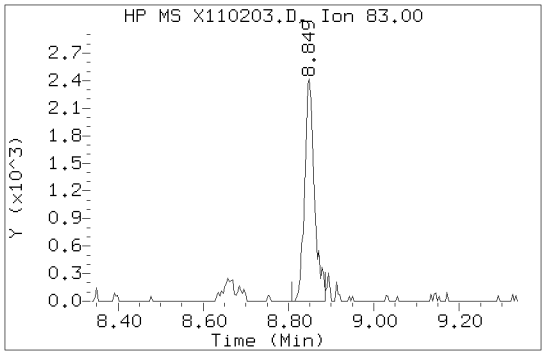
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

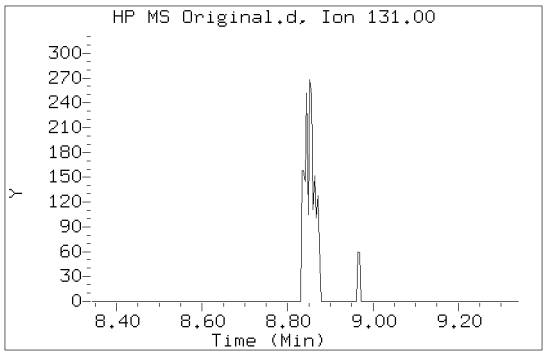
BEFORE
MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



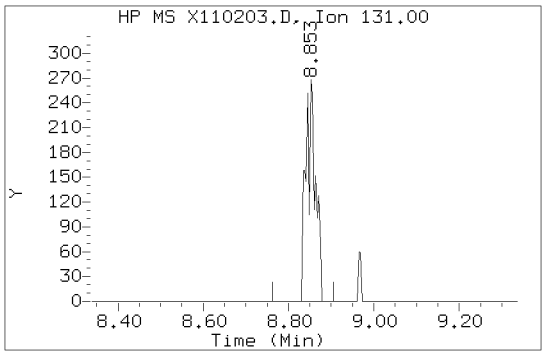
AFTER
MASS
83
AREA
3922
HEIGHT
2419
09-Nov-2022
12:34



BEFORE
MASS
131
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
131
AREA
426
HEIGHT
268
09-Nov-2022
12:34



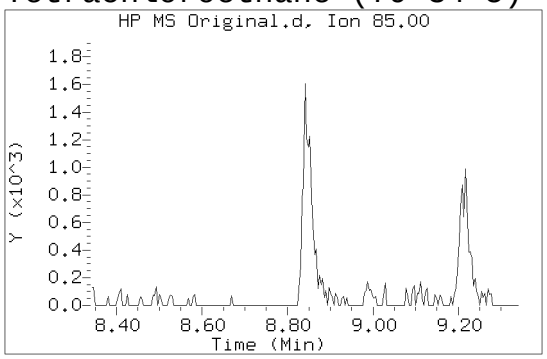
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

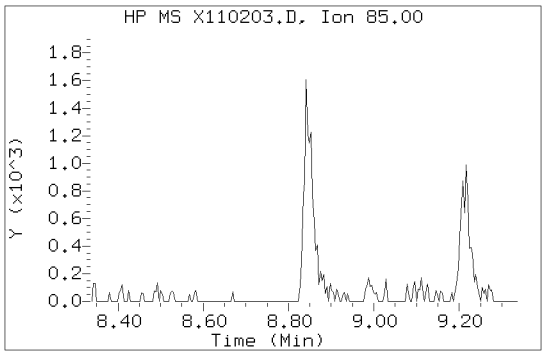
BEFORE

MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:34

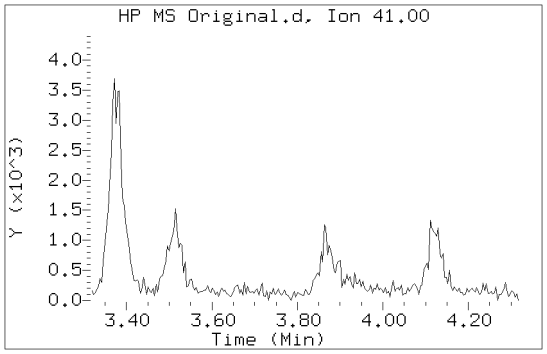


Methacrylonitrile (126-98-7)

Reason Code:

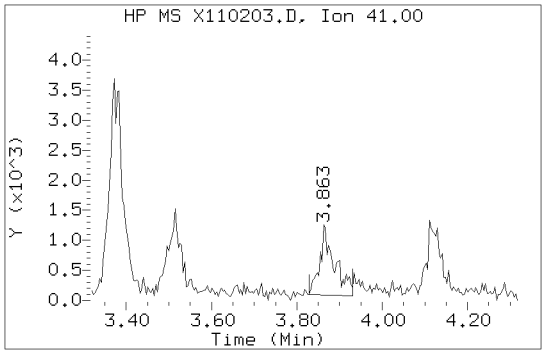
BEFORE

MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



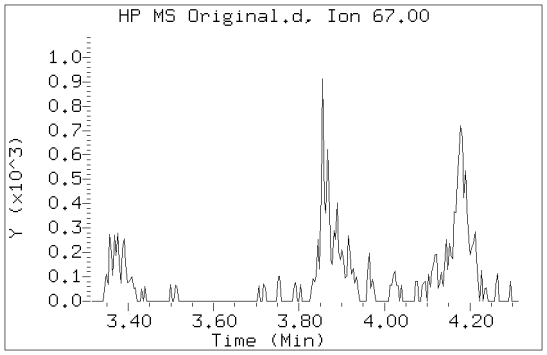
AFTER

MASS
41
AREA
2785
HEIGHT
1170
09-Nov-2022
12:34



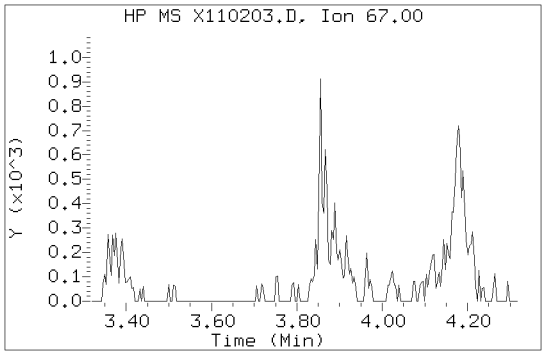
BEFORE

MASS
67
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



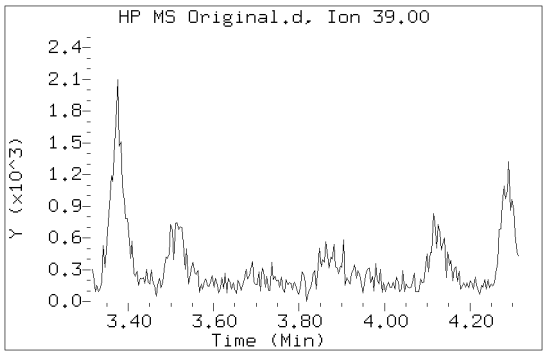
AFTER

MASS
67
AREA
0
HEIGHT
0
09-Nov-2022
12:34



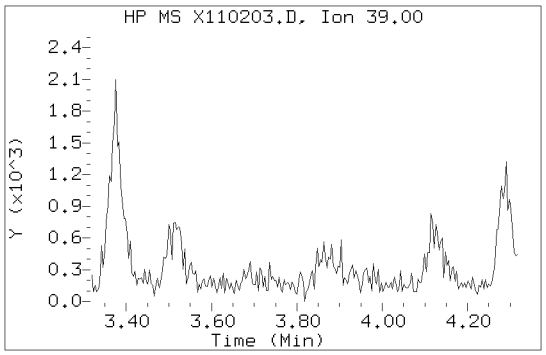
BEFORE

MASS
39
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
39
AREA
0
HEIGHT
0
09-Nov-2022
12:34



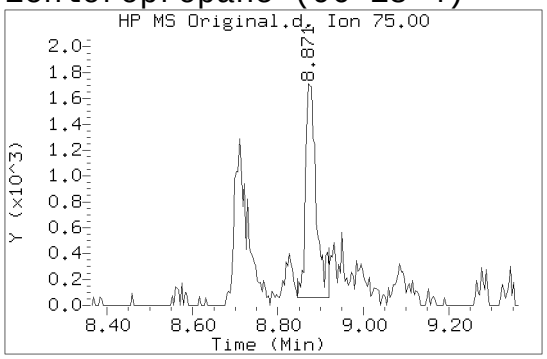
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2,3-Trichloropropane (96-18-4)

Reason Code:

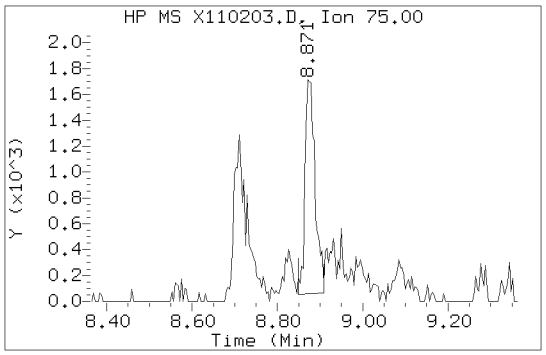
BEFORE

MASS
75
AREA
2984
HEIGHT
1655
08-Nov-2022
15:18
linh
pham



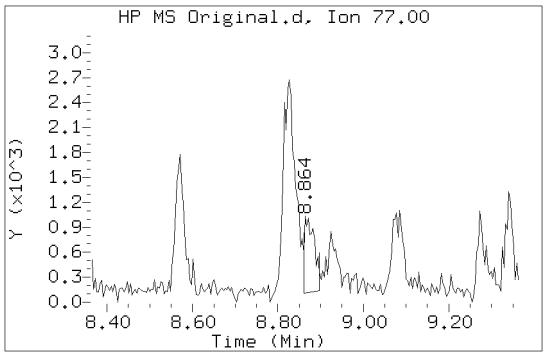
AFTER

MASS
75
AREA
2782
HEIGHT
1657
09-Nov-2022
12:34



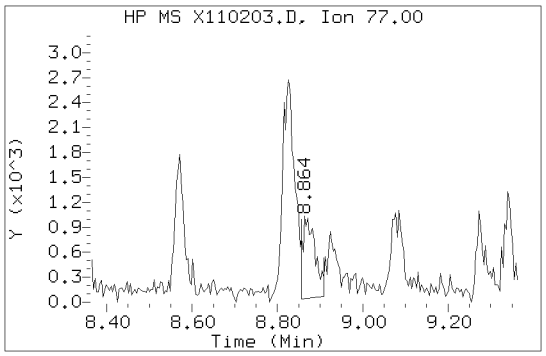
BEFORE

MASS
77
AREA
1537
HEIGHT
927
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
2035
HEIGHT
991
09-Nov-2022
12:34

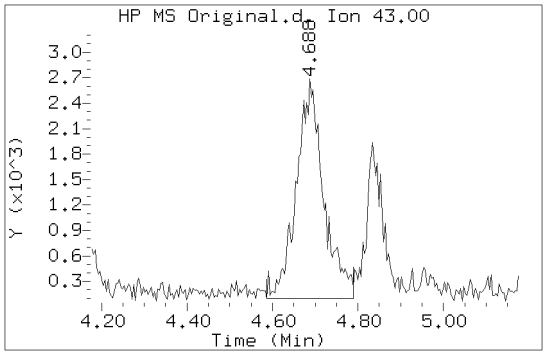


Isobutyl Alcohol (78-83-1)

Reason Code:

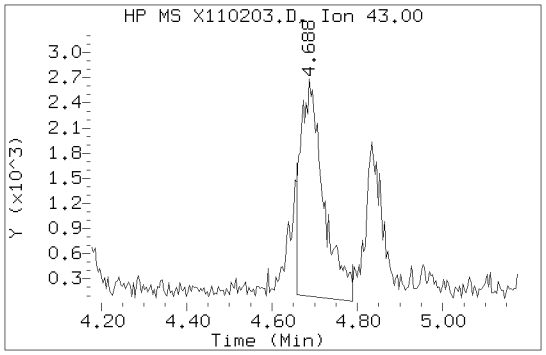
BEFORE

MASS
43
AREA
11532
HEIGHT
2592
08-Nov-2022
15:18
linh
pham



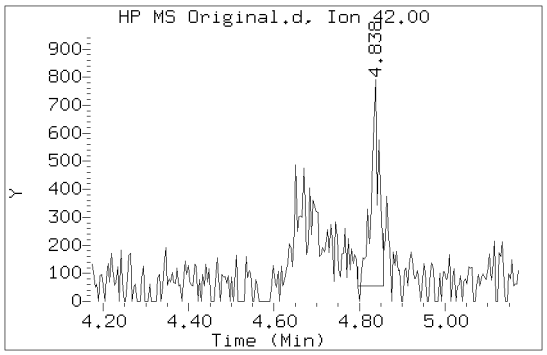
AFTER

MASS
43
AREA
9851
HEIGHT
2589
09-Nov-2022
12:34



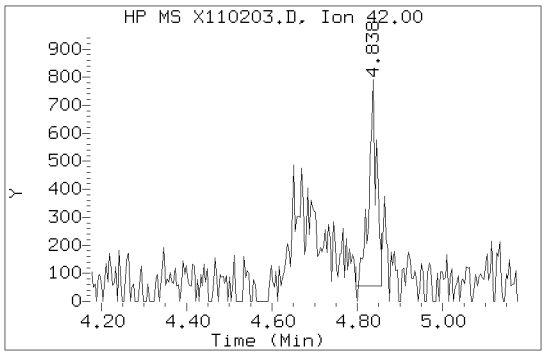
BEFORE

MASS
42
AREA
936
HEIGHT
737
08-Nov-2022
15:18
linh
pham



AFTER

MASS
42
AREA
936
HEIGHT
737
09-Nov-2022
12:34



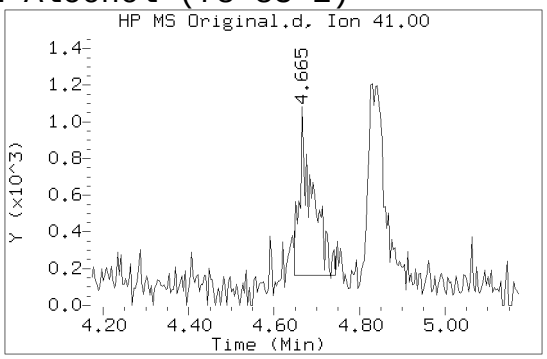
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Isobutyl Alcohol (78-83-1)

Reason Code:

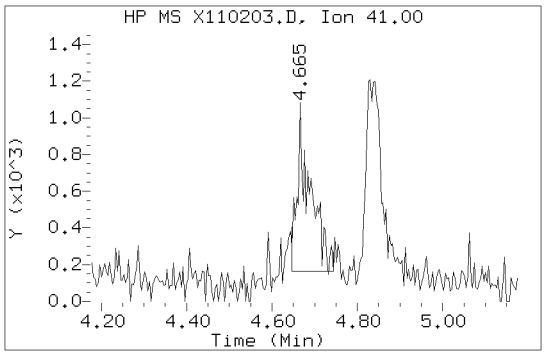
BEFORE

MASS
41
AREA
1982
HEIGHT
919
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
1982
HEIGHT
919
09-Nov-2022
12:34

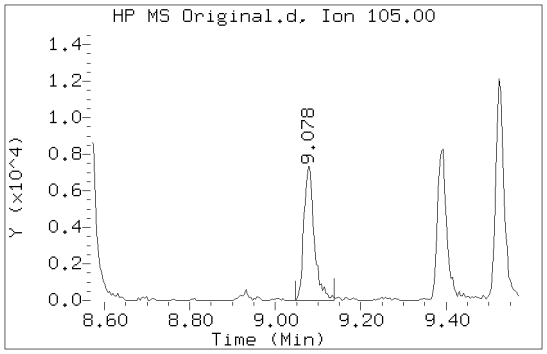


1,3,5-Trimethylbenzene (108-67-8)

Reason Code:

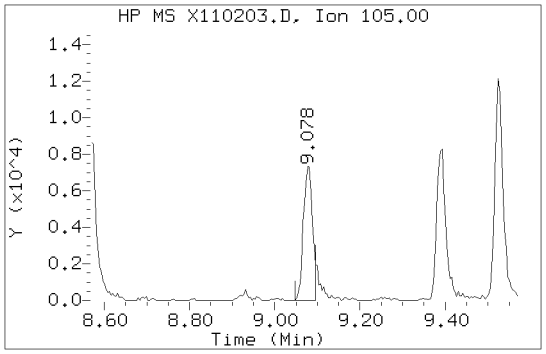
BEFORE

MASS
105
AREA
12471
HEIGHT
7333
08-Nov-2022
15:18
linh
pham



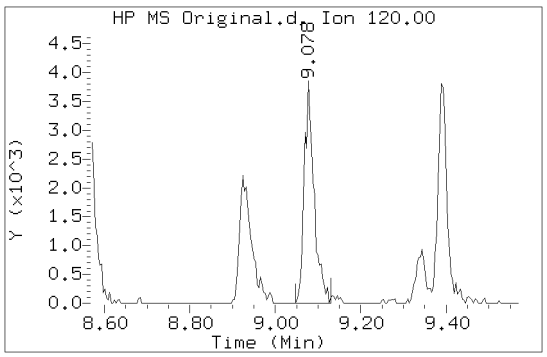
AFTER

MASS
105
AREA
11037
HEIGHT
7333
09-Nov-2022
12:34



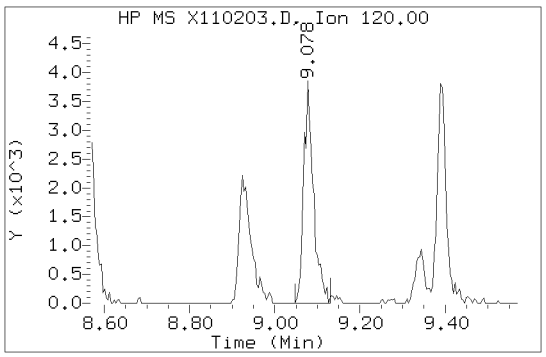
BEFORE

MASS
120
AREA
6151
HEIGHT
3856
08-Nov-2022
15:18
linh
pham



AFTER

MASS
120
AREA
6151
HEIGHT
3856
09-Nov-2022
12:34

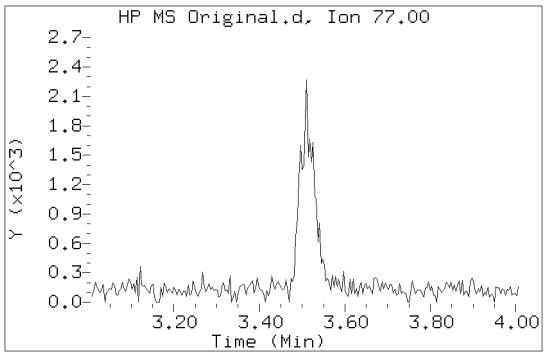


2,2-Dichloropropane (594-20-7)

Reason Code:

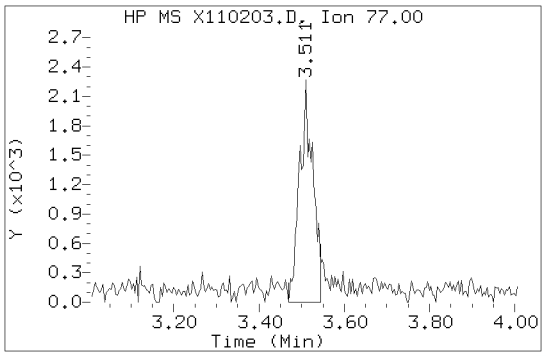
BEFORE

MASS
77
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
4986
HEIGHT
2268
09-Nov-2022
12:34



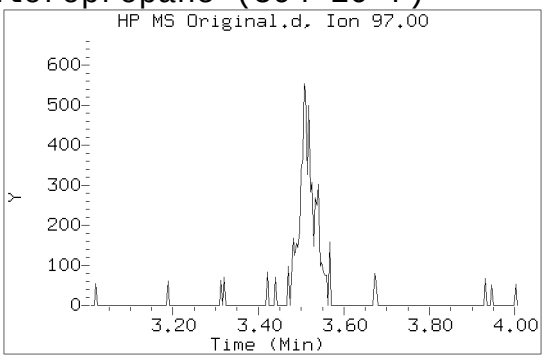
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

2,2-Dichloropropane (594-20-7)

Reason Code:

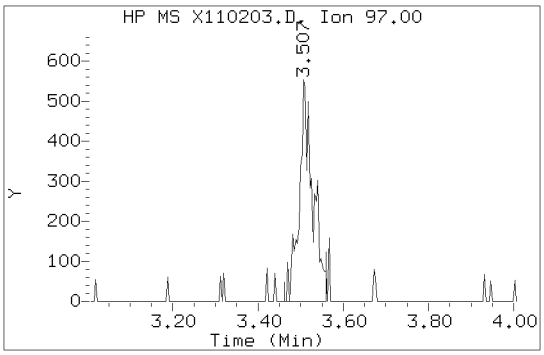
BEFORE

MASS
97
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
97
AREA
1251
HEIGHT
554
09-Nov-2022
12:34

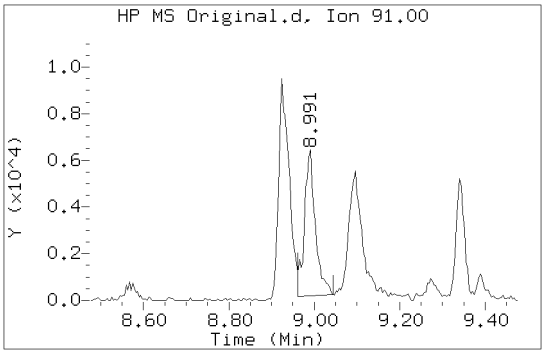


2-Chlorotoluene (95-49-8)

Reason Code:

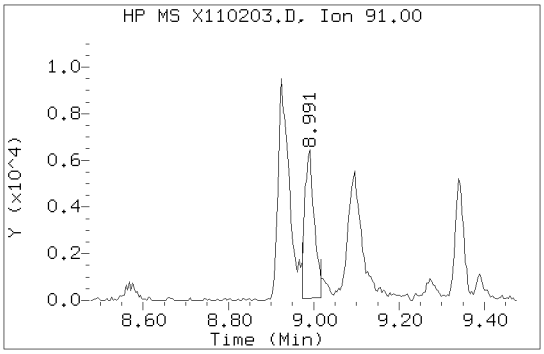
BEFORE

MASS
91
AREA
11302
HEIGHT
6259
08-Nov-2022
15:18
linh
pham



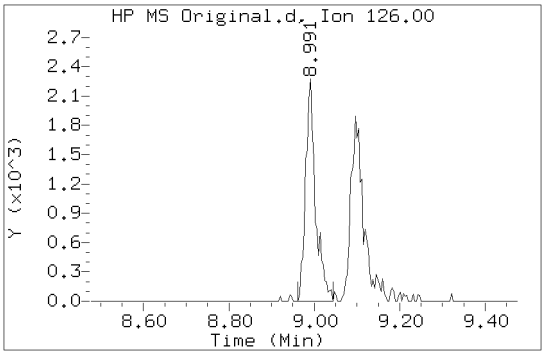
AFTER

MASS
91
AREA
10088
HEIGHT
6354
09-Nov-2022
12:34



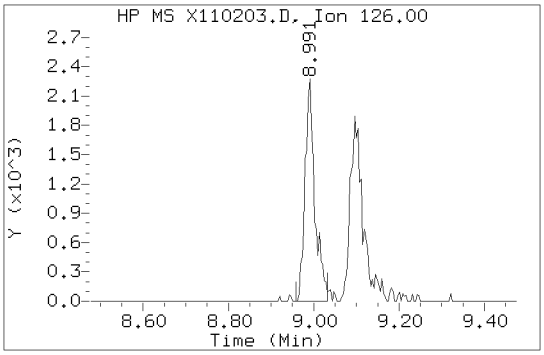
BEFORE

MASS
126
AREA
3706
HEIGHT
2275
08-Nov-2022
15:18
linh
pham



AFTER

MASS
126
AREA
3654
HEIGHT
2275
09-Nov-2022
12:34

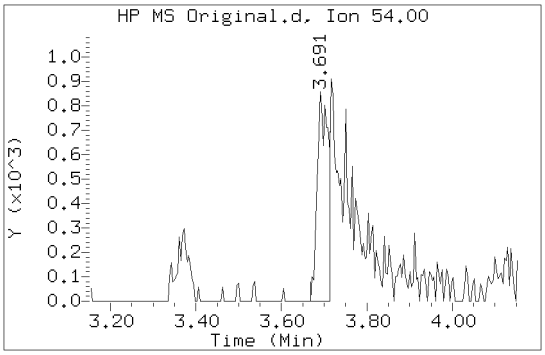


Propionitrile (107-12-0)

Reason Code:

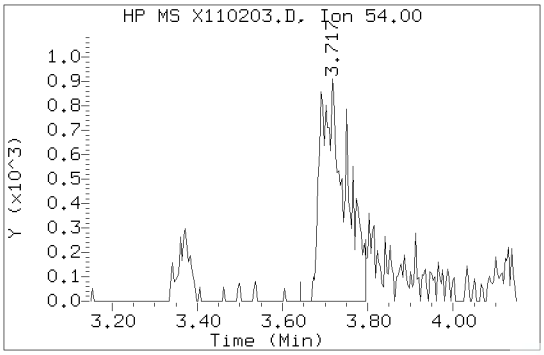
BEFORE

MASS
54
AREA
1501
HEIGHT
858
08-Nov-2022
15:18
linh
pham



AFTER

MASS
54
AREA
3703
HEIGHT
911
09-Nov-2022
12:34

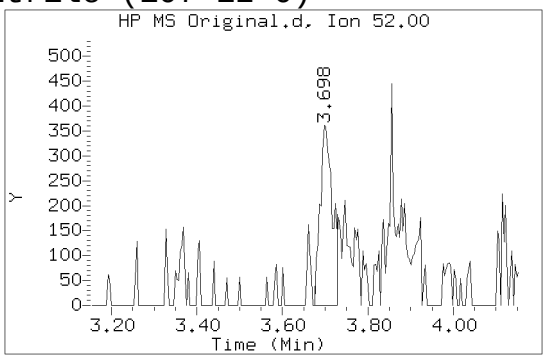


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

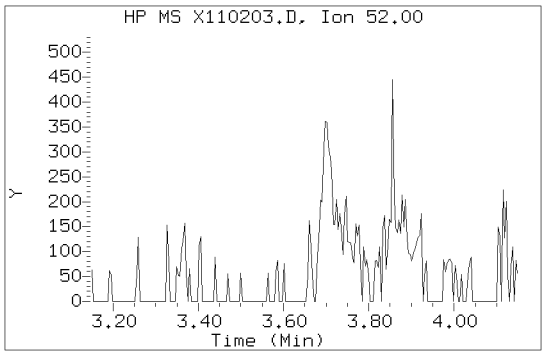
Propionitrile (107-12-0)

Reason Code:

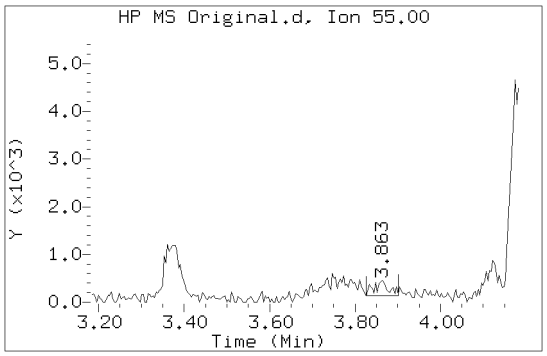
BEFORE
MASS
52
AREA
713
HEIGHT
361
08-Nov-2022
15:18
linh
pham



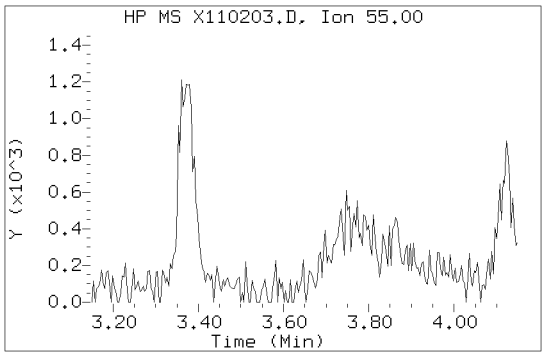
AFTER
MASS
52
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
55
AREA
724
HEIGHT
325
08-Nov-2022
15:18
linh
pham



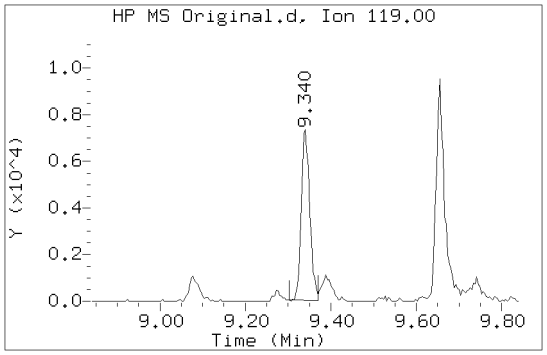
AFTER
MASS
55
AREA
0
HEIGHT
0
09-Nov-2022
12:34



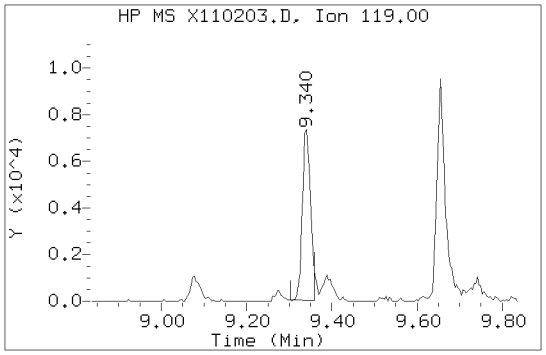
tert-Butylbenzene (98-06-6)

Reason Code:

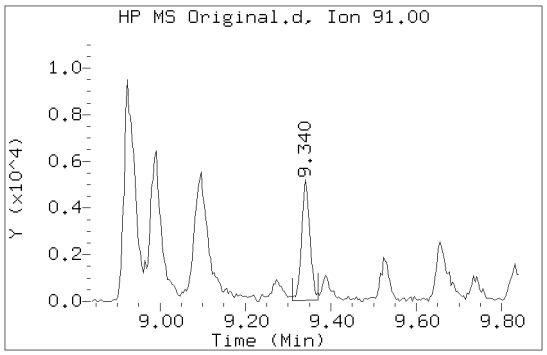
BEFORE
MASS
119
AREA
10439
HEIGHT
7311
08-Nov-2022
15:18
linh
pham



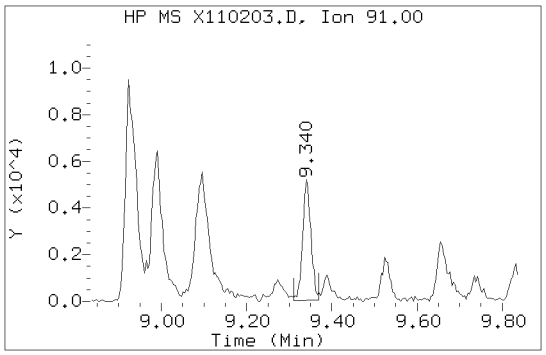
AFTER
MASS
119
AREA
10031
HEIGHT
7311
09-Nov-2022
12:34



BEFORE
MASS
91
AREA
7255
HEIGHT
5186
08-Nov-2022
15:18
linh
pham



AFTER
MASS
91
AREA
7255
HEIGHT
5186
09-Nov-2022
12:34



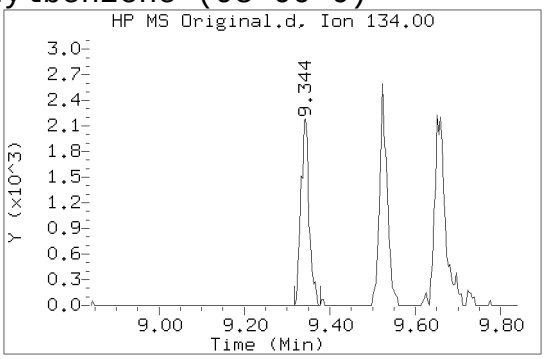
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

tert-Butylbenzene (98-06-6)

Reason Code:

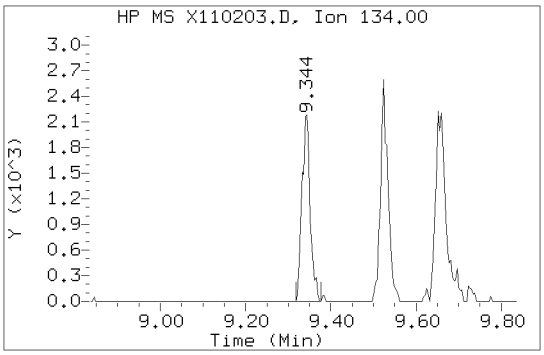
BEFORE

MASS
134
AREA
3021
HEIGHT
2186
08-Nov-2022
15:18
linh
pham



AFTER

MASS
134
AREA
3021
HEIGHT
2186
09-Nov-2022
12:34

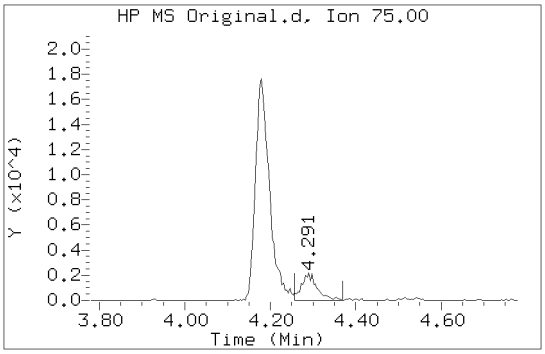


1,1-Dichloropropene (563-58-6)

Reason Code:

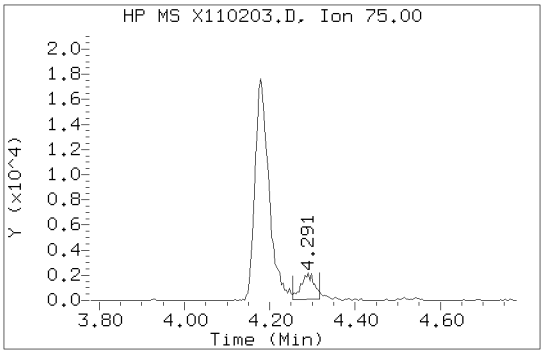
BEFORE

MASS
75
AREA
5505
HEIGHT
2198
08-Nov-2022
15:18
linh
pham



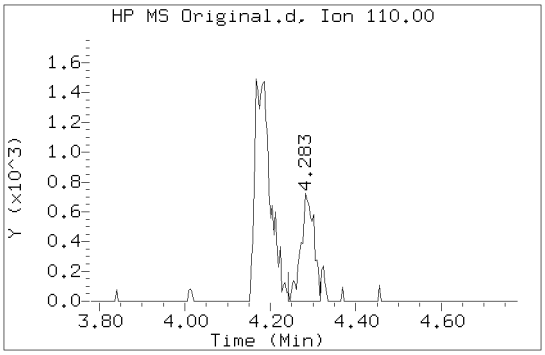
AFTER

MASS
75
AREA
4531
HEIGHT
2104
09-Nov-2022
12:34



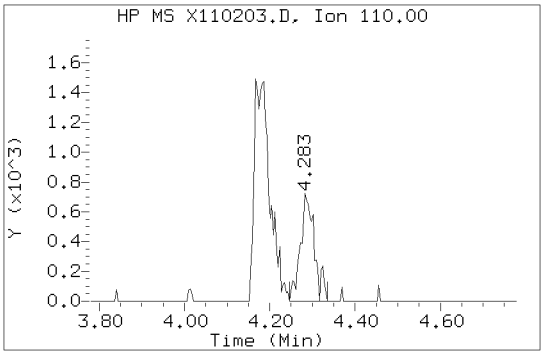
BEFORE

MASS
110
AREA
1547
HEIGHT
723
08-Nov-2022
15:18
linh
pham



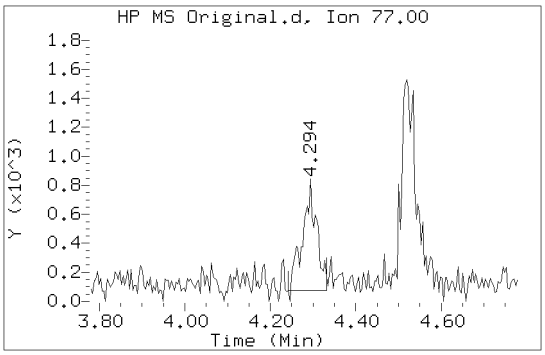
AFTER

MASS
110
AREA
1673
HEIGHT
723
09-Nov-2022
12:34



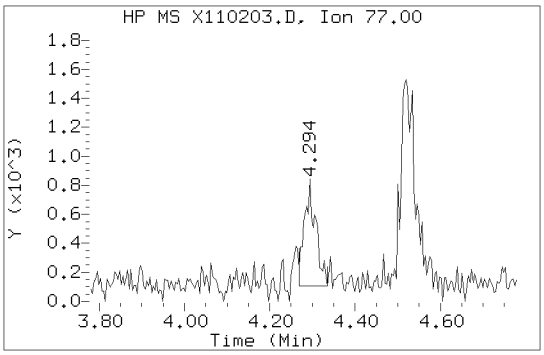
BEFORE

MASS
77
AREA
1753
HEIGHT
767
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
1392
HEIGHT
735
09-Nov-2022
12:34



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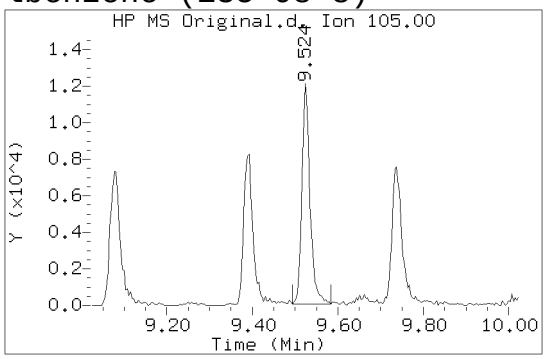
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

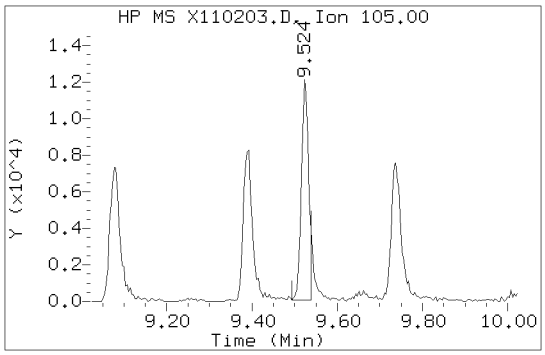
sec-Butylbenzene (135-98-8)

Reason Code:

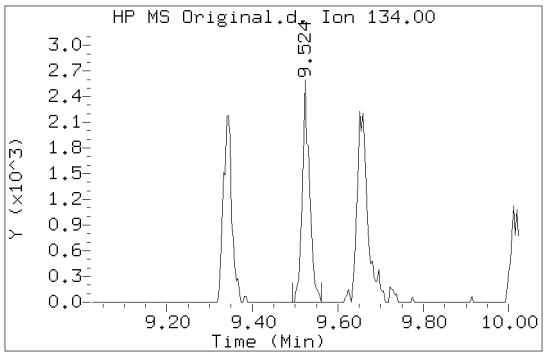
BEFORE
MASS
105
AREA
16445
HEIGHT
12081
08-Nov-2022
15:18
linh
pham



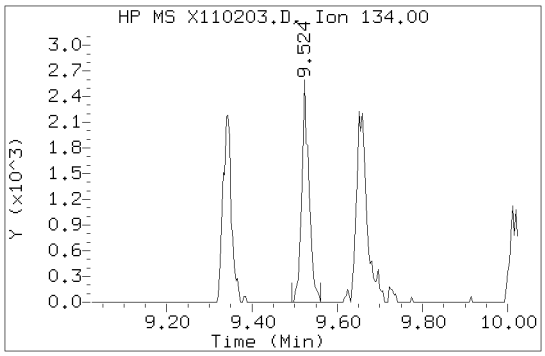
AFTER
MASS
105
AREA
14692
HEIGHT
12081
09-Nov-2022
12:34



BEFORE
MASS
134
AREA
3147
HEIGHT
2595
08-Nov-2022
15:18
linh
pham



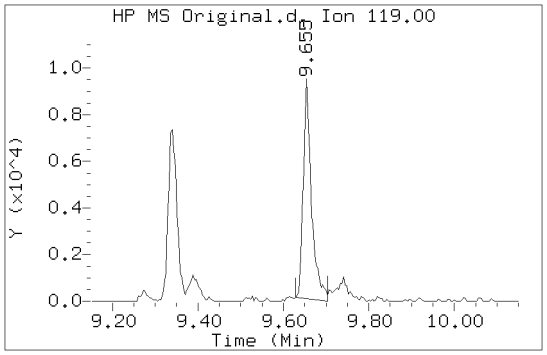
AFTER
MASS
134
AREA
3147
HEIGHT
2595
09-Nov-2022
12:34



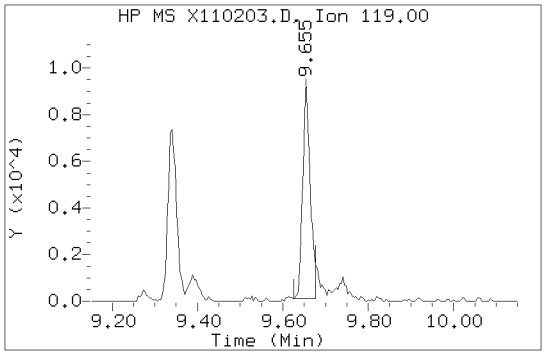
p-Isopropyltoluene (99-87-6)

Reason Code:

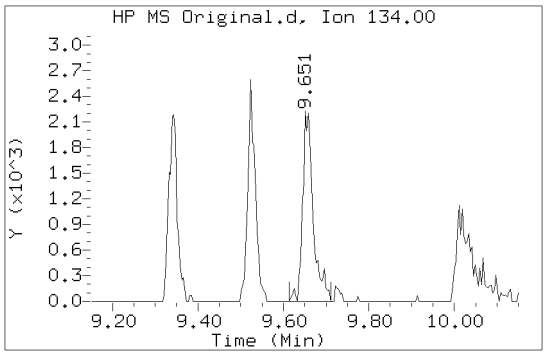
BEFORE
MASS
119
AREA
12880
HEIGHT
9427
08-Nov-2022
15:18
linh
pham



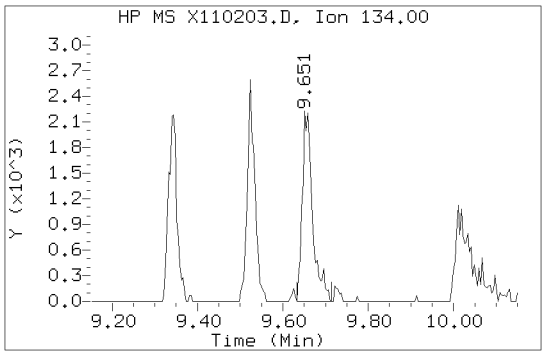
AFTER
MASS
119
AREA
11794
HEIGHT
9423
09-Nov-2022
12:34



BEFORE
MASS
134
AREA
3902
HEIGHT
2226
08-Nov-2022
15:18
linh
pham



AFTER
MASS
134
AREA
3824
HEIGHT
2226
09-Nov-2022
12:34



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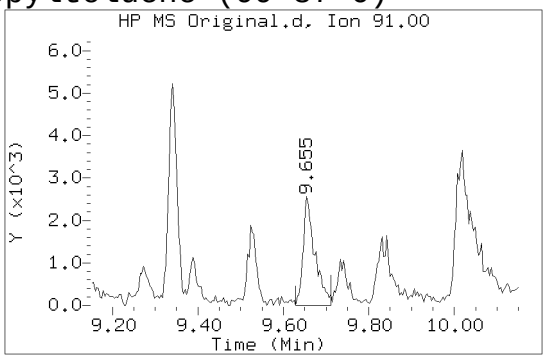
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

p-Isopropyltoluene (99-87-6)

Reason Code:

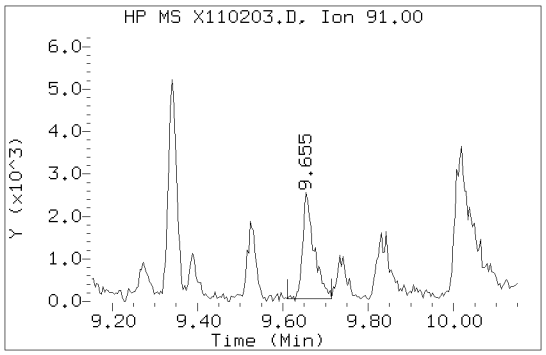
BEFORE

MASS
91
AREA
4990
HEIGHT
2568
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
4720
HEIGHT
2507
09-Nov-2022
12:34

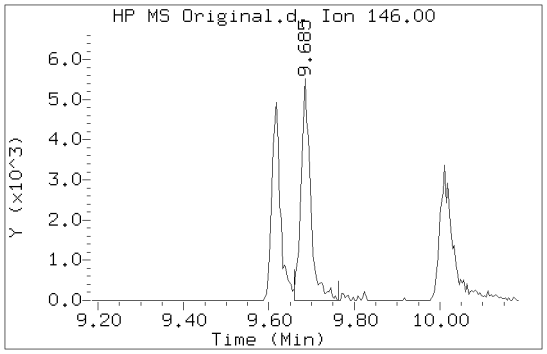


1,4-Dichlorobenzene (106-46-7)

Reason Code:

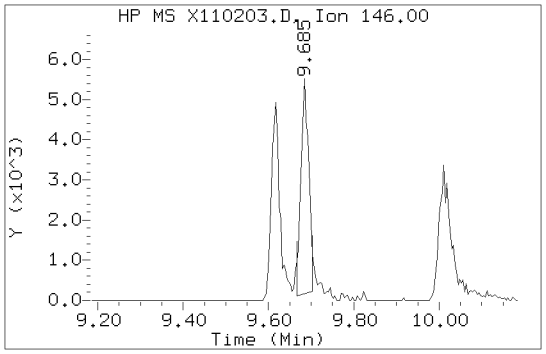
BEFORE

MASS
146
AREA
8783
HEIGHT
5521
08-Nov-2022
15:18
linh
pham



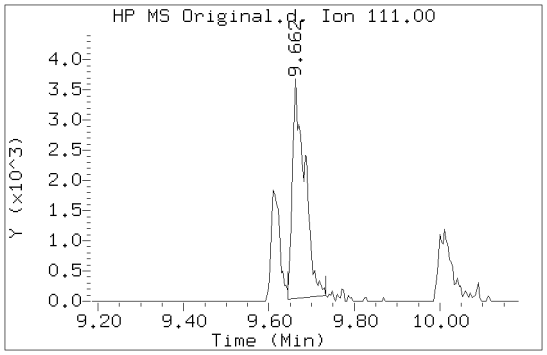
AFTER

MASS
146
AREA
7150
HEIGHT
5351
09-Nov-2022
12:34



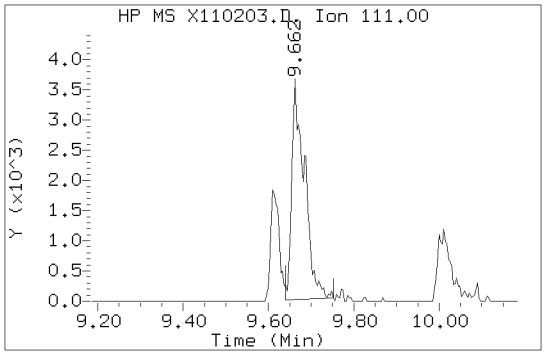
BEFORE

MASS
111
AREA
7461
HEIGHT
3636
08-Nov-2022
15:18
linh
pham



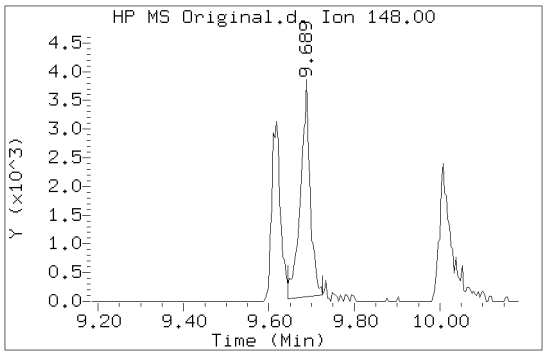
AFTER

MASS
111
AREA
7739
HEIGHT
3658
09-Nov-2022
12:34



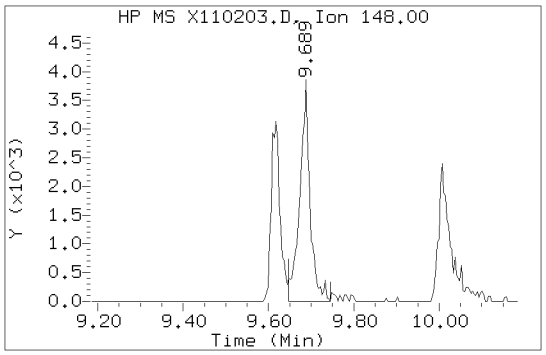
BEFORE

MASS
148
AREA
6015
HEIGHT
3775
08-Nov-2022
15:18
linh
pham



AFTER

MASS
148
AREA
6520
HEIGHT
3860
09-Nov-2022
12:34



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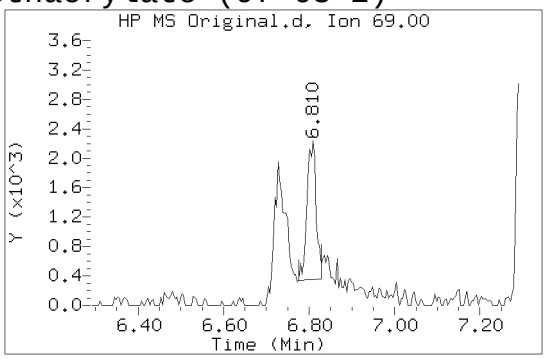
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

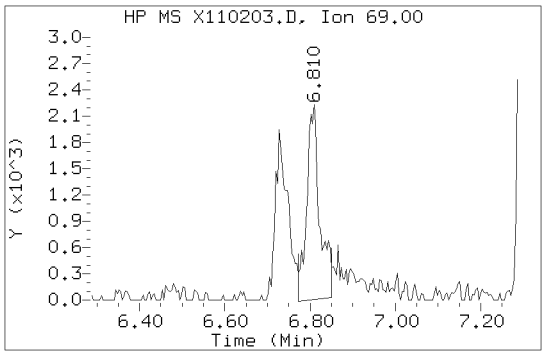
Ethyl Methacrylate (97-63-2)

Reason Code:

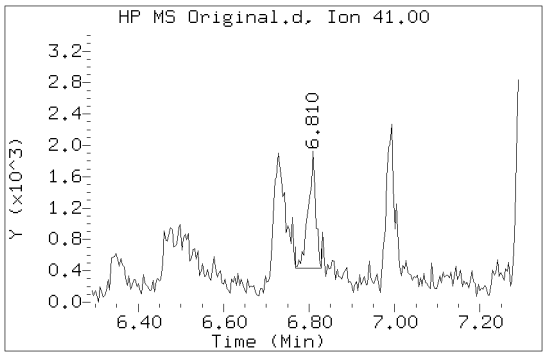
BEFORE
MASS
69
AREA
2810
HEIGHT
1883
08-Nov-2022
15:18
linh
pham



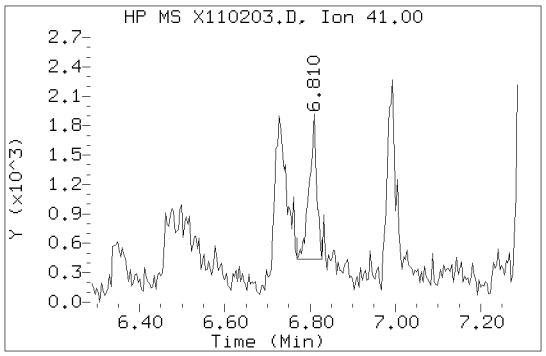
AFTER
MASS
69
AREA
4812
HEIGHT
2227
09-Nov-2022
12:34



BEFORE
MASS
41
AREA
1793
HEIGHT
1485
08-Nov-2022
15:18
linh
pham



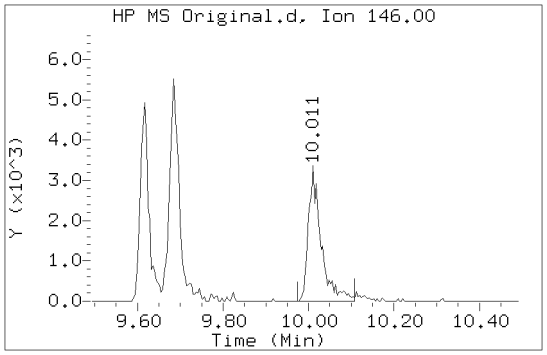
AFTER
MASS
41
AREA
1793
HEIGHT
1485
09-Nov-2022
12:34



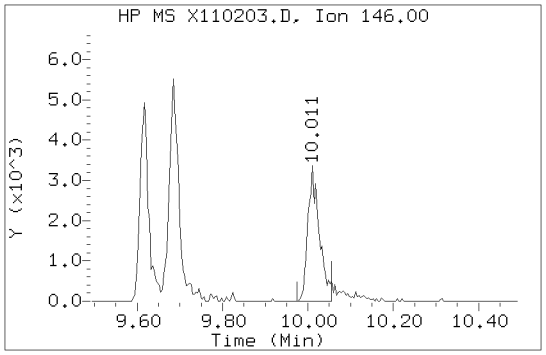
1,2-Dichlorobenzene (95-50-1)

Reason Code:

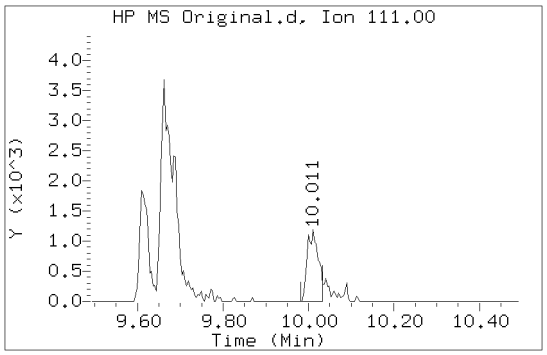
BEFORE
MASS
146
AREA
6946
HEIGHT
3371
08-Nov-2022
15:18
linh
pham



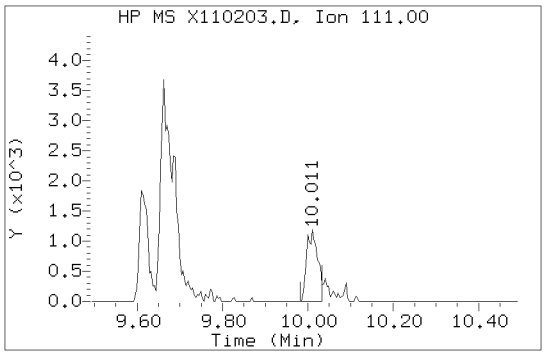
AFTER
MASS
146
AREA
6353
HEIGHT
3371
09-Nov-2022
12:34



BEFORE
MASS
111
AREA
2141
HEIGHT
1193
08-Nov-2022
15:18
linh
pham



AFTER
MASS
111
AREA
2141
HEIGHT
1193
09-Nov-2022
12:34



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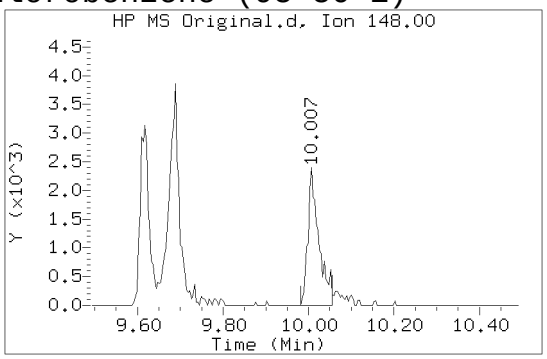
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dichlorobenzene (95-50-1)

Reason Code:

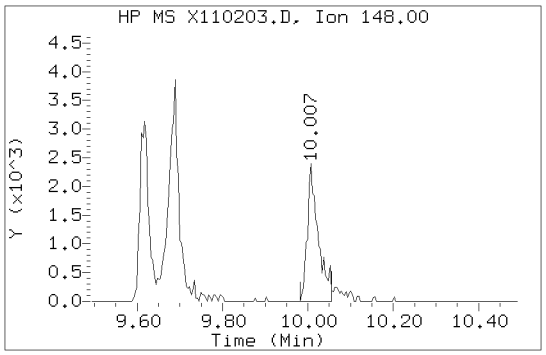
BEFORE

MASS
148
AREA
4291
HEIGHT
2403
08-Nov-2022
15:18
linh
pham



AFTER

MASS
148
AREA
4291
HEIGHT
2403
09-Nov-2022
12:34

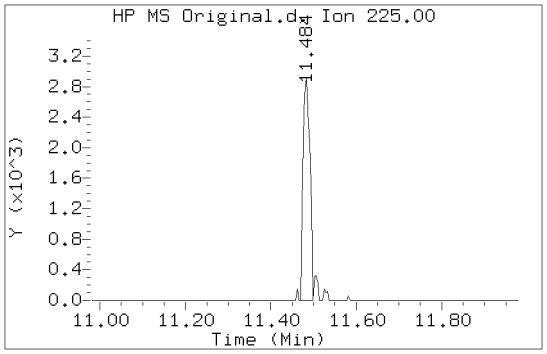


Hexachlorobutadiene (87-68-3)

Reason Code:

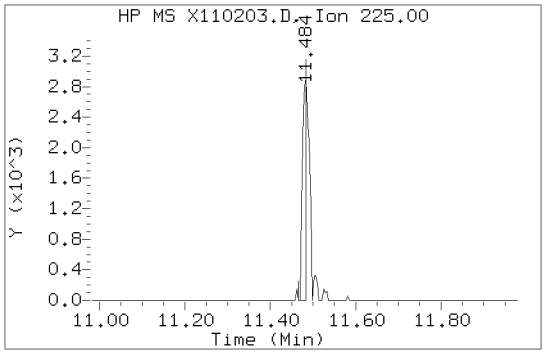
BEFORE

MASS
225
AREA
3382
HEIGHT
2904
08-Nov-2022
15:18
linh
pham



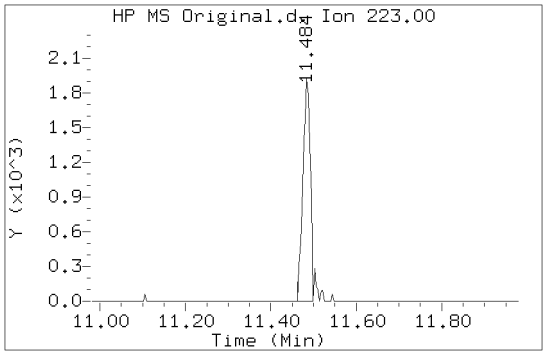
AFTER

MASS
225
AREA
2121
HEIGHT
2904
09-Nov-2022
12:34



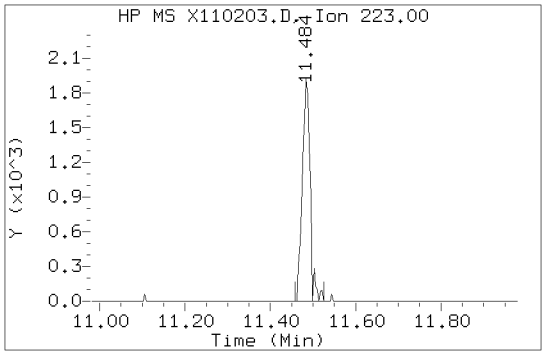
BEFORE

MASS
223
AREA
2366
HEIGHT
1920
08-Nov-2022
15:18
linh
pham



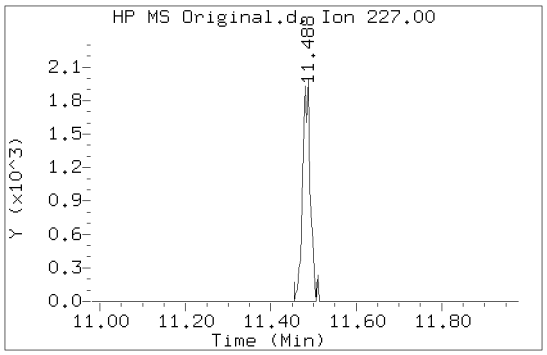
AFTER

MASS
223
AREA
2522
HEIGHT
1920
09-Nov-2022
12:34



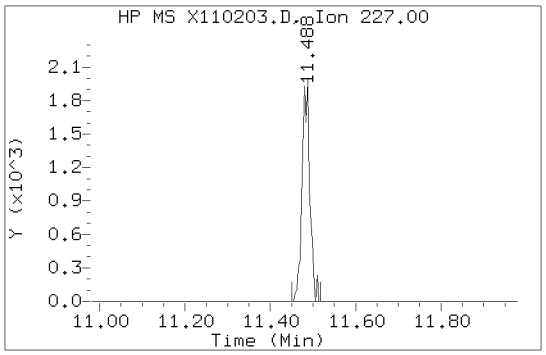
BEFORE

MASS
227
AREA
2527
HEIGHT
1988
08-Nov-2022
15:18
linh
pham



AFTER

MASS
227
AREA
2579
HEIGHT
1988
09-Nov-2022
12:34



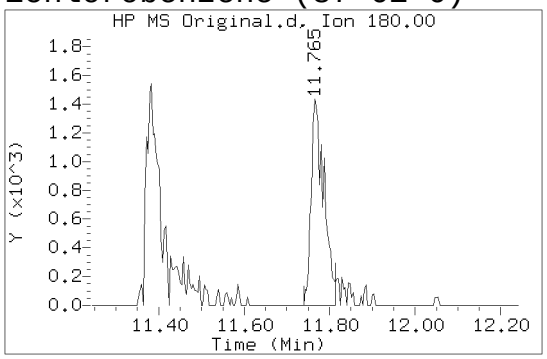
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

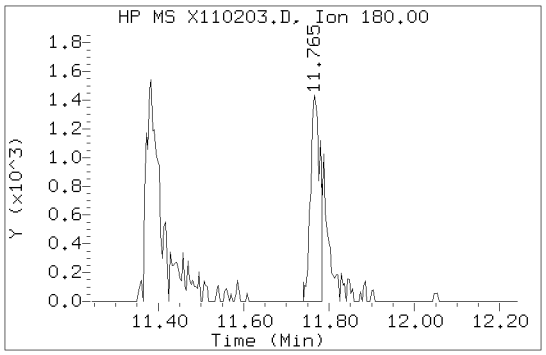
BEFORE

MASS
180
AREA
2990
HEIGHT
1437
08-Nov-2022
15:18
linh
pham



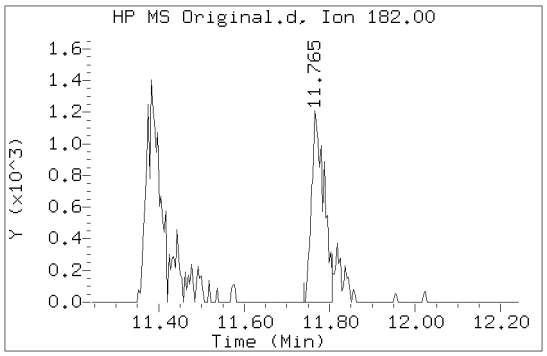
AFTER

MASS
180
AREA
2207
HEIGHT
1437
09-Nov-2022
12:34



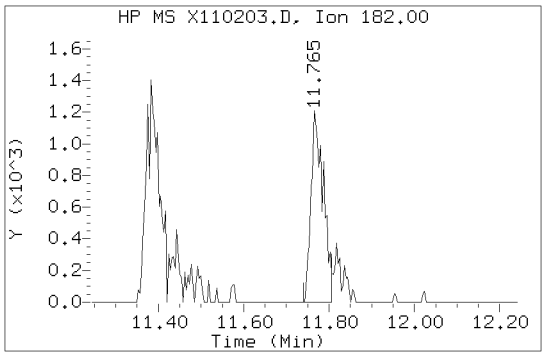
BEFORE

MASS
182
AREA
2421
HEIGHT
1209
08-Nov-2022
15:18
linh
pham



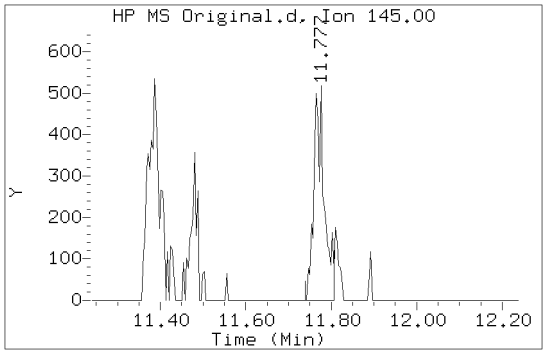
AFTER

MASS
182
AREA
2421
HEIGHT
1209
09-Nov-2022
12:34



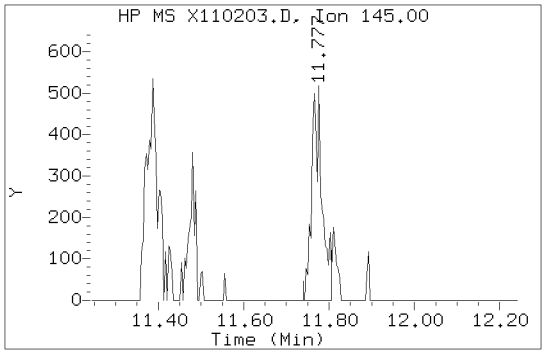
BEFORE

MASS
145
AREA
864
HEIGHT
519
08-Nov-2022
15:18
linh
pham



AFTER

MASS
145
AREA
864
HEIGHT
519
09-Nov-2022
12:34

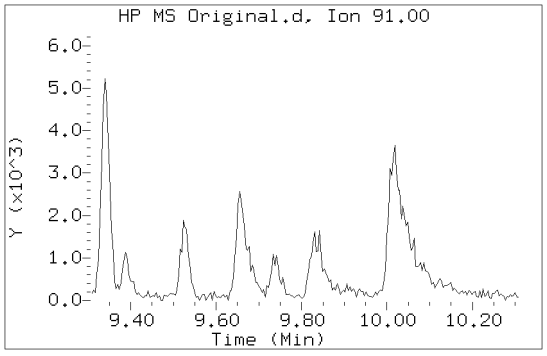


Benzyl Chloride (100-44-7)

Reason Code:

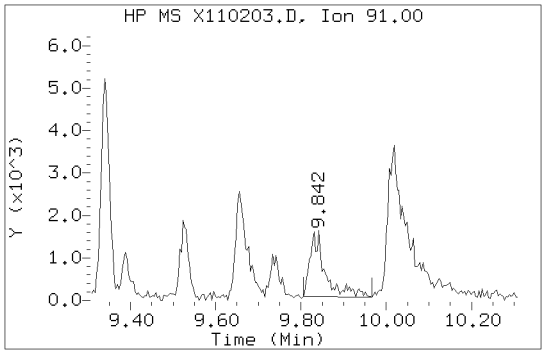
BEFORE

MASS
91
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
3833
HEIGHT
1565
09-Nov-2022
12:34

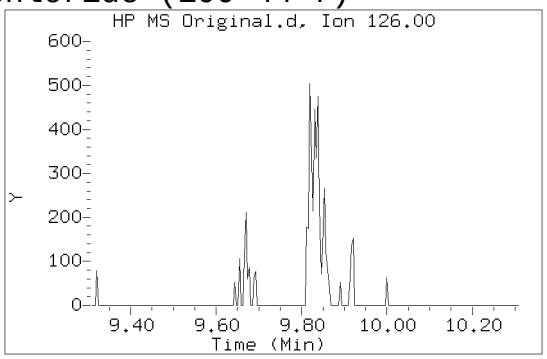


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

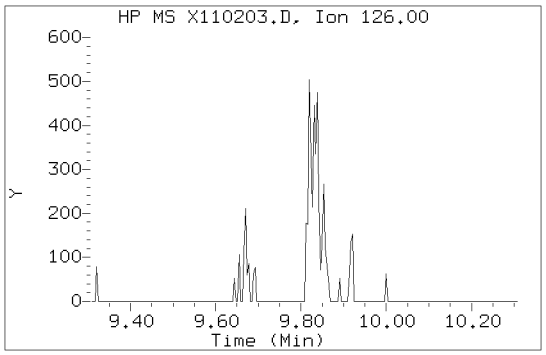
Benzyl Chloride (100-44-7)

Reason Code:

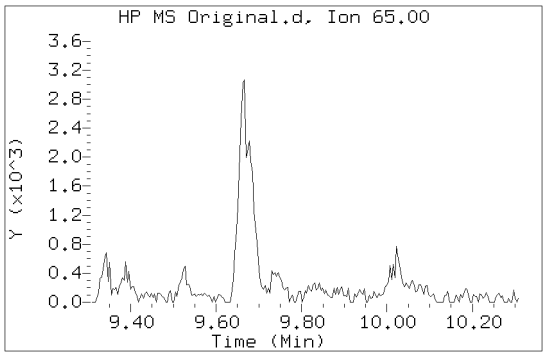
BEFORE
MASS
126
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



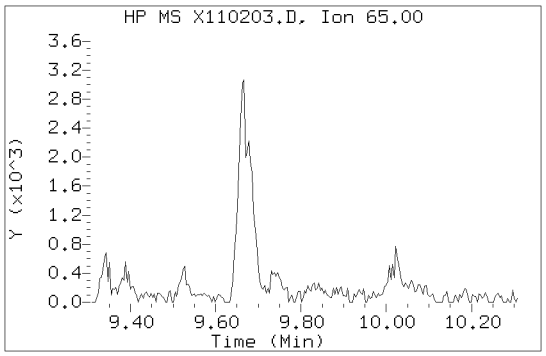
AFTER
MASS
126
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
65
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



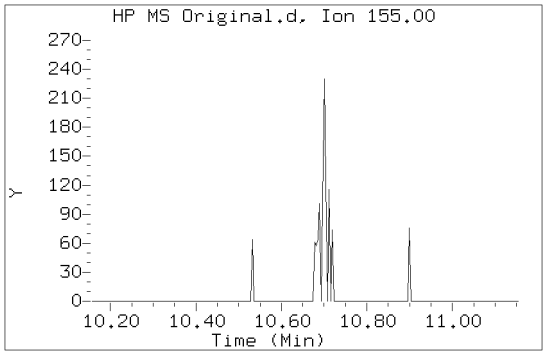
AFTER
MASS
65
AREA
0
HEIGHT
0
09-Nov-2022
12:34



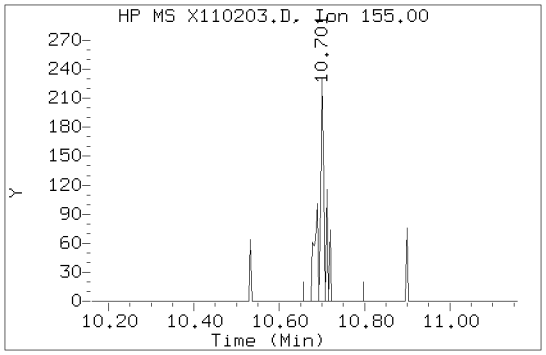
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

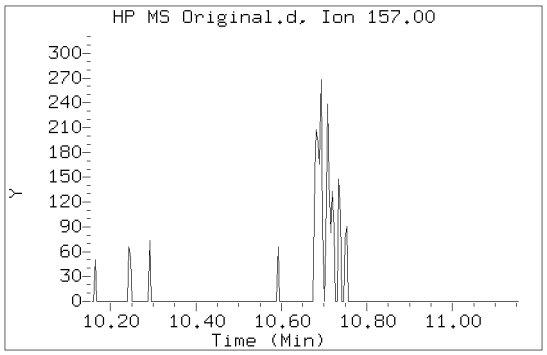
BEFORE
MASS
155
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



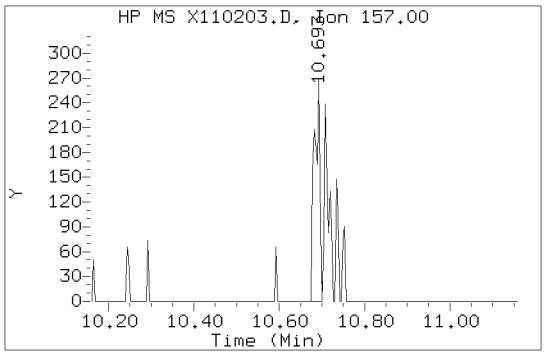
AFTER
MASS
155
AREA
208
HEIGHT
230
09-Nov-2022
12:34



BEFORE
MASS
157
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
157
AREA
242
HEIGHT
268
09-Nov-2022
12:34



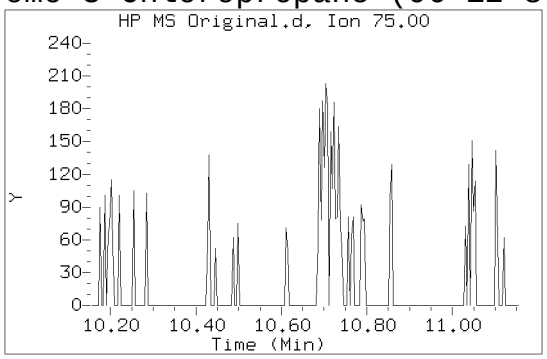
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

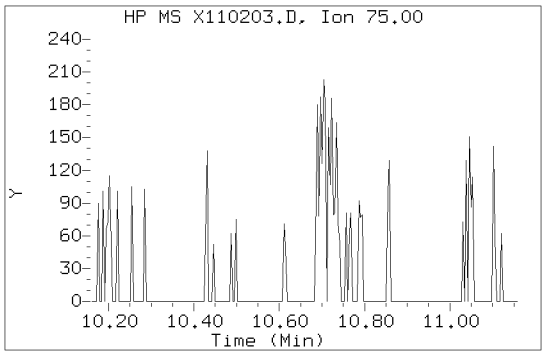
BEFORE

MASS
75
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
0
HEIGHT
0
09-Nov-2022
12:34

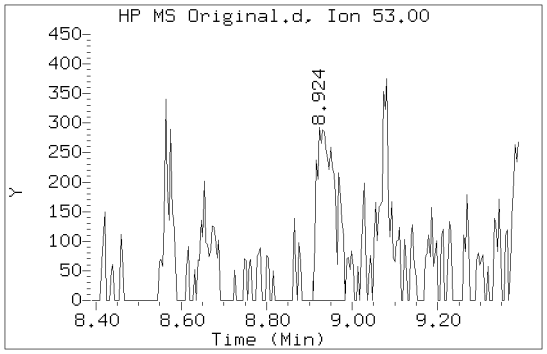


trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

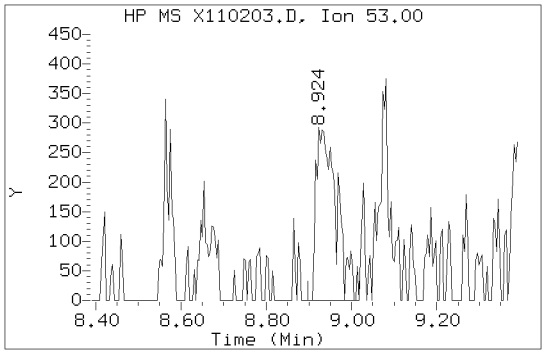
BEFORE

MASS
53
AREA
891
HEIGHT
293
08-Nov-2022
15:18
linh
pham



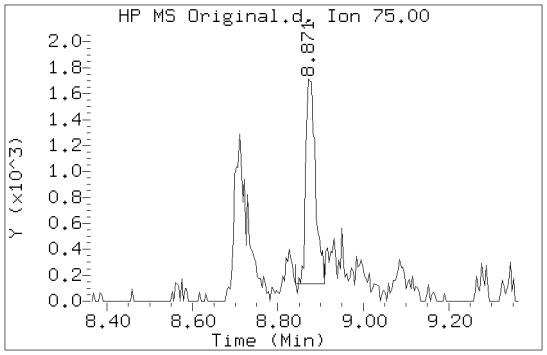
AFTER

MASS
53
AREA
979
HEIGHT
293
09-Nov-2022
12:34



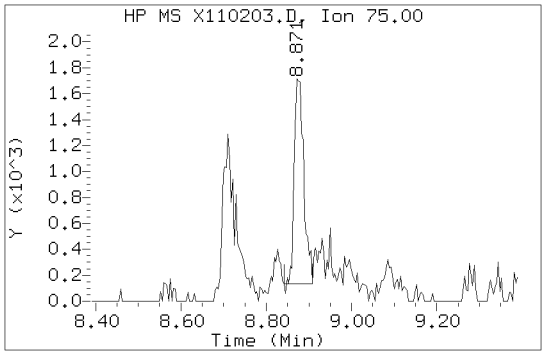
BEFORE

MASS
75
AREA
2466
HEIGHT
1578
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
2466
HEIGHT
1578
09-Nov-2022
12:34

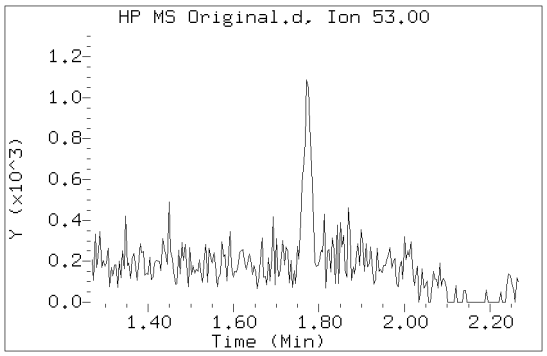


Chloroprene (126-99-8)

Reason Code:

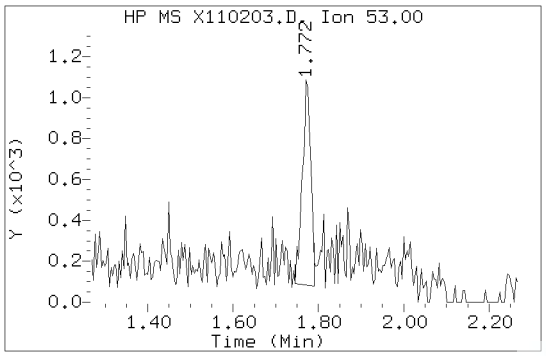
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
53
AREA
1410
HEIGHT
1003
09-Nov-2022
12:34

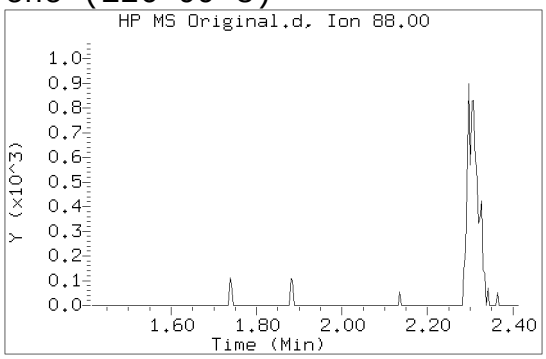


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

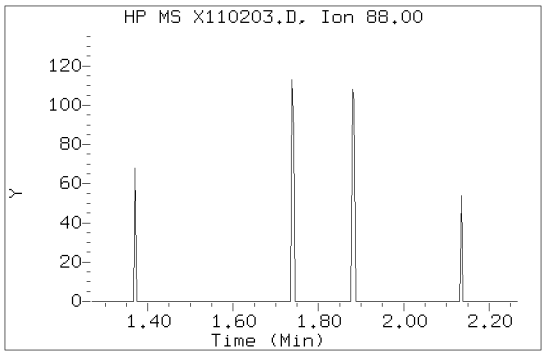
Chloroprene (126-99-8)

Reason Code:

BEFORE
MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



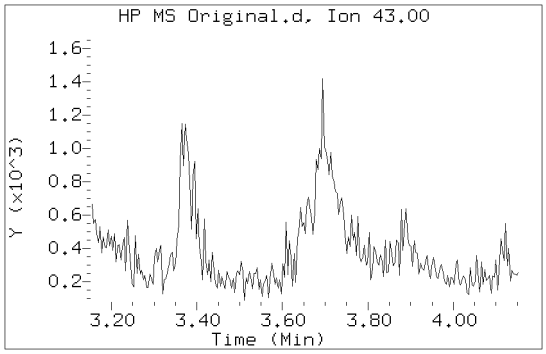
AFTER
MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:34



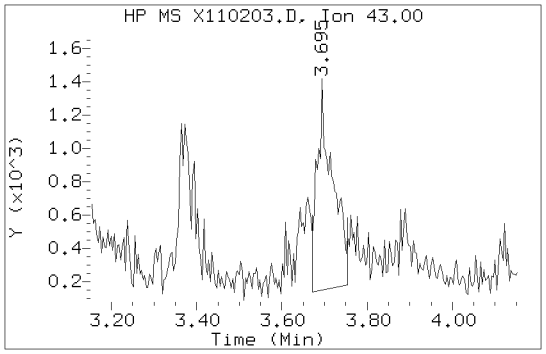
Ethyl Acetate (141-78-6)

Reason Code:

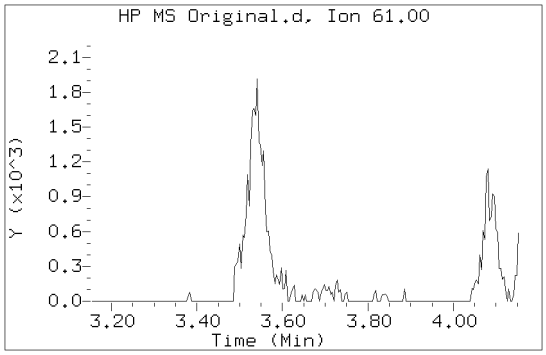
BEFORE
MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



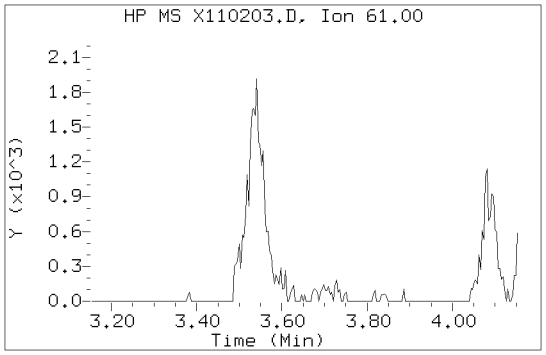
AFTER
MASS
43
AREA
3227
HEIGHT
1267
09-Nov-2022
12:34



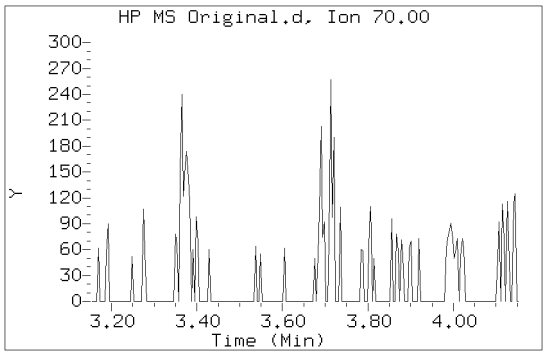
BEFORE
MASS
61
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



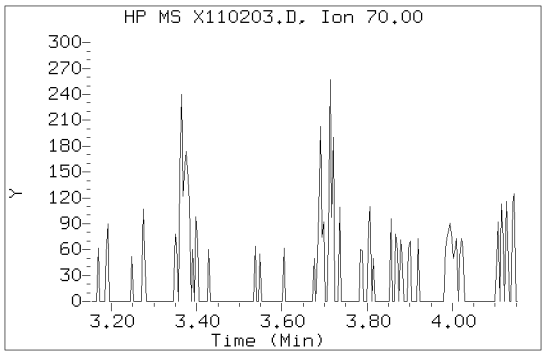
AFTER
MASS
61
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
70
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
70
AREA
0
HEIGHT
0
09-Nov-2022
12:34



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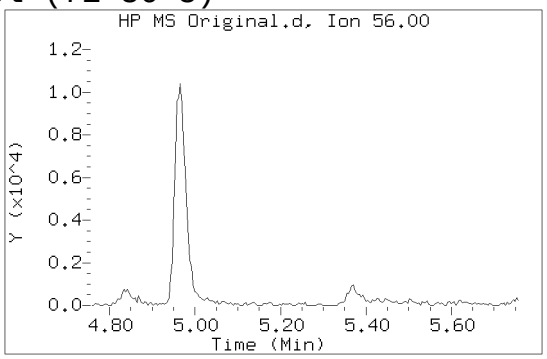
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

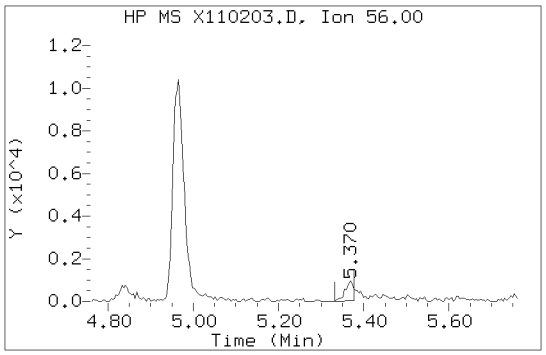
n-Butanol (71-36-3)

Reason Code:

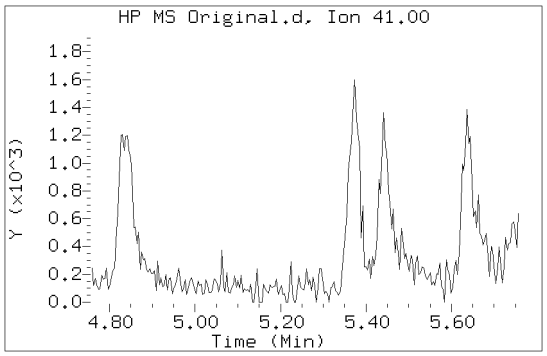
BEFORE
MASS
56
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



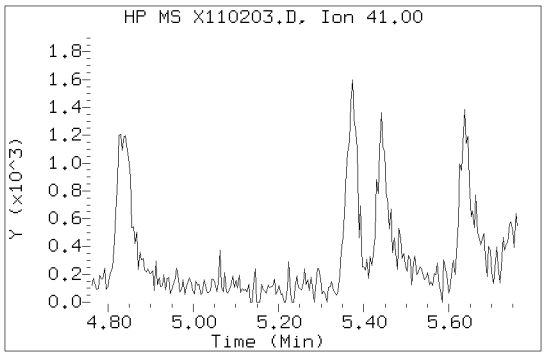
AFTER
MASS
56
AREA
1209
HEIGHT
914
09-Nov-2022
12:34



BEFORE
MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



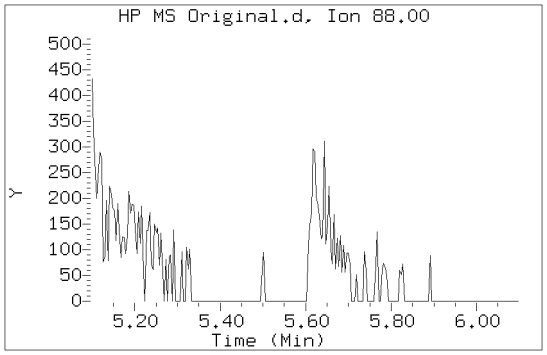
AFTER
MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:34



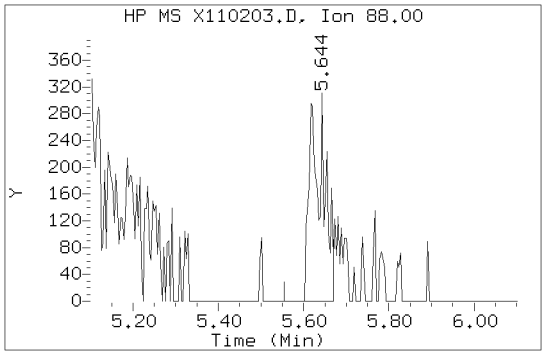
1,4-Dioxane ()

Reason Code:

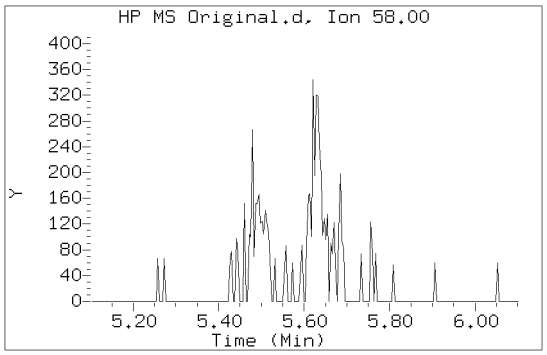
BEFORE
MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



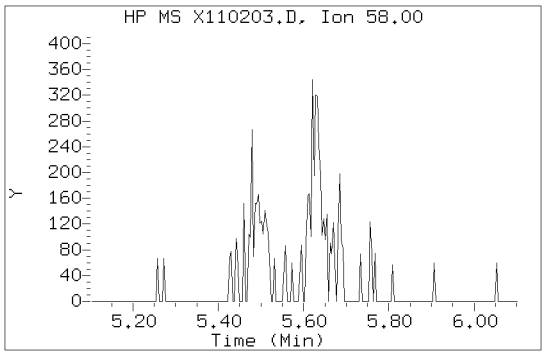
AFTER
MASS
88
AREA
679
HEIGHT
311
09-Nov-2022
12:34



BEFORE
MASS
58
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
58
AREA
0
HEIGHT
0
09-Nov-2022
12:34



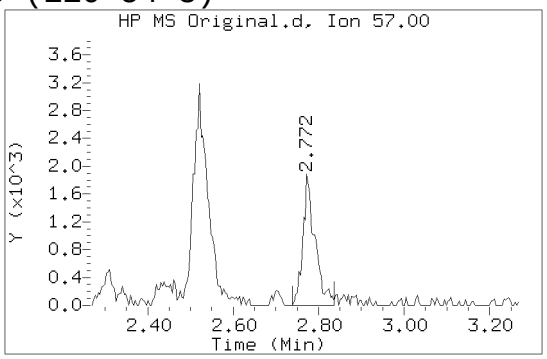
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

n-Hexane (110-54-3)

Reason Code:

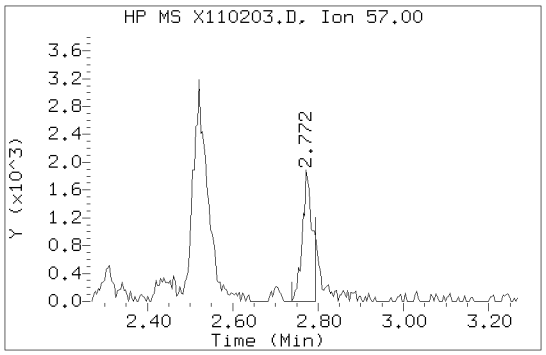
BEFORE

MASS
57
AREA
3753
HEIGHT
1893
08-Nov-2022
15:18
linh
pham



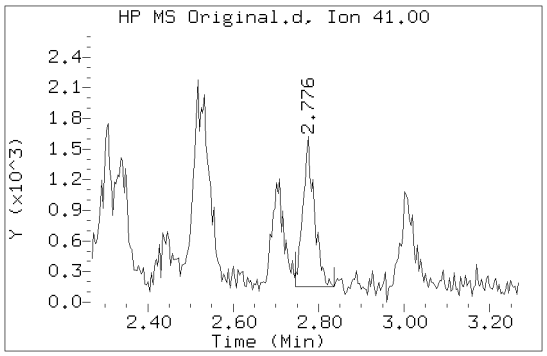
AFTER

MASS
57
AREA
3089
HEIGHT
1893
09-Nov-2022
12:34



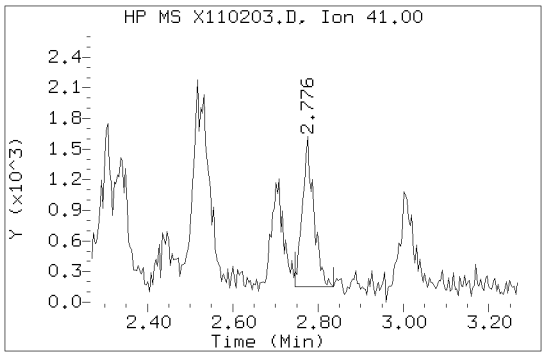
BEFORE

MASS
41
AREA
2743
HEIGHT
1471
08-Nov-2022
15:18
linh
pham



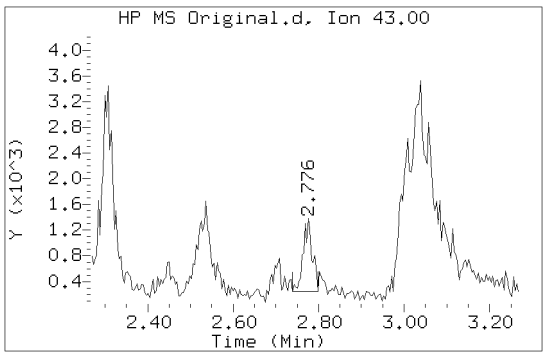
AFTER

MASS
41
AREA
2743
HEIGHT
1471
09-Nov-2022
12:34



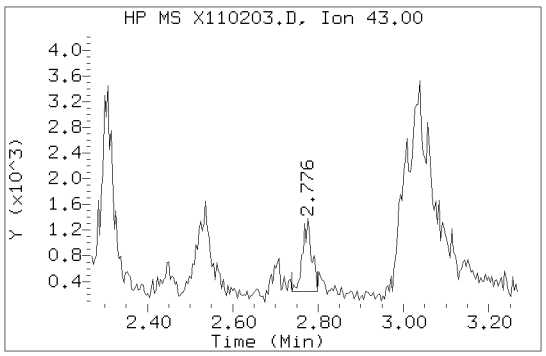
BEFORE

MASS
43
AREA
1718
HEIGHT
1142
08-Nov-2022
15:18
linh
pham



AFTER

MASS
43
AREA
1718
HEIGHT
1142
09-Nov-2022
12:34

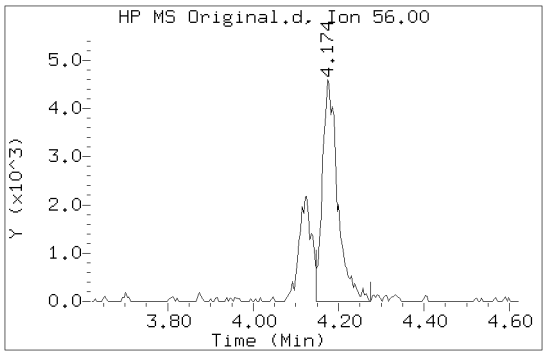


Cyclohexane (110-82-7)

Reason Code:

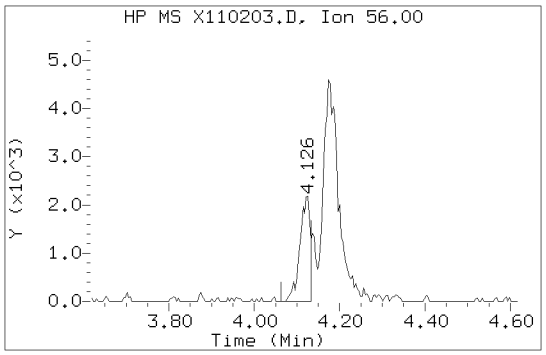
BEFORE

MASS
56
AREA
11474
HEIGHT
4597
08-Nov-2022
15:18
linh
pham



AFTER

MASS
56
AREA
3707
HEIGHT
2186
09-Nov-2022
12:34



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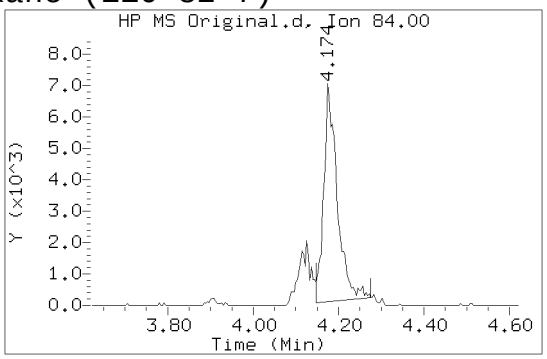
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

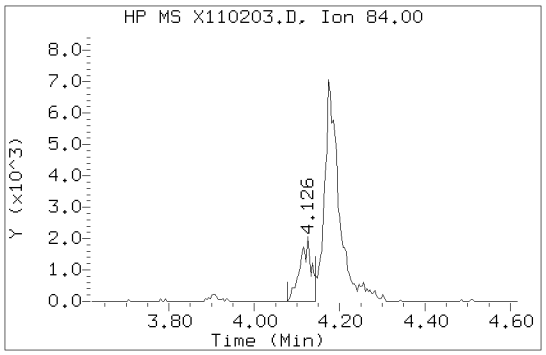
Cyclohexane (110-82-7)

Reason Code:

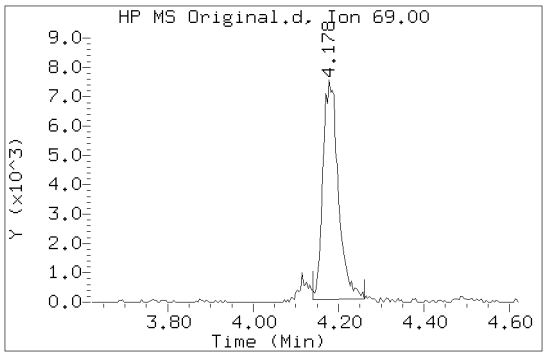
BEFORE
MASS
84
AREA
15215
HEIGHT
6946
08-Nov-2022
15:18
linh
pham



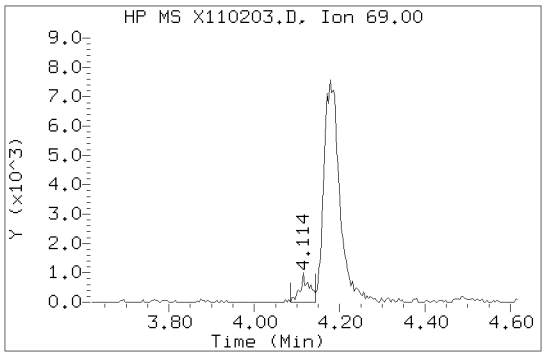
AFTER
MASS
84
AREA
3916
HEIGHT
2063
09-Nov-2022
12:34



BEFORE
MASS
69
AREA
18720
HEIGHT
7475
08-Nov-2022
15:18
linh
pham



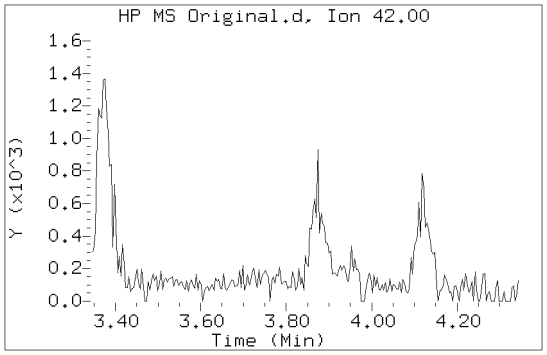
AFTER
MASS
69
AREA
1558
HEIGHT
1018
09-Nov-2022
12:34



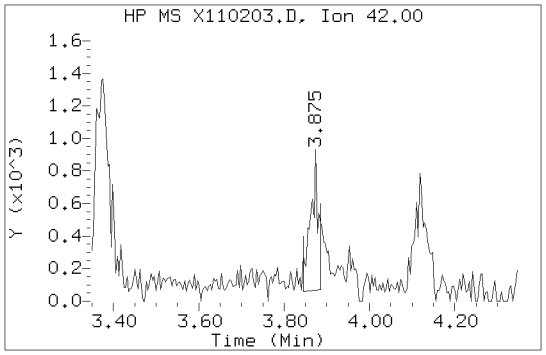
Tetrahydrofuran (109-99-9)

Reason Code:

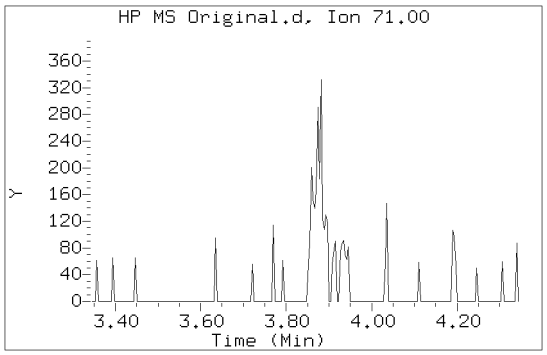
BEFORE
MASS
42
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



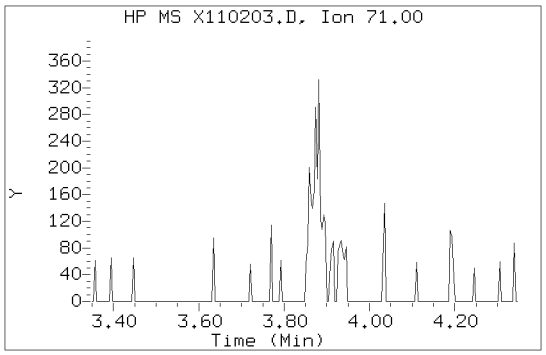
AFTER
MASS
42
AREA
1105
HEIGHT
863
09-Nov-2022
12:34



BEFORE
MASS
71
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
71
AREA
0
HEIGHT
0
09-Nov-2022
12:34



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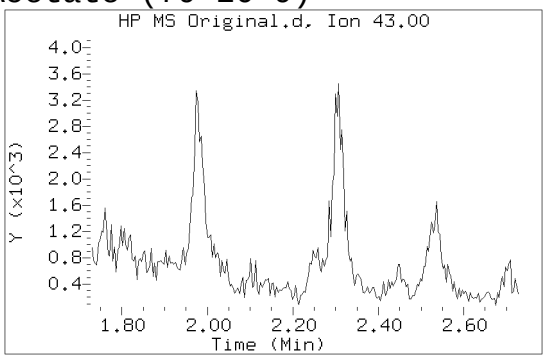
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

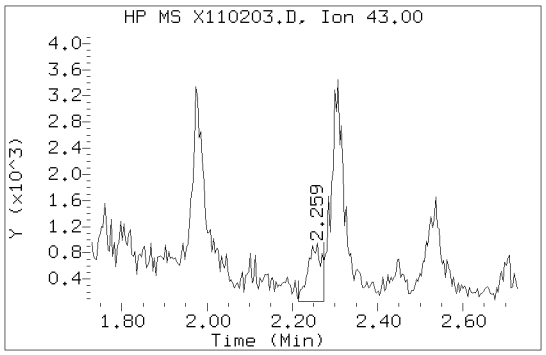
Methyl Acetate (79-20-9)

Reason Code:

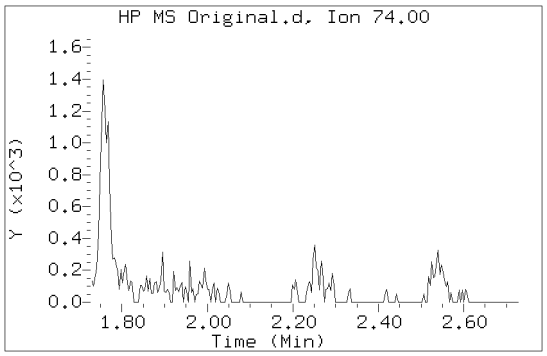
BEFORE
MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



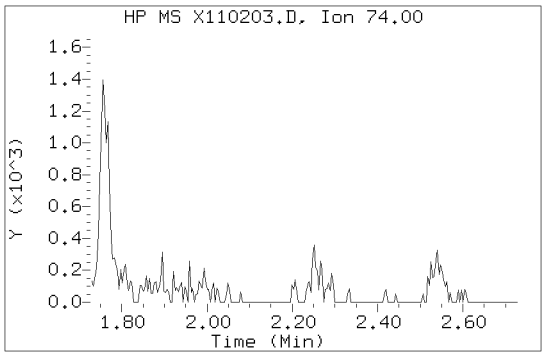
AFTER
MASS
43
AREA
1953
HEIGHT
893
09-Nov-2022
12:34



BEFORE
MASS
74
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



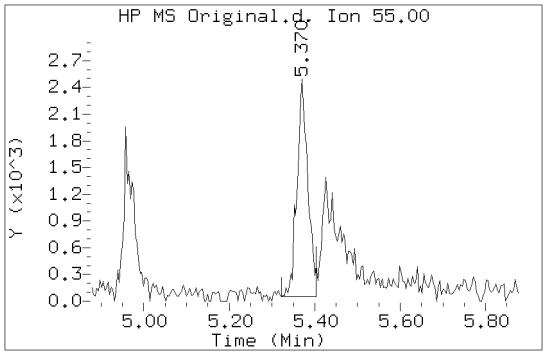
AFTER
MASS
74
AREA
0
HEIGHT
0
09-Nov-2022
12:34



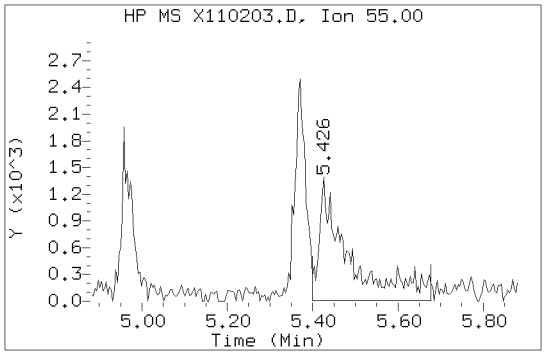
Methylcyclohexane (108-87-2)

Reason Code:

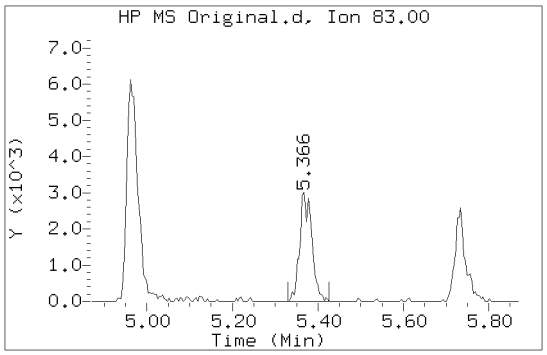
BEFORE
MASS
55
AREA
4403
HEIGHT
2444
08-Nov-2022
15:18
linh
pham



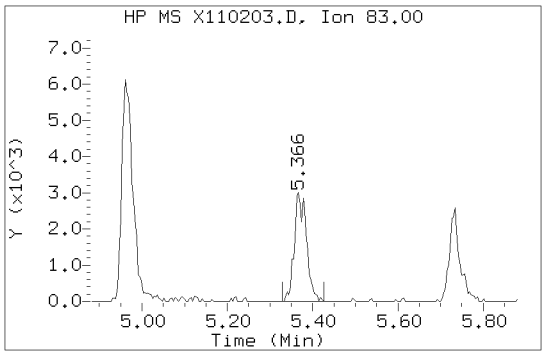
AFTER
MASS
55
AREA
6511
HEIGHT
1384
09-Nov-2022
12:34



BEFORE
MASS
83
AREA
6075
HEIGHT
3017
08-Nov-2022
15:18
linh
pham



AFTER
MASS
83
AREA
6075
HEIGHT
3017
09-Nov-2022
12:34



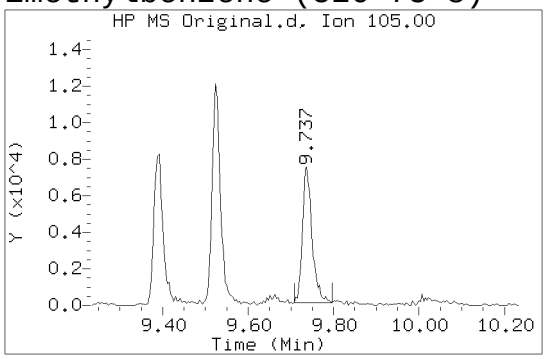
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2,3-Trimethylbenzene (526-73-8)

Reason Code:

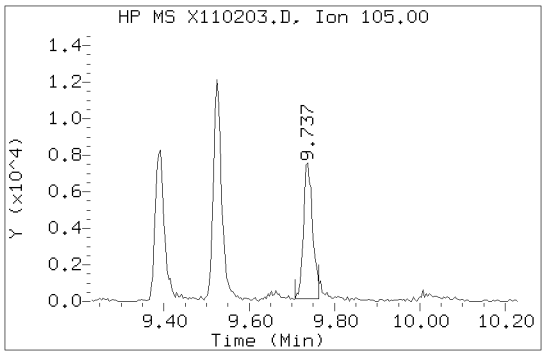
BEFORE

MASS
105
AREA
12021
HEIGHT
7436
08-Nov-2022
15:18
linh
pham



AFTER

MASS
105
AREA
11431
HEIGHT
7436
09-Nov-2022
12:34

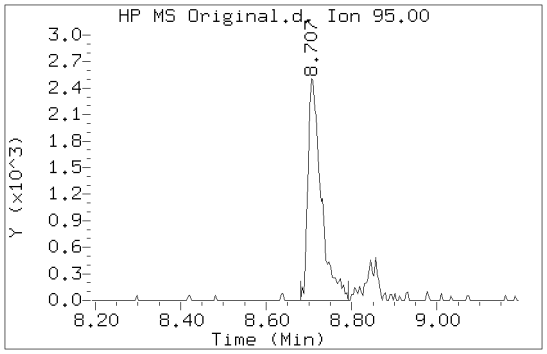


4-Bromofluorobenzene (460-00-4)

Reason Code:

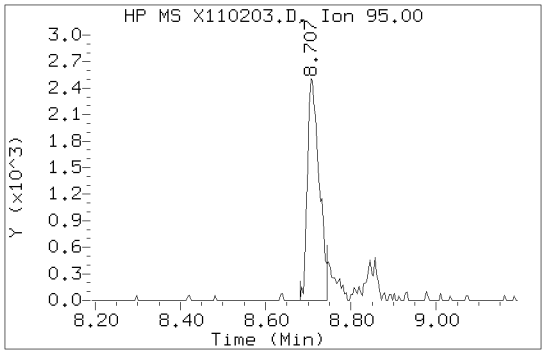
BEFORE

MASS
95
AREA
5425
HEIGHT
2506
08-Nov-2022
15:18
linh
pham



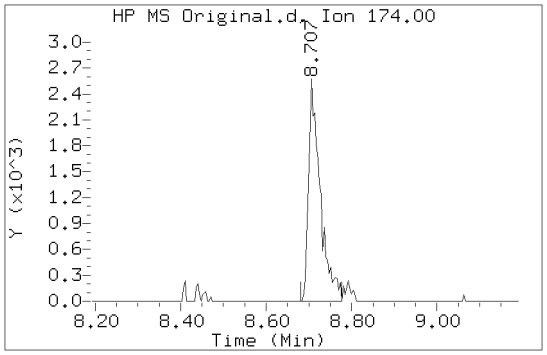
AFTER

MASS
95
AREA
4822
HEIGHT
2506
09-Nov-2022
12:34



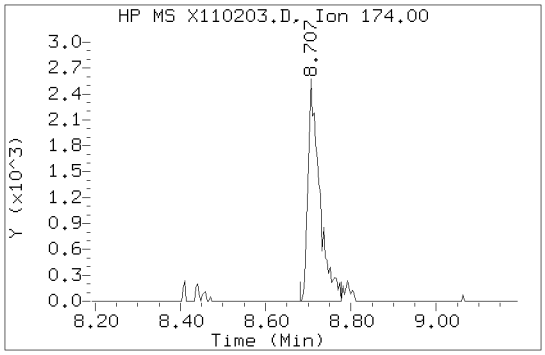
BEFORE

MASS
174
AREA
4881
HEIGHT
2574
08-Nov-2022
15:18
linh
pham



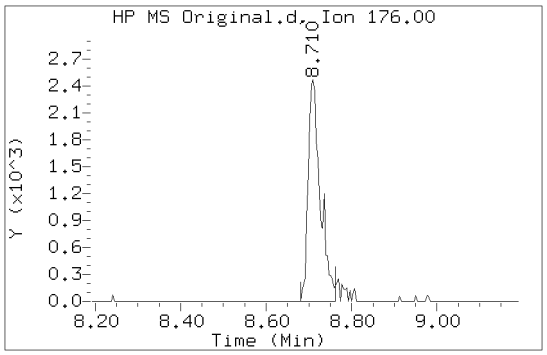
AFTER

MASS
174
AREA
4881
HEIGHT
2574
09-Nov-2022
12:34



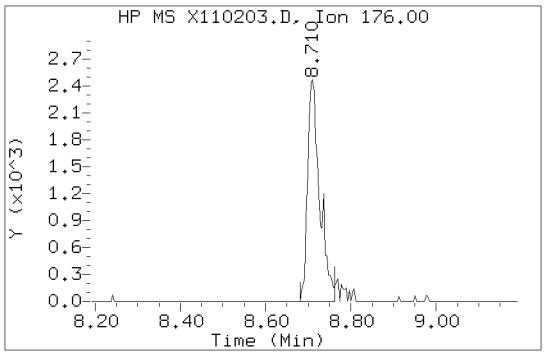
BEFORE

MASS
176
AREA
4902
HEIGHT
2468
08-Nov-2022
15:18
linh
pham



AFTER

MASS
176
AREA
4902
HEIGHT
2468
09-Nov-2022
12:34



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-NOV-2022 12:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 12:03 Cal File: X110203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	589666	50.0000	
135 1,4-Dioxane	88	5.617	5.617	(1.345)	1232	20.0000	19.59(M)
140 1,3-Butadiene	54	1.164	1.164	(0.279)	4495	1.00000	0.90
25 Methacrylonitrile	41	3.863	3.863	(0.925)	5798	1.00000	1.09(MH)
12 Isobutyl Alcohol	43	4.691	4.691	(1.123)	16215	20.0000	18.41(M)
13 Acetonitrile	39	2.202	2.202	(0.527)	7107	10.0000	10.05
14 Allyl Chloride	41	2.206	2.206	(0.528)	14925	1.00000	1.12
4 Propionitrile	54	3.675	3.675	(0.880)	8748	10.0000	11.80
136 n-Hexane	57	2.772	2.772	(0.664)	6218	1.00000	0.85
72 trans-1,4-Dichloro-2-butene	53	8.916	8.916	(1.162)	1907	1.00000	0.97(M)
194 Acetaldehyde	44	1.209	1.209	(0.289)	3990	4.00000	(M)
23 Chloroprene	53	1.767	1.767	(0.423)	2235	1.00000	0.98(M)
145 alpha-Methylstyrene	118	9.276	9.276	(0.960)	9606	1.00000	0.94
200 Dimethyl Disulfide	94	6.202	6.202	(0.808)	10313	1.00000	0.95(M)
139 Diethyl ether	59	1.760	1.760	(0.421)	5202	1.00000	1.12
130 Ethyl Acetate	43	3.683	3.683	(0.882)	6812	1.00000	1.10(M)
40 Methyl Methacrylate	41	5.628	5.628	(1.347)	6307	1.00000	1.15
49 Ethyl Methacrylate	69	6.798	6.798	(1.369)	9245	1.00000	0.99(M)
132 n-Butanol	56	5.366	5.366	(1.284)	2342	20.0000	20.95(M)
142 Tetrahydrofuran	42	3.859	3.859	(0.924)	1970	2.00000	2.10(M)

150	Allyl alcohol	57	2.772	2.772 (0.664)	6218	20.0000	16.42
166	1,2,3-Trimethylbenzene	105	9.737	9.737 (1.007)	24700	1.00000	1.22(M)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D Page 2
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	6530	1.00000	1.79
	3 Chloromethane	50	1.077	1.077	(0.258)	7717	1.00000	2.55
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	7800	1.00000	1.16
	6 Bromomethane	94	1.336	1.336	(0.320)	4926	1.00000	2.41(M)
	7 Chloroethane	64	1.400	1.400	(0.335)	4228	1.00000	1.01
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	8668	1.00000	1.01
	9 Acrolein	56	1.445	1.445	(0.346)	845	2.00000	4.21(M)
	10 Acetone	43	1.973	1.973	(0.472)	6765	2.00000	1.80
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	5276	1.00000	1.05
	15 Iodomethane	142	2.022	2.022	(0.484)	5322	2.00000	3.13
	16 Acrylonitrile	53	2.562	2.562	(0.613)	3690	2.00000	1.91(M)
	17 Methylene Chloride	84	2.303	2.303	(0.551)	7823	1.00000	1.21(M)
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	20241	1.00000	1.14
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	31927	2.00000	2.09
	20 trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	5829	1.00000	1.04
	21 Vinyl Acetate	43	3.027	3.027	(0.725)	31753	2.00000	2.02(M)
	22 1,1-Dichloroethane	63	2.925	2.925	(0.700)	10495	1.00000	1.04
	24 2-Butanone	43	3.671	3.671	(0.879)	4262	2.00000	2.02(M)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	8534	1.00000	2.21
	27 cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	6527	1.00000	1.00
	28 Chloroform	83	3.904	3.904	(0.935)	12669	1.00000	1.13(M)
	29 Bromochloromethane	128	3.795	3.795	(0.908)	3682	1.00000	1.05
$	30 Dibromofluoromethane	113	4.110	4.110	(0.984)	5826	1.00000	1.52
	31 1,1,1-Trichloroethane	97	4.076	4.076	(0.976)	8932	1.00000	1.04
	32 1,1-Dichloropropene	75	4.286	4.286	(0.863)	7511	1.00000	1.00
	33 1,2-Dichloroethane	62	4.567	4.567	(0.920)	8902	1.00000	1.05
	34 Carbon Tetrachloride	117	4.267	4.267	(0.860)	6722	1.00000	0.96(H)
$	35 1,2-Dichloroethane-d4	65	4.477	4.477	(1.072)	7575	1.00000	1.53
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	930783	50.0000	
	37 Benzene	78	4.519	4.519	(0.910)	24778	1.00000	1.07
	38 Trichloroethene	130	5.212	5.212	(1.050)	6842	1.00000	1.05
	39 Bromodichloromethane	83	5.729	5.729	(1.154)	8093	1.00000	0.98
	41 2-Chloroethylvinyl ether	63	6.067	6.067	(1.222)	4934	2.00000	1.80
	42 1,2-Dichloropropane	63	5.441	5.441	(1.096)	6931	1.00000	1.10(M)
	44 Dibromomethane	93	5.561	5.561	(1.120)	4571	1.00000	1.07
	45 4-Methyl-2-Pentanone	43	6.340	6.340	(0.827)	11507	2.00000	2.05
	46 cis-1,3-Dichloropropene	75	6.164	6.164	(1.242)	9964	1.00000	0.96
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	871141	50.0000	
$	48 Toluene-d8	98	6.397	6.397	(0.834)	21702	1.00000	1.03
	50 Toluene	91	6.457	6.457	(0.842)	26099	1.00000	1.04
	51 trans-1,3-Dichloropropene	75	6.697	6.697	(1.349)	8352	1.00000	0.93
	52 2-Hexanone	43	7.109	7.109	(0.927)	7153	2.00000	1.89(M)
	53 1,1,2-Trichloroethane	83	6.850	6.850	(0.893)	5213	1.00000	1.04
	54 1,3-Dichloropropane	76	6.989	6.989	(0.911)	10086	1.00000	1.01
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	6377	1.00000	0.99
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	5774	1.00000	1.69
	57 1,2-Dibromoethane	107	7.274	7.274	(0.948)	6481	1.00000	1.03
	58 1-Chlorohexane	55	7.705	7.705	(1.552)	4864	1.00000	0.85(H)
	59 Chlorobenzene	112	7.697	7.697	(1.003)	17594	1.00000	1.04
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	6076	1.00000	1.01
	61 Ethylbenzene	106	7.806	7.806	(1.018)	9301	1.00000	1.08
	62 m,p-Xylenes	106	7.915	7.915	(1.032)	21478	2.00000	2.01

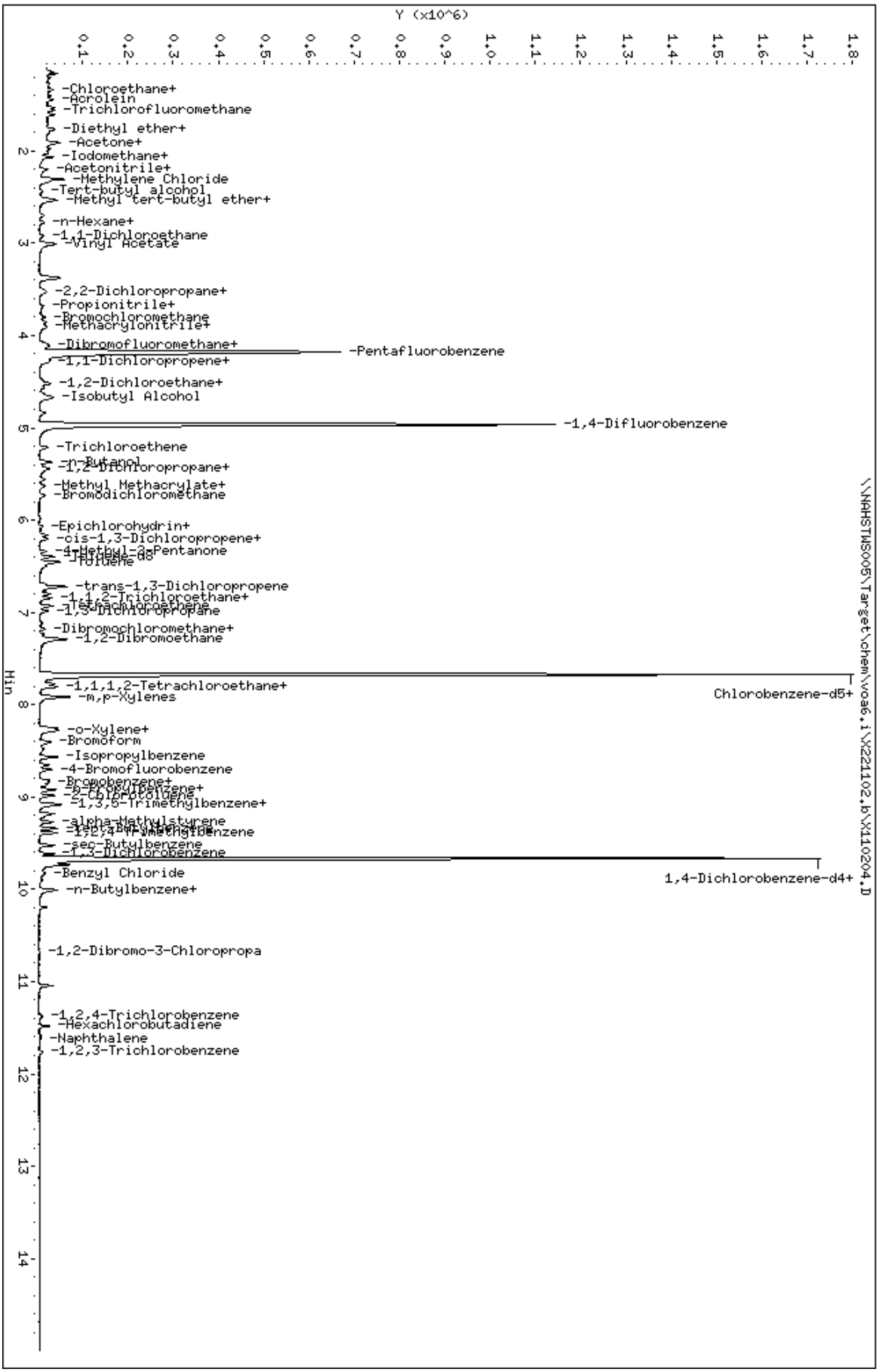
63 o-Xylene	106	8.252	8.252 (1.076)	9916	1.00000	0.95
64 Styrene	104	8.282	8.282 (1.080)	16729	1.00000	0.95(M)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D Page 3
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.413	8.413	(1.097)	3497	1.00000	3.21(TM)
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	25061	1.00000	0.98
	68 1,1,2,2-Tetrachloroethane	83	8.848	8.848	(0.915)	7535	1.00000	1.06(M)
$	69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	9099	1.00000	1.38
*	70 1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	427380	50.0000	
	71 1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	5396	1.00000	1.00(M)
	73 n-Propylbenzene	91	8.923	8.923	(0.923)	26436	1.00000	0.93
	74 Bromobenzene	156	8.822	8.822	(0.913)	7914	1.00000	1.07
	75 1,3,5-Trimethylbenzene	105	9.073	9.073	(0.939)	18977	1.00000	0.94
	76 2-Chlorotoluene	91	8.983	8.983	(0.929)	18864	1.00000	1.05
	77 4-Chlorotoluene	91	9.084	9.084	(0.940)	20046	1.00000	0.98(M)
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	16562	1.00000	1.54
	79 1,2,4-Trimethylbenzene	105	9.388	9.388	(0.971)	20017	1.00000	0.96
	81 sec-Butylbenzene	105	9.527	9.527	(0.986)	22328	1.00000	1.79
	82 p-Isopropyltoluene	119	9.651	9.651	(0.998)	19645	1.00000	0.95(M)
	83 1,3-Dichlorobenzene	146	9.613	9.613	(0.995)	12233	1.00000	0.99
	84 1,4-Dichlorobenzene	146	9.688	9.688	(1.002)	12963	1.00000	1.01
	86 Benzyl Chloride	91	9.827	9.827	(1.281)	6229	1.00000	4.52
	87 n-Butylbenzene	91	10.014	10.014	(1.036)	14667	1.00000	0.84
	88 1,2-Dichlorobenzene	146	10.007	10.007	(1.035)	11809	1.00000	1.02
	89 1,2-Dibromo-3-Chloropropane	155	10.681	10.681	(1.105)	551	1.00000	3.42(M)
	90 1,2,4-Trichlorobenzene	180	11.379	11.379	(1.177)	4795	1.00000	0.89(M)
	91 Hexachlorobutadiene	225	11.484	11.484	(1.188)	3613	1.00000	0.63
	92 Naphthalene	128	11.592	11.592	(1.199)	8288	1.00000	0.99(M)
	93 1,2,3-Trichlorobenzene	180	11.776	11.776	(1.218)	3989	1.00000	1.03
M	94 1,2-Dichloroethylene (total)	96				12356	2.00000	
M	95 Xylenes (total)	106				31394	3.00000	
	141 Cyclohexane	56	4.121	4.121	(0.987)	7388	1.00000	0.50(H)
	138 Freon TF	101	1.906	1.906	(0.456)	5530	1.00000	0.63
	147 Methylcyclohexane	55	5.415	5.415	(1.091)	12281	1.00000	0.95(MH)
	146 Methyl Acetate	43	2.251	2.251	(0.539)	3215	1.00000	0.89(M)
	148 Tert-Butyl alcohol	59	2.442	2.442	(0.585)	10890	20.0000	21.61(a)
	149 Isopropyl Alcohol	45	2.105	2.105	(0.504)	6915	20.0000	25.19

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Date : 02-NOV-2022 12:24
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

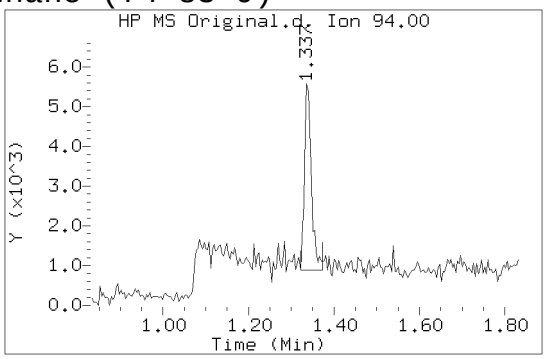
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

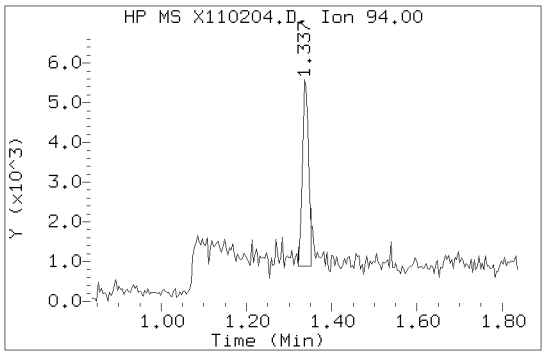
Bromomethane (74-83-9)

Reason Code:

BEFORE
MASS
94
AREA
5484
HEIGHT
4701
08-Nov-2022
15:18
linh
pham



AFTER
MASS
94
AREA
4926
HEIGHT
4701
09-Nov-2022
12:35



BEFORE
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96
AREA
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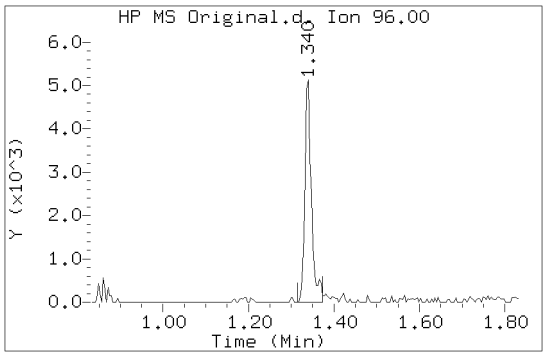
HEIGHT
5131
08-Nov-2022
15:18
linh
pham



AFTER
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96
AREA
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HEIGHT
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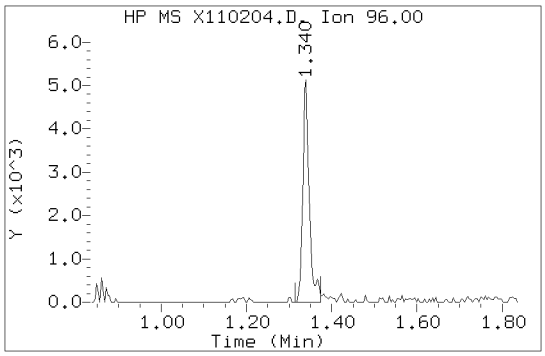
09-Nov-2022
12:35



Acrolein (107-02-8)

Reason Code:

BEFORE
MASS
56
AREA
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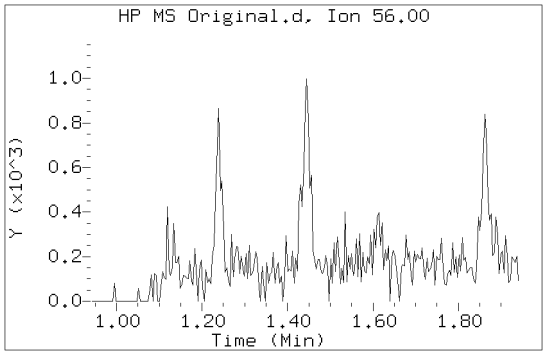
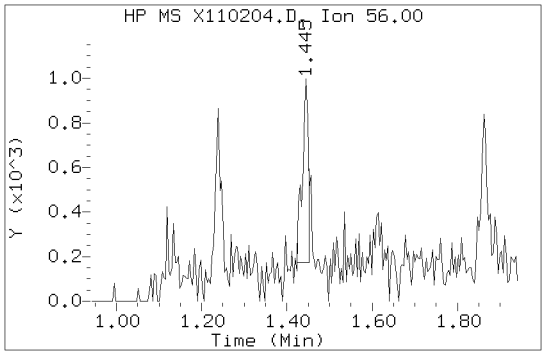
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
56
AREA
845
HEIGHT
825
09-Nov-2022
12:35



BEFORE
MASS
55
AREA
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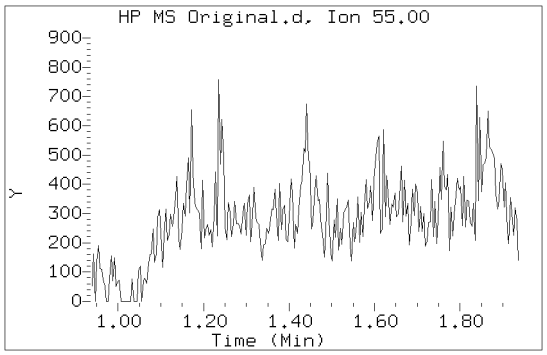
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
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AREA
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HEIGHT
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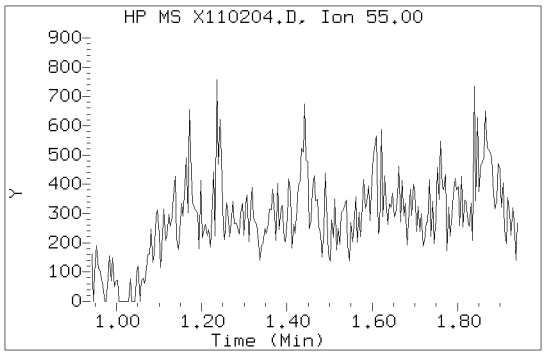
09-Nov-2022
12:35



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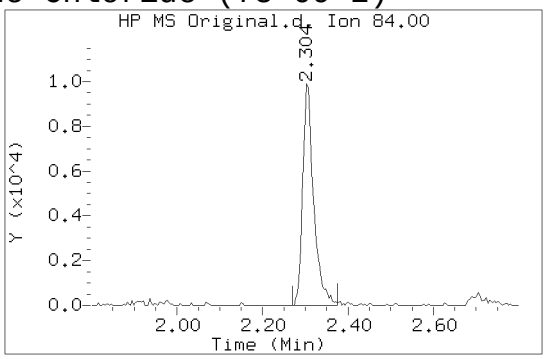
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

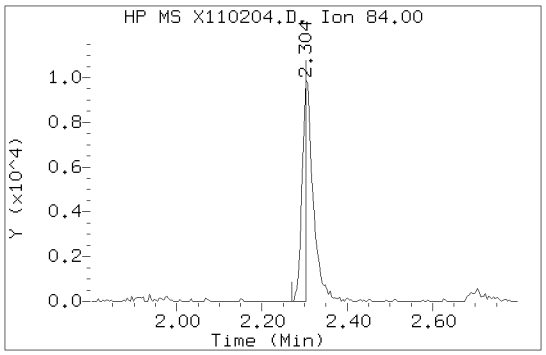
Methylene Chloride (75-09-2)

Reason Code:

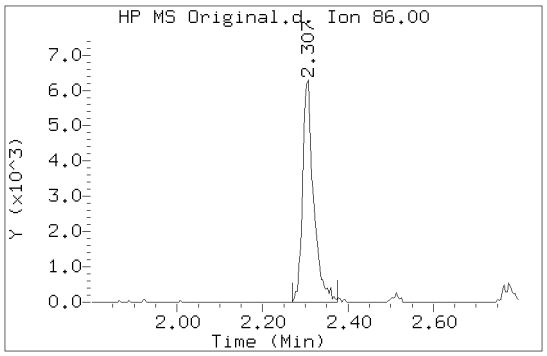
BEFORE
MASS
84
AREA
18040
HEIGHT
9908
08-Nov-2022
15:18
linh
pham



AFTER
MASS
84
AREA
7823
HEIGHT
9908
09-Nov-2022
12:35



BEFORE
MASS
86
AREA
11560
HEIGHT
6298
08-Nov-2022
15:18
linh
pham



AFTER
MASS
86
AREA
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HEIGHT
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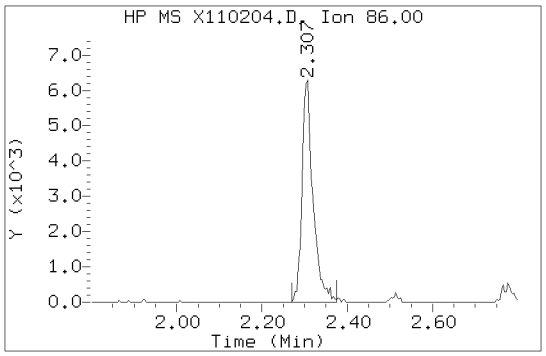
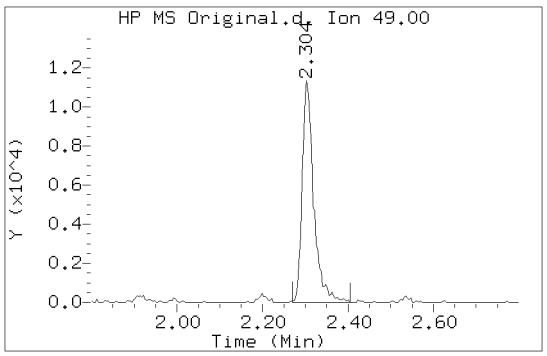
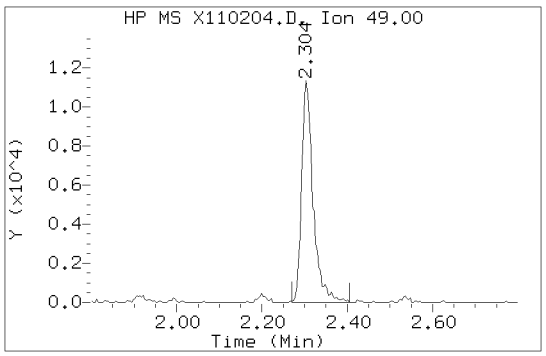
09-Nov-2022
12:35



BEFORE
MASS
49
AREA
21686
HEIGHT
11349
08-Nov-2022
15:18
linh
pham



AFTER
MASS
49
AREA
21686
HEIGHT
11349
09-Nov-2022
12:35



2-Butanone (78-93-3)

Reason Code:

BEFORE
MASS
43
AREA
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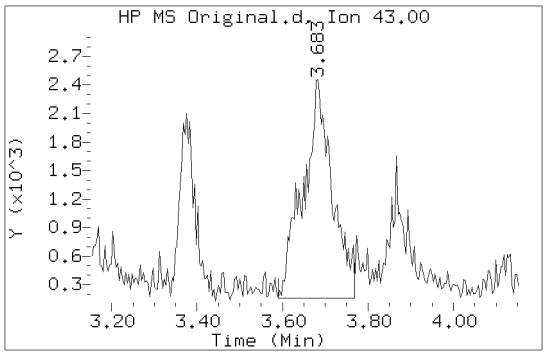
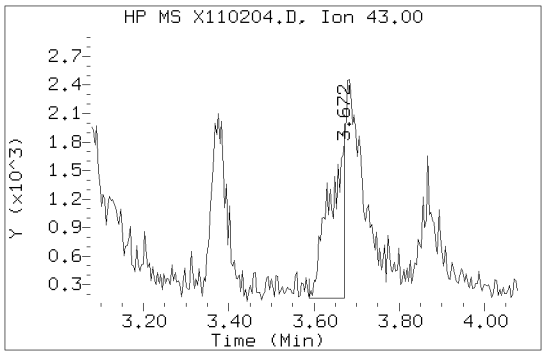
HEIGHT
2299
08-Nov-2022
15:18
linh
pham



AFTER
MASS
43
AREA
4262
HEIGHT
1636
09-Nov-2022
12:35



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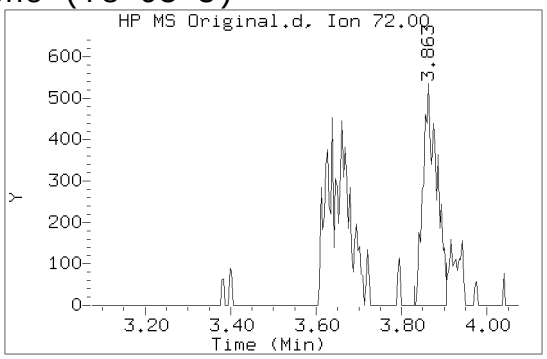
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

2-Butanone (78-93-3)

Reason Code:

BEFORE

MASS
72
AREA
1193
HEIGHT
535
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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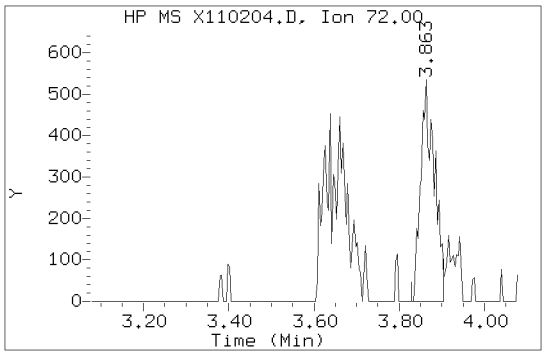
AREA
1193
HEIGHT
535
09-Nov-2022
12:35



Chloroform (67-66-3)

Reason Code:

BEFORE

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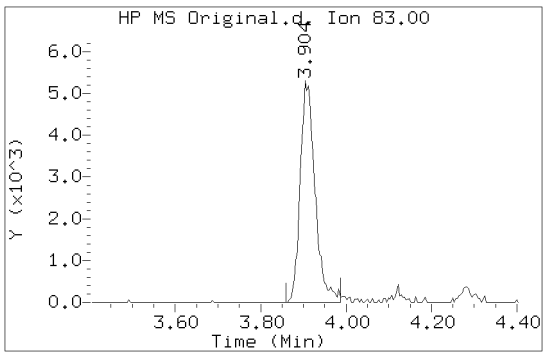
AREA
13043
HEIGHT
5306
08-Nov-2022
15:18
linh
pham



AFTER

MASS
83
AREA
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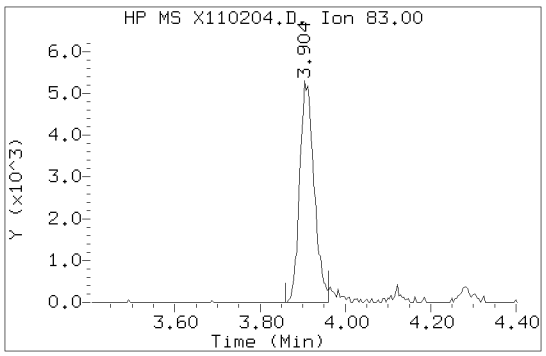
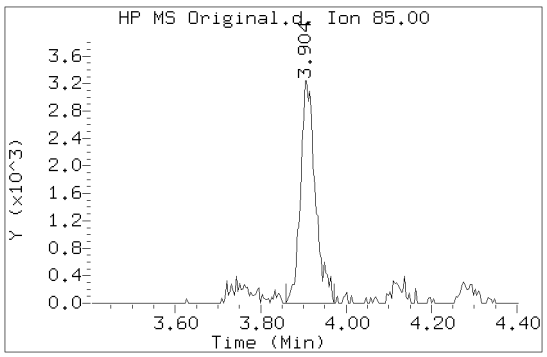
09-Nov-2022
12:35



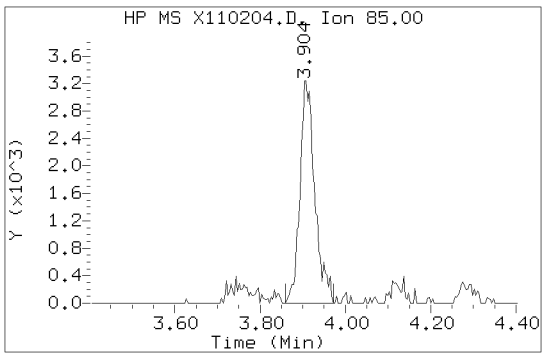
BEFORE

MASS
85
AREA
7996
HEIGHT
3238
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
7996
HEIGHT
3238
09-Nov-2022
12:35



1,2-Dichloropropane (78-87-5)

Reason Code:

BEFORE

MASS
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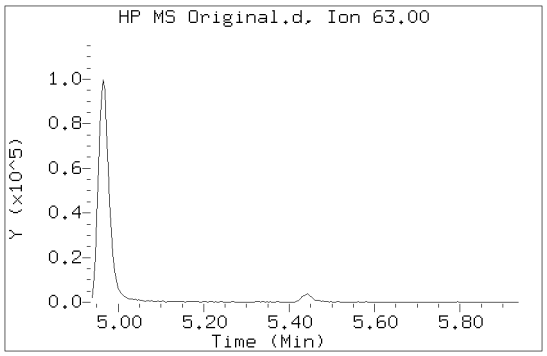
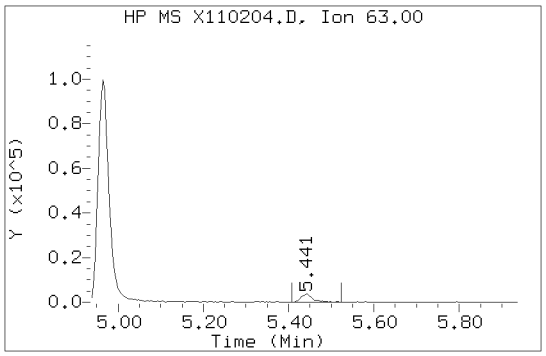
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
63
AREA
6931
HEIGHT
3825
09-Nov-2022
12:35



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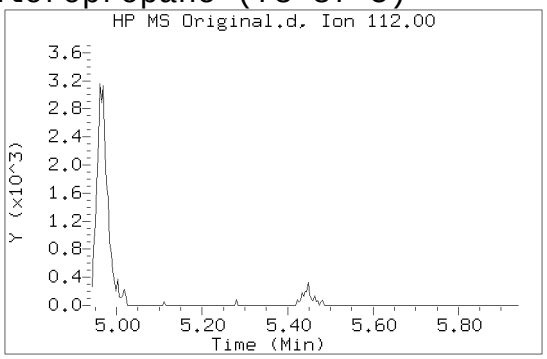
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

1,2-Dichloropropane (78-87-5)

Reason Code:

BEFORE

MASS
112
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

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HEIGHT
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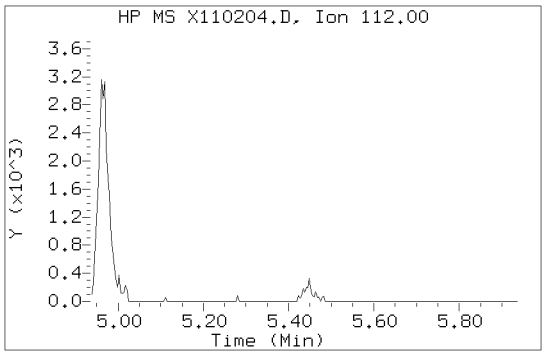
09-Nov-2022
12:35



2-Hexanone (591-78-6)

Reason Code:

BEFORE

MASS
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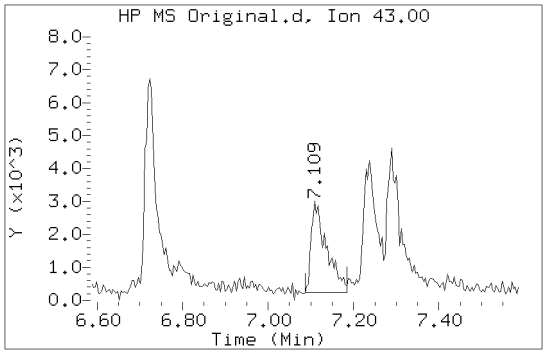
AREA
6922
HEIGHT
2790
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
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HEIGHT
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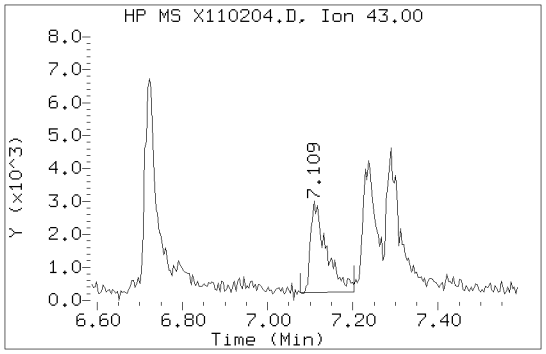
09-Nov-2022
12:35



BEFORE

MASS
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AREA
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HEIGHT
2140
08-Nov-2022
15:18
linh
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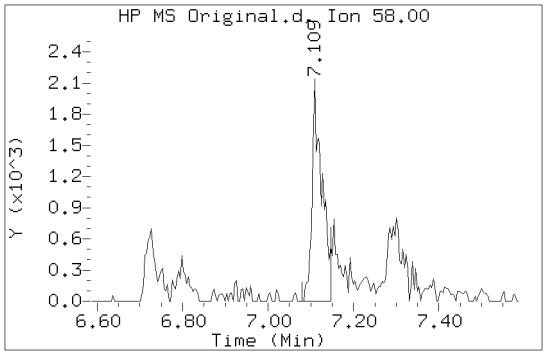

AFTER

MASS
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09-Nov-2022
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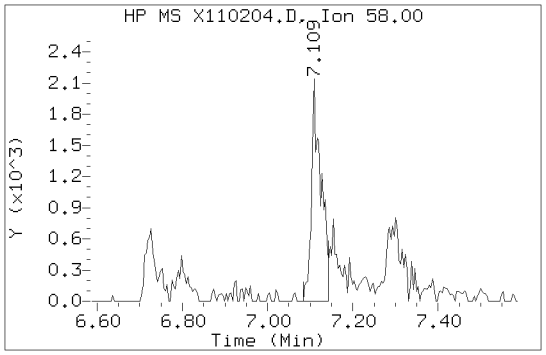

BEFORE

MASS
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AREA
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HEIGHT
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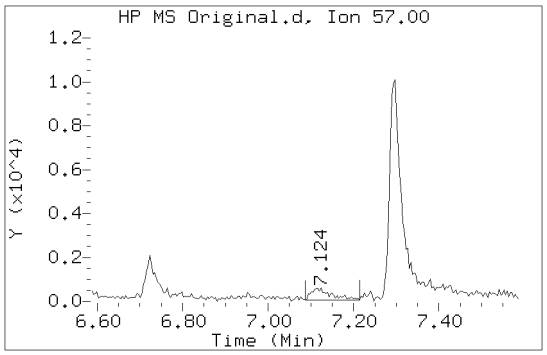
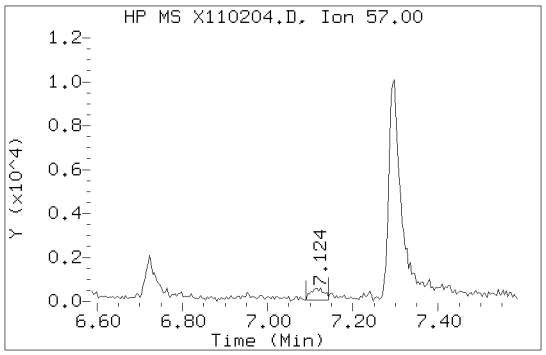
08-Nov-2022
15:18
linh
pham



AFTER

MASS
57
AREA
1171
HEIGHT
544
09-Nov-2022
12:35



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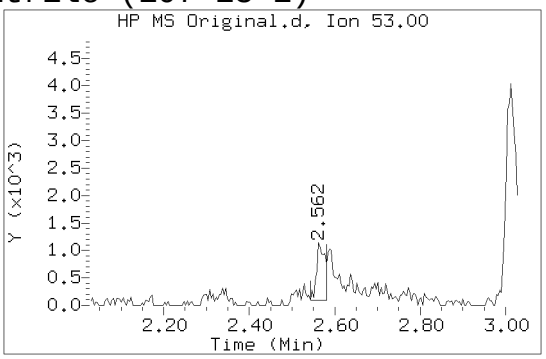
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

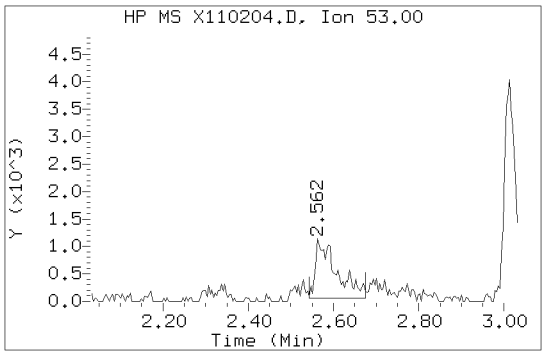
Acrylonitrile (107-13-1)

Reason Code:

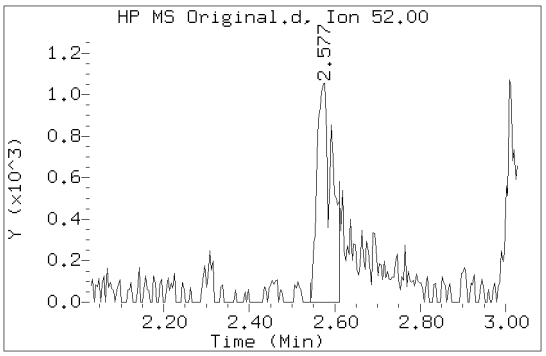
BEFORE
MASS
53
AREA
1431
HEIGHT
1051
08-Nov-2022
15:18
linh
pham



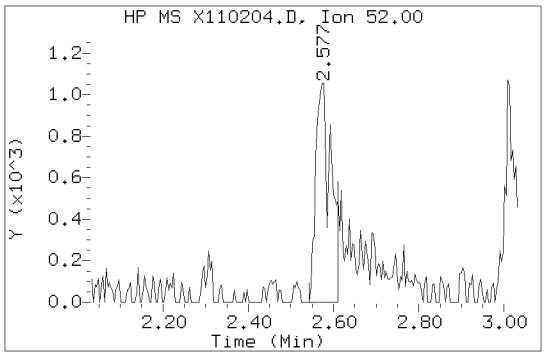
AFTER
MASS
53
AREA
3690
HEIGHT
1086
09-Nov-2022
12:35



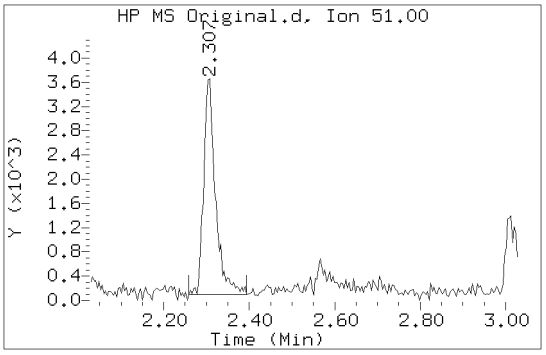
BEFORE
MASS
52
AREA
2610
HEIGHT
1056
08-Nov-2022
15:18
linh
pham



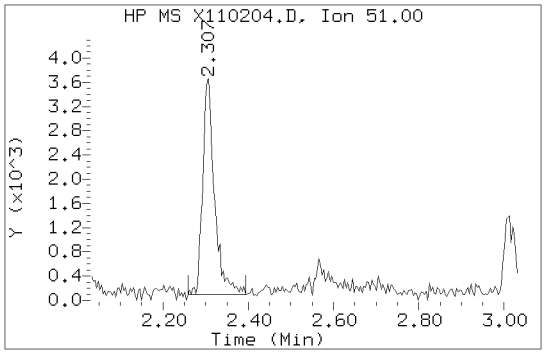
AFTER
MASS
52
AREA
2610
HEIGHT
1056
09-Nov-2022
12:35



BEFORE
MASS
51
AREA
6869
HEIGHT
3562
08-Nov-2022
15:18
linh
pham



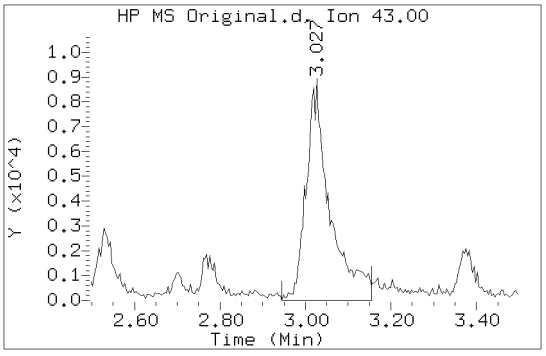
AFTER
MASS
51
AREA
6869
HEIGHT
3562
09-Nov-2022
12:35



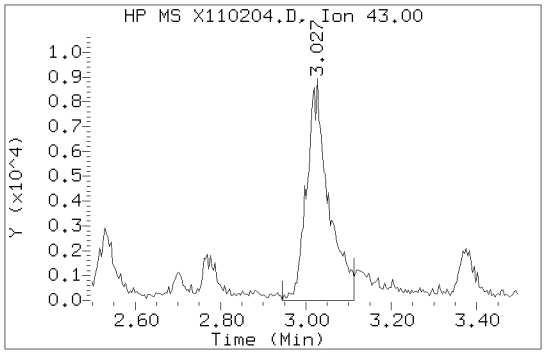
Vinyl Acetate (108-05-4)

Reason Code:

BEFORE
MASS
43
AREA
34344
HEIGHT
8936
08-Nov-2022
15:18
linh
pham



AFTER
MASS
43
AREA
31753
HEIGHT
8936
09-Nov-2022
12:35

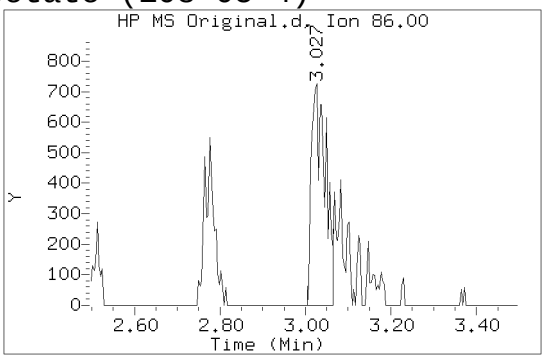


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Vinyl Acetate (108-05-4)

BEFORE

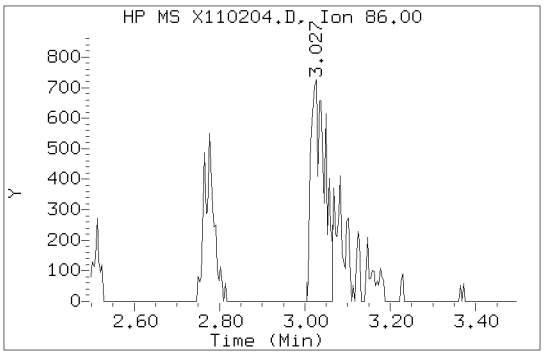
MASS
86
AREA
1648
HEIGHT
726
08-Nov-2022
15:18
linh
pham



Reason Code:

AFTER

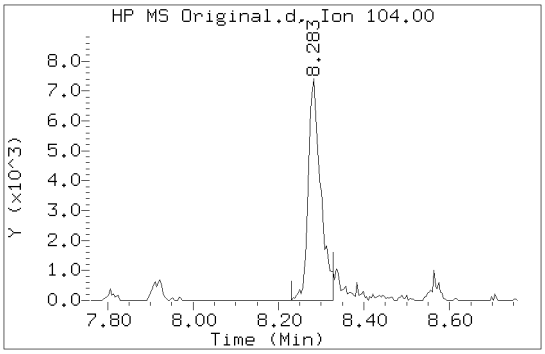
MASS
86
AREA
1648
HEIGHT
726
09-Nov-2022
12:35



Styrene (100-42-5)

BEFORE

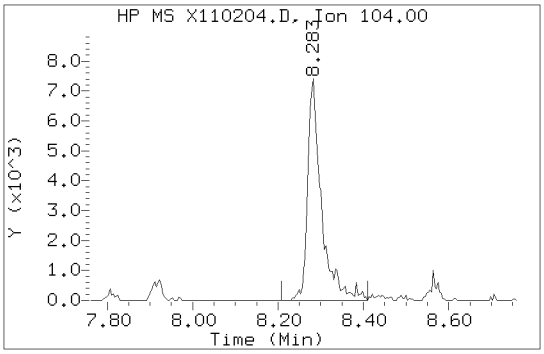
MASS
104
AREA
14979
HEIGHT
7410
08-Nov-2022
15:18
linh
pham



Reason Code:

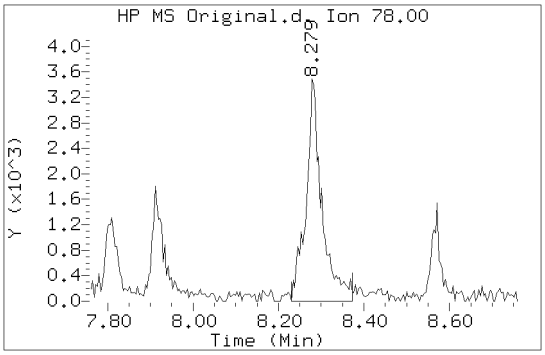
AFTER

MASS
104
AREA
16729
HEIGHT
7410
09-Nov-2022
12:35



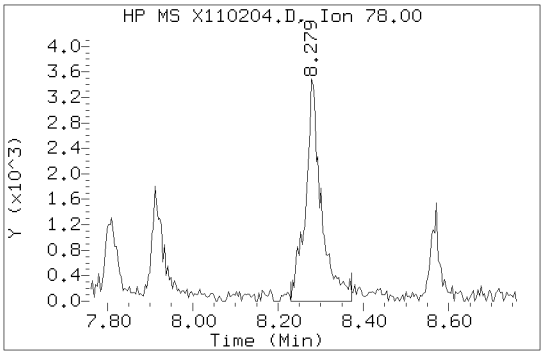
BEFORE

MASS
78
AREA
9017
HEIGHT
3490
08-Nov-2022
15:18
linh
pham



AFTER

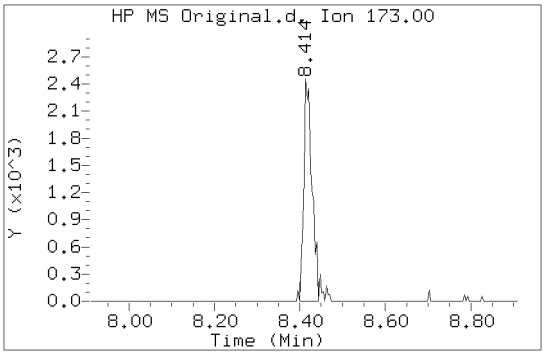
MASS
78
AREA
9017
HEIGHT
3490
09-Nov-2022
12:35



Bromoform (75-25-2)

BEFORE

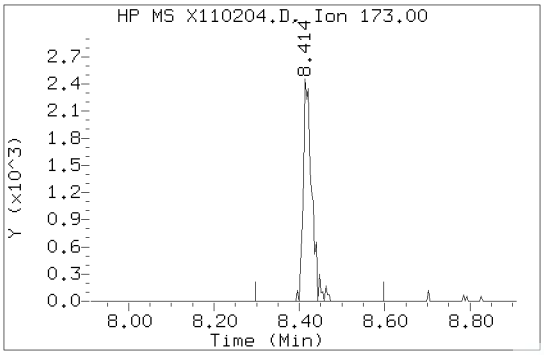
MASS
173
AREA
3288
HEIGHT
2456
08-Nov-2022
15:18
linh
pham



Reason Code:

AFTER

MASS
173
AREA
3497
HEIGHT
2456
09-Nov-2022
12:35



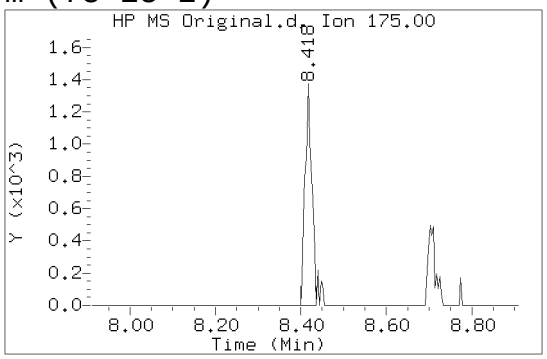
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Bromoform (75-25-2)

Reason Code:

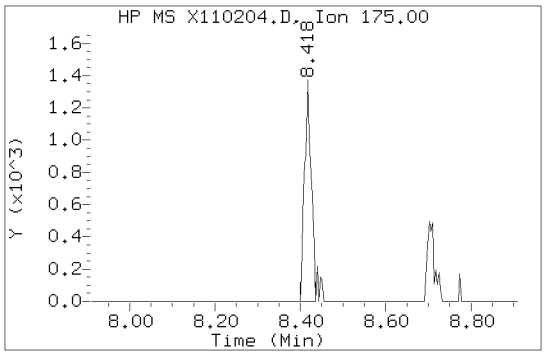
BEFORE

MASS
175
AREA
1526
HEIGHT
1375
08-Nov-2022
15:18
linh
pham



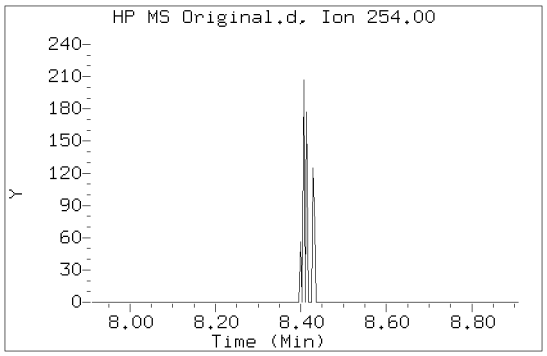
AFTER

MASS
175
AREA
1526
HEIGHT
1375
09-Nov-2022
12:35



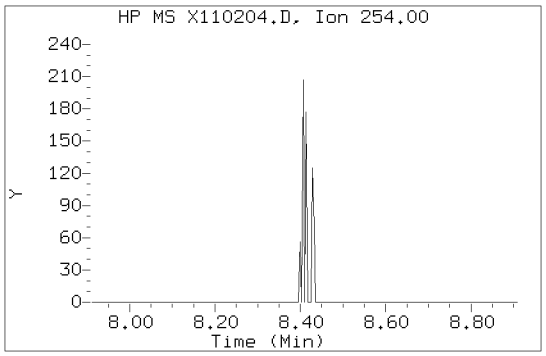
BEFORE

MASS
254
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
254
AREA
0
HEIGHT
0
09-Nov-2022
12:35

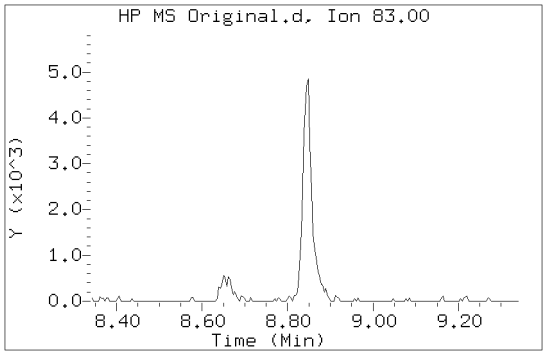


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

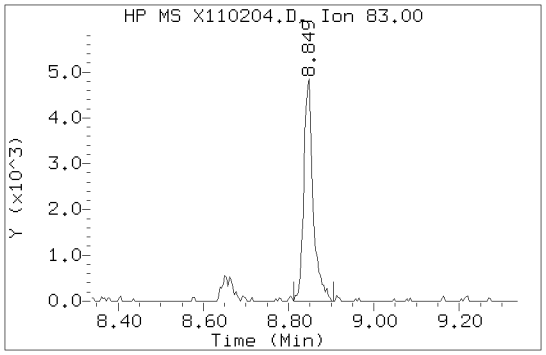
BEFORE

MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



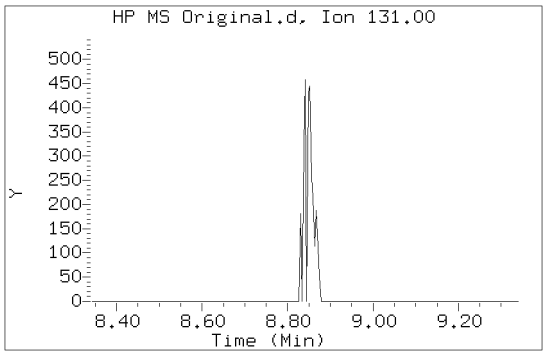
AFTER

MASS
83
AREA
7535
HEIGHT
4851
09-Nov-2022
12:35



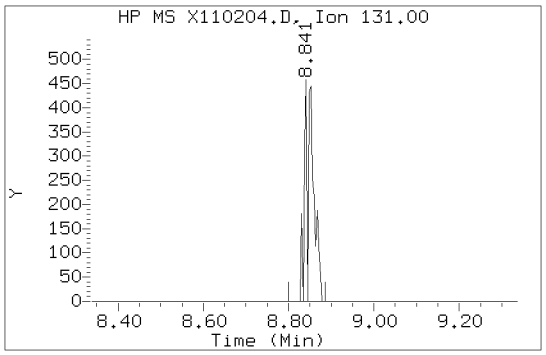
BEFORE

MASS
131
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
131
AREA
623
HEIGHT
458
09-Nov-2022
12:35



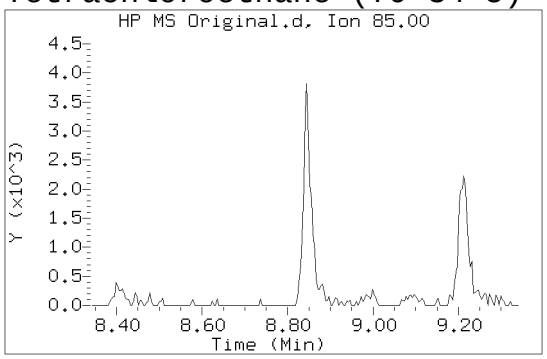
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

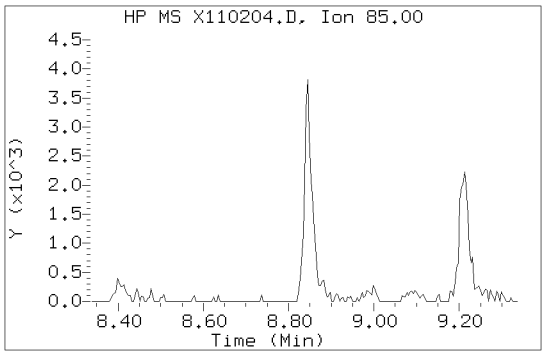
BEFORE

MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:35

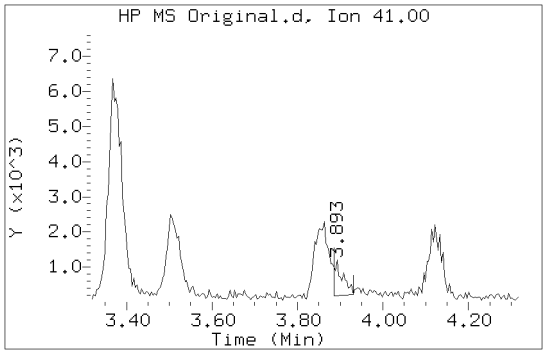


Methacrylonitrile (126-98-7)

Reason Code:

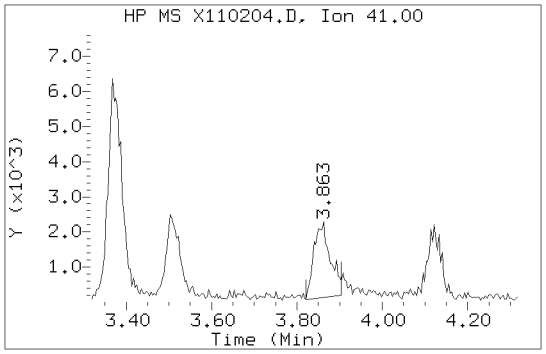
BEFORE

MASS
41
AREA
1408
HEIGHT
1020
08-Nov-2022
15:18
linh
pham



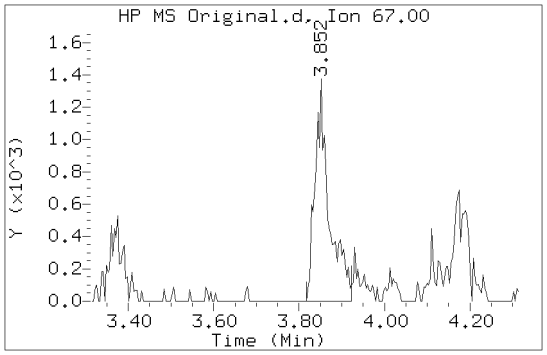
AFTER

MASS
41
AREA
5798
HEIGHT
2170
09-Nov-2022
12:35



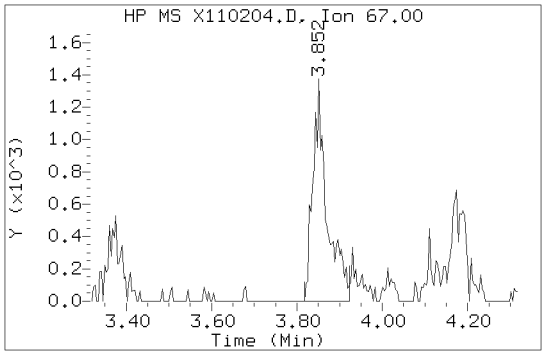
BEFORE

MASS
67
AREA
3148
HEIGHT
1375
08-Nov-2022
15:18
linh
pham



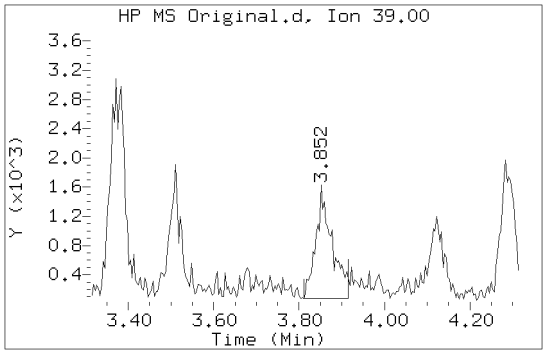
AFTER

MASS
67
AREA
3148
HEIGHT
1375
09-Nov-2022
12:35



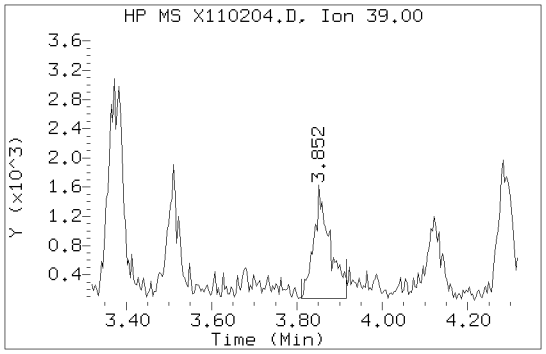
BEFORE

MASS
39
AREA
4075
HEIGHT
1555
08-Nov-2022
15:18
linh
pham



AFTER

MASS
39
AREA
4075
HEIGHT
1555
09-Nov-2022
12:35



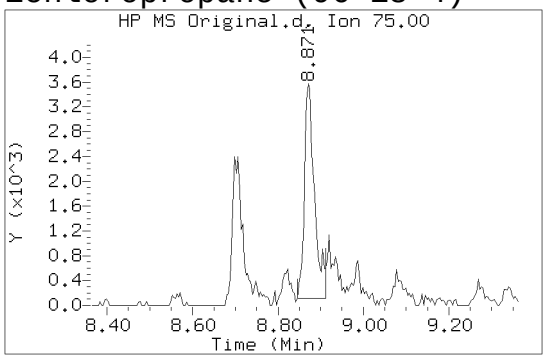
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

1,2,3-Trichloropropane (96-18-4)

Reason Code:

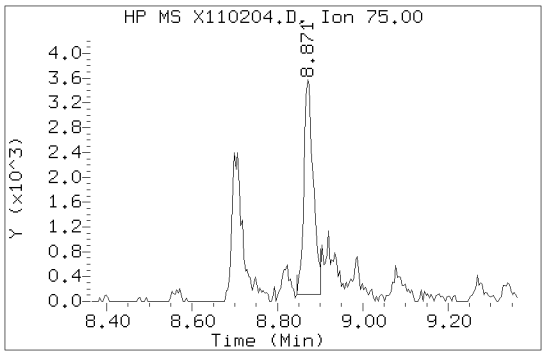
BEFORE

MASS
75
AREA
5795
HEIGHT
3463
08-Nov-2022
15:18
linh
pham



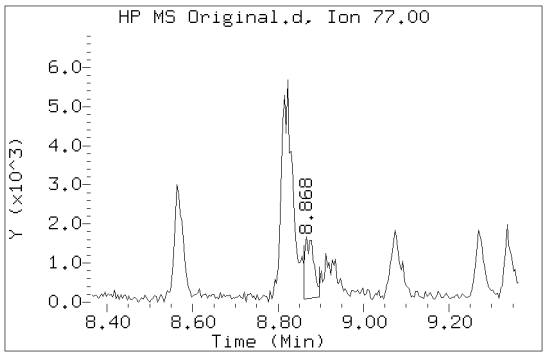
AFTER

MASS
75
AREA
5396
HEIGHT
3463
09-Nov-2022
12:35



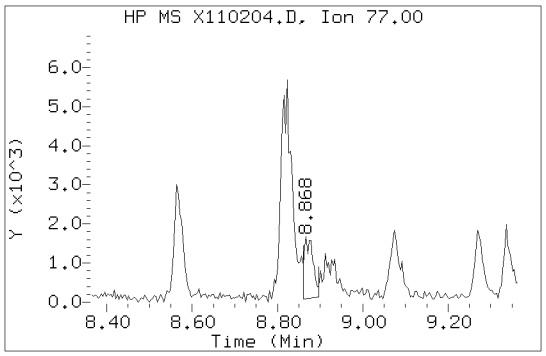
BEFORE

MASS
77
AREA
2400
HEIGHT
1576
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
2400
HEIGHT
1576
09-Nov-2022
12:35

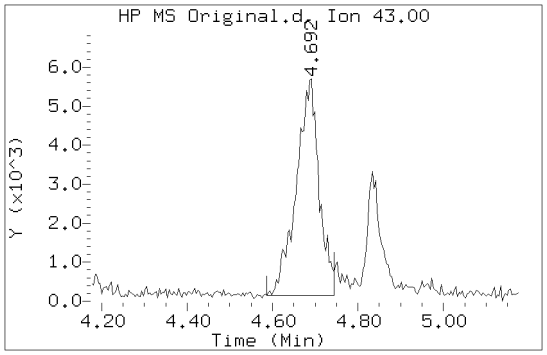


Isobutyl Alcohol (78-83-1)

Reason Code:

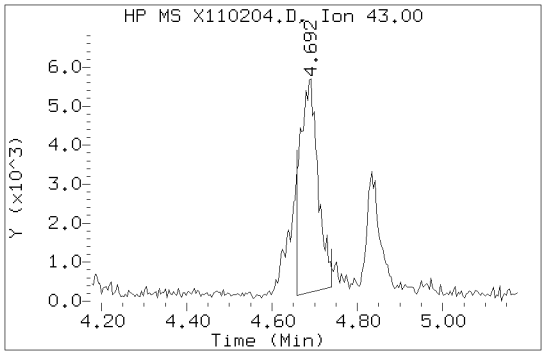
BEFORE

MASS
43
AREA
20841
HEIGHT
5557
08-Nov-2022
15:18
linh
pham



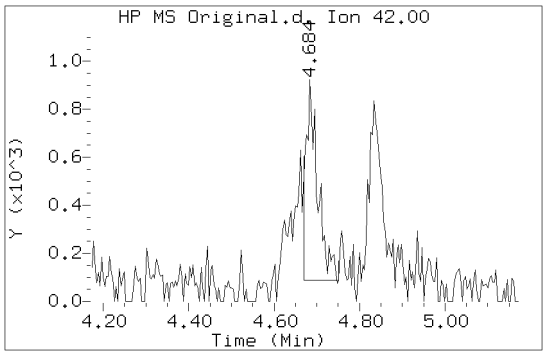
AFTER

MASS
43
AREA
16215
HEIGHT
5465
09-Nov-2022
12:35



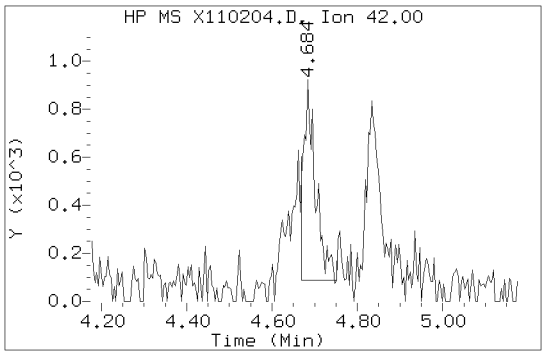
BEFORE

MASS
42
AREA
1631
HEIGHT
836
08-Nov-2022
15:18
linh
pham



AFTER

MASS
42
AREA
1631
HEIGHT
836
09-Nov-2022
12:35



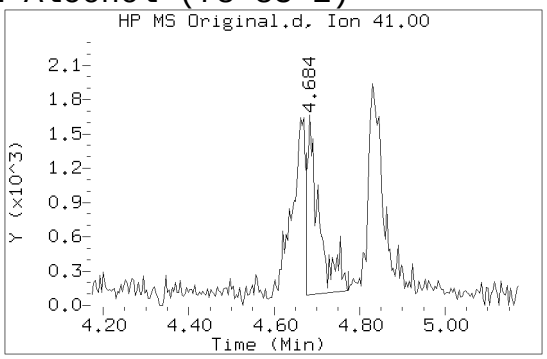
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Isobutyl Alcohol (78-83-1)

Reason Code:

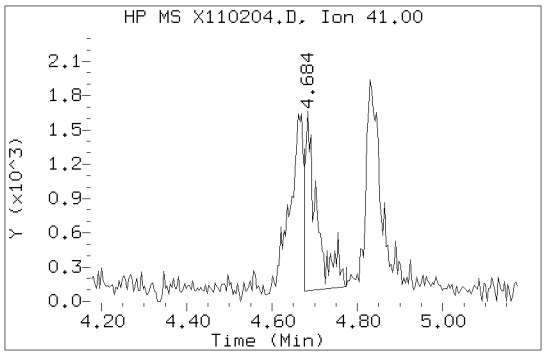
BEFORE

MASS
41
AREA
3045
HEIGHT
1569
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
3045
HEIGHT
1569
09-Nov-2022
12:35

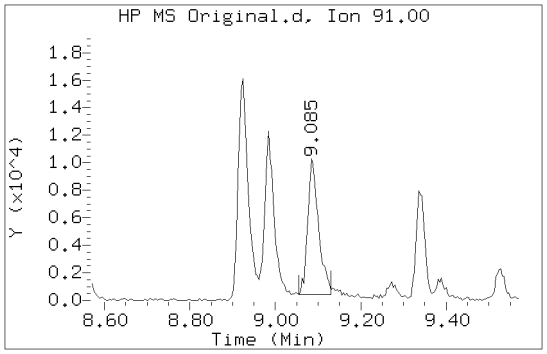


4-Chlorotoluene (106-43-4)

Reason Code:

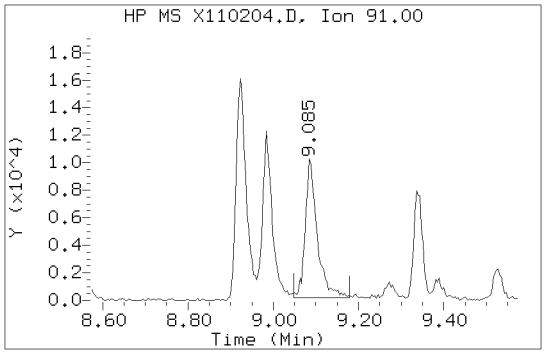
BEFORE

MASS
91
AREA
17547
HEIGHT
9868
08-Nov-2022
15:18
linh
pham



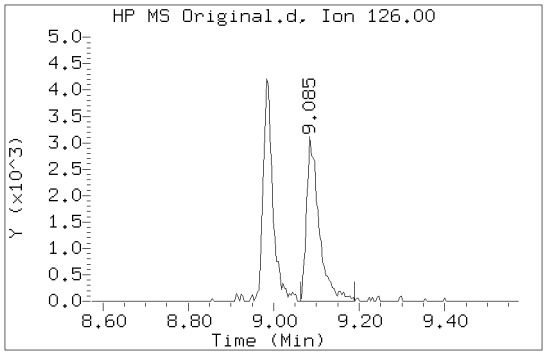
AFTER

MASS
91
AREA
20046
HEIGHT
10112
09-Nov-2022
12:35



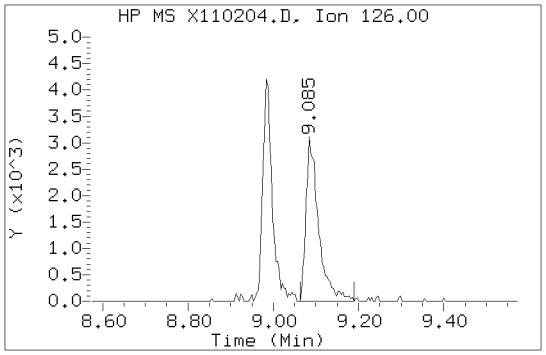
BEFORE

MASS
126
AREA
6372
HEIGHT
3119
08-Nov-2022
15:18
linh
pham



AFTER

MASS
126
AREA
6372
HEIGHT
3119
09-Nov-2022
12:35

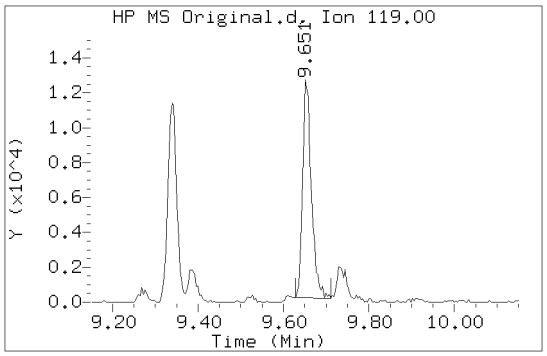


p-Isopropyltoluene (99-87-6)

Reason Code:

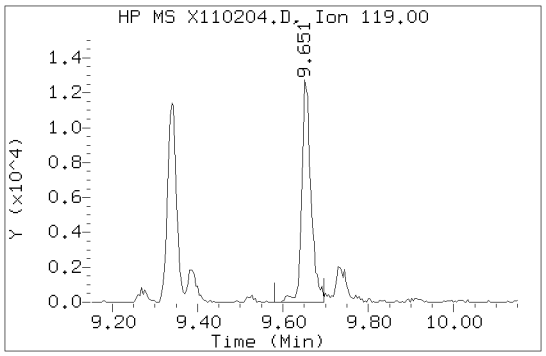
BEFORE

MASS
119
AREA
18424
HEIGHT
12500
08-Nov-2022
15:18
linh
pham



AFTER

MASS
119
AREA
19645
HEIGHT
12726
09-Nov-2022
12:35



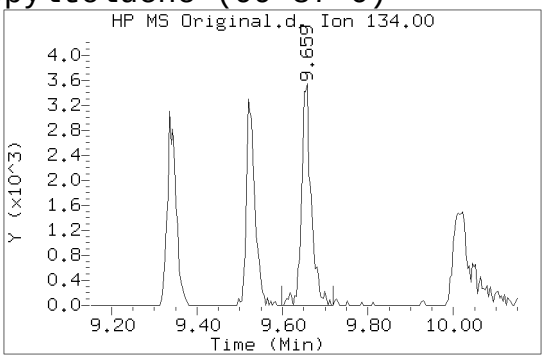
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

p-Isopropyltoluene (99-87-6)

Reason Code:

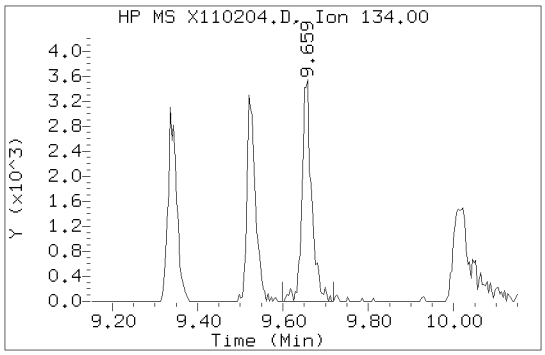
BEFORE

MASS
134
AREA
5709
HEIGHT
3543
08-Nov-2022
15:18
linh
pham



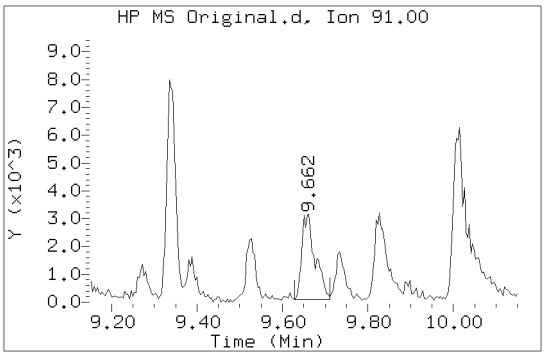
AFTER

MASS
134
AREA
5709
HEIGHT
3543
09-Nov-2022
12:35



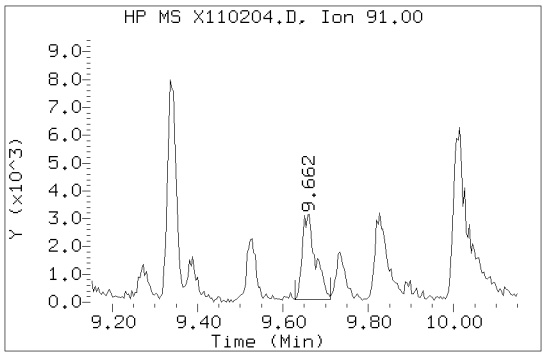
BEFORE

MASS
91
AREA
6772
HEIGHT
3070
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
6772
HEIGHT
3070
09-Nov-2022
12:35

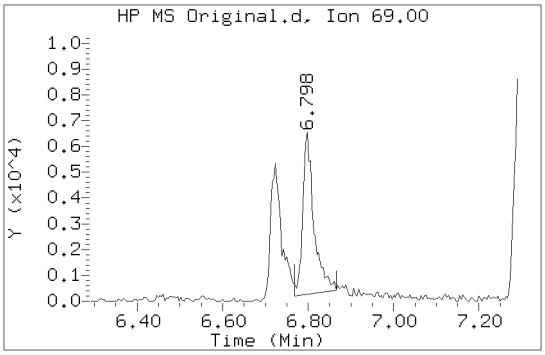


Ethyl Methacrylate (97-63-2)

Reason Code:

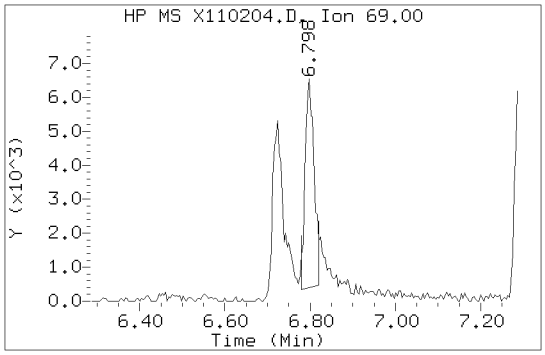
BEFORE

MASS
69
AREA
11629
HEIGHT
6281
08-Nov-2022
15:18
linh
pham



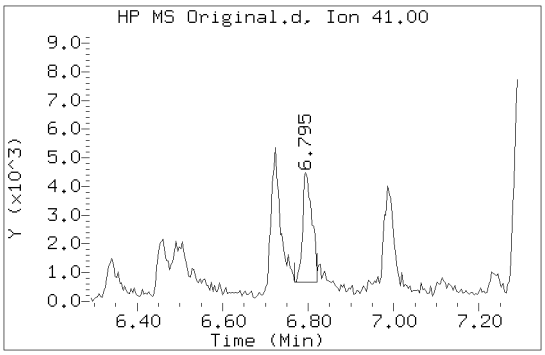
AFTER

MASS
69
AREA
9245
HEIGHT
6144
09-Nov-2022
12:35



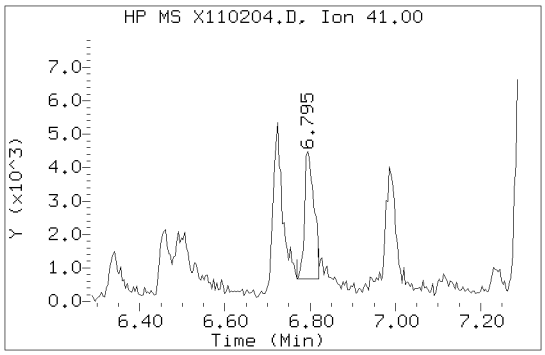
BEFORE

MASS
41
AREA
5944
HEIGHT
3826
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
5944
HEIGHT
3826
09-Nov-2022
12:35



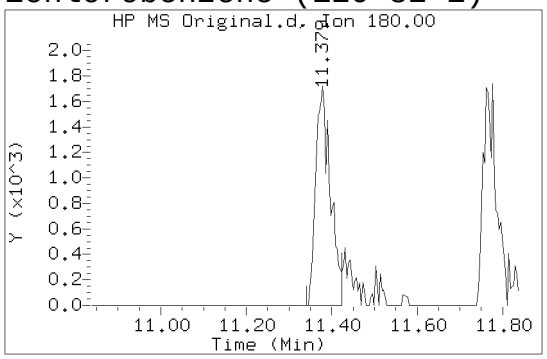
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

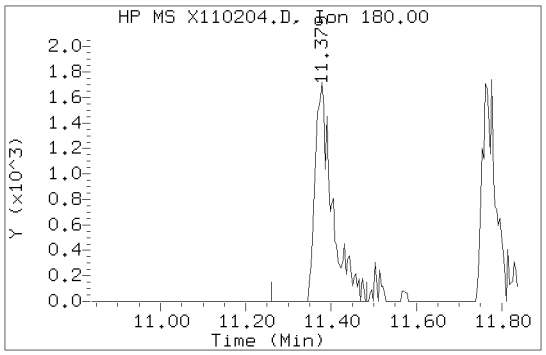
BEFORE

MASS
180
AREA
4109
HEIGHT
1719
08-Nov-2022
15:18
linh
pham



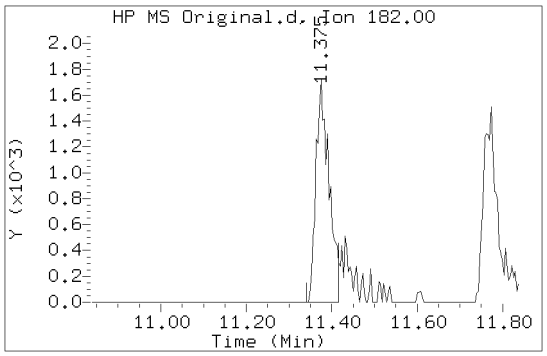
AFTER

MASS
180
AREA
4795
HEIGHT
1719
09-Nov-2022
12:35



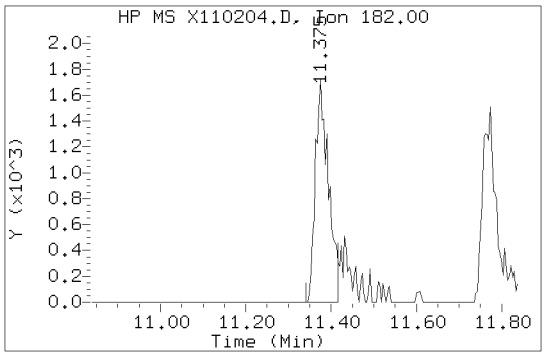
BEFORE

MASS
182
AREA
3662
HEIGHT
1718
08-Nov-2022
15:18
linh
pham



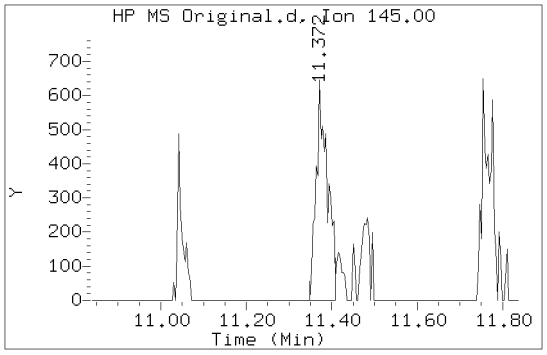
AFTER

MASS
182
AREA
3662
HEIGHT
1718
09-Nov-2022
12:35



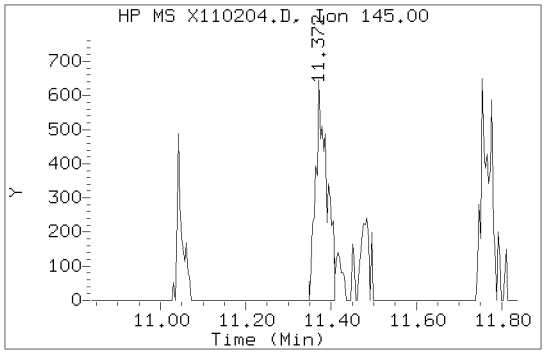
BEFORE

MASS
145
AREA
1181
HEIGHT
645
08-Nov-2022
15:18
linh
pham



AFTER

MASS
145
AREA
1181
HEIGHT
645
09-Nov-2022
12:35

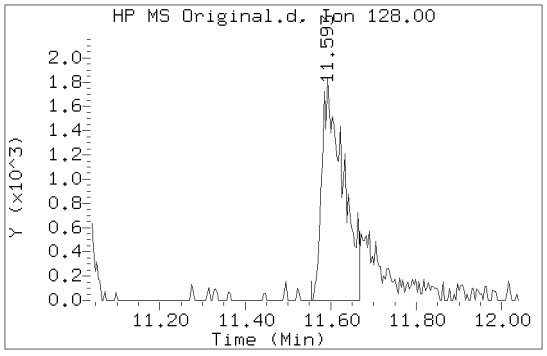


Naphthalene (91-20-3)

Reason Code:

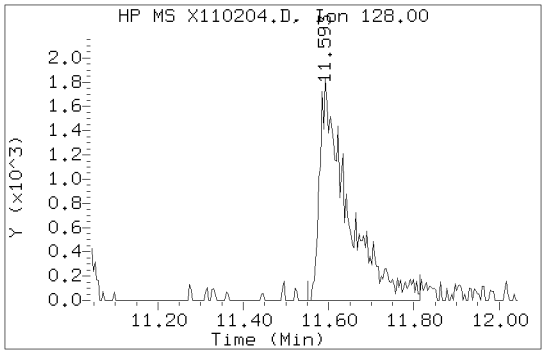
BEFORE

MASS
128
AREA
6237
HEIGHT
1829
08-Nov-2022
15:18
linh
pham



AFTER

MASS
128
AREA
8288
HEIGHT
1829
09-Nov-2022
12:35

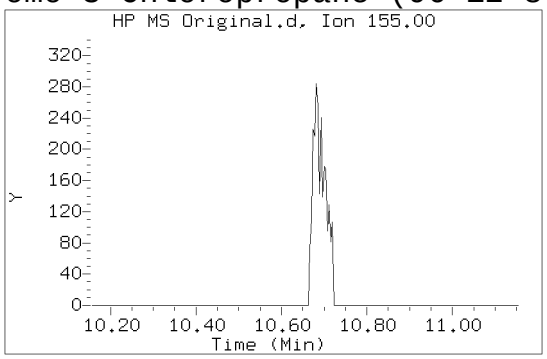


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

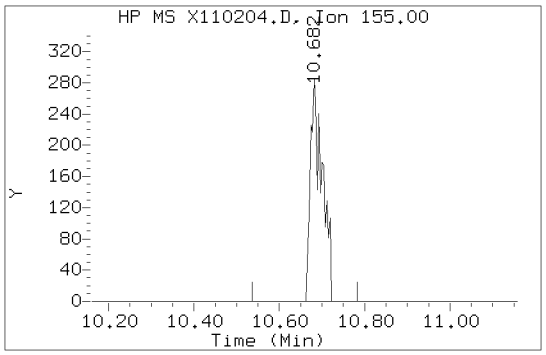
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

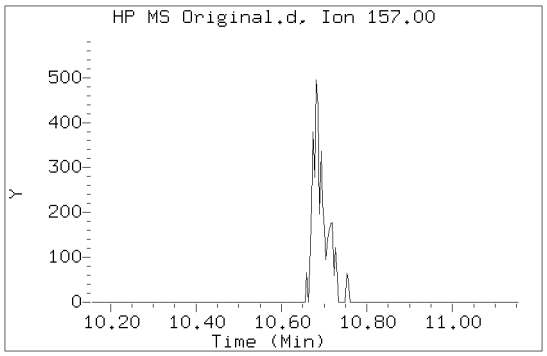
BEFORE
MASS
155
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



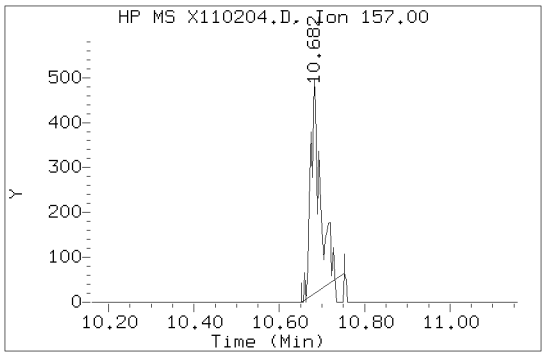
AFTER
MASS
155
AREA
551
HEIGHT
284
09-Nov-2022
12:35



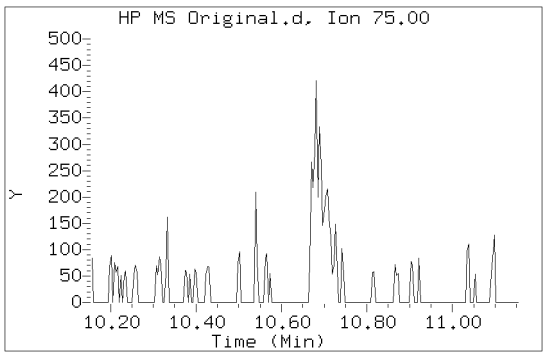
BEFORE
MASS
157
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



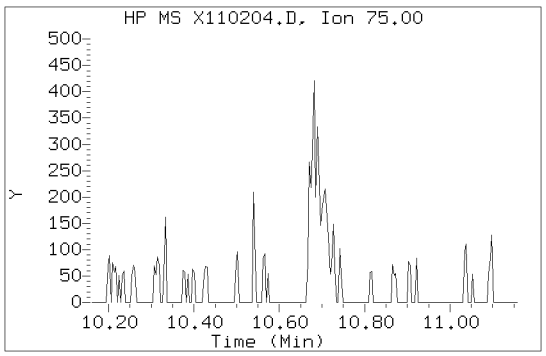
AFTER
MASS
157
AREA
679
HEIGHT
476
09-Nov-2022
12:35



BEFORE
MASS
75
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



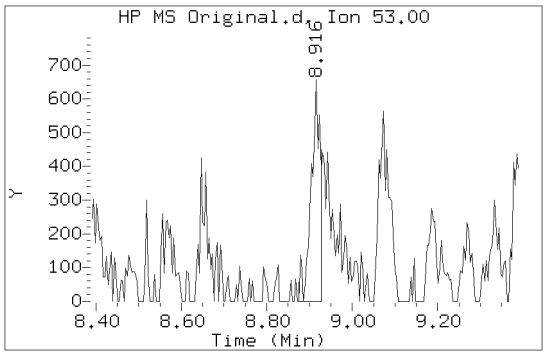
AFTER
MASS
75
AREA
0
HEIGHT
0
09-Nov-2022
12:35



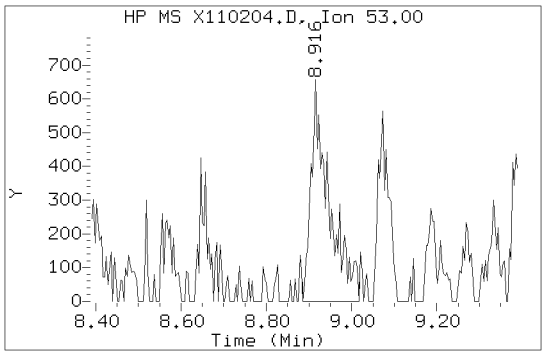
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

BEFORE
MASS
53
AREA
940
HEIGHT
657
08-Nov-2022
15:18
linh
pham



AFTER
MASS
53
AREA
1907
HEIGHT
657
09-Nov-2022
12:35



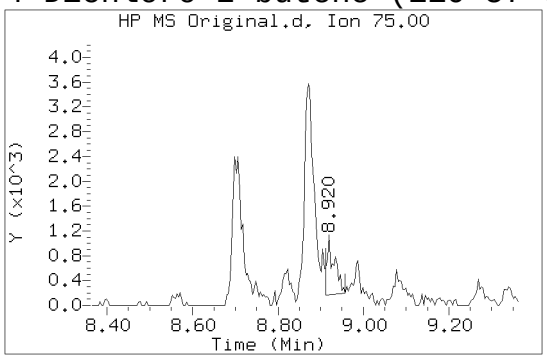
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

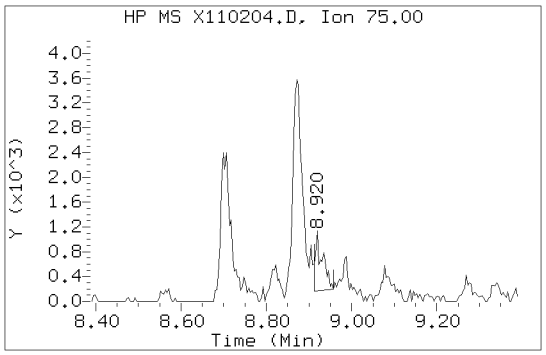
BEFORE

MASS
75
AREA
1140
HEIGHT
962
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
1140
HEIGHT
962
09-Nov-2022
12:35

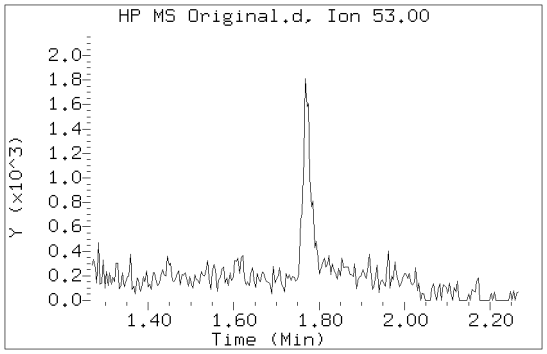


Chloroprene (126-99-8)

Reason Code:

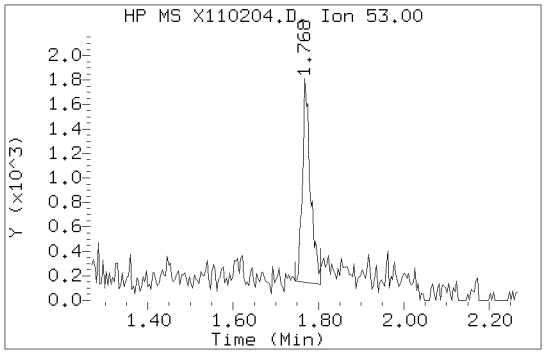
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



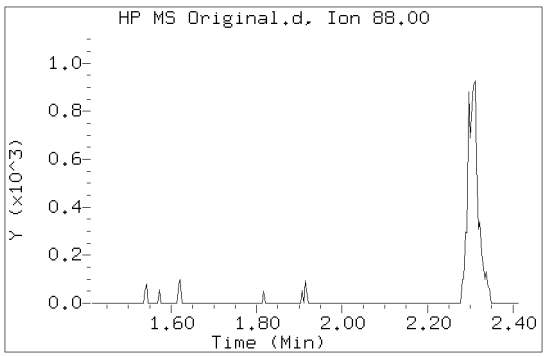
AFTER

MASS
53
AREA
2235
HEIGHT
1662
09-Nov-2022
12:35



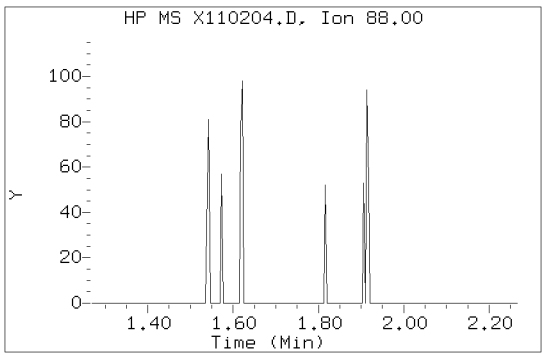
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:35

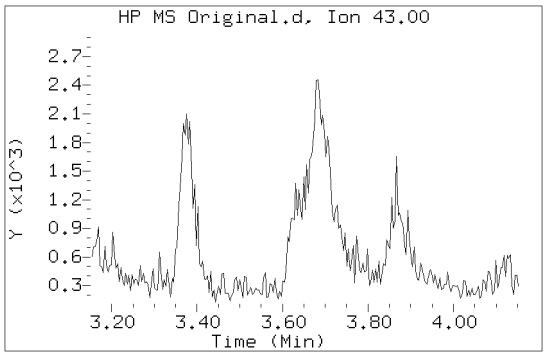


Ethyl Acetate (141-78-6)

Reason Code:

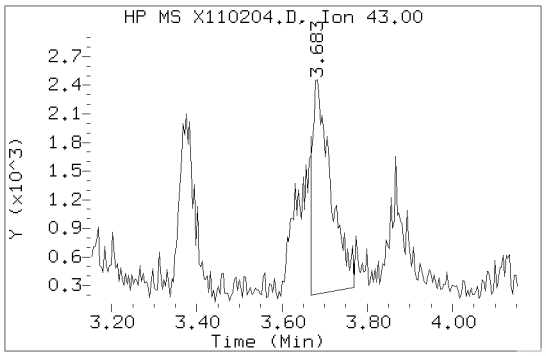
BEFORE

MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
43
AREA
6812
HEIGHT
2244
09-Nov-2022
12:35



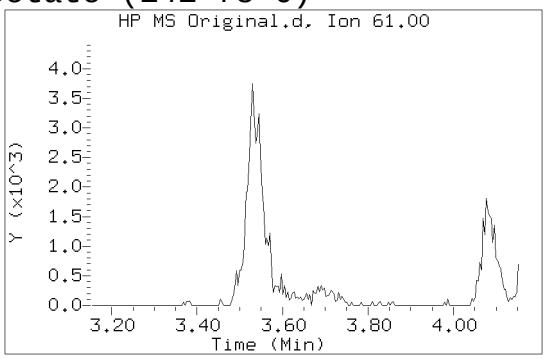
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Ethyl Acetate (141-78-6)

Reason Code:

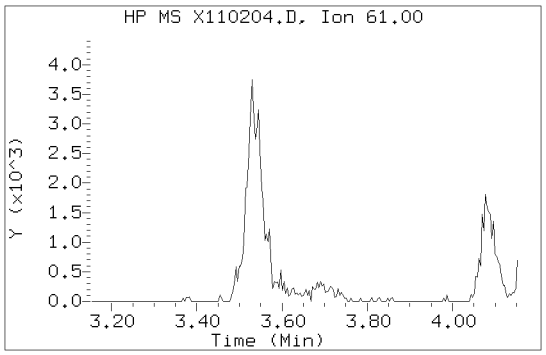
BEFORE

MASS
61
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



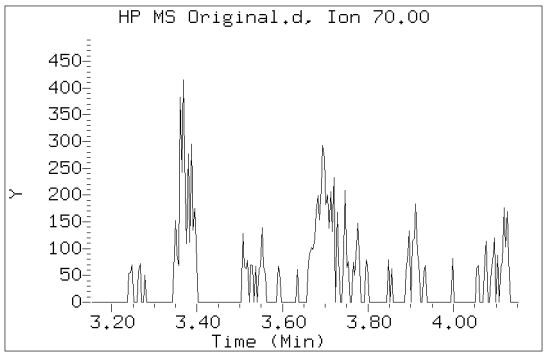
AFTER

MASS
61
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE

MASS
70
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
70
AREA
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HEIGHT
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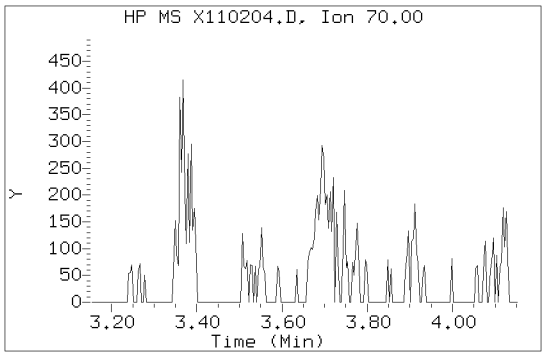
09-Nov-2022
12:35

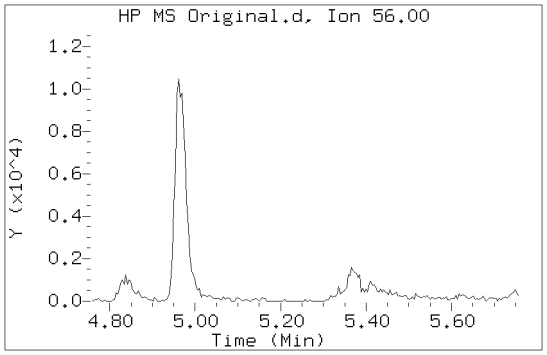


n-Butanol (71-36-3)

Reason Code:

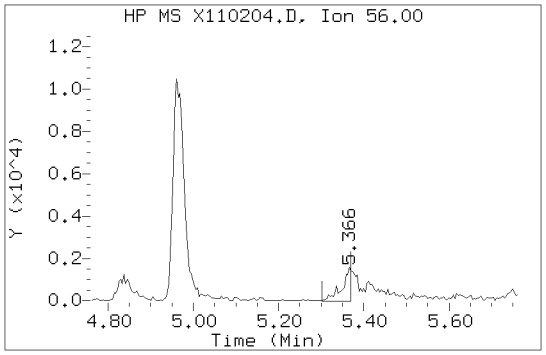
BEFORE

MASS
56
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



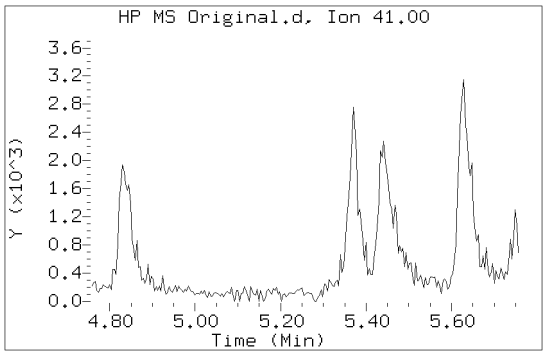
AFTER

MASS
56
AREA
2342
HEIGHT
1622
09-Nov-2022
12:35



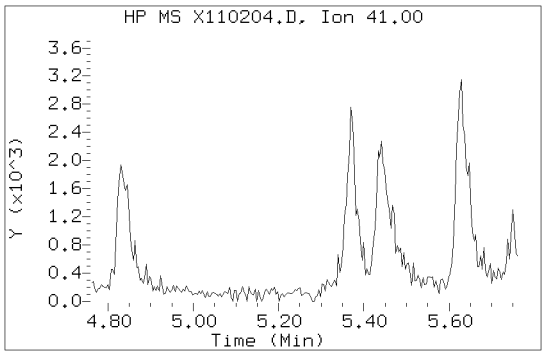
BEFORE

MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35



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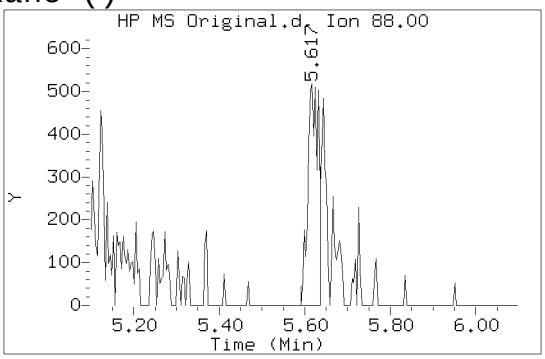
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

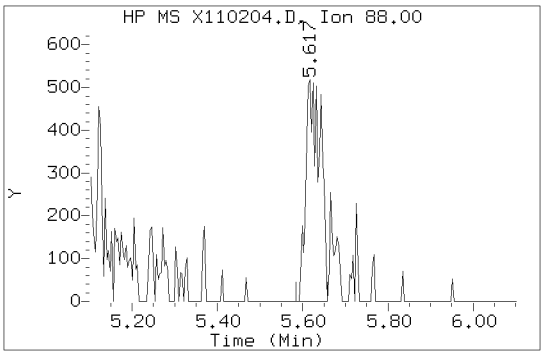
1,4-Dioxane ()

Reason Code:

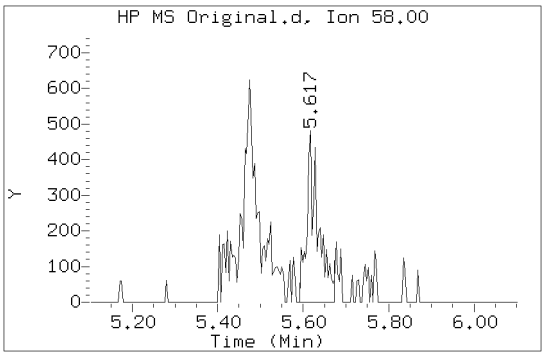
BEFORE
MASS
88
AREA
886
HEIGHT
518
08-Nov-2022
15:18
linh
pham



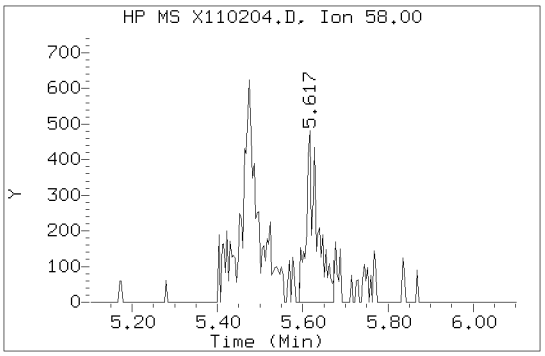
AFTER
MASS
88
AREA
1232
HEIGHT
518
09-Nov-2022
12:35



BEFORE
MASS
58
AREA
891
HEIGHT
481
08-Nov-2022
15:18
linh
pham



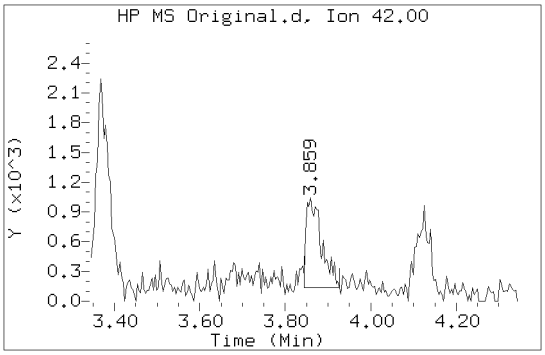
AFTER
MASS
58
AREA
891
HEIGHT
481
09-Nov-2022
12:35



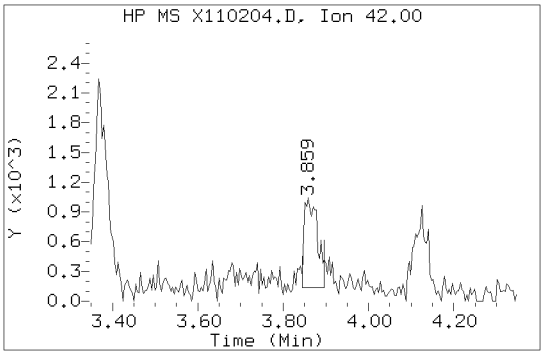
Tetrahydrofuran (109-99-9)

Reason Code:

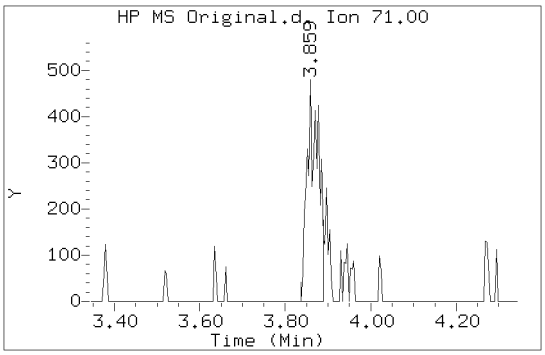
BEFORE
MASS
42
AREA
2230
HEIGHT
907
08-Nov-2022
15:18
linh
pham



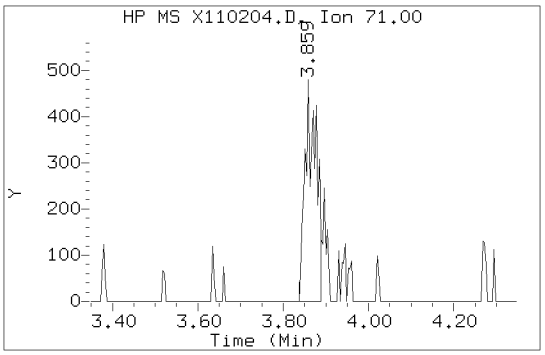
AFTER
MASS
42
AREA
1970
HEIGHT
907
09-Nov-2022
12:35



BEFORE
MASS
71
AREA
878
HEIGHT
480
08-Nov-2022
15:18
linh
pham



AFTER
MASS
71
AREA
878
HEIGHT
480
09-Nov-2022
12:35

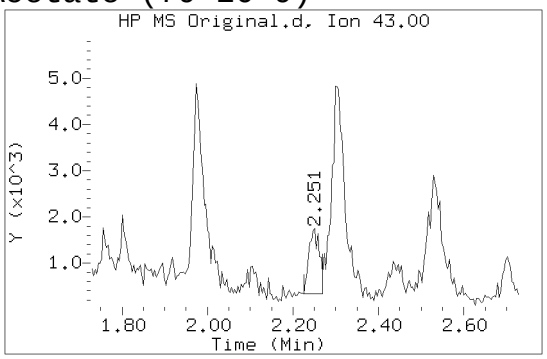


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

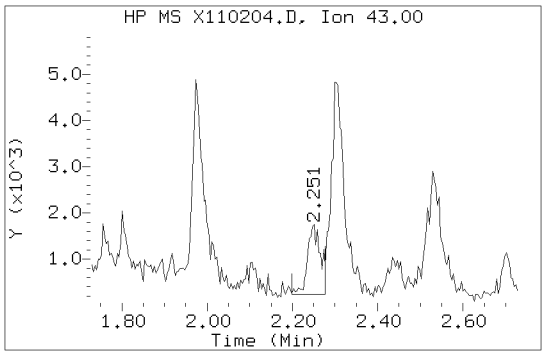
Methyl Acetate (79-20-9)

Reason Code:

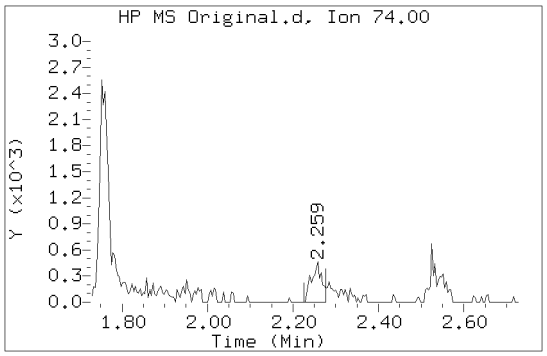
BEFORE
MASS
43
AREA
2413
HEIGHT
1417
08-Nov-2022
15:18
linh
pham



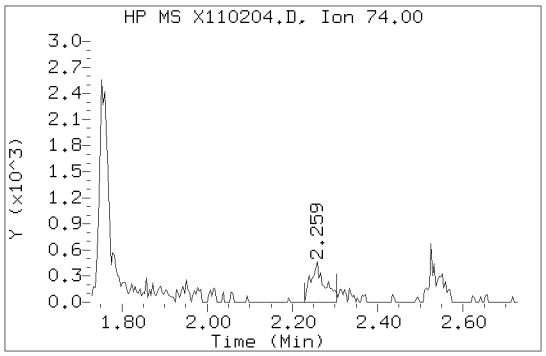
AFTER
MASS
43
AREA
3215
HEIGHT
1519
09-Nov-2022
12:35



BEFORE
MASS
74
AREA
772
HEIGHT
466
08-Nov-2022
15:18
linh
pham



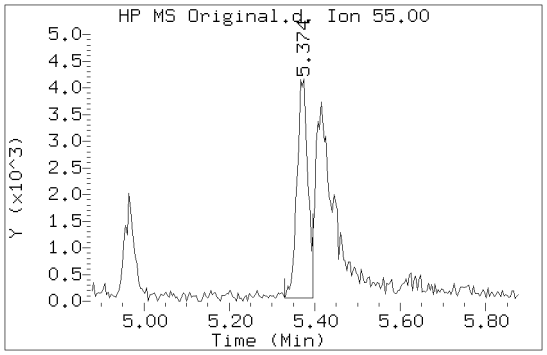
AFTER
MASS
74
AREA
1015
HEIGHT
466
09-Nov-2022
12:35



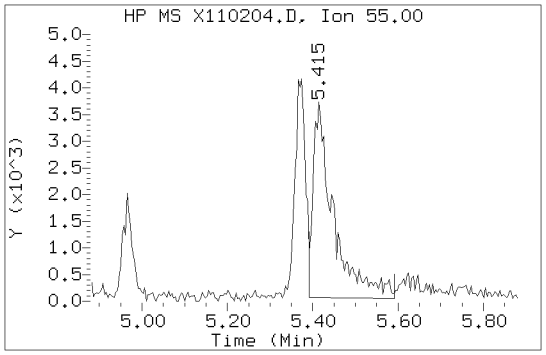
Methylcyclohexane (108-87-2)

Reason Code:

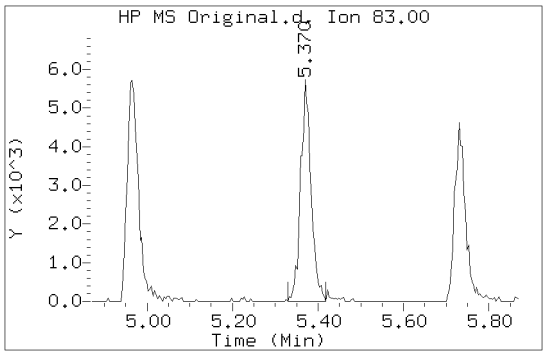
BEFORE
MASS
55
AREA
7510
HEIGHT
4101
08-Nov-2022
15:18
linh
pham



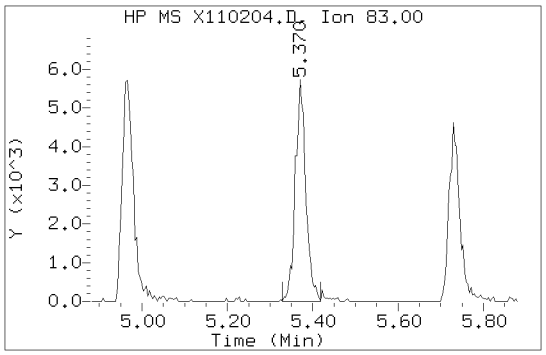
AFTER
MASS
55
AREA
12281
HEIGHT
3674
09-Nov-2022
12:35



BEFORE
MASS
83
AREA
9935
HEIGHT
5735
08-Nov-2022
15:18
linh
pham



AFTER
MASS
83
AREA
9935
HEIGHT
5735
09-Nov-2022
12:35



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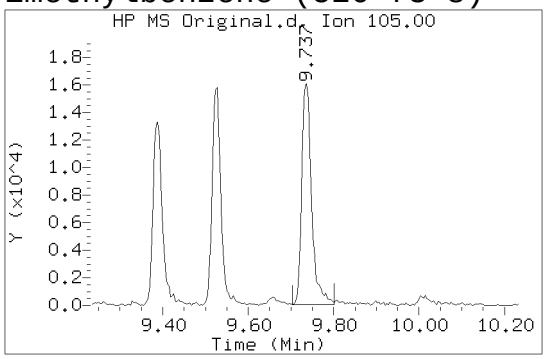
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

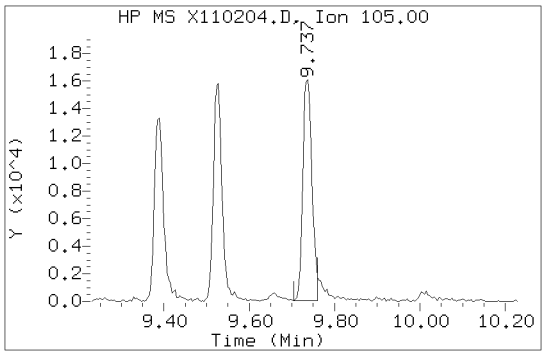
1,2,3-Trimethylbenzene (526-73-8)

Reason Code:

BEFORE
MASS
105
AREA
26468
HEIGHT
16044
08-Nov-2022
15:18
linh
pham



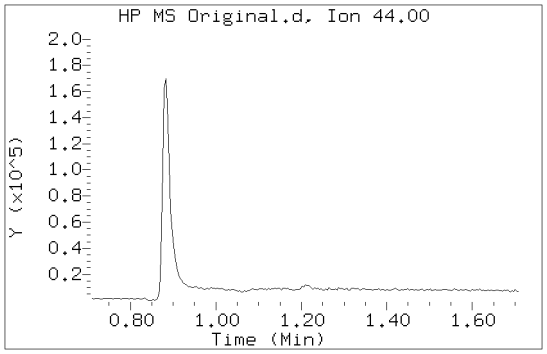
AFTER
MASS
105
AREA
24700
HEIGHT
16044
09-Nov-2022
12:35



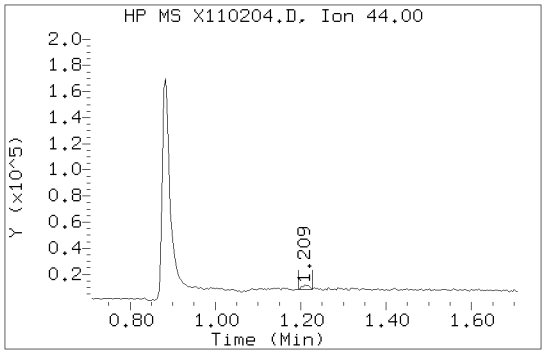
Acetaldehyde (75-07-0)

Reason Code:

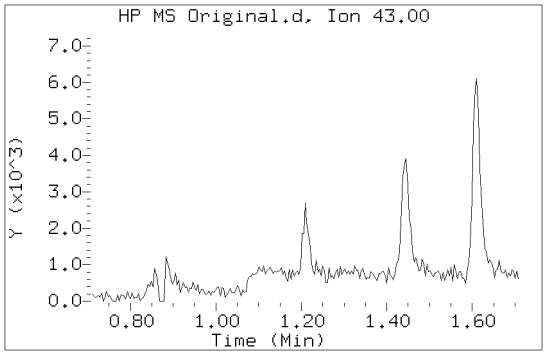
BEFORE
MASS
44
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
44
AREA
3990
HEIGHT
3492
09-Nov-2022
12:35



BEFORE
MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
43
AREA
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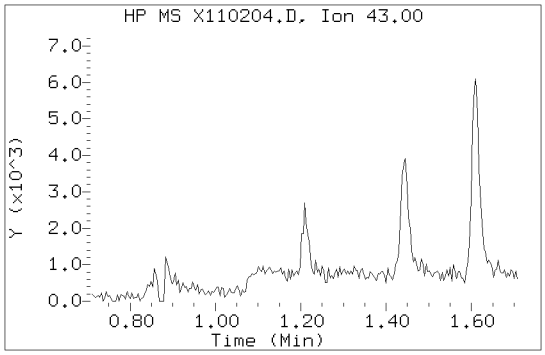
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
42
AREA
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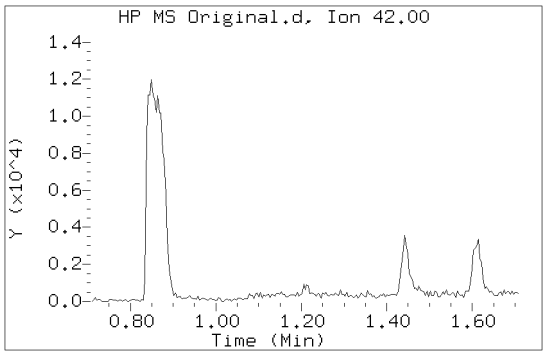
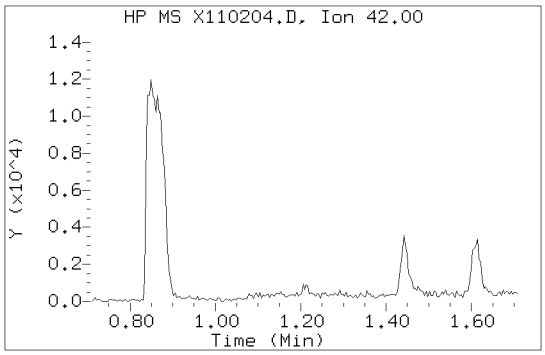
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
42
AREA
0
HEIGHT
0
09-Nov-2022
12:35



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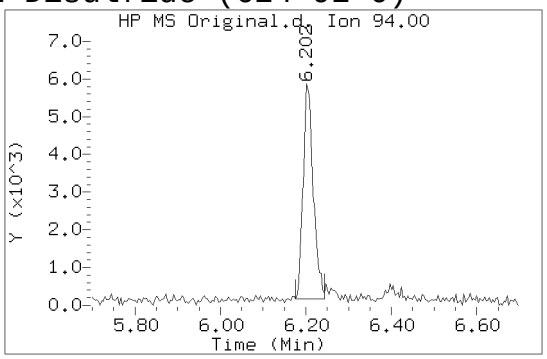
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Dimethyl Disulfide (624-92-0)

Reason Code:

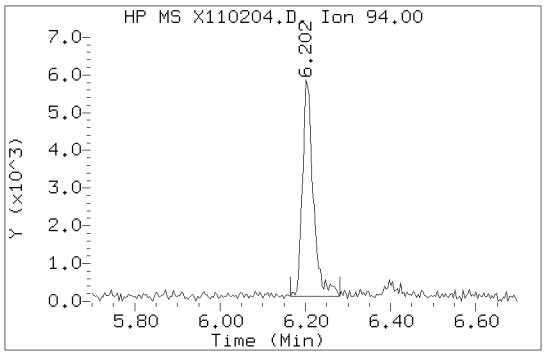
BEFORE

MASS
94
AREA
9591
HEIGHT
5697
08-Nov-2022
15:18
linh
pham



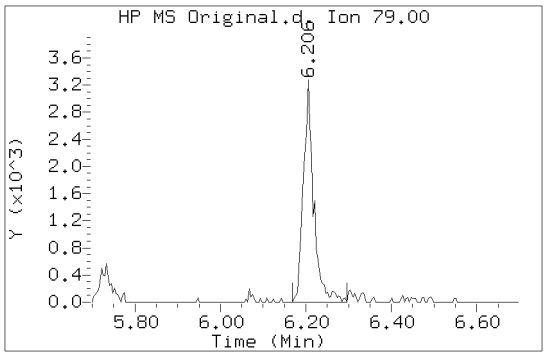
AFTER

MASS
94
AREA
10313
HEIGHT
5737
09-Nov-2022
12:35



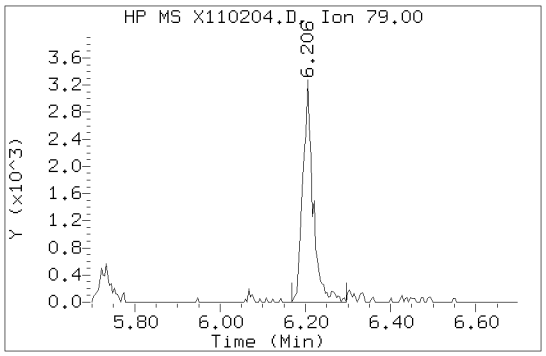
BEFORE

MASS
79
AREA
5566
HEIGHT
3276
08-Nov-2022
15:18
linh
pham



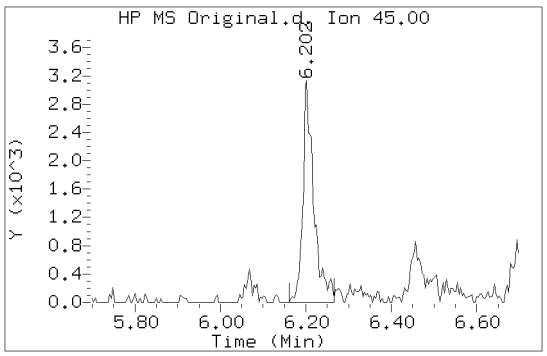
AFTER

MASS
79
AREA
5566
HEIGHT
3276
09-Nov-2022
12:35



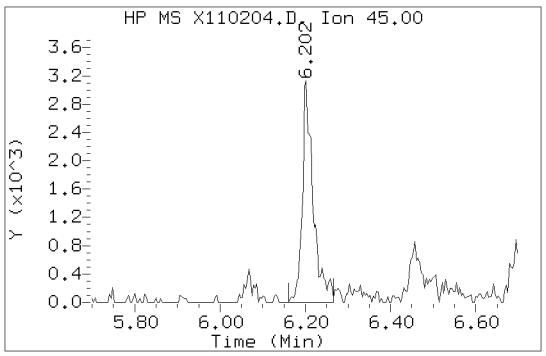
BEFORE

MASS
45
AREA
5645
HEIGHT
3131
08-Nov-2022
15:18
linh
pham



AFTER

MASS
45
AREA
5645
HEIGHT
3131
09-Nov-2022
12:35



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-NOV-2022 12:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 12:24 Cal File: X110204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	604501	50.0000	
135	1,4-Dioxane	88	5.609	5.609	(1.342)	2561	40.0000	39.73(M)
140	1,3-Butadiene	54	1.164	1.164	(0.278)	10864	2.00000	2.14
25	Methacrylonitrile	41	3.851	3.851	(0.921)	11355	2.00000	2.09
12	Isobutyl Alcohol	43	4.680	4.680	(1.119)	38206	40.0000	42.31
13	Acetonitrile	39	2.198	2.198	(0.526)	13535	20.0000	18.68
14	Allyl Chloride	41	2.206	2.206	(0.528)	26219	2.00000	1.92
4	Propionitrile	54	3.671	3.671	(0.878)	13929	20.0000	18.33
136	n-Hexane	57	2.772	2.772	(0.663)	11975	2.00000	2.01
72	trans-1,4-Dichloro-2-butene	53	8.905	8.905	(1.161)	3546	2.00000	1.79(M)
194	Acetaldehyde	44	1.212	1.212	(0.290)	7954	8.00000	2.34(M)
23	Chloroprene	53	1.767	1.767	(0.423)	4918	2.00000	2.12(M)
145	alpha-Methylstyrene	118	9.264	9.264	(0.959)	19985	2.00000	1.95
200	Dimethyl Disulfide	94	6.202	6.202	(0.808)	19277	2.00000	1.75(M)
139	Diethyl ether	59	1.756	1.756	(0.420)	9736	2.00000	2.04
130	Ethyl Acetate	43	3.668	3.668	(0.877)	13281	2.00000	2.09
40	Methyl Methacrylate	41	5.624	5.624	(1.345)	10257	2.00000	1.83
49	Ethyl Methacrylate	69	6.794	6.794	(1.368)	17826	2.00000	1.90
132	n-Butanol	56	5.362	5.362	(1.282)	4541	40.0000	39.62(M)
142	Tetrahydrofuran	42	3.855	3.855	(0.922)	3838	4.00000	4.00(M)

150	Allyl alcohol	57	2.772	2.772 (0.663)	11975	40.0000	39.69
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	41453	2.00000	2.05

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D Page 2
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	12780	2.00000	2.87
	3 Chloromethane	50	1.077	1.077	(0.258)	14962	2.00000	3.59
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	13899	2.00000	2.02
	6 Bromomethane	94	1.340	1.340	(0.321)	9723	2.00000	3.46
	7 Chloroethane	64	1.400	1.400	(0.335)	8772	2.00000	2.05
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	17759	2.00000	2.03
	9 Acrolein	56	1.441	1.441	(0.345)	1752	4.00000	6.50(M)
	10 Acetone	43	1.973	1.973	(0.472)	13965	4.00000	5.15
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	10481	2.00000	2.03
	15 Iodomethane	142	2.022	2.022	(0.484)	13190	4.00000	4.30
	16 Acrylonitrile	53	2.562	2.562	(0.613)	7144	4.00000	3.61(M)
	17 Methylene Chloride	84	2.303	2.303	(0.551)	14098	2.00000	2.14(M)
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	36629	2.00000	2.02
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	63785	4.00000	4.08
	20 trans-1,2-Dichloroethene	96	2.536	2.536	(0.606)	11689	2.00000	2.04
	21 Vinyl Acetate	43	3.012	3.012	(0.720)	56348	4.00000	3.50(M)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	20089	2.00000	1.95
	24 2-Butanone	43	3.660	3.660	(0.875)	8400	4.00000	3.88(MH)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	18203	2.00000	3.29
	27 cis-1,2-Dichloroethene	96	3.529	3.529	(0.844)	13398	2.00000	2.00
	28 Chloroform	83	3.908	3.908	(0.935)	23273	2.00000	2.03
	29 Bromochloromethane	128	3.803	3.803	(0.909)	7515	2.00000	2.09
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	12360	2.00000	2.57
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	18036	2.00000	2.04
	32 1,1-Dichloropropene	75	4.286	4.286	(0.863)	14904	2.00000	1.97
	33 1,2-Dichloroethane	62	4.564	4.564	(0.919)	16845	2.00000	1.96
	34 Carbon Tetrachloride	117	4.267	4.267	(0.860)	14550	2.00000	2.23(H)
$	35 1,2-Dichloroethane-d4	65	4.481	4.481	(1.072)	14779	2.00000	2.53
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	943010	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	46317	2.00000	1.97
	38 Trichloroethene	130	5.216	5.216	(1.051)	13294	2.00000	2.02
	39 Bromodichloromethane	83	5.733	5.733	(1.155)	16139	2.00000	1.94
	41 2-Chloroethylvinyl ether	63	6.059	6.059	(1.220)	10236	4.00000	3.70
	42 1,2-Dichloropropane	63	5.445	5.445	(1.097)	12613	2.00000	1.98(M)
	44 Dibromomethane	93	5.561	5.561	(1.120)	8700	2.00000	2.02(M)
	45 4-Methyl-2-Pentanone	43	6.340	6.340	(0.827)	22181	4.00000	3.91(M)
	46 cis-1,3-Dichloropropene	75	6.161	6.161	(1.241)	20001	2.00000	1.91
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	882434	50.0000	
$	48 Toluene-d8	98	6.393	6.393	(0.833)	43508	2.00000	2.04(M)
	50 Toluene	91	6.453	6.453	(0.841)	51935	2.00000	2.05
	51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.347)	15877	2.00000	1.76
	52 2-Hexanone	43	7.101	7.101	(0.926)	13629	4.00000	3.57(M)
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	10668	2.00000	2.10
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	20041	2.00000	1.99
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	11693	2.00000	1.79
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	11325	2.00000	2.76
	57 1,2-Dibromoethane	107	7.266	7.266	(0.947)	12215	2.00000	1.93
	58 1-Chlorohexane	55	7.705	7.705	(1.552)	10330	2.00000	1.94(H)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	34296	2.00000	2.01
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	11493	2.00000	1.89
	61 Ethylbenzene	106	7.806	7.806	(1.018)	18129	2.00000	2.09
	62 m,p-Xylenes	106	7.911	7.911	(1.031)	43934	4.00000	4.07

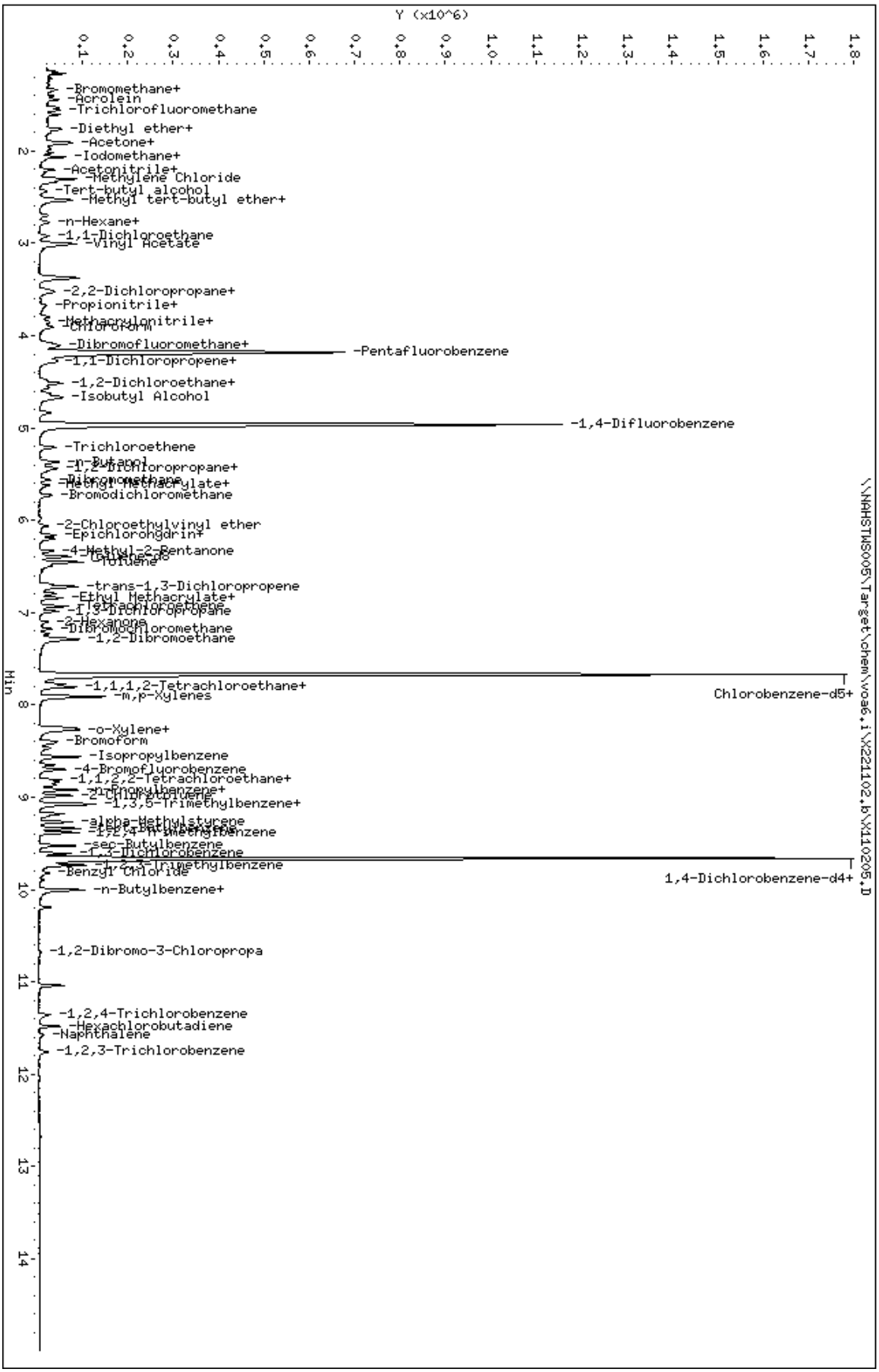
63 o-Xylene	106	8.245	8.245 (1.075)	21575	2.00000	2.05
64 Styrene	104	8.271	8.271 (1.078)	32700	2.00000	1.85

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D Page 3
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.417	8.417	(1.097)	6935	2.00000	3.95(T)
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	53363	2.00000	2.07
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	15001	2.00000	2.11
$	69 4-Bromofluorobenzene	95	8.698	8.698	(1.134)	17955	2.00000	2.43
*	70 1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	427897	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	11024	2.00000	2.04(M)
	73 n-Propylbenzene	91	8.920	8.920	(0.923)	60136	2.00000	2.12
	74 Bromobenzene	156	8.815	8.815	(0.912)	14381	2.00000	1.95
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.938)	42106	2.00000	2.09
	76 2-Chlorotoluene	91	8.983	8.983	(0.929)	37507	2.00000	2.09
	77 4-Chlorotoluene	91	9.084	9.084	(0.940)	40982	2.00000	2.01
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	36475	2.00000	2.73
	79 1,2,4-Trimethylbenzene	105	9.384	9.384	(0.971)	42928	2.00000	2.06
	81 sec-Butylbenzene	105	9.523	9.523	(0.985)	49508	2.00000	2.95
	82 p-Isopropyltoluene	119	9.651	9.651	(0.998)	42506	2.00000	2.06
	83 1,3-Dichlorobenzene	146	9.609	9.609	(0.994)	25055	2.00000	2.03
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	26046	2.00000	2.04
	86 Benzyl Chloride	91	9.819	9.819	(1.280)	12986	2.00000	5.07
	87 n-Butylbenzene	91	10.003	10.003	(1.035)	35127	2.00000	2.01
	88 1,2-Dichlorobenzene	146	10.003	10.003	(1.035)	23000	2.00000	1.98
	89 1,2-Dibromo-3-Chloropropane	155	10.681	10.681	(1.105)	1348	2.00000	4.44(M)
	90 1,2,4-Trichlorobenzene	180	11.360	11.360	(1.175)	10188	2.00000	1.89(M)
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	7459	2.00000	1.88
	92 Naphthalene	128	11.570	11.570	(1.197)	16867	2.00000	2.01(M)
	93 1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	7619	2.00000	1.96
M	94 1,2-Dichloroethylene (total)	96				25087	4.00000	
M	95 Xylenes (total)	106				65509	6.00000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	15540	2.00000	1.74(H)
	138 Freon TF	101	1.910	1.910	(0.457)	10801	2.00000	1.78
	147 Methylcyclohexane	55	5.407	5.407	(1.089)	24111	2.00000	1.84(MH)
	146 Methyl Acetate	43	2.243	2.243	(0.537)	6060	2.00000	1.65
	148 Tert-Butyl alcohol	59	2.438	2.438	(0.583)	22038	40.0000	42.66(a)
	149 Isopropyl Alcohol	45	2.105	2.105	(0.503)	10997	40.0000	39.08(T)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

Acrolein (107-02-8)

Reason Code:

BEFORE
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08-Nov-2022
15:18
linh
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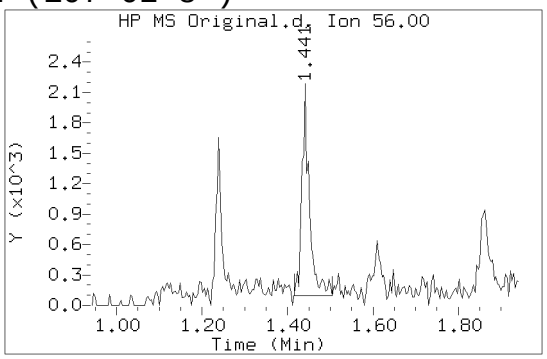

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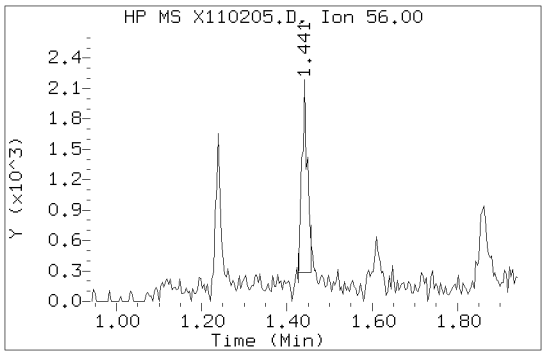

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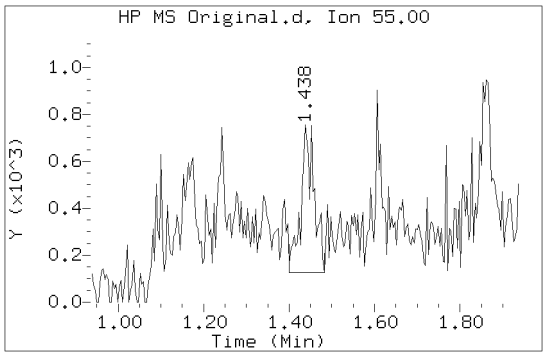

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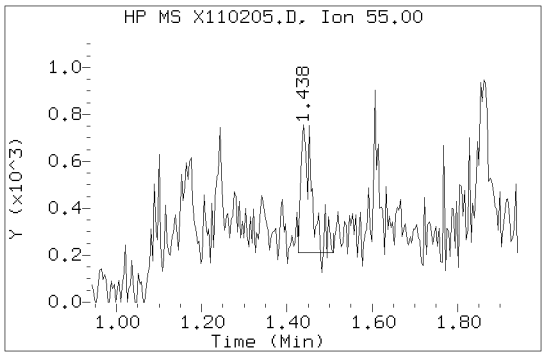
12:35



Methylene Chloride (75-09-2)

Reason Code:

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08-Nov-2022
15:18
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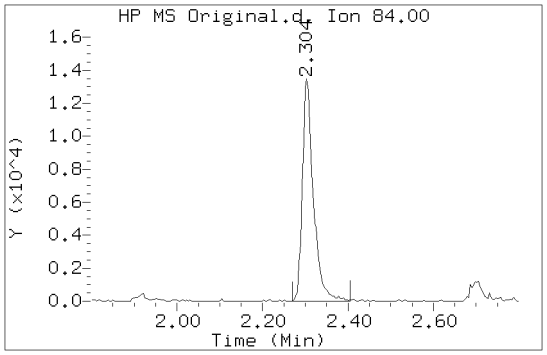

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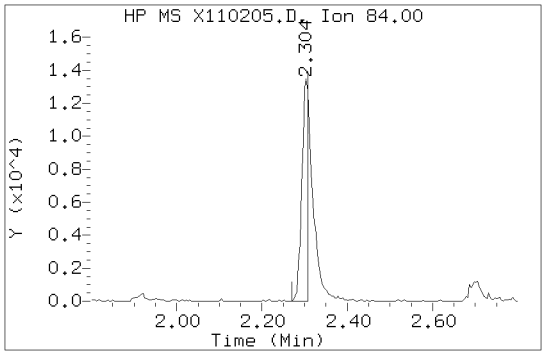

BEFORE
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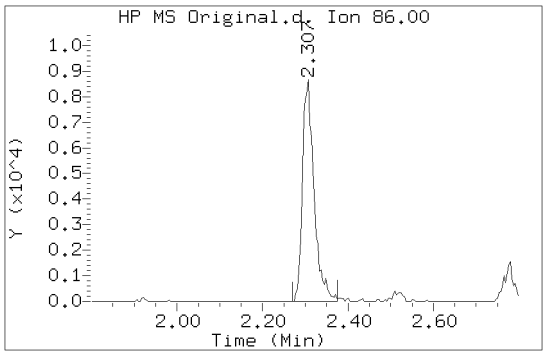

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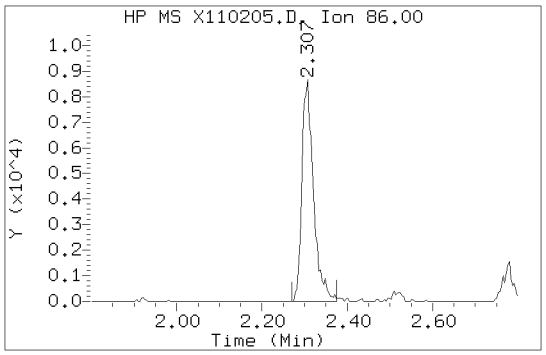

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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

Methylene Chloride (75-09-2)

BEFORE

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15:18
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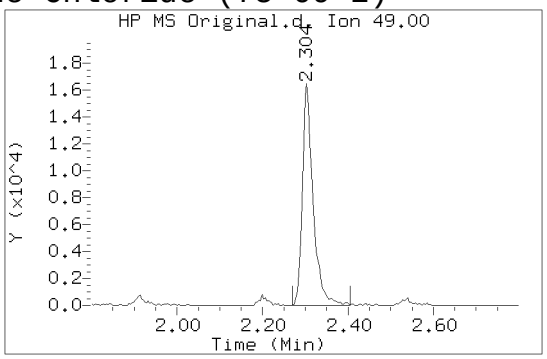

Reason Code:

AFTER

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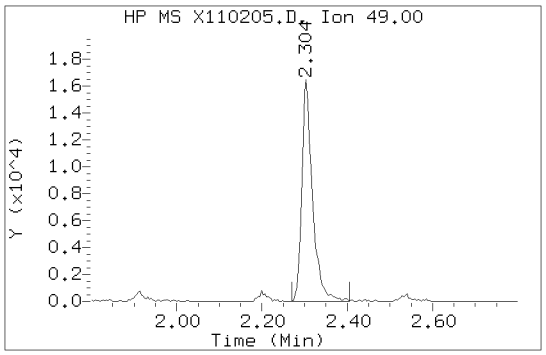

2-Butanone (78-93-3)

BEFORE

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AREA
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HEIGHT
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08-Nov-2022
15:18
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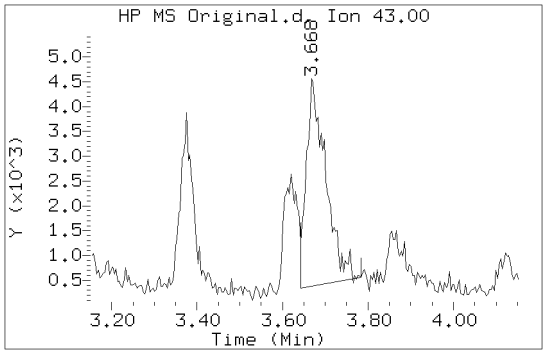
pham



Reason Code:

AFTER

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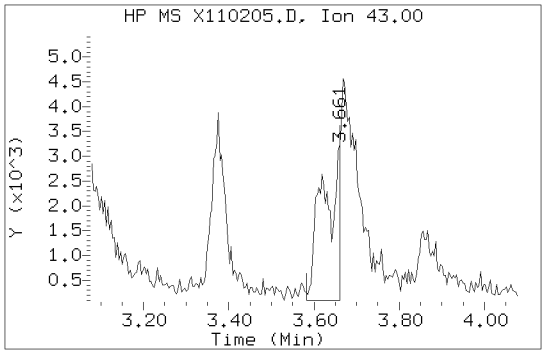

BEFORE

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AREA
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HEIGHT
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08-Nov-2022
15:18
linh
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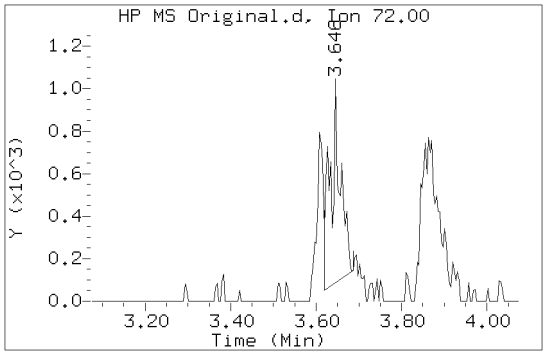

AFTER

MASS
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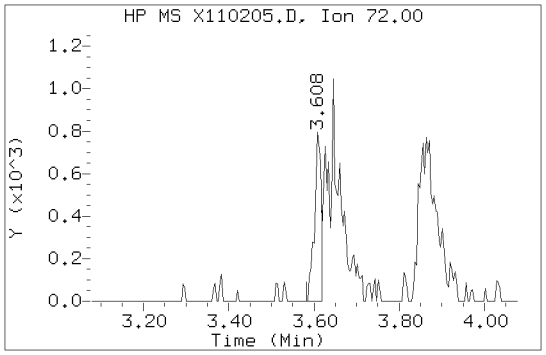

1,2-Dichloropropane (78-87-5)

BEFORE

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AREA
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HEIGHT
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08-Nov-2022
15:18
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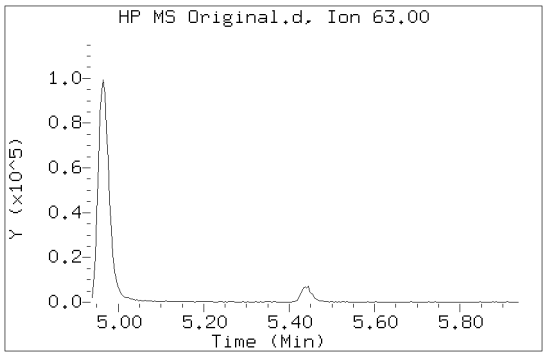

Reason Code:

AFTER

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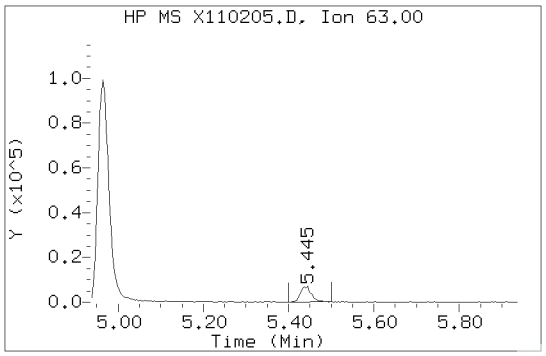
09-Nov-2022
12:35



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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

1,2-Dichloropropane (78-87-5)

Reason Code:

BEFORE

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AREA
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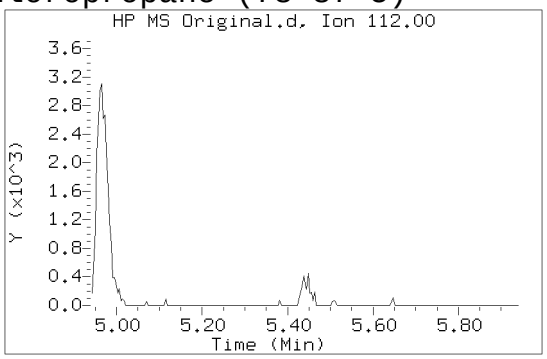
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

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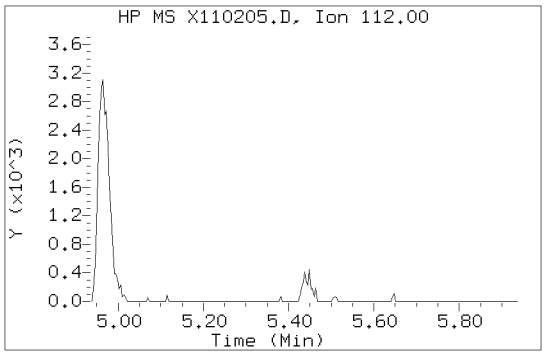

Dibromomethane (74-95-3)

Reason Code:

BEFORE

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AREA
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HEIGHT
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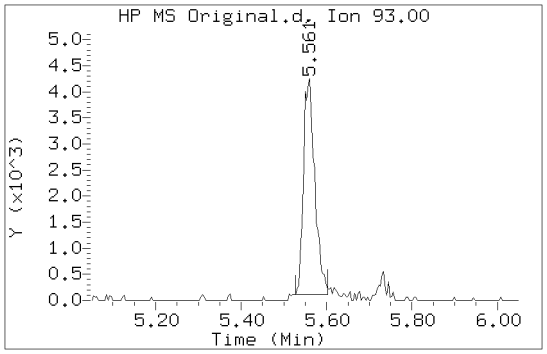
08-Nov-2022
15:18
linh
pham



AFTER

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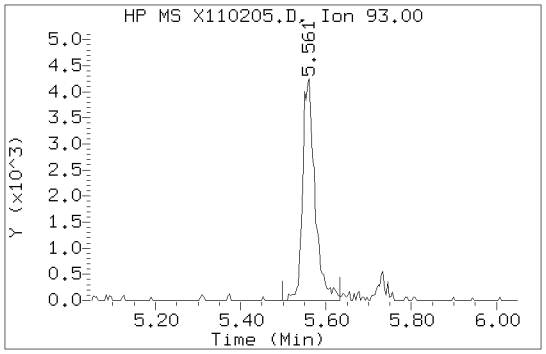

BEFORE

MASS
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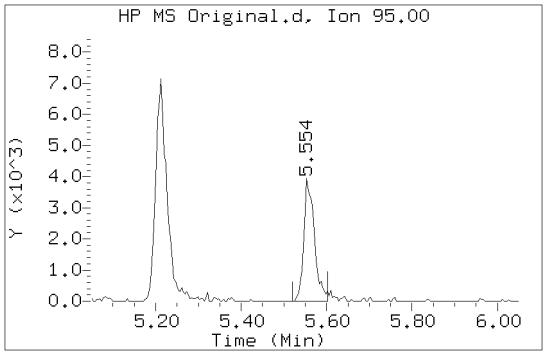
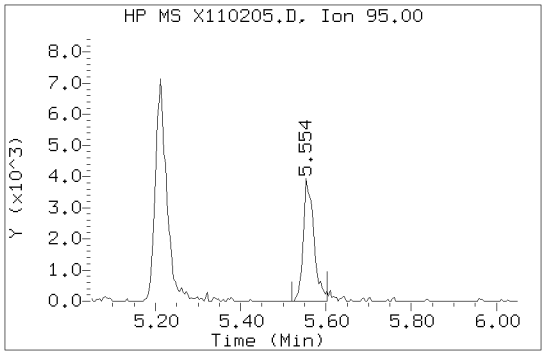
HEIGHT
3938
08-Nov-2022
15:18
linh
pham



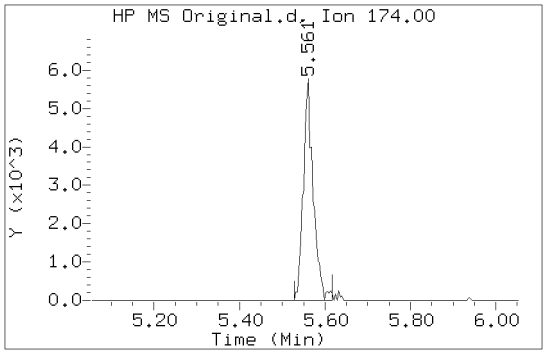
AFTER

MASS
95
AREA
6924
HEIGHT
3938
09-Nov-2022
12:35



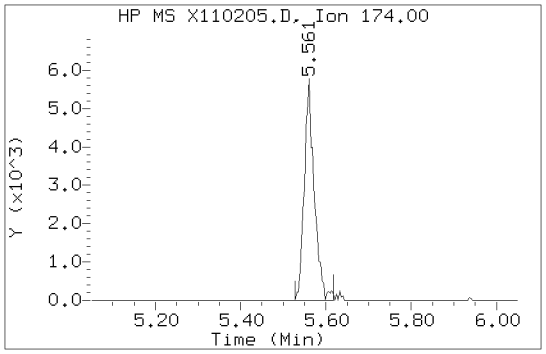
BEFORE

MASS
174
AREA
9499
HEIGHT
5777
08-Nov-2022
15:18
linh
pham



AFTER

MASS
174
AREA
9499
HEIGHT
5777
09-Nov-2022
12:35



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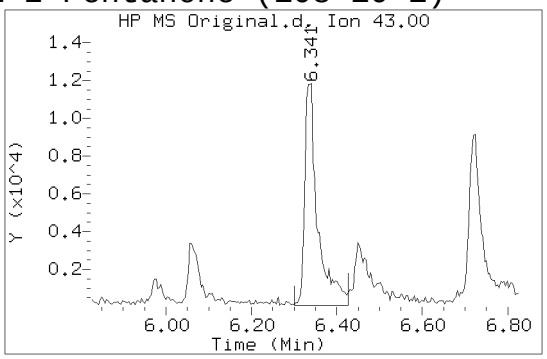
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

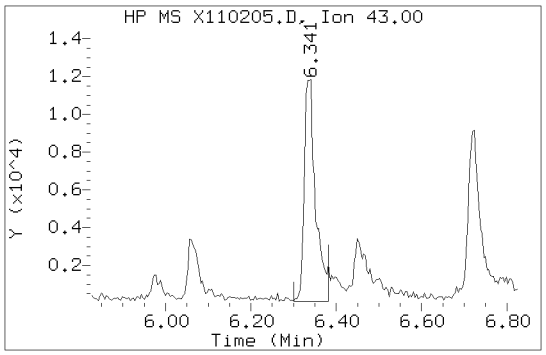
4-Methyl-2-Pentanone (108-10-1)

Reason Code:

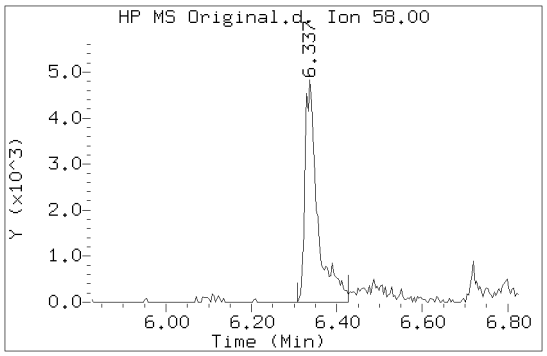
BEFORE
MASS
43
AREA
24781
HEIGHT
11718
08-Nov-2022
15:18
linh
pham



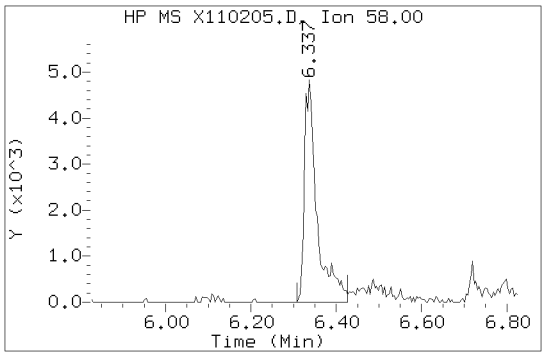
AFTER
MASS
43
AREA
22181
HEIGHT
11718
09-Nov-2022
12:35



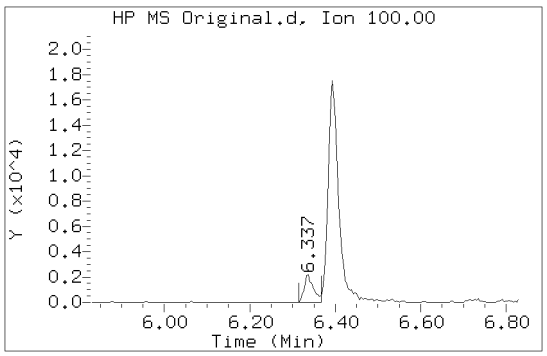
BEFORE
MASS
58
AREA
10097
HEIGHT
4830
08-Nov-2022
15:18
linh
pham



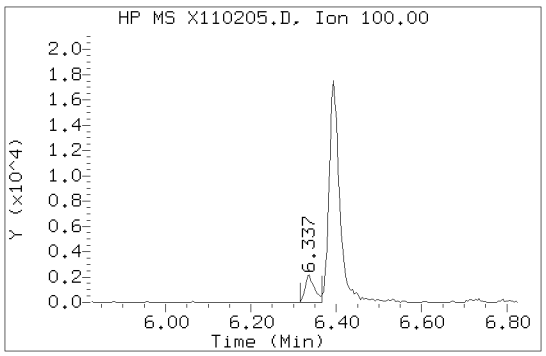
AFTER
MASS
58
AREA
10097
HEIGHT
4830
09-Nov-2022
12:35



BEFORE
MASS
100
AREA
3394
HEIGHT
2196
08-Nov-2022
15:18
linh
pham



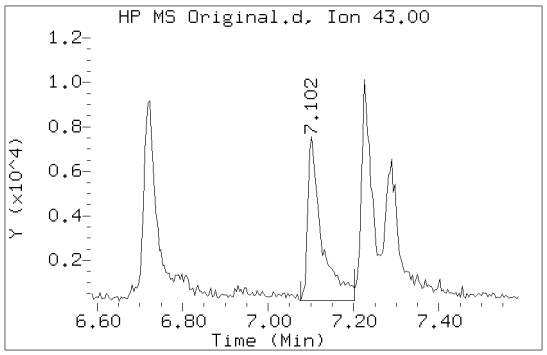
AFTER
MASS
100
AREA
3394
HEIGHT
2196
09-Nov-2022
12:35



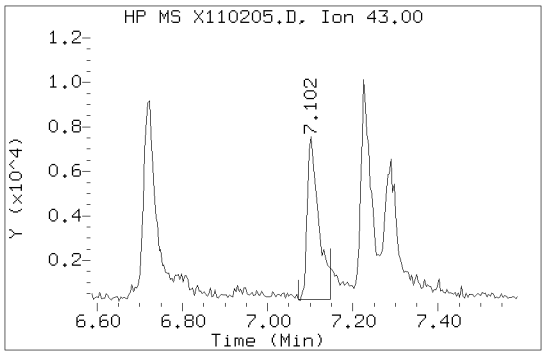
2-Hexanone (591-78-6)

Reason Code:

BEFORE
MASS
43
AREA
16811
HEIGHT
7370
08-Nov-2022
15:18
linh
pham



AFTER
MASS
43
AREA
13629
HEIGHT
7311
09-Nov-2022
12:35



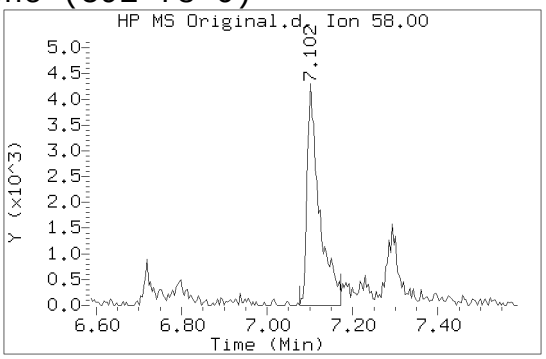
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

2-Hexanone (591-78-6)

Reason Code:

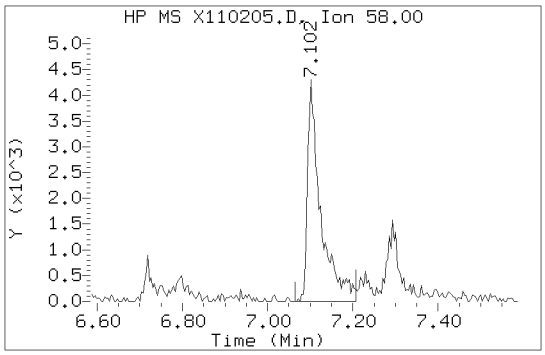
BEFORE

MASS
58
AREA
8580
HEIGHT
4304
08-Nov-2022
15:18
linh
pham



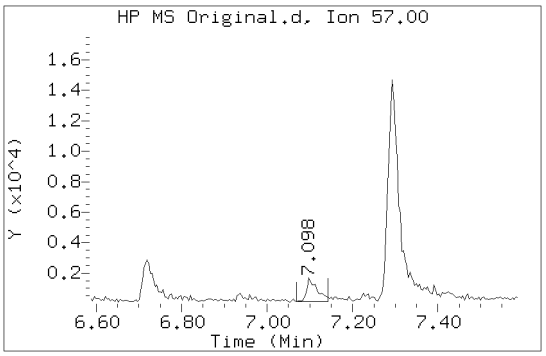
AFTER

MASS
58
AREA
9264
HEIGHT
4304
09-Nov-2022
12:35



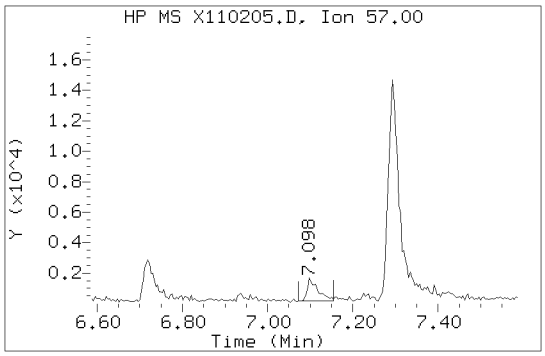
BEFORE

MASS
57
AREA
2690
HEIGHT
1587
08-Nov-2022
15:18
linh
pham



AFTER

MASS
57
AREA
2683
HEIGHT
1557
09-Nov-2022
12:35

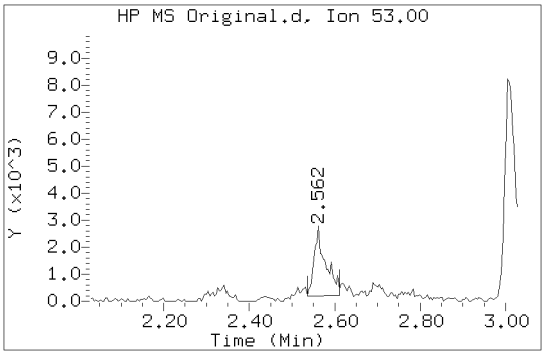


Acrylonitrile (107-13-1)

Reason Code:

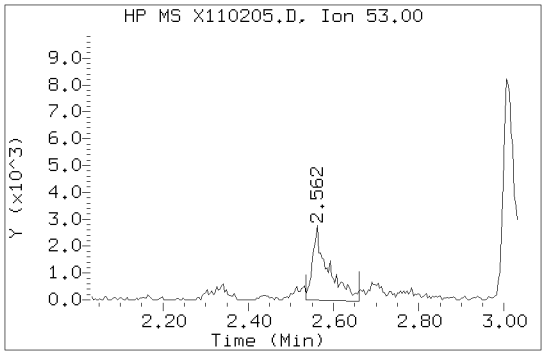
BEFORE

MASS
53
AREA
4792
HEIGHT
2567
08-Nov-2022
15:18
linh
pham



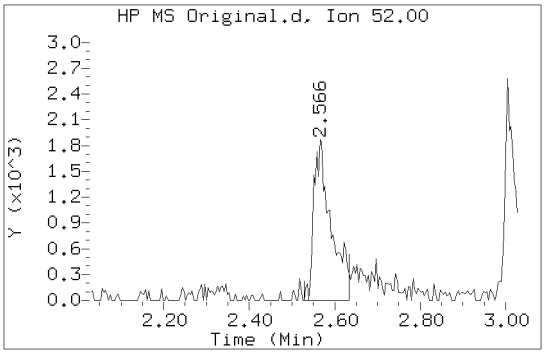
AFTER

MASS
53
AREA
7144
HEIGHT
2781
09-Nov-2022
12:35



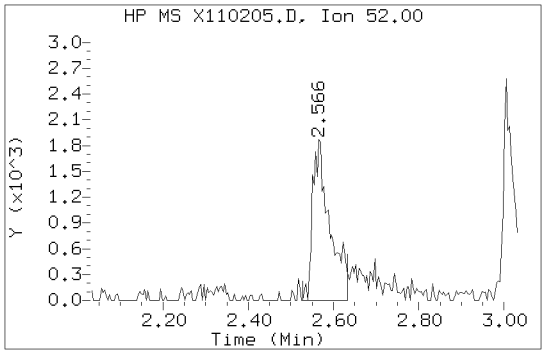
BEFORE

MASS
52
AREA
5242
HEIGHT
1874
08-Nov-2022
15:18
linh
pham



AFTER

MASS
52
AREA
5242
HEIGHT
1874
09-Nov-2022
12:35



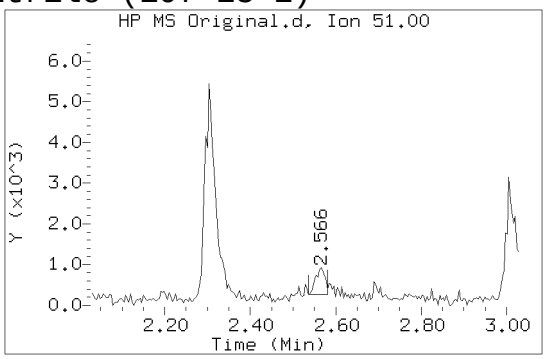
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

Acrylonitrile (107-13-1)

Reason Code:

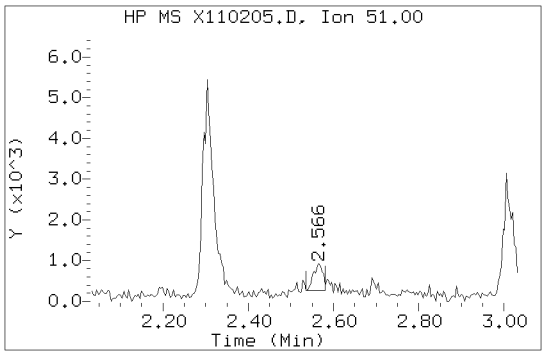
BEFORE

MASS
51
AREA
989
HEIGHT
652
08-Nov-2022
15:18
linh
pham



AFTER

MASS
51
AREA
989
HEIGHT
652
09-Nov-2022
12:35

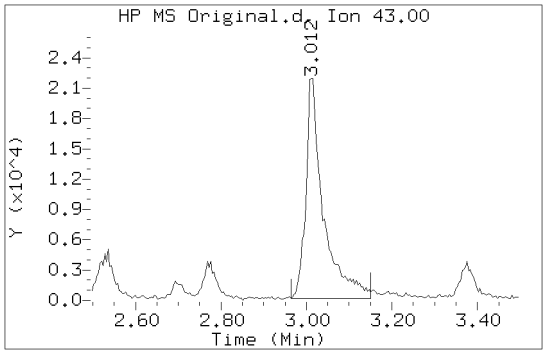


Vinyl Acetate (108-05-4)

Reason Code:

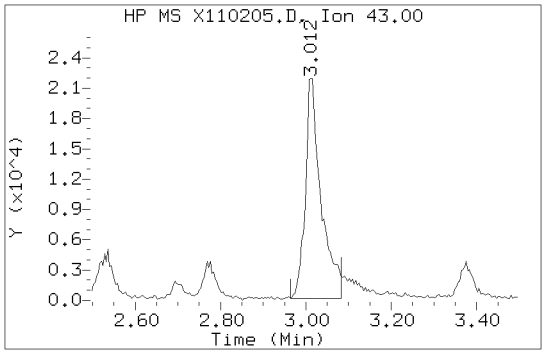
BEFORE

MASS
43
AREA
62234
HEIGHT
21752
08-Nov-2022
15:18
linh
pham



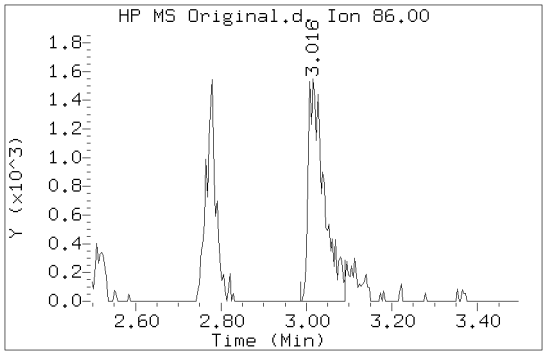
AFTER

MASS
43
AREA
56348
HEIGHT
21752
09-Nov-2022
12:35



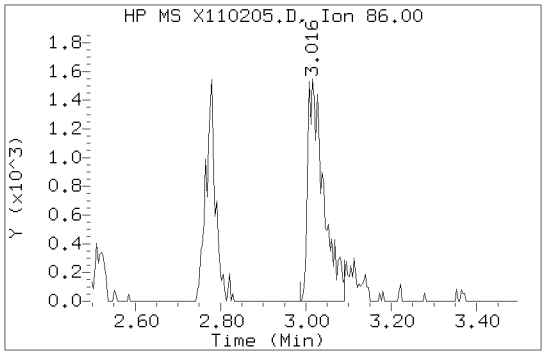
BEFORE

MASS
86
AREA
4018
HEIGHT
1548
08-Nov-2022
15:18
linh
pham



AFTER

MASS
86
AREA
4018
HEIGHT
1548
09-Nov-2022
12:35

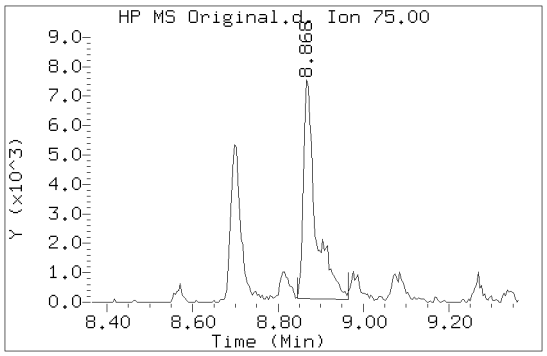


1,2,3-Trichloropropane (96-18-4)

Reason Code:

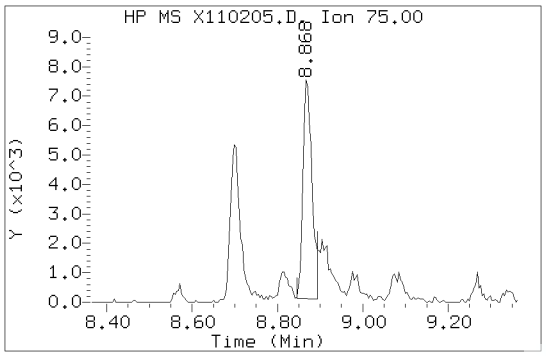
BEFORE

MASS
75
AREA
14969
HEIGHT
7421
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
11024
HEIGHT
7421
09-Nov-2022
12:35



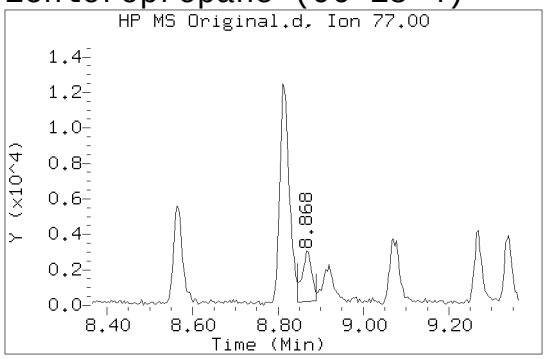
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

1,2,3-Trichloropropane (96-18-4)

Reason Code:

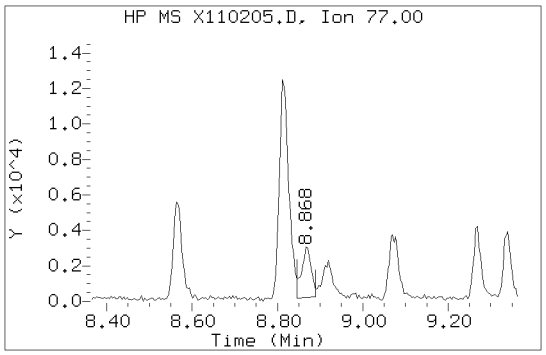
BEFORE

MASS
77
AREA
4699
HEIGHT
2862
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
4699
HEIGHT
2862
09-Nov-2022
12:35

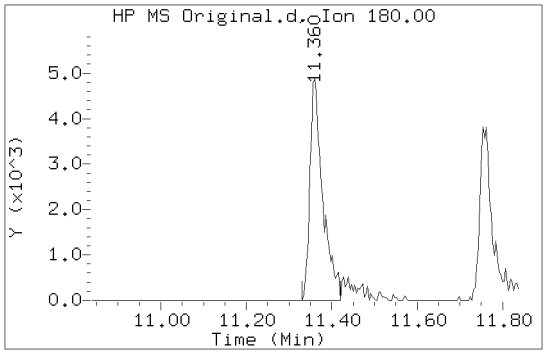


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

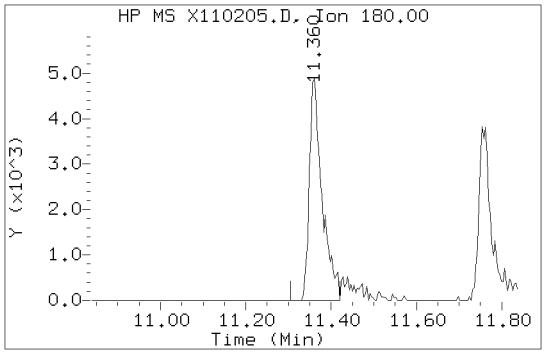
BEFORE

MASS
180
AREA
10187
HEIGHT
4880
08-Nov-2022
15:18
linh
pham



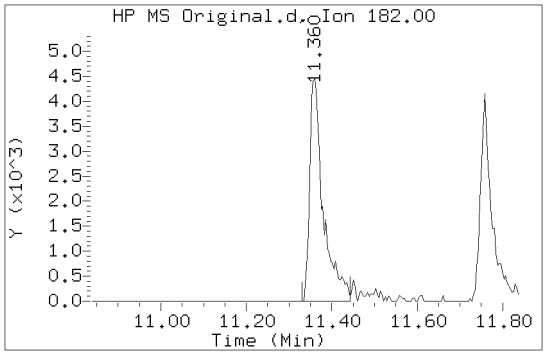
AFTER

MASS
180
AREA
10188
HEIGHT
4880
09-Nov-2022
12:35



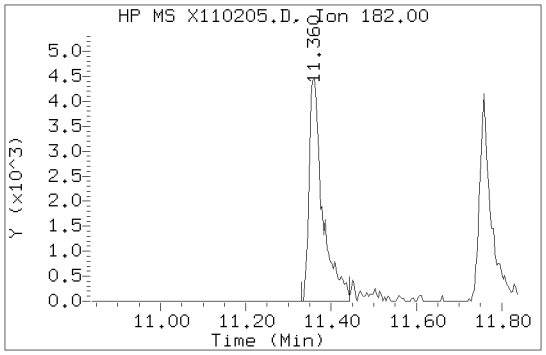
BEFORE

MASS
182
AREA
9809
HEIGHT
4447
08-Nov-2022
15:18
linh
pham



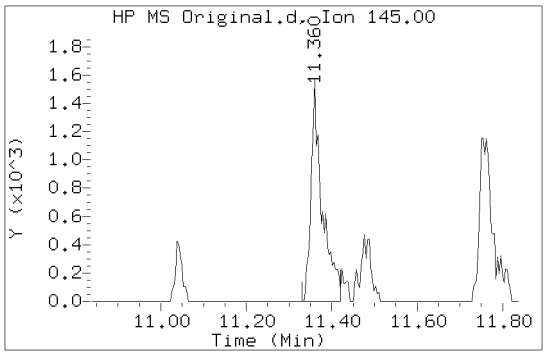
AFTER

MASS
182
AREA
9809
HEIGHT
4447
09-Nov-2022
12:35



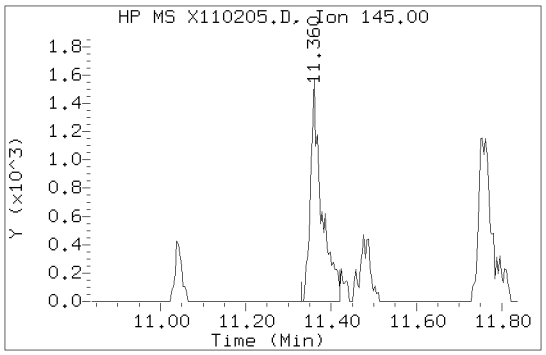
BEFORE

MASS
145
AREA
2836
HEIGHT
1567
08-Nov-2022
15:18
linh
pham



AFTER

MASS
145
AREA
2836
HEIGHT
1567
09-Nov-2022
12:35

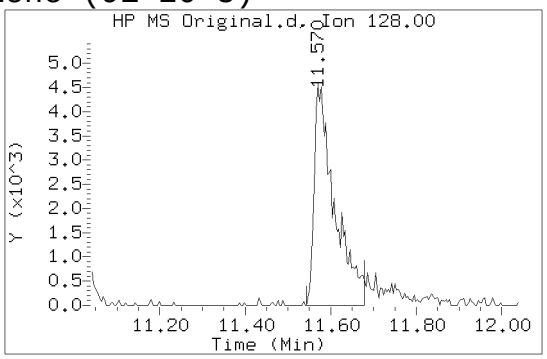


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

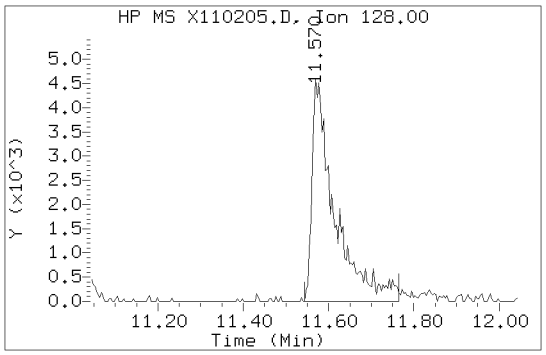
Naphthalene (91-20-3)

Reason Code:

BEFORE
MASS
128
AREA
15066
HEIGHT
4578
08-Nov-2022
15:18
linh
pham



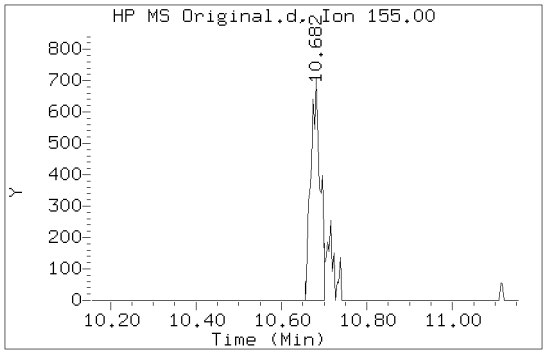
AFTER
MASS
128
AREA
16867
HEIGHT
4578
09-Nov-2022
12:35



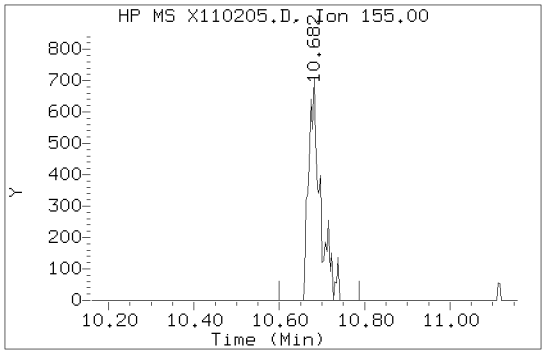
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

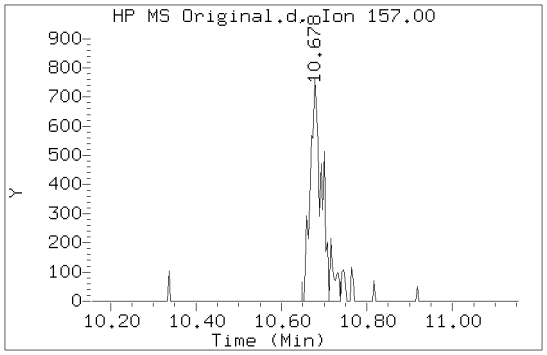
BEFORE
MASS
155
AREA
1075
HEIGHT
706
08-Nov-2022
15:18
linh
pham



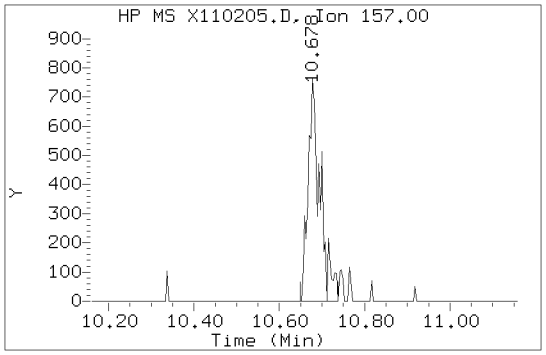
AFTER
MASS
155
AREA
1348
HEIGHT
706
09-Nov-2022
12:35



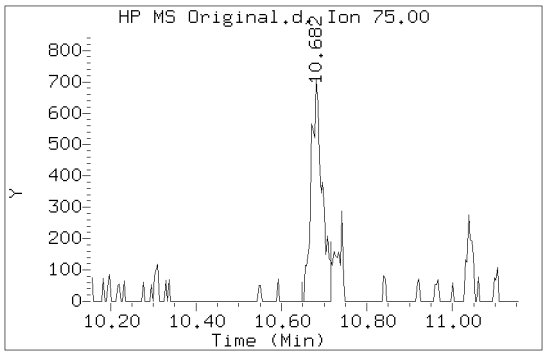
BEFORE
MASS
157
AREA
1508
HEIGHT
762
08-Nov-2022
15:18
linh
pham



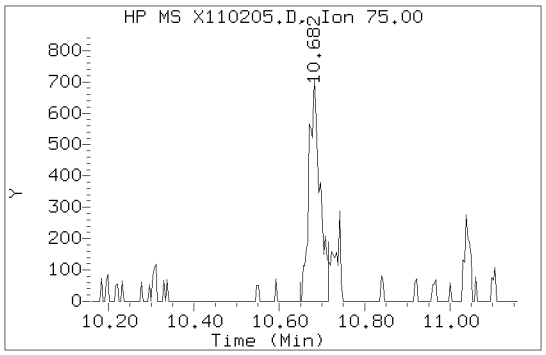
AFTER
MASS
157
AREA
1508
HEIGHT
762
09-Nov-2022
12:35



BEFORE
MASS
75
AREA
1268
HEIGHT
707
08-Nov-2022
15:18
linh
pham



AFTER
MASS
75
AREA
1268
HEIGHT
707
09-Nov-2022
12:35

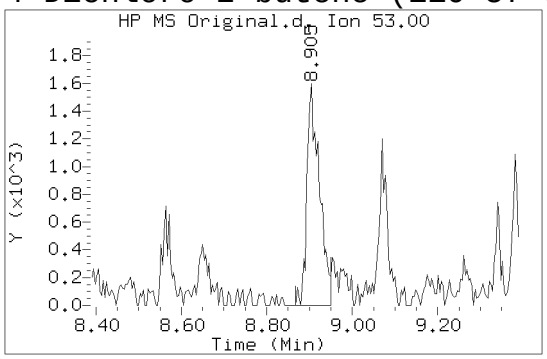


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

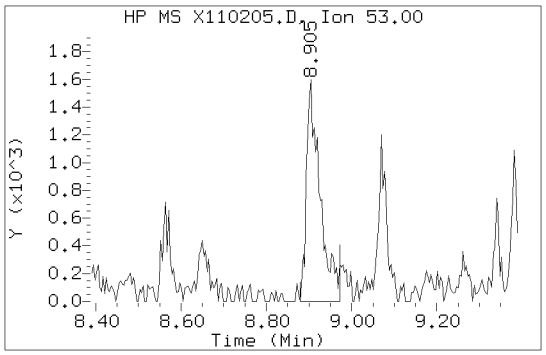
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

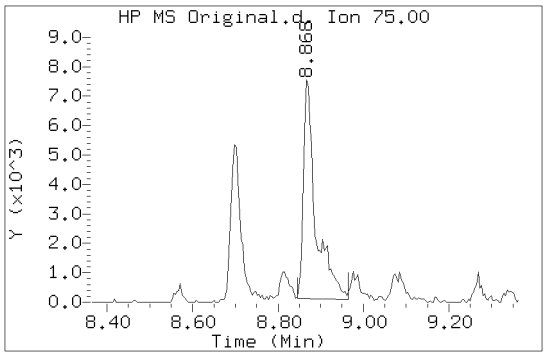
BEFORE
MASS
53
AREA
3261
HEIGHT
1598
08-Nov-2022
15:18
linh
pham



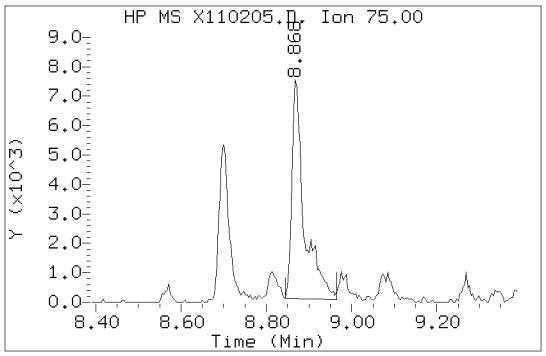
AFTER
MASS
53
AREA
3546
HEIGHT
1598
09-Nov-2022
12:35



BEFORE
MASS
75
AREA
14969
HEIGHT
7421
08-Nov-2022
15:18
linh
pham



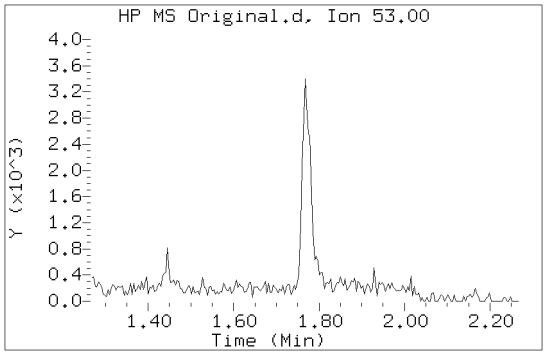
AFTER
MASS
75
AREA
14969
HEIGHT
7421
09-Nov-2022
12:35



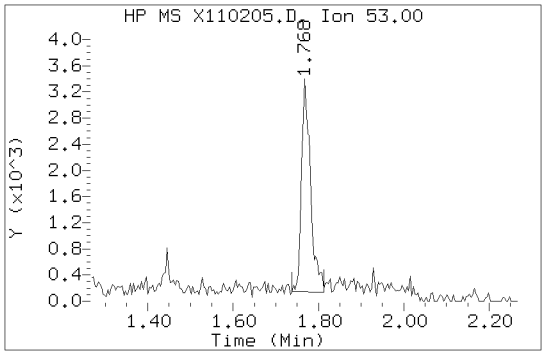
Chloroprene (126-99-8)

Reason Code:

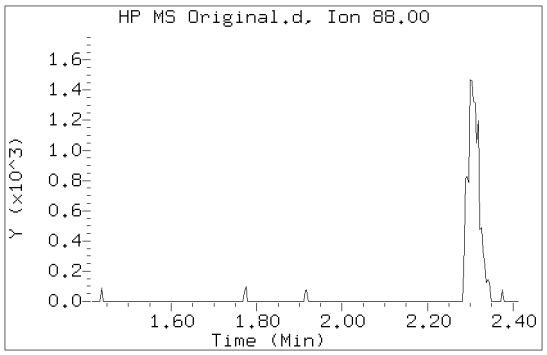
BEFORE
MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



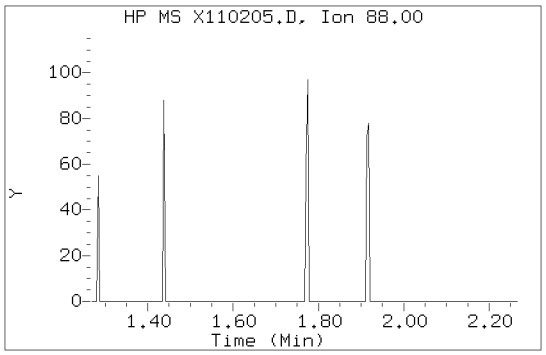
AFTER
MASS
53
AREA
4918
HEIGHT
3253
09-Nov-2022
12:35



BEFORE
MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:35

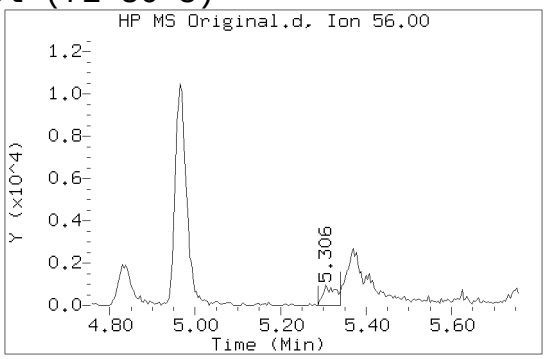


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

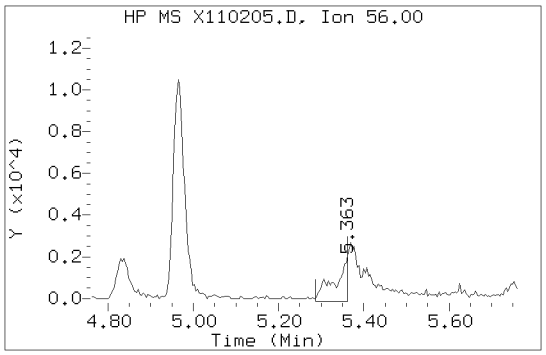
n-Butanol (71-36-3)

Reason Code:

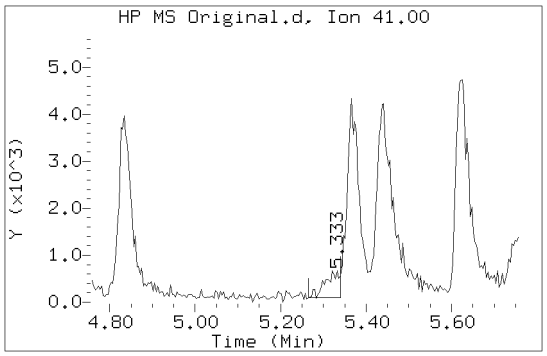
BEFORE
MASS
56
AREA
1998
HEIGHT
957
08-Nov-2022
15:18
linh
pham



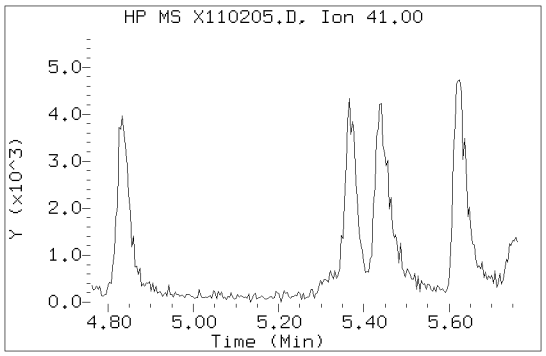
AFTER
MASS
56
AREA
4541
HEIGHT
2171
09-Nov-2022
12:35



BEFORE
MASS
41
AREA
1277
HEIGHT
572
08-Nov-2022
15:18
linh
pham



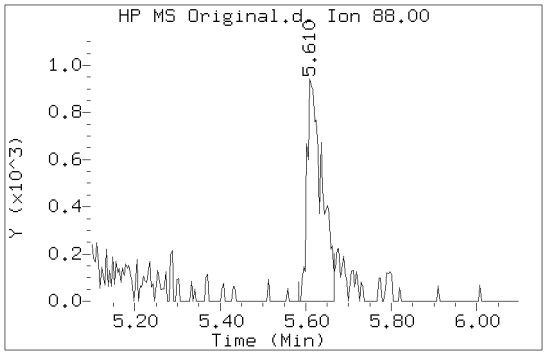
AFTER
MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35



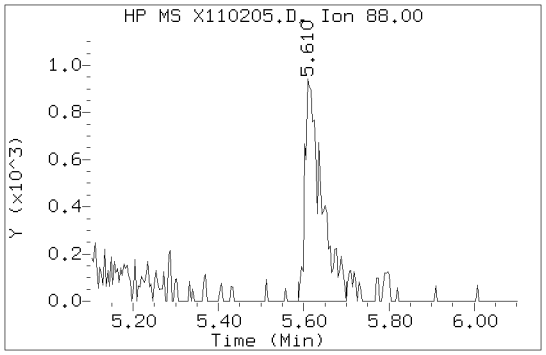
1,4-Dioxane ()

Reason Code:

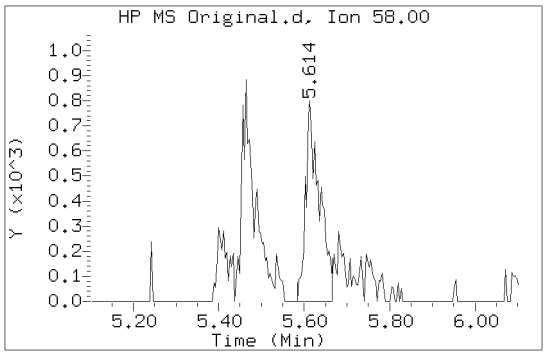
BEFORE
MASS
88
AREA
2287
HEIGHT
942
08-Nov-2022
15:18
linh
pham



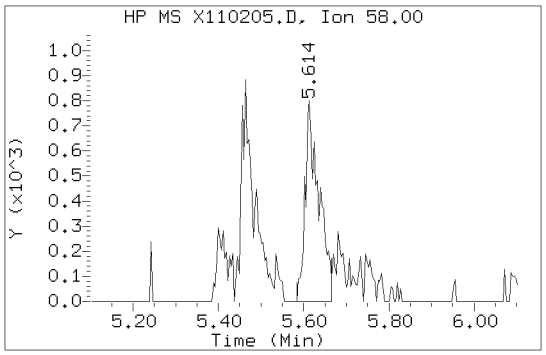
AFTER
MASS
88
AREA
2561
HEIGHT
942
09-Nov-2022
12:35



BEFORE
MASS
58
AREA
1813
HEIGHT
799
08-Nov-2022
15:18
linh
pham



AFTER
MASS
58
AREA
1813
HEIGHT
799
09-Nov-2022
12:35

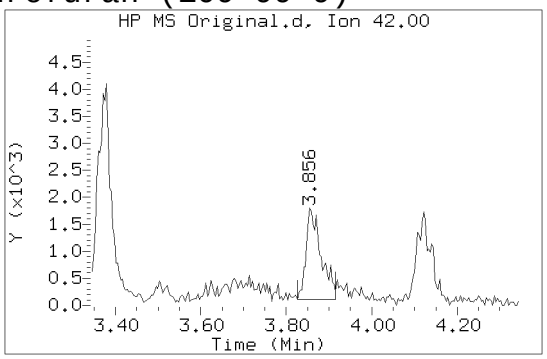


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

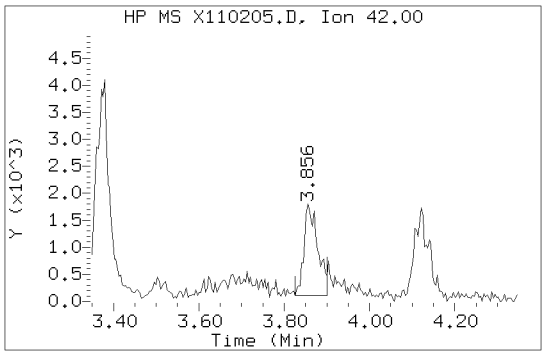
Tetrahydrofuran (109-99-9)

Reason Code:

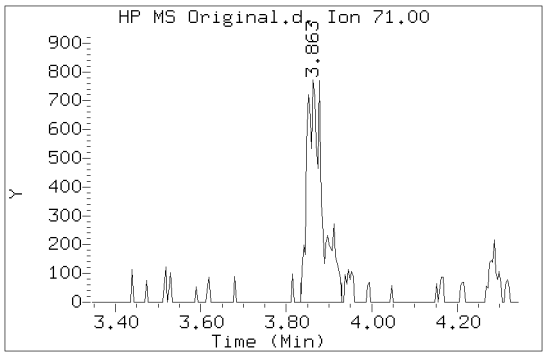
BEFORE
MASS
42
AREA
4153
HEIGHT
1695
08-Nov-2022
15:18
linh
pham



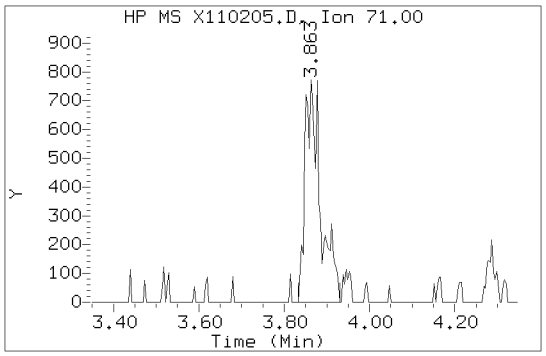
AFTER
MASS
42
AREA
3838
HEIGHT
1695
09-Nov-2022
12:35



BEFORE
MASS
71
AREA
1969
HEIGHT
772
08-Nov-2022
15:18
linh
pham



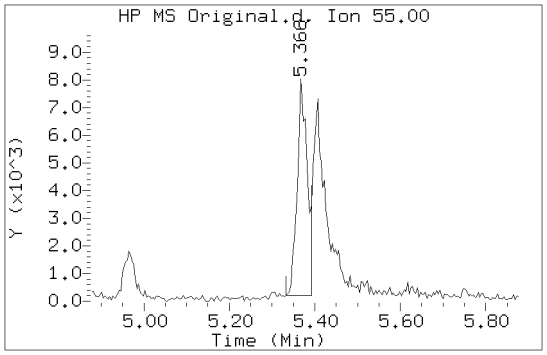
AFTER
MASS
71
AREA
1969
HEIGHT
772
09-Nov-2022
12:35



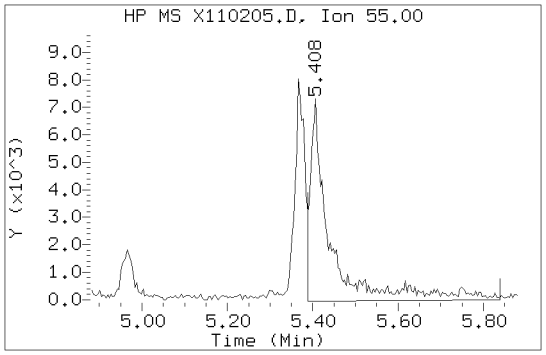
Methylcyclohexane (108-87-2)

Reason Code:

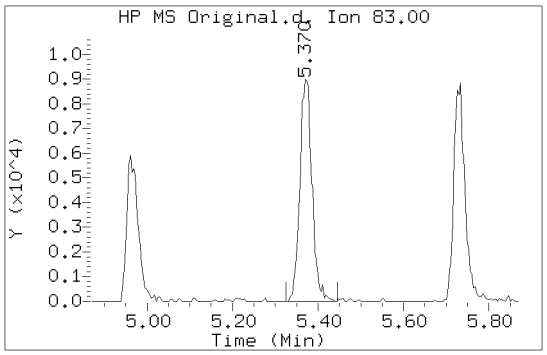
BEFORE
MASS
55
AREA
13219
HEIGHT
7833
08-Nov-2022
15:18
linh
pham



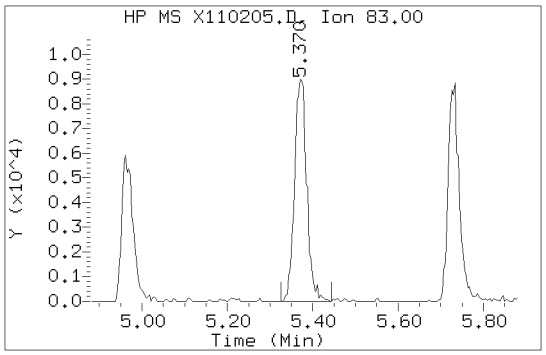
AFTER
MASS
55
AREA
24111
HEIGHT
7377
09-Nov-2022
12:35



BEFORE
MASS
83
AREA
18221
HEIGHT
8982
08-Nov-2022
15:18
linh
pham



AFTER
MASS
83
AREA
18221
HEIGHT
8982
09-Nov-2022
12:35

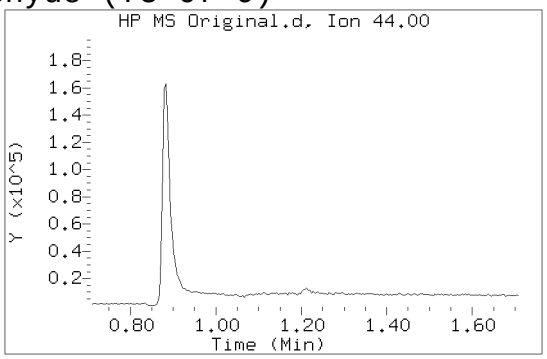


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

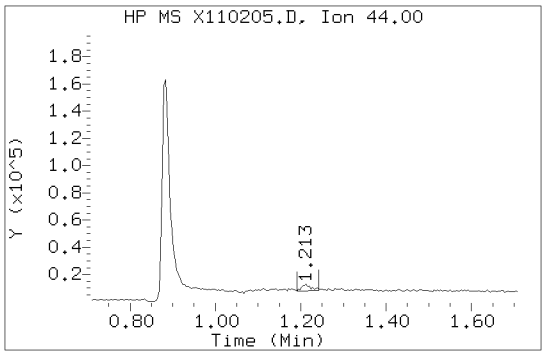
Acetaldehyde (75-07-0)

Reason Code:

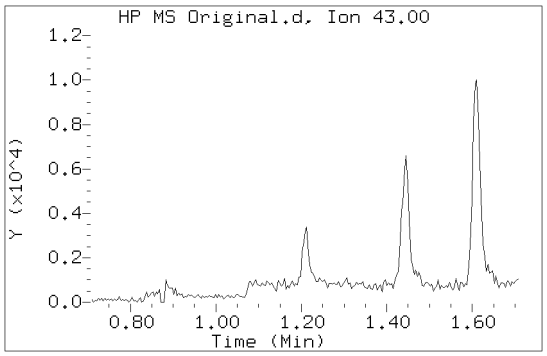
BEFORE
MASS
44
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



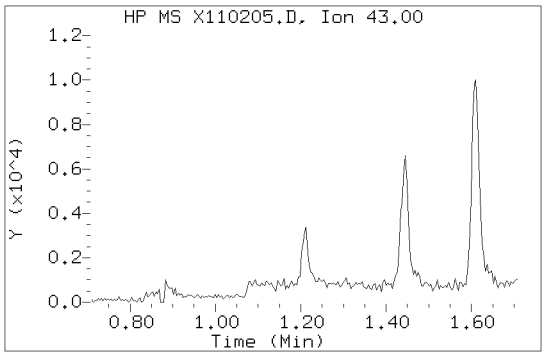
AFTER
MASS
44
AREA
7954
HEIGHT
5139
09-Nov-2022
12:35



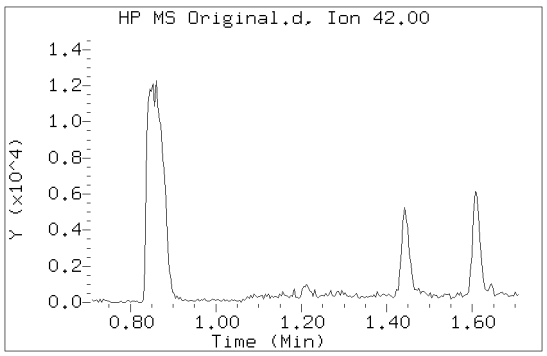
BEFORE
MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



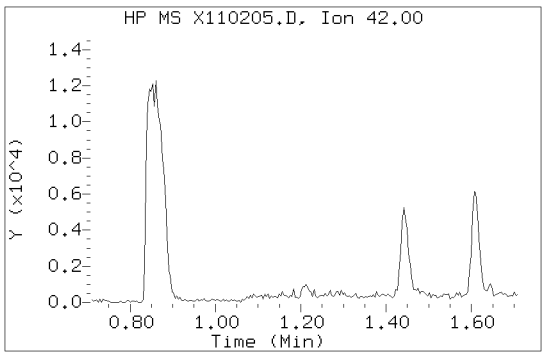
AFTER
MASS
43
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
42
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



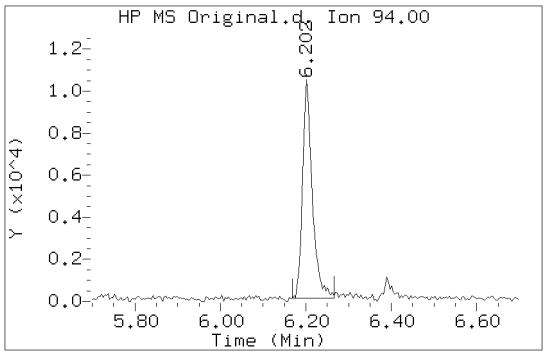
AFTER
MASS
42
AREA
0
HEIGHT
0
09-Nov-2022
12:35



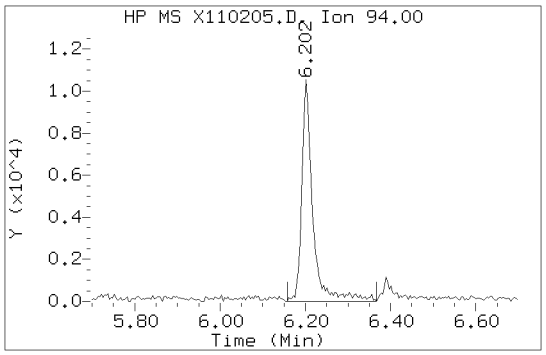
Dimethyl Disulfide (624-92-0)

Reason Code:

BEFORE
MASS
94
AREA
16790
HEIGHT
10388
08-Nov-2022
15:18
linh
pham



AFTER
MASS
94
AREA
19277
HEIGHT
10546
09-Nov-2022
12:35

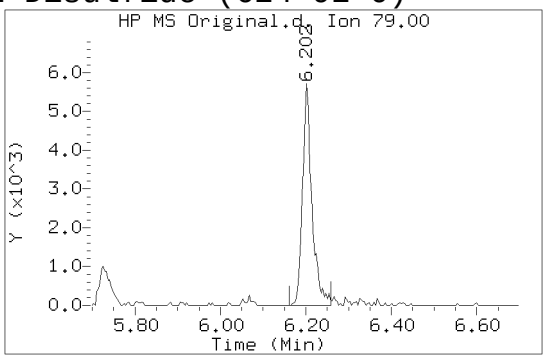


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

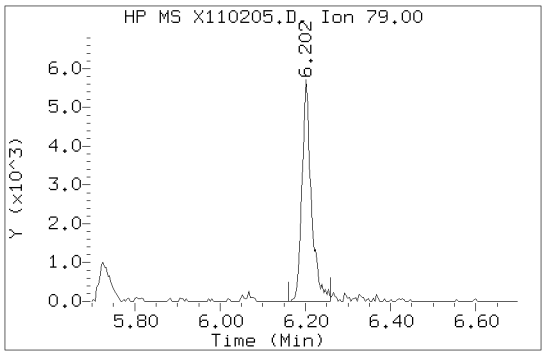
Dimethyl Disulfide (624-92-0)

Reason Code:

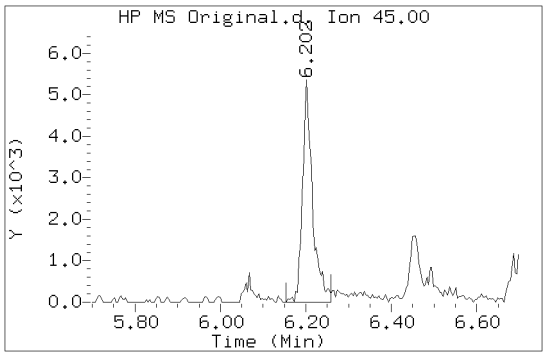
BEFORE
MASS
79
AREA
8950
HEIGHT
5715
08-Nov-2022
15:18
linh
pham



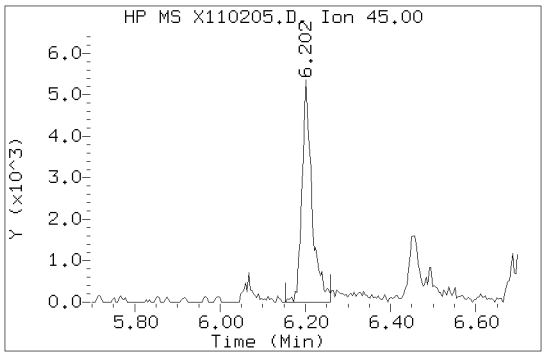
AFTER
MASS
79
AREA
8950
HEIGHT
5715
09-Nov-2022
12:35



BEFORE
MASS
45
AREA
8964
HEIGHT
5360
08-Nov-2022
15:18
linh
pham



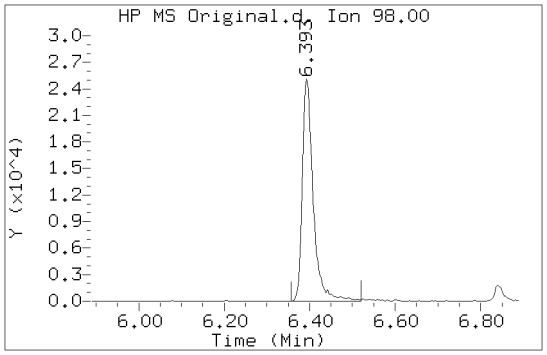
AFTER
MASS
45
AREA
8964
HEIGHT
5360
09-Nov-2022
12:35



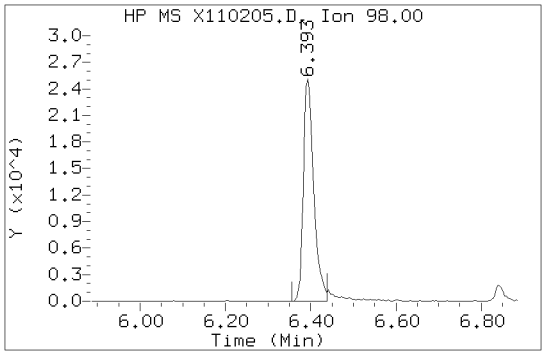
Toluene-d8 (2037-26-5)

Reason Code:

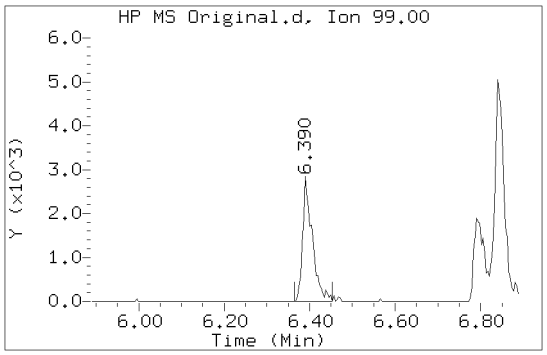
BEFORE
MASS
98
AREA
45633
HEIGHT
25120
08-Nov-2022
15:18
linh
pham



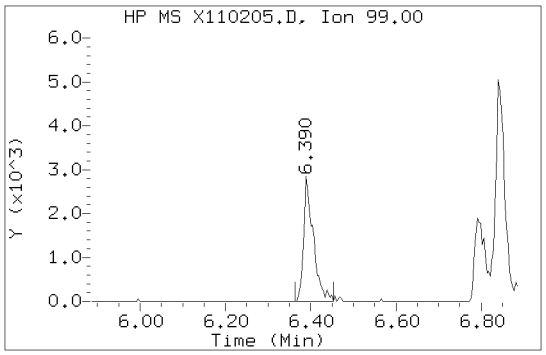
AFTER
MASS
98
AREA
43508
HEIGHT
25120
09-Nov-2022
12:35



BEFORE
MASS
99
AREA
4558
HEIGHT
2846
08-Nov-2022
15:18
linh
pham



AFTER
MASS
99
AREA
4558
HEIGHT
2846
09-Nov-2022
12:35



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InstruID : voa6.i
LabSampID : VSTD002

Toluene-d8 (2037-26-5)

Reason Code:

BEFORE

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08-Nov-2022
15:18
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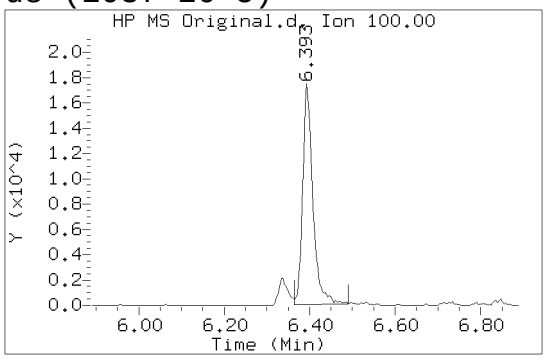

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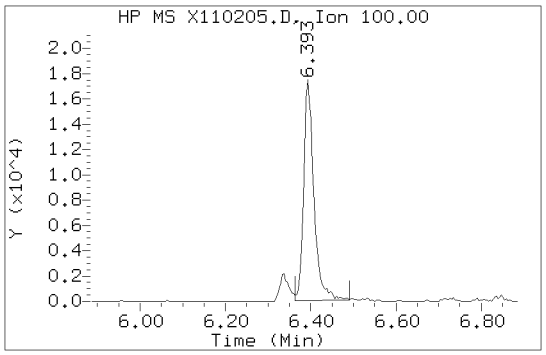

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D
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Inj Date : 02-NOV-2022 13:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 12:45 Cal File: X110205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.181	(1.000)	583697	50.0000	
135 1,4-Dioxane	88	5.606	5.606	(1.341)	6515	100.000	104.67
140 1,3-Butadiene	54	1.164	1.164	(0.278)	24117	5.00000	4.92
25 Methacrylonitrile	41	3.840	3.840	(0.918)	24620	5.00000	4.70
12 Isobutyl Alcohol	43	4.680	4.680	(1.119)	91788	100.000	105.27
13 Acetonitrile	39	2.198	2.198	(0.526)	37629	50.0000	53.80
14 Allyl Chloride	41	2.202	2.202	(0.527)	68295	5.00000	5.19
4 Propionitrile	54	3.660	3.660	(0.875)	37960	50.0000	51.74
136 n-Hexane	57	2.776	2.776	(0.664)	23621	5.00000	4.60
72 trans-1,4-Dichloro-2-butene	53	8.897	8.897	(1.160)	8635	5.00000	4.49
194 Acetaldehyde	44	1.212	1.212	(0.290)	11340	20.0000	12.51(M)
23 Chloroprene	53	1.771	1.771	(0.424)	10734	5.00000	4.80(M)
145 alpha-Methylstyrene	118	9.265	9.265	(0.959)	48024	5.00000	4.76
200 Dimethyl Disulfide	94	6.202	6.202	(0.808)	47570	5.00000	4.46
139 Diethyl ether	59	1.756	1.756	(0.420)	24310	5.00000	5.28
130 Ethyl Acetate	43	3.664	3.664	(0.876)	31965	5.00000	5.21
40 Methyl Methacrylate	41	5.613	5.613	(1.342)	27594	5.00000	5.11
49 Ethyl Methacrylate	69	6.790	6.790	(1.368)	42889	5.00000	4.75(M)
132 n-Butanol	56	5.291	5.291	(1.265)	9274	100.000	83.81(M)
142 Tetrahydrofuran	42	3.851	3.851	(0.921)	8557	10.0000	9.24

150	Allyl alcohol	57	2.776	2.776 (0.664)	23621	100.000	91.48
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	100471	5.00000	5.04

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D Page 2
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	26672	5.00000	5.51
	3 Chloromethane	50	1.077	1.077	(0.258)	34823	5.00000	6.72
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	32383	5.00000	4.89
	6 Bromomethane	94	1.340	1.340	(0.321)	22869	5.00000	6.62
	7 Chloroethane	64	1.400	1.400	(0.335)	20343	5.00000	4.93
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	38976	5.00000	4.62
	9 Acrolein	56	1.441	1.441	(0.345)	4394	10.0000	13.68(M)
	10 Acetone	43	1.973	1.973	(0.472)	26617	10.0000	11.61
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	23989	5.00000	4.83
	15 Iodomethane	142	2.026	2.026	(0.485)	42677	10.0000	8.97
	16 Acrylonitrile	53	2.551	2.551	(0.610)	19752	10.0000	10.35
	17 Methylene Chloride	84	2.303	2.303	(0.551)	31336	5.00000	4.93(M)
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	90475	5.00000	5.17
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	144910	10.0000	9.60
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	26531	5.00000	4.81
	21 Vinyl Acetate	43	3.004	3.004	(0.719)	157801	10.0000	10.15
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	50270	5.00000	5.06
	24 2-Butanone	43	3.593	3.593	(0.859)	17890	10.0000	8.57(H)
	26 2,2-Dichloropropane	77	3.514	3.514	(0.840)	40842	5.00000	6.03
	27 cis-1,2-Dichloroethene	96	3.529	3.529	(0.844)	32716	5.00000	5.08
	28 Chloroform	83	3.904	3.904	(0.934)	55456	5.00000	5.01
	29 Bromochloromethane	128	3.799	3.799	(0.909)	17775	5.00000	5.14
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	33597	5.00000	6.25
	31 1,1,1-Trichloroethane	97	4.084	4.084	(0.977)	39849	5.00000	4.68
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	34915	5.00000	4.80
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	42394	5.00000	5.14
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	29235	5.00000	4.82(H)
$	35 1,2-Dichloroethane-d4	65	4.474	4.474	(1.070)	36714	5.00000	5.83(M)
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	906194	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	112970	5.00000	5.02
	38 Trichloroethene	130	5.212	5.212	(1.050)	32441	5.00000	5.13
	39 Bromodichloromethane	83	5.730	5.730	(1.154)	39506	5.00000	4.95
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.219)	24847	10.0000	9.34
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	31907	5.00000	5.23
	44 Dibromomethane	93	5.553	5.553	(1.119)	21000	5.00000	5.09
	45 4-Methyl-2-Pentanone	43	6.333	6.333	(0.826)	59595	10.0000	10.81
	46 cis-1,3-Dichloropropene	75	6.161	6.161	(1.241)	49908	5.00000	4.96
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	857948	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	106026	5.00000	5.12(M)
	50 Toluene	91	6.449	6.449	(0.841)	121398	5.00000	4.94
	51 trans-1,3-Dichloropropene	75	6.685	6.685	(1.347)	41398	5.00000	4.78
	52 2-Hexanone	43	7.094	7.094	(0.925)	41238	10.0000	11.11
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	25279	5.00000	5.13
	54 1,3-Dichloropropane	76	6.985	6.985	(0.911)	50567	5.00000	5.17
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	30494	5.00000	4.82
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	24282	5.00000	5.44
	57 1,2-Dibromoethane	107	7.263	7.263	(0.947)	31452	5.00000	5.11
	58 1-Chlorohexane	55	7.701	7.701	(1.551)	22049	5.00000	4.46(H)
	59 Chlorobenzene	112	7.698	7.698	(1.003)	82400	5.00000	4.97
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	28452	5.00000	4.83
	61 Ethylbenzene	106	7.803	7.803	(1.017)	38970	5.00000	4.62
	62 m,p-Xylenes	106	7.911	7.911	(1.031)	99655	10.0000	9.49(M)

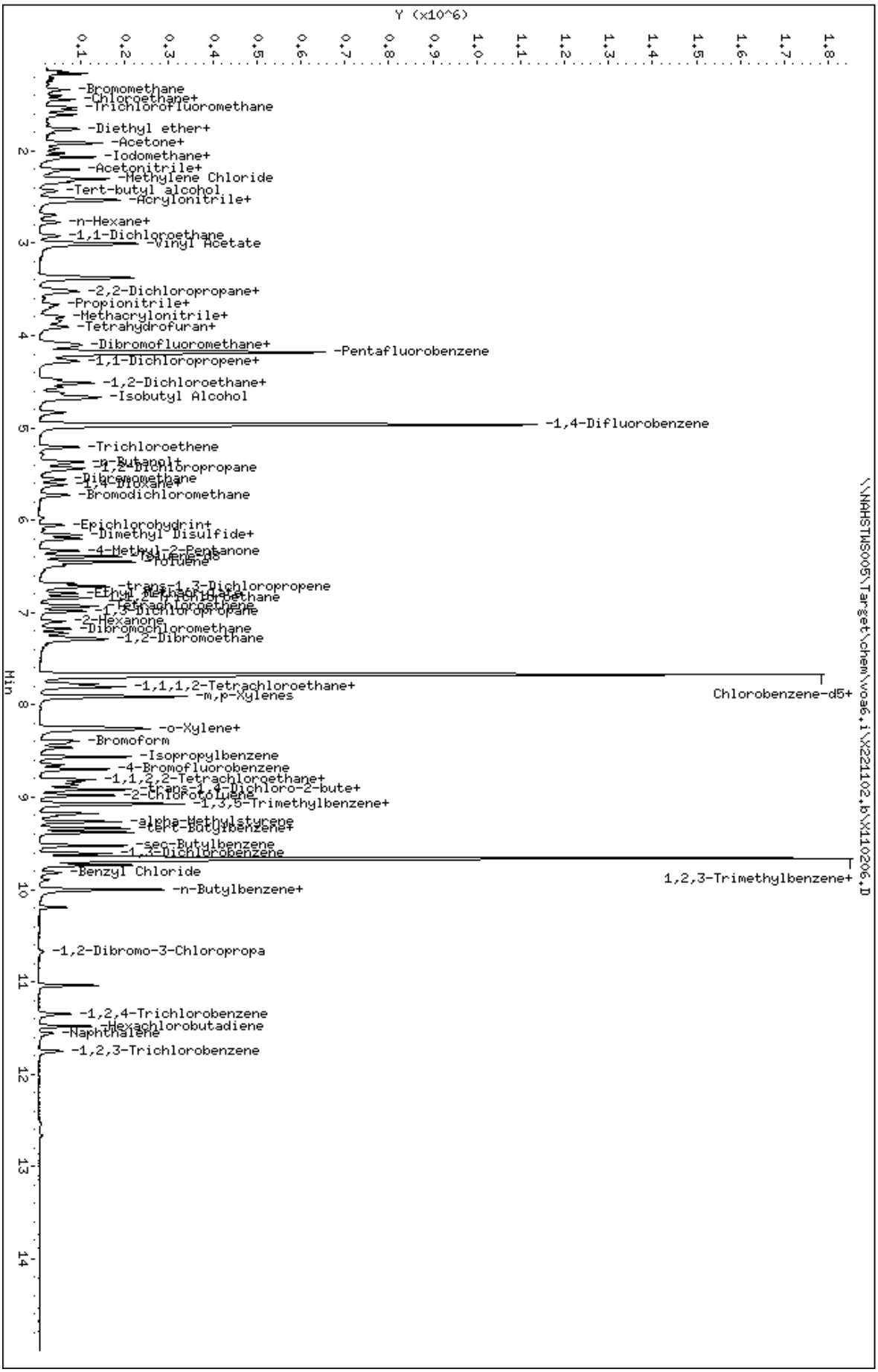
63 o-Xylene	106	8.245	8.245 (1.075)	49636	5.00000	4.86
64 Styrene	104	8.267	8.267 (1.078)	82202	5.00000	4.78

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D Page 3
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
66	Bromoform	173	8.414	8.414	(1.097)	16655	5.00000	6.17(M)
67	Isopropylbenzene	105	8.564	8.564	(1.116)	115031	5.00000	4.61
68	1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	35974	5.00000	5.14
$ 69	4-Bromofluorobenzene	95	8.695	8.695	(1.133)	43112	5.00000	5.63(M)
* 70	1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	421835	50.0000	
71	1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	27456	5.00000	5.16(M)
73	n-Propylbenzene	91	8.916	8.916	(0.922)	135709	5.00000	4.86
74	Bromobenzene	156	8.811	8.811	(0.912)	37147	5.00000	5.11
75	1,3,5-Trimethylbenzene	105	9.070	9.070	(0.938)	99086	5.00000	4.98
76	2-Chlorotoluene	91	8.980	8.980	(0.929)	87809	5.00000	4.98
77	4-Chlorotoluene	91	9.077	9.077	(0.939)	98608	5.00000	4.92
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	85892	5.00000	5.75
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	99505	5.00000	4.86
81	sec-Butylbenzene	105	9.523	9.523	(0.985)	119935	5.00000	6.02
82	p-Isopropyltoluene	119	9.651	9.651	(0.998)	102248	5.00000	5.04
83	1,3-Dichlorobenzene	146	9.609	9.609	(0.994)	59310	5.00000	4.88
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	61244	5.00000	4.86
86	Benzyl Chloride	91	9.816	9.816	(1.279)	30801	5.00000	6.58
87	n-Butylbenzene	91	9.999	9.999	(1.035)	89771	5.00000	5.23
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	55134	5.00000	4.83
89	1,2-Dibromo-3-Chloropropane	155	10.670	10.670	(1.104)	3069	5.00000	6.71(M)
90	1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	26991	5.00000	5.09
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	19835	5.00000	6.01
92	Naphthalene	128	11.559	11.559	(1.196)	38853	5.00000	4.71
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	18866	5.00000	4.93
M 94	1,2-Dichloroethylene (total)	96				59247	10.0000	
M 95	Xylenes (total)	106				149291	15.0000	
141	Cyclohexane	56	4.125	4.125	(0.987)	29825	5.00000	4.13(H)
138	Freon TF	101	1.913	1.913	(0.458)	21790	5.00000	4.40
147	Methylcyclohexane	55	5.392	5.392	(1.086)	51987	5.00000	4.14(MH)
146	Methyl Acetate	43	2.240	2.240	(0.536)	17742	5.00000	5.00(M)
148	Tert-Butyl alcohol	59	2.431	2.431	(0.581)	51249	100.000	102.74
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	25495	100.000	93.84(T)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

m,p-Xylenes ()

Reason Code:

BEFORE

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08-Nov-2022
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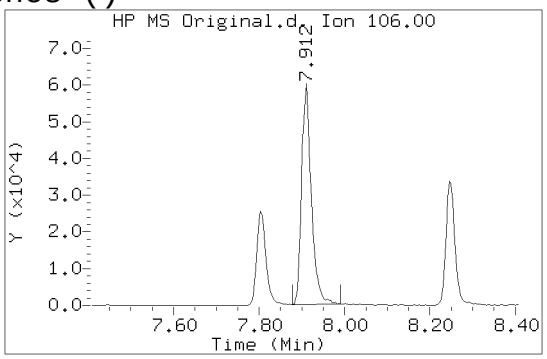

AFTER

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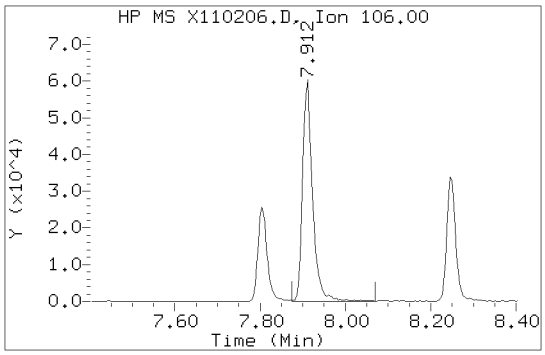

BEFORE

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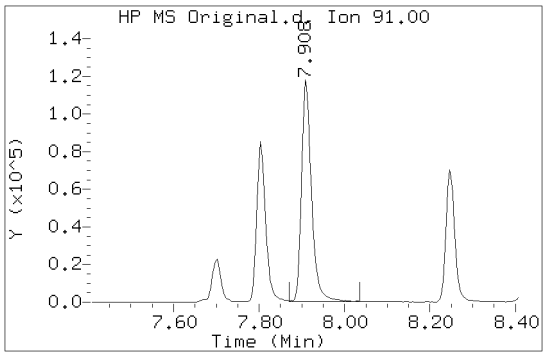

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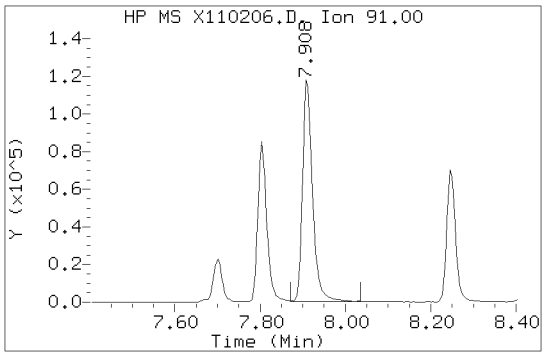

Acrolein (107-02-8)

Reason Code:

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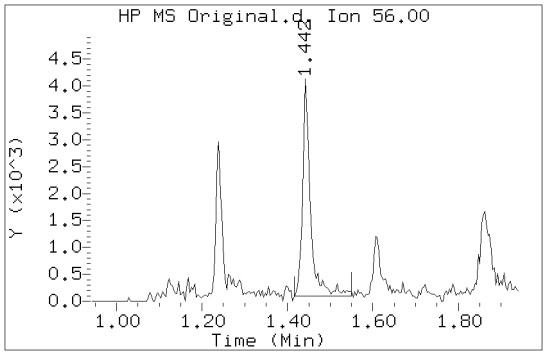

AFTER

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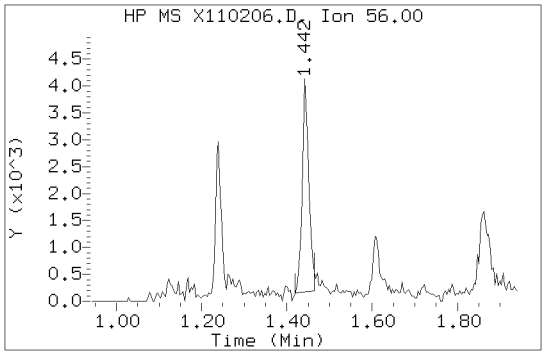

BEFORE

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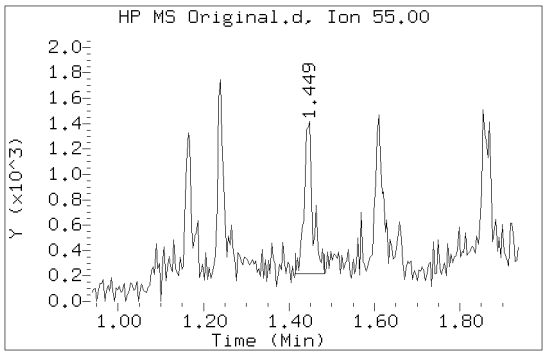

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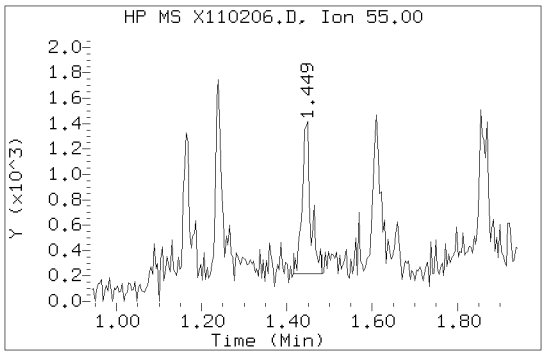

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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Methylene Chloride (75-09-2)

Reason Code:

BEFORE

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08-Nov-2022
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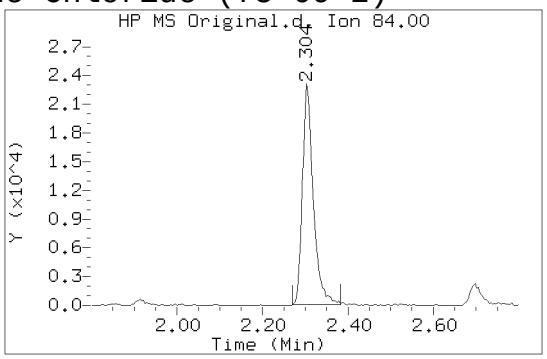

AFTER

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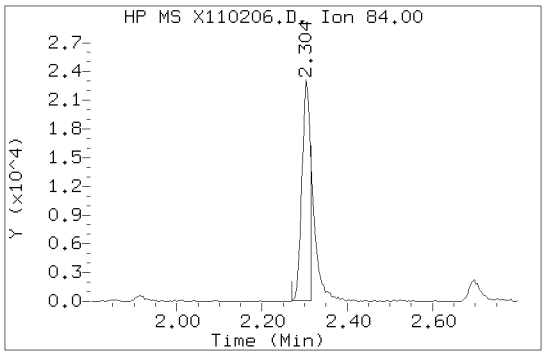

BEFORE

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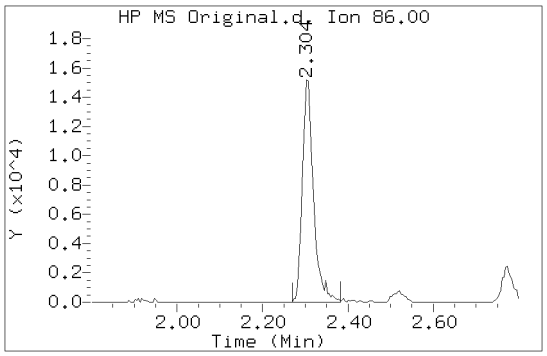

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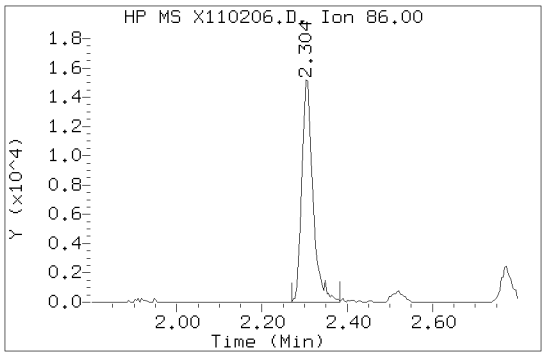

BEFORE

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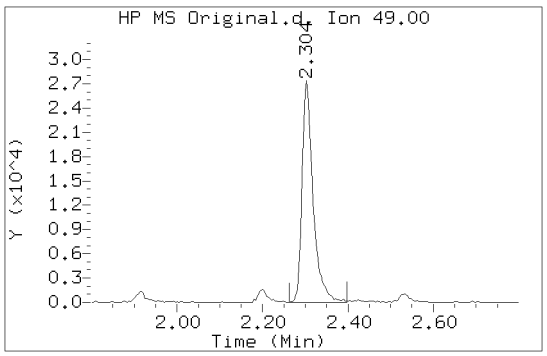
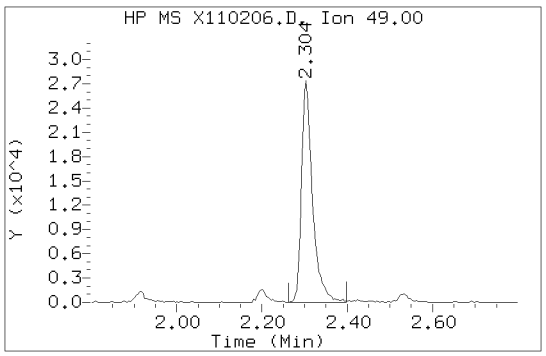
linh
pham



AFTER

MASS
49
AREA
50333
HEIGHT
27376
09-Nov-2022
12:34

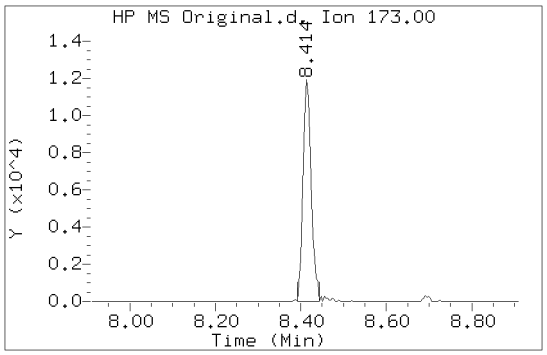


Bromoform (75-25-2)

Reason Code:

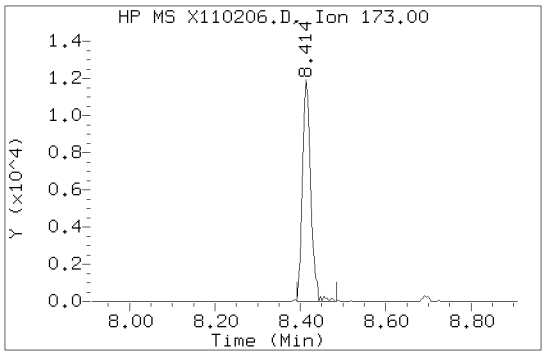
BEFORE

MASS
173
AREA
16355
HEIGHT
11928
08-Nov-2022
15:18
linh
pham



AFTER

MASS
173
AREA
16655
HEIGHT
11928
09-Nov-2022
12:34



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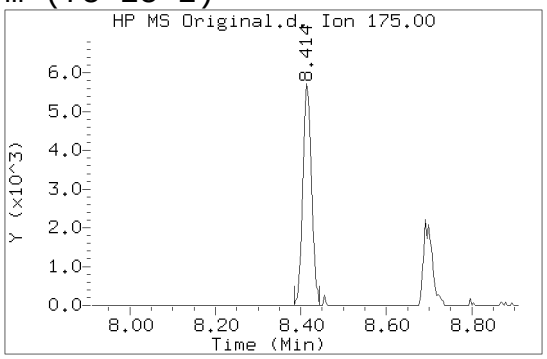
Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Bromoform (75-25-2)

Reason Code:

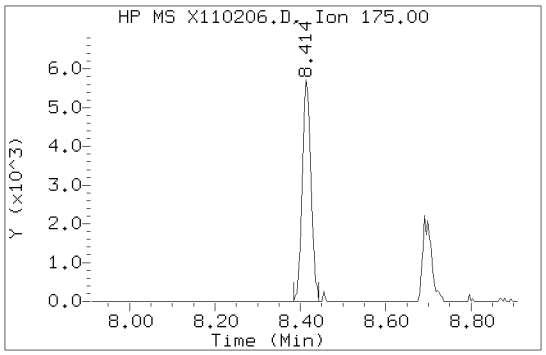
BEFORE

MASS
175
AREA
8316
HEIGHT
5722
08-Nov-2022
15:18
linh
pham



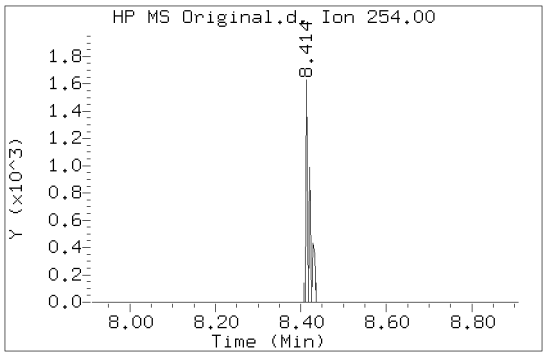
AFTER

MASS
175
AREA
8316
HEIGHT
5722
09-Nov-2022
12:34



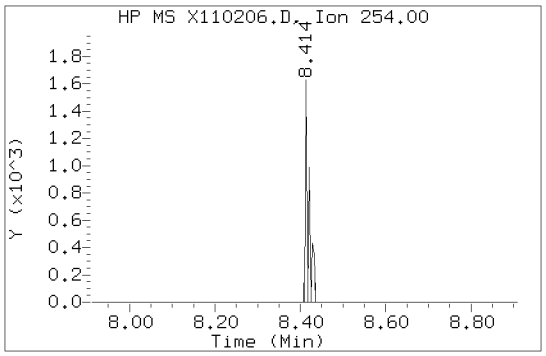
BEFORE

MASS
254
AREA
765
HEIGHT
1629
08-Nov-2022
15:18
linh
pham



AFTER

MASS
254
AREA
765
HEIGHT
1629
09-Nov-2022
12:34

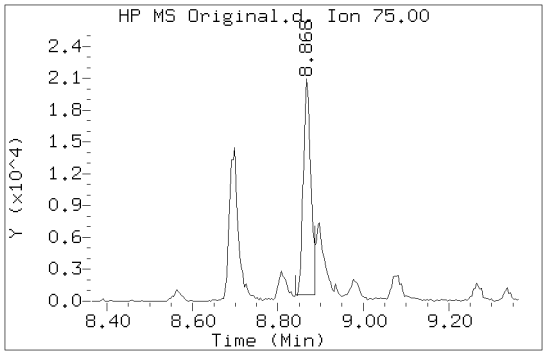


1,2,3-Trichloropropane (96-18-4)

Reason Code:

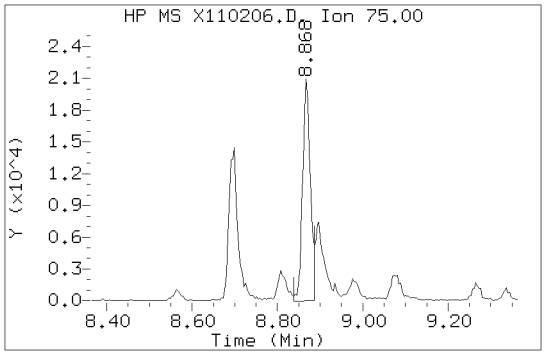
BEFORE

MASS
75
AREA
25550
HEIGHT
20340
08-Nov-2022
15:18
linh
pham



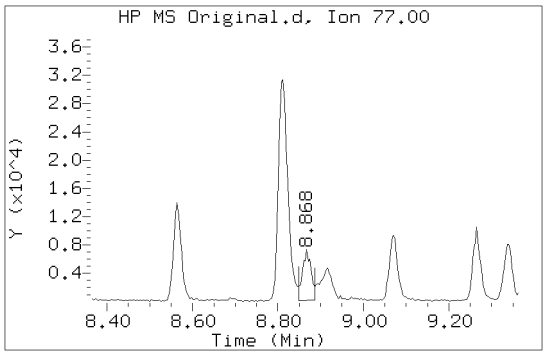
AFTER

MASS
75
AREA
27456
HEIGHT
20955
09-Nov-2022
12:34



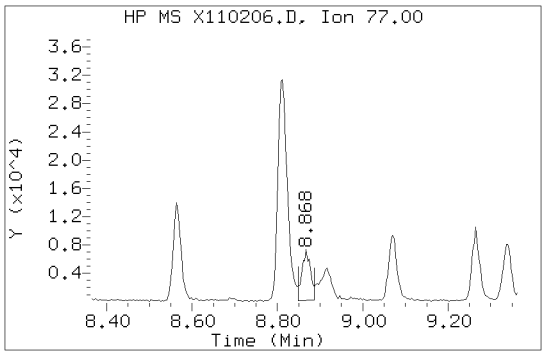
BEFORE

MASS
77
AREA
10312
HEIGHT
7215
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
10312
HEIGHT
7215
09-Nov-2022
12:34



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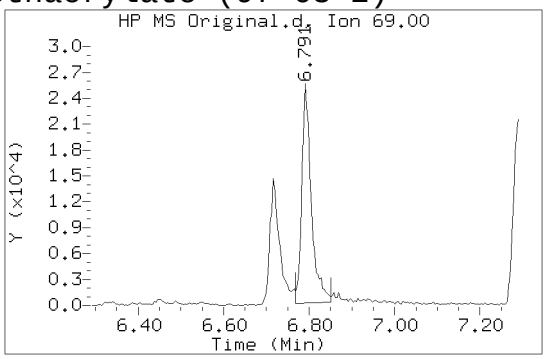
Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Ethyl Methacrylate (97-63-2)

Reason Code:

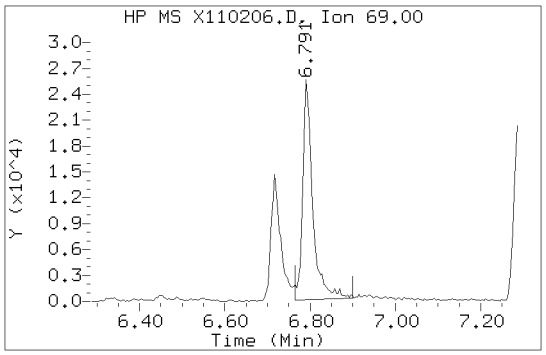
BEFORE

MASS
69
AREA
40444
HEIGHT
25437
08-Nov-2022
15:18
linh
pham



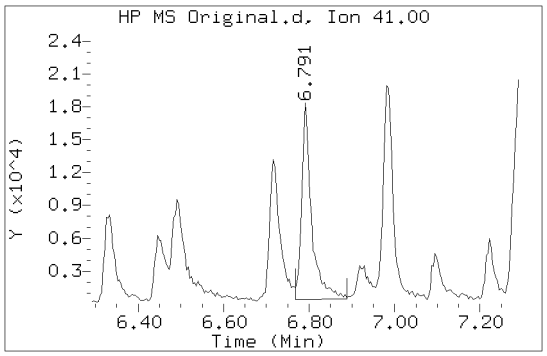
AFTER

MASS
69
AREA
42889
HEIGHT
25523
09-Nov-2022
12:34



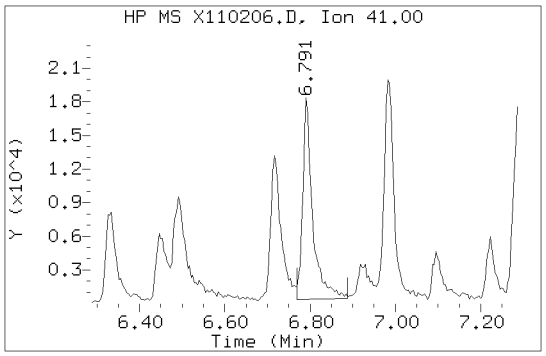
BEFORE

MASS
41
AREA
29888
HEIGHT
17979
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
29888
HEIGHT
17979
09-Nov-2022
12:34

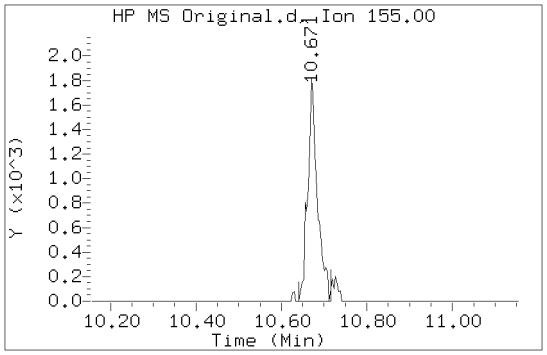


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

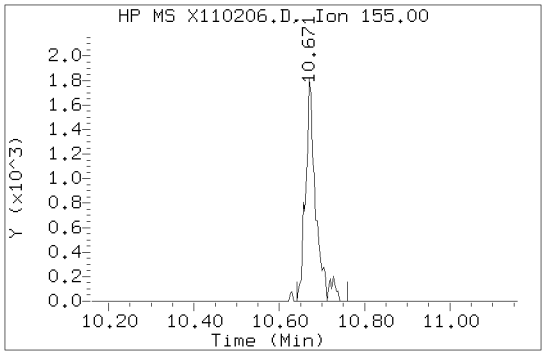
BEFORE

MASS
155
AREA
2892
HEIGHT
1813
08-Nov-2022
15:18
linh
pham



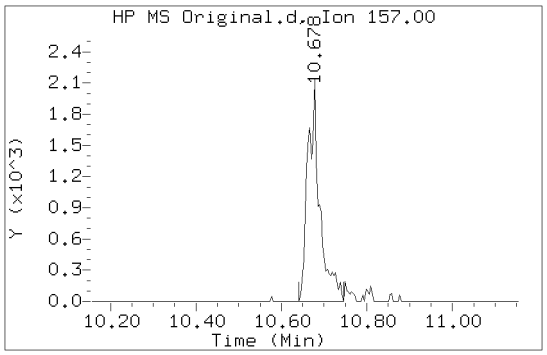
AFTER

MASS
155
AREA
3069
HEIGHT
1813
09-Nov-2022
12:34



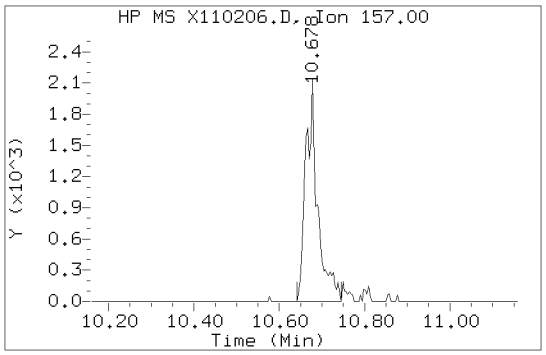
BEFORE

MASS
157
AREA
4176
HEIGHT
2132
08-Nov-2022
15:18
linh
pham



AFTER

MASS
157
AREA
4176
HEIGHT
2132
09-Nov-2022
12:34



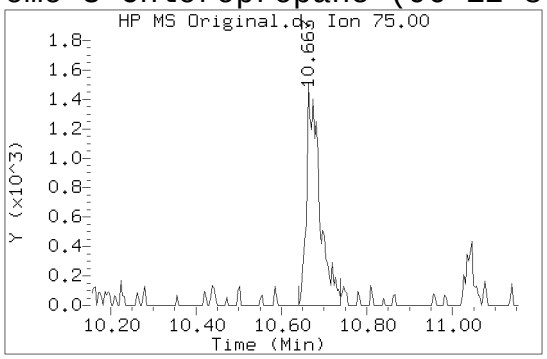
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D
Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

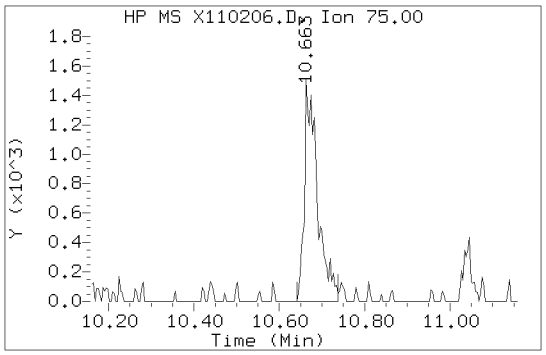
BEFORE

MASS
75
AREA
3217
HEIGHT
1507
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
3217
HEIGHT
1507
09-Nov-2022
12:34

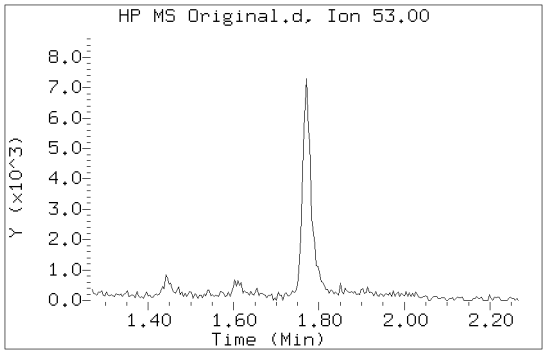


Chloroprene (126-99-8)

Reason Code:

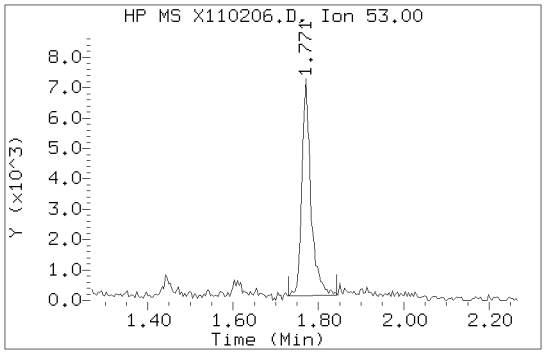
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



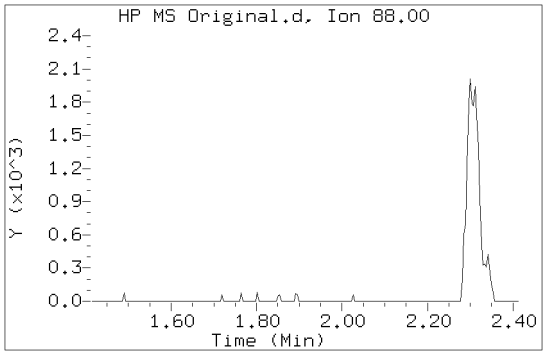
AFTER

MASS
53
AREA
10734
HEIGHT
7143
09-Nov-2022
12:34



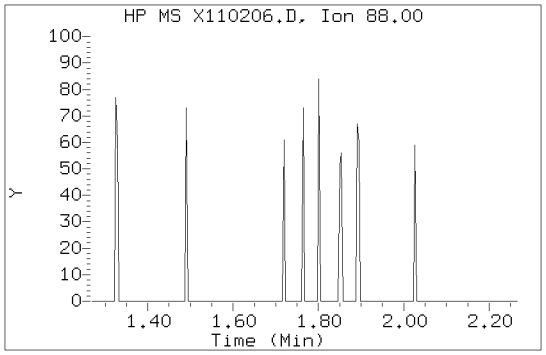
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:34

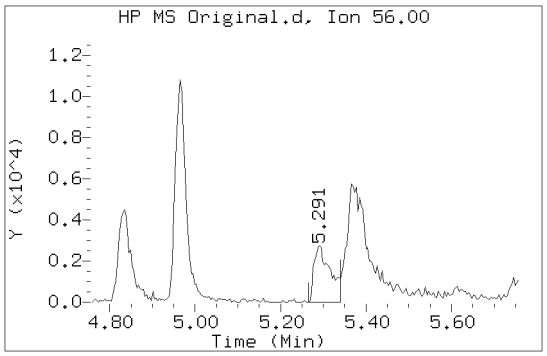


n-Butanol (71-36-3)

Reason Code:

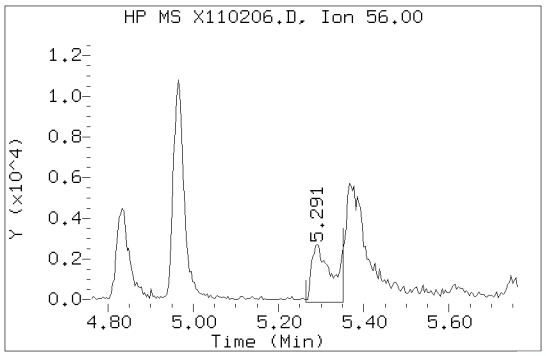
BEFORE

MASS
56
AREA
7304
HEIGHT
2735
08-Nov-2022
15:18
linh
pham



AFTER

MASS
56
AREA
9274
HEIGHT
2854
09-Nov-2022
12:34



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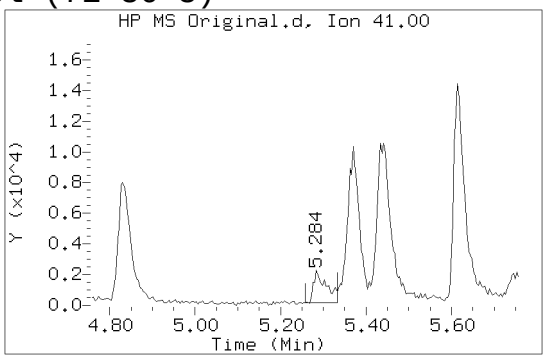
Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

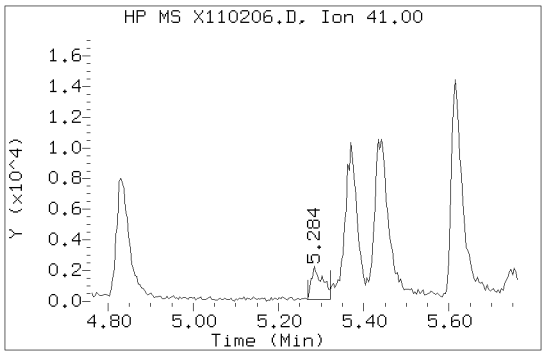
n-Butanol (71-36-3)

Reason Code:

BEFORE
MASS
41
AREA
4462
HEIGHT
2127
08-Nov-2022
15:18
linh
pham



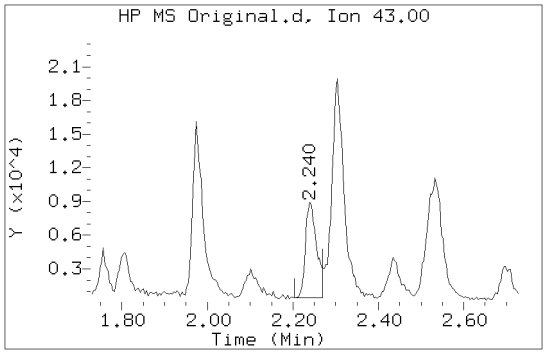
AFTER
MASS
41
AREA
3910
HEIGHT
2144
09-Nov-2022
12:34



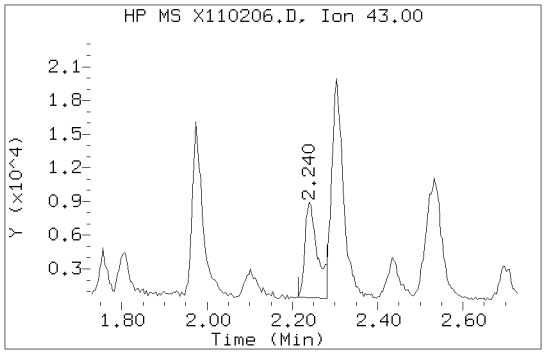
Methyl Acetate (79-20-9)

Reason Code:

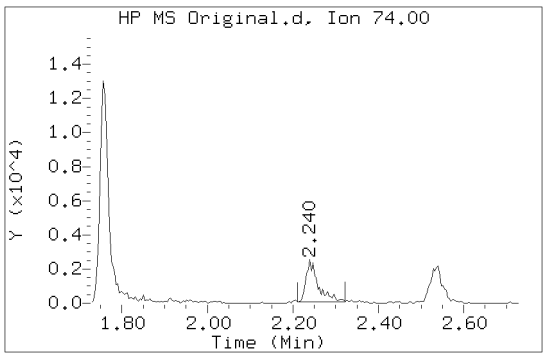
BEFORE
MASS
43
AREA
15750
HEIGHT
8520
08-Nov-2022
15:18
linh
pham



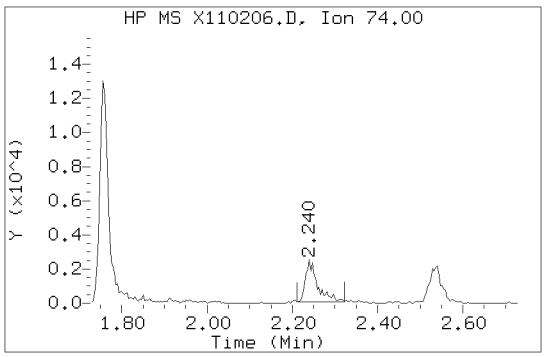
AFTER
MASS
43
AREA
17742
HEIGHT
8526
09-Nov-2022
12:34



BEFORE
MASS
74
AREA
4834
HEIGHT
2484
08-Nov-2022
15:18
linh
pham



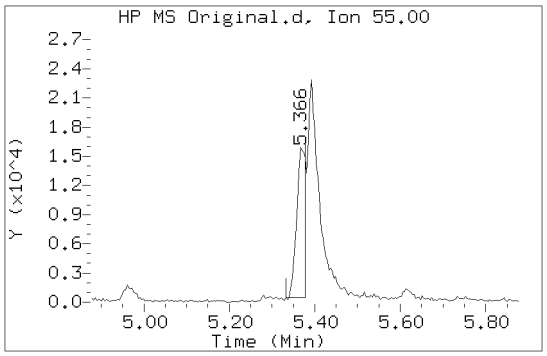
AFTER
MASS
74
AREA
4834
HEIGHT
2484
09-Nov-2022
12:34



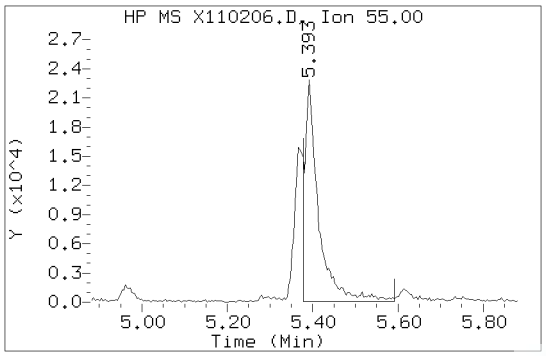
Methylcyclohexane (108-87-2)

Reason Code:

BEFORE
MASS
55
AREA
21862
HEIGHT
15514
08-Nov-2022
15:18
linh
pham



AFTER
MASS
55
AREA
51987
HEIGHT
22768
09-Nov-2022
12:34



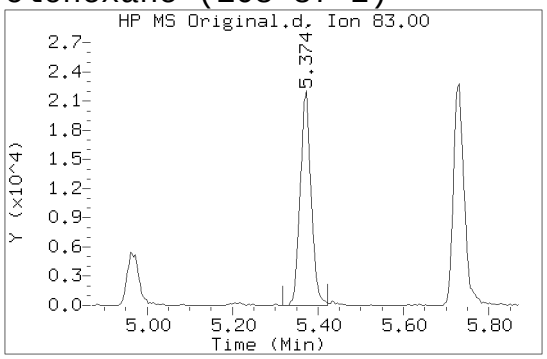
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D
Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Methylcyclohexane (108-87-2)

Reason Code:

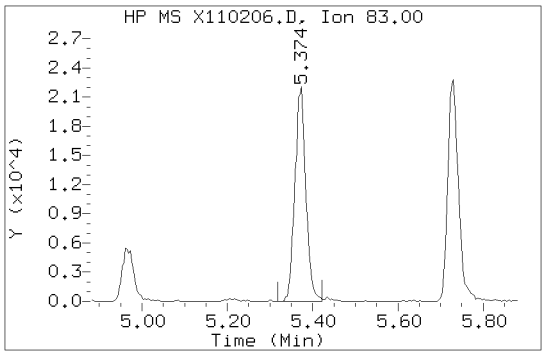
BEFORE

MASS
83
AREA
39922
HEIGHT
22056
08-Nov-2022
15:18
linh
pham



AFTER

MASS
83
AREA
39922
HEIGHT
22056
09-Nov-2022
12:34

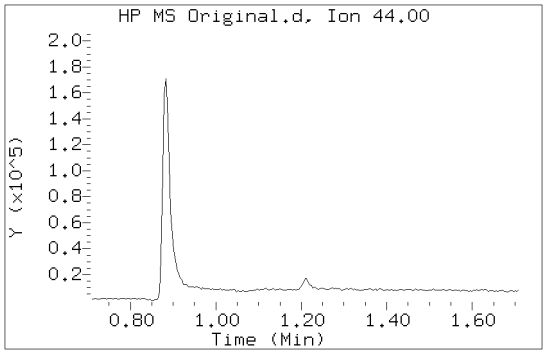


Acetaldehyde (75-07-0)

Reason Code:

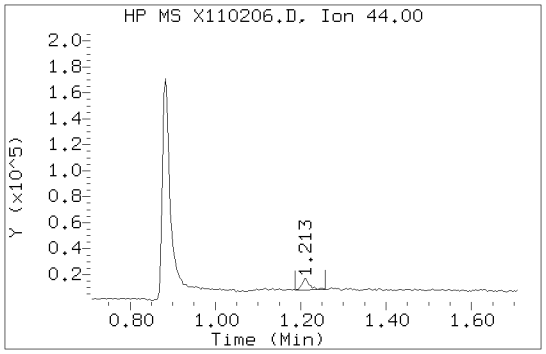
BEFORE

MASS
44
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



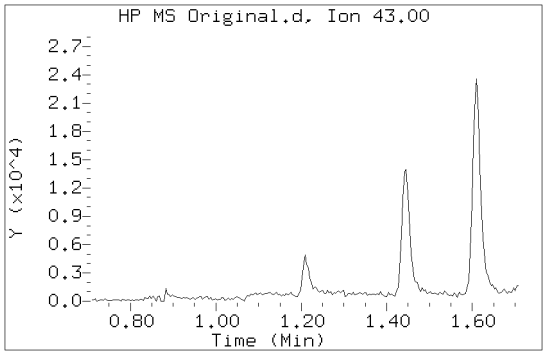
AFTER

MASS
44
AREA
11340
HEIGHT
8542
09-Nov-2022
12:34



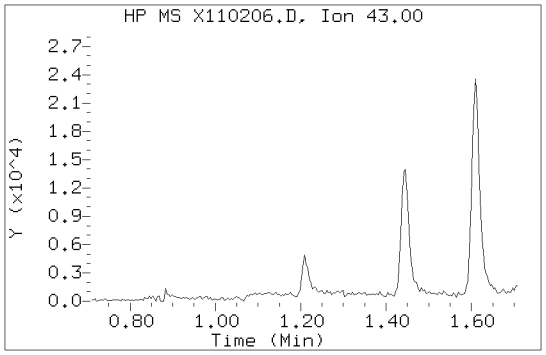
BEFORE

MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
43
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE

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08-Nov-2022
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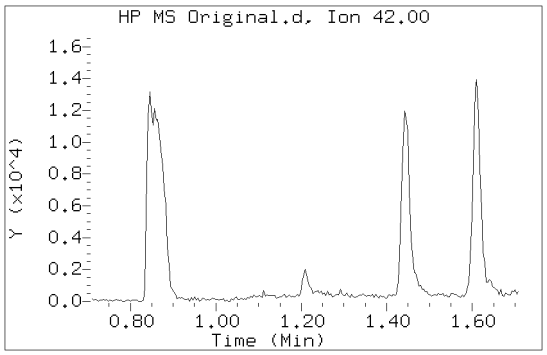

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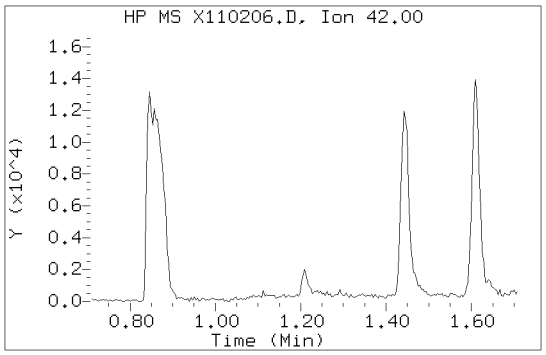

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InstruID : voa6.i
LabSampID : VSTD005

1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

BEFORE

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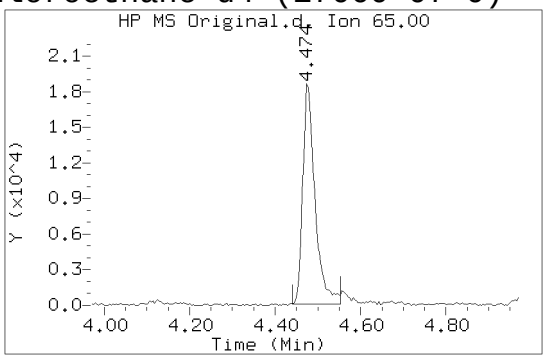

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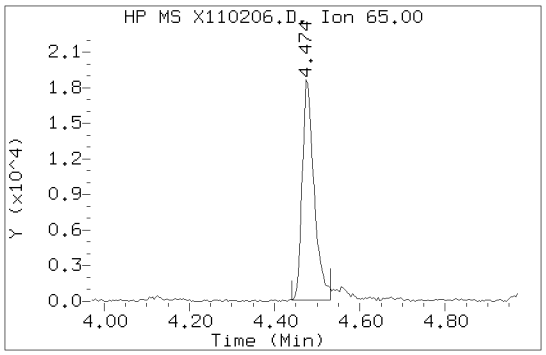

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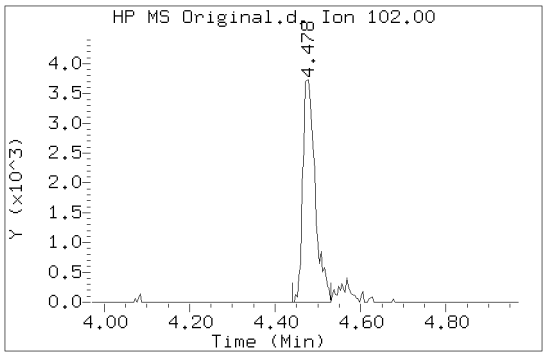

AFTER

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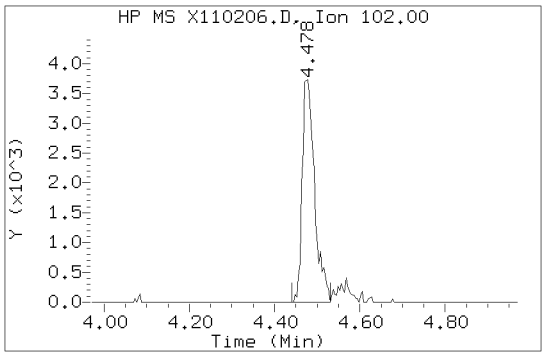

Toluene-d8 (2037-26-5)

Reason Code:

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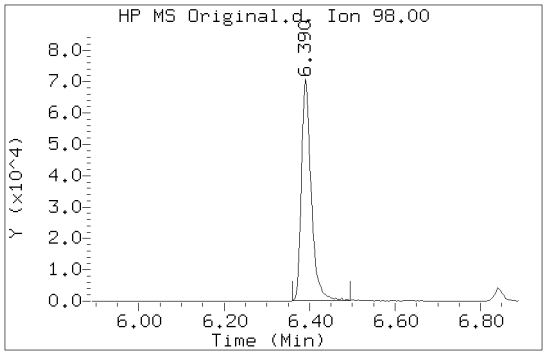

AFTER

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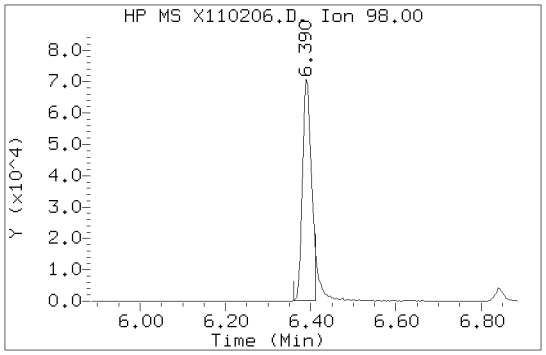

BEFORE

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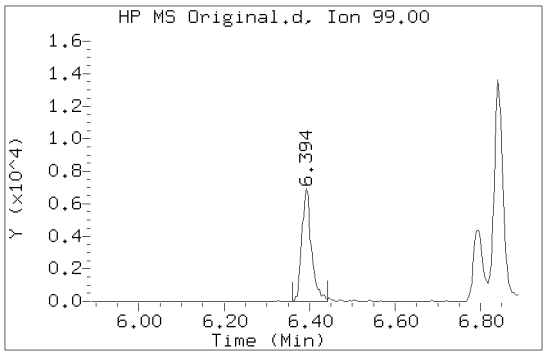

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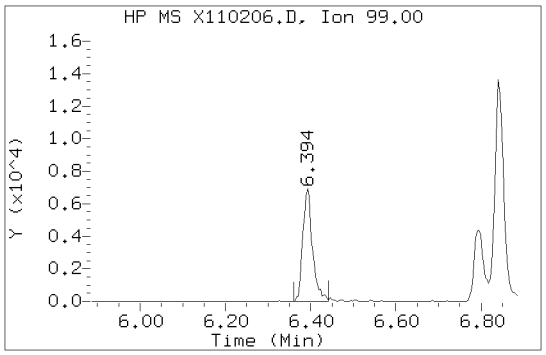

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InstruID : voa6.i
LabSampID : VSTD005

Toluene-d8 (2037-26-5)

Reason Code:

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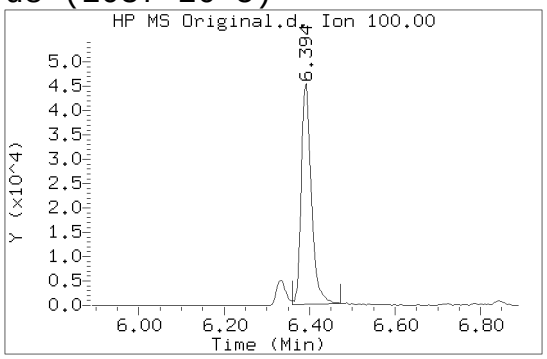

AFTER

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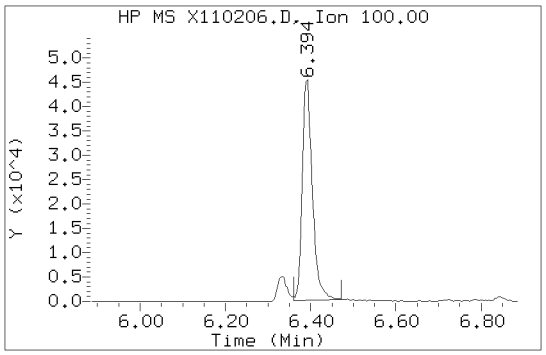

4-Bromofluorobenzene (460-00-4)

Reason Code:

BEFORE

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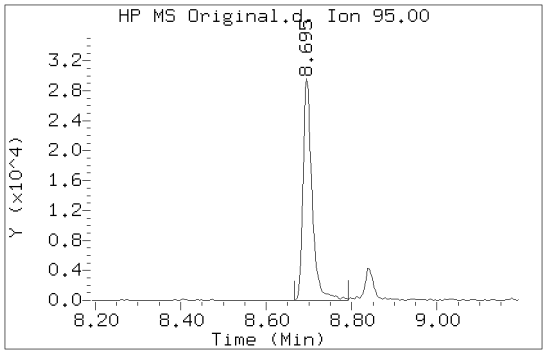

AFTER

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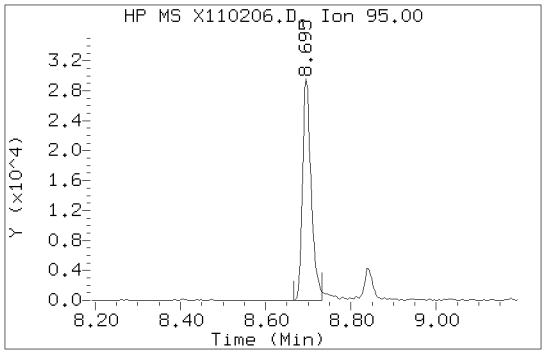

BEFORE

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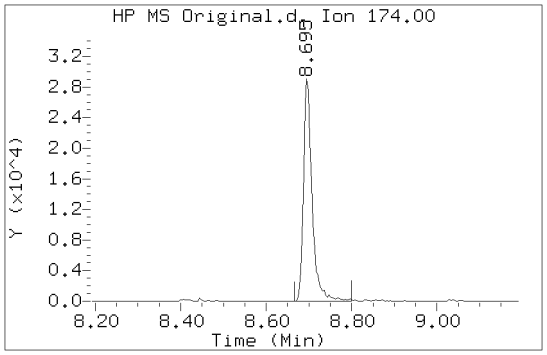

AFTER

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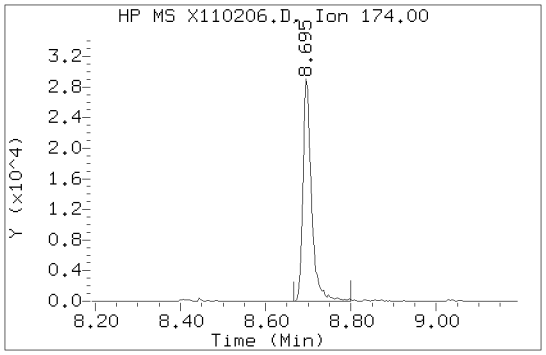

BEFORE

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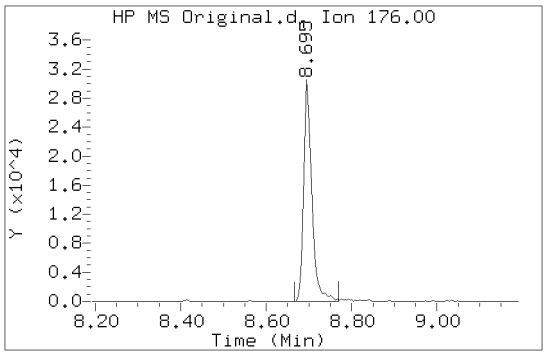

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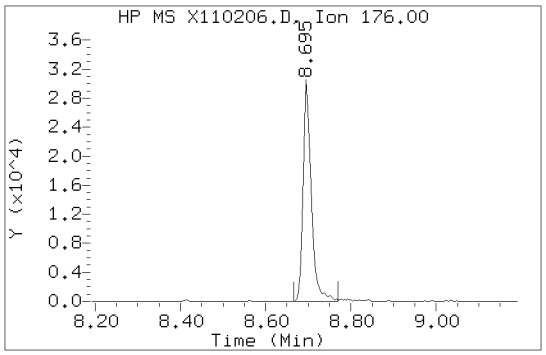

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Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110207.D
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Inj Date : 02-NOV-2022 13:27
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:06 Cal File: X110206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	583722	50.0000	
135	1,4-Dioxane	88	5.602	5.602	(1.341)	25621	400.000	411.64(M)
140	1,3-Butadiene	54	1.164	1.164	(0.279)	90955	20.0000	18.58
25	Methacrylonitrile	41	3.829	3.829	(0.917)	99819	20.0000	19.08
12	Isobutyl Alcohol	43	4.676	4.676	(1.119)	339581	400.000	389.47
13	Acetonitrile	39	2.198	2.198	(0.526)	125187	200.000	178.99
14	Allyl Chloride	41	2.198	2.198	(0.526)	240260	20.0000	18.28
4	Propionitrile	54	3.649	3.649	(0.873)	142212	200.000	193.85
136	n-Hexane	57	2.768	2.768	(0.663)	89079	20.0000	18.52
72	trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	37412	20.0000	18.97
194	Acetaldehyde	44	1.209	1.209	(0.289)	36475	80.0000	82.31(M)
23	Chloroprene	53	1.771	1.771	(0.424)	40288	20.0000	18.02(M)
145	alpha-Methylstyrene	118	9.261	9.261	(0.958)	200555	20.0000	19.07
200	Dimethyl Disulfide	94	6.198	6.198	(0.808)	185153	20.0000	16.92
139	Diethyl ether	59	1.756	1.756	(0.420)	87018	20.0000	18.93
130	Ethyl Acetate	43	3.653	3.653	(0.874)	121288	20.0000	19.78
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	98424	20.0000	18.23
49	Ethyl Methacrylate	69	6.787	6.787	(1.367)	173975	20.0000	19.05
132	n-Butanol	56	5.261	5.261	(1.259)	37332	400.000	337.36
142	Tetrahydrofuran	42	3.844	3.844	(0.920)	36002	40.0000	38.88

150	Allyl alcohol	57	2.768	2.768 (0.663)	89079	400.000	370.05
166	1,2,3-Trimethylbenzene	105	9.729	9.729 (1.007)	358617	20.0000	17.27

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110207.D Page 2
Report Date: 09-Nov-2022 12:35

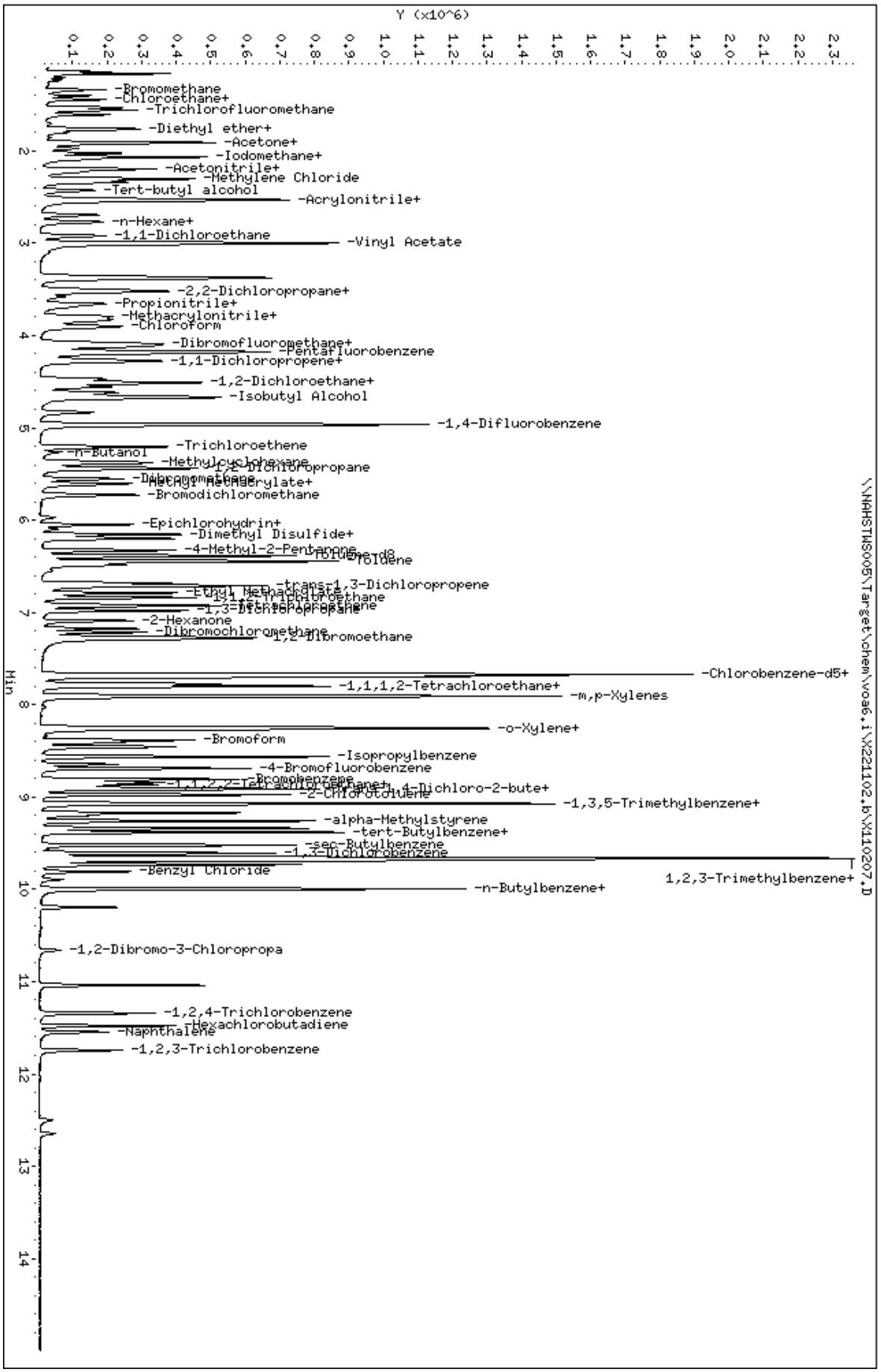
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	106595	20.0000	20.22
	3 Chloromethane	50	1.077	1.077	(0.258)	122267	20.0000	20.12
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	123570	20.0000	18.68
	6 Bromomethane	94	1.336	1.336	(0.320)	78782	20.0000	19.72
	7 Chloroethane	64	1.400	1.400	(0.335)	80694	20.0000	19.57
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	160242	20.0000	19.00
	9 Acrolein	56	1.445	1.445	(0.346)	13448	40.0000	37.42
	10 Acetone	43	1.973	1.973	(0.472)	88131	40.0000	41.90
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	94360	20.0000	18.99
	15 Iodomethane	142	2.022	2.022	(0.484)	219182	40.0000	36.17
	16 Acrylonitrile	53	2.536	2.536	(0.607)	70956	40.0000	37.18
	17 Methylene Chloride	84	2.303	2.303	(0.551)	127933	20.0000	20.14
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	322662	20.0000	18.45
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	562820	40.0000	37.31
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	103974	20.0000	18.86
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	609304	40.0000	39.22
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	189254	20.0000	19.08
	24 2-Butanone	43	3.581	3.581	(0.857)	80713	40.0000	38.67(H)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	154367	20.0000	19.43
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	124687	20.0000	19.36
	28 Chloroform	83	3.904	3.904	(0.935)	202628	20.0000	18.33
	29 Bromochloromethane	128	3.795	3.795	(0.908)	65882	20.0000	19.05
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	118974	20.0000	20.77
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	154279	20.0000	18.14
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	134467	20.0000	18.27
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	161039	20.0000	19.31
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	115509	20.0000	19.09(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	136082	20.0000	20.48
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	917798	50.0000	
	37 Benzene	78	4.507	4.507	(0.908)	431657	20.0000	18.95
	38 Trichloroethene	130	5.208	5.208	(1.049)	121124	20.0000	18.93
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	154157	20.0000	19.07
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	103191	40.0000	38.32
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	116143	20.0000	18.81
	44 Dibromomethane	93	5.553	5.553	(1.119)	78629	20.0000	18.81
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	227374	40.0000	40.20
	46 cis-1,3-Dichloropropene	75	6.157	6.157	(1.240)	195120	20.0000	19.15
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	880343	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.832)	433437	20.0000	20.40
	50 Toluene	91	6.445	6.445	(0.840)	474255	20.0000	18.83
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	169309	20.0000	19.31
	52 2-Hexanone	43	7.086	7.086	(0.924)	158411	40.0000	41.59
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	94495	20.0000	18.72
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	195134	20.0000	19.47
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	119570	20.0000	18.42
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	93484	20.0000	18.92
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	121247	20.0000	19.22
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	94062	20.0000	19.10
	59 Chlorobenzene	112	7.694	7.694	(1.003)	321634	20.0000	18.91
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	112375	20.0000	18.62
	61 Ethylbenzene	106	7.802	7.802	(1.017)	156721	20.0000	18.11
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	398530	40.0000	37.02

63 o-Xylene	106	8.245	8.245 (1.075)	196432	20.0000	18.75
64 Styrene	104	8.260	8.260 (1.077)	340687	20.0000	19.33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	70538	20.0000	17.86
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	464511	20.0000	18.14
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	138684	20.0000	19.02
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	161062	20.0000	19.81
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	440081	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	104465	20.0000	18.83
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	541519	20.0000	18.59
	74 Bromobenzene	156	8.807	8.807	(0.912)	144684	20.0000	19.11
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	385547	20.0000	18.61
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	342982	20.0000	18.64
	77 4-Chlorotoluene	91	9.073	9.073	(0.939)	393049	20.0000	18.81
	78 tert-Butylbenzene	119	9.339	9.339	(0.967)	319359	20.0000	19.10
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	400648	20.0000	18.77
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	434443	20.0000	18.82
	82 p-Isopropyltoluene	119	9.651	9.651	(0.999)	379159	20.0000	17.92
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	238227	20.0000	18.81
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	247761	20.0000	18.87
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	154397	20.0000	16.57
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	328725	20.0000	18.36
	88 1,2-Dichlorobenzene	146	9.995	9.995	(1.035)	225742	20.0000	18.96
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	13558	20.0000	19.63
	90 1,2,4-Trichlorobenzene	180	11.341	11.341	(1.174)	103012	20.0000	18.64
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	62614	20.0000	19.14
	92 Naphthalene	128	11.547	11.547	(1.195)	155682	20.0000	18.09
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	72667	20.0000	18.23
M	94 1,2-Dichloroethylene (total)	96				228661	40.0000	
M	95 Xylenes (total)	106				594962	60.0000	
	141 Cyclohexane	56	4.118	4.118	(0.986)	129515	20.0000	20.06
	138 Freon TF	101	1.910	1.910	(0.457)	86773	20.0000	19.33
	147 Methylcyclohexane	55	5.385	5.385	(1.085)	230547	20.0000	18.14
	146 Methyl Acetate	43	2.232	2.232	(0.534)	71435	20.0000	20.14
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.581)	191942	400.000	384.78
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	106410	400.000	391.67

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Date : 02-NOV-2022 13:27
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

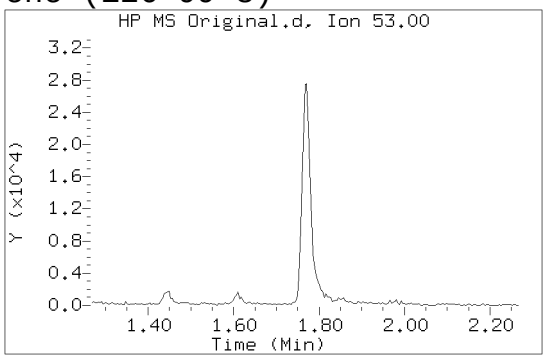
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110207.D
Inj Date : 02-NOV-2022 13:27
InstruID : voa6.i
LabSampID : VSTD020

Chloroprene (126-99-8)

Reason Code:

BEFORE
MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
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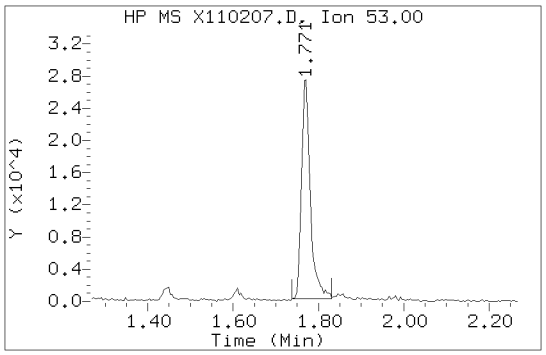
09-Nov-2022
12:35



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AREA
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08-Nov-2022
15:18
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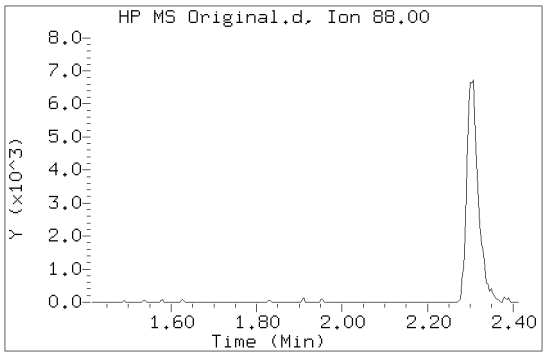

AFTER
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09-Nov-2022
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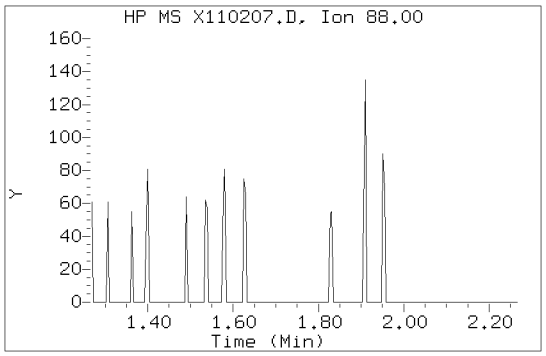

1,4-Dioxane ()

Reason Code:

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08-Nov-2022
15:18
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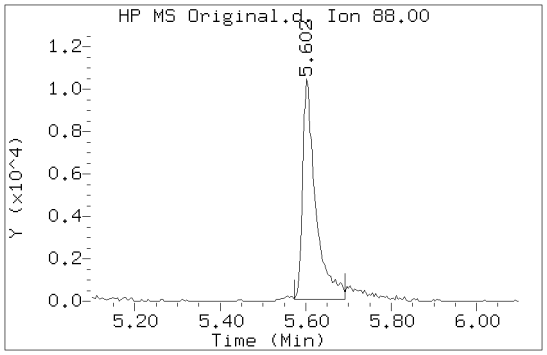
pham



AFTER
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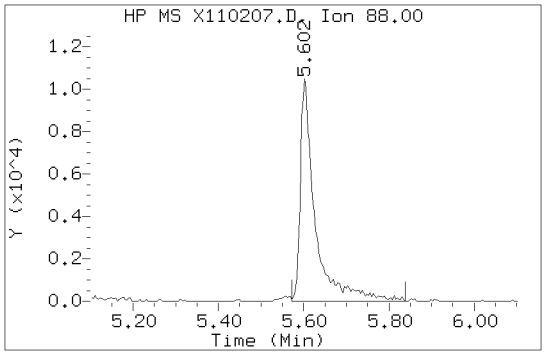
12:35



BEFORE
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15:18
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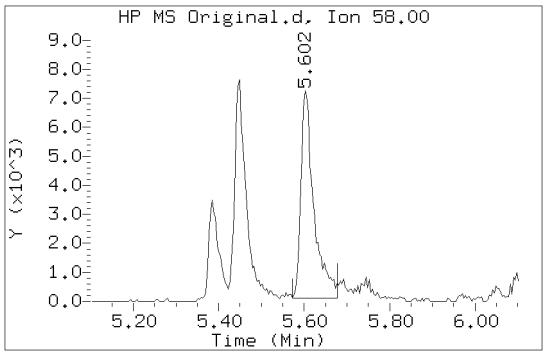
pham



AFTER
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09-Nov-2022
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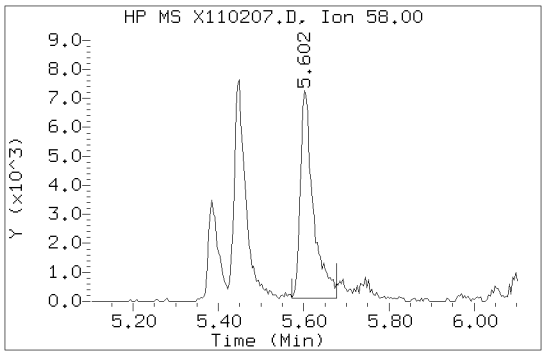

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Inj Date : 02-NOV-2022 13:27
InstruID : voa6.i
LabSampID : VSTD020

Acetaldehyde (75-07-0)

Reason Code:

BEFORE

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AREA
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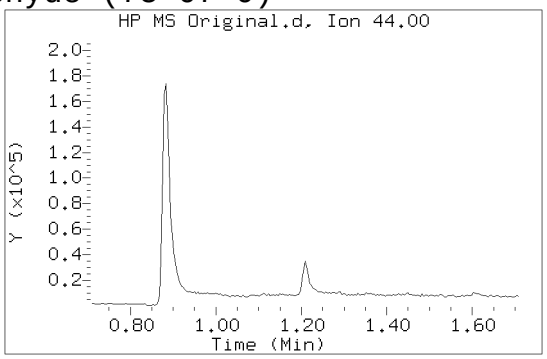
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

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AREA
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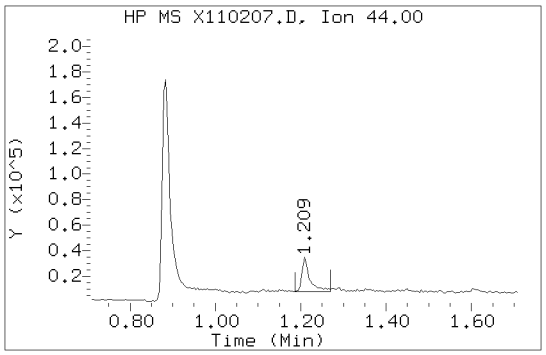
09-Nov-2022
12:35



BEFORE

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08-Nov-2022
15:18
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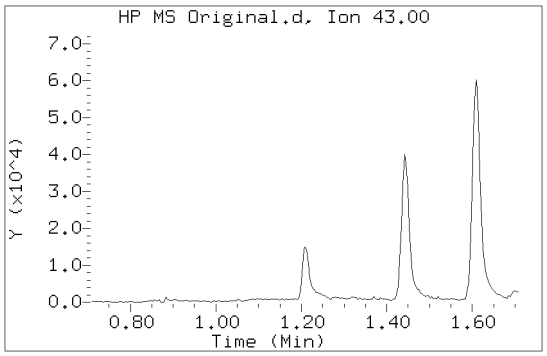

AFTER

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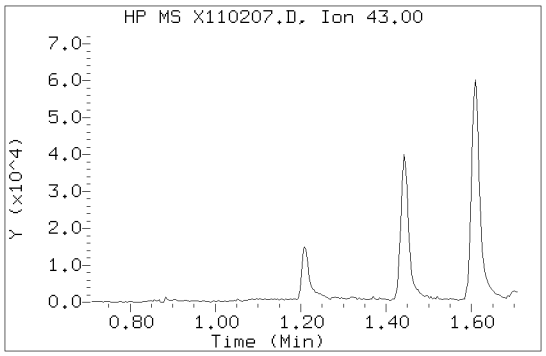
09-Nov-2022
12:35



BEFORE

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HEIGHT
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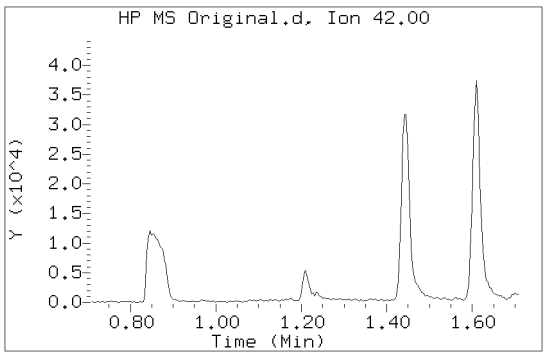
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
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HEIGHT
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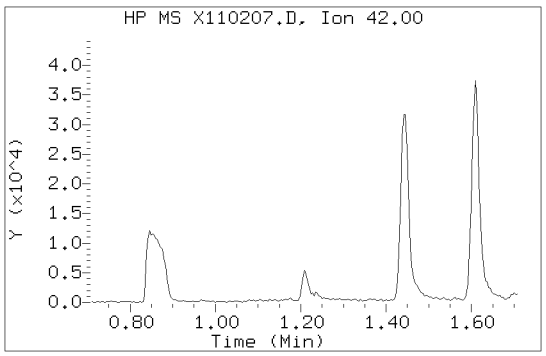
09-Nov-2022
12:35



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110208.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110208.D
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Inj Date : 02-NOV-2022 13:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:27 Cal File: X110207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.181	(1.000)	602205	50.0000	
135 1,4-Dioxane	88	5.602	5.602	(1.340)	59509	1000.00	926.76
140 1,3-Butadiene	54	1.164	1.164	(0.278)	268424	50.0000	53.17
25 Methacrylonitrile	41	3.818	3.818	(0.913)	251709	50.0000	46.65
12 Isobutyl Alcohol	43	4.672	4.672	(1.117)	871554	1000.00	968.93
13 Acetonitrile	39	2.198	2.198	(0.526)	334390	500.000	463.45
14 Allyl Chloride	41	2.198	2.198	(0.526)	616639	50.0000	45.48
4 Propionitrile	54	3.649	3.649	(0.873)	362365	500.000	478.80
136 n-Hexane	57	2.772	2.772	(0.663)	271751	50.0000	54.55
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	105474	50.0000	51.56
194 Acetaldehyde	44	1.209	1.209	(0.289)	87732	200.000	217.17(M)
23 Chloroprene	53	1.767	1.767	(0.423)	116175	50.0000	50.37(M)
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	586676	50.0000	50.88
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	558081	50.0000	49.17
139 Diethyl ether	59	1.756	1.756	(0.420)	223028	50.0000	47.03
130 Ethyl Acetate	43	3.653	3.653	(0.874)	297200	50.0000	46.99
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	262360	50.0000	47.10
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	465871	50.0000	49.93
132 n-Butanol	56	5.257	5.257	(1.257)	108276	1000.00	948.44
142 Tetrahydrofuran	42	3.844	3.844	(0.919)	90540	100.000	94.78

150	Allyl alcohol	57	2.772	2.772 (0.663)	271751	1000.00	1090.99
166	1,2,3-Trimethylbenzene	105	9.729	9.729 (1.007)	1004202	50.0000	44.12

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110208.D Page 2
Report Date: 09-Nov-2022 12:35

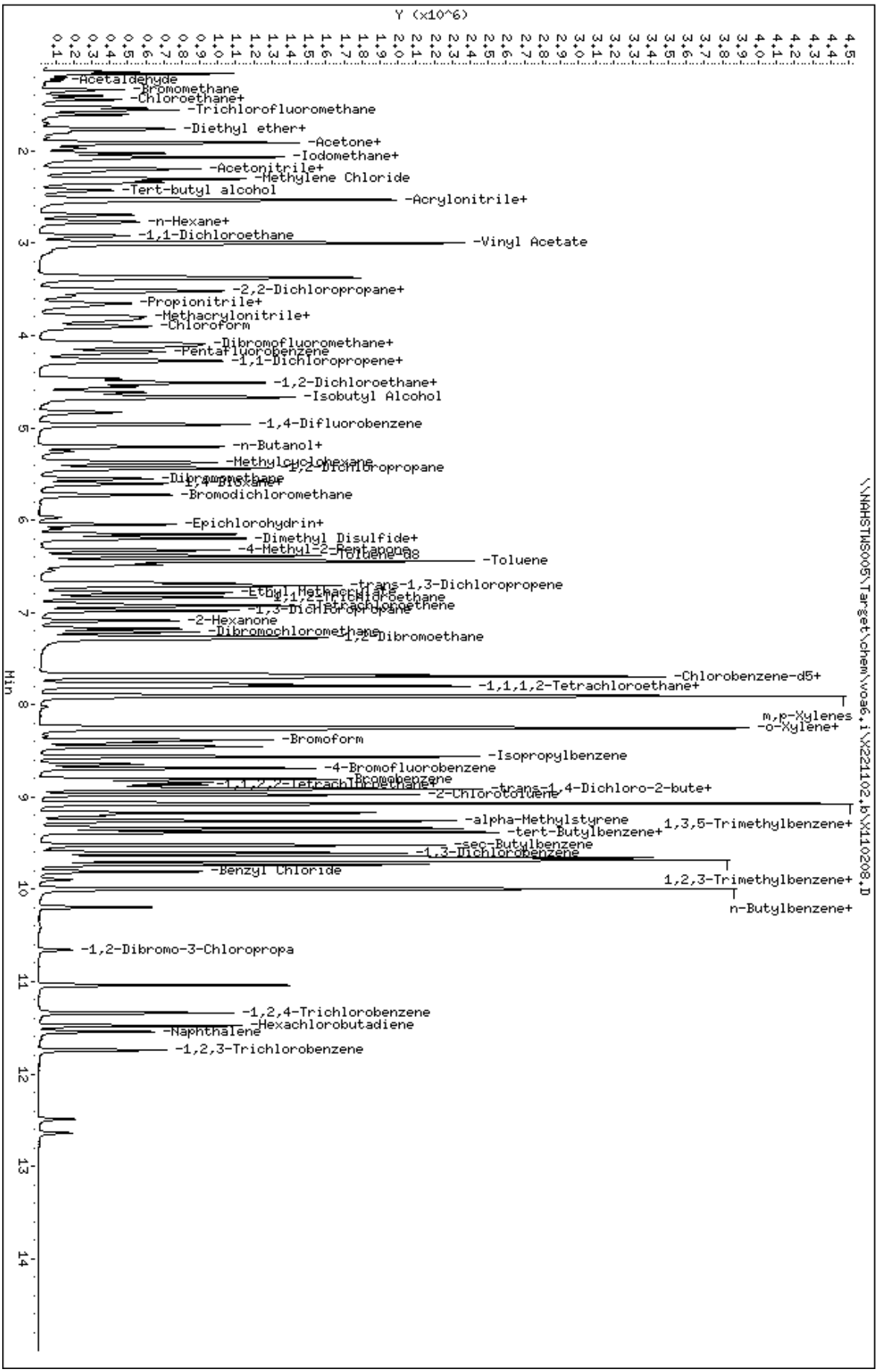
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	297188	50.0000	53.63
	3 Chloromethane	50	1.077	1.077	(0.258)	323298	50.0000	49.42
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	342534	50.0000	50.19
	6 Bromomethane	94	1.336	1.336	(0.320)	209754	50.0000	48.90
	7 Chloroethane	64	1.400	1.400	(0.335)	212488	50.0000	49.95
	8 Trichlorofluoromethane	101	1.557	1.557	(0.372)	444678	50.0000	51.13
	9 Acrolein	56	1.441	1.441	(0.345)	33355	100.000	85.32
	10 Acetone	43	1.970	1.970	(0.471)	218510	100.000	102.78
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	255637	50.0000	49.89
	15 Iodomethane	142	2.026	2.026	(0.485)	699146	100.000	103.87
	16 Acrylonitrile	53	2.532	2.532	(0.606)	194712	100.000	98.90
	17 Methylene Chloride	84	2.299	2.299	(0.550)	318000	50.0000	48.54
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	835554	50.0000	46.31
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	1541595	100.000	99.05
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	281847	50.0000	49.57
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1590798	100.000	99.26
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	494390	50.0000	48.31
	24 2-Butanone	43	3.574	3.574	(0.855)	219883	100.000	102.12(H)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	420710	50.0000	49.33
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	325778	50.0000	49.04
	28 Chloroform	83	3.904	3.904	(0.934)	542261	50.0000	47.55
	29 Bromochloromethane	128	3.795	3.795	(0.908)	172106	50.0000	48.24
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	268120	50.0000	44.73
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	427676	50.0000	48.75
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	372230	50.0000	49.49
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	422610	50.0000	49.59
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	330146	50.0000	52.35(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	325660	50.0000	46.94
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	937869	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1154561	50.0000	49.61
	38 Trichloroethene	130	5.205	5.205	(1.048)	324066	50.0000	49.57
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	407654	50.0000	49.36
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	285323	100.000	103.70
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	311007	50.0000	49.31
	44 Dibromomethane	93	5.553	5.553	(1.119)	206885	50.0000	48.45
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	585289	100.000	99.76
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	525700	50.0000	50.50
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	913175	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.832)	925821	50.0000	42.01(M)
	50 Toluene	91	6.445	6.445	(0.840)	1280128	50.0000	49.01
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	456883	50.0000	51.01
	52 2-Hexanone	43	7.086	7.086	(0.924)	406187	100.000	102.82
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	253497	50.0000	48.41
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	509122	50.0000	48.99
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	332031	50.0000	49.32
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	265562	50.0000	50.88
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	325464	50.0000	49.74
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	271539	50.0000	53.41
	59 Chlorobenzene	112	7.694	7.694	(1.003)	873848	50.0000	49.53
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	314572	50.0000	50.25
	61 Ethylbenzene	106	7.799	7.799	(1.017)	441893	50.0000	49.23
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	1123937	100.000	100.65

63 o-Xylene	106	8.241	8.241 (1.074)	544728	50.0000	50.13
64 Styrene	104	8.260	8.260 (1.077)	955424	50.0000	52.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	213545	50.0000	47.43
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	1347428	50.0000	50.73
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	372565	50.0000	46.60
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	391515	50.0000	46.07
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	482492	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	290199	50.0000	47.72(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	1586734	50.0000	49.68
	74 Bromobenzene	156	8.803	8.803	(0.911)	405008	50.0000	48.79
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	1132357	50.0000	49.85
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	974451	50.0000	48.32
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	1138425	50.0000	49.71
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	943173	50.0000	50.52
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1150601	50.0000	49.16
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	1306428	50.0000	50.16
	82 p-Isopropyltoluene	119	9.650	9.650	(0.999)	1147342	50.0000	49.46
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	681869	50.0000	49.12
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	703273	50.0000	48.87
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	517481	50.0000	44.60
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	1013878	50.0000	51.67
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	643704	50.0000	49.32
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	39321	50.0000	47.48
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	294006	50.0000	48.53
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	183666	50.0000	51.00
	92 Naphthalene	128	11.544	11.544	(1.195)	452429	50.0000	47.97
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	207306	50.0000	47.44
M	94 1,2-Dichloroethylene (total)	96				607625	100.000	
M	95 Xylenes (total)	106				1668665	150.000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	364971	50.0000	54.93
	138 Freon TF	101	1.913	1.913	(0.458)	253752	50.0000	55.35
	147 Methylcyclohexane	55	5.381	5.381	(1.084)	618769	50.0000	47.66
	146 Methyl Acetate	43	2.228	2.228	(0.533)	188246	50.0000	51.45
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.580)	481967	1000.00	936.54
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	266842	1000.00	952.04

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTMS005\Target\chem\voa6.i\X221102.b\X110208.D
Date : 02-NOV-2022 13:48
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

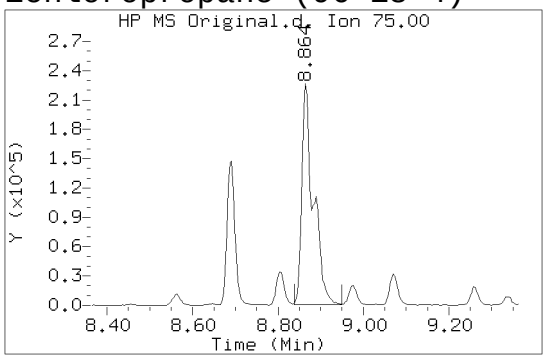
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110208.D
Inj Date : 02-NOV-2022 13:48
InstruID : voa6.i
LabSampID : VSTD050

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE

MASS
75
AREA
431900
HEIGHT
226283
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
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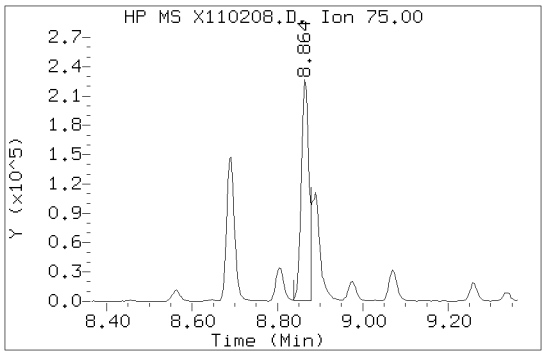
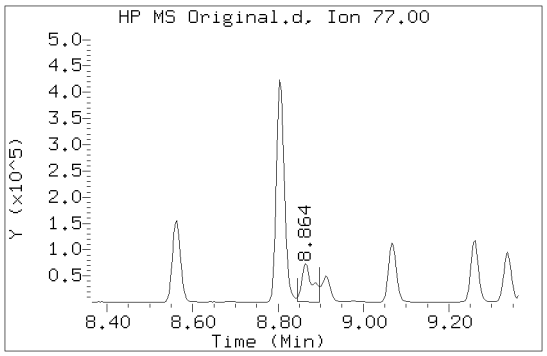
HEIGHT
226283
09-Nov-2022
12:35



BEFORE

MASS
77
AREA
133129
HEIGHT
73368
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
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HEIGHT
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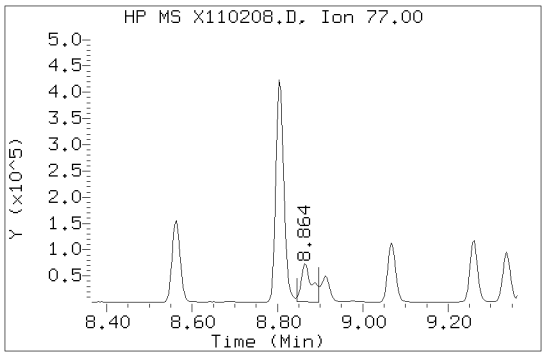
09-Nov-2022
12:35



Chloroprene (126-99-8)

Reason Code:

BEFORE

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HEIGHT
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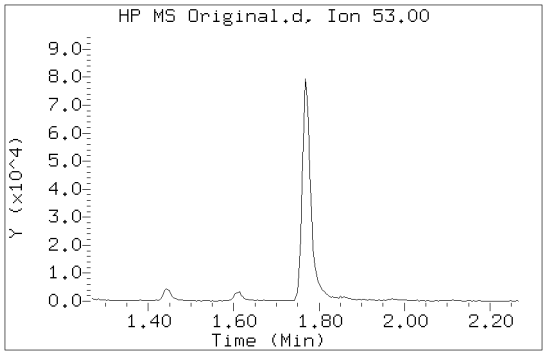
08-Nov-2022
15:18
linh
pham



AFTER

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AREA
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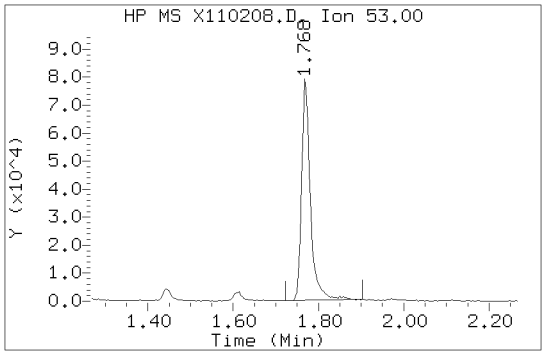
HEIGHT
79081
09-Nov-2022
12:35



BEFORE

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88
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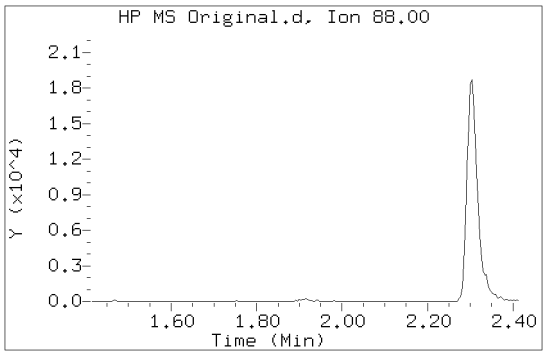
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

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HEIGHT
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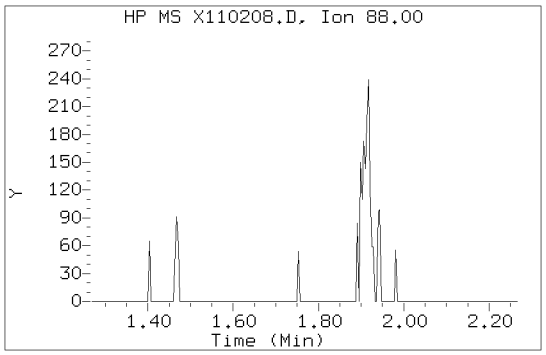
09-Nov-2022
12:35



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Inj Date : 02-NOV-2022 13:48
InstruID : voa6.i
LabSampID : VSTD050

Acetaldehyde (75-07-0)

Reason Code:

BEFORE

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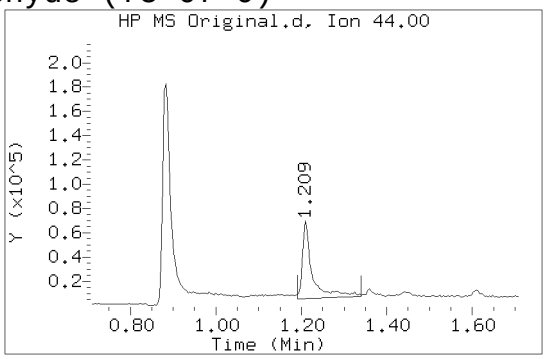
HEIGHT
63895
08-Nov-2022
15:18
linh
pham



AFTER

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AREA
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HEIGHT
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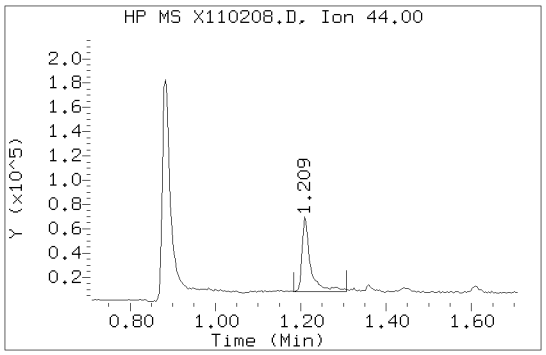
09-Nov-2022
12:35



BEFORE

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08-Nov-2022
15:18
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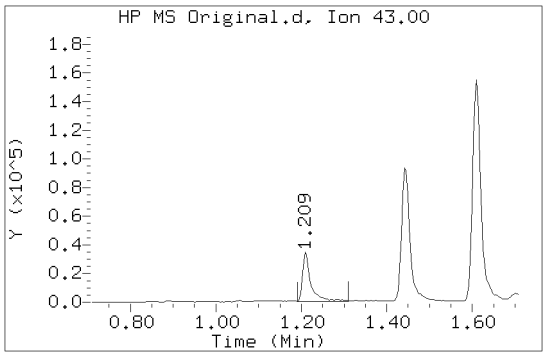
pham



AFTER

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HEIGHT
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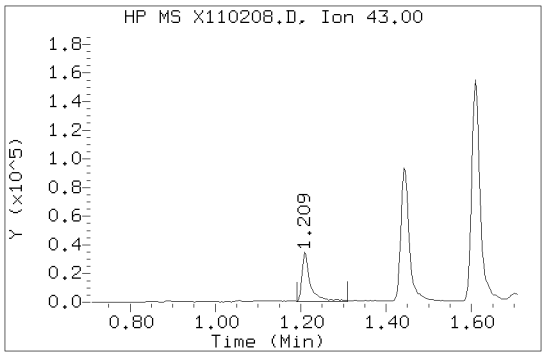
09-Nov-2022
12:35



BEFORE

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AREA
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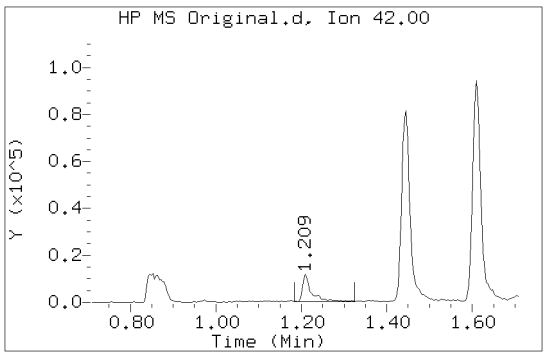
HEIGHT
11828
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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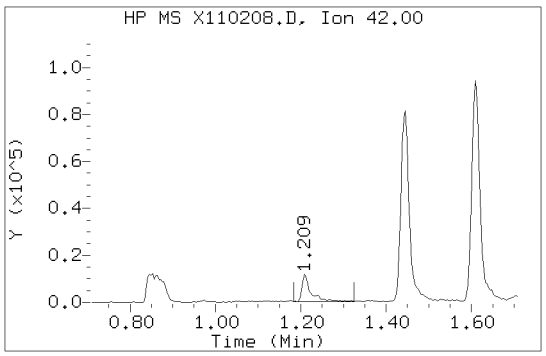
HEIGHT
11828
09-Nov-2022
12:35



Toluene-d8 (2037-26-5)

Reason Code:

BEFORE

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08-Nov-2022
15:18
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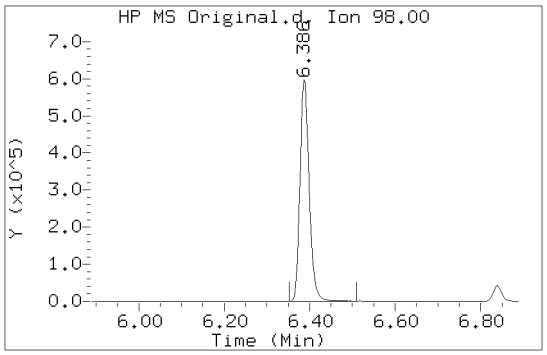

AFTER

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HEIGHT
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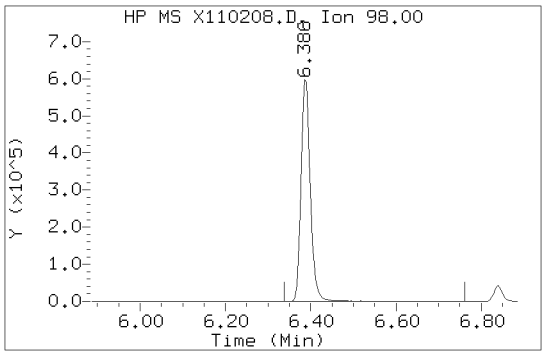
09-Nov-2022
12:35



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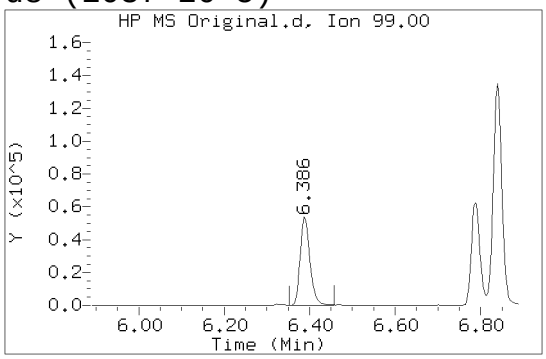
Inj Date : 02-NOV-2022 13:48
InstruID : voa6.i
LabSampID : VSTD050

Toluene-d8 (2037-26-5)

Reason Code:

BEFORE

MASS
99
AREA
87589
HEIGHT
53996
08-Nov-2022
15:18
linh
pham



AFTER

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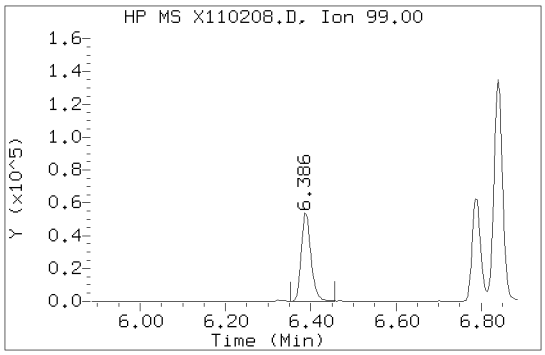
09-Nov-2022
12:35



BEFORE

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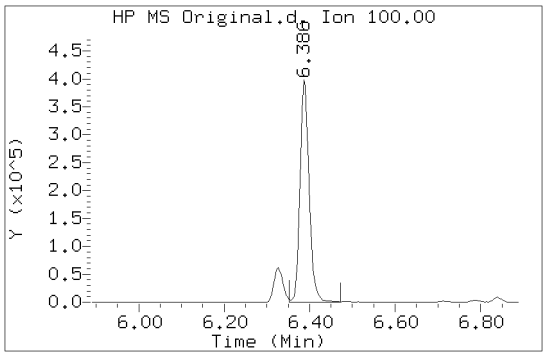
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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HEIGHT
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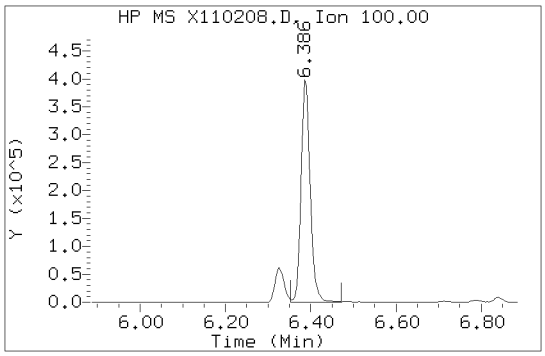
09-Nov-2022
12:35



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110209.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-NOV-2022 14:09
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.177	4.177	(1.000)	641951	50.0000	
135 1,4-Dioxane	88	5.602	5.602	(1.341)	124104	2000.00	1813.06
140 1,3-Butadiene	54	1.164	1.164	(0.279)	500213	100.000	92.95
25 Methacrylonitrile	41	3.818	3.818	(0.914)	549529	100.000	95.54
12 Isobutyl Alcohol	43	4.672	4.672	(1.118)	1786931	2000.00	1863.58
13 Acetonitrile	39	2.194	2.194	(0.525)	726984	1000.00	945.18
14 Allyl Chloride	41	2.198	2.198	(0.526)	1322107	100.000	91.48
4 Propionitrile	54	3.649	3.649	(0.873)	764129	1000.00	947.14
136 n-Hexane	57	2.768	2.768	(0.663)	537883	100.000	98.94
72 trans-1,4-Dichloro-2-butene	53	8.889	8.889	(1.159)	223525	100.000	103.44
194 Acetaldehyde	44	1.209	1.209	(0.289)	175492	400.000	424.14(M)
23 Chloroprene	53	1.767	1.767	(0.423)	226918	100.000	92.30
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	1184217	100.000	98.08
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	1290978	100.000	107.68
139 Diethyl ether	59	1.756	1.756	(0.420)	458911	100.000	90.79
130 Ethyl Acetate	43	3.653	3.653	(0.874)	620428	100.000	92.03
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	572847	100.000	96.48
49 Ethyl Methacrylate	69	6.786	6.786	(1.367)	1008805	100.000	102.39
132 n-Butanol	56	5.253	5.253	(1.258)	235757	2000.00	1937.25
142 Tetrahydrofuran	42	3.844	3.844	(0.920)	190167	200.000	186.76

150	Allyl alcohol	57	2.768	2.768 (0.663)	537883	2000.00	1979.03
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	2198767	100.000	92.26

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110209.D Page 2
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	545177	100.000	91.85
	3 Chloromethane	50	1.077	1.077	(0.258)	632506	100.000	89.56
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	657776	100.000	90.42
	6 Bromomethane	94	1.336	1.336	(0.320)	422631	100.000	91.31
	7 Chloroethane	64	1.400	1.400	(0.335)	414003	100.000	91.29
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	870839	100.000	93.93
	9 Acrolein	56	1.441	1.441	(0.345)	92414	200.000	205.27
	10 Acetone	43	1.969	1.969	(0.472)	425910	200.000	189.17
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	505066	100.000	92.47
	15 Iodomethane	142	2.026	2.026	(0.485)	1484901	200.000	195.45
	16 Acrylonitrile	53	2.528	2.528	(0.605)	414172	200.000	197.35
	17 Methylene Chloride	84	2.299	2.299	(0.550)	612684	100.000	87.73
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	1749862	100.000	90.99
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	3034833	200.000	182.93
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	555687	100.000	91.69
	21 Vinyl Acetate	43	2.993	2.993	(0.716)	3362164	200.000	196.80
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	988101	100.000	90.58
	24 2-Butanone	43	3.574	3.574	(0.856)	472249	200.000	205.75(H)
	26 2,2-Dichloropropane	77	3.510	3.510	(0.840)	855682	100.000	93.01
	27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.843)	664189	100.000	93.80
	28 Chloroform	83	3.904	3.904	(0.935)	1097992	100.000	90.33
	29 Bromochloromethane	128	3.791	3.791	(0.908)	347217	100.000	91.30
$	30 Dibromofluoromethane	113	4.095	4.095	(0.980)	644427	100.000	100.19
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	869372	100.000	92.98
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	747255	100.000	94.09
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	844310	100.000	93.82
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	675692	100.000	97.85(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	728330	100.000	98.02
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	990344	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	2297656	100.000	93.50
	38 Trichloroethene	130	5.205	5.205	(1.048)	645570	100.000	93.52
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	841784	100.000	96.53
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	590571	200.000	203.28
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	626280	100.000	94.04
	44 Dibromomethane	93	5.549	5.549	(1.118)	421498	100.000	93.49
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	1217691	200.000	196.46
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1093587	100.000	99.50
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	964709	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.832)	2416766	100.000	103.80
	50 Toluene	91	6.445	6.445	(0.840)	2586127	100.000	93.73
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	959265	100.000	101.44
	52 2-Hexanone	43	7.086	7.086	(0.924)	849138	200.000	203.47
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	516428	100.000	93.36
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	1054747	100.000	96.08
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	708202	100.000	99.58
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	537869	100.000	97.05
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	666747	100.000	96.46
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	542443	100.000	99.12
	59 Chlorobenzene	112	7.694	7.694	(1.003)	1767516	100.000	94.84
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	653460	100.000	98.81
	61 Ethylbenzene	106	7.799	7.799	(1.017)	892212	100.000	94.09
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	2247653	200.000	190.53

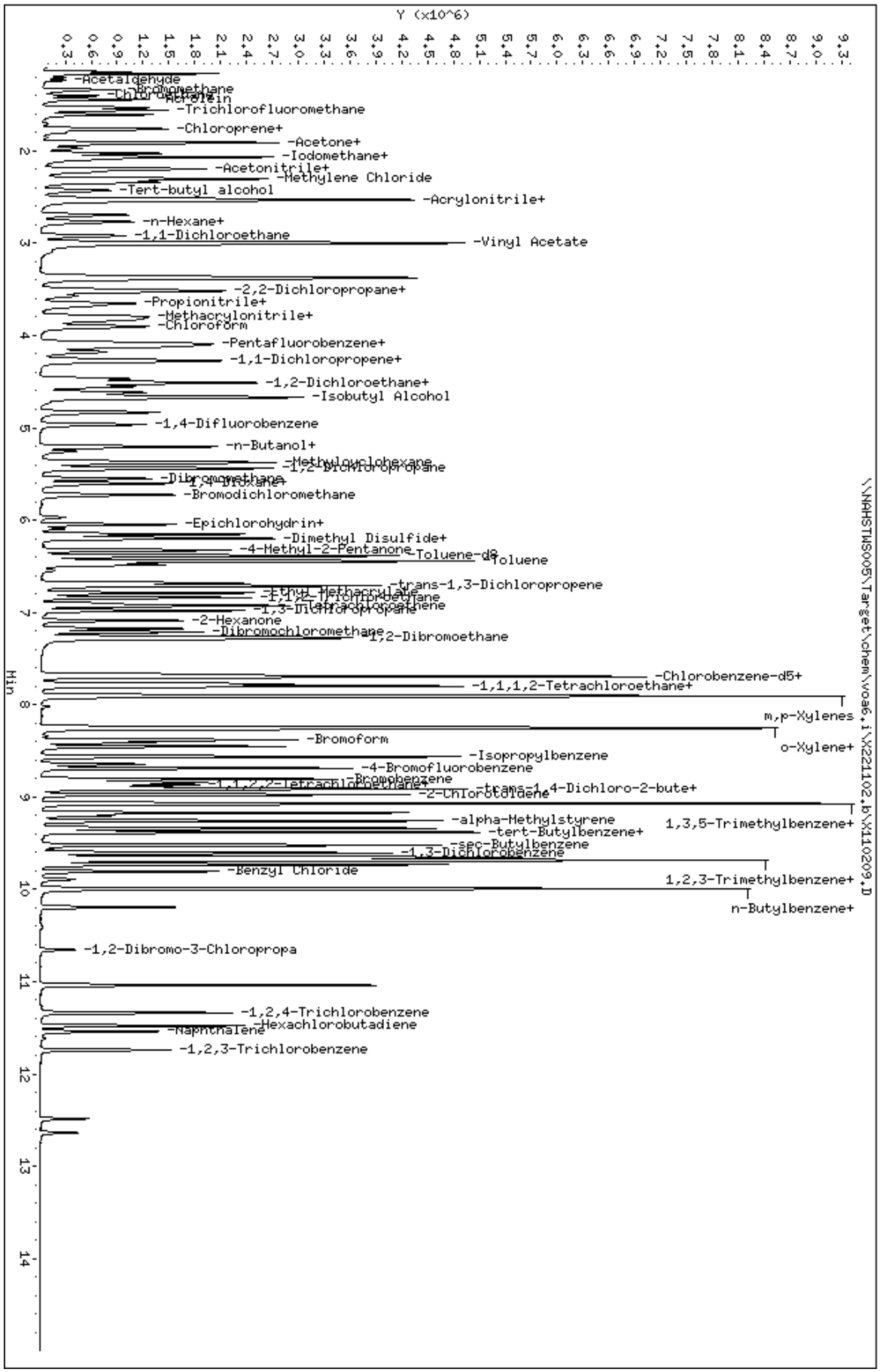
63 o-Xylene	106	8.241	8.241 (1.074)	1100141	100.000	95.84
64 Styrene	104	8.260	8.260 (1.077)	1930855	100.000	100.00

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110209.D Page 3
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	455371	100.000	93.26
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	2699200	100.000	96.20
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	764136	100.000	91.28
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.132)	920950	100.000	102.26
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	505277	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	651054	100.000	102.24
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	3189479	100.000	95.37
	74 Bromobenzene	156	8.803	8.803	(0.911)	816505	100.000	93.93
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	2268337	100.000	95.36
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	1938210	100.000	91.78
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	2270668	100.000	94.68
	78 tert-Butylbenzene	119	9.339	9.339	(0.967)	1882621	100.000	95.80
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	2303953	100.000	94.01
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	2635190	100.000	95.83
	82 p-Isopropyltoluene	119	9.650	9.650	(0.999)	2317616	100.000	95.40
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	1370217	100.000	94.27
	84 1,4-Dichlorobenzene	146	9.680	9.680	(1.002)	1417457	100.000	94.06
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	1177662	100.000	91.44
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	2071325	100.000	100.81
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	1302291	100.000	95.29
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	80027	100.000	89.71
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	620981	100.000	97.87
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	389797	100.000	100.19
	92 Naphthalene	128	11.540	11.540	(1.194)	949552	100.000	96.14
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	426864	100.000	93.28
M	94 1,2-Dichloroethylene (total)	96				1219876	200.000	
M	95 Xylenes (total)	106				3347794	300.000	
	141 Cyclohexane	56	4.121	4.121	(0.987)	712197	100.000	98.60
	138 Freon TF	101	1.913	1.913	(0.458)	483822	100.000	98.18
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	1516847	100.000	110.66(A)
	146 Methyl Acetate	43	2.228	2.228	(0.533)	387884	100.000	99.45
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.581)	985034	2000.00	1795.58
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	533337	2000.00	1785.04

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110209.D
Inj Date : 02-NOV-2022 14:09
InstruID : voa6.i
LabSampID : VSTD100

Acetaldehyde (75-07-0)

Reason Code:

BEFORE

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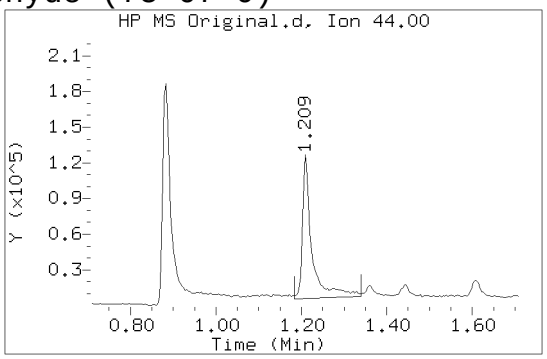
HEIGHT
120773
08-Nov-2022
15:18
linh
pham



AFTER

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09-Nov-2022
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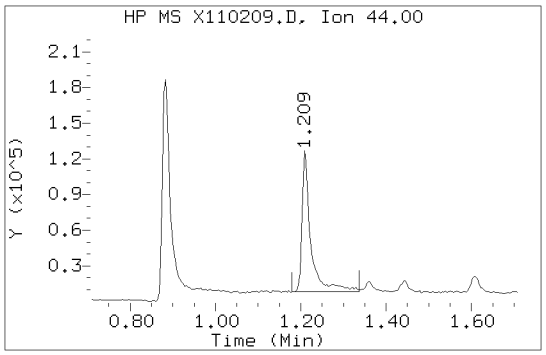

BEFORE

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HEIGHT
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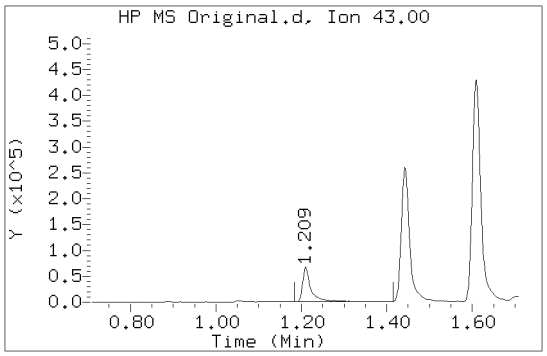
08-Nov-2022
15:18
linh
pham



AFTER

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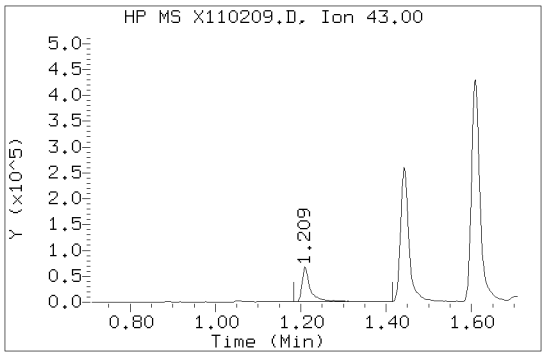
09-Nov-2022
12:35



BEFORE

MASS
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AREA
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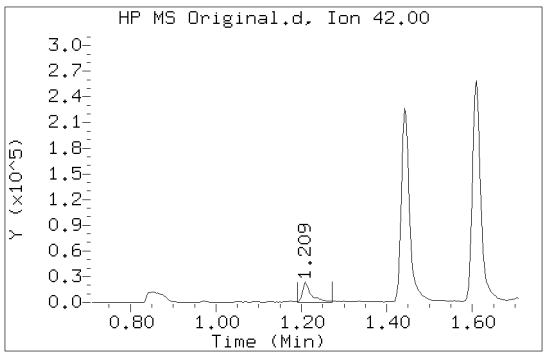
HEIGHT
23472
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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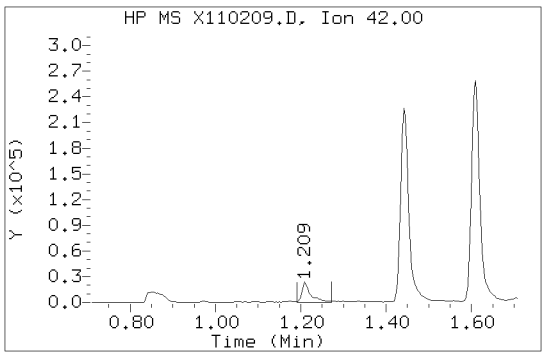
AREA
33343
HEIGHT
23472
09-Nov-2022
12:35



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110210.D
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Inj Date : 02-NOV-2022 14:29
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 14:09 Cal File: X110209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	626072	50.0000	
135	1,4-Dioxane	88	5.602	5.602	(1.340)	207926	3000.00	3114.68
140	1,3-Butadiene	54	1.164	1.164	(0.278)	776529	150.000	147.96
25	Methacrylonitrile	41	3.818	3.818	(0.913)	860766	150.000	153.45
12	Isobutyl Alcohol	43	4.672	4.672	(1.117)	2810677	3000.00	3005.59
13	Acetonitrile	39	2.194	2.194	(0.525)	1133543	1500.00	1511.15
14	Allyl Chloride	41	2.194	2.194	(0.525)	2083133	150.000	147.80
4	Propionitrile	54	3.649	3.649	(0.873)	1185410	1500.00	1506.59
136	n-Hexane	57	2.768	2.768	(0.662)	808535	150.000	147.77
72	trans-1,4-Dichloro-2-butene	53	8.889	8.889	(1.159)	358723	150.000	165.70
194	Acetaldehyde	44	1.208	1.208	(0.289)	238390	600.000	598.23(M)
23	Chloroprene	53	1.767	1.767	(0.423)	344641	150.000	143.74
145	alpha-Methylstyrene	118	9.261	9.261	(0.958)	1857284	150.000	155.76
200	Dimethyl Disulfide	94	6.198	6.198	(0.808)	2087492	150.000	173.80
139	Diethyl ether	59	1.756	1.756	(0.420)	692483	150.000	140.48
130	Ethyl Acetate	43	3.653	3.653	(0.874)	967417	150.000	147.13
40	Methyl Methacrylate	41	5.602	5.602	(1.340)	878050	150.000	151.64
49	Ethyl Methacrylate	69	6.786	6.786	(1.367)	1541888	150.000	157.43
132	n-Butanol	56	5.253	5.253	(1.256)	410648	3000.00	3459.95
142	Tetrahydrofuran	42	3.844	3.844	(0.919)	297351	300.000	299.43

150	Allyl alcohol	57	2.768	2.768 (0.662)	808535	3000.00	2955.67
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	3351124	150.000	142.37

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110210.D Page 2
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	845446	150.000	145.70
	3 Chloromethane	50	1.077	1.077	(0.258)	1037088	150.000	149.63
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	1020473	150.000	143.84
	6 Bromomethane	94	1.336	1.336	(0.320)	681885	150.000	150.23
	7 Chloroethane	64	1.400	1.400	(0.335)	642963	150.000	145.38
	8 Trichlorofluoromethane	101	1.557	1.557	(0.372)	1321106	150.000	146.11
	9 Acrolein	56	1.441	1.441	(0.345)	142790	300.000	304.02
	10 Acetone	43	1.969	1.969	(0.471)	654774	300.000	299.06
	11 1,1-Dichloroethene	96	1.909	1.909	(0.457)	764582	150.000	143.53
	15 Iodomethane	142	2.026	2.026	(0.485)	2411390	300.000	303.44
	16 Acrylonitrile	53	2.528	2.528	(0.605)	652110	300.000	318.62
	17 Methylene Chloride	84	2.299	2.299	(0.550)	970948	150.000	142.55
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	2740669	150.000	146.12
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	4790065	300.000	296.06
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	882613	150.000	149.33
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	5209347	300.000	312.66
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	1575174	150.000	148.06
	24 2-Butanone	43	3.574	3.574	(0.855)	755970	300.000	337.71(H)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	1354293	150.000	150.18
	27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.842)	1042228	150.000	150.92
	28 Chloroform	83	3.904	3.904	(0.934)	1732098	150.000	146.11
	29 Bromochloromethane	128	3.788	3.788	(0.906)	555032	150.000	149.65
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	955571	150.000	152.05
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	1385286	150.000	151.91
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	1167382	150.000	147.87
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	1336025	150.000	149.36
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	1088682	150.000	150.90(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	1107394	150.000	152.57
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	984472	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	3650870	150.000	149.46
	38 Trichloroethene	130	5.205	5.205	(1.048)	1031111	150.000	150.26
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	1362547	150.000	157.18
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	957024	300.000	331.38
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	998252	150.000	150.80
	44 Dibromomethane	93	5.549	5.549	(1.118)	668220	150.000	149.10
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	1909863	300.000	307.57
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1744952	150.000	159.71
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	966505	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	3488841	150.000	149.57
	50 Toluene	91	6.445	6.445	(0.840)	4043080	150.000	146.26
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	1531930	150.000	162.96
	52 2-Hexanone	43	7.086	7.086	(0.924)	1344375	300.000	321.55
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	808270	150.000	145.85
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	1641201	150.000	149.22
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	1132076	150.000	158.89
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	820825	150.000	147.55
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	1046328	150.000	151.10
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	825800	150.000	148.33
	59 Chlorobenzene	112	7.694	7.694	(1.003)	2771812	150.000	148.45
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	1031168	150.000	155.63
	61 Ethylbenzene	106	7.799	7.799	(1.017)	1378998	150.000	145.16
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	3502619	300.000	296.36

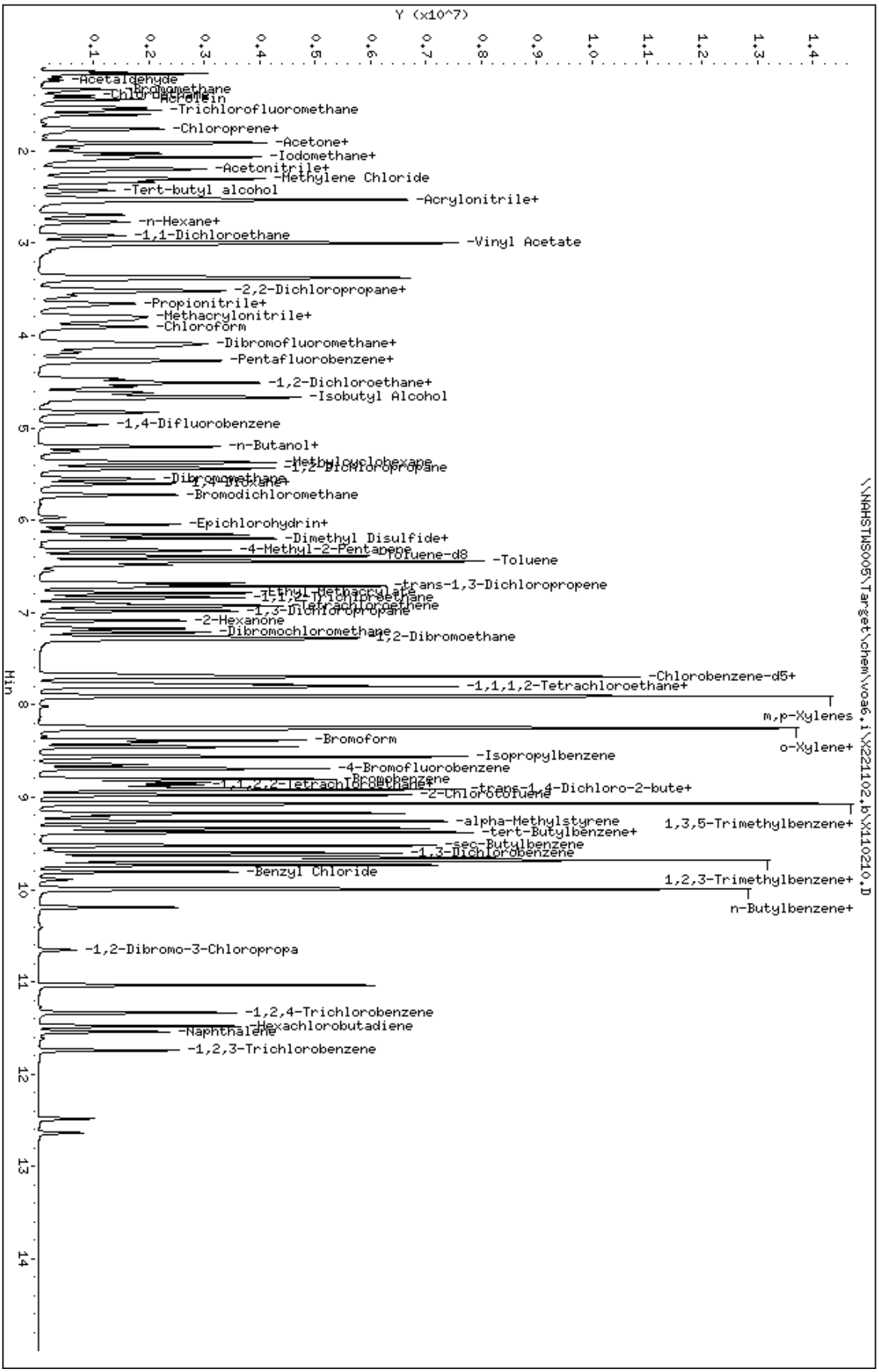
63 o-Xylene	106	8.241	8.241 (1.074)	1718922	150.000	149.46
64 Styrene	104	8.260	8.260 (1.077)	3044449	150.000	157.38

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110210.D Page 3
Report Date: 09-Nov-2022 12:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	743207	150.000	150.39
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	4153431	150.000	147.76
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	1197494	150.000	144.84
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.132)	1366640	150.000	151.33
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	499037	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	934817	150.000	148.65(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	4879536	150.000	147.73
	74 Bromobenzene	156	8.807	8.807	(0.912)	1278232	150.000	148.90
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	3529389	150.000	150.24
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	3015926	150.000	144.60
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	3564971	150.000	150.51
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	2915343	150.000	149.89
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	3570445	150.000	147.51
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	4032110	150.000	148.00
	82 p-Isopropyltoluene	119	9.650	9.650	(0.999)	3538900	150.000	147.50
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	2152176	150.000	149.92
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	2225290	150.000	149.52
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	1988635	150.000	151.37
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	3193141	150.000	157.35
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	2044211	150.000	151.45
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	131273	150.000	147.21
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	975306	150.000	155.65
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	596017	150.000	149.12
	92 Naphthalene	128	11.540	11.540	(1.194)	1536035	150.000	157.46
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	684160	150.000	151.37
M	94 1,2-Dichloroethylene (total)	96				1924841	300.000	
M	95 Xylenes (total)	106				5221541	450.000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	1067181	150.000	147.30
	138 Freon TF	101	1.913	1.913	(0.458)	718526	150.000	147.45
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	2333446	150.000	171.25(A)
	146 Methyl Acetate	43	2.228	2.228	(0.533)	617807	150.000	162.42
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	1645013	3000.00	3074.69
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	887599	3000.00	3046.07

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110210.D
Inj Date : 02-NOV-2022 14:29
InstruID : voa6.i
LabSampID : VSTD150

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE
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HEIGHT
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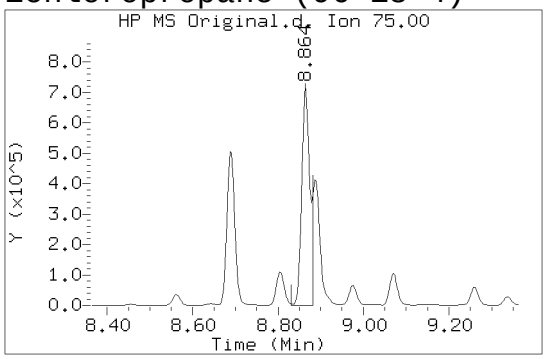
08-Nov-2022
15:18
linh
pham



AFTER
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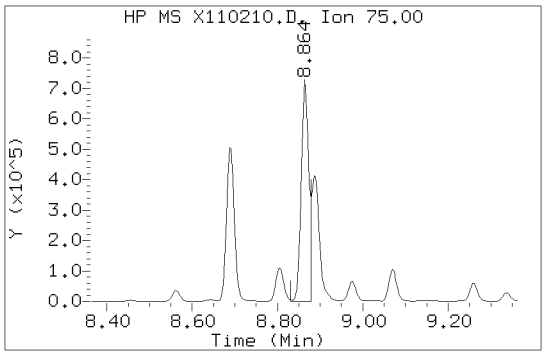
09-Nov-2022
12:34



BEFORE
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08-Nov-2022
15:18
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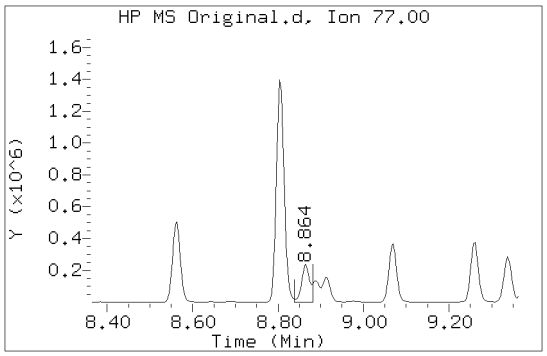
pham



AFTER
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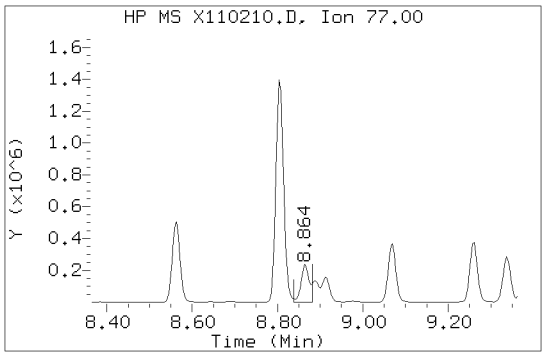
238956
09-Nov-2022
12:34



Acetaldehyde (75-07-0)

Reason Code:

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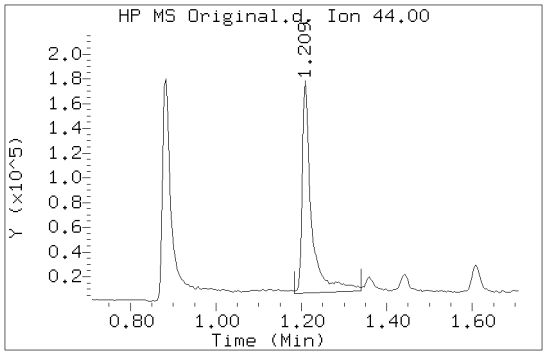

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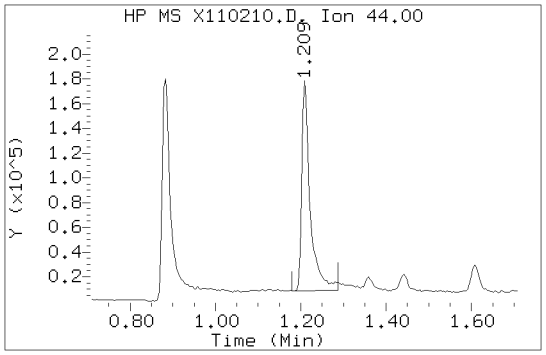

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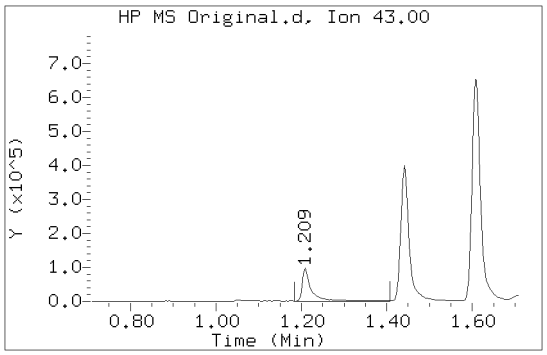

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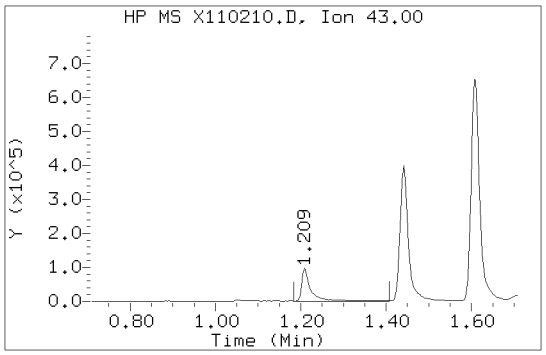

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InstruID : voa6.i
LabSampID : VSTD150

Acetaldehyde (75-07-0)

Reason Code:

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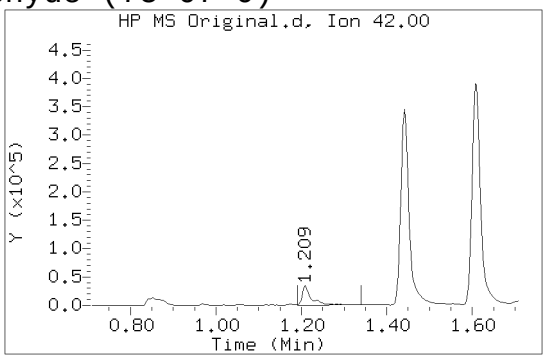

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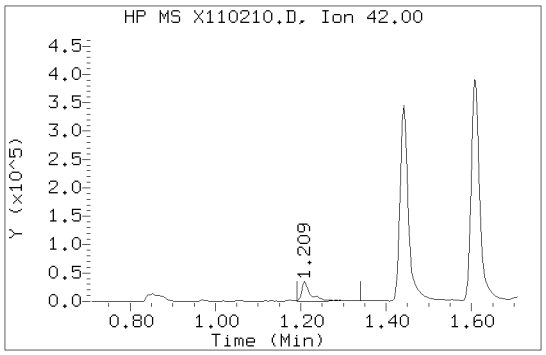

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Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110211.D
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Inj Date : 02-NOV-2022 14:50
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 14:29 Cal File: X110210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.181	(1.000)	644601	50.0000	
135 1,4-Dioxane	88	5.598	5.598	(1.339)	282891	4000.00	4115.83(A)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	1104952	200.000	204.49(A)
25 Methacrylonitrile	41	3.818	3.818	(0.913)	1180859	200.000	204.46(A)
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	3873048	4000.00	4022.58(A)
13 Acetonitrile	39	2.194	2.194	(0.525)	1611204	2000.00	2086.19(A)
14 Allyl Chloride	41	2.194	2.194	(0.525)	2951256	200.000	203.38(A)
4 Propionitrile	54	3.653	3.653	(0.874)	1649618	2000.00	2036.31(A)
136 n-Hexane	57	2.768	2.768	(0.662)	1178645	200.000	201.06(A)
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	498452	200.000	224.71(A)
194 Acetaldehyde	44	1.209	1.209	(0.289)	319029	800.000	783.27(M)
23 Chloroprene	53	1.767	1.767	(0.423)	485695	200.000	196.75
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	2542356	200.000	207.93(A)
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	2983742	200.000	242.44(A)
139 Diethyl ether	59	1.756	1.756	(0.420)	954483	200.000	188.07
130 Ethyl Acetate	43	3.653	3.653	(0.874)	1310160	200.000	193.54
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	1233538	200.000	206.91(A)
49 Ethyl Methacrylate	69	6.790	6.790	(1.368)	2134518	200.000	211.25(A)
132 n-Butanol	56	5.257	5.257	(1.257)	566416	4000.00	4635.20(A)
142 Tetrahydrofuran	42	3.844	3.844	(0.919)	417886	400.000	408.71(A)

150 Allyl alcohol	57	2.768	2.768 (0.662)	1178645	4000.00	4021.18(A)
166 1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	4654156	200.000	192.84

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110211.D Page 2
Report Date: 09-Nov-2022 12:35

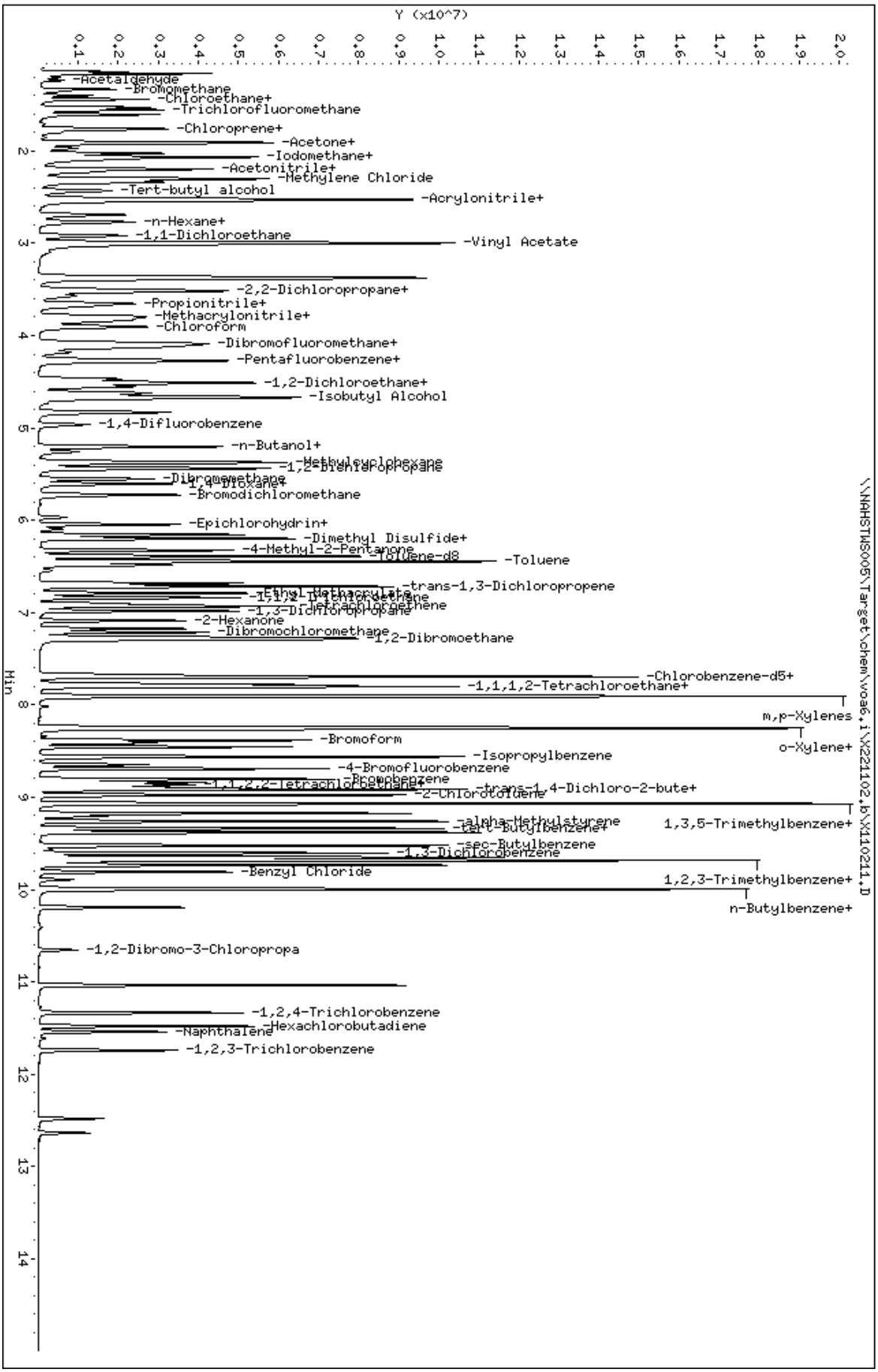
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	1230194	200.000	205.67(A)
	3 Chloromethane	50	1.077	1.077	(0.258)	1465350	200.000	204.83(A)
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	1435163	200.000	196.48
	6 Bromomethane	94	1.332	1.332	(0.319)	954942	200.000	203.89(A)
	7 Chloroethane	64	1.400	1.400	(0.335)	882731	200.000	193.86
	8 Trichlorofluoromethane	101	1.557	1.557	(0.372)	1863691	200.000	200.19(A)
	9 Acrolein	56	1.441	1.441	(0.345)	207953	400.000	397.38
	10 Acetone	43	1.970	1.970	(0.471)	911307	400.000	404.78(A)
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	1072003	200.000	195.46
	15 Iodomethane	142	2.026	2.026	(0.485)	3520582	400.000	398.94
	16 Acrylonitrile	53	2.528	2.528	(0.605)	920696	400.000	436.92(A)
	17 Methylene Chloride	84	2.299	2.299	(0.550)	1329978	200.000	189.65
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	3822204	200.000	197.93
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	6918122	400.000	415.30(A)
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	1233320	200.000	202.67(A)
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	6995415	400.000	407.79(A)
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	2192173	200.000	200.14(A)
	24 2-Butanone	43	3.574	3.574	(0.855)	1044756	400.000	453.31(AH)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	1890675	200.000	203.20(A)
	27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.842)	1440760	200.000	202.64(A)
	28 Chloroform	83	3.904	3.904	(0.934)	2373672	200.000	194.47
	29 Bromochloromethane	128	3.791	3.791	(0.907)	758912	200.000	198.74
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	1291187	200.000	199.38
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	1947829	200.000	207.46(A)
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	1673019	200.000	205.41(A)
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	1857661	200.000	201.29(A)
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	1571835	200.000	199.84(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	1492777	200.000	199.63
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1015699	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	5025919	200.000	199.43
	38 Trichloroethene	130	5.205	5.205	(1.048)	1445714	200.000	204.21(A)
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	1884115	200.000	210.66(A)
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	1304185	400.000	437.70(A)
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	1370161	200.000	200.62(A)
	44 Dibromomethane	93	5.550	5.550	(1.118)	920462	200.000	199.07
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	2629353	400.000	413.24(A)
	46 cis-1,3-Dichloropropene	75	6.157	6.157	(1.240)	2402631	200.000	213.15(A)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	990350	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	4641416	200.000	194.20
	50 Toluene	91	6.445	6.445	(0.840)	5548499	200.000	195.89
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	2101712	200.000	216.70(A)
	52 2-Hexanone	43	7.086	7.086	(0.924)	1836653	400.000	428.72(A)
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	1105455	200.000	194.68
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	2230023	200.000	197.88
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	1556251	200.000	213.17(A)
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	1158518	200.000	203.03(A)
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	1429510	200.000	201.46(A)
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	1185153	200.000	200.84(A)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	3791299	200.000	198.16
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	1420828	200.000	209.28(A)
	61 Ethylbenzene	106	7.802	7.802	(1.017)	1914559	200.000	196.69
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	4846352	400.000	400.18(A)

63 o-Xylene	106	8.241	8.241 (1.074)	2375743	200.000	201.60(A)
64 Styrene	104	8.260	8.260 (1.077)	4148362	200.000	209.29(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	1034542	200.000	203.43(A)
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	5785118	200.000	200.85(A)
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	1624400	200.000	191.62
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	1839541	200.000	198.71
*	70 1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	511700	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	1264942	200.000	196.16(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	6797859	200.000	200.71(A)
	74 Bromobenzene	156	8.803	8.803	(0.911)	1742043	200.000	197.90
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.938)	4881578	200.000	202.65(A)
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	4138957	200.000	193.54
	77 4-Chlorotoluene	91	9.069	9.069	(0.938)	4882692	200.000	201.04(A)
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	4031806	200.000	201.98(A)
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	4910029	200.000	197.84
	81 sec-Butylbenzene	105	9.523	9.523	(0.985)	5691384	200.000	203.42(A)
	82 p-Isopropyltoluene	119	9.651	9.651	(0.998)	4973352	200.000	202.15(A)
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	2929610	200.000	199.02
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	3012332	200.000	197.40
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	2765200	200.000	203.98(A)
	87 n-Butylbenzene	91	9.995	9.995	(1.034)	4534837	200.000	217.93(A)
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	2771933	200.000	200.28(A)
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.102)	190166	200.000	206.86(A)
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	1373865	200.000	213.83(A)
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	862380	200.000	200.35(A)
	92 Naphthalene	128	11.540	11.540	(1.194)	2178282	200.000	217.78(A)
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	959174	200.000	206.97(A)
M	94 1,2-Dichloroethylene (total)	96				2674080	400.000	
M	95 Xylenes (total)	106				7222095	600.000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	1557359	200.000	201.32(A)
	138 Freon TF	101	1.910	1.910	(0.457)	1027791	200.000	201.35(A)
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	3357175	200.000	238.81(A)
	146 Methyl Acetate	43	2.228	2.228	(0.533)	864401	200.000	220.72(A)
	148 Tert-Butyl alcohol	59	2.434	2.434	(0.582)	2285952	4000.00	4149.85(A)
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	1223416	4000.00	4077.85(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Page 1

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110211.D
Inj Date : 02-NOV-2022 14:50
InstruID : voa6.i
LabSampID : VSTD200

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE
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HEIGHT
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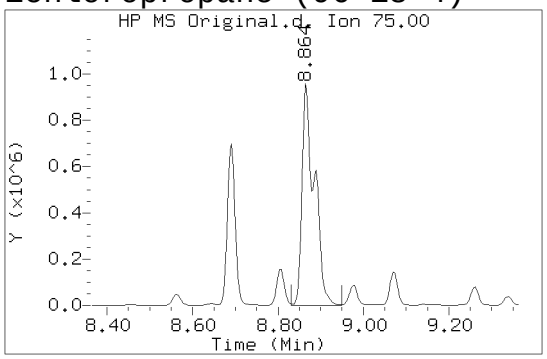
08-Nov-2022
15:18
linh
pham



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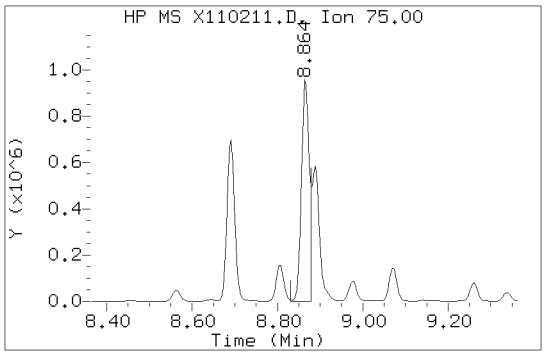

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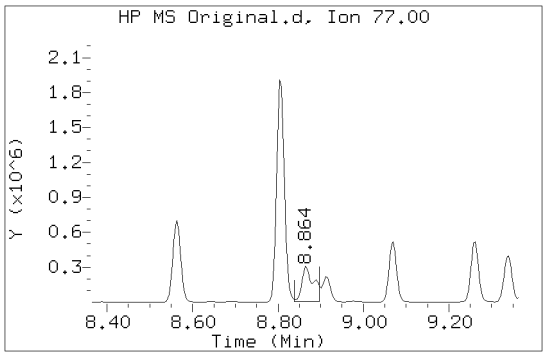

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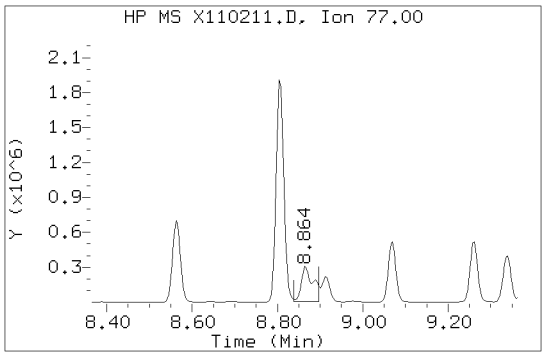

Acetaldehyde (75-07-0)

Reason Code:

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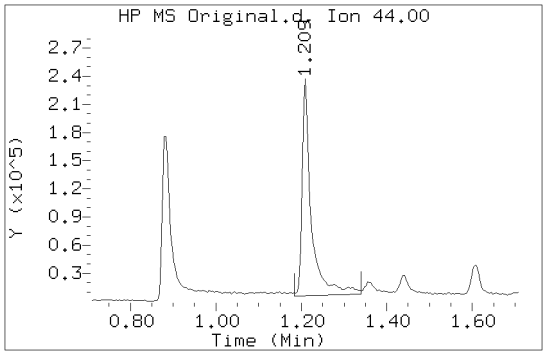

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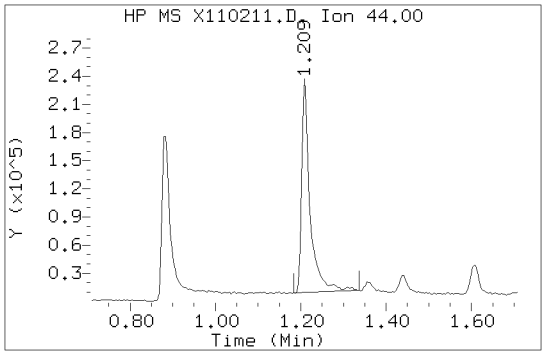

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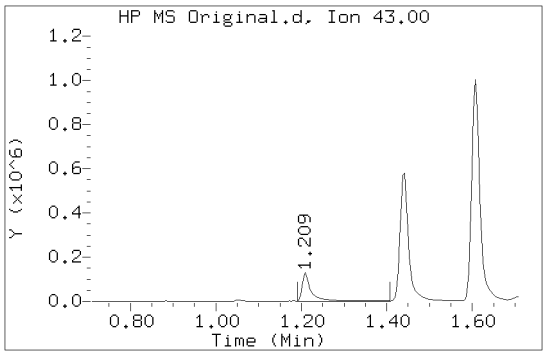

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09-Nov-2022
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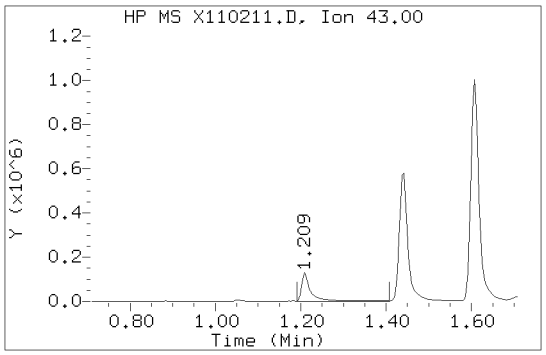

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Inj Date : 02-NOV-2022 14:50
InstruID : voa6.i
LabSampID : VSTD200

Acetaldehyde (75-07-0)

Reason Code:

BEFORE

MASS
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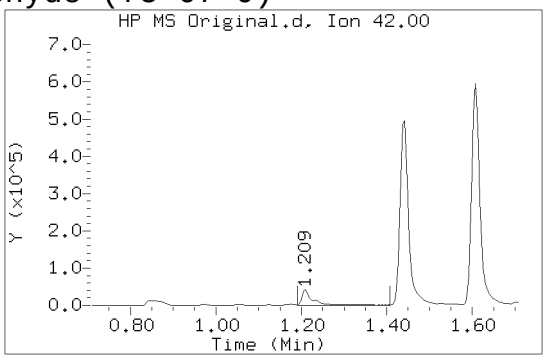
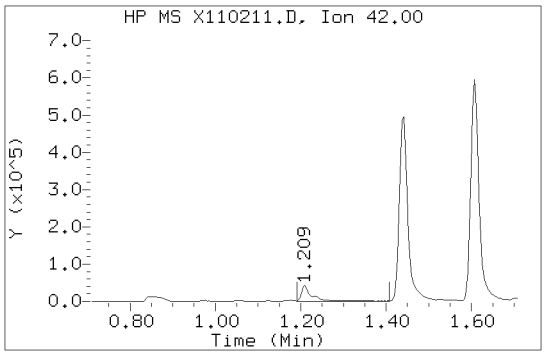
HEIGHT
42729
08-Nov-2022
15:18
linh
pham



AFTER

MASS
42
AREA
72321
HEIGHT
42729
09-Nov-2022
12:34



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D
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Inj Date : 02-NOV-2022 15:53
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 14:50 Cal File: X110211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.181	(1.000)	648912	50.0000	
135 1,4-Dioxane	88	5.598	5.598	(1.340)	59485	859.710	859.70
140 1,3-Butadiene	54	1.164	1.164	(0.279)	233875	42.9957	42.99
25 Methacrylonitrile	41	3.818	3.818	(0.914)	262578	45.1633	45.16
12 Isobutyl Alcohol	43	4.672	4.676	(1.118)	906973	935.733	935.73
13 Acetonitrile	39	2.194	2.194	(0.525)	359347	462.193	462.19
14 Allyl Chloride	41	2.198	2.194	(0.526)	654025	44.7725	44.77
4 Propionitrile	54	3.649	3.653	(0.873)	366385	449.268	449.26
136 n-Hexane	57	2.772	2.768	(0.664)	214358	40.1490	40.14
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	107045	49.7732	49.77
194 Acetaldehyde	44	1.209	1.209	(0.289)	98945	228.183	228.18
23 Chloroprene	53	1.767	1.767	(0.423)	105100	42.2941	42.29(M)
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	546999	46.6896	46.68
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	624807	52.3618	52.36
139 Diethyl ether	59	1.756	1.756	(0.420)	229482	44.9174	44.91
130 Ethyl Acetate	43	3.653	3.653	(0.874)	315791	46.3399	46.33
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	272408	45.3909	45.39
49 Ethyl Methacrylate	69	6.787	6.790	(1.367)	489024	49.1239	49.12
132 n-Butanol	56	5.257	5.257	(1.258)	104991	853.475	853.47
142 Tetrahydrofuran	42	3.844	3.844	(0.920)	91051	88.4620	88.46

150	Allyl alcohol	57	2.772	2.768 (0.664)	214358	802.758	802.75
166	1,2,3-Trimethylbenzene	105	9.729	9.733 (1.007)	1042020	45.0591	45.05

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D Page 2
Report Date: 09-Nov-2022 12:35

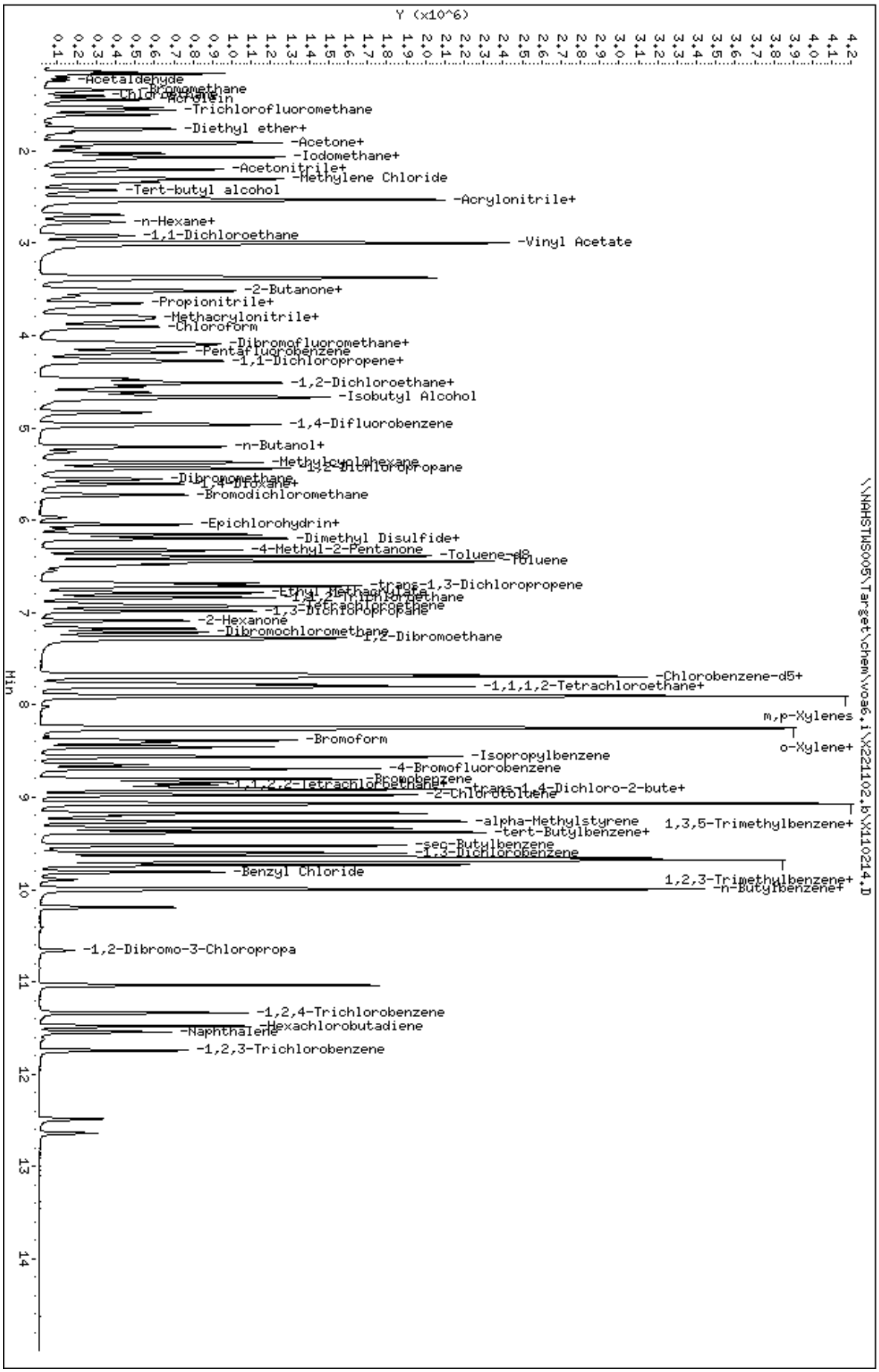
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.969	(0.233)	268006	44.9840	44.98
	3 Chloromethane	50	1.077	1.077	(0.258)	324236	46.1002	46.10
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	310631	42.2443	42.24
	6 Bromomethane	94	1.340	1.332	(0.321)	213871	46.3475	46.34
	7 Chloroethane	64	1.404	1.400	(0.336)	199924	43.6158	43.61
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	402085	42.9052	42.90
	9 Acrolein	56	1.445	1.441	(0.346)	42217	99.2133	99.21
	10 Acetone	43	1.970	1.970	(0.472)	209318	91.2102	91.21
	11 1,1-Dichloroethene	96	1.913	1.910	(0.458)	229999	41.6590	41.65
	15 Iodomethane	142	2.026	2.026	(0.485)	637095	88.8025	88.80
	16 Acrylonitrile	53	2.532	2.528	(0.606)	188463	88.8420	88.84
	17 Methylene Chloride	84	2.303	2.299	(0.551)	318649	45.1386	45.13
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	879369	45.2364	45.23
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	1447008	86.2892	86.28
	20 trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	268716	43.8661	43.86
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1720616	99.6375	99.63
	22 1,1-Dichloroethane	63	2.922	2.918	(0.699)	488838	44.3334	44.33
	24 2-Butanone	43	3.574	3.574	(0.856)	223886	96.4971	96.49
	26 2,2-Dichloropropane	77	3.507	3.506	(0.839)	415854	45.3520	45.35
	27 cis-1,2-Dichloroethene	96	3.525	3.521	(0.844)	323357	45.1783	45.17
	28 Chloroform	83	3.904	3.904	(0.935)	540984	44.0293	44.02
	29 Bromochloromethane	128	3.791	3.791	(0.908)	174991	45.5217	45.52
$	30 Dibromofluoromethane	113	4.099	4.095	(0.981)	322063	49.8107	49.81
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	403831	42.7272	42.72
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	343925	42.8596	42.85
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	431733	47.4827	47.48
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	310391	46.3272	46.32
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	363914	48.6687	48.66
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1000698	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1137051	45.7953	45.79
	38 Trichloroethene	130	5.205	5.205	(1.048)	307580	44.0976	44.09
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	421175	47.7982	47.79
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	290713	99.0313	99.03
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	313019	46.5201	46.52
	44 Dibromomethane	93	5.550	5.550	(1.118)	209614	46.0144	46.01
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	581699	94.2938	94.29
	46 cis-1,3-Dichloropropene	75	6.157	6.157	(1.240)	541548	48.7647	48.76
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	960204	50.0000	
$	48 Toluene-d8	98	6.385	6.389	(0.832)	1177383	50.8100	50.80
	50 Toluene	91	6.445	6.445	(0.840)	1249944	45.5167	45.51
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	478870	50.1167	50.11
	52 2-Hexanone	43	7.086	7.086	(0.924)	406876	97.9572	97.95
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	259437	47.1242	47.12
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	519918	47.5849	47.58
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	348746	49.2706	49.27
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	236414	43.1630	43.16
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	328322	47.7241	47.72
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	228534	42.3113	42.31
	59 Chlorobenzene	112	7.694	7.694	(1.003)	864664	46.6133	46.61
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.776	(1.013)	320471	48.6868	48.68
	61 Ethylbenzene	106	7.799	7.802	(1.017)	412101	43.6663	43.66
	62 m,p-Xylenes	106	7.904	7.907	(1.030)	1044074	88.9203	88.92

63 o-Xylene	106	8.241	8.241 (1.074)	520644	45.5696	45.56
64 Styrene	104	8.260	8.260 (1.077)	932619	48.5291	48.52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	220214	46.5704	46.57
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	1172481	41.9863	41.98
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.841	(0.915)	372519	45.8597	45.85
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	454663	50.8550	50.85
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.666	(1.000)	490324	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	285414	46.1919	46.19(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	1379508	42.5081	42.50
	74 Bromobenzene	156	8.803	8.803	(0.911)	394805	46.8079	46.80
	75 1,3,5-Trimethylbenzene	105	9.066	9.069	(0.938)	1014446	43.9506	43.95
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	909729	44.3953	44.39
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	1061915	45.6304	45.63
	78 tert-Butylbenzene	119	9.336	9.339	(0.966)	797607	42.1369	42.13
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1047946	44.0671	44.06
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	1091394	41.3850	41.38
	82 p-Isopropyltoluene	119	9.651	9.651	(0.999)	981109	41.6191	41.61
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	649145	46.0230	46.02
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	681334	46.5957	46.59
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	550780	45.0978	45.09
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	865048	43.3855	43.38
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	615028	46.3762	46.37
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	38036	45.3292	45.32
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	295223	47.9525	47.95
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	178874	48.9337	48.93
	92 Naphthalene	128	11.544	11.540	(1.195)	475442	49.6064	49.60
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	216006	48.6431	48.64
M	94 1,2-Dichloroethylene (total)	96				592073	89.0444	89.04
M	95 Xylenes (total)	106				1564718	134.490	134.48
	141 Cyclohexane	56	4.118	4.121	(0.986)	298087	41.7730	41.77
	138 Freon TF	101	1.913	1.910	(0.458)	212311	43.0030	43.00
	147 Methylcyclohexane	55	5.381	5.377	(1.084)	693389	50.0640	50.06
	146 Methyl Acetate	43	2.228	2.228	(0.533)	186216	47.2347	47.23
	148 Tert-Butyl alcohol	59	2.427	2.434	(0.581)	469230	846.168	846.16
	149 Isopropyl Alcohol	45	2.093	2.097	(0.501)	256411	848.983	848.98

QC Flag Legend

M - Compound response manually integrated.



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Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D
Inj Date : 02-NOV-2022 15:53
InstruID : voa6.i
LabSampID : ICV

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE
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HEIGHT
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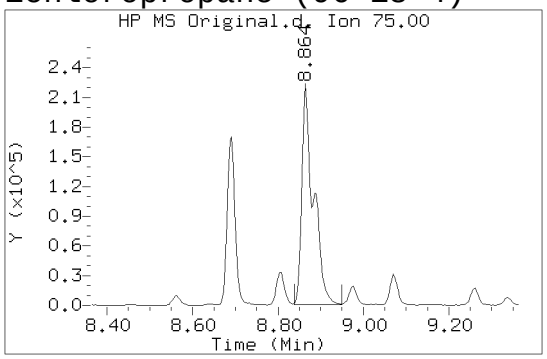
08-Nov-2022
15:18
linh
pham



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09-Nov-2022
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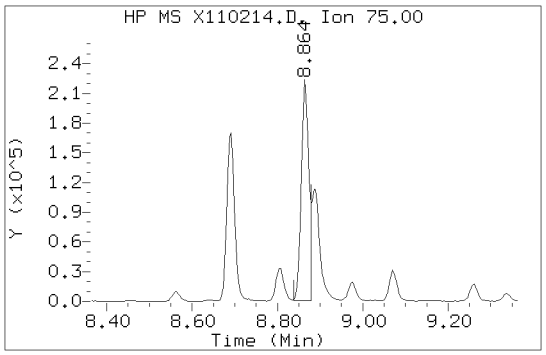

BEFORE
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linh
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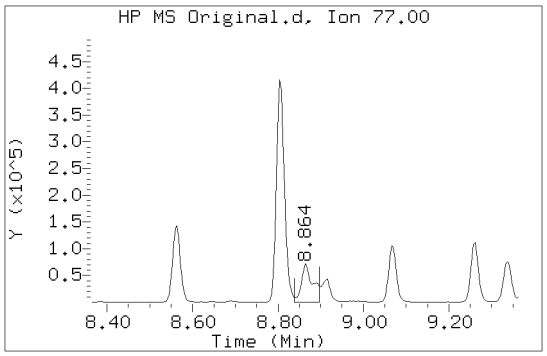

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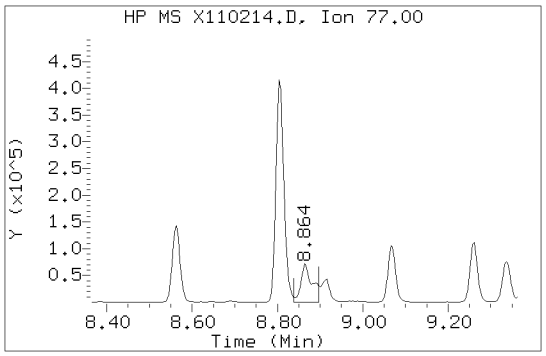

Chloroprene (126-99-8)

Reason Code:

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HEIGHT
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linh
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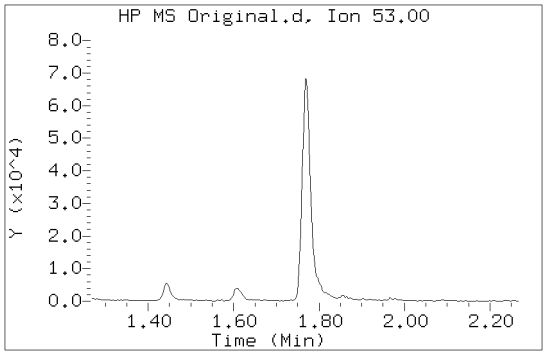

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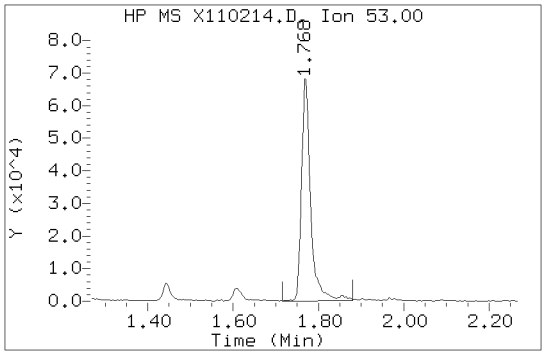

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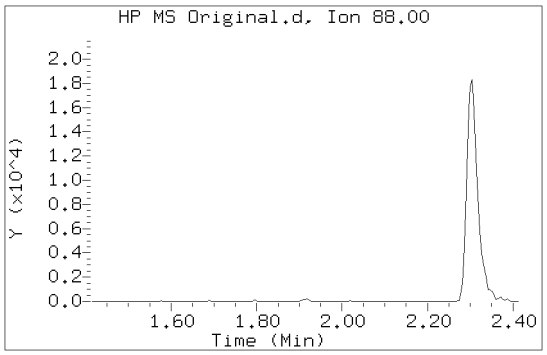

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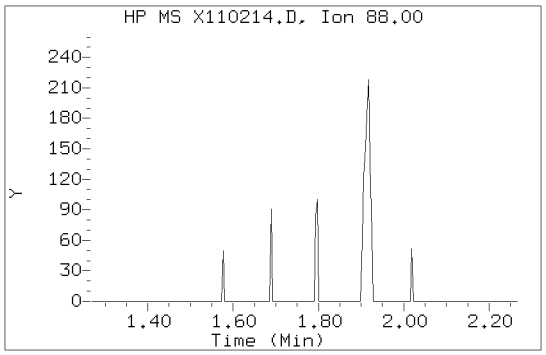

right solutions.
right partner.

Raw Data VOA6 421126

Volatiles by by EPA 8260

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D Page 1
Report Date: 06-Nov-2022 12:23

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D
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Inj Date : 06-NOV-2022 11:59
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\bfb.m
Meth Date : 27-Sep-2022 15:10 Linh.Pham Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
8.691	8.889	(0.000)	95	218752			0.00- 100.00	100.00
8.691	8.889	(0.000)	50	40672			15.00- 40.00	18.59
8.691	8.889	(0.000)	75	107528			30.00- 60.00	49.16
8.691	8.889	(0.000)	96	15122			5.00- 9.00	6.91
8.691	8.889	(0.000)	173	1563			0.00- 2.00	0.82
8.691	8.889	(0.000)	174	191104			50.00- 0.00	87.36
8.691	8.889	(0.000)	175	14320			5.00- 9.00	7.49
8.691	8.889	(0.000)	176	182336			95.00- 101.00	95.41
8.691	8.889	(0.000)	177	11219			5.00- 9.00	6.15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.59
75	30.00 - 60.00% of mass 95	49.16
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.71 (0.82)
174	Greater than 50.00% of mass 95	87.36
175	5.00 - 9.00% of mass 174	6.55 (7.49)
176	95.00 - 101.00% of mass 174	83.35 (95.41)
177	5.00 - 9.00% of mass 176	5.13 (6.15)

Data File: X110601.D
Spectrum: Scan 2160 (8.68)
Location of Maximum: 95.00
Number of points: 128

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2401	69.00	23040	104.90	521	143.70	202
37.10	11010	70.00	2679	106.00	987	144.90	183
38.00	9947	71.00	763	106.80	475	145.90	314
39.00	5304	72.00	1231	109.00	127	147.00	130
40.00	1229	73.00	9631	109.80	110	147.90	588
41.00	1970	74.00	35624	110.90	196	148.70	111
42.00	2485	75.00	107528	111.60	100	149.90	188
43.10	1614	76.00	9183	112.00	95	151.90	127
43.90	2308	76.90	1328	113.00	246	152.60	111
45.00	2706	78.00	1115	114.80	255	153.90	148
45.90	224	79.00	6842	115.80	732	154.80	726
47.00	2348	79.90	1781	116.90	1315	156.00	76
47.80	1052	80.90	6816	117.90	713	156.90	466
49.00	9702	81.90	1386	118.80	1051	158.70	291
50.00	40672	82.90	483	119.90	193	160.60	165
51.00	12197	84.00	116	122.90	56	161.10	82
52.00	755	85.00	286	123.60	140	168.90	59
53.10	276	87.00	8462	124.00	123	170.00	127
53.90	309	87.90	8771	125.70	83	171.50	162
55.00	3837	88.80	186	126.90	81	172.90	1563
56.00	4237	89.40	70	127.80	789	173.90	191104
57.00	7011	90.90	893	129.00	293	174.90	14320
57.90	519	91.90	5082	129.80	527	175.90	182336
58.90	55	93.00	7958	130.80	299	176.90	11219
60.00	1588	94.00	25064	133.70	107	177.90	467
61.00	10459	95.00	218752	134.70	412	185.90	257
62.00	10871	96.00	15122	135.90	89	206.90	56
63.10	7060	97.00	579	136.80	491	262.80	53
64.00	853	98.00	1428	138.90	55	280.80	62
65.10	270	98.90	80	139.80	406		
65.70	143	101.80	77	140.80	2067		
67.00	783	102.70	120	142.00	209		
68.00	21176	103.80	1063	142.90	2371		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D

Date : 06-NOV-2022 11:59

Client ID: BFB

Instrument: voa6.i

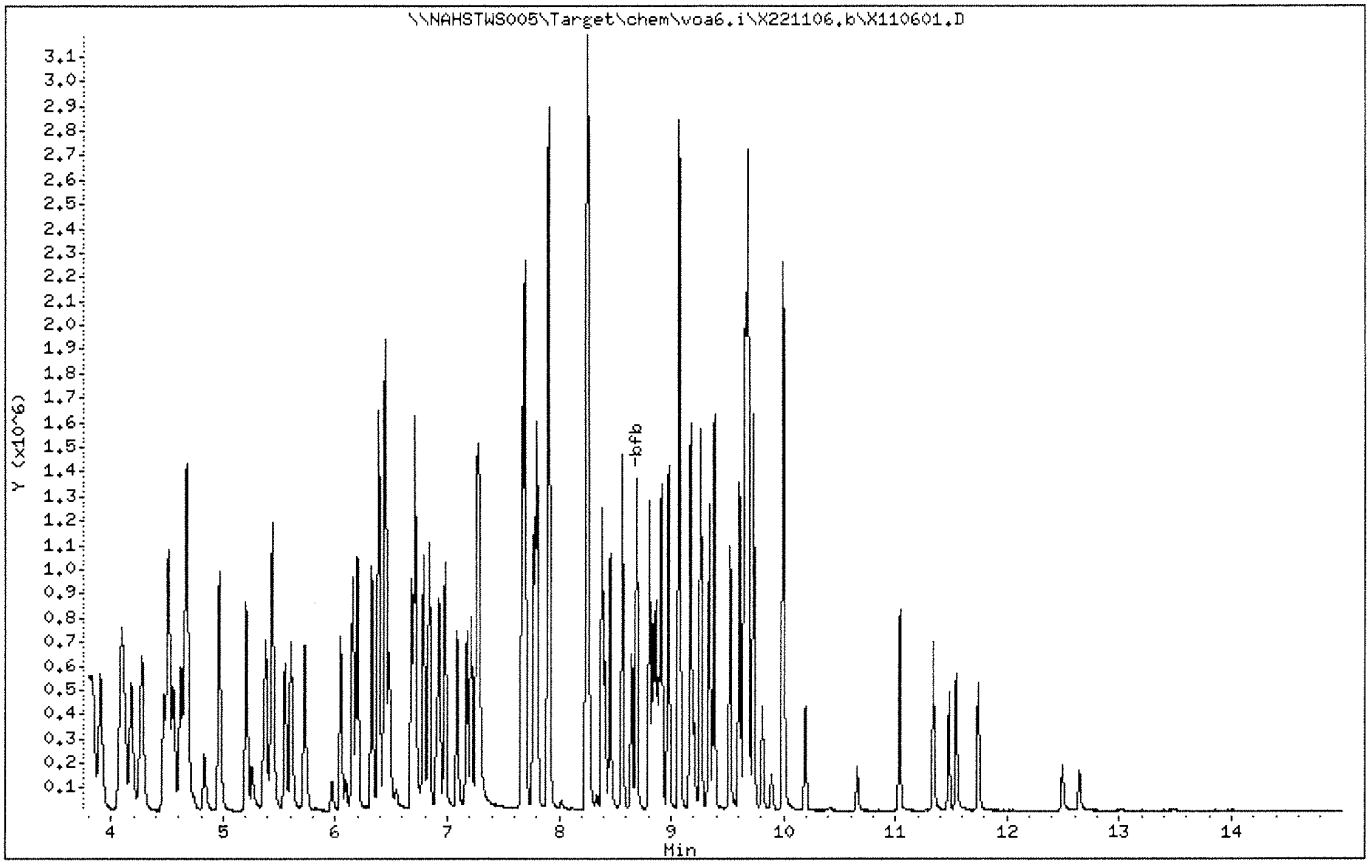
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D Page 2

Date : 06-NOV-2022 11:59

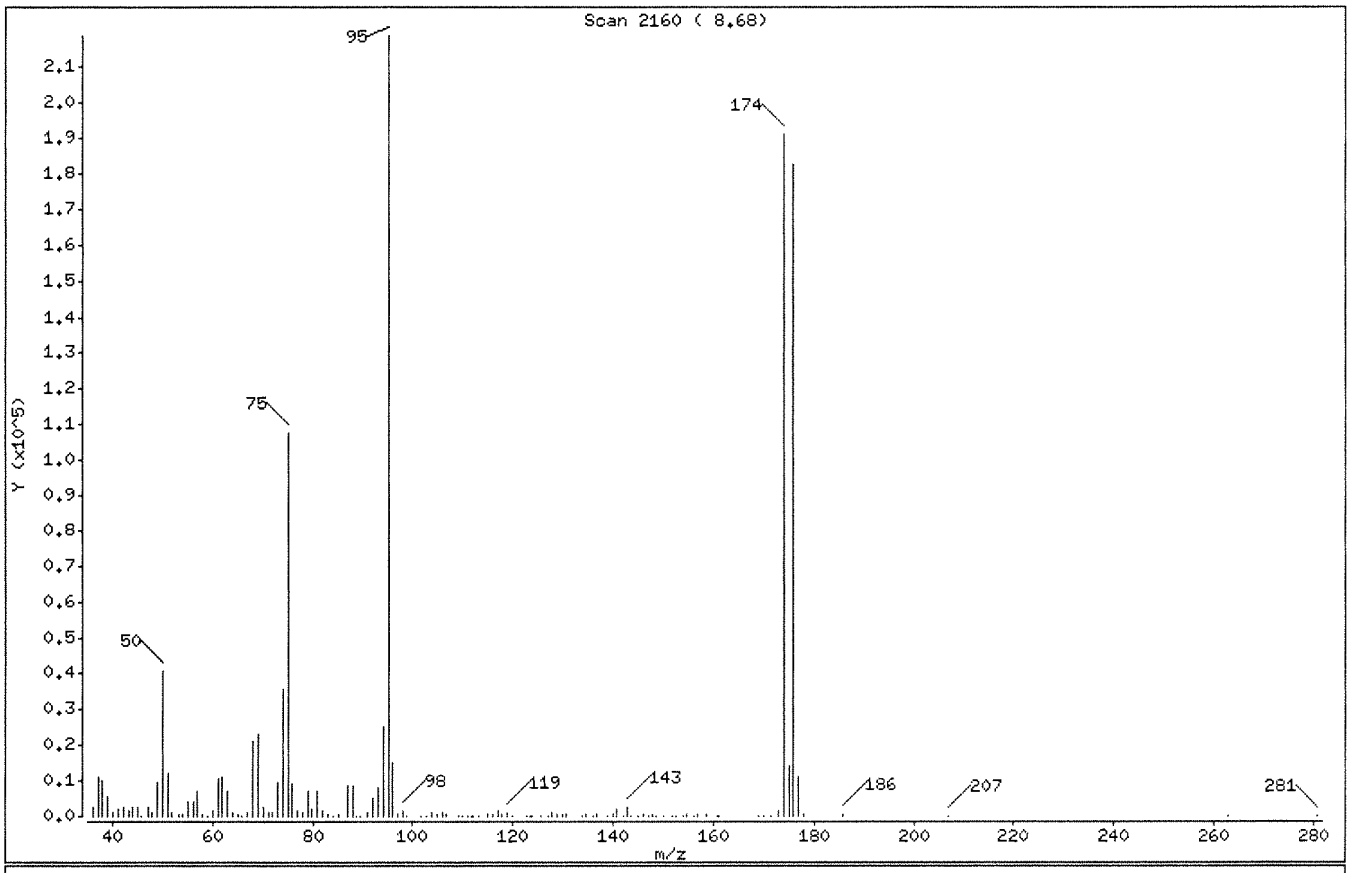
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.59
75	30.00 - 60.00% of mass 95	49.16
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.71 (0.82)
174	Greater than 50.00% of mass 95	87.36
175	5.00 - 9.00% of mass 174	6.55 (7.49)
176	95.00 - 101.00% of mass 174	83.35 (95.41)
177	5.00 - 9.00% of mass 176	5.13 (6.15)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D

Date : 06-NOV-2022 11:59

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X110601.D
Spectrum: Scan 2160 (8.68)
Location of Maximum: 95.00
Number of points: 128

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2401	69.00	23040	104.90	521	143.70	202
37.10	11010	70.00	2679	106.00	987	144.90	183
38.00	9947	71.00	763	106.80	475	145.90	314
39.00	5304	72.00	1231	109.00	127	147.00	130
40.00	1229	73.00	9631	109.80	110	147.90	588
41.00	1970	74.00	35624	110.90	196	148.70	111
42.00	2485	75.00	107528	111.60	100	149.90	188
43.10	1614	76.00	9183	112.00	95	151.90	127
43.90	2308	76.90	1328	113.00	246	152.60	111
45.00	2706	78.00	1115	114.80	255	153.90	148
45.90	224	79.00	6842	115.80	732	154.80	726
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51.00	12197	84.00	116	122.90	56	161.10	82
52.00	755	85.00	286	123.60	140	168.90	59
53.10	276	87.00	8462	124.00	123	170.00	127
53.90	309	87.90	8771	125.70	83	171.50	162
55.00	3837	88.80	186	126.90	81	172.90	1563
56.00	4237	89.40	70	127.80	789	173.90	191104
57.00	7011	90.90	893	129.00	293	174.90	14320
57.90	519	91.90	5082	129.80	527	175.90	182336
58.90	55	93.00	7958	130.80	299	176.90	11219
60.00	1588	94.00	25064	133.70	107	177.90	467
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64.00	853	98.00	1428	138.90	55	280.80	62
65.10	270	98.90	80	139.80	406		
65.70	143	101.80	77	140.80	2067		
67.00	783	102.70	120	142.00	209		
68.00	21176	103.80	1063	142.90	2371		

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D
Inj Date : 06-NOV-2022 11:59
InstruID : voa6.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 06-NOV-2022 12:20
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	625842	50.0000	
135 1,4-Dioxane	88	5.598	5.598	(1.340)	66155	1000.00	991.35
140 1,3-Butadiene	54	1.164	1.164	(0.279)	242104	50.0000	46.14
25 Methacrylonitrile	41	3.818	3.818	(0.914)	286078	50.0000	51.01
12 Isobutyl Alcohol	43	4.676	4.676	(1.119)	907474	1000.00	970.76
13 Acetonitrile	39	2.195	2.195	(0.525)	344123	500.000	458.92
14 Allyl Chloride	41	2.198	2.198	(0.526)	657248	50.0000	46.65
4 Propionitrile	54	3.653	3.653	(0.874)	398252	500.000	506.34
136 n-Hexane	57	2.768	2.768	(0.663)	242565	50.0000	47.00
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	108298	50.0000	51.93
23 Chloroprene	53	1.767	1.767	(0.423)	105071	50.0000	43.84(M)
130 Ethyl Acetate	43	3.653	3.653	(0.874)	326380	50.0000	49.65
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	291054	50.0000	50.28
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	501094	50.0000	52.31
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	264985	50.0000	46.10
3 Chloromethane	50	1.077	1.077	(0.258)	316787	50.0000	46.68
5 Vinyl Chloride	62	1.141	1.141	(0.273)	311814	50.0000	43.96
6 Bromomethane	94	1.336	1.336	(0.320)	209351	50.0000	47.02
7 Chloroethane	64	1.400	1.400	(0.335)	201350	50.0000	45.54
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	414215	50.0000	45.82

9	Acrolein	56	1.441	1.441 (0.345)	39373	100.000	96.14
10	Acetone	43	1.973	1.973 (0.472)	239436	100.000	108.45

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D Page 2
Report Date: 17-Nov-2022 10:50

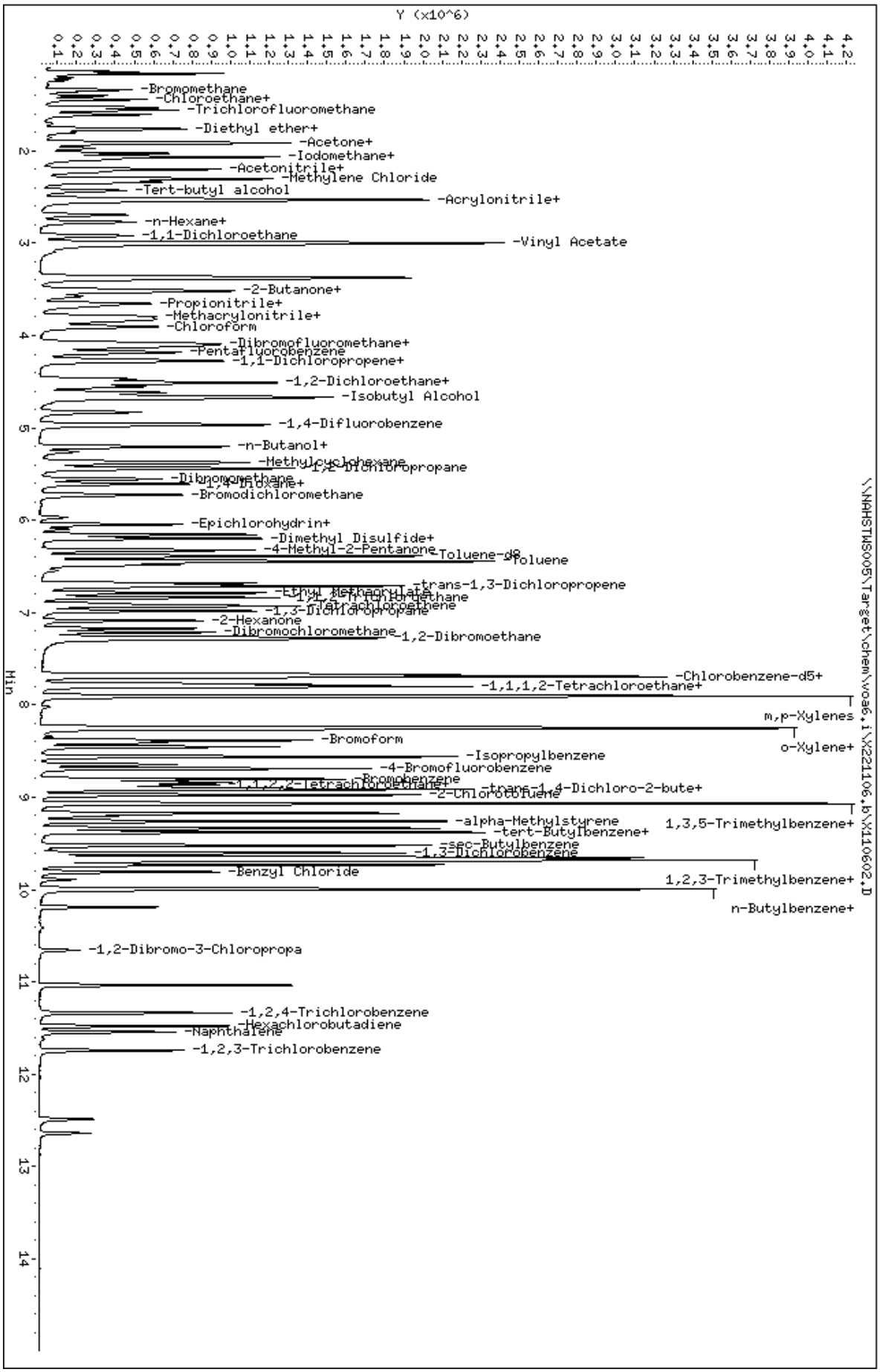
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	235671	50.0000	44.25
	15 Iodomethane	142	2.026	2.026	(0.485)	685151	100.000	98.32
	16 Acrylonitrile	53	2.532	2.532	(0.606)	205654	100.000	100.51
	17 Methylene Chloride	84	2.300	2.300	(0.550)	310054	50.0000	45.54
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	898504	50.0000	47.92
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	1431227	100.000	88.49
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	267337	50.0000	45.24
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1726312	100.000	103.65
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	486020	50.0000	45.70
	24 2-Butanone	43	3.574	3.574	(0.856)	248091	100.000	110.87
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	417685	50.0000	47.18
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	320242	50.0000	46.39
	28 Chloroform	83	3.904	3.904	(0.935)	541239	50.0000	45.67
	29 Bromochloromethane	128	3.791	3.791	(0.908)	173212	50.0000	46.71
$	30 Dibromofluoromethane	113	4.095	4.095	(0.980)	314772	50.0000	50.47
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	404180	50.0000	44.34
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	347077	50.0000	44.95
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	426971	50.0000	48.80
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	308787	50.0000	47.84
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	354620	50.0000	49.16
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	962835	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1127088	50.0000	47.17
	38 Trichloroethene	130	5.205	5.205	(1.048)	306125	50.0000	45.61
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	412984	50.0000	48.71
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	284084	100.000	100.57
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	309775	50.0000	47.84
	44 Dibromomethane	93	5.550	5.550	(1.118)	211642	50.0000	48.28
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	614799	100.000	102.77
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	535253	50.0000	50.09
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	931081	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.832)	1160929	50.0000	51.66
	50 Toluene	91	6.446	6.446	(0.840)	1240353	50.0000	46.58
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	472038	50.0000	51.34
	52 2-Hexanone	43	7.087	7.087	(0.924)	429442	100.000	106.62
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	255472	50.0000	47.85
	54 1,3-Dichloropropane	76	6.982	6.982	(0.910)	522525	50.0000	49.31
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	338975	50.0000	49.38
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	245765	50.0000	46.23
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	334345	50.0000	50.11
	58 1-Chlorohexane	55	7.698	7.698	(1.550)	243676	50.0000	46.81
	59 Chlorobenzene	112	7.694	7.694	(1.003)	852919	50.0000	47.41
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.013)	310927	50.0000	48.71
	61 Ethylbenzene	106	7.799	7.799	(1.017)	416606	50.0000	45.52
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	1057466	100.000	92.87
	63 o-Xylene	106	8.241	8.241	(1.074)	517520	50.0000	46.71
	64 Styrene	104	8.260	8.260	(1.077)	916875	50.0000	49.20
	66 Bromoform	173	8.410	8.410	(1.096)	217335	50.0000	47.35
	67 Isopropylbenzene	105	8.564	8.564	(1.116)	1222885	50.0000	45.16
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	381758	50.0000	49.27
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	438651	50.0000	50.60
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	467684	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	300073	50.0000	50.91(M)

73 n-Propylbenzene	91	8.912	8.912 (0.922)	1437866	50.0000	46.45
74 Bromobenzene	156	8.803	8.803 (0.911)	392810	50.0000	48.82

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	1030554	50.0000	46.80	
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	910663	50.0000	46.59	
77	4-Chlorotoluene	91	9.070	9.070	(0.939)	1061628	50.0000	47.82	
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	828590	50.0000	45.84	
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1065087	50.0000	46.95	
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	1153633	50.0000	45.77	
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	1020205	50.0000	45.37	
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	636766	50.0000	47.33	
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	669882	50.0000	48.03	
87	n-Butylbenzene	91	9.995	9.995	(1.035)	894646	50.0000	47.04	
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	603603	50.0000	47.71	
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	42834	50.0000	53.02	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	280827	50.0000	47.82	
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	168370	50.0000	48.30	
92	Naphthalene	128	11.544	11.544	(1.195)	500766	50.0000	54.77	
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	208761	50.0000	49.28	
M 94	1,2-Dichloroethylene (total)	96				587579	100.000		(a)
141	Cyclohexane	56	4.118	4.118	(0.986)	322430	50.0000	46.80	
138	Freon TF	101	1.913	1.913	(0.458)	223920	50.0000	47.02	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	685223	50.0000	51.42	
146	Methyl Acetate	43	2.228	2.228	(0.533)	196999	50.0000	51.81	
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	536870	1000.00	1003.83	
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	295275	1000.00	1013.70	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Date : 06-NOV-2022 12:20
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

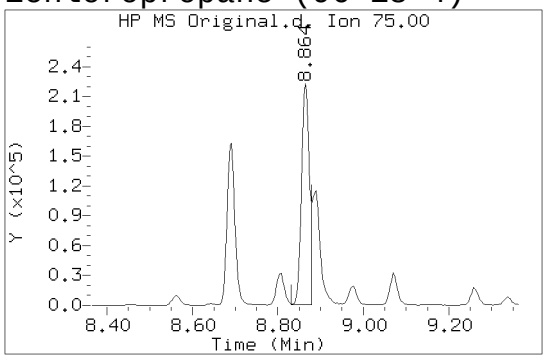
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D
Inj Date : 06-NOV-2022 12:20
InstruID : voa6.i
LabSampID : CCV

1,2,3-Trichloropropane (96-18-4)

Reason Code:

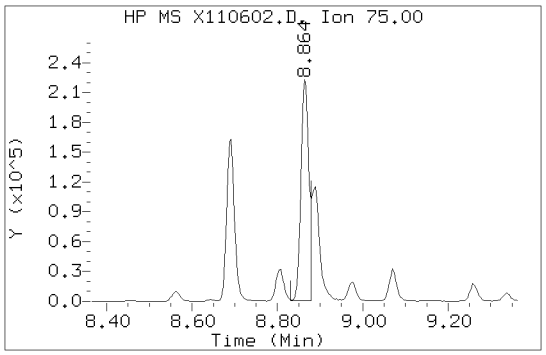
BEFORE

MASS
75
AREA
300073
HEIGHT
222705
09-Nov-2022
12:24
linh
pham



AFTER

MASS
75
AREA
300073
HEIGHT
222705
17-Nov-2022
10:50
linh
pham



BEFORE

MASS
77
AREA
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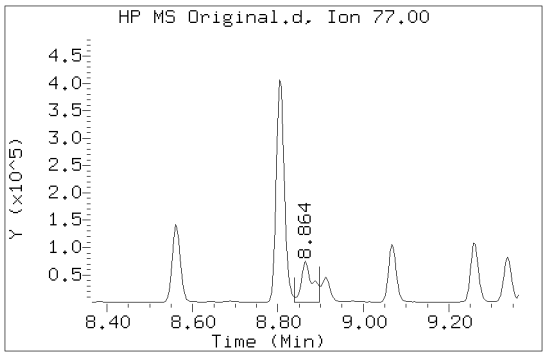

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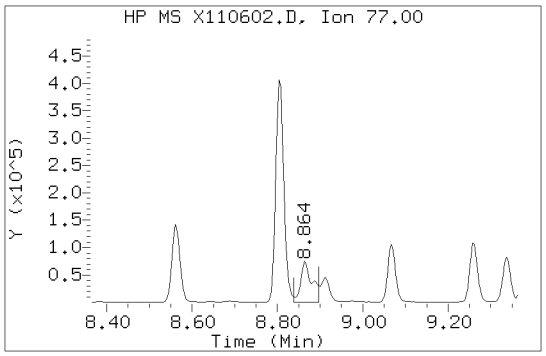

Chloroprene (126-99-8)

Reason Code:

BEFORE

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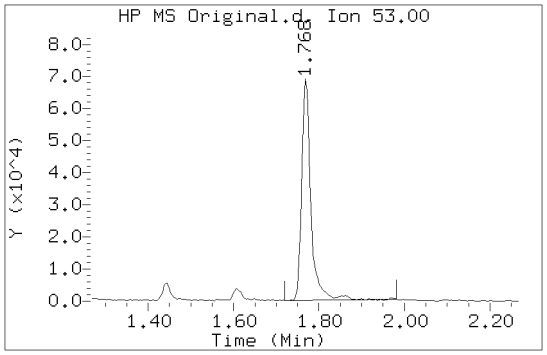

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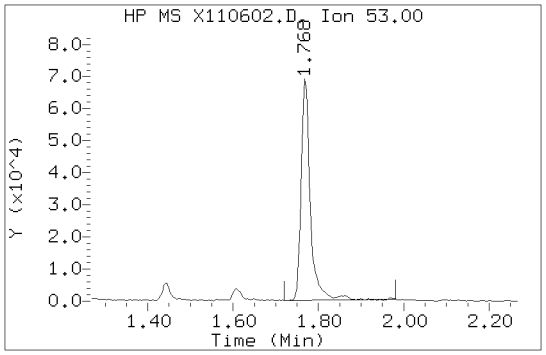

BEFORE

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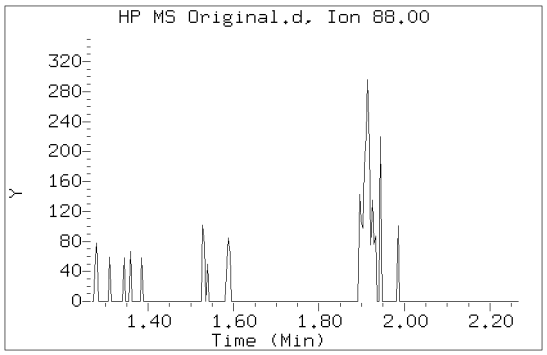

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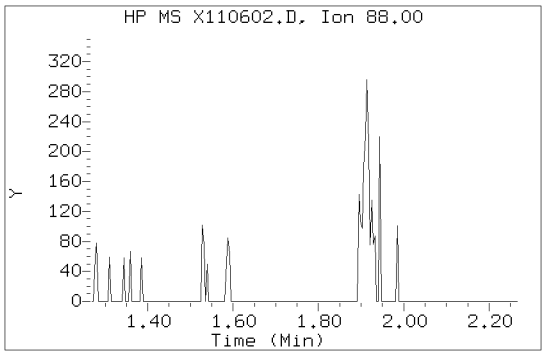

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Report Date: 06-Nov-2022 20:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110604.D
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Operator : PC Inst ID: voa6.i
Smp Info : CCB;CCB;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 06-Nov-2022 20:11 pcabasca Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTWS005

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	710320	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	323083	45.6940	45.69
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	361277	44.1789	44.17
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1028355	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	922625	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1196623	53.7436	53.74
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	406540	47.3428	47.34
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	425098	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D
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Operator : PC Inst ID: voa6.i
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Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.177	4.178	(1.000)	599002	50.0000	
135 1,4-Dioxane	88	5.602	5.598	(1.341)	23140	362.297	362.29(a)
140 1,3-Butadiene	54	1.164	1.164	(0.279)	97345	19.3871	19.38
25 Methacrylonitrile	41	3.821	3.818	(0.915)	108495	20.2160	20.21
12 Isobutyl Alcohol	43	4.676	4.676	(1.119)	371096	414.764	414.76
13 Acetonitrile	39	2.194	2.195	(0.525)	153521	213.912	213.91
14 Allyl Chloride	41	2.198	2.198	(0.526)	281056	20.8434	20.84
4 Propionitrile	54	3.653	3.653	(0.874)	152449	202.512	202.51(a)
136 n-Hexane	57	2.772	2.768	(0.664)	82747	16.7404	16.74
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	42059	21.0958	21.09
23 Chloroprene	53	1.771	1.767	(0.424)	44186	19.2628	19.26(M)
130 Ethyl Acetate	43	3.660	3.653	(0.876)	130771	20.7885	20.78
40 Methyl Methacrylate	41	5.609	5.606	(1.343)	113232	20.4398	20.43
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	191465	20.6878	20.68
2 Dichlorodifluoromethane	85	0.972	0.973	(0.233)	104788	19.4032	19.40
3 Chloromethane	50	1.077	1.077	(0.258)	136264	21.7409	21.74
5 Vinyl Chloride	62	1.141	1.141	(0.273)	129765	19.1178	19.11
6 Bromomethane	94	1.336	1.336	(0.320)	91933	22.2603	22.26
7 Chloroethane	64	1.404	1.400	(0.336)	83363	19.7020	19.70
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	168291	19.4541	19.45

9	Acrolein	56	1.445	1.441 (0.346)	23299	61.1760	61.17
10	Acetone	43	1.973	1.973 (0.472)	103126	47.9879	47.98

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D Page 2
Report Date: 17-Nov-2022 10:50

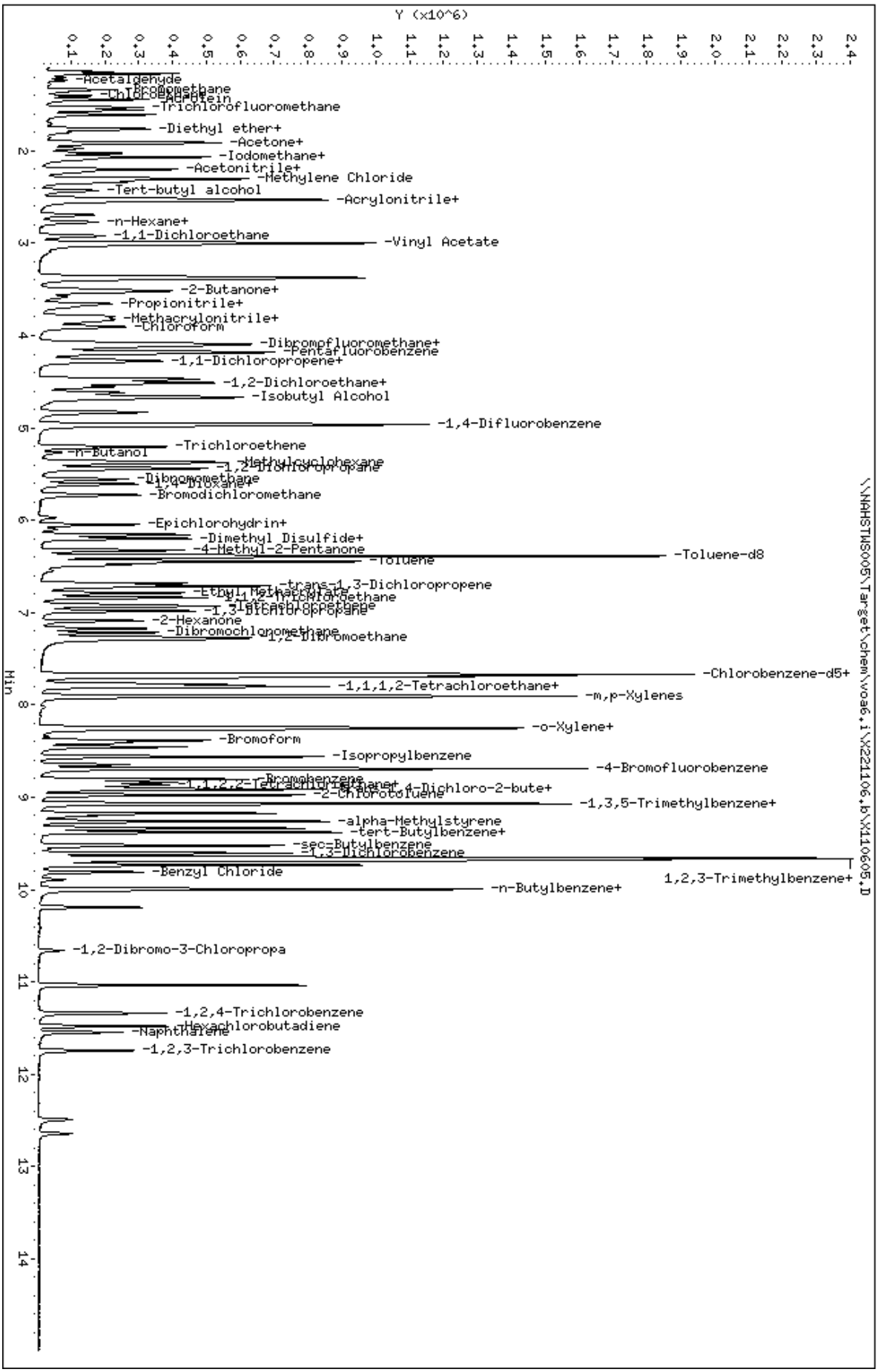
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	11 1,1-Dichloroethene	96	1.913	1.910	(0.458)	96199	18.8761	18.87
	15 Iodomethane	142	2.026	2.026	(0.485)	222494	35.8135	35.81
	16 Acrylonitrile	53	2.536	2.532	(0.607)	76815	39.2280	39.22
	17 Methylene Chloride	84	2.303	2.300	(0.551)	138023	21.1809	21.18
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	371704	20.7144	20.71
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	585204	37.8051	37.80
	20 trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	107588	19.0264	19.02
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	704059	44.1678	44.16
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	191956	18.8593	18.85
	24 2-Butanone	43	3.581	3.574	(0.857)	91120	42.5460	42.54
	26 2,2-Dichloropropane	77	3.510	3.507	(0.840)	162176	19.8654	19.86
	27 cis-1,2-Dichloroethene	96	3.525	3.522	(0.844)	133266	20.1709	20.17
	28 Chloroform	83	3.904	3.904	(0.935)	217072	19.1390	19.13
	29 Bromochloromethane	128	3.795	3.791	(0.908)	70580	19.8903	19.89
$	30 Dibromofluoromethane	113	4.099	4.095	(0.981)	301315	50.4774	50.47
	31 1,1,1-Trichloroethane	97	4.084	4.080	(0.978)	159002	18.2249	18.22
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	133287	17.8663	17.86
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	173844	20.5657	20.56
	34 Carbon Tetrachloride	117	4.264	4.260	(0.859)	118710	19.3546	19.35
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	341189	49.4247	49.42
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	930337	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	455455	19.7310	19.73
	38 Trichloroethene	130	5.208	5.205	(1.049)	124844	19.2525	19.25
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	165726	20.2303	20.23
	41 2-Chloroethylvinyl ether	63	6.048	6.044	(1.218)	113283	41.5083	41.50
	42 1,2-Dichloropropane	63	5.433	5.437	(1.094)	124988	19.9803	19.98
	44 Dibromomethane	93	5.553	5.550	(1.119)	87042	20.5525	20.55
	45 4-Methyl-2-Pentanone	43	6.325	6.326	(0.825)	246435	43.0919	43.09
	46 cis-1,3-Dichloropropene	75	6.157	6.153	(1.240)	215666	20.8888	20.88
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	890133	50.0000	
$	48 Toluene-d8	98	6.385	6.386	(0.832)	1092289	50.8484	50.84
	50 Toluene	91	6.445	6.446	(0.840)	497157	19.5291	19.52
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	182709	20.5678	20.56
	52 2-Hexanone	43	7.086	7.087	(0.924)	173226	44.9879	44.98
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	103481	20.2760	20.27
	54 1,3-Dichloropropane	76	6.981	6.982	(0.910)	210225	20.7552	20.75
	55 Dibromochloromethane	129	7.176	7.173	(0.936)	133146	20.2915	20.29
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	95440	19.1037	19.10
	57 1,2-Dibromoethane	107	7.263	7.259	(0.947)	134881	21.1493	21.14
	58 1-Chlorohexane	55	7.697	7.698	(1.550)	93185	18.6709	18.67
	59 Chlorobenzene	112	7.694	7.694	(1.003)	344167	20.0143	20.01
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	122685	20.1059	20.10
	61 Ethylbenzene	106	7.802	7.799	(1.017)	162480	18.5717	18.57
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	422149	38.7832	38.78
	63 o-Xylene	106	8.241	8.241	(1.074)	206415	19.4888	19.48
	64 Styrene	104	8.260	8.260	(1.077)	364540	20.4622	20.46
	66 Bromoform	173	8.410	8.410	(1.096)	82973	20.3784	20.37
	67 Isopropylbenzene	105	8.563	8.564	(1.116)	462935	17.8826	17.88
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	156604	20.8795	20.87
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	412626	49.7918	49.79
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	452740	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	123695	21.6809	21.68(M)

73 n-Propylbenzene	91	8.912	8.912 (0.922)	540906	18.0511	18.05
74 Bromobenzene	156	8.807	8.803 (0.912)	157924	20.2777	20.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	392928	18.4367	18.43
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	362911	19.1805	19.18
77	4-Chlorotoluene	91	9.073	9.070	(0.939)	422006	19.6389	19.63
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	314715	18.3220	18.32
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	411591	18.7446	18.74
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	427308	18.0345	18.03
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	382302	17.5637	17.56
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	255161	19.5921	19.59
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	270810	20.0579	20.05
87	n-Butylbenzene	91	9.995	9.995	(1.035)	331062	17.9824	17.98
88	1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	245531	20.0512	20.05
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	16646	22.9134	22.91
90	1,2,4-Trichlorobenzene	180	11.341	11.338	(1.174)	110586	19.4534	19.45
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	62896	18.6823	18.68
92	Naphthalene	128	11.547	11.544	(1.195)	190232	21.4960	21.49
93	1,2,3-Trichlorobenzene	180	11.746	11.742	(1.216)	84277	20.5541	20.55
M 94	1,2-Dichloroethylene (total)	96				240854	39.1973	39.19
M 95	Xylenes (total)	106				628564	58.2720	58.27
141	Cyclohexane	56	4.118	4.118	(0.986)	124712	18.7954	18.79
138	Freon TF	101	1.913	1.913	(0.458)	87826	19.0647	19.06
147	Methylcyclohexane	55	5.381	5.381	(1.084)	320148	24.8635	24.86
146	Methyl Acetate	43	2.232	2.228	(0.534)	77397	21.2680	21.26
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	209732	409.726	409.72
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	111825	401.106	401.10

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Sample Info: VLCSW-221106;VLCSW-221106;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D
Inj Date : 06-NOV-2022 13:23
InstruID : voa6.i
LabSampID : VLCSW-221106

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE

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09-Nov-2022
12:24
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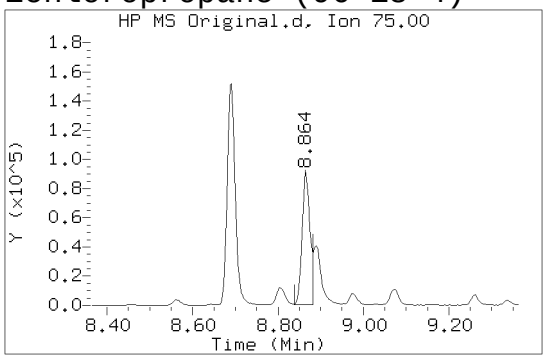

AFTER

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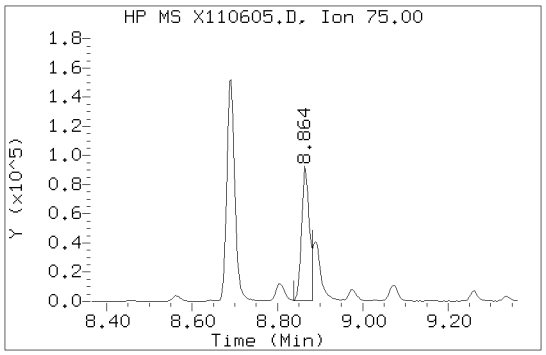

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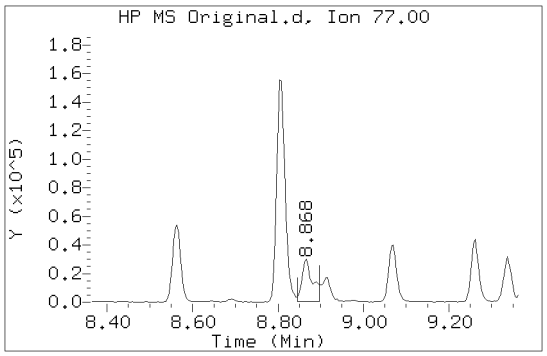

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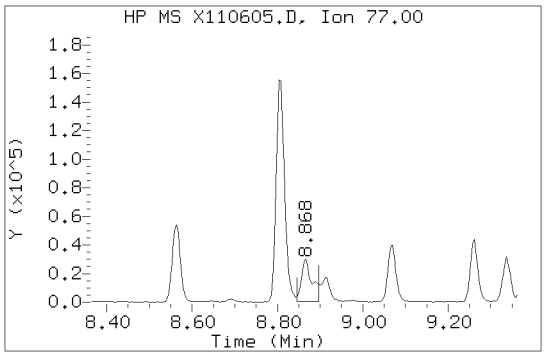

Chloroprene (126-99-8)

Reason Code:

BEFORE

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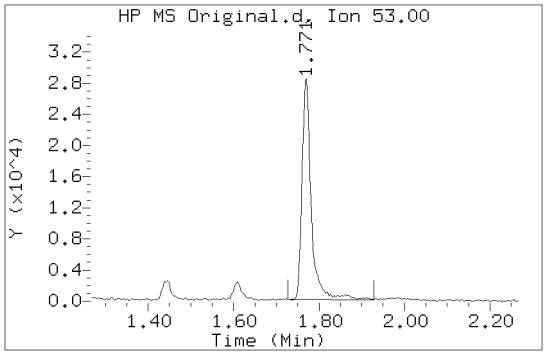

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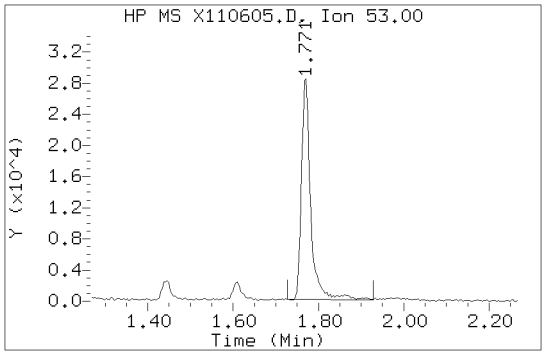

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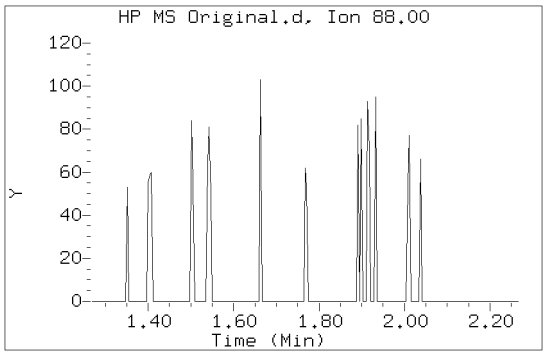

AFTER

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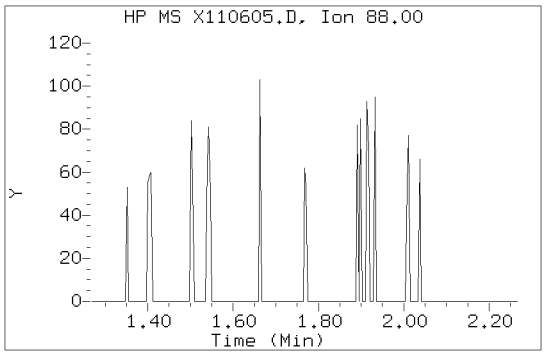


Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110608.D Page 1
Report Date: 17-Nov-2022 10:50

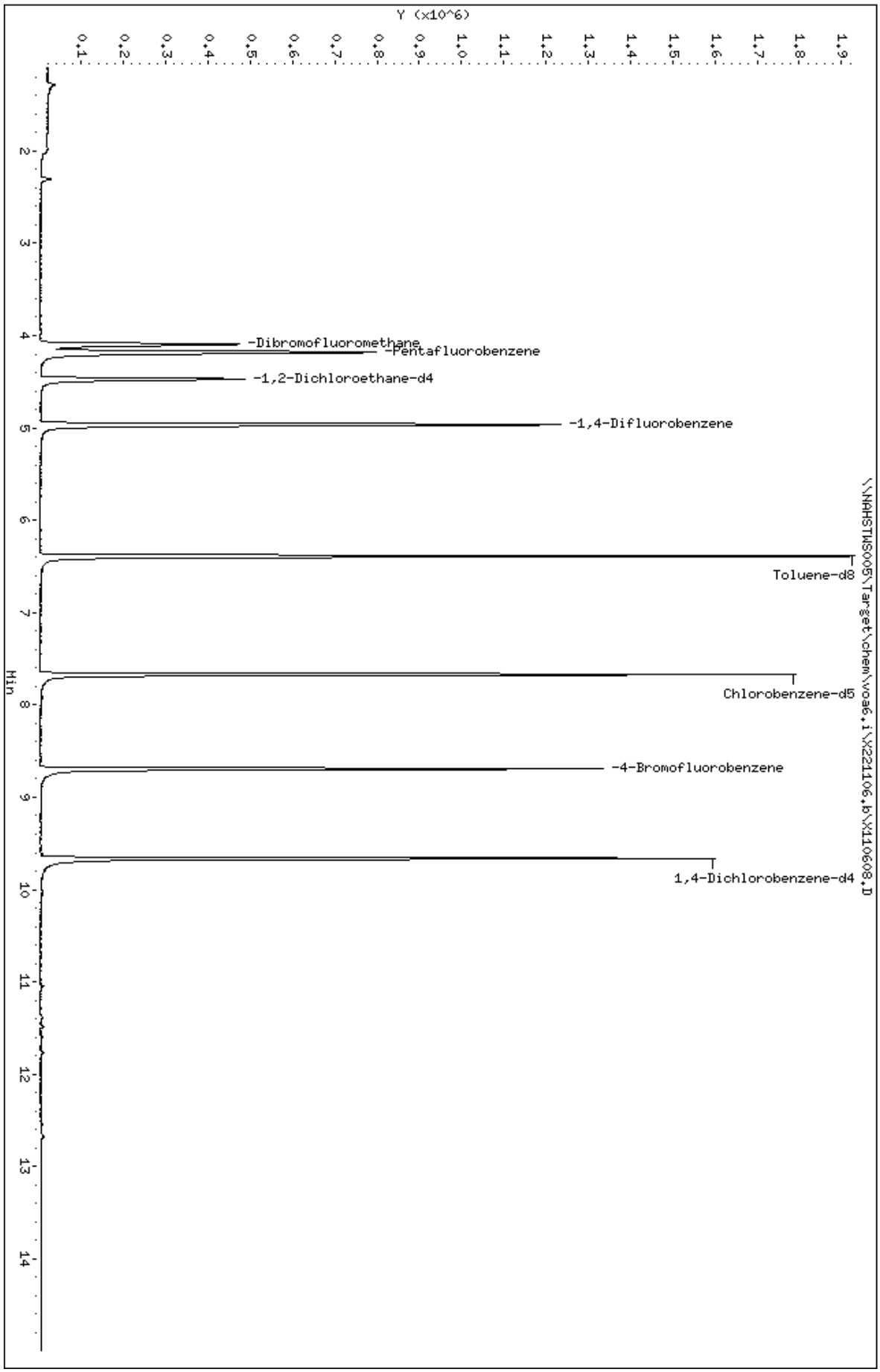
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110608.D
Lab Smp Id: VBLKW-221106 Client Smp ID: VBLKW-221106
Inj Date : 06-NOV-2022 14:26
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-221106;VBLKW-221106;3;;BLANK
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	697823	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	315896	45.4802	45.48
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	354146	44.0834	44.08
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1002160	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	901110	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1174239	53.9974	53.99
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	388099	46.2804	46.28
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	421065	50.0000	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Date : 06-NOV-2022 14:26
Client ID: VBLKW-221106
Sample Info: VBLKW-221106;VBLKW-221106;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Page 1
Y (x10^6)
Min
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110608.D

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110608.D
Inj Date : 06-NOV-2022 14:26
InstruID : voa6.i
LabSampID : VBLKW-221106

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110609.D Page 1
Report Date: 17-Nov-2022 10:50

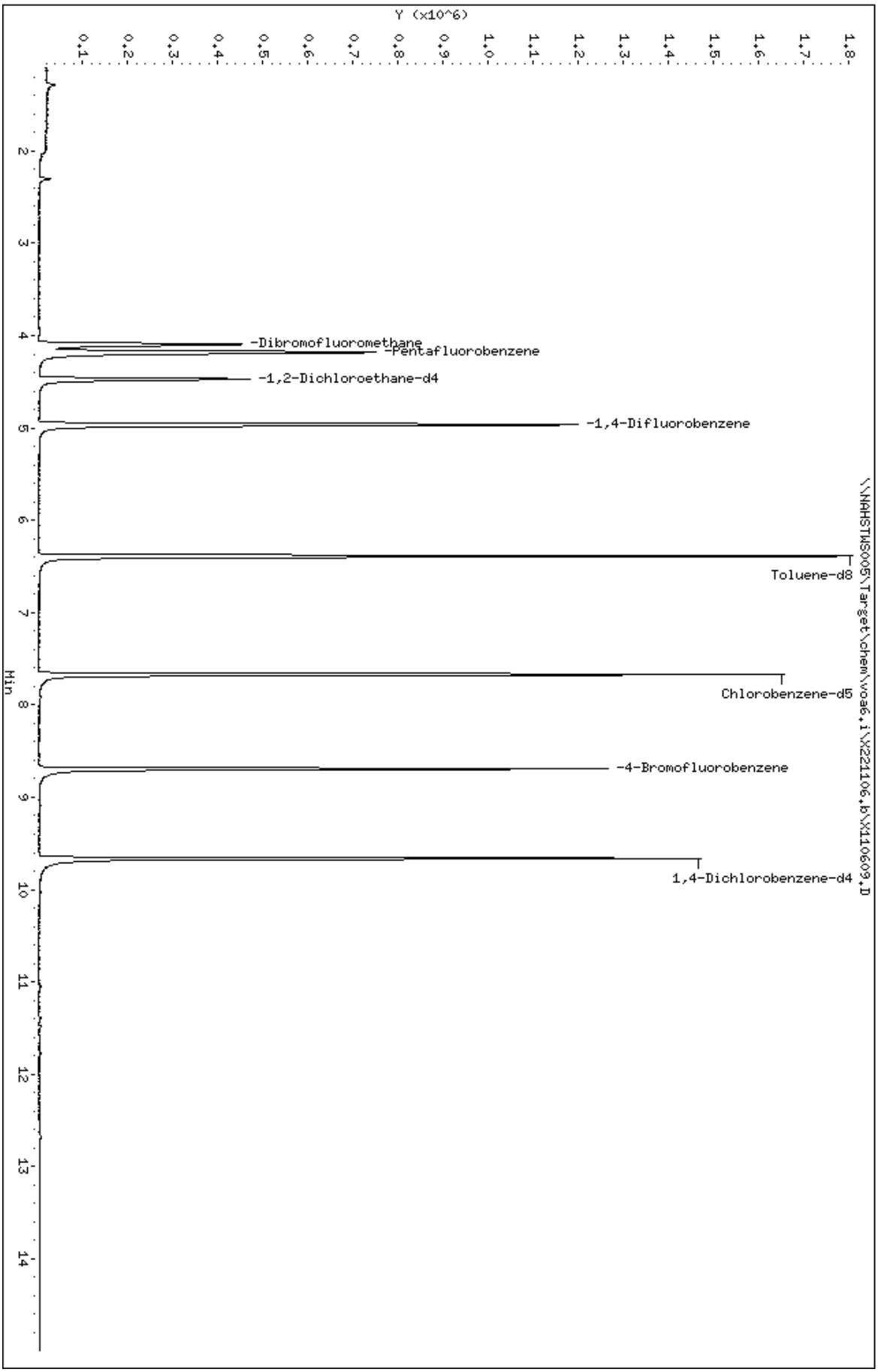
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110609.D
Lab Smp Id: HS22110180-10 Client Smp ID: HS22110180-10
Inj Date : 06-NOV-2022 14:47
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-10;HS22110180-10;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	676127	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	304446	45.2412	45.24
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	338918	43.5469	43.54
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	971953	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	856748	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1128455	54.5790	54.57
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	368423	46.2093	46.20
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	395121	50.0000	



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Date : 06-NOV-2022 14:47
Client ID: HS22110180-10
Sample Info: HS22110180-10;HS22110180-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110609.D
Inj Date : 06-NOV-2022 14:47
InstruID : voa6.i
LabSampID : HS22110180-10

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110610.D Page 1
Report Date: 17-Nov-2022 10:50

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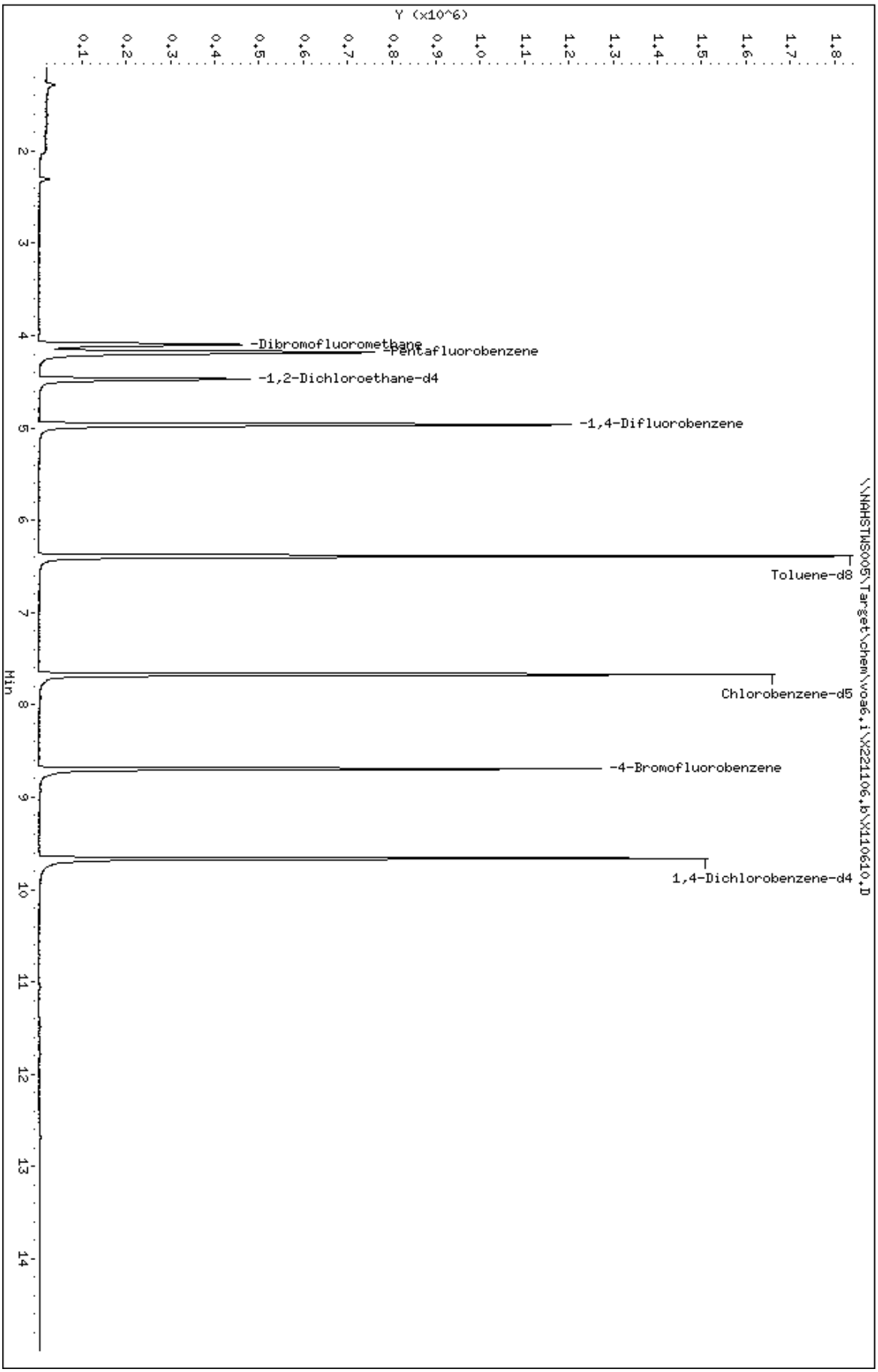
Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110610.D
Lab Smp Id: HS22110180-01 Client Smp ID: HS22110180-01
Inj Date : 06-NOV-2022 15:08
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-01;HS22110180-01;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	683042	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	308314	45.3508	45.35
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	342615	43.5760	43.57
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	975414	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	868792	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1138210	54.2877	54.28
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	374698	46.3441	46.34
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	400753	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110610.D
Date : 06-NOV-2022 15:08
Client ID: HS22110180-01
Sample Info: HS22110180-01;HS22110180-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110610.D
Inj Date : 06-NOV-2022 15:08
InstruID : voa6.i
LabSampID : HS22110180-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D
Lab Smp Id: HS22110180-01MS Client Smp ID: HS22110180-01MS
Inj Date : 06-NOV-2022 15:50
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-01MS;HS22110180-01MS;3;;MS
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	699870	50.0000	
135 1,4-Dioxane	88	5.602	5.598	(1.340)	20396	273.311	273.31(a)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	118345	20.1725	20.17
25 Methacrylonitrile	41	3.821	3.818	(0.914)	101665	16.2131	16.21
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	341726	326.892	326.89
13 Acetonitrile	39	2.198	2.195	(0.526)	155968	186.000	186.00
14 Allyl Chloride	41	2.198	2.198	(0.526)	283213	17.9762	17.97
4 Propionitrile	54	3.653	3.653	(0.874)	151390	172.121	172.12(a)
136 n-Hexane	57	2.768	2.768	(0.662)	140140	24.3722	24.37
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	35522	17.4518	17.45
23 Chloroprene	53	1.767	1.767	(0.423)	50778	18.9462	18.94(M)
130 Ethyl Acetate	43	3.657	3.653	(0.875)	112411	15.2944	15.29
40 Methyl Methacrylate	41	5.610	5.606	(1.342)	106278	16.4195	16.41
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	180189	18.0964	18.09
2 Dichlorodifluoromethane	85	0.972	0.973	(0.233)	97571	15.5861	15.58
3 Chloromethane	50	1.077	1.077	(0.258)	129748	17.9733	17.97
5 Vinyl Chloride	62	1.141	1.141	(0.273)	142324	17.9461	17.94
6 Bromomethane	94	1.336	1.336	(0.320)	95954	20.0207	20.02
7 Chloroethane	64	1.400	1.400	(0.335)	91168	18.4412	18.44
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	210749	20.8510	20.85

9	Acrolein	56	1.441	1.441 (0.345)	23146	52.5131	52.51
10	Acetone	43	1.970	1.973 (0.471)	65496	25.4060	25.40

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D Page 2
Report Date: 17-Nov-2022 10:50

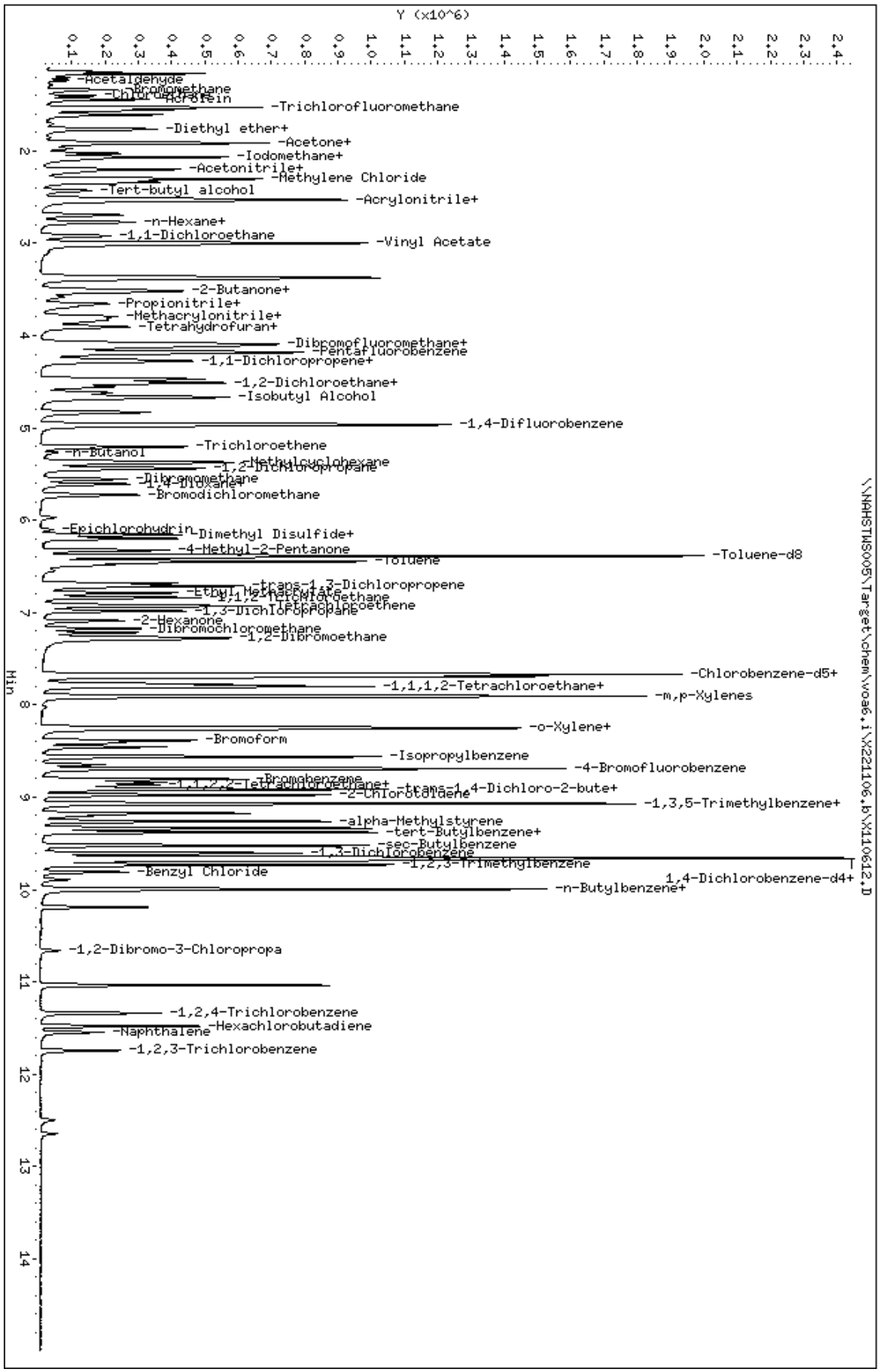
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	117921	19.8035	19.80
	15 Iodomethane	142	2.026	2.026	(0.485)	218687	30.5573	30.55
	16 Acrylonitrile	53	2.536	2.532	(0.606)	80837	35.3322	35.33
	17 Methylene Chloride	84	2.303	2.300	(0.551)	138860	18.2382	18.23
	18 Methyl tert-butyl ether	73	2.532	2.536	(0.606)	351219	16.7519	16.75
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	645710	35.7019	35.70
	20 trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	123142	18.6385	18.63
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	630974	33.8781	33.87
	22 1,1-Dichloroethane	63	2.922	2.918	(0.699)	214035	17.9978	17.99
	24 2-Butanone	43	3.582	3.574	(0.857)	74026	29.5829	29.58
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	189507	19.8675	19.86
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.842)	137639	17.8303	17.83
	28 Chloroform	83	3.904	3.904	(0.934)	228121	17.2144	17.21
	29 Bromochloromethane	128	3.791	3.791	(0.907)	73061	17.6221	17.62
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	314104	45.0946	45.09
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	191636	18.7997	18.79
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	172433	21.4836	21.48
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	171965	18.9087	18.90
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	149047	22.5602	22.56
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	347356	43.1212	43.12
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1000924	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	494038	19.8931	19.89
	38 Trichloroethene	130	5.205	5.205	(1.048)	143316	20.5425	20.54
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	164022	18.6103	18.61
	42 1,2-Dichloropropane	63	5.433	5.437	(1.094)	126786	18.8384	18.83
	44 Dibromomethane	93	5.553	5.550	(1.119)	84623	18.5722	18.57
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	225858	38.6842	38.68
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	207305	18.6629	18.66
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	908763	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.832)	1175454	53.5981	53.59
	50 Toluene	91	6.446	6.446	(0.840)	539158	20.7448	20.74
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	173815	18.1867	18.18
	52 2-Hexanone	43	7.087	7.087	(0.924)	144406	36.7344	36.73
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	99033	19.0066	19.00
	54 1,3-Dichloropropane	76	6.982	6.982	(0.910)	204198	19.7469	19.74
	55 Dibromochloromethane	129	7.176	7.173	(0.936)	128225	19.1410	19.14
	56 Tetrachloroethene	164	6.929	6.925	(0.903)	120298	23.4581	23.45
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	128873	19.7930	19.79
	58 1-Chlorohexane	55	7.698	7.698	(1.550)	121354	22.5903	22.59
	59 Chlorobenzene	112	7.694	7.694	(1.003)	363419	20.7006	20.70
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	122422	19.6515	19.65
	61 Ethylbenzene	106	7.803	7.799	(1.017)	188825	21.1405	21.14
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	476209	42.8529	42.85
	63 o-Xylene	106	8.241	8.241	(1.074)	226400	20.9375	20.93
	64 Styrene	104	8.260	8.260	(1.077)	381421	20.9708	20.97
	66 Bromoform	173	8.410	8.410	(1.096)	75380	18.4030	18.40
	67 Isopropylbenzene	105	8.560	8.564	(1.116)	582197	22.0285	22.02
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	142526	18.3582	18.35
$	69 4-Bromofluorobenzene	95	8.687	8.691	(1.132)	417460	49.3448	49.34
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	468631	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	113188	19.1665	19.16(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	679020	21.8918	21.89

74 Bromobenzene	156	8.807	8.803 (0.912)	162374	20.1421	20.14
75 1,3,5-Trimethylbenzene	105	9.070	9.066 (0.939)	471166	21.3581	21.35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	403450	20.6000	20.59
77	4-Chlorotoluene	91	9.073	9.070	(0.939)	463414	20.8346	20.83
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	403324	22.5531	22.55
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	469739	20.6673	20.66
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	562600	22.7098	22.70
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	487916	21.6557	21.65
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	272384	20.2054	20.20
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	284841	20.3817	20.38
87	n-Butylbenzene	91	9.995	9.995	(1.035)	423548	22.2259	22.22
88	1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	249366	19.6739	19.67
89	1,2-Dibromo-3-Chloropropane	155	10.663	10.655	(1.104)	12889	17.8246	17.82
90	1,2,4-Trichlorobenzene	180	11.337	11.338	(1.173)	108297	18.4047	18.40
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	79536	22.8815	22.88
92	Naphthalene	128	11.547	11.544	(1.195)	148894	16.2543	16.25
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	72177	17.0062	17.00
M 94	1,2-Dichloroethylene (total)	96				260781	36.4687	36.46
M 95	Xylenes (total)	106				702609	63.7903	63.79
141	Cyclohexane	56	4.121	4.118	(0.986)	192233	24.9316	24.93
138	Freon TF	101	1.913	1.913	(0.458)	124626	23.2589	23.25
147	Methylcyclohexane	55	5.381	5.381	(1.084)	318822	23.0144	23.01
146	Methyl Acetate	43	2.232	2.228	(0.534)	71425	16.7982	16.79
148	Tert-Butyl alcohol	59	2.431	2.431	(0.581)	182902	305.814	305.81
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	101788	312.484	312.48

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Client ID: HS22110180-01MS
Sample Info: HS22110180-01MS;HS22110180-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D
Inj Date : 06-NOV-2022 15:50
InstruID : voa6.i
LabSampID : HS22110180-01MS

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE

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HEIGHT
82642
09-Nov-2022
12:24
linh
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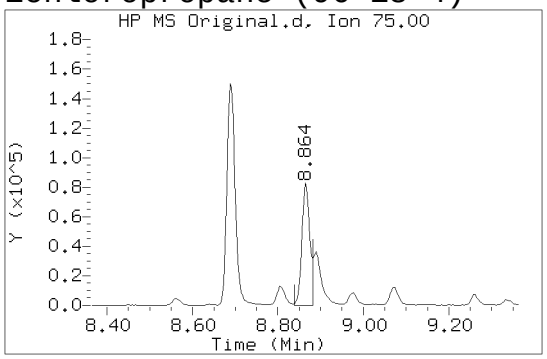

AFTER

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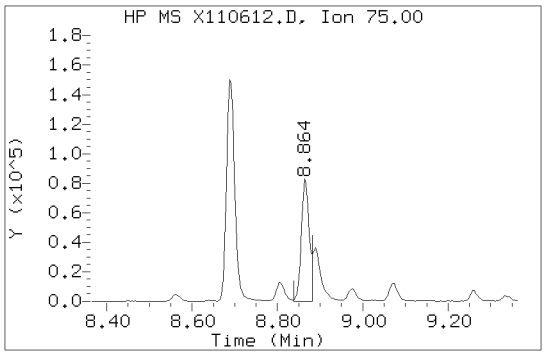

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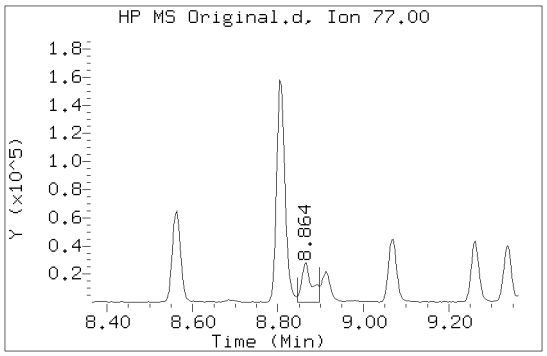

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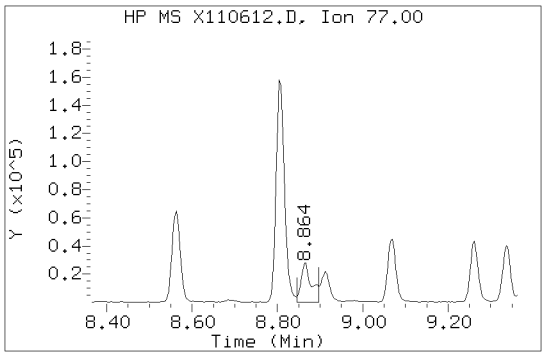

Chloroprene (126-99-8)

Reason Code:

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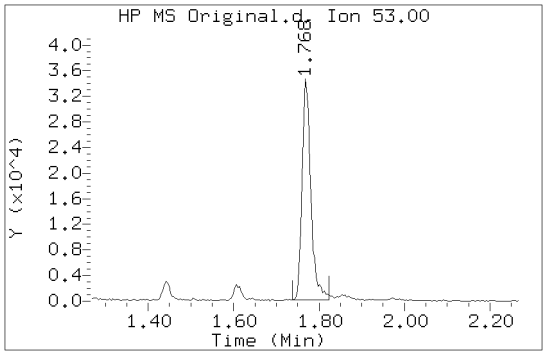

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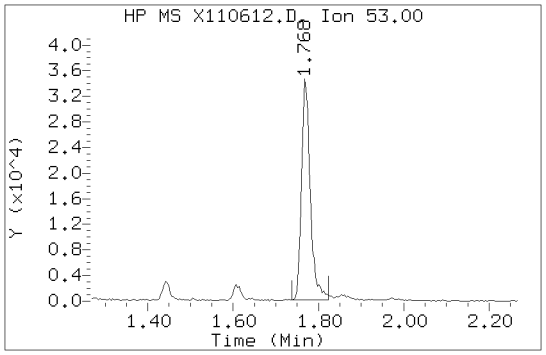

BEFORE

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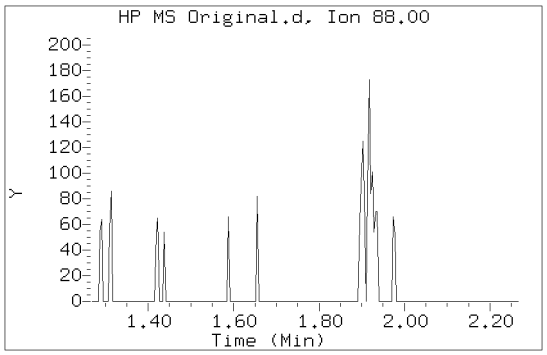

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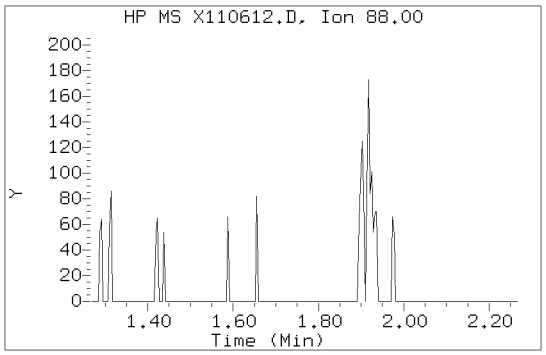

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110613.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110613.D
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Inj Date : 06-NOV-2022 16:11
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-01MSD;HS22110180-01MSD;3;;MSD
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 12 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	690775	50.0000	
135 1,4-Dioxane	88	5.606	5.598	(1.341)	22245	302.013	302.01(a)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	111179	19.2005	19.20
25 Methacrylonitrile	41	3.825	3.818	(0.915)	105671	17.0739	17.07
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	334000	323.708	323.70
13 Acetonitrile	39	2.198	2.195	(0.526)	150659	182.035	182.03
14 Allyl Chloride	41	2.198	2.198	(0.526)	280961	18.0681	18.06
4 Propionitrile	54	3.649	3.653	(0.873)	158252	182.291	182.29(a)
136 n-Hexane	57	2.772	2.768	(0.663)	130967	23.0688	23.06
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	38864	19.0467	19.04
23 Chloroprene	53	1.771	1.767	(0.424)	49074	18.5515	18.55(M)
130 Ethyl Acetate	43	3.657	3.653	(0.875)	116974	16.1248	16.12
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	101774	15.9307	15.93
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	183940	18.5993	18.59
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	93708	15.1825	15.18
3 Chloromethane	50	1.077	1.077	(0.258)	122302	17.2270	17.22
5 Vinyl Chloride	62	1.141	1.141	(0.273)	135424	17.3009	17.30
6 Bromomethane	94	1.336	1.336	(0.320)	90254	19.1389	19.13
7 Chloroethane	64	1.400	1.400	(0.335)	88001	18.0350	18.03
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	205913	20.6407	20.64

9	Acrolein	56	1.441	1.441 (0.345)	22217	51.1541	51.15
10	Acetone	43	1.973	1.973 (0.472)	67388	26.5472	26.54

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110613.D Page 2
Report Date: 17-Nov-2022 10:50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
11	1,1-Dichloroethene	96	1.910	1.910	(0.457)	111186	18.9183	18.91
15	Iodomethane	142	2.026	2.026	(0.485)	228064	32.1364	32.13
16	Acrylonitrile	53	2.536	2.532	(0.606)	76807	34.0128	34.01
17	Methylene Chloride	84	2.303	2.300	(0.551)	136770	18.2002	18.20
18	Methyl tert-butyl ether	73	2.536	2.536	(0.606)	349766	16.9022	16.90
19	Carbon Disulfide	76	2.067	2.067	(0.494)	618382	34.6411	34.64
20	trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	118662	18.1969	18.19
21	Vinyl Acetate	43	2.997	2.997	(0.717)	636676	34.6343	34.63
22	1,1-Dichloroethane	63	2.918	2.918	(0.698)	208146	17.7331	17.73
24	2-Butanone	43	3.582	3.574	(0.857)	74570	30.1926	30.19
26	2,2-Dichloropropane	77	3.507	3.507	(0.839)	181712	19.3360	19.33
27	cis-1,2-Dichloroethene	96	3.525	3.522	(0.843)	135490	17.7830	17.78
28	Chloroform	83	3.904	3.904	(0.934)	221981	16.9716	16.97
29	Bromochloromethane	128	3.795	3.791	(0.908)	71100	17.3749	17.37
$ 30	Dibromofluoromethane	113	4.095	4.095	(0.979)	310452	45.1564	45.15
31	1,1,1-Trichloroethane	97	4.084	4.080	(0.977)	183171	18.2058	18.20
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	164945	20.6911	20.69
33	1,2-Dichloroethane	62	4.556	4.556	(0.918)	167172	18.5073	18.50
34	Carbon Tetrachloride	117	4.264	4.260	(0.859)	147991	22.5534	22.55
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	347580	43.7112	43.71
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	994132	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	476347	19.3118	19.31
38	Trichloroethene	130	5.205	5.205	(1.048)	136729	19.7322	19.73
39	Bromodichloromethane	83	5.726	5.726	(1.153)	160786	18.3678	18.36
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	124496	18.6245	18.62
44	Dibromomethane	93	5.553	5.550	(1.119)	84692	18.7144	18.71
45	4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	232047	39.6463	39.64
46	cis-1,3-Dichloropropene	75	6.157	6.153	(1.240)	207717	18.8278	18.82
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	911007	50.0000	
$ 48	Toluene-d8	98	6.386	6.386	(0.832)	1163008	52.9000	52.89
50	Toluene	91	6.446	6.446	(0.840)	529032	20.3050	20.30
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	177018	18.6484	18.64
52	2-Hexanone	43	7.087	7.087	(0.924)	150782	38.2618	38.26
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	99570	19.0626	19.06
54	1,3-Dichloropropane	76	6.982	6.982	(0.910)	202227	19.5081	19.50
55	Dibromochloromethane	129	7.173	7.173	(0.935)	127624	19.0043	19.00
56	Tetrachloroethene	164	6.925	6.925	(0.903)	117558	22.8811	22.88
57	1,2-Dibromoethane	107	7.259	7.259	(0.946)	130369	19.9735	19.97
58	1-Chlorohexane	55	7.698	7.698	(1.550)	121233	22.7215	22.72
59	Chlorobenzene	112	7.694	7.694	(1.003)	352866	20.0500	20.04
60	1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.013)	121502	19.4557	19.45
61	Ethylbenzene	106	7.799	7.799	(1.017)	185177	20.6810	20.68
62	m,p-Xylenes	106	7.904	7.904	(1.030)	461275	41.4067	41.40
63	o-Xylene	106	8.241	8.241	(1.074)	219731	20.2707	20.27
64	Styrene	104	8.260	8.260	(1.077)	378520	20.7600	20.76
66	Bromoform	173	8.410	8.410	(1.096)	79185	19.1674	19.16
67	Isopropylbenzene	105	8.564	8.564	(1.116)	571884	21.5850	21.58
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	149226	19.3290	19.32
$ 69	4-Bromofluorobenzene	95	8.691	8.691	(1.133)	414869	48.9200	48.92
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	466016	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	109227	18.5996	18.59(M)
73	n-Propylbenzene	91	8.912	8.912	(0.922)	665136	21.5645	21.56

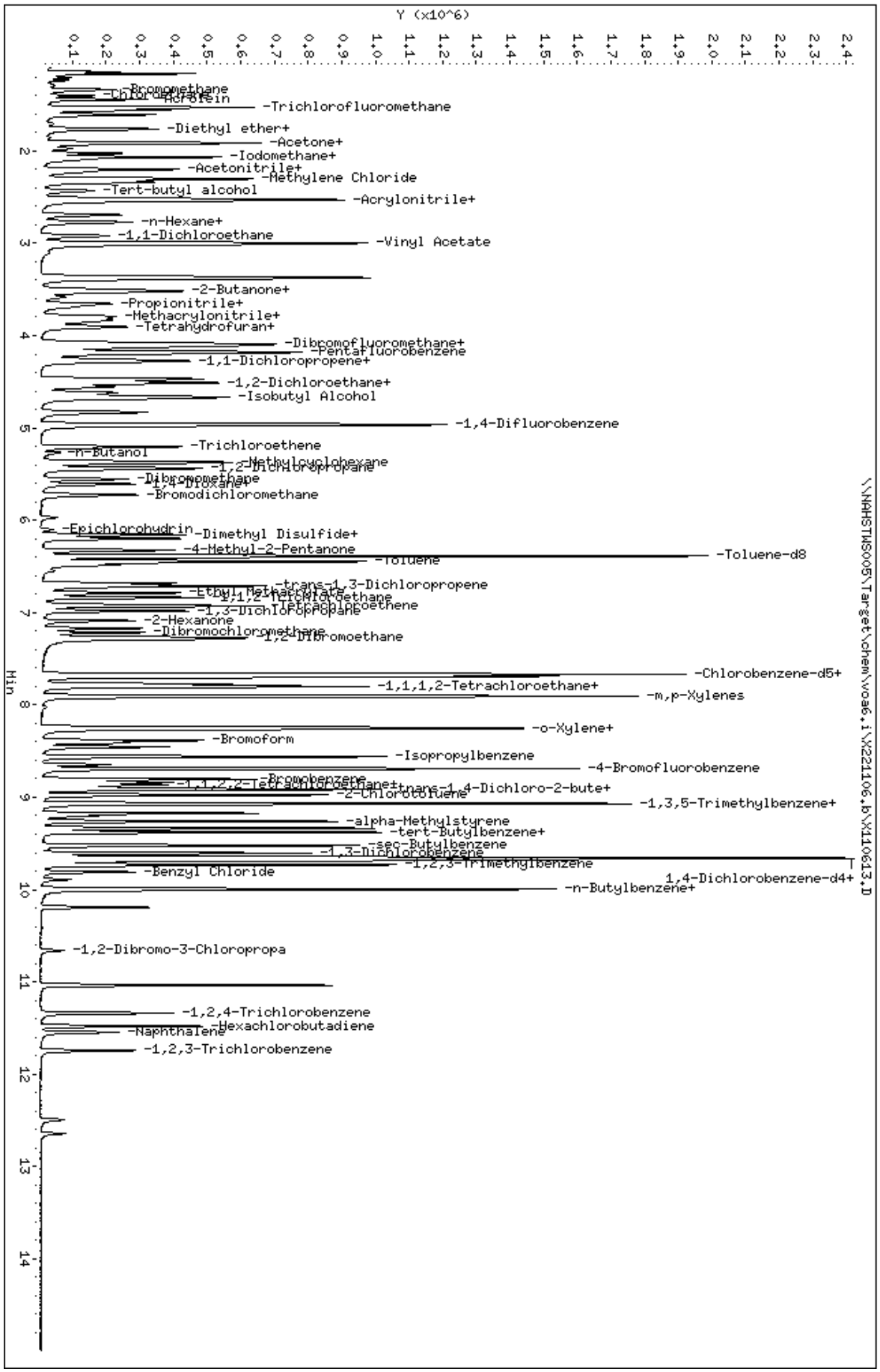
74	Bromobenzene	156	8.807	8.803 (0.912)	160408	20.0099	20.00
75	1,3,5-Trimethylbenzene	105	9.070	9.066 (0.939)	469268	21.3914	21.39

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110613.D Page 3
Report Date: 17-Nov-2022 10:50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	398885	20.4812	20.48
	77 4-Chlorotoluene	91	9.073	9.070	(0.939)	458001	20.7068	20.70
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	397724	22.3694	22.36
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	465653	20.6025	20.60
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	559512	22.7118	22.71
	82 p-Isopropyltoluene	119	9.651	9.651	(0.999)	485833	21.6843	21.68
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	269160	20.0783	20.07
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	285900	20.5723	20.57
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	420790	22.2051	22.20
	88 1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	254150	20.1638	20.16
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	14951	20.3400	20.34
	90 1,2,4-Trichlorobenzene	180	11.341	11.338	(1.174)	119509	20.4242	20.42
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	79504	23.0017	23.00
	92 Naphthalene	128	11.544	11.544	(1.195)	186643	20.4896	20.48
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	87919	20.8315	20.83
M	94 1,2-Dichloroethylene (total)	96				254152	35.9798	35.97
M	95 Xylenes (total)	106				681006	61.6774	61.67
	141 Cyclohexane	56	4.118	4.118	(0.985)	184015	24.1694	24.16
	138 Freon TF	101	1.913	1.913	(0.458)	118801	22.4478	22.44
	147 Methylcyclohexane	55	5.381	5.381	(1.084)	313035	22.7510	22.75
	146 Methyl Acetate	43	2.232	2.228	(0.534)	74004	17.6339	17.63
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	191940	325.151	325.15
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	102068	317.469	317.46

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Sample Info: HS22110180-01HSD;HS22110180-01HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110613.D
Inj Date : 06-NOV-2022 16:11
InstruID : voa6.i
LabSampID : HS22110180-01MSD

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE

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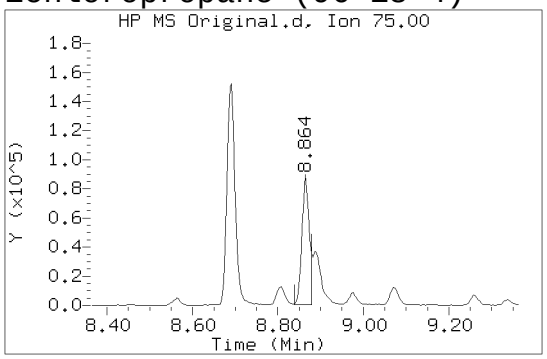
109227
HEIGHT
89243
09-Nov-2022
12:24
linh
pham



AFTER

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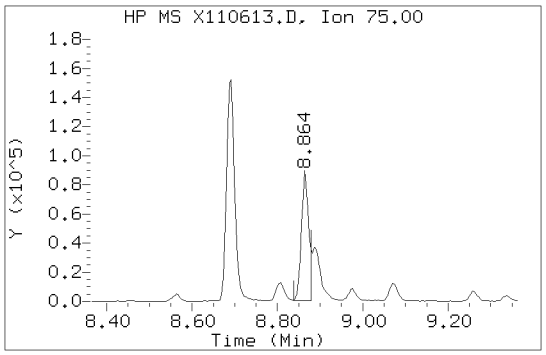

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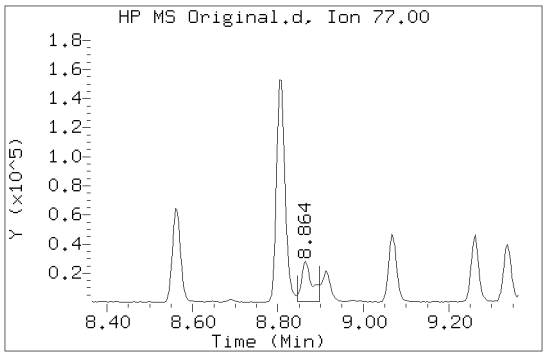

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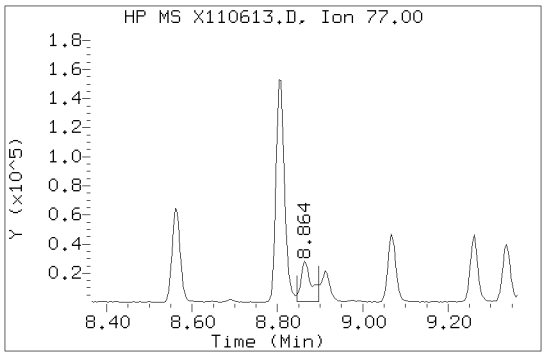

Chloroprene (126-99-8)

Reason Code:

BEFORE

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09-Nov-2022
12:24
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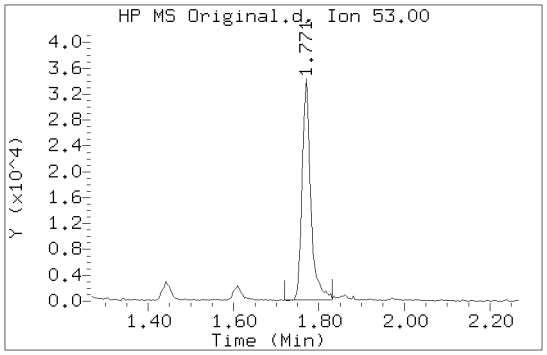

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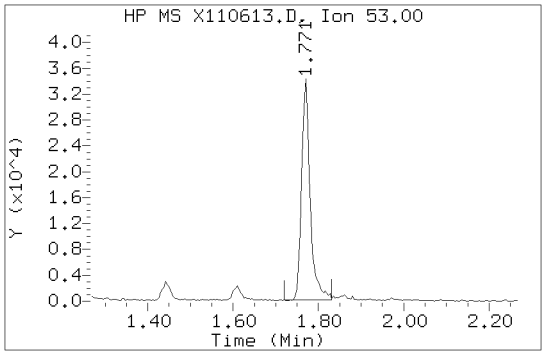

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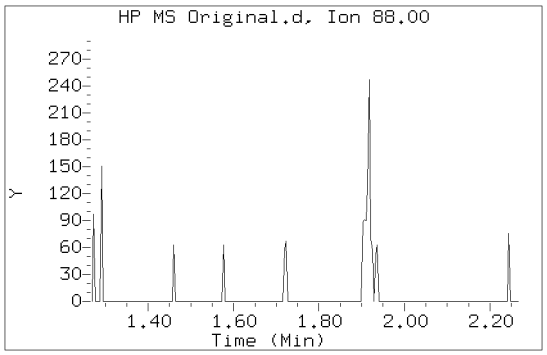

AFTER

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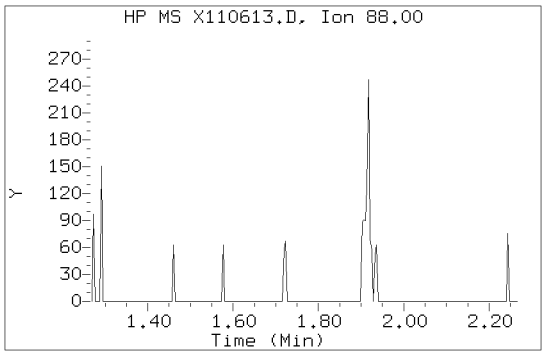
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110618.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110618.D
Lab Smp Id: HS22110180-02 Client Smp ID: HS22110180-02
Inj Date : 06-NOV-2022 17:57
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-02;HS22110180-02;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

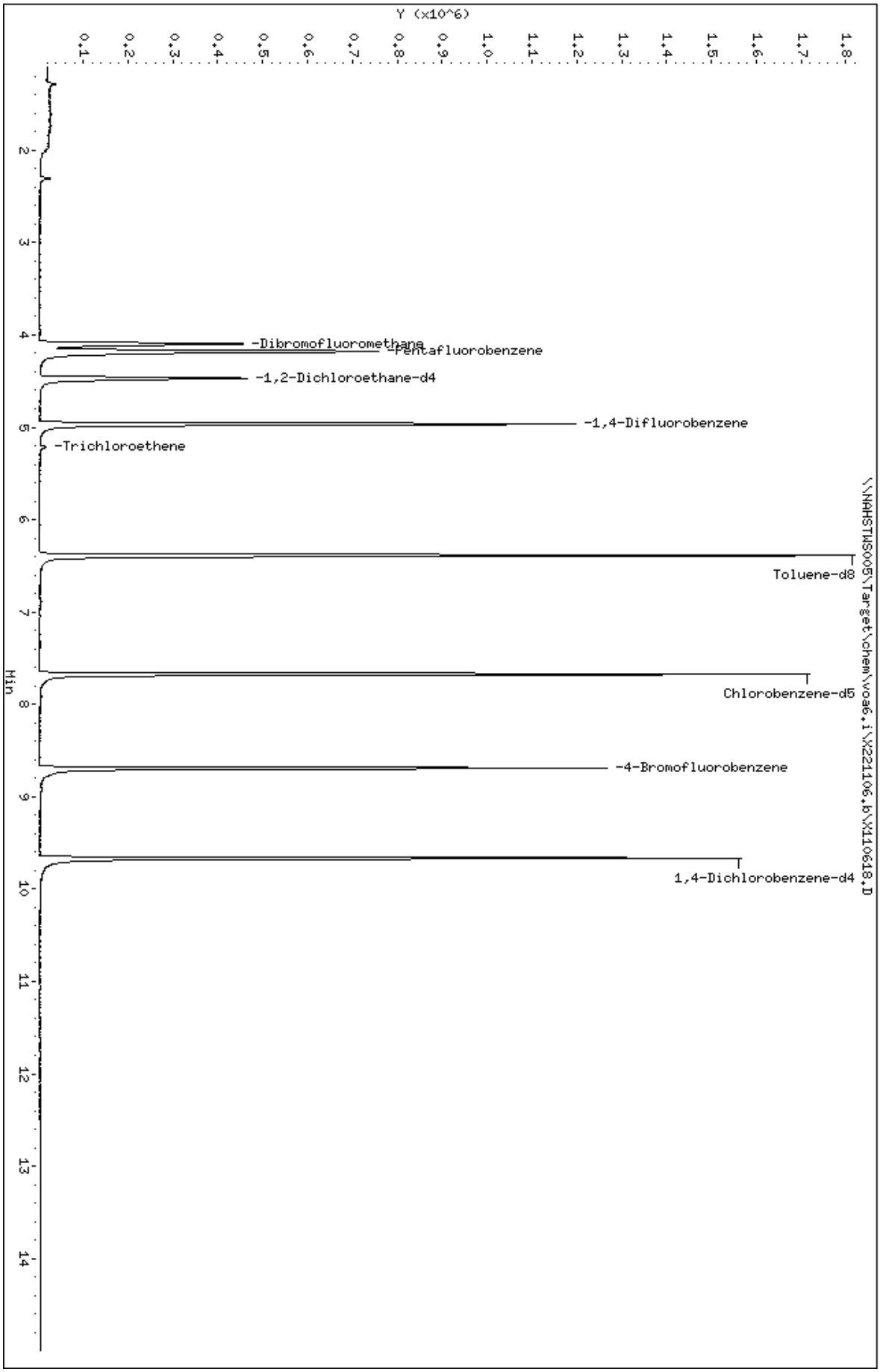
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	675182	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	302512	45.0194	45.01
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	336467	43.2950	43.29
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	976451	50.0000	
38 Trichloroethene	130	5.216	5.205	(1.051)	3787	0.55642	0.55(a)
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	863606	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1129634	54.2022	54.20
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	372558	46.3560	46.35
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	397755	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).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Date : 06-NOV-2022 17:57
Client ID: HS22110180-02
Sample Info: HS22110180-02;HS22110180-02;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6,i
Operator: PC
Column diameter: 0.18
Page 1
Y (x10^6)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS005\Target\chem\voa6,i\X221106,b\X110618.D
Min

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110618.D Page 2

Date : 06-NOV-2022 17:57

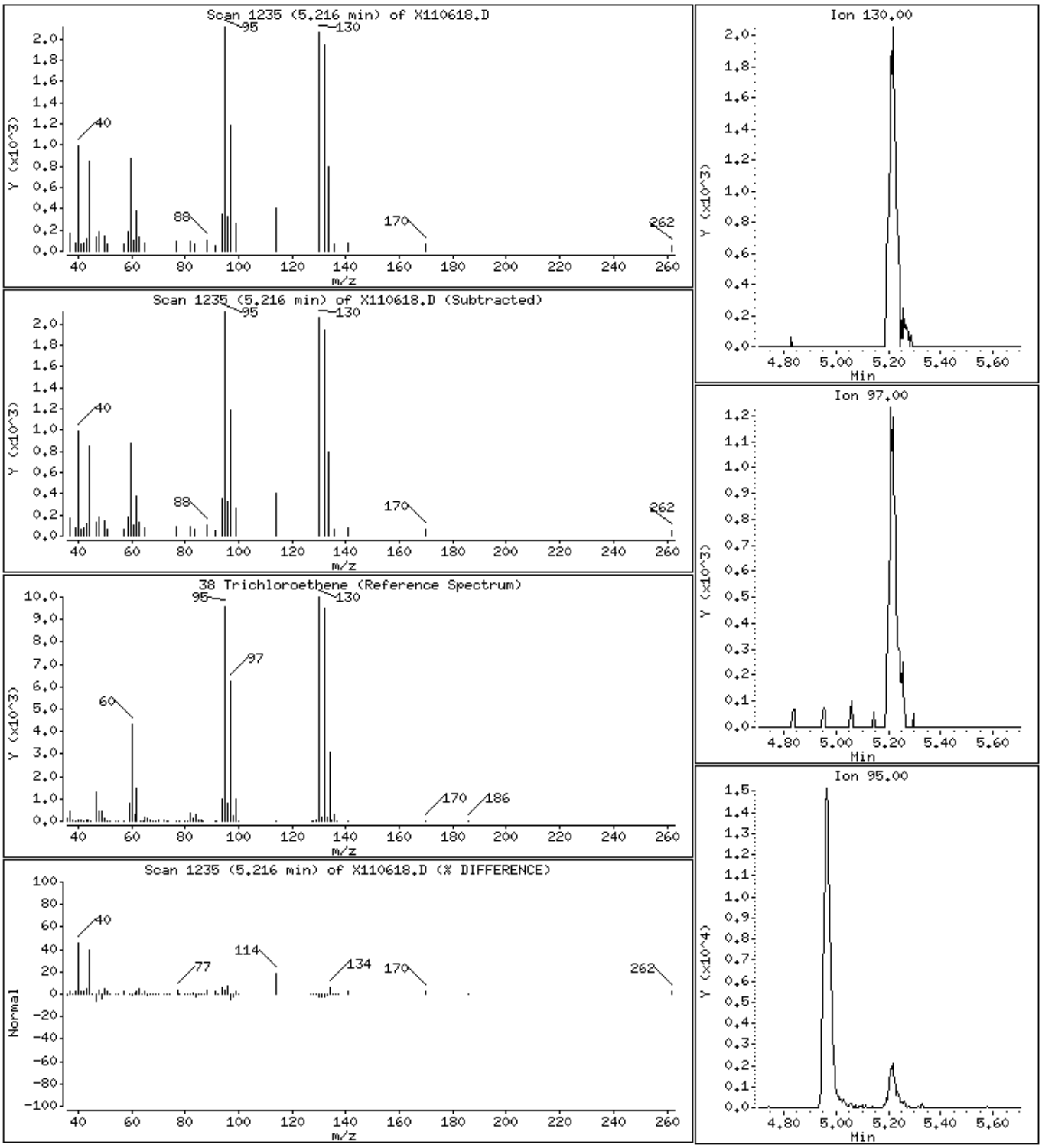
Client ID: HS22110180-02 Instrument: voa6.i

Sample Info: HS22110180-02;HS22110180-02;;;

Purge Volume: 5.0 Operator: PC

Column phase: DB624 Column diameter: 0.18

38 Trichloroethene Concentration: 0.55 ug/l



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Inj Date : 06-NOV-2022 17:57
InstruID : voa6.i
LabSampID : HS22110180-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110619.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110619.D
Lab Smp Id: HS22110180-03 Client Smp ID: HS22110180-03
Inj Date : 06-NOV-2022 18:18
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-03;HS22110180-03;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

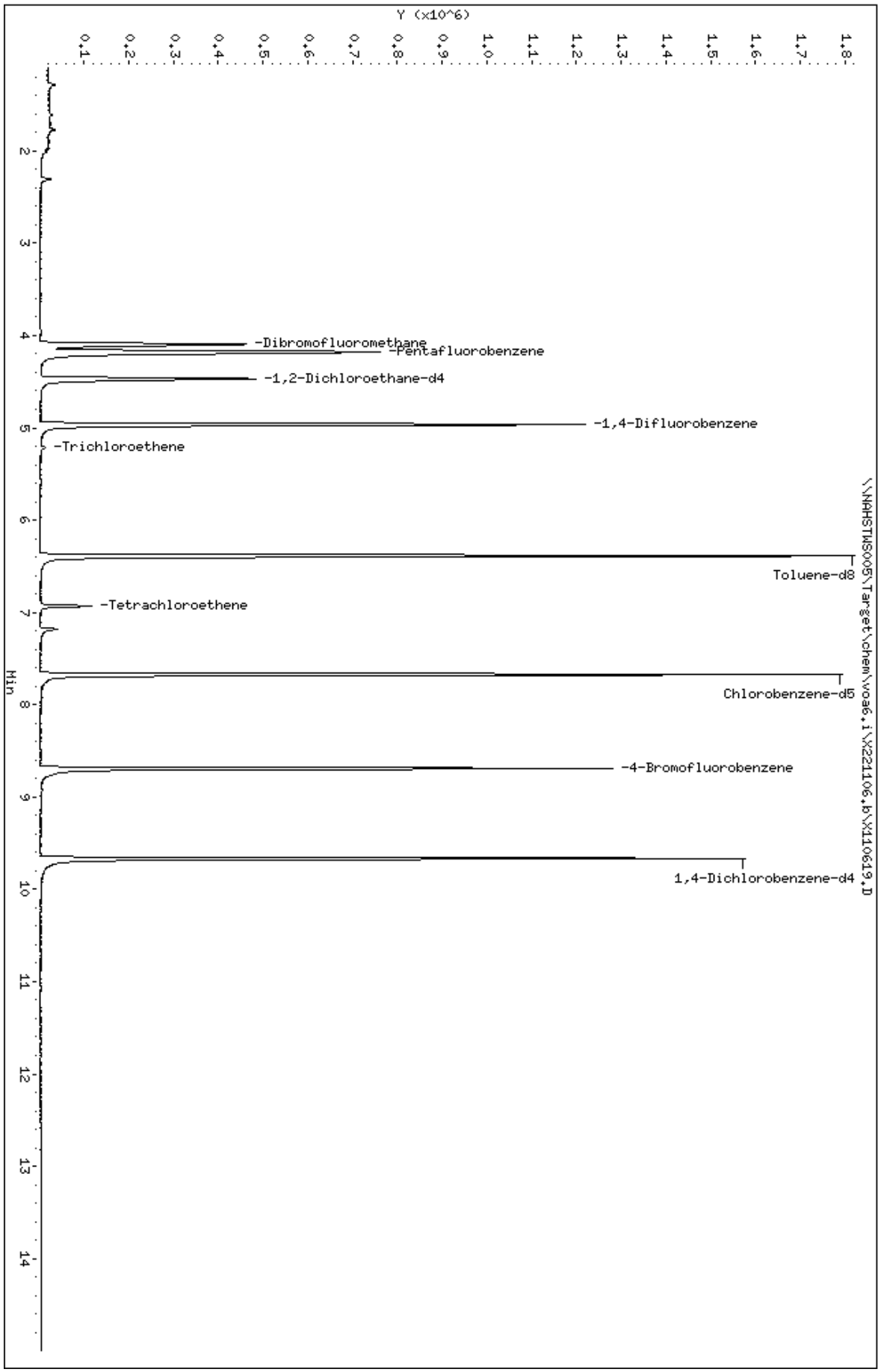
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	688646	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	309463	45.1518	45.15
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	339121	42.7884	42.78
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	990647	50.0000	
38 Trichloroethene	130	5.212	5.205	(1.050)	3984	0.57698	0.57(a)
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	876043	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1140847	53.9631	53.96
56 Tetrachloroethene	164	6.929	6.925	(0.903)	23806	5.24805	5.24
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	377090	46.2544	46.25
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	403812	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTMS005\Target\chem\voa6.i\X221106.b\X110619.D
Date : 06-NOV-2022 18:18
Client ID: HS22110180-03
Sample Info: HS22110180-03;HS22110180-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110619.D Page 2

Date : 06-NOV-2022 18:18

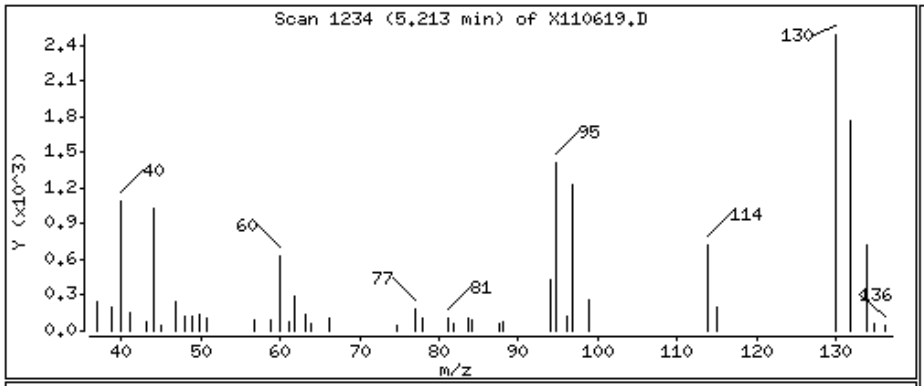
Client ID: HS22110180-03 Instrument: voa6.i

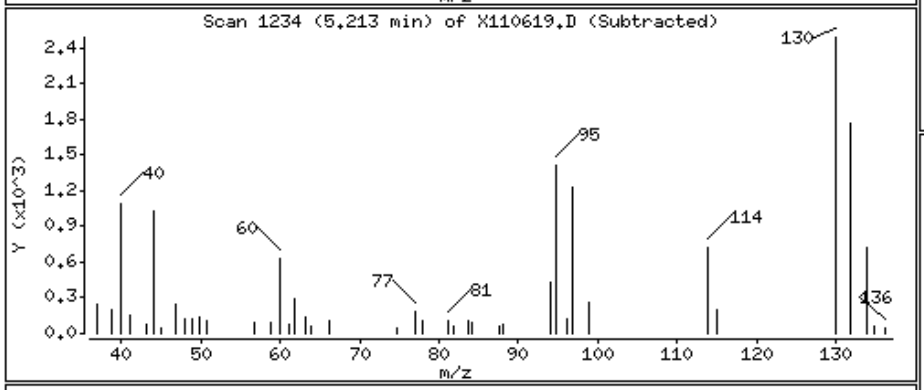
Sample Info: HS22110180-03;HS22110180-03;;;

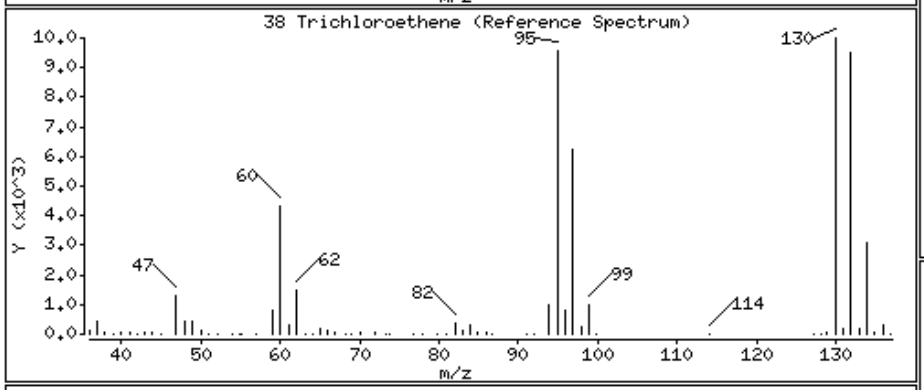
Purge Volume: 5.0 Operator: PC

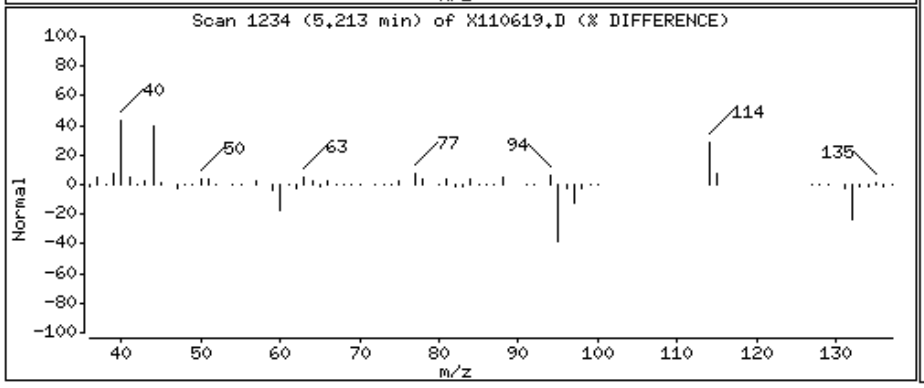
Column phase: DB624 Column diameter: 0.18

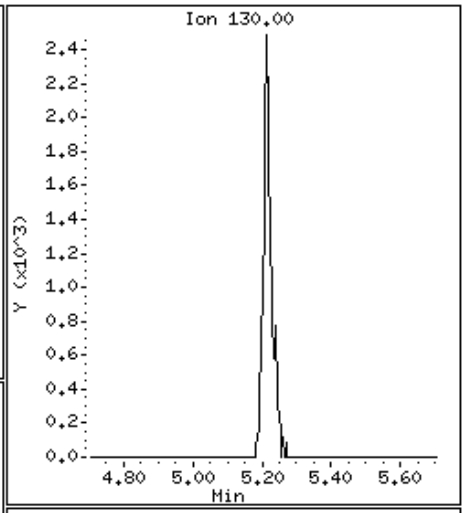
38 Trichloroethene Concentration: 0.57 ug/l

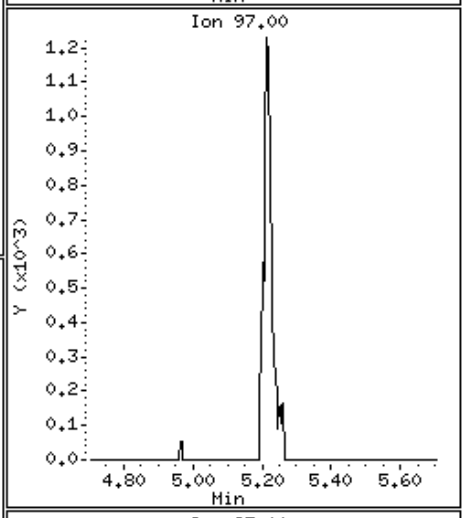


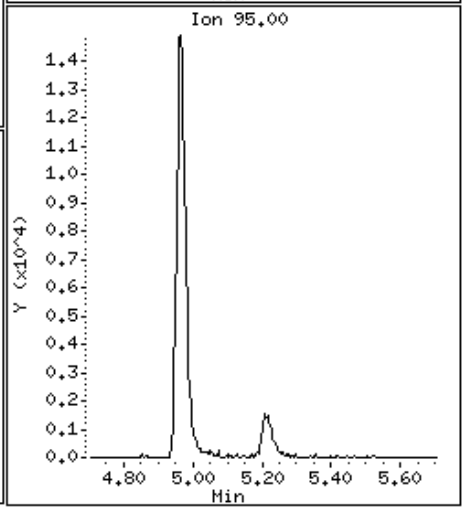












Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110619.D

Date : 06-NOV-2022 18:18

Client ID: HS22110180-03

Instrument: voa6.i

Sample Info: HS22110180-03;HS22110180-03;;;

Purge Volume: 5.0

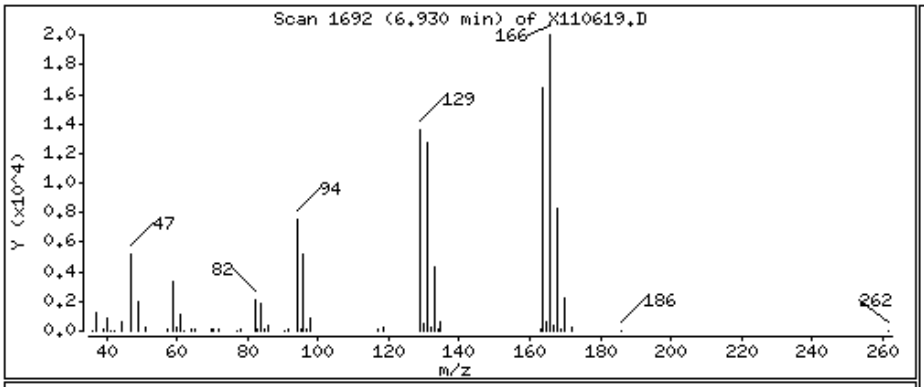
Operator: PC

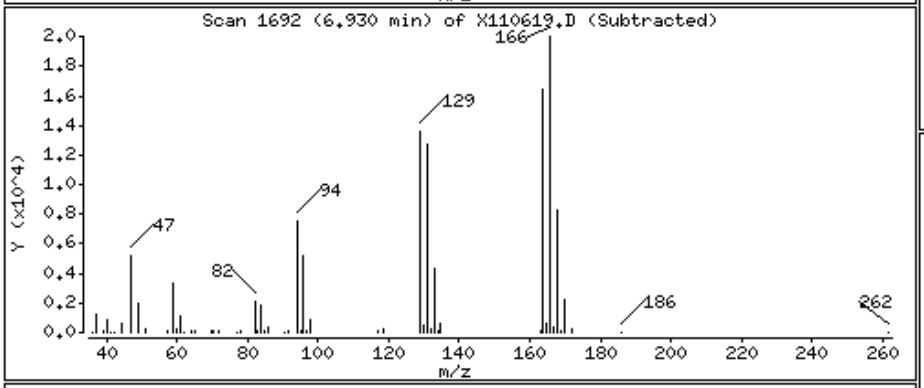
Column phase: DB624

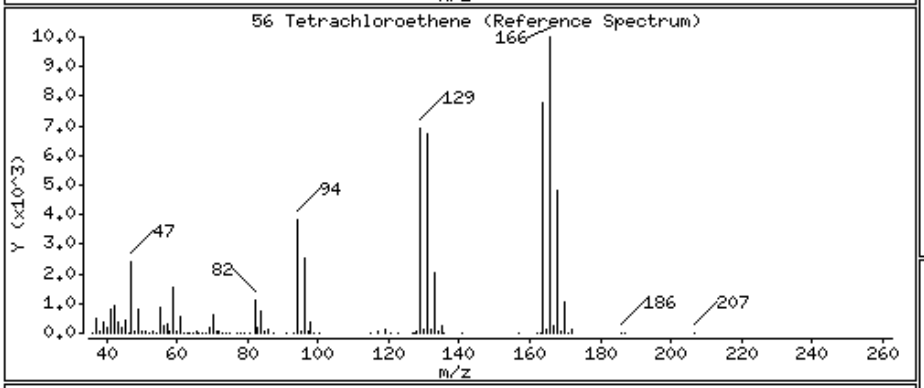
Column diameter: 0.18

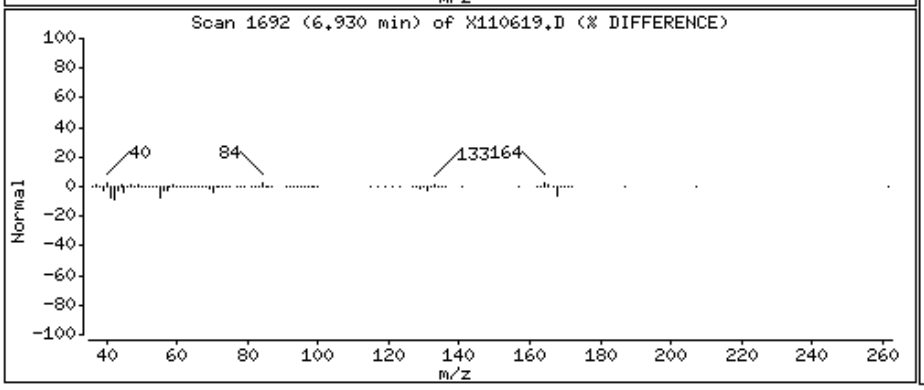
56 Tetrachloroethene

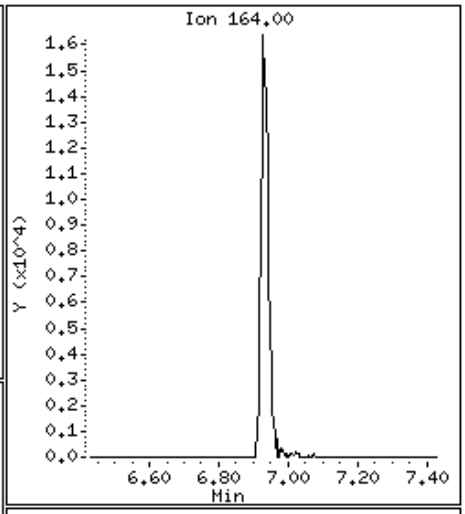
Concentration: 5.24 ug/l

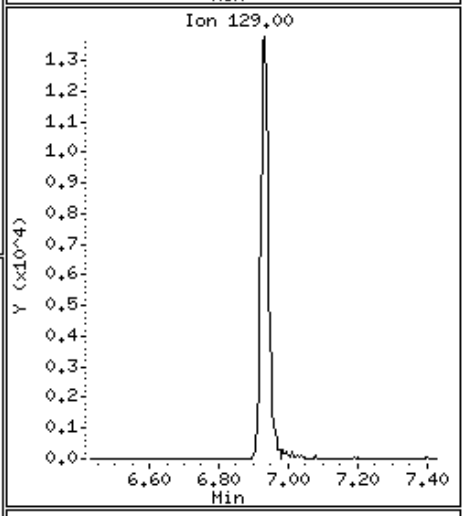


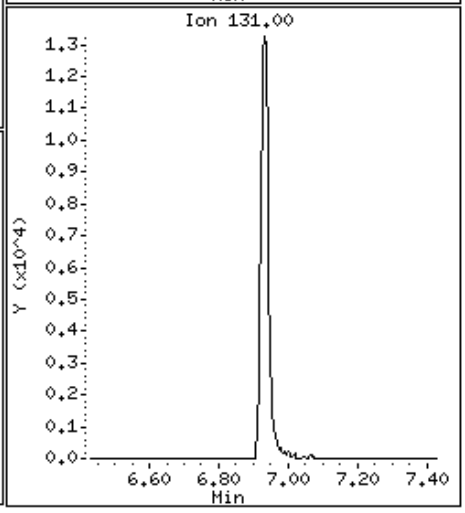












Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110619.D
Inj Date : 06-NOV-2022 18:18
InstruID : voa6.i
LabSampID : HS22110180-03

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110620.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110620.D
Lab Smp Id: HS22110180-04 Client Smp ID: HS22110180-04
Inj Date : 06-NOV-2022 18:39
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-04;HS22110180-04;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

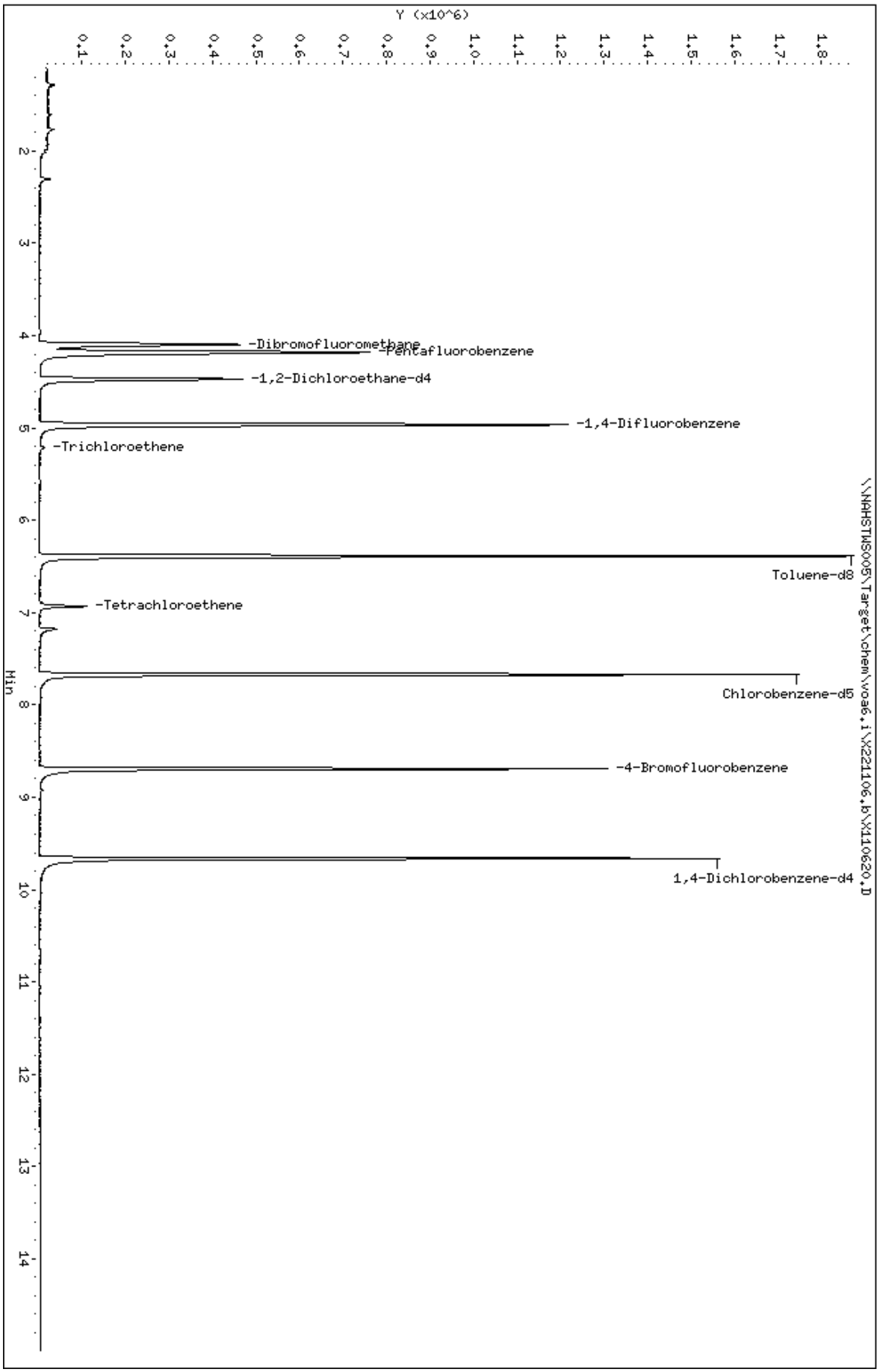
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	693511	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	310408	44.9741	44.97
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	343508	43.0354	43.03
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	984827	50.0000	
38 Trichloroethene	130	5.216	5.205	(1.051)	3653	0.53217	0.53(a)
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	880601	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1142406	53.7571	53.75
56 Tetrachloroethene	164	6.933	6.925	(0.904)	24139	5.28916	5.28
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	378986	46.2464	46.24
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	411266	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTMS005\Target\chem\voa6.i\X221106.b\X110620.D
Date : 06-NOV-2022 18:39
Client ID: HS22110180-04
Sample Info: HS22110180-04;HS22110180-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Page 1

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110620.D Page 2

Date : 06-NOV-2022 18:39

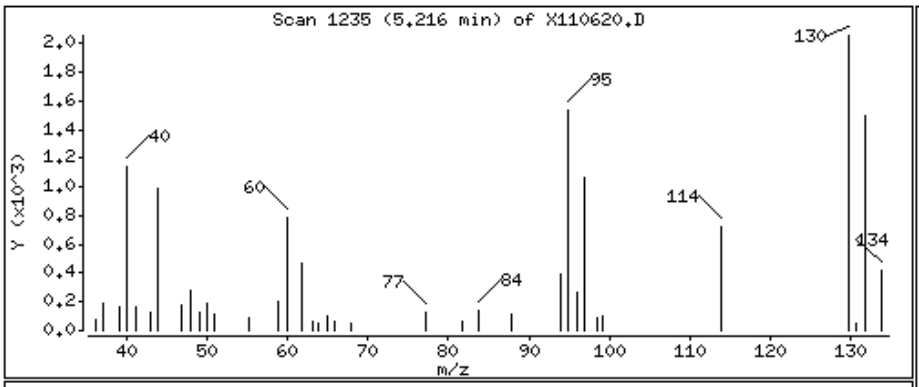
Client ID: HS22110180-04 Instrument: voa6.i

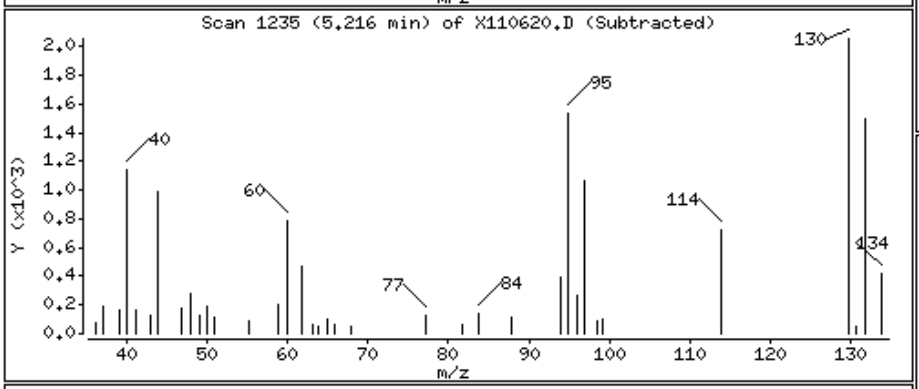
Sample Info: HS22110180-04;HS22110180-04;;;

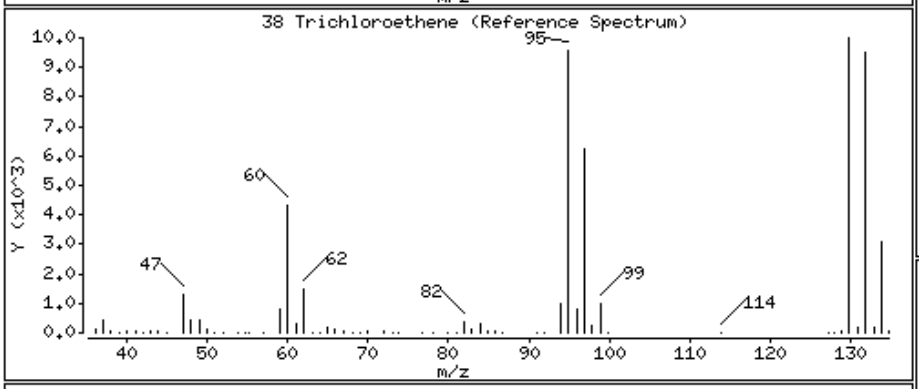
Purge Volume: 5.0 Operator: PC

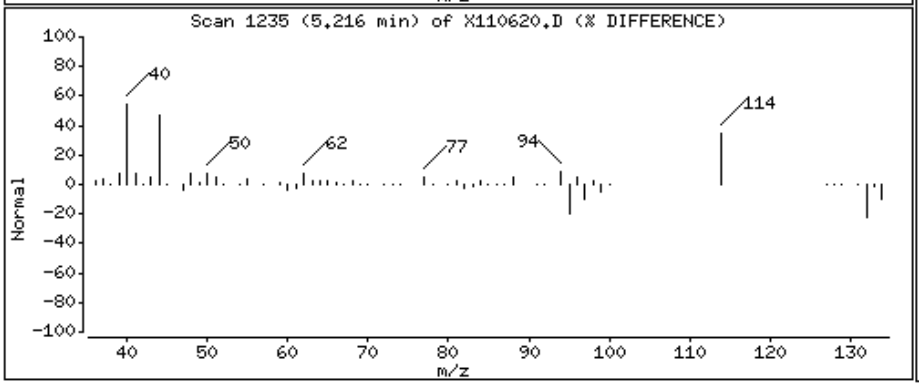
Column phase: DB624 Column diameter: 0.18

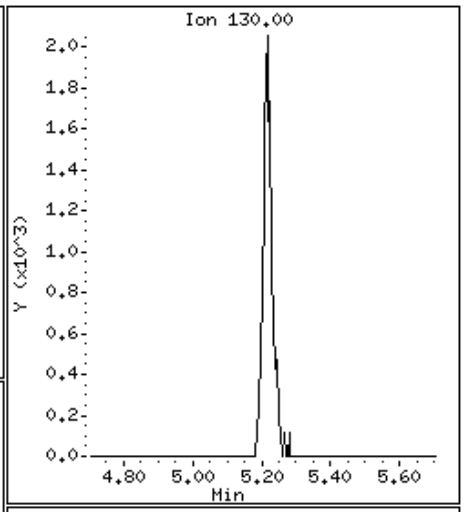
38 Trichloroethene Concentration: 0.53 ug/l

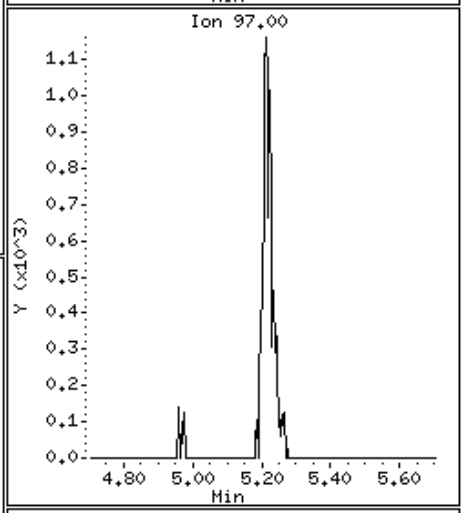


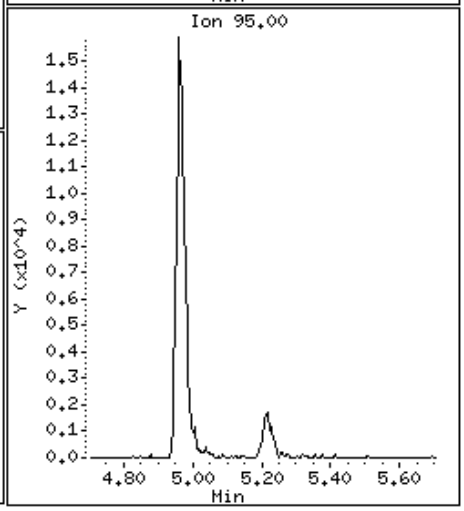












Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110620.D Page 3

Date : 06-NOV-2022 18:39

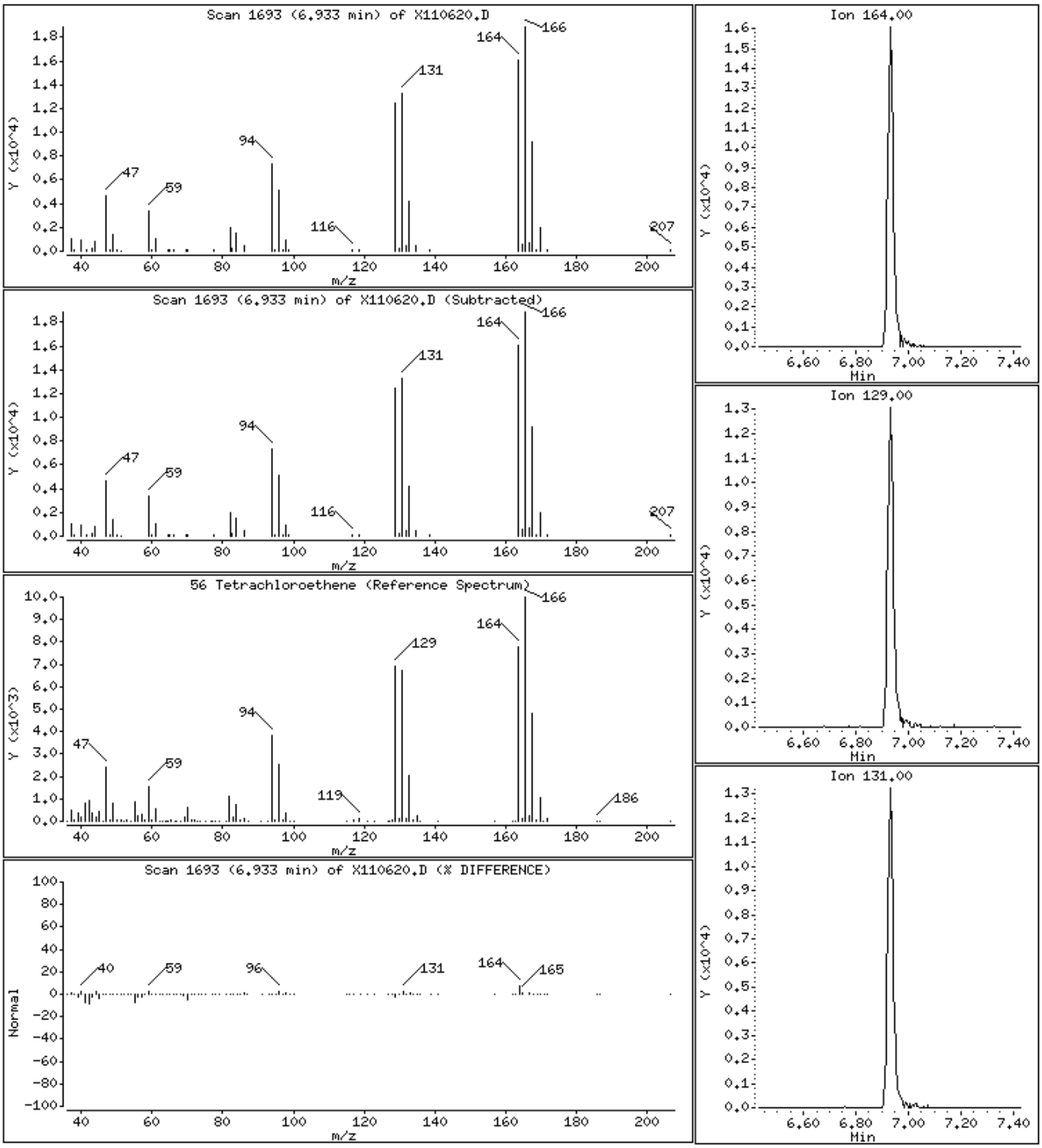
Client ID: HS22110180-04 Instrument: voa6.i

Sample Info: HS22110180-04;HS22110180-04;;;

Purge Volume: 5.0 Operator: PC

Column phase: DB624 Column diameter: 0.18

56 Tetrachloroethene Concentration: 5.28 ug/l



Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110620.D
Inj Date : 06-NOV-2022 18:39
InstruID : voa6.i
LabSampID : HS22110180-04

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110621.D Page 1
Report Date: 17-Nov-2022 10:50

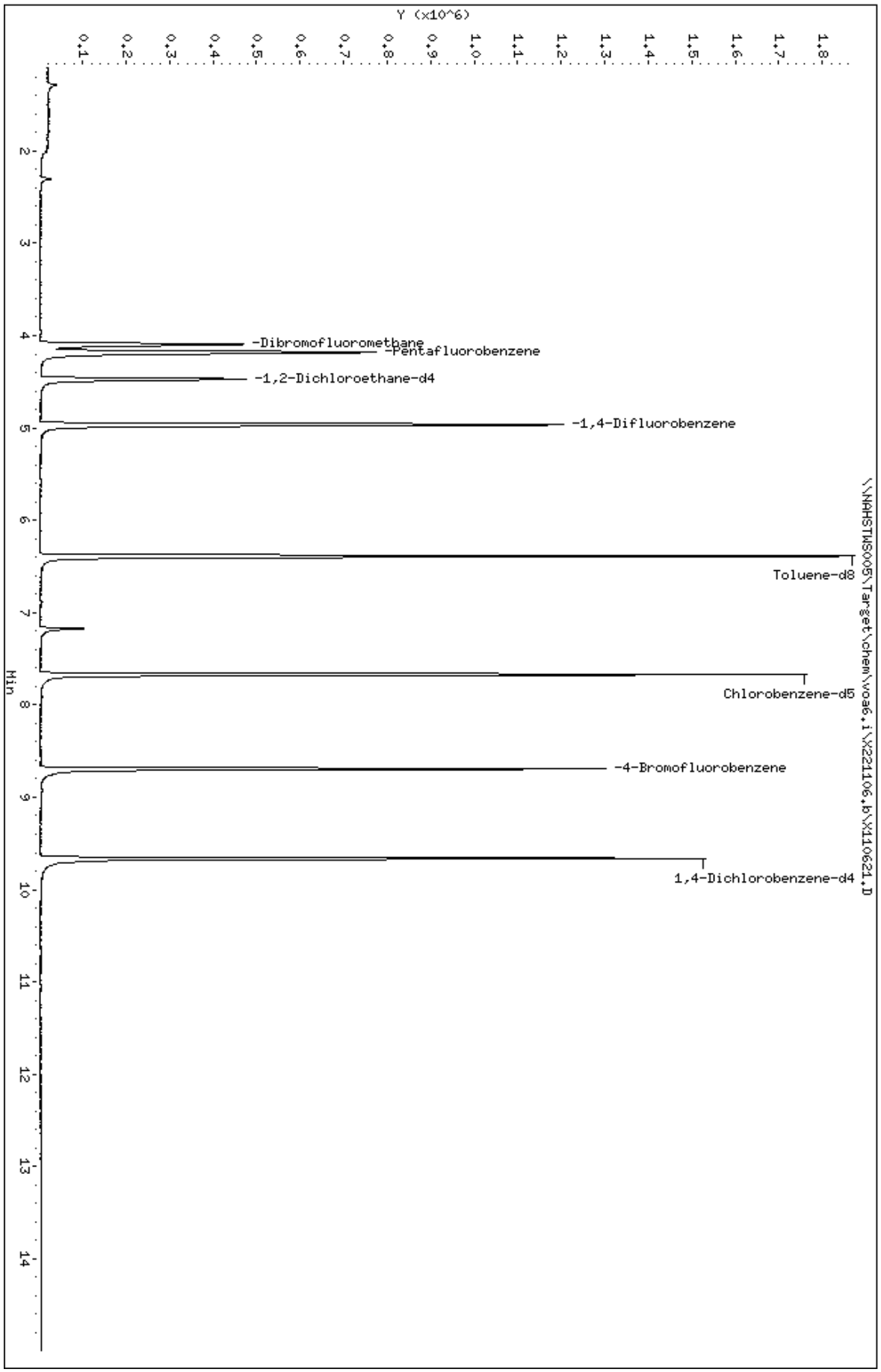
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110621.D
Lab Smp Id: HS22110180-05 Client Smp ID: HS22110180-05
Inj Date : 06-NOV-2022 19:00
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-05;HS22110180-05;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	685780	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	311458	45.6270	45.62
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	339383	42.9983	42.99
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	981850	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	875481	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1152780	54.5625	54.56
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	375514	46.0916	46.09
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	401751	50.0000	



Data File: \\NAHSTMS005\Target\chem\voa6.i\X221106.b\X110621.D
Date : 06-NOV-2022 19:00
Client ID: HS22110180-05
Sample Info: HS22110180-05;HS22110180-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Page 1

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110621.D
Inj Date : 06-NOV-2022 19:00
InstruID : voa6.i
LabSampID : HS22110180-05

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110622.D Page 1
Report Date: 17-Nov-2022 10:50

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110622.D
Lab Smp Id: HS22110180-06 Client Smp ID: HS22110180-06
Inj Date : 06-NOV-2022 19:21
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-06;HS22110180-06;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

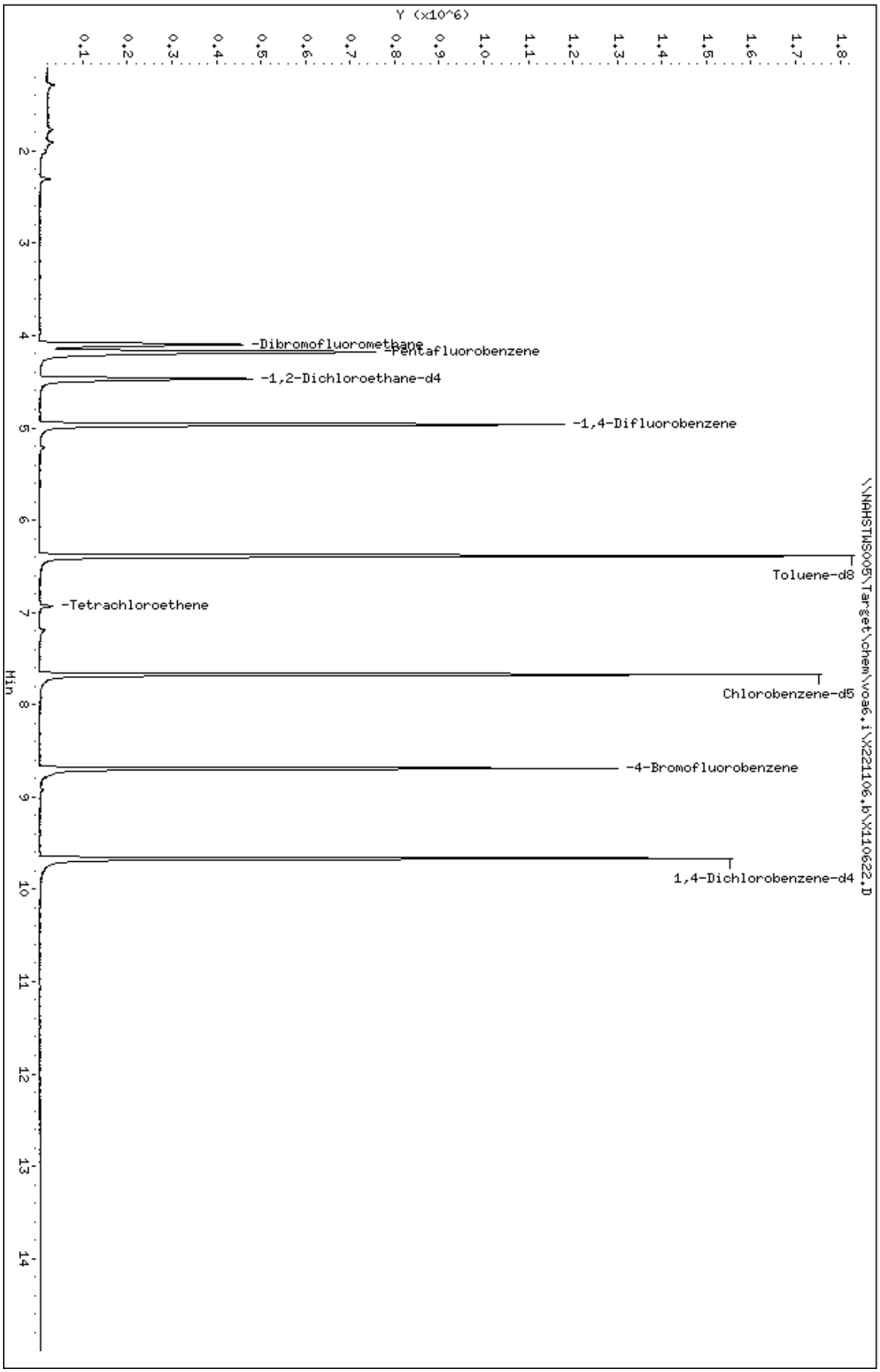
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	683504	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	311371	45.7645	45.76
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	339578	43.1646	43.16
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	977344	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	871024	50.0000	
$ 48 Toluene-d8	98	6.389	6.386	(0.833)	1134090	53.9525	53.95
56 Tetrachloroethene	164	6.933	6.925	(0.904)	6162	1.76878	1.76(a)
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	376702	46.4718	46.47
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	414245	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110622.D
Date : 06-NOV-2022 19:21
Client ID: HS22110180-06
Sample Info: HS22110180-06;HS22110180-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110622.D

Date : 06-NOV-2022 19:21

Client ID: HS22110180-06

Instrument: voa6.i

Sample Info: HS22110180-06;HS22110180-06;;;

Purge Volume: 5.0

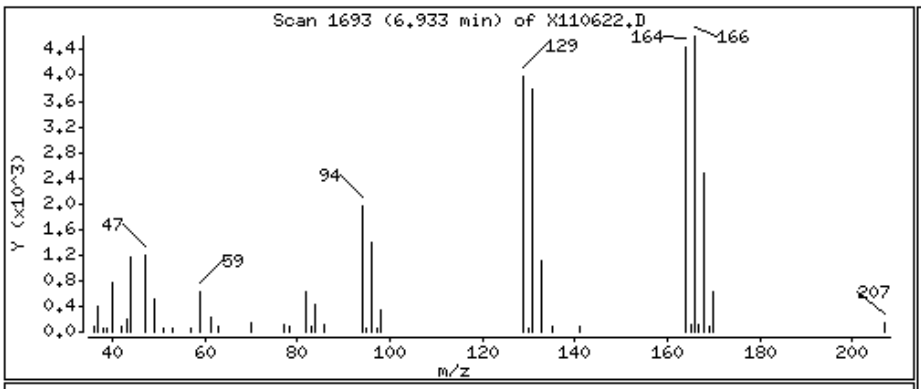
Operator: PC

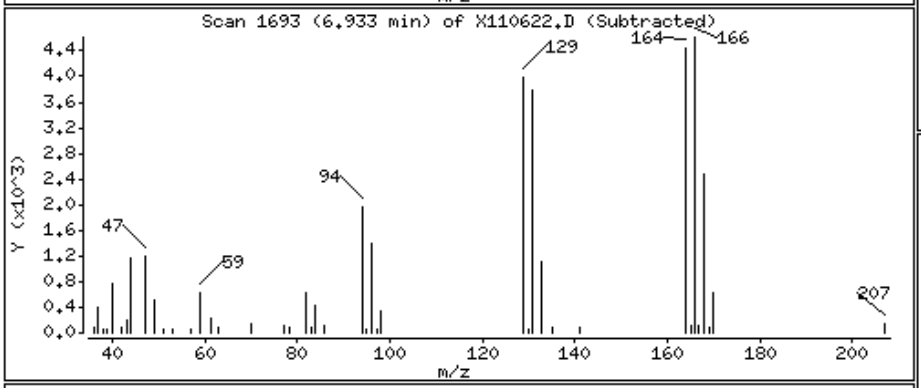
Column phase: DB624

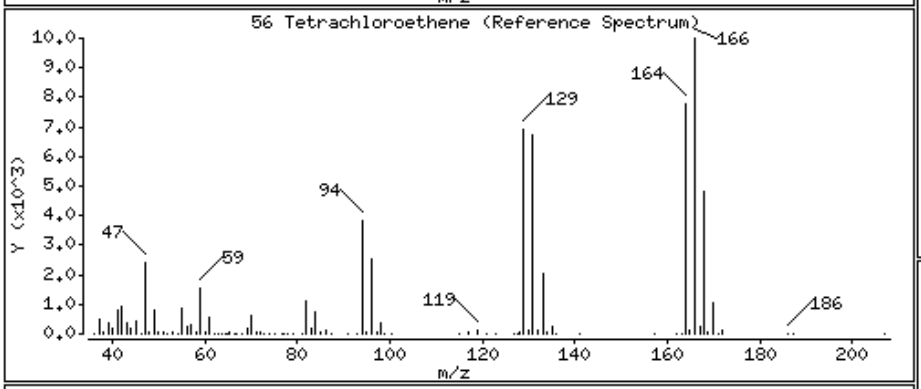
Column diameter: 0.18

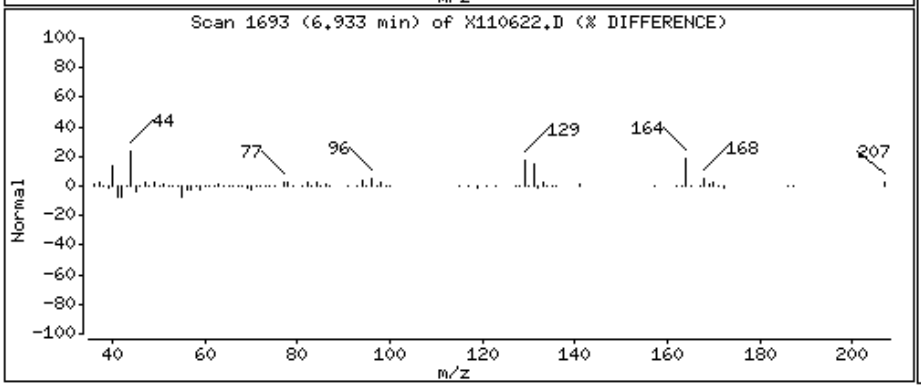
56 Tetrachloroethene

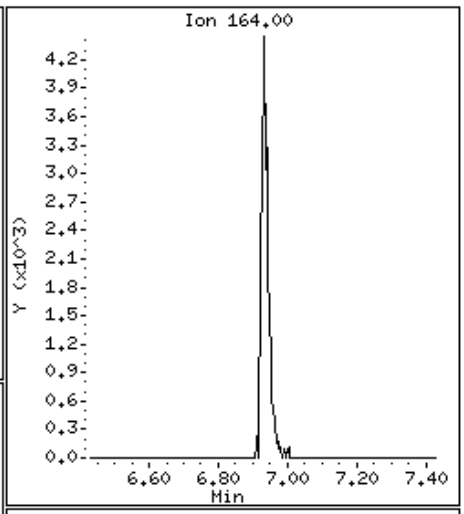
Concentration: 1.76 ug/l

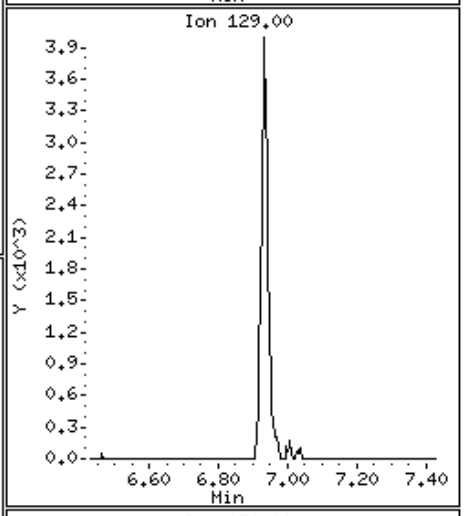


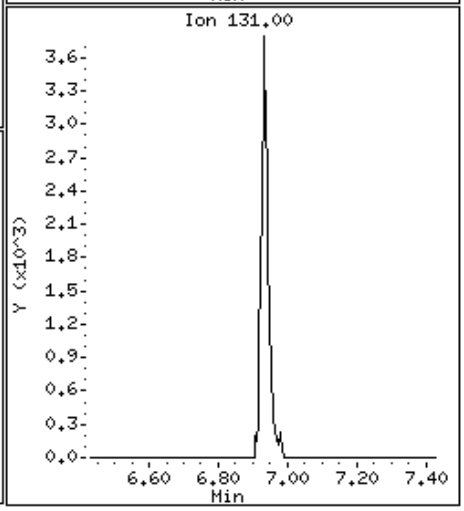












Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110622.D
Inj Date : 06-NOV-2022 19:21
InstruID : voa6.i
LabSampID : HS22110180-06

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110623.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110623.D
Lab Smp Id: HS22110180-07 Client Smp ID: HS22110180-07
Inj Date : 06-NOV-2022 19:42
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-07;HS22110180-07;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

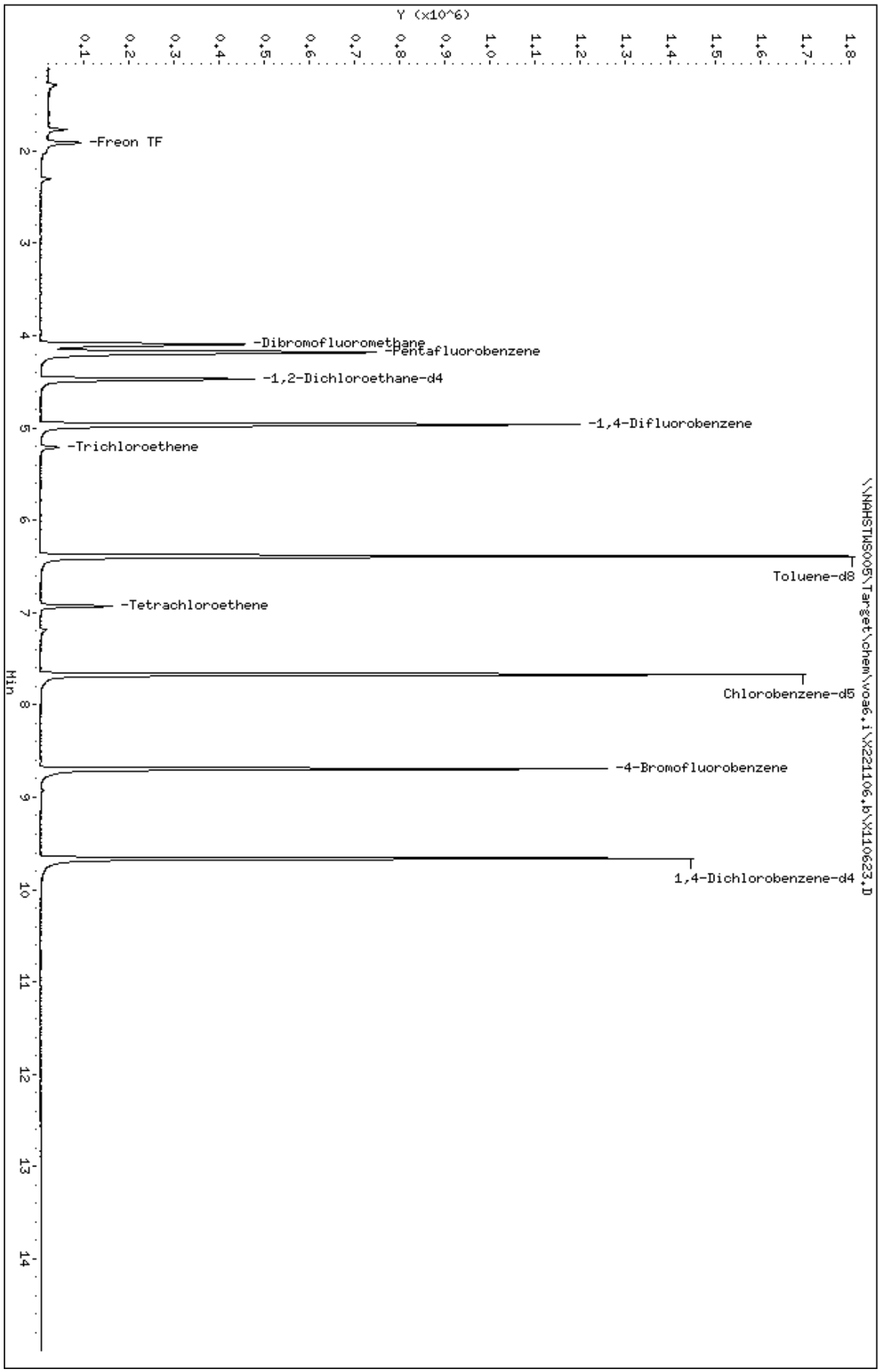
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	682623	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	307317	45.2333	45.23
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	336703	42.8575	42.85
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	983889	50.0000	
38 Trichloroethene	130	5.208	5.205	(1.049)	13931	2.03140	2.03(a)
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	866896	50.0000	
$ 48 Toluene-d8	98	6.389	6.386	(0.833)	1127494	53.8942	53.89
56 Tetrachloroethene	164	6.933	6.925	(0.904)	33211	7.17563	7.17
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	366646	45.4525	45.45
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	381829	50.0000	
138 Freon TF	101	1.913	1.913	(0.458)	25478	4.40738	4.40(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTMS005\Target\chem\voa6.i\X221106.b\X110623.D
Date : 06-NOV-2022 19:42
Client ID: HS22110180-07
Sample Info: HS22110180-07;HS22110180-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Page 1

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110623.D Page 2

Date : 06-NOV-2022 19:42

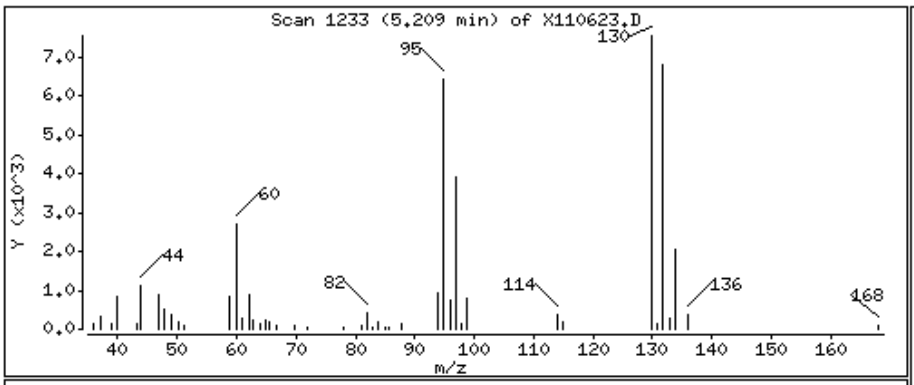
Client ID: HS22110180-07 Instrument: voa6.i

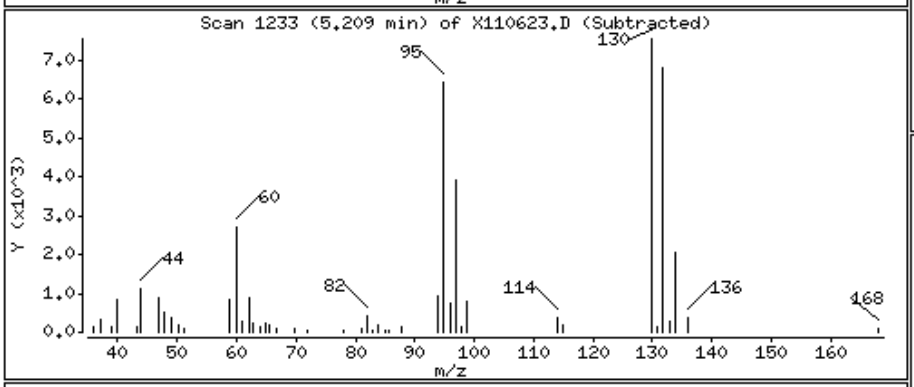
Sample Info: HS22110180-07;HS22110180-07;;;

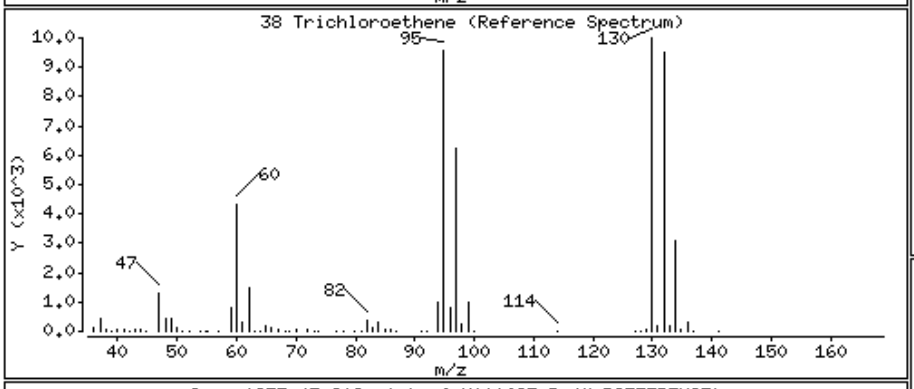
Purge Volume: 5.0 Operator: PC

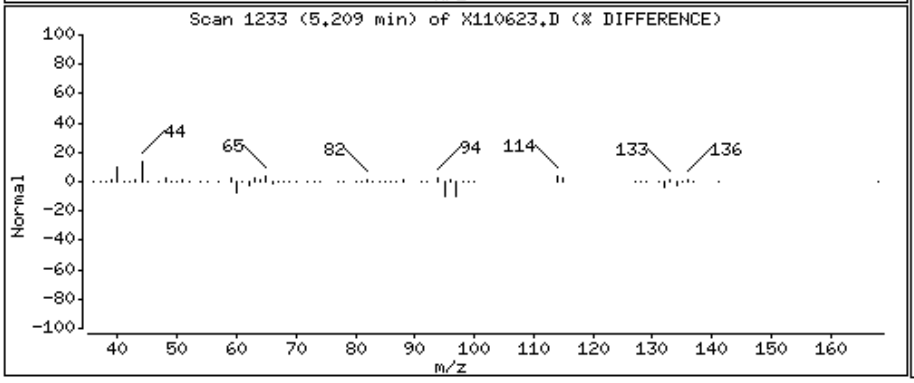
Column phase: DB624 Column diameter: 0.18

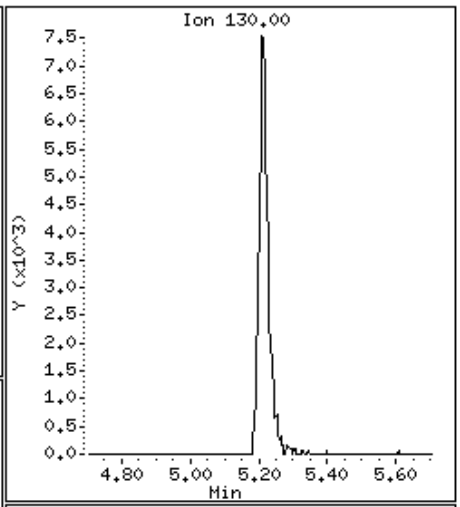
38 Trichloroethene Concentration: 2.03 ug/l

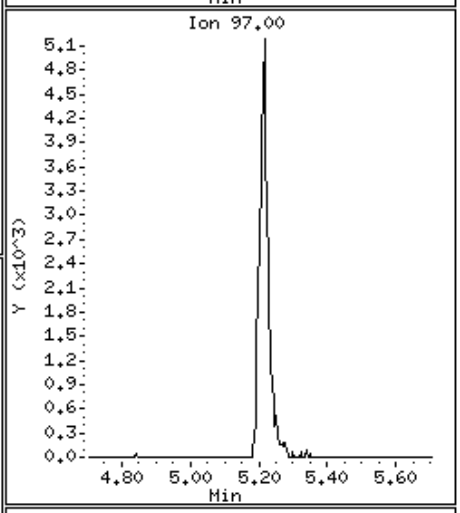


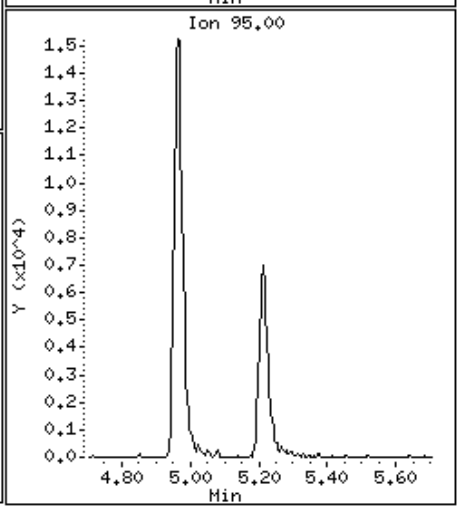












Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110623.D Page 3

Date : 06-NOV-2022 19:42

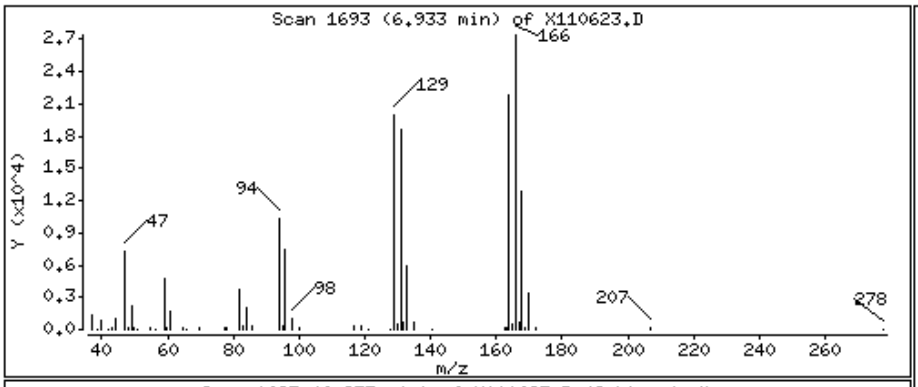
Client ID: HS22110180-07 Instrument: voa6.i

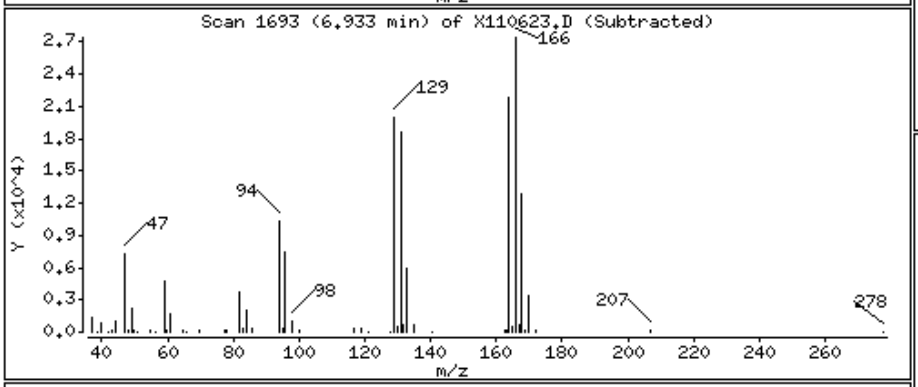
Sample Info: HS22110180-07;HS22110180-07;;;

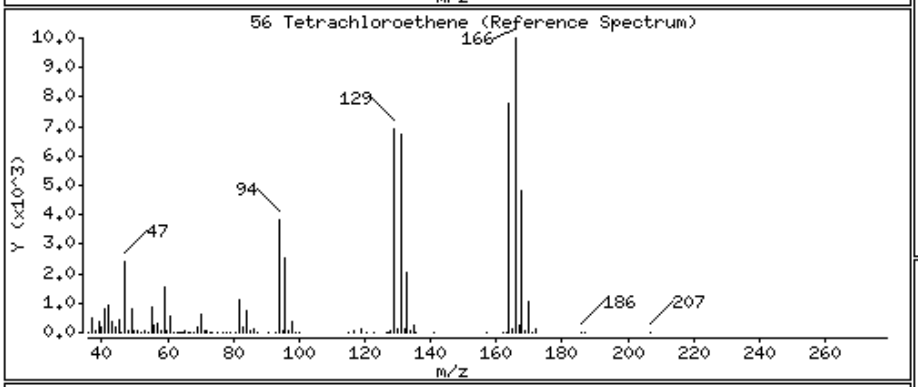
Purge Volume: 5.0 Operator: PC

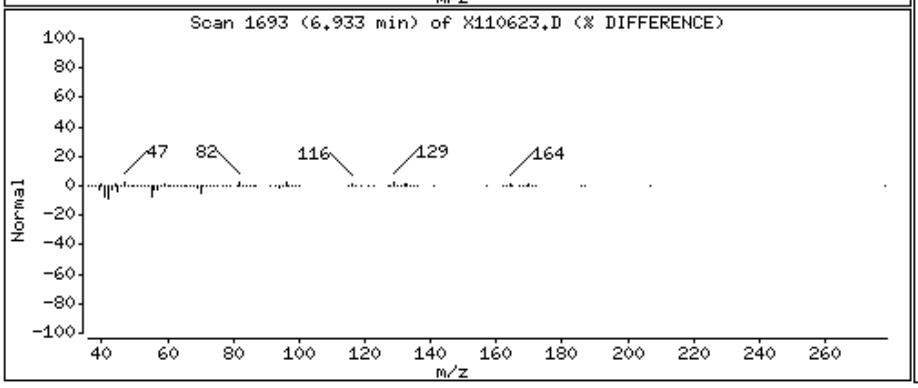
Column phase: DB624 Column diameter: 0.18

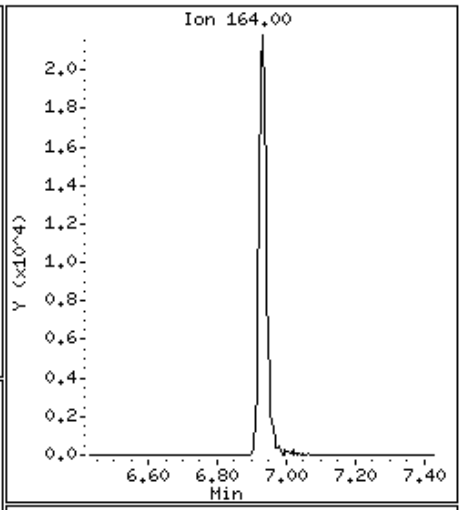
56 Tetrachloroethene Concentration: 7.17 ug/l

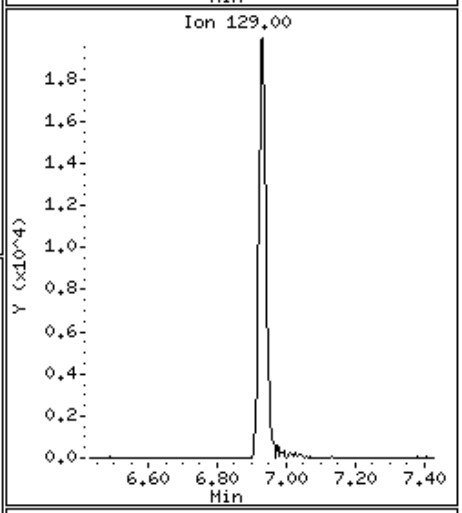


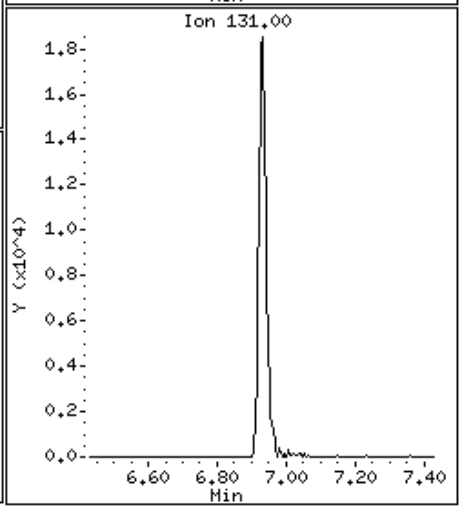












Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110623.D

Date : 06-NOV-2022 19:42

Client ID: HS22110180-07

Instrument: voa6.i

Sample Info: HS22110180-07;HS22110180-07;;;

Purge Volume: 5.0

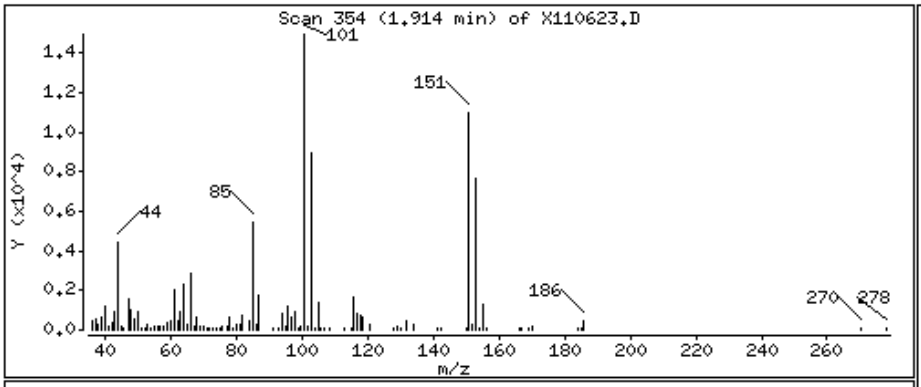
Operator: PC

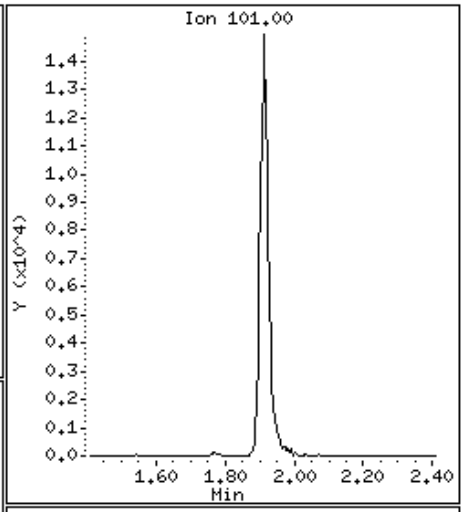
Column phase: DB624

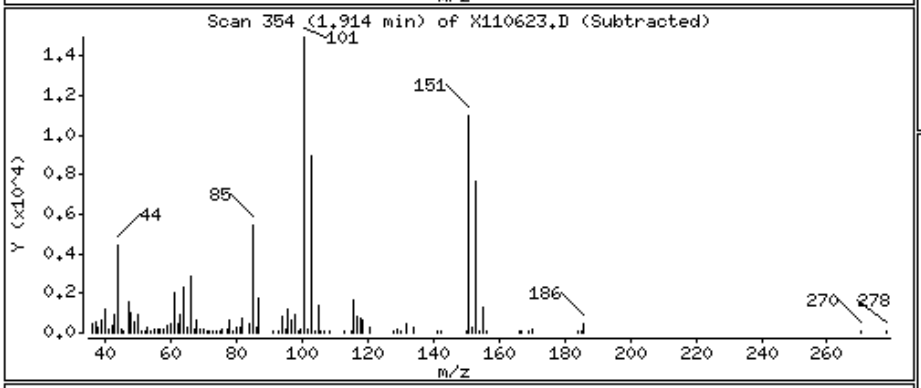
Column diameter: 0.18

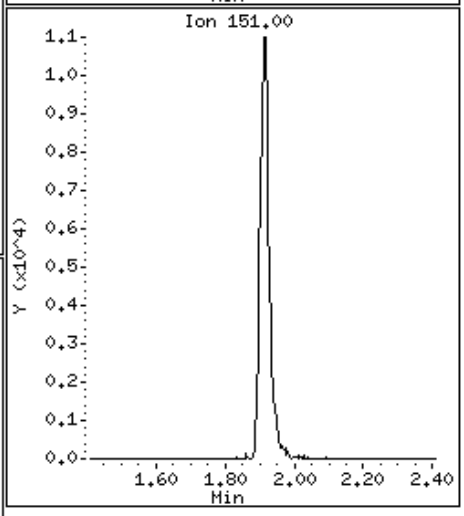
138 Freon TF

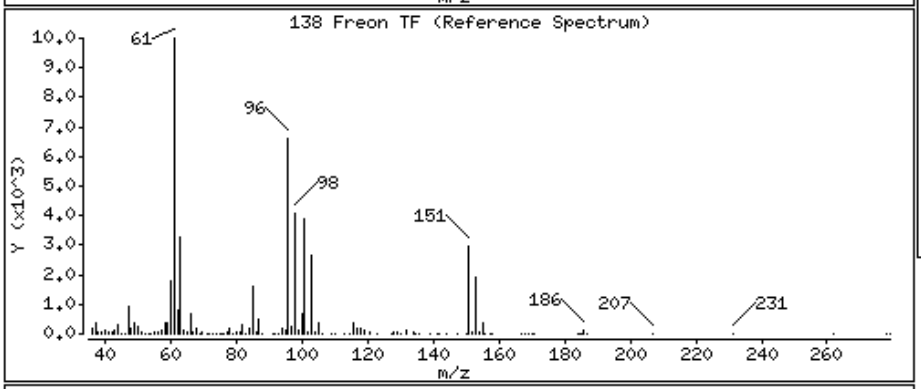
Concentration: 4.40 ug/l

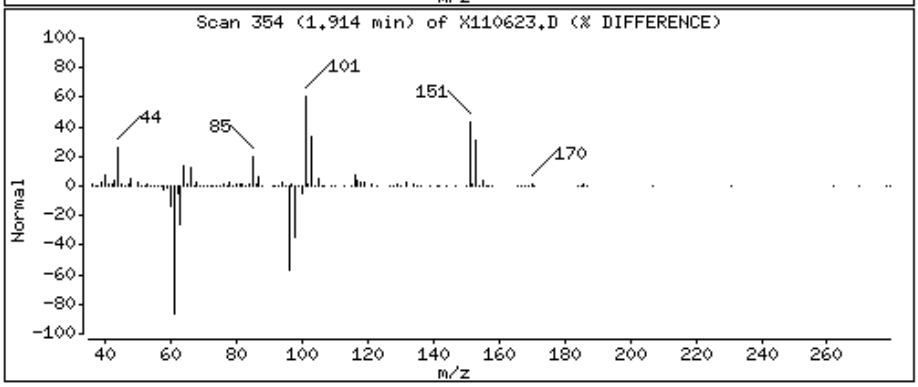












Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110623.D
Inj Date : 06-NOV-2022 19:42
InstruID : voa6.i
LabSampID : HS22110180-07

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110624.D Page 1
Report Date: 17-Nov-2022 10:50

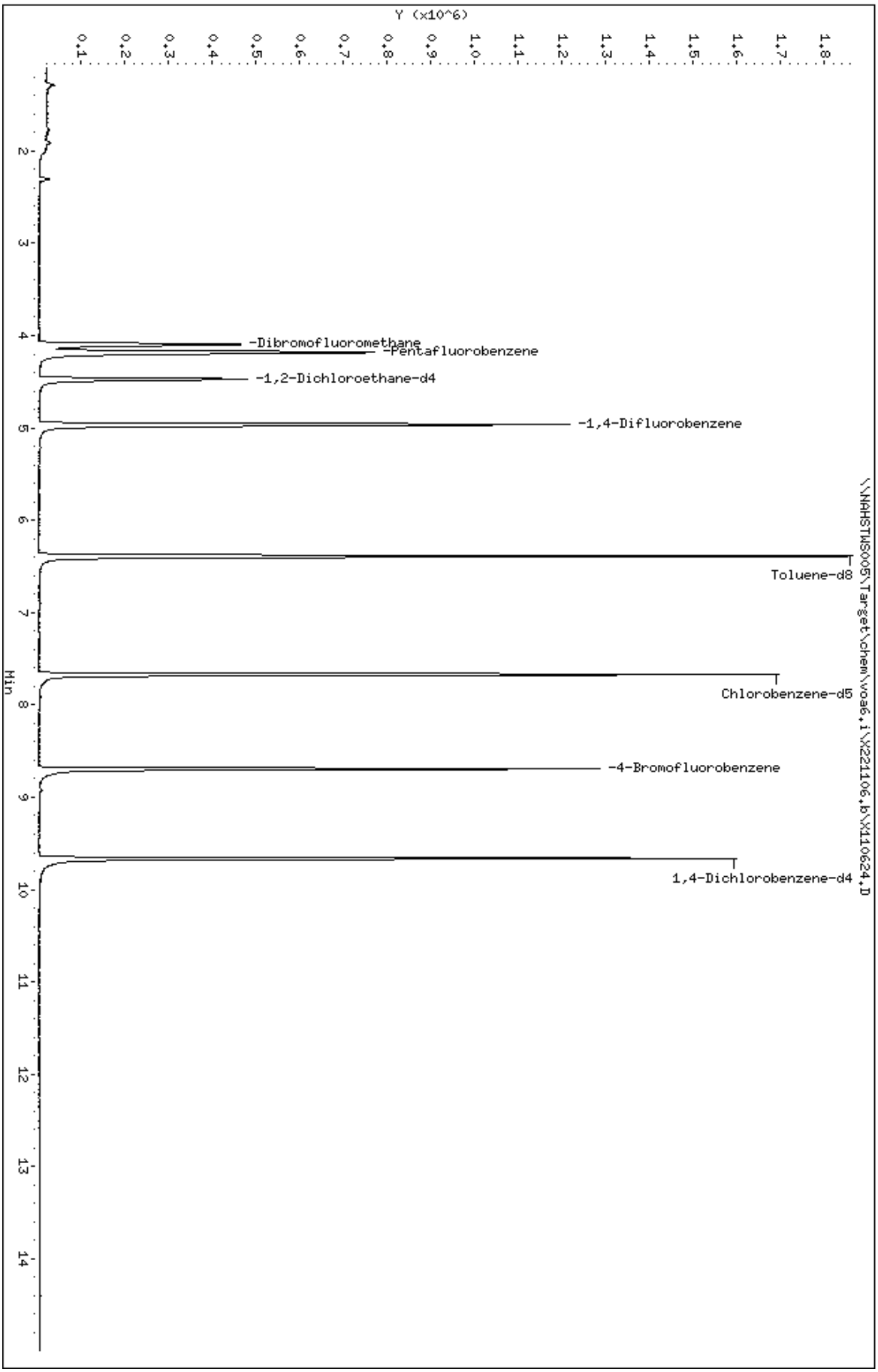
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110624.D
Lab Smp Id: HS22110180-08 Client Smp ID: HS22110180-08
Inj Date : 06-NOV-2022 20:03
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-08;HS22110180-08;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	686323	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	311312	45.5702	45.57
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	346281	43.8292	43.82
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	978100	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	868538	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1138712	54.3275	54.32
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	371939	46.0182	46.01
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	411237	50.0000	



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Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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LabSampID : HS22110180-08

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110625.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110625.D
Lab Smp Id: HS22110180-09 Client Smp ID: HS22110180-09
Inj Date : 06-NOV-2022 20:24
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-09;HS22110180-09;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	693828	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.979)	310294	44.9375	44.93
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	341117	42.7195	42.71
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	990089	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	874304	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1148513	54.4337	54.43
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	370739	45.5698	45.56
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	407080	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110625.D

Date : 06-NOV-2022 20:24

Client ID: HS22110180-09

Instrument: voa6.i

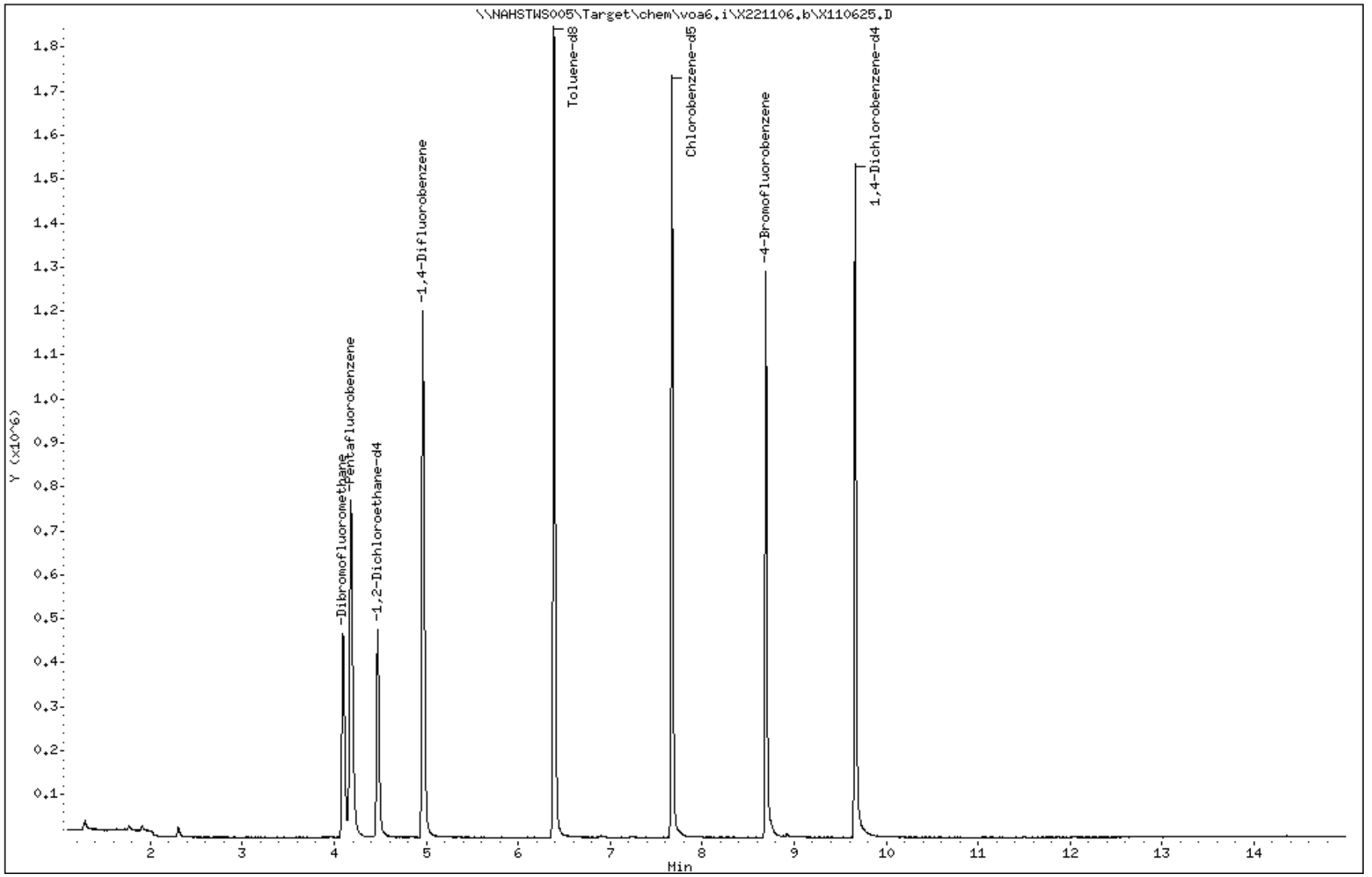
Sample Info: HS22110180-09;HS22110180-09;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



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Inj Date : 06-NOV-2022 20:24
InstruID : voa6.i
LabSampID : HS22110180-09

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D Page 1
Report Date: 17-Nov-2022 10:51

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D
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Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 17-Nov-2022 10:51 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	557188	50.0000	
135	1,4-Dioxane	88	5.602	5.602	(1.341)	63126	1000.00	1062.51
140	1,3-Butadiene	54	1.164	1.164	(0.279)	253277	50.0000	54.22
25	Methacrylonitrile	41	3.818	3.818	(0.914)	250857	50.0000	50.25
12	Isobutyl Alcohol	43	4.676	4.676	(1.119)	808080	1000.00	970.94
13	Acetonitrile	39	2.195	2.195	(0.525)	322220	500.000	482.66
14	Allyl Chloride	41	2.198	2.198	(0.526)	598570	50.0000	47.72
4	Propionitrile	54	3.649	3.649	(0.873)	361840	500.000	516.73
136	n-Hexane	57	2.772	2.772	(0.664)	241375	50.0000	52.41
72	trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	97032	50.0000	50.25
23	Chloroprene	53	1.767	1.767	(0.423)	113077	50.0000	52.99(M)
130	Ethyl Acetate	43	3.653	3.653	(0.874)	295092	50.0000	50.43
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	256731	50.0000	49.82
49	Ethyl Methacrylate	69	6.787	6.787	(1.367)	446417	50.0000	51.28
2	Dichlorodifluoromethane	85	0.972	0.972	(0.233)	280125	50.0000	54.62
3	Chloromethane	50	1.077	1.077	(0.258)	277548	50.0000	45.96
5	Vinyl Chloride	62	1.141	1.141	(0.273)	318138	50.0000	50.38
6	Bromomethane	94	1.336	1.336	(0.320)	184376	50.0000	46.52
7	Chloroethane	64	1.400	1.400	(0.335)	204503	50.0000	51.95
8	Trichlorofluoromethane	101	1.557	1.557	(0.373)	446213	50.0000	55.45

9	Acrolein	56	1.441	1.441 (0.345)	41439	100.000	112.40
10	Acetone	43	1.973	1.973 (0.472)	180174	100.000	91.43

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D Page 2
Report Date: 17-Nov-2022 10:51

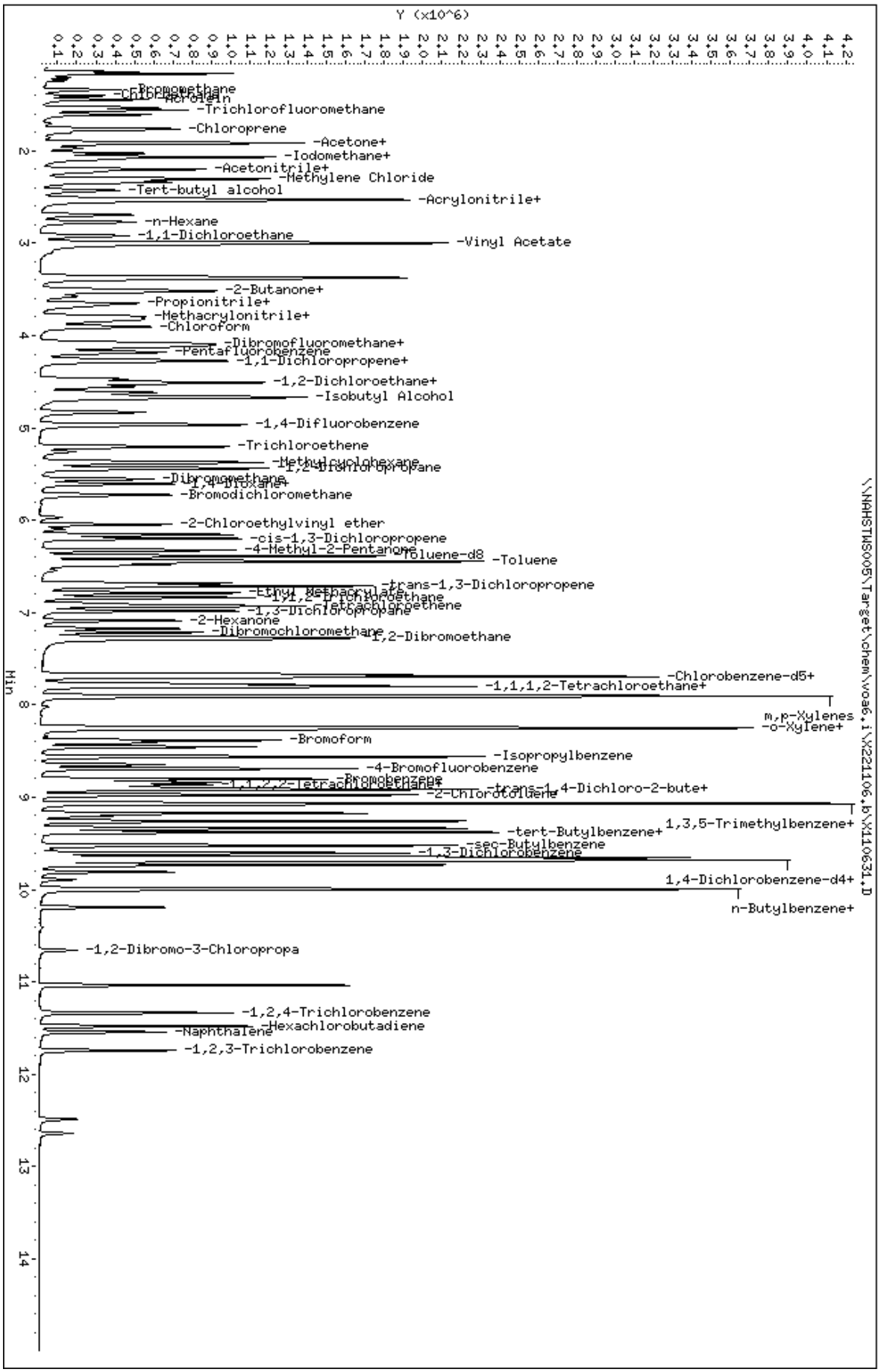
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	243238	50.0000	51.30
	15 Iodomethane	142	2.026	2.026	(0.485)	543587	100.000	88.27
	16 Acrylonitrile	53	2.532	2.532	(0.606)	187172	100.000	102.75
	17 Methylene Chloride	84	2.299	2.299	(0.550)	294324	50.0000	48.55
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	802018	50.0000	48.04
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	1442257	100.000	100.16
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	263358	50.0000	50.06
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1370609	100.000	92.43
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	463682	50.0000	48.97
	24 2-Butanone	43	3.578	3.578	(0.856)	210893	100.000	105.86
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	362310	50.0000	45.99
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	305580	50.0000	49.72
	28 Chloroform	83	3.904	3.904	(0.935)	500103	50.0000	47.40
	29 Bromochloromethane	128	3.791	3.791	(0.908)	164393	50.0000	49.80
$	30 Dibromofluoromethane	113	4.095	4.095	(0.980)	290219	50.0000	52.24
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	405153	50.0000	49.92
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	349289	50.0000	49.78
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	391934	50.0000	49.30
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	311810	50.0000	52.97
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	323434	50.0000	50.36
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	874939	50.0000	
	37 Benzene	78	4.507	4.507	(0.908)	1074233	50.0000	49.48
	38 Trichloroethene	130	5.205	5.205	(1.048)	316911	50.0000	51.96
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	374674	50.0000	48.63
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	255194	100.000	99.42
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	281100	50.0000	47.78
	44 Dibromomethane	93	5.550	5.550	(1.118)	195508	50.0000	49.08
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	557945	100.000	100.73
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	474006	50.0000	48.81
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	862067	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.832)	1056022	50.0000	50.76
	50 Toluene	91	6.445	6.445	(0.840)	1199905	50.0000	48.66
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	407571	50.0000	48.78
	52 2-Hexanone	43	7.086	7.086	(0.924)	385418	100.000	103.35
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	233458	50.0000	47.23
	54 1,3-Dichloropropane	76	6.982	6.982	(0.910)	474331	50.0000	48.35
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	307543	50.0000	48.39
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	258487	50.0000	52.44
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	308461	50.0000	49.94
	58 1-Chlorohexane	55	7.698	7.698	(1.550)	251740	50.0000	53.09
	59 Chlorobenzene	112	7.694	7.694	(1.003)	816952	50.0000	49.05
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	292393	50.0000	49.47
	61 Ethylbenzene	106	7.799	7.799	(1.017)	419023	50.0000	49.45
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	1055410	100.000	100.11
	63 o-Xylene	106	8.241	8.241	(1.074)	509115	50.0000	49.63
	64 Styrene	104	8.260	8.260	(1.077)	896850	50.0000	51.98
	66 Bromoform	173	8.410	8.410	(1.096)	198792	50.0000	46.81
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	1291976	50.0000	51.53
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	351549	50.0000	45.54
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.132)	417458	50.0000	52.00
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	465883	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	280565	50.0000	47.78(M)

73 n-Propylbenzene	91	8.912	8.912 (0.922)	1513044	50.0000	49.06
74 Bromobenzene	156	8.807	8.807 (0.912)	378555	50.0000	47.23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	1080285	50.0000	49.25	
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	921270	50.0000	47.31	
77	4-Chlorotoluene	91	9.070	9.070	(0.939)	1063680	50.0000	48.10	
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	911292	50.0000	50.55	
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1092306	50.0000	48.34	
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	1258602	50.0000	50.04	
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	1104300	50.0000	49.30	
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	645678	50.0000	48.17	
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	671896	50.0000	48.36	
87	n-Butylbenzene	91	9.995	9.995	(1.035)	964131	50.0000	50.89	
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	614829	50.0000	48.79	
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	39164	50.0000	48.89	
90	1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	282821	50.0000	48.34	
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	180217	50.0000	51.81	
92	Naphthalene	128	11.544	11.544	(1.195)	456273	50.0000	50.10	
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	207214	50.0000	49.11	
M 94	1,2-Dichloroethylene (total)	96				568938	100.000		(a)
141	Cyclohexane	56	4.121	4.121	(0.987)	351253	50.0000	57.09	
138	Freon TF	101	1.910	1.910	(0.457)	247838	50.0000	58.41	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	661203	50.0000	54.60	
146	Methyl Acetate	43	2.228	2.228	(0.533)	177626	50.0000	52.47	
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	487554	1000.00	1023.94	
149	Isopropyl Alcohol	45	2.093	2.093	(0.501)	263920	1000.00	1017.69	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Sample Info: CCV-END,CCV-END,2,,
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D
Inj Date : 06-NOV-2022 22:30
InstruID : voa6.i
LabSampID : CCV-END

1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE

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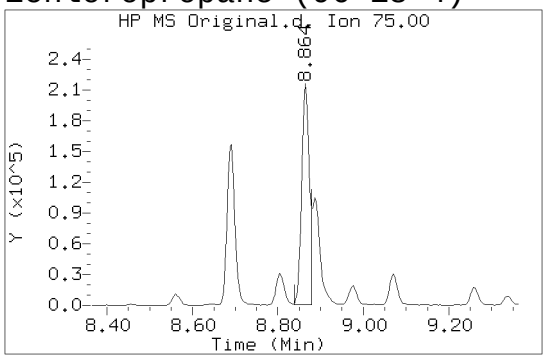
09-Nov-2022
12:24
linh
pham



AFTER

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HEIGHT
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17-Nov-2022
10:50
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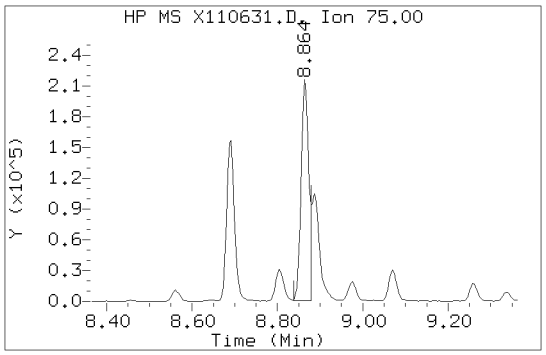

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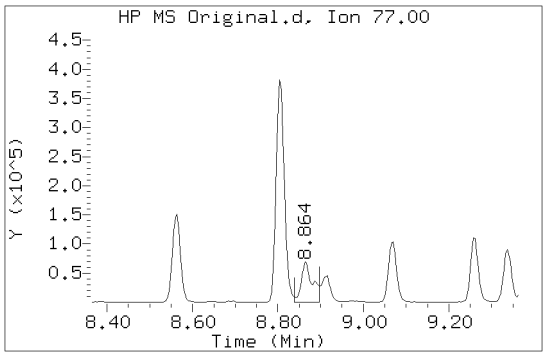

AFTER

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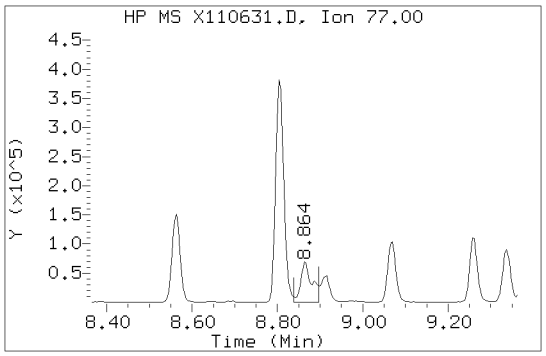

Chloroprene (126-99-8)

Reason Code:

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HEIGHT
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09-Nov-2022
12:24
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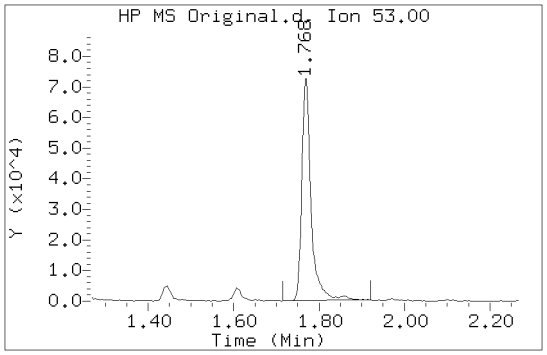
pham



AFTER

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17-Nov-2022
10:50
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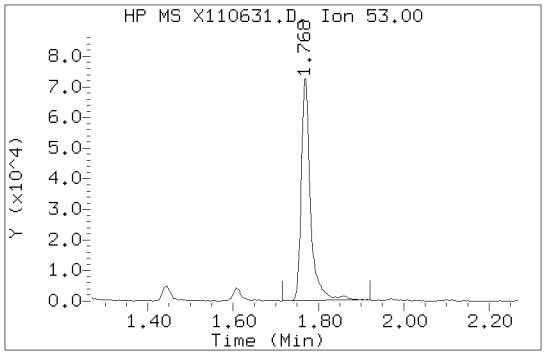

BEFORE

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09-Nov-2022
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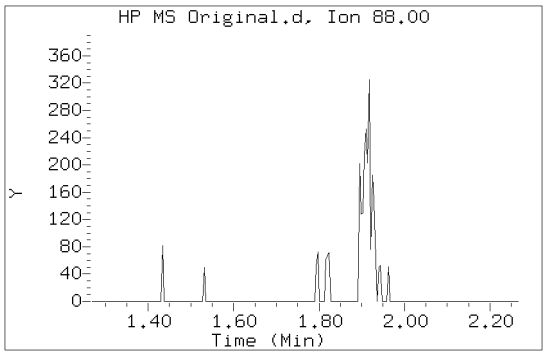

AFTER

MASS
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HEIGHT
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17-Nov-2022
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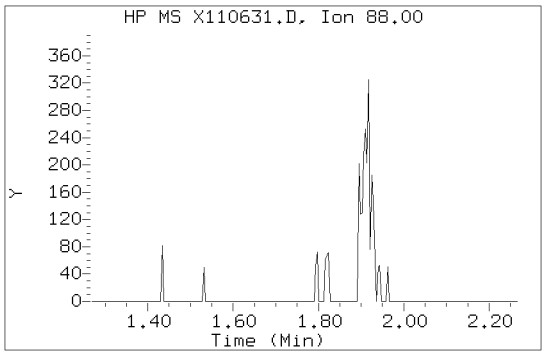

HS22110180-GCSEMI-RSK-175

ALS WO# HS22110180

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Semi-Volatiles by RSK-175

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

HS22110180-01

35BWW26-221102

Collected	Received	Matrix	Basis
11/02/22 07:55	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/05/22 10:35	FID-4_421147	010
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/05/22 10:35	FID-4_421147	010
Methane	mg/L	0.00122		0.000107	0.000500	0.000500	1	11/05/22 10:35	FID-4_421147	010

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

HS22110180-02		Collected	Received	Matrix	Basis
35BWW08-221102		11/02/22 08:40	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/05/22 11:01	FID-4_421147	012
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/05/22 11:01	FID-4_421147	012
Methane	mg/L	0.00141		0.000107	0.000500	0.000500	1	11/05/22 11:01	FID-4_421147	012

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

HS22110180-03		Collected	Received	Matrix	Basis
35BWW12-221102		11/02/22 09:30	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/05/22 11:14	FID-4_421147	013
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/05/22 11:14	FID-4_421147	013
Methane	mg/L	0.00135		0.000107	0.000500	0.000500	1	11/05/22 11:14	FID-4_421147	013

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

HS22110180-04

35BWW12-221102-FD

Collected	Received	Matrix	Basis
11/02/22 09:30	11/03/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/05/22 11:29	FID-4_421147	014
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/05/22 11:29	FID-4_421147	014
Methane	mg/L	0.00623		0.000107	0.000500	0.000500	1	11/05/22 11:29	FID-4_421147	014

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

MBLK-221105	Collected	Received	Matrix	Basis
MBLK-221105	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/05/22 08:48	FID-4_421147	002
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/05/22 08:48	FID-4_421147	002
Methane	mg/L	0.000500	U	0.000107	0.000500	0.000500	1	11/05/22 08:48	FID-4_421147	002

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Form 3B

Laboratory Control Sample Recovery

Semi-Volatiles by RSK-175

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

FID-4_421147		QC ID	LCS-221105			LCS-221105					
QC Matrix Aqueous	Units	Run Date	11/05/22			11/05/22					
	mg/L	Run Time	08:56			09:18					
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	LCSD Result	%R	Q	RPD Limit	RPD	Q
Ethane	75-125	0.01804	0.0202	112		0.0213	118.0		30	5.32	
Ethene	75-125	0.0168	0.0186	110		0.0194	115.0		30	4.34	
Methane	75-125	0.009647	0.00898	93		0.00909	94.0		30	1.17	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Semi-Volatiles by RSK-175

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

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Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	MBLK-221105	002.D	11/05/22 08:48	FID-4_421147
LCS-221105	LCS	LCS-221105	003.D	11/05/22 08:56	FID-4_421147
LCSD-221105	LCSD	LCSD-221105	004.D	11/05/22 09:18	FID-4_421147
35BWW26-221102	SAMP	HS22110180-01	010.D	11/05/22 10:35	FID-4_421147
35BWW08-221102	SAMP	HS22110180-02	012.D	11/05/22 11:01	FID-4_421147
35BWW12-221102	SAMP	HS22110180-03	013.D	11/05/22 11:14	FID-4_421147
35BWW12-221102-FD	SAMP	HS22110180-04	014.D	11/05/22 11:29	FID-4_421147

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Form 6

Initial Calibration Data

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
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Phone (281) 530-5656 Fax (281) 530-5887
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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID FID-4_322102

Volatiles Organics by Method 8260C

ICAL Start Date 24-JAN-2017 0906
ICAL End Date 24-JAN-2017 1113

Calibration Files

Calibration File Names

Level 1 ..FID-4.i\170124.b\001.D
Level 2 ..FID-4.i\170124.b\002.D
Level 3 ..FID-4.i\170124.b\003.D
Level 4 ..FID-4.i\170124.b\004.D
Level 5 ..FID-4.i\170124.b\005.D
Level 6 ..FID-4.i\170124.b\006.D
Level 7 ..FID-4.i\170124.b\007.D

Compound	Level 1 10.00 Level 7 1000.0	Level 2 25.00	Level 3 50.00	Level 4 100.00	Level 5 250.00	Level 6 500.00	Curve	b	m1	m2	%RSD or R^2	Q
Methane	969 1082	978	1020	881	961	931	AVRG		974		6.55041	
Ethene	536 829	567	565	516	665	426	AVRG		586		21.93197	
Ethane	602 999	670	659	597	809	818	AVRG		736		19.88517	
Propane	500 96509	1279	2602	4785	18294	38286	QUAD	0.97987	0.00153	-4.583e-00	0.99914	
N-Butane	438 114164	936	2034	3864	18446	42817	QUAD	2.46870	0.00183	-5.537e-00	0.99808	
Pentane	115 488	3945	2080	950	501	412	AVRG		1213		112	*

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

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Form 6I

Initial Calibration Verification (ICV)

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
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Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID FID-4_322102

Volatiles Organics by Method 8260C

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
Methane	9.647	9.597	99.49	75-125	
Ethene	16.800	19.090	113.63	75-125	
Ethane	18.043	19.657	108.95	75-125	
Propane	26.463	27.238	102.93	75-125	
N-Butane	34.955	36.010	103.02	75-125	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

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Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID FID-4_421147

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 05-NOV-2022 0837
Lab File ID 001.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	886	886	0.010	9.08754	20.0	Averaged	
Ethene	586	667	667	0.010	-13.92024	20.0	Averaged	
Ethane	719	859	859	0.010	-19.45229	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID FID-4_421147

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 05-NOV-2022 1042
Lab File ID 011.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	895	895	0.010	8.24762	20.0	Averaged	
Ethene	586	677	677	0.010	-15.62236	20.0	Averaged	
Ethane	719	849	849	0.010	-17.97329	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110180

RunID FID-4_421147

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 05-NOV-2022 1215
Lab File ID 015.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	872	872	0.010	10.60788	20.0	Averaged	
Ethene	586	667	667	0.010	-13.93037	20.0	Averaged	
Ethane	719	796	796	0.010	-10.57829	20.0	Averaged	

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Analysis Run Log

Semi-Volatiles by RSK-175

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

Form 13 - Analysis Run Log

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110180

Semi-Volatiles by RSK-175

RUNID
FID-4_421147

Run ID FID-4_421147 **Start Date** 11/05/22 **EndDate** 11/05/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
RSK-CCV	CCV	RSK-CCV	001.D	11/05/22 08:37	1
MBLK-221105	MBLK	MBLK-221105	002.D	11/05/22 08:48	1
LCS-221105	LCS	LCS-221105	003.D	11/05/22 08:56	1
LCSD-221105	LCSD	LCSD-221105	004.D	11/05/22 09:18	1
35BWW26-221102	SAMP	HS22110180-01	010.D	11/05/22 10:35	1
RSK-CCV	CCV	RSK-CCV	011.D	11/05/22 10:42	1
35BWW08-221102	SAMP	HS22110180-02	012.D	11/05/22 11:01	1
35BWW12-221102	SAMP	HS22110180-03	013.D	11/05/22 11:14	1
35BWW12-221102-FD	SAMP	HS22110180-04	014.D	11/05/22 11:29	1
RSK-CCV	CCV	RSK-CCV	015.D	11/05/22 12:15	1

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Raw Data FID-4 322102

Semi-Volatiles by RSK-175

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
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Phone (281) 530-5656 Fax (281) 530-5887
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Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\001.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.043	0.000	374	0.38600	0.383(a)
2 Ethene	1.553	1.553	0.000	361	0.67400	0.615(a)
3 Ethane	1.716	1.716	0.000	435	0.72200	0.590(a)
4 Propane	4.073	4.073	0.000	500	1.05900	1.743
5 N-Butane	7.640	7.640	0.000	438	1.39800	3.271

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\001.D

Date : 24-JAN-2017 09:06

Client ID: ICAL1

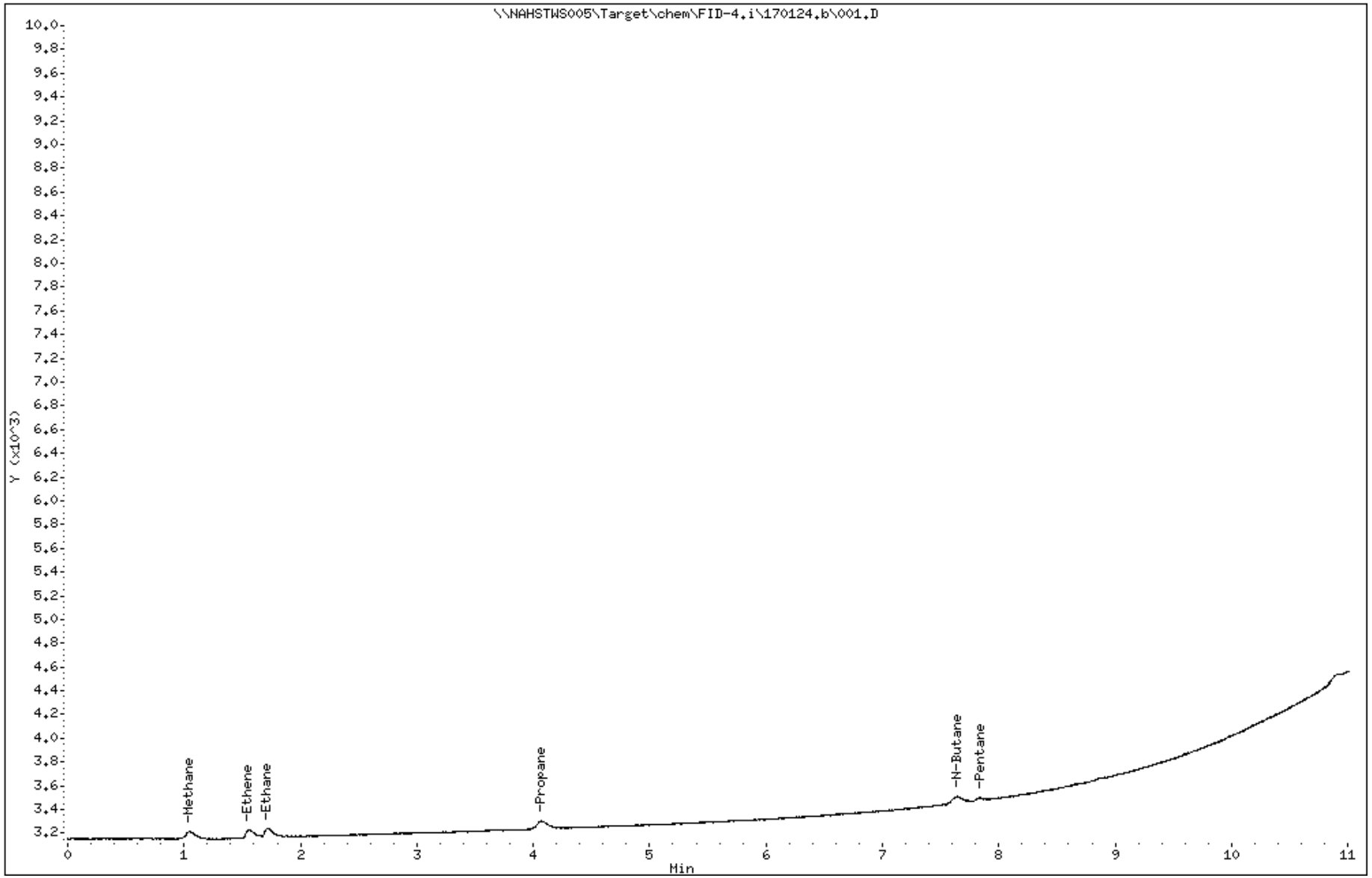
Instrument: FID-4.i

Sample Info: ICAL1;ICAL1;;;

Operator: JA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\001.D
Inj Date : 24-JAN-2017 09:06
InstruID : FID-4.i
LabSampID : ICAL1

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.023	1.023	0.000	944	0.96500	0.968
2 Ethene	1.560	1.560	0.000	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.123	0.000	1279	2.64600	2.927
5 N-Butane	7.716	7.716	0.000	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D

Date : 24-JAN-2017 09:30

Client ID: ICAL2

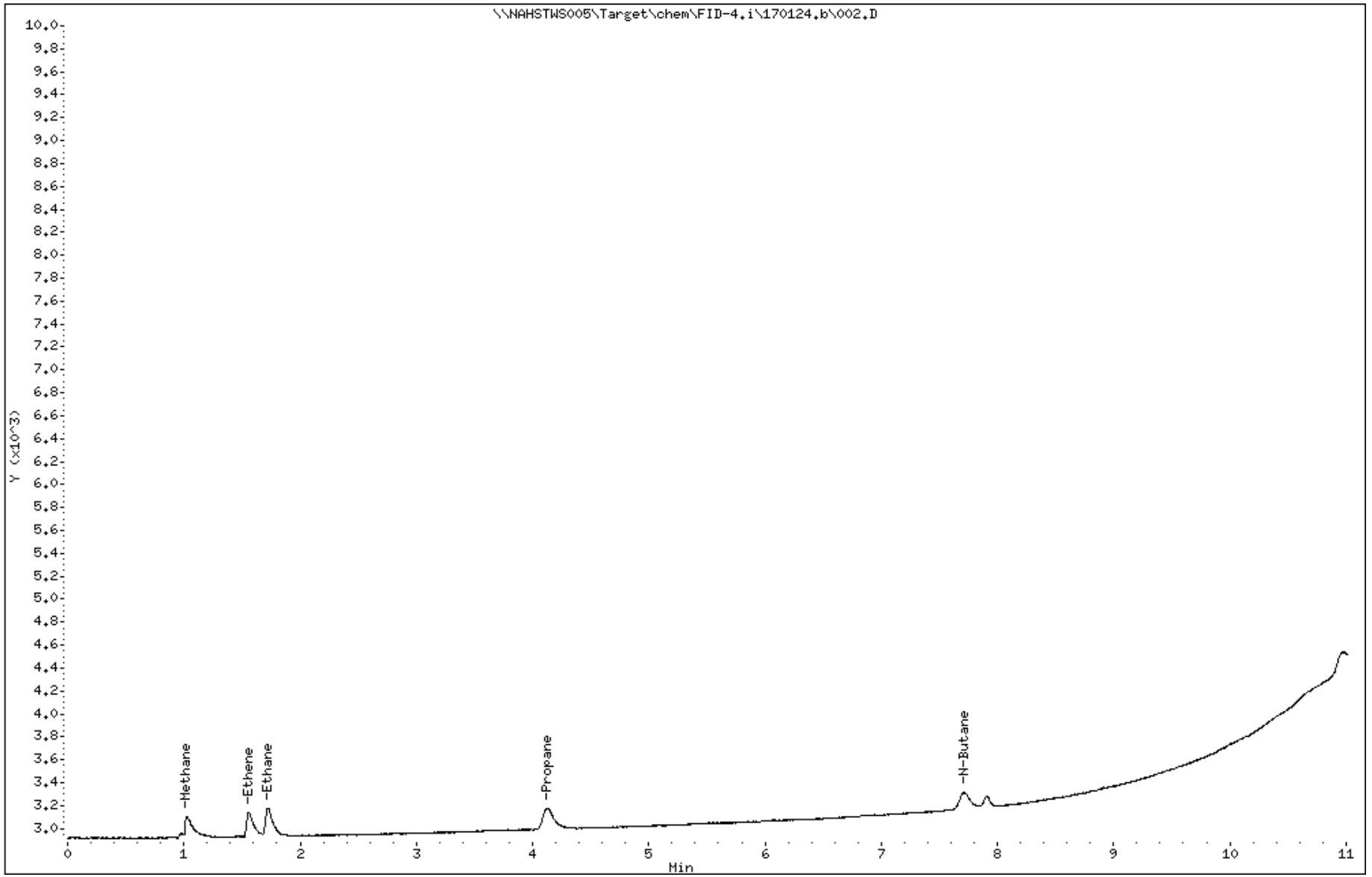
Instrument: FID-4.i

Sample Info: ICAL2;ICAL2;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D
Inj Date : 24-JAN-2017 09:30
InstruID : FID-4.i
LabSampID : ICAL2

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.043	0.000	1967	1.92900	2.018
2 Ethene	1.570	1.570	0.000	1904	3.37000	3.247
3 Ethane	1.736	1.736	0.000	2378	3.60900	3.229
4 Propane	4.123	4.123	0.000	2602	5.29300	4.926
5 N-Butane	7.703	7.703	0.000	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\003.D

Date : 24-JAN-2017 09:59

Client ID: ICAL3

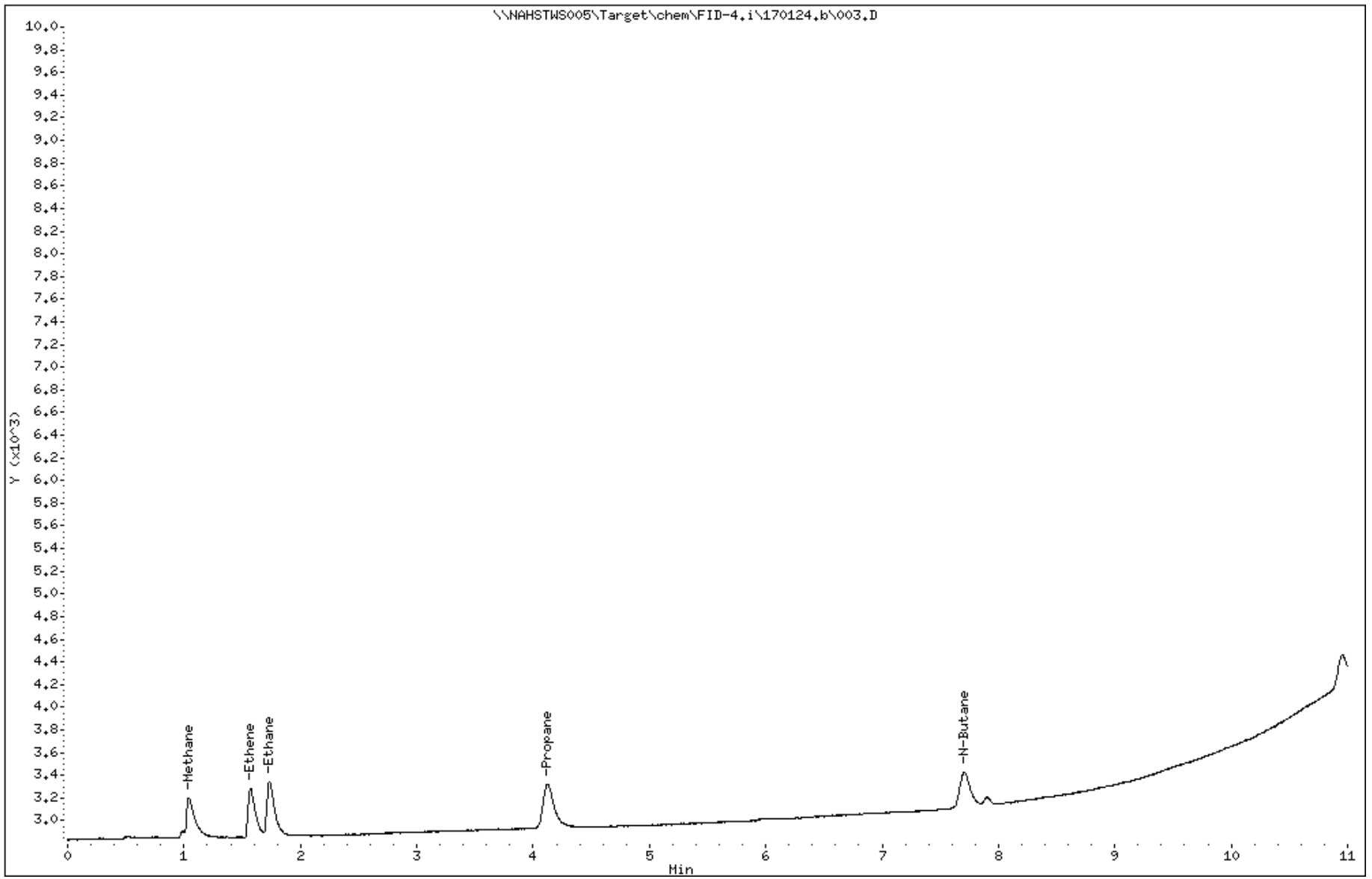
Instrument: FID-4.i

Sample Info: ICAL3;ICAL3;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\003.D
Inj Date : 24-JAN-2017 09:59
InstruID : FID-4.i
LabSampID : ICAL3

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D Page 1
Report Date: 28-Sep-2022 10:02

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.033	1.033	0.000	3399	3.85900	3.488
2 Ethene	1.563	1.563	0.000	3478	6.74000	5.932
3 Ethane	1.726	1.726	0.000	4310	7.21700	5.853
4 Propane	4.120	4.120	0.000	4785	10.5850	8.190
5 N-Butane	7.703	7.703	0.000	3864	13.9820	9.473(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D

Date : 24-JAN-2017 10:15

Client ID: ICAL4

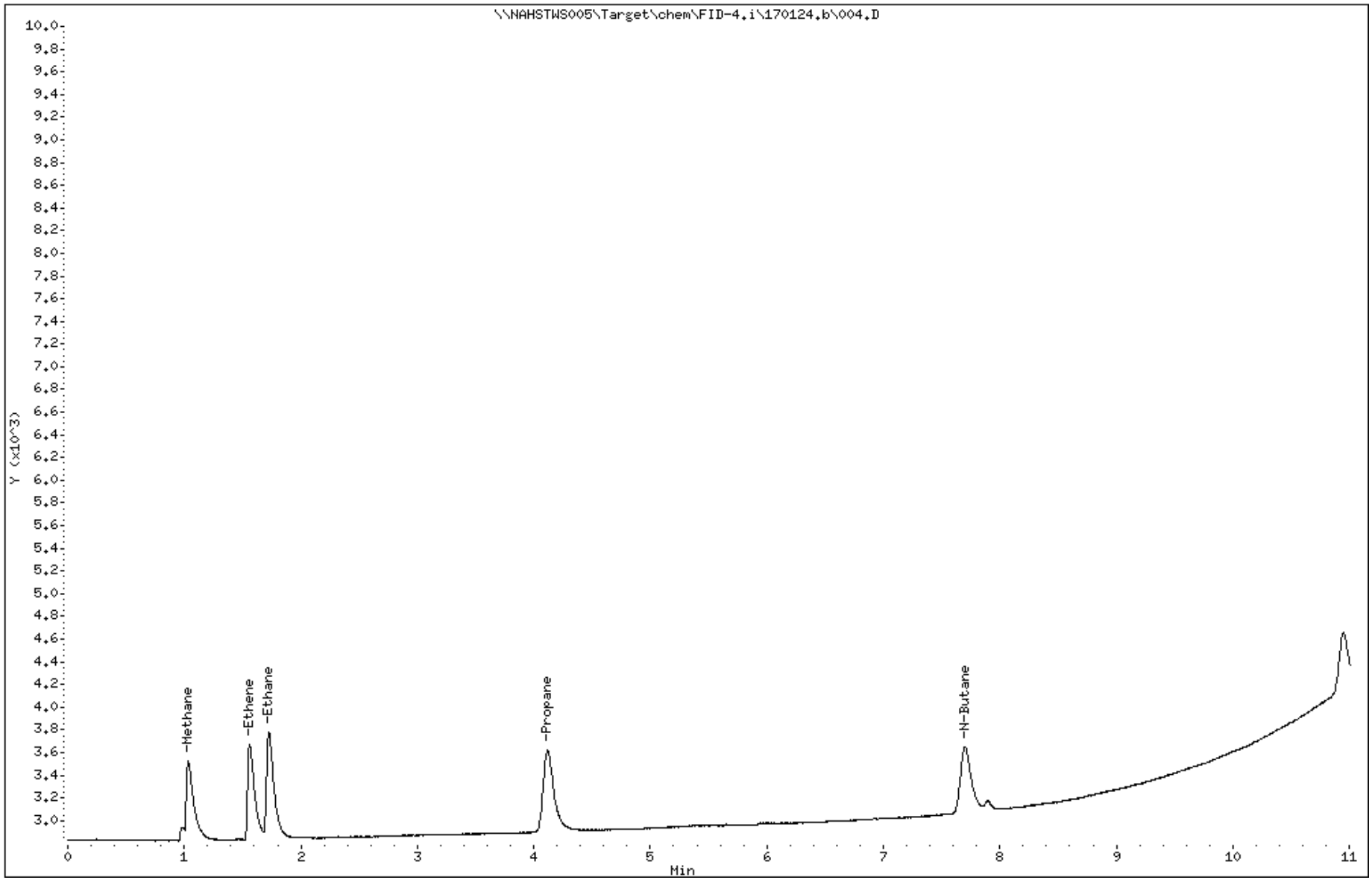
Instrument: FID-4.i

Sample Info: ICAL4;ICAL4;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



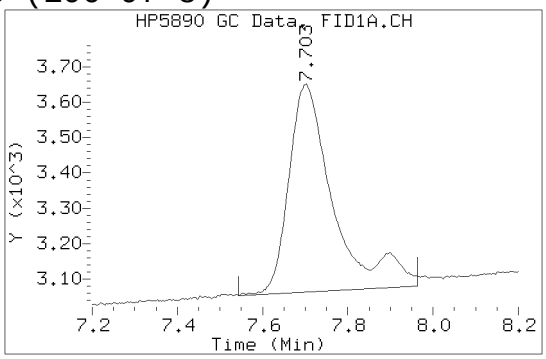
Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D
Inj Date : 24-JAN-2017 10:15
InstruID : FID-4.i
LabSampID : ICAL4

N-Butane (106-97-8)

Reason Code:

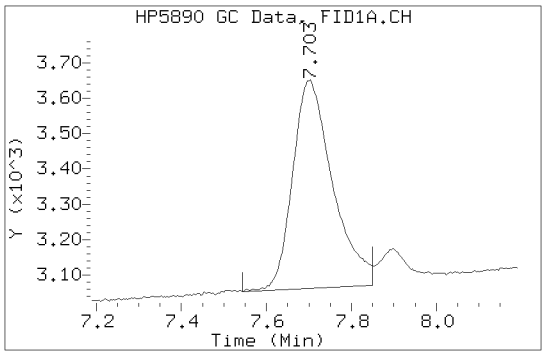
BEFORE

MASS
100
AREA
4292
HEIGHT
591
28-Sep-2022
10:02
linh
pham



AFTER

MASS
100
AREA
3864
HEIGHT
591
28-Sep-2022
10:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\005.D Page 1
Report Date: 28-Sep-2022 10:02

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

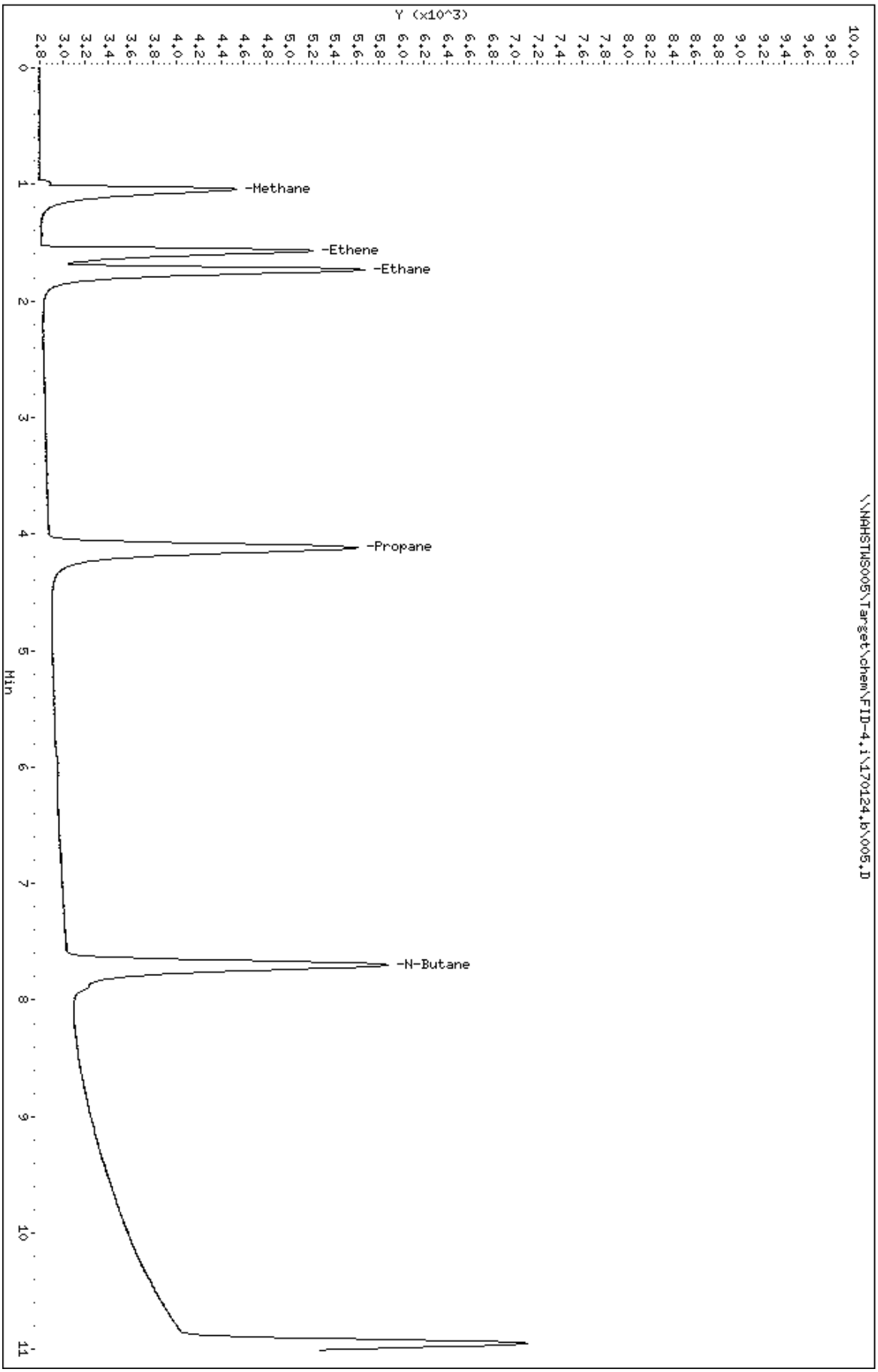
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.043	1.043	0.000	9268	9.64700	9.511
2 Ethene	1.570	1.570	0.000	11210	16.8500	19.121
3 Ethane	1.733	1.733	0.000	14588	18.0430	19.811
4 Propane	4.120	4.120	0.000	18294	26.4630	27.415
5 N-Butane	7.700	7.700	0.000	18446	34.9550	34.419(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4,i\170124,b\005,D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;
Column phase: Rtx-PLOT

Instrument: FID-4,i
Operator: MA
Column diameter: 0.53



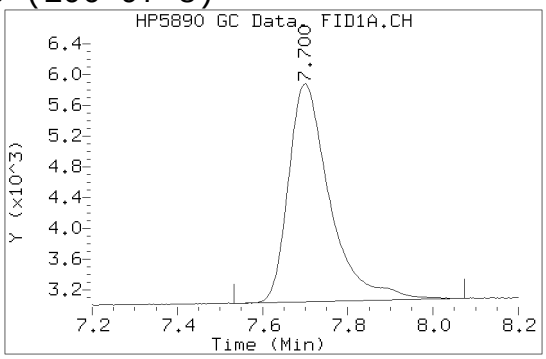
Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\005.D
Inj Date : 24-JAN-2017 10:39
InstruID : FID-4.i
LabSampID : ICAL5

N-Butane (106-97-8)

Reason Code:

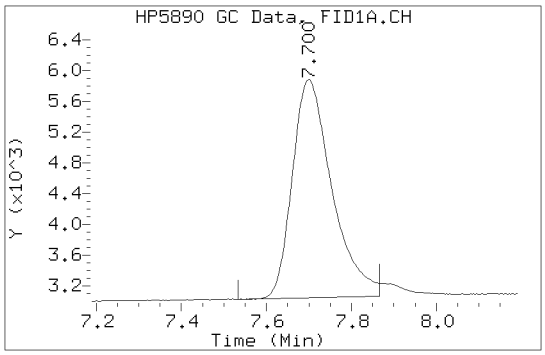
BEFORE

MASS
100
AREA
19142
HEIGHT
2839
28-Sep-2022
10:02
linh
pham



AFTER

MASS
100
AREA
18446
HEIGHT
2838
28-Sep-2022
10:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\006.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

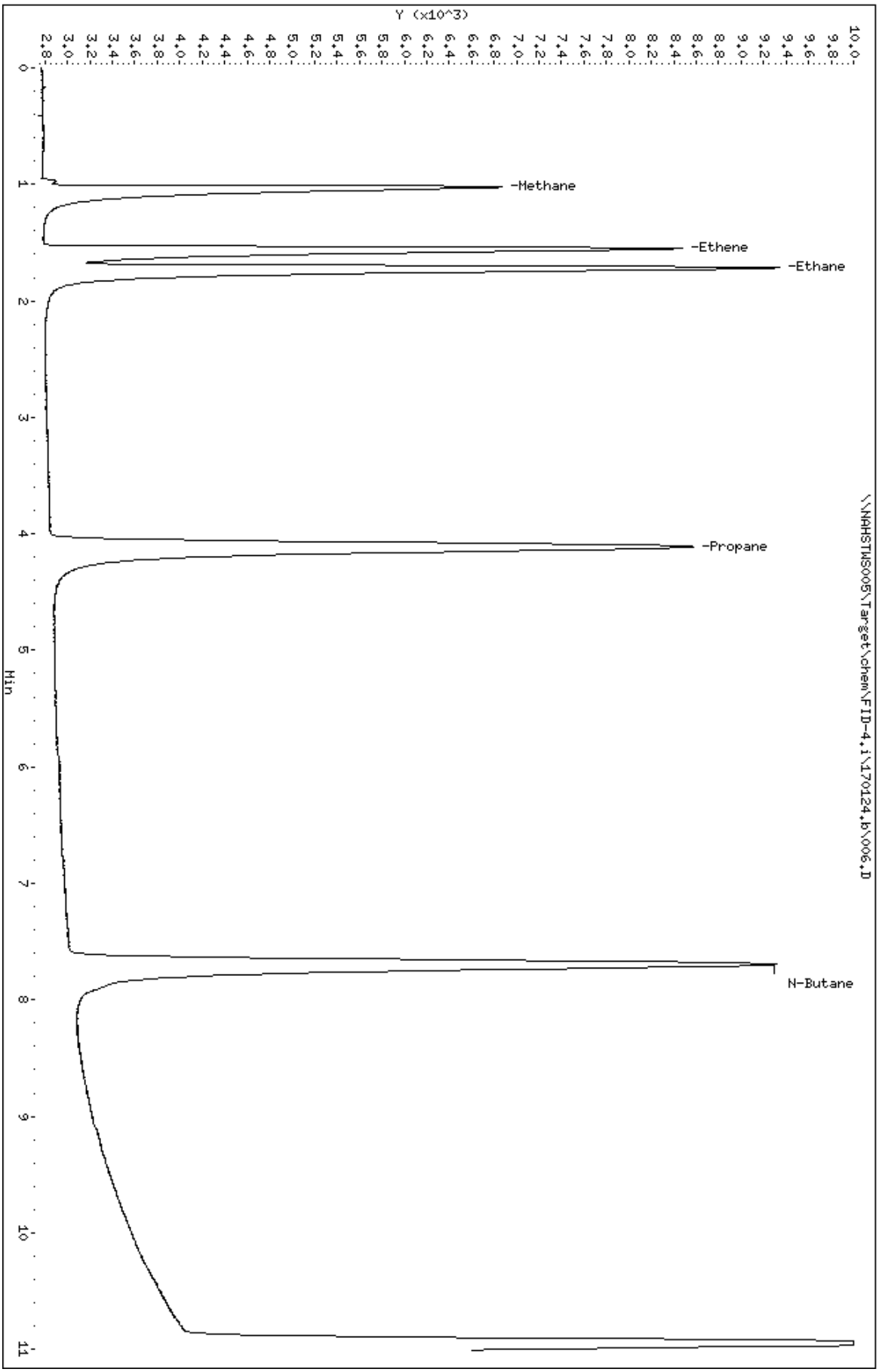
Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.023	1.023	0.000	17957	19.2940	18.429
2 Ethene	1.550	1.550	0.000	22910	53.8200	39.078
3 Ethane	1.716	1.716	0.000	29505	36.0860	40.070
4 Propane	4.110	4.110	0.000	38286	52.9260	52.796
5 N-Butane	7.696	7.696	0.000	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4,i\170124,b\006,D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;
Column phase: Rtx-PLOT

Instrument: FID-4,i
Operator: MA
Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\006.D
Inj Date : 24-JAN-2017 10:57
InstruID : FID-4.i
LabSampID : ICAL6

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

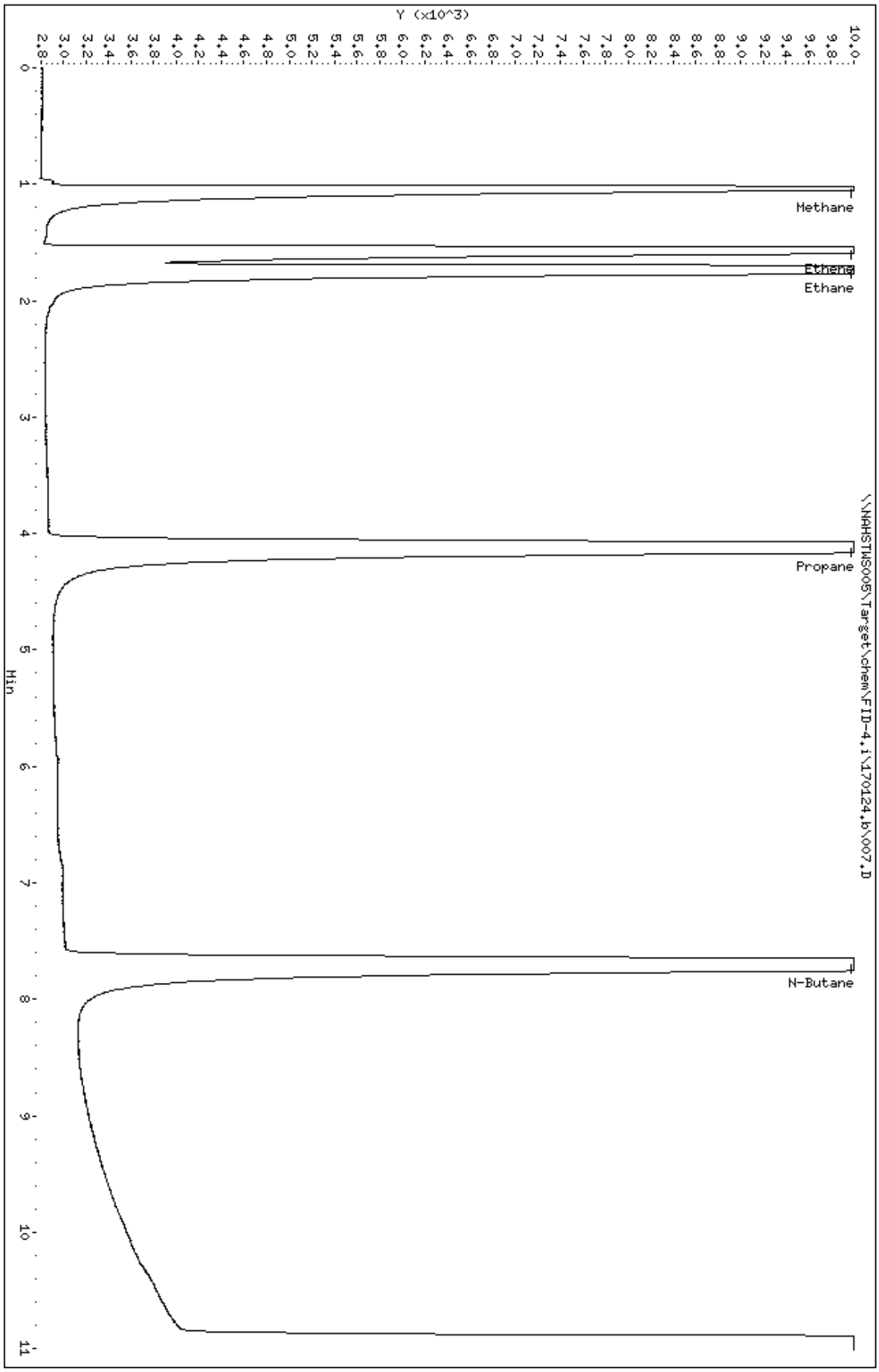
Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7:ICAL7:::
Column phase: Rtx-PLOT
Instrument: FID-4.i
Operator: MA
Column diameter: 0.53
Page 1
Y (x10^3)
Methane
Ethene
Ethane
Propane
N-Butane
Min
\\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D

Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D
Inj Date : 24-JAN-2017 11:13
InstruID : FID-4.i
LabSampID : ICAL7

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\008.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\008.D

Date : 24-JAN-2017 12:05

Client ID: ICV

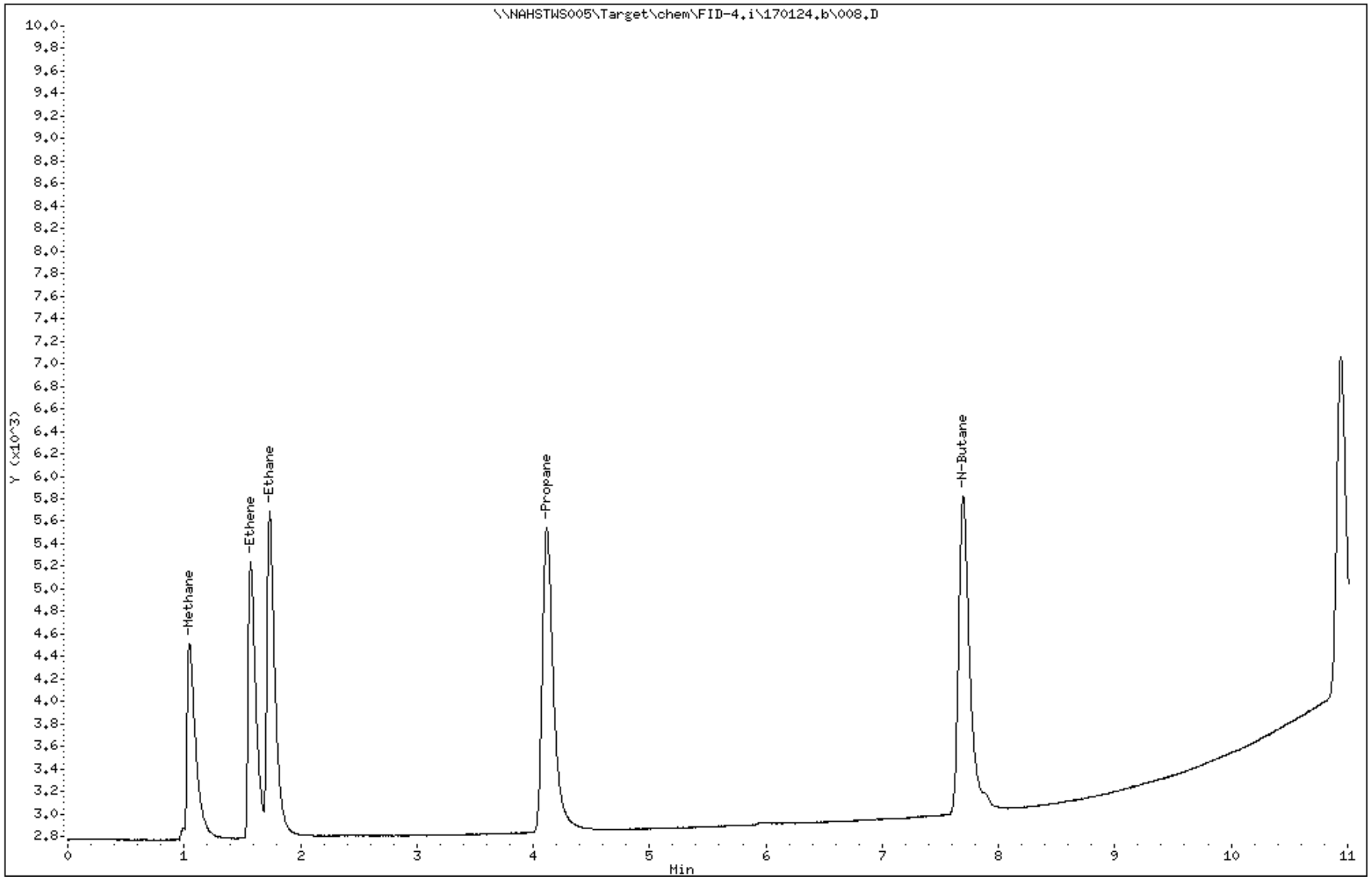
Instrument: FID-4.i

Sample Info: ICV;ICV;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\008.D
Inj Date : 24-JAN-2017 12:05
InstruID : FID-4.i
LabSampID : ICV

NO MANUAL INTEGRATIONS

right solutions.
right partner.

Raw Data FID-4 421147

Semi-Volatiles by RSK-175

Workorder

HS22110180

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\001.D Page 1
Report Date: 21-Nov-2022 11:02

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 05-NOV-2022 08:37
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 21-Nov-2022 11:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.440	0.440	0.000	8551	9.64700	8.770(M)
2 Ethene	0.660	0.660	0.000	11244	16.8500	19.195(M)
3 Ethane	0.733	0.733	0.000	15507	18.0430	21.552(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\001.D

Date : 05-NOV-2022 08:37

Client ID: RSK-CCV

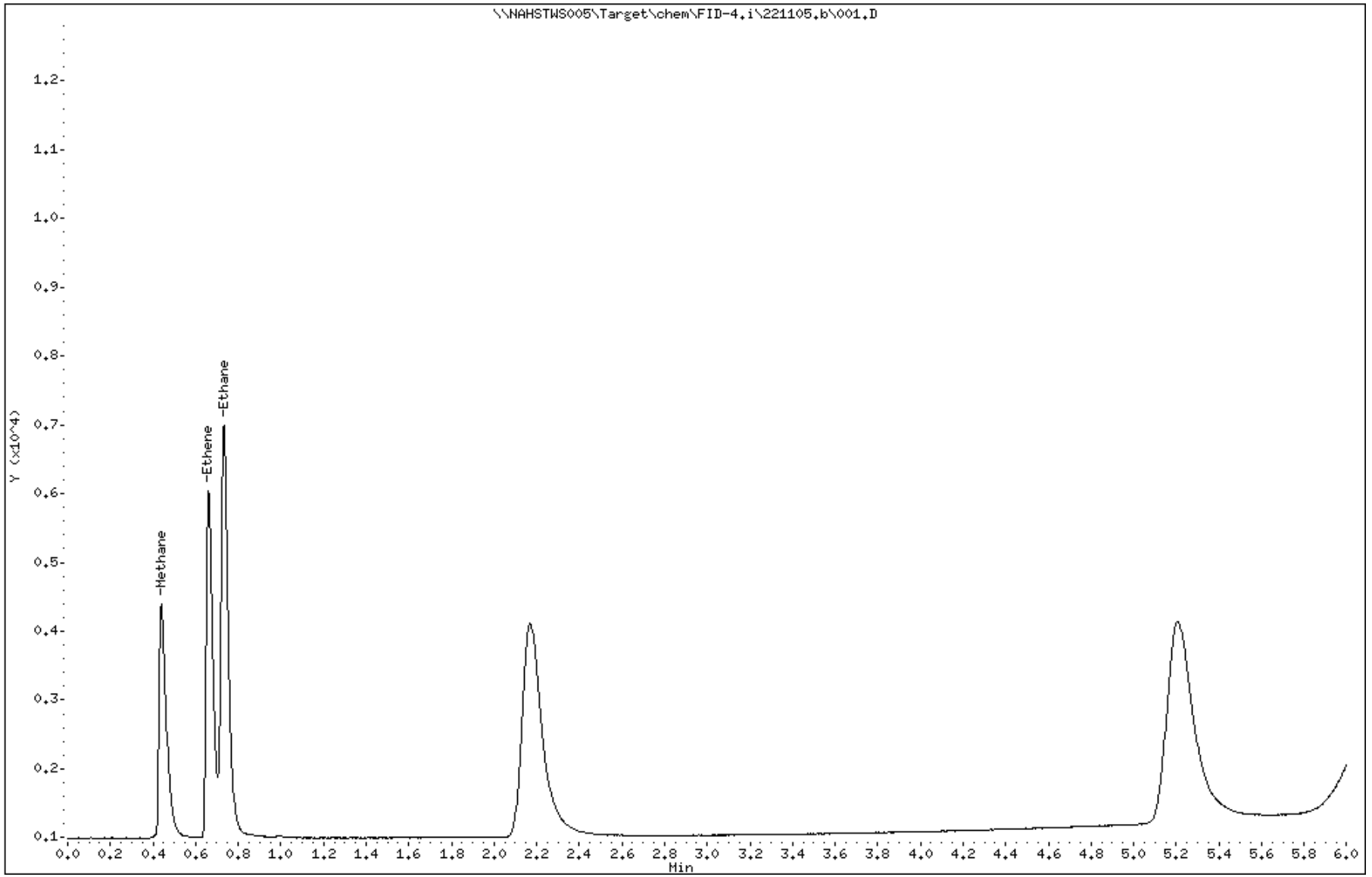
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

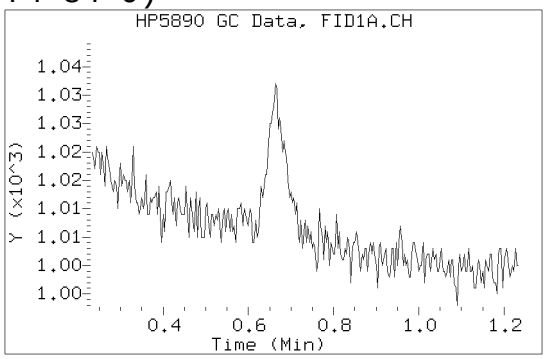


Data File : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\001.D
Inj Date : 05-NOV-2022 08:37
InstruID : FID-4.i
LabSampID : RSK-CCV

Ethane (74-84-0)

BEFORE

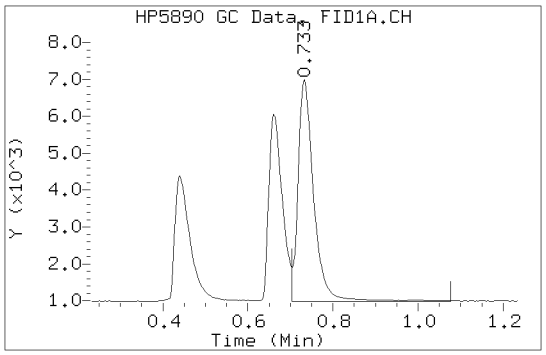
MASS
44
AREA
0
HEIGHT
0
05-Nov-2022
08:14
ALSHS
Server



Reason Code:

AFTER

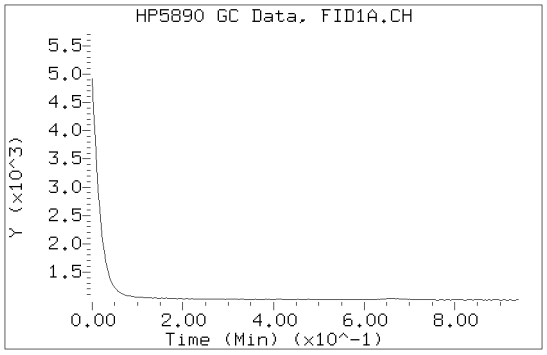
MASS
44
AREA
15507
HEIGHT
6003
21-Nov-2022
11:02
ALSHS
Ser



Methane (74-82-8)

BEFORE

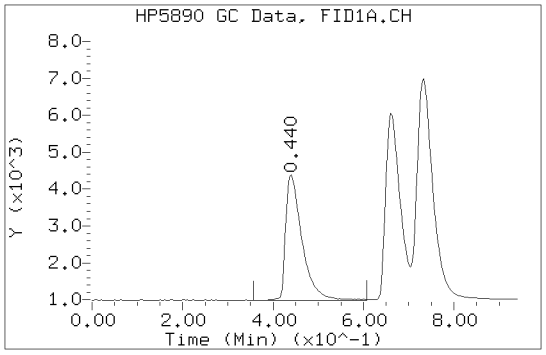
MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
08:14
ALSHS
Server



Reason Code:

AFTER

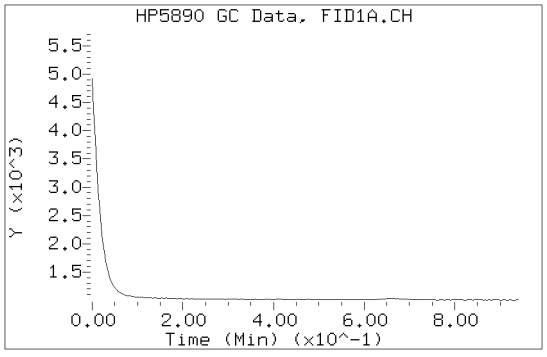
MASS
100
AREA
8551
HEIGHT
3403
21-Nov-2022
11:02
ALSHS
Ser



Ethene (74-85-1)

BEFORE

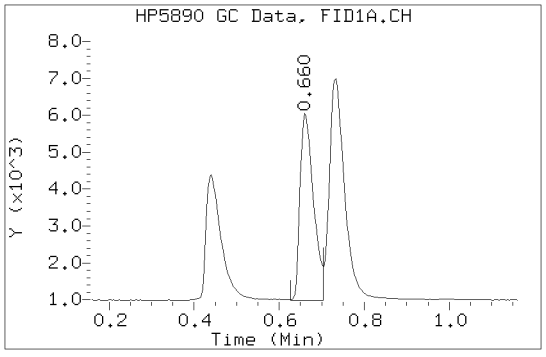
MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
08:14
ALSHS
Server



Reason Code:

AFTER

MASS
100
AREA
11244
HEIGHT
5063
21-Nov-2022
11:02
ALSHS
Ser



Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\002.D Page 1
Report Date: 05-Nov-2022 16:14

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221105.b\002.D
Lab Smp Id: MBLK-221105 Client Smp ID: MBLK-221105
Inj Date : 05-NOV-2022 08:48
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-221105;MBLK-221105;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\002.D

Date : 05-NOV-2022 08:48

Client ID: MBLK-221105

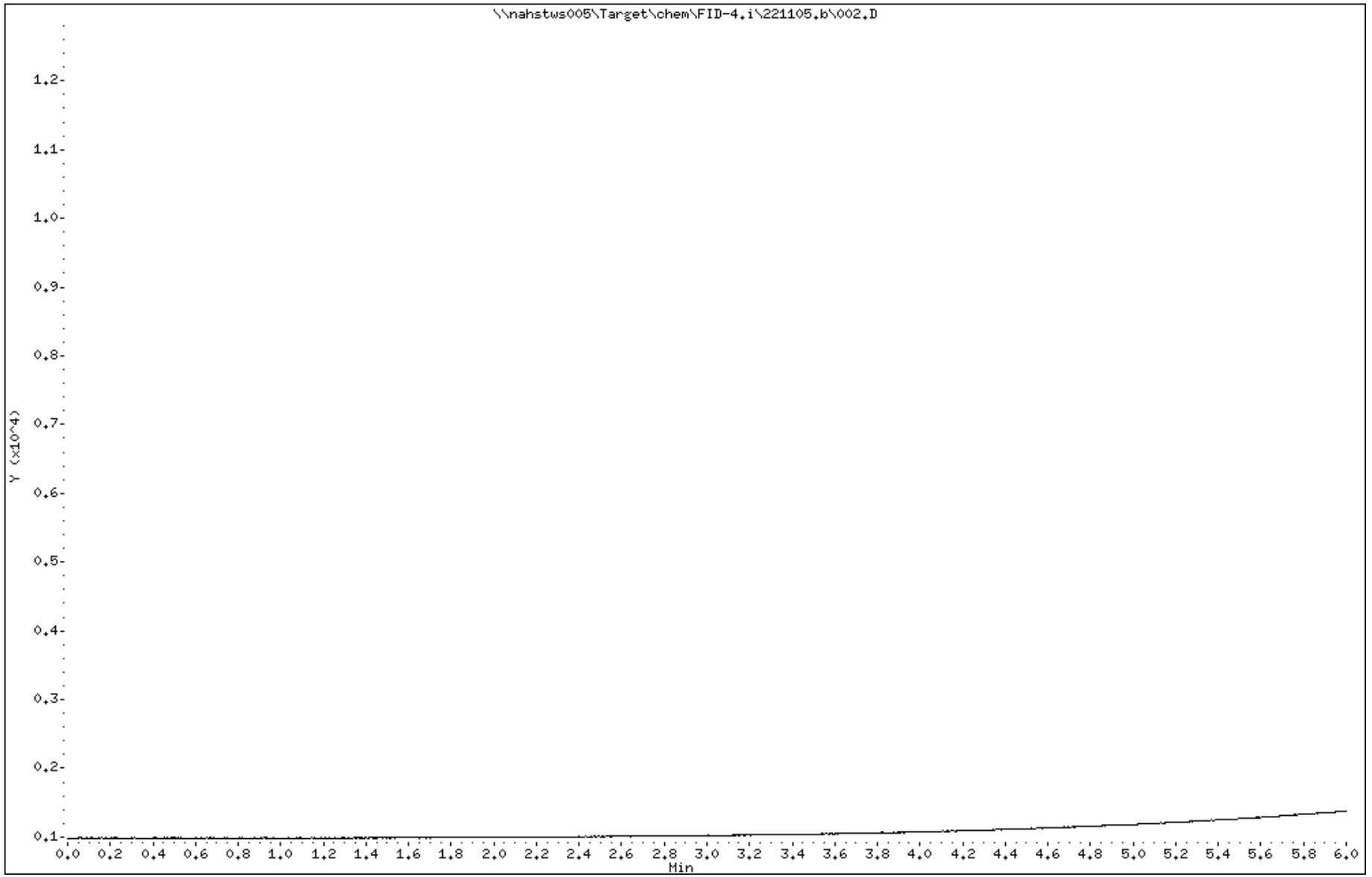
Instrument: FID-4.i

Sample Info: MBLK-221105;MBLK-221105;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221105.b\002.D
Inj Date : 05-NOV-2022 08:48
InstruID : FID-4.i
LabSampID : MBLK-221105

NO MANUAL INTEGRATIONS

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\003.D Page 1
Report Date: 05-Nov-2022 16:14

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221105.b\003.D
Lab Smp Id: LCS-221105 Client Smp ID: LCS-221105
Inj Date : 05-NOV-2022 08:56
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-221105;LCS-221105;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.440	0.440	0.000	8760	8.98469	8.984(M)
2 Ethene	0.660	0.660	0.000	10871	18.5588	18.558(M)
3 Ethane	0.733	0.733	0.000	14552	20.2254	20.225(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\003.D

Date : 05-NOV-2022 08:56

Client ID: LCS-221105

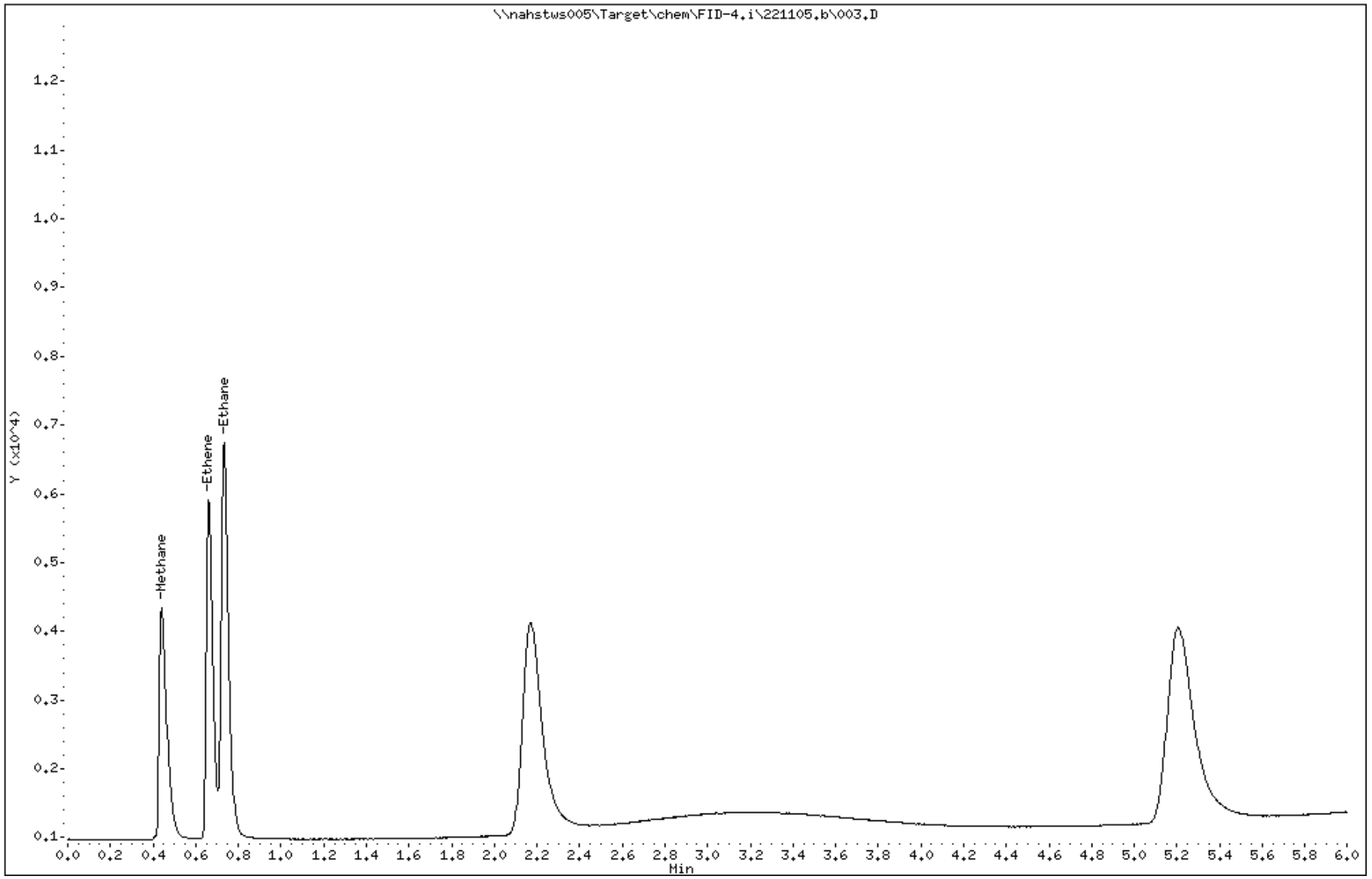
Instrument: FID-4.i

Sample Info: LCS-221105;LCS-221105;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



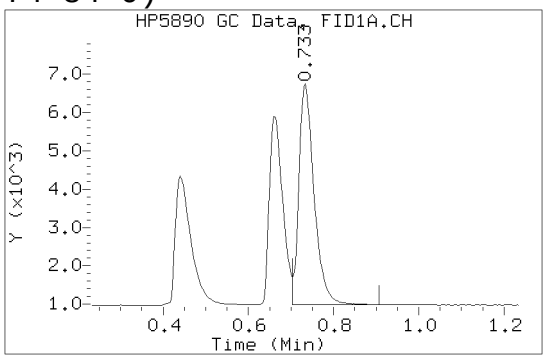
Data File : \\nahstws005\Target\chem\FID-4.i\221105.b\003.D
Inj Date : 05-NOV-2022 08:56
InstruID : FID-4.i
LabSampID : LCS-221105

Ethane (74-84-0)

Reason Code:

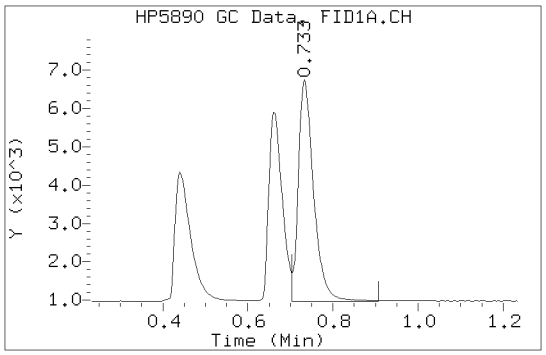
BEFORE

MASS
44
AREA
14356
HEIGHT
5772
05-Nov-2022
09:04
ALSHS
Server



AFTER

MASS
44
AREA
14552
HEIGHT
5781
05-Nov-2022
16:14
ALSHS
Ser

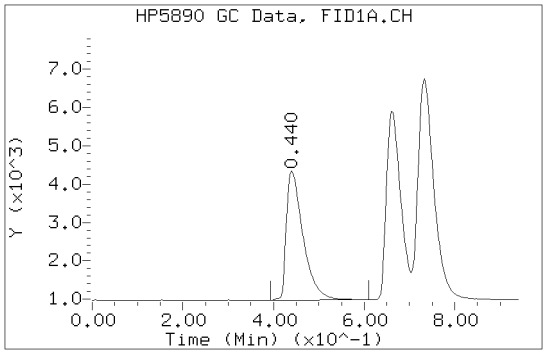


Methane (74-82-8)

Reason Code:

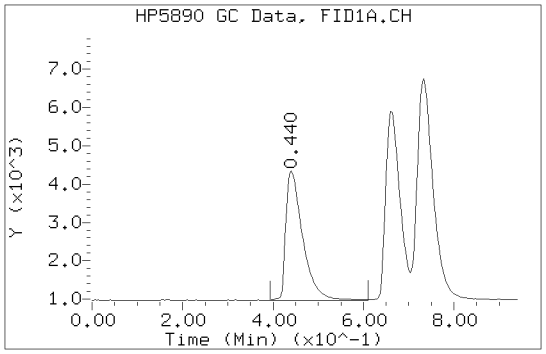
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
09:04
ALSHS
Server



AFTER

MASS
100
AREA
8760
HEIGHT
3370
05-Nov-2022
16:14
ALSHS
Ser

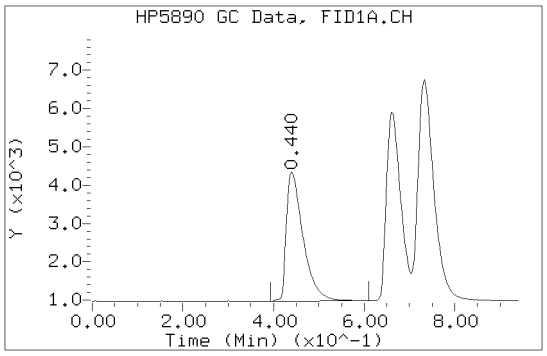


Ethene (74-85-1)

Reason Code:

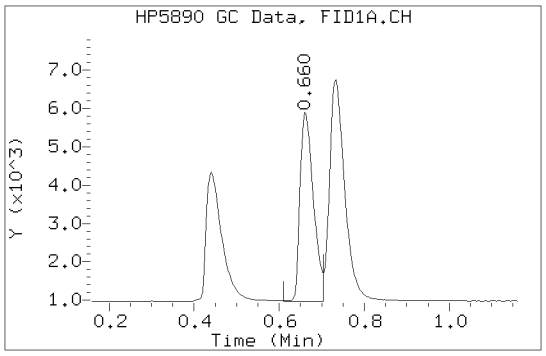
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
09:04
ALSHS
Server



AFTER

MASS
100
AREA
10871
HEIGHT
4933
05-Nov-2022
16:14
ALSHS
Ser



Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\004.D Page 1
Report Date: 05-Nov-2022 16:14

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221105.b\004.D
Lab Smp Id: LCSD-221105 Client Smp ID: LCSD-221105
Inj Date : 05-NOV-2022 09:18
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-221105;LCSD-221105;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.426	0.440	-0.014	8863	9.09033	9.090(M)
2 Ethene	0.646	0.660	-0.014	11353	19.3816	19.381(M)
3 Ethane	0.720	0.733	-0.013	15347	21.3304	21.330(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\004.D

Date : 05-NOV-2022 09:18

Client ID: LCSD-221105

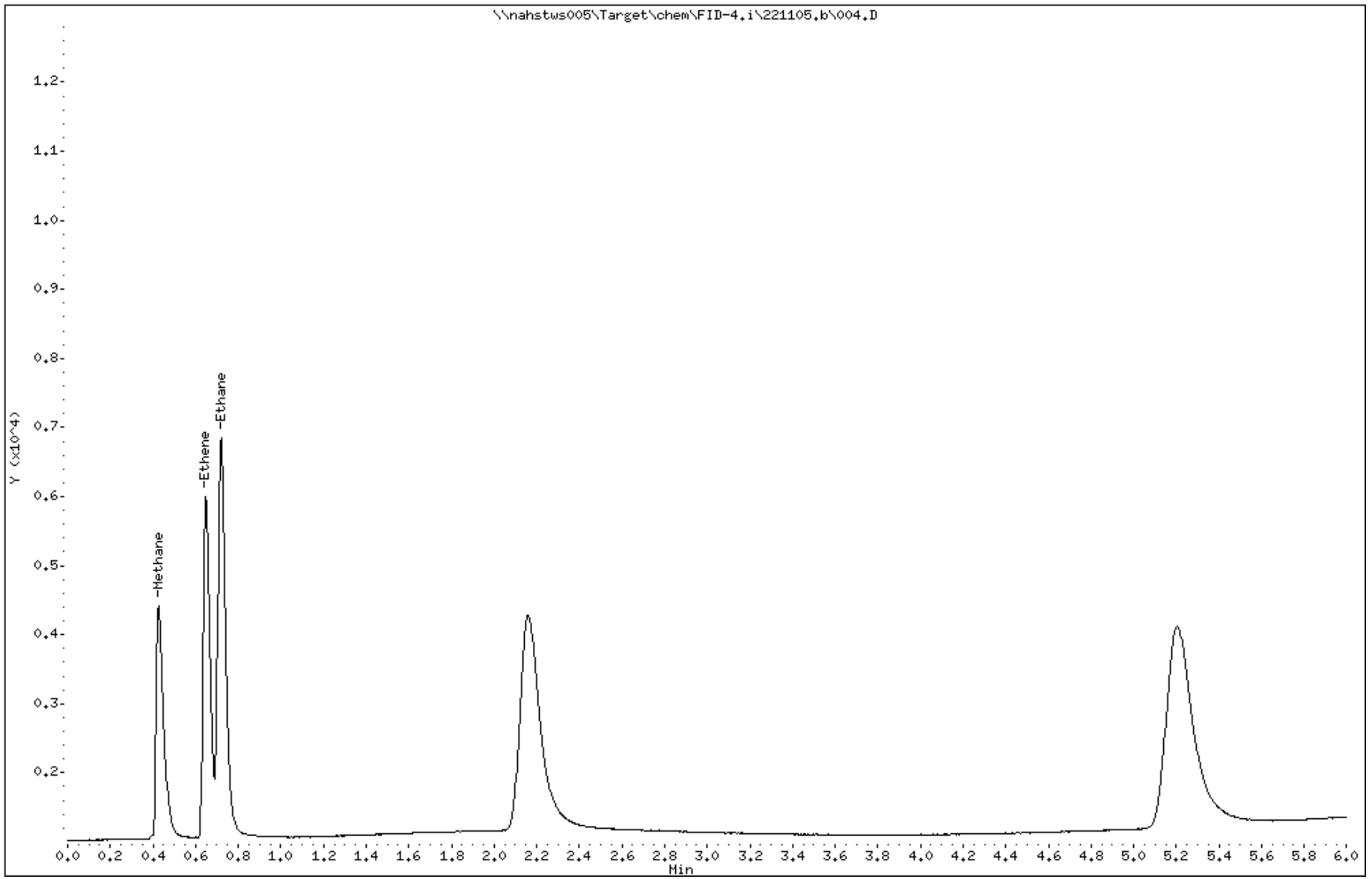
Instrument: FID-4.i

Sample Info: LCSD-221105;LCSD-221105;3;;LCSD

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

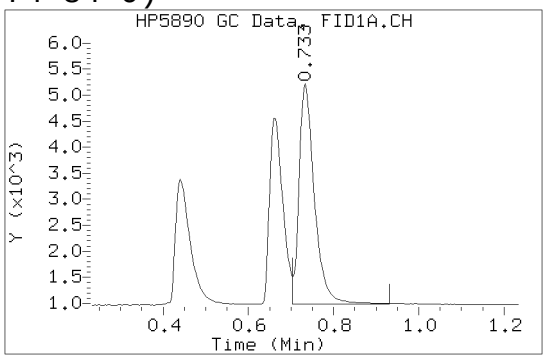


Data File : \\nahstws005\Target\chem\FID-4.i\221105.b\004.D
Inj Date : 05-NOV-2022 09:18
InstruID : FID-4.i
LabSampID : LCSD-221105

Ethane (74-84-0)

BEFORE

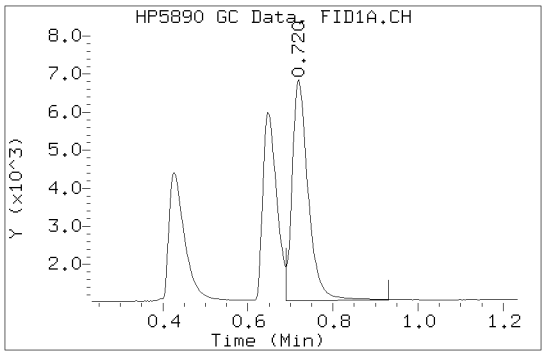
MASS
44
AREA
10688
HEIGHT
4238
05-Nov-2022
09:14
ALSHS
Server



Reason Code:

AFTER

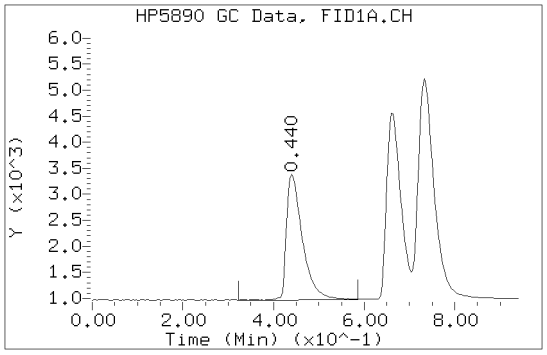
MASS
44
AREA
15347
HEIGHT
5807
05-Nov-2022
16:14
ALSHS
Ser



Methane (74-82-8)

BEFORE

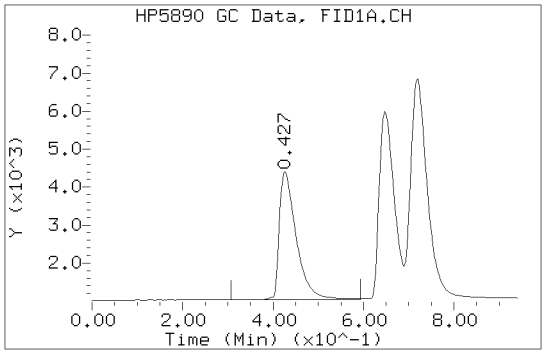
MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
09:14
ALSHS
Server



Reason Code:

AFTER

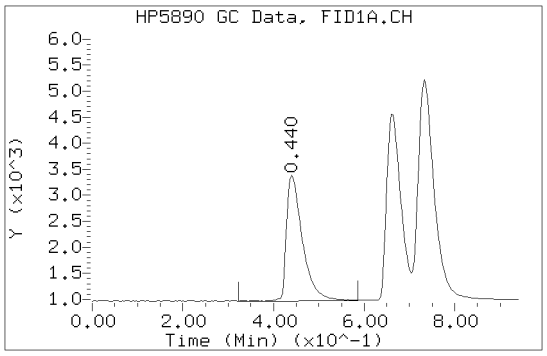
MASS
100
AREA
8863
HEIGHT
3379
05-Nov-2022
16:14
ALSHS
Ser



Ethene (74-85-1)

BEFORE

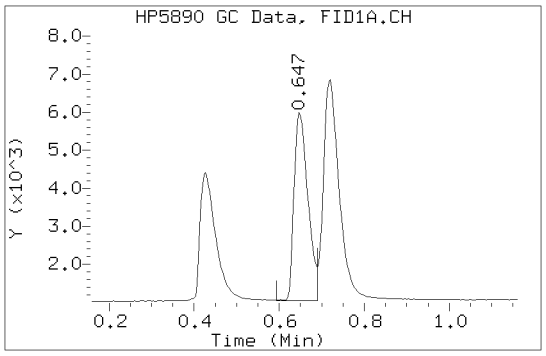
MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
09:14
ALSHS
Server



Reason Code:

AFTER

MASS
100
AREA
11353
HEIGHT
4949
05-Nov-2022
16:14
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\010.D Page 1
Report Date: 21-Nov-2022 11:02

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\010.D
Lab Smp Id: HS22110180-01 Client Smp ID: HS22110180-01
Inj Date : 05-NOV-2022 10:35
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110180-01;HS22110180-01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 21-Nov-2022 11:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.470	0.440	0.030	1185	1.21539	1.215

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\010.D

Date : 05-NOV-2022 10:35

Client ID: HS22110180-01

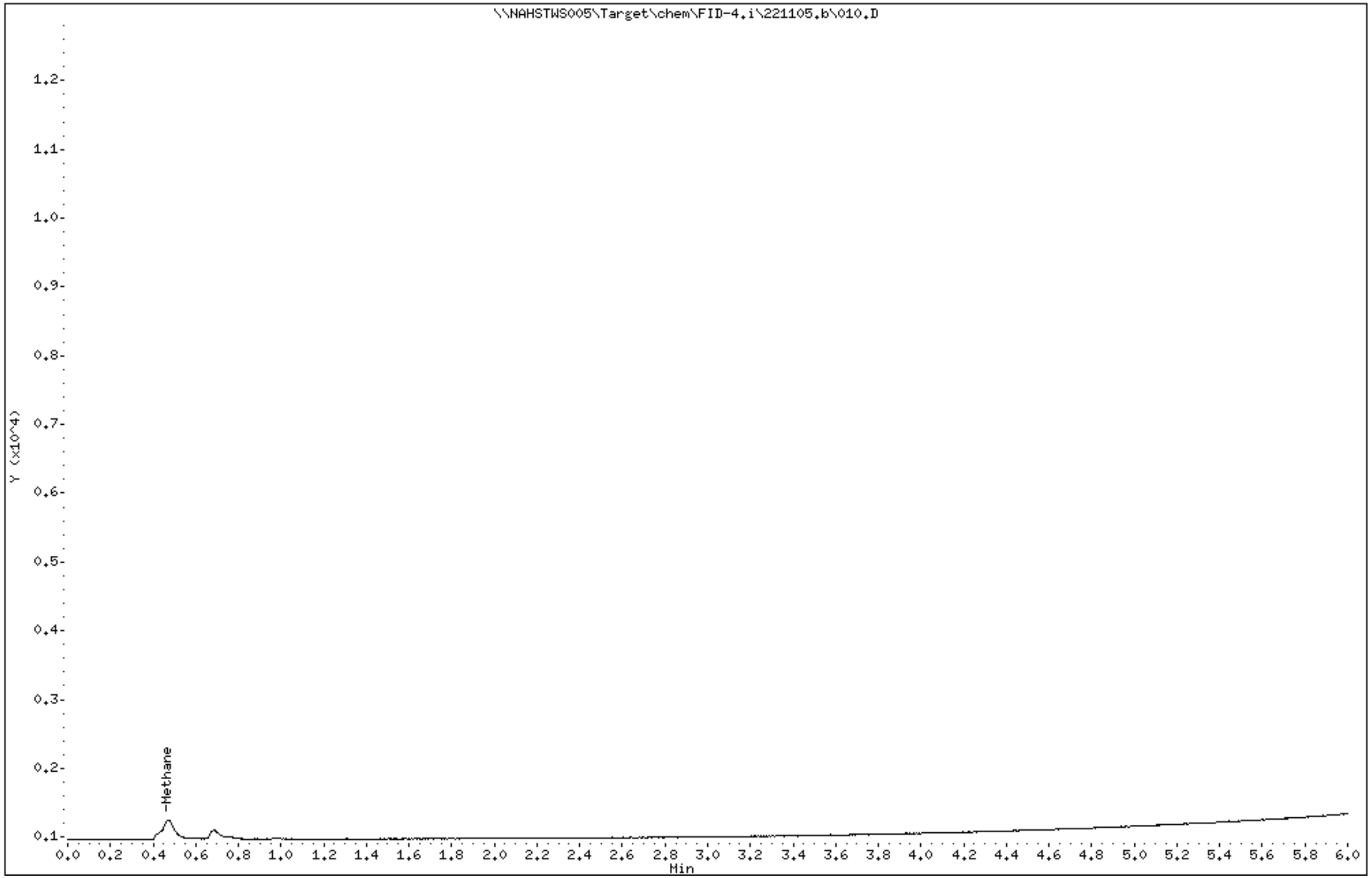
Instrument: FID-4.i

Sample Info: HS22110180-01;HS22110180-01

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\010.D
Inj Date : 05-NOV-2022 10:35
InstruID : FID-4.i
LabSampID : HS22110180-01

NO MANUAL INTEGRATIONS

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\011.D Page 1
Report Date: 05-Nov-2022 16:19

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221105.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 05-NOV-2022 10:42
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.440	0.440	0.000	8630	9.64700	8.851(M)
2 Ethene	0.666	0.666	0.000	11412	16.8500	19.482(M)
3 Ethane	0.740	0.740	0.000	15315	18.0430	21.285(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\011.D

Date : 05-NOV-2022 10:42

Client ID: RSK-CCV

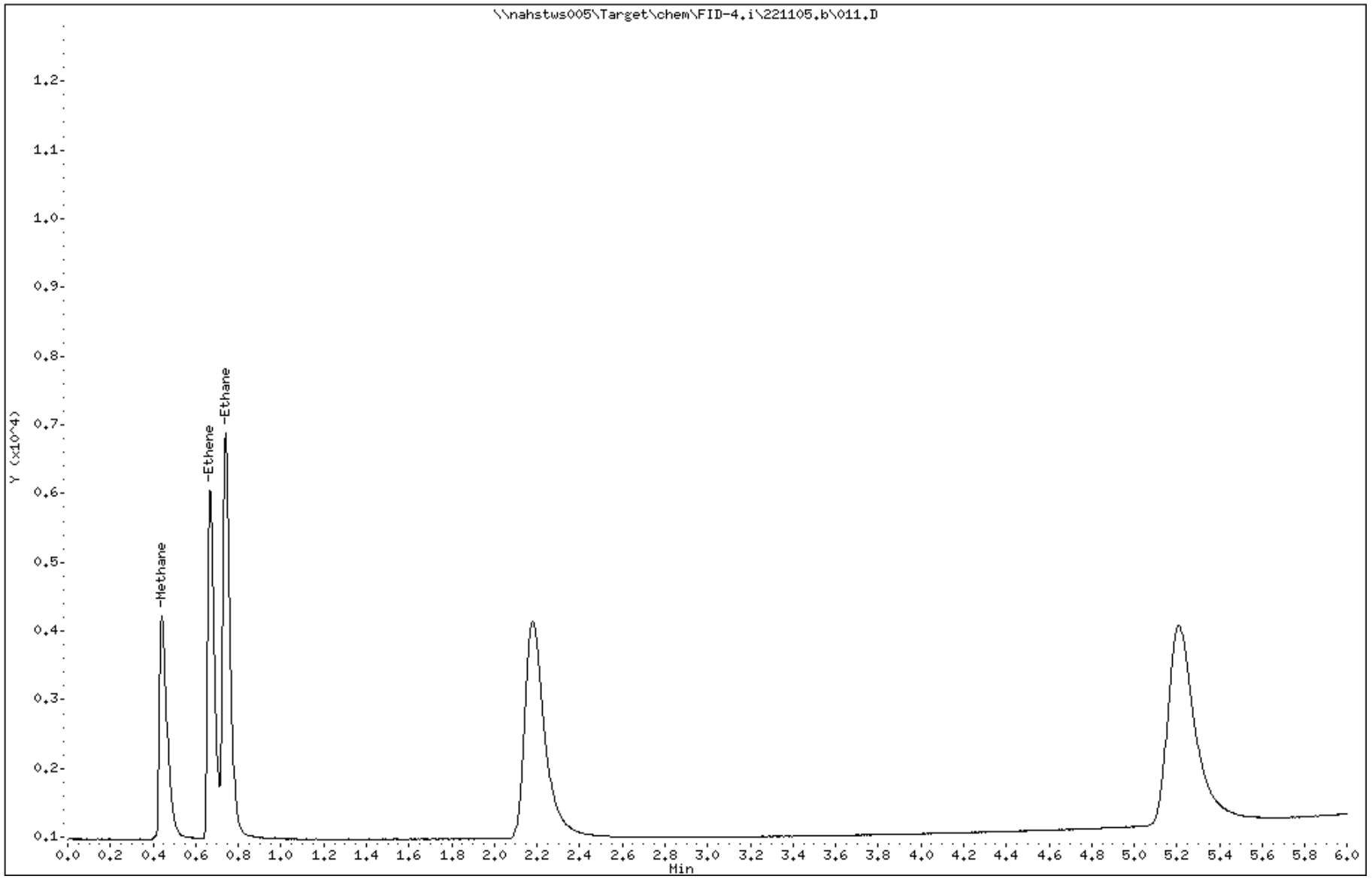
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



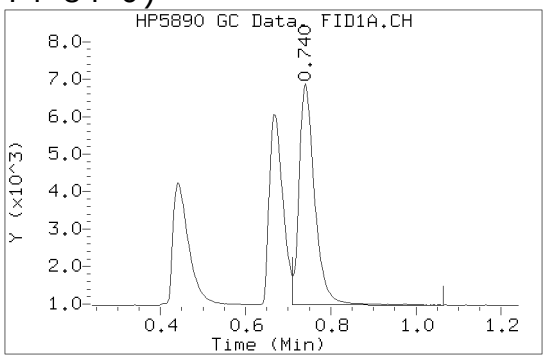
Data File : \\nahstws005\Target\chem\FID-4.i\221105.b\011.D
Inj Date : 05-NOV-2022 10:42
InstruID : FID-4.i
LabSampID : RSK-CCV

Ethane (74-84-0)

Reason Code:

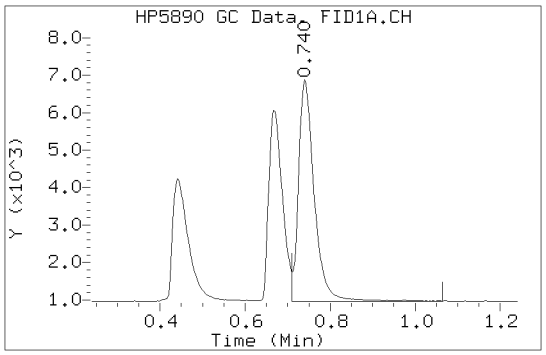
BEFORE

MASS
44
AREA
15046
HEIGHT
5903
05-Nov-2022
10:49
ALSHS
Server



AFTER

MASS
44
AREA
15315
HEIGHT
5914
05-Nov-2022
16:19
ALSHS
Ser

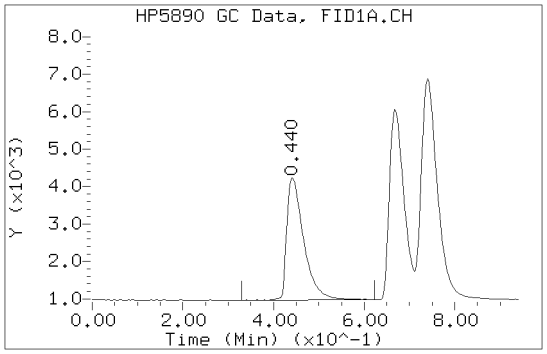


Methane (74-82-8)

Reason Code:

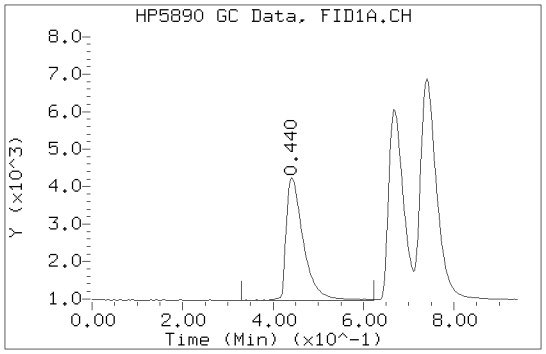
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
10:49
ALSHS
Server



AFTER

MASS
100
AREA
8630
HEIGHT
3264
05-Nov-2022
16:19
ALSHS
Ser

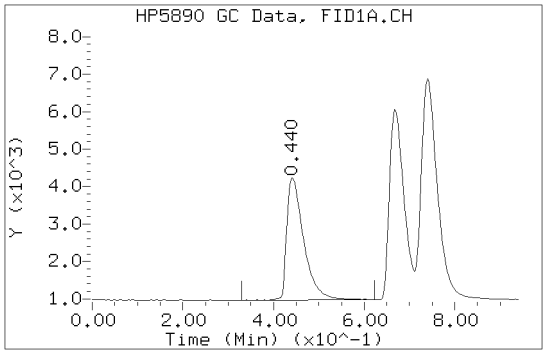


Ethene (74-85-1)

Reason Code:

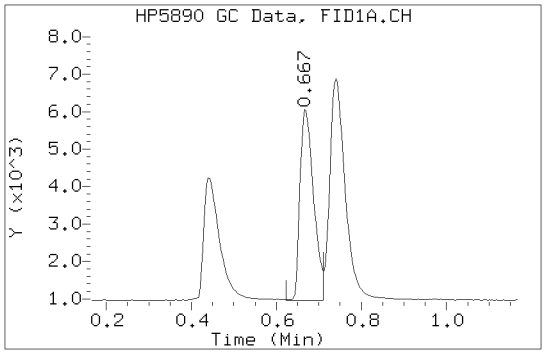
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
10:49
ALSHS
Server



AFTER

MASS
100
AREA
11412
HEIGHT
5088
05-Nov-2022
16:19
ALSHS
Ser



Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\012.D Page 1
Report Date: 05-Nov-2022 16:19

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221105.b\012.D
Lab Smp Id: HS22110180-02 Client Smp ID: HS22110180-02
Inj Date : 05-NOV-2022 11:01
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110180-02;HS22110180-02
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.440	0.026	1374	1.40924	1.409

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\012.D

Date : 05-NOV-2022 11:01

Client ID: HS22110180-02

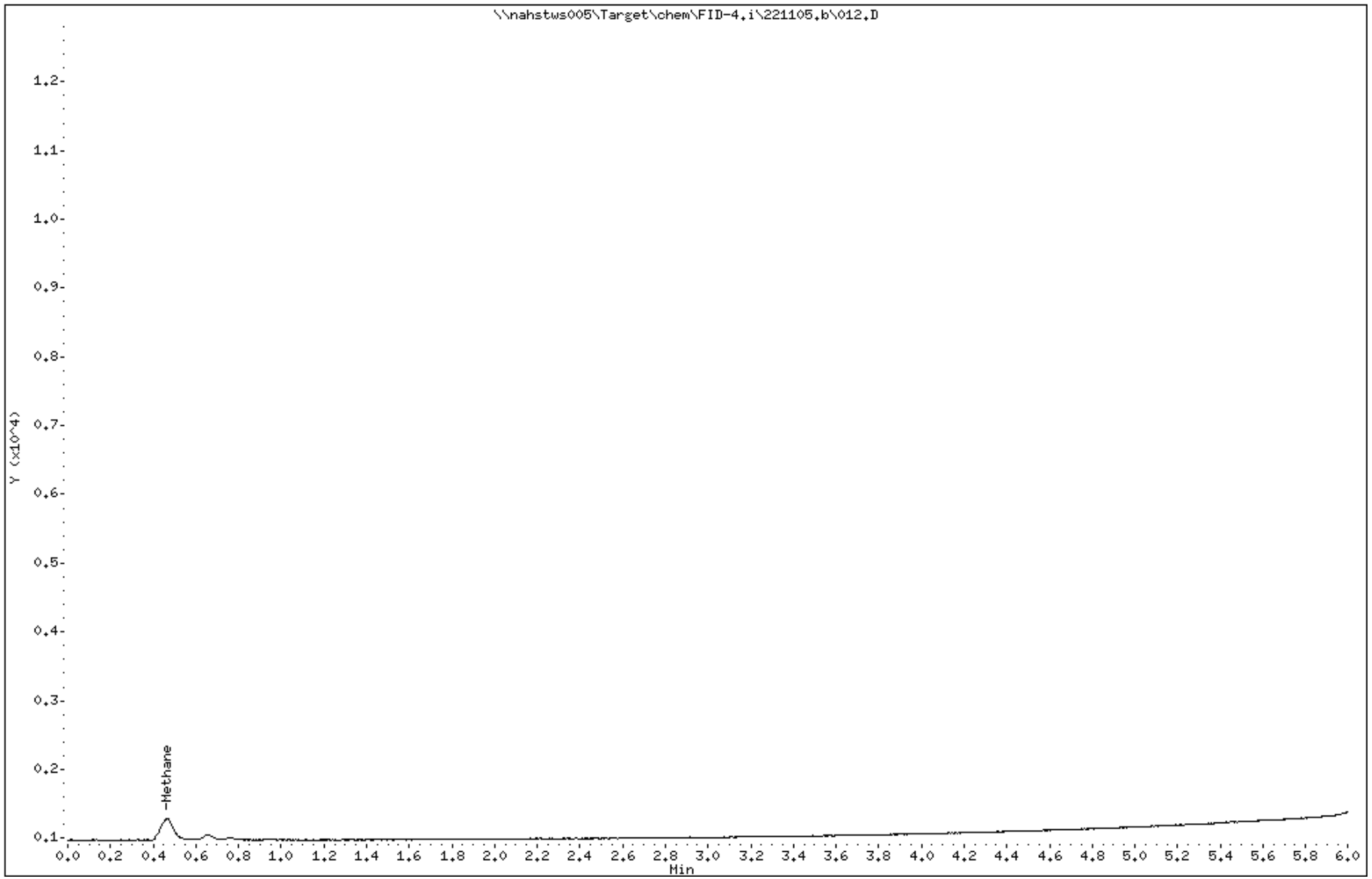
Instrument: FID-4.i

Sample Info: HS22110180-02;HS22110180-02

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221105.b\012.D
Inj Date : 05-NOV-2022 11:01
InstruID : FID-4.i
LabSampID : HS22110180-02

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221105.b\013.D
Lab Smp Id: HS22110180-03 Client Smp ID: HS22110180-03
Inj Date : 05-NOV-2022 11:14
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110180-03;HS22110180-03
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.453	0.440	0.013	1315	1.34873	1.348(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\221105.b\013.D

Date : 05-NOV-2022 11:14

Client ID: HS22110180-03

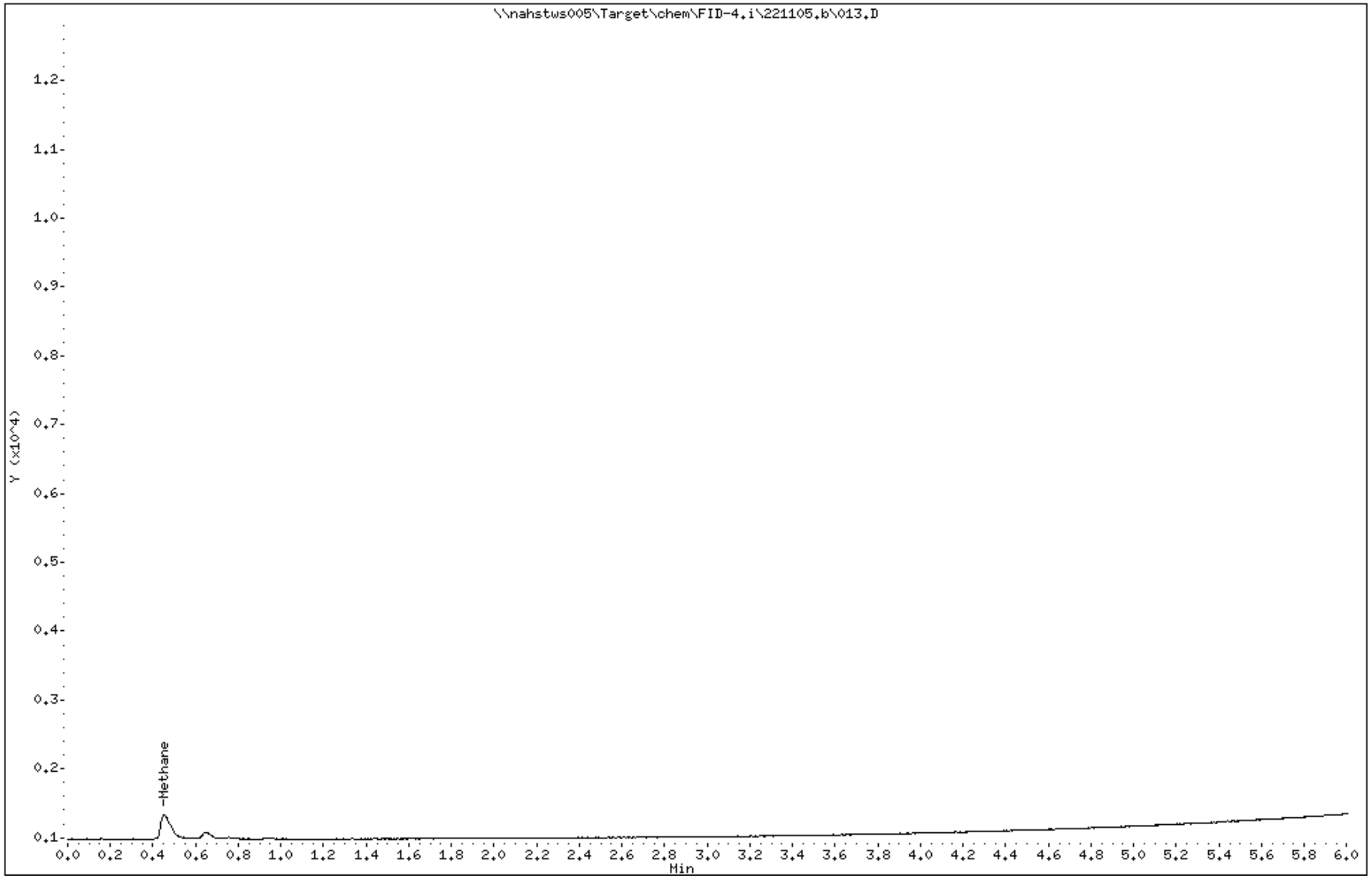
Instrument: FID-4.i

Sample Info: HS22110180-03;HS22110180-03

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



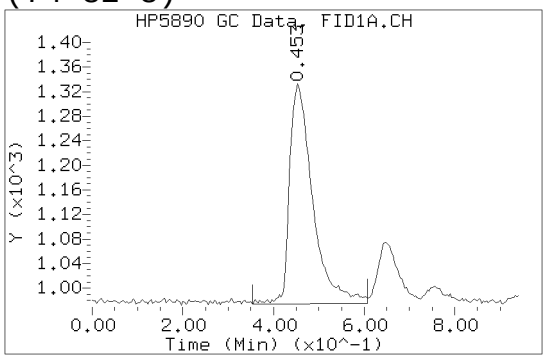
Data File : \\nahstws005\Target\chem\FID-4.i\221105.b\013.D
Inj Date : 05-NOV-2022 11:14
InstruID : FID-4.i
LabSampID : HS22110180-03

Methane (74-82-8)

Reason Code:

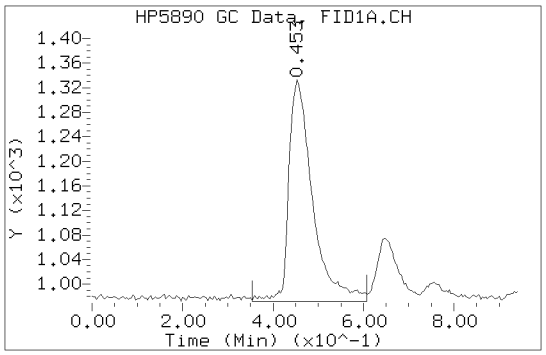
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
11:22
ALSHS
Server



AFTER

MASS
100
AREA
1315
HEIGHT
361
05-Nov-2022
16:20
ALSHS
Ser



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\014.D
Lab Smp Id: HS22110180-04 Client Smp ID: HS22110180-04
Inj Date : 05-NOV-2022 11:29
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110180-04;HS22110180-04
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 21-Nov-2022 11:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.440	0.440	0.000	6074	6.22979	6.229(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\014.D

Date : 05-NOV-2022 11:29

Client ID: HS22110180-04

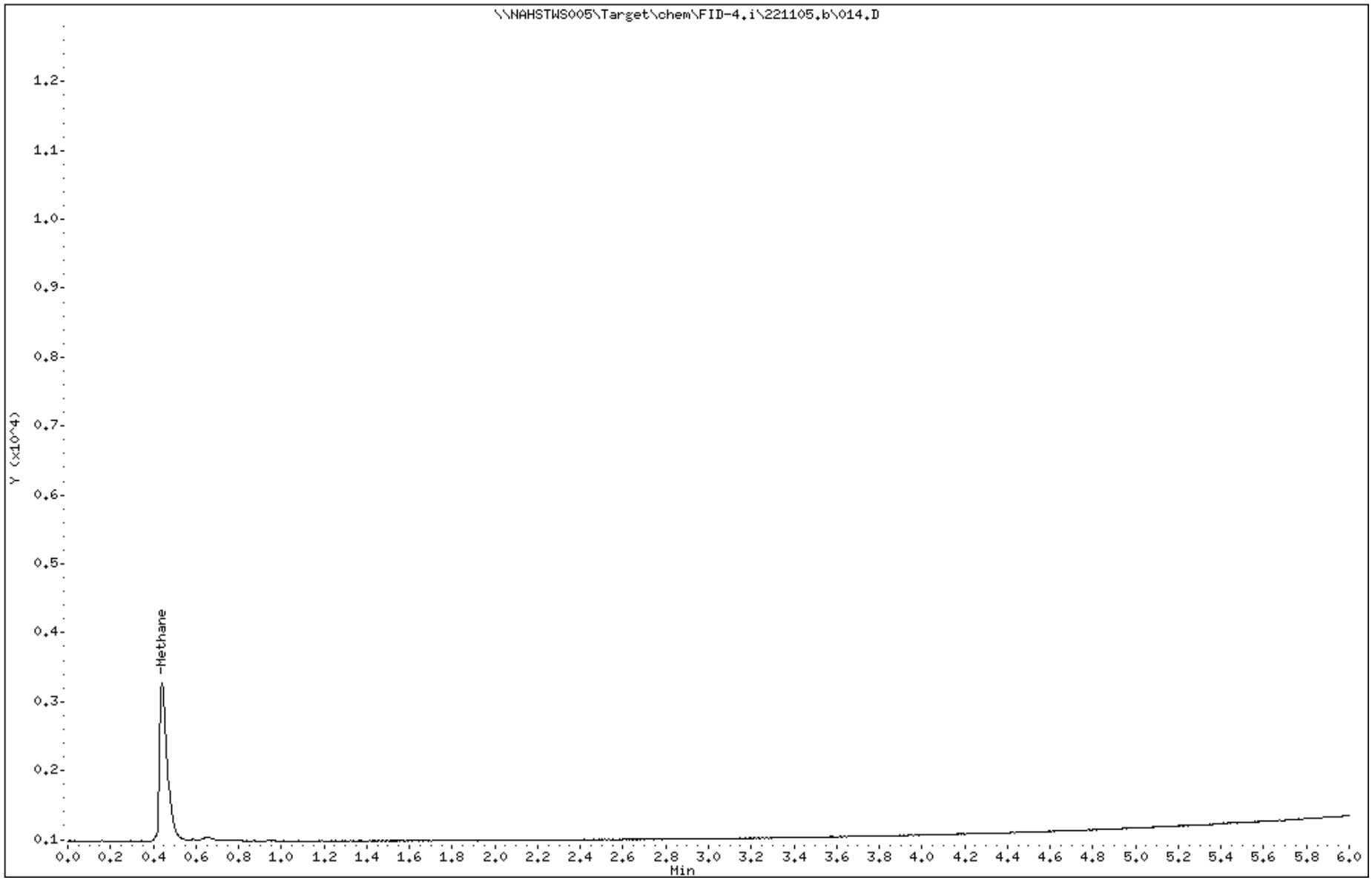
Instrument: FID-4.i

Sample Info: HS22110180-04;HS22110180-04

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



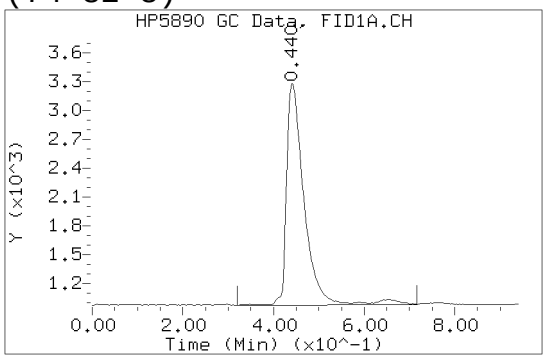
Data File : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\014.D
Inj Date : 05-NOV-2022 11:29
InstruID : FID-4.i
LabSampID : HS22110180-04

Methane (74-82-8)

Reason Code:

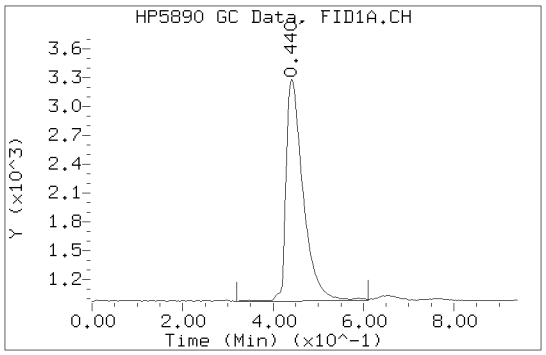
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
11:37
ALSHS
Server



AFTER

MASS
100
AREA
6074
HEIGHT
2307
21-Nov-2022
11:02
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\015.D Page 1
Report Date: 07-Nov-2022 10:01

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\015.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 05-NOV-2022 12:15
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\RSKNI3.m
Meth Date : 05-Nov-2022 16:12 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 15 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	0.440	0.440	0.000	8408	9.64700	8.623
2 Ethene	0.660	0.660	0.000	11245	16.8500	19.197(M)
3 Ethane	0.733	0.733	0.000	14355	18.0430	19.951(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221105.b\015.D

Date : 05-NOV-2022 12:15

Client ID: RSK-CCV

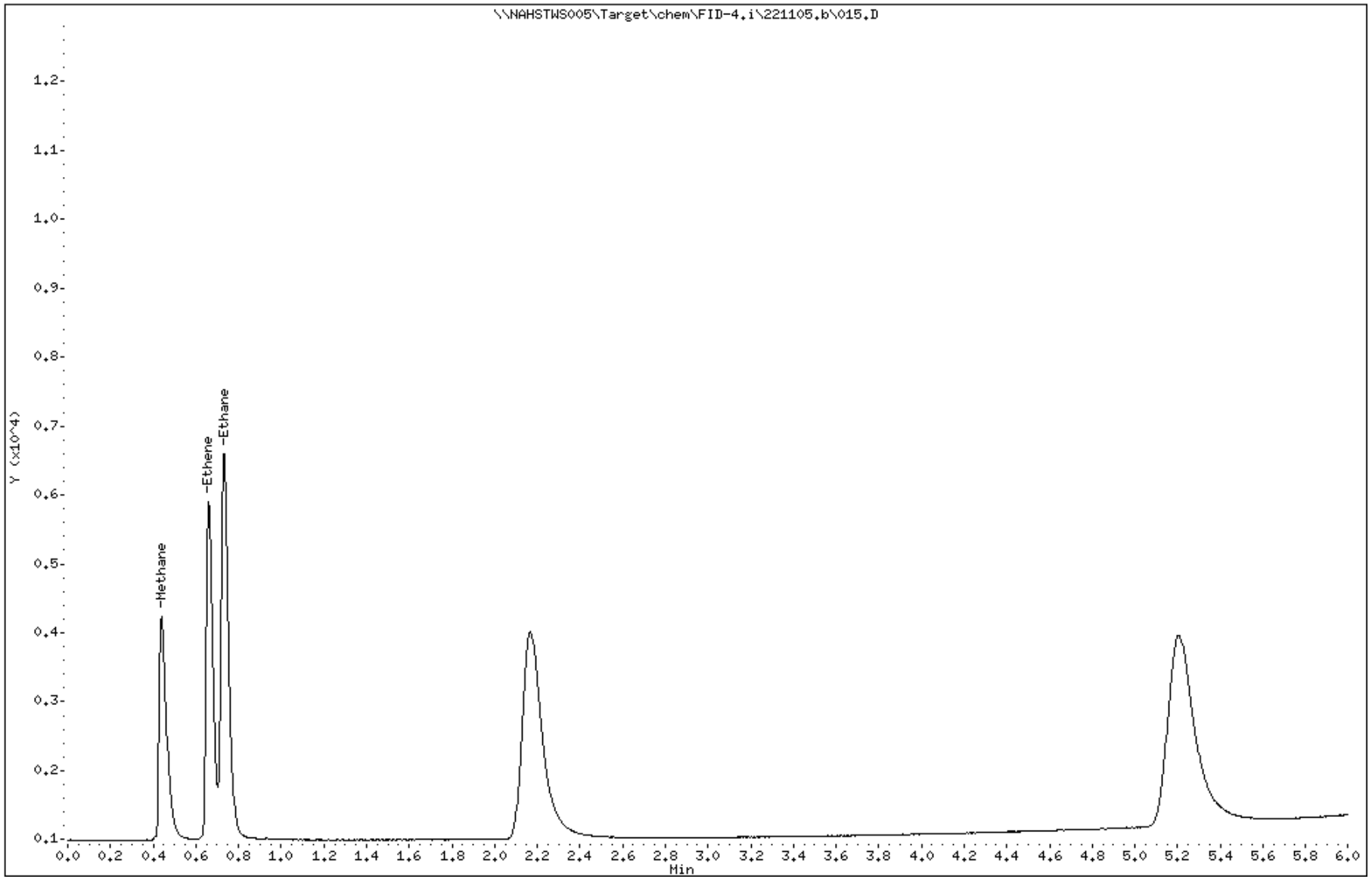
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



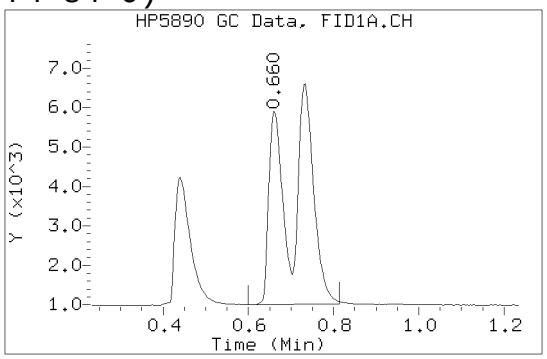
Data File : \\NAHSTWS005\Target\chem\FID-4.i\221105.b\015.D
Inj Date : 05-NOV-2022 12:15
InstruID : FID-4.i
LabSampID : RSK-CCV

Ethane (74-84-0)

Reason Code:

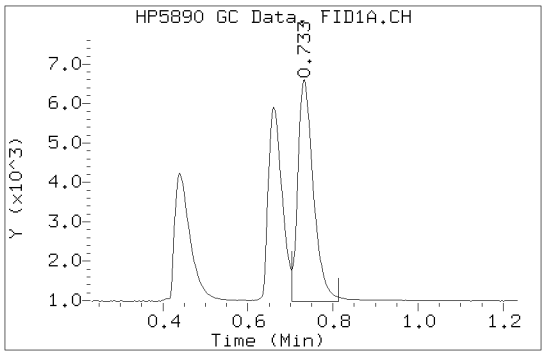
BEFORE

MASS
44
AREA
25066
HEIGHT
4893
05-Nov-2022
12:23
ALSHS
Server



AFTER

MASS
44
AREA
14355
HEIGHT
5620
07-Nov-2022
10:01
ALSHS
Ser

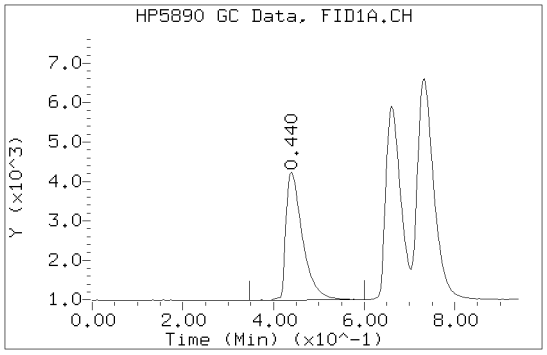


Ethene (74-85-1)

Reason Code:

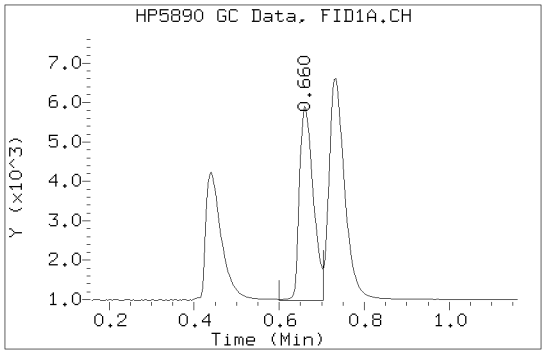
BEFORE

MASS
100
AREA
0
HEIGHT
0
05-Nov-2022
12:23
ALSHS
Server



AFTER

MASS
100
AREA
11245
HEIGHT
4918
07-Nov-2022
10:01
ALSHS
Ser



HS22110180 Wet Chemistry

ALS WO# HS22110180

C:\TOC-L\Data\2022_09_12_002.CAL.tlx

1152211018G

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Standard	NPOC	CAL	3100606211	09.12.2022.	1.000		
2	Unknown	NPOC	ICV	3100606203	09.12.2022.	1.000	NPOC:10.12mg/L	
3	Unknown	NPOC	ICB		09.12.2022.	1.000	NPOC:0.2565mg/L	

	Status	Date / Time	Vial
1	Completed	9/12/2022 3:37:18	1, 2, 3, 4, 5,
2	Completed	9/12/2022 3:52:36	8
3	Completed	9/12/2022 4:07:06	1

TOC-Control L Report

2022_09_12_002.CAL.tlx

Instr.Information

Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

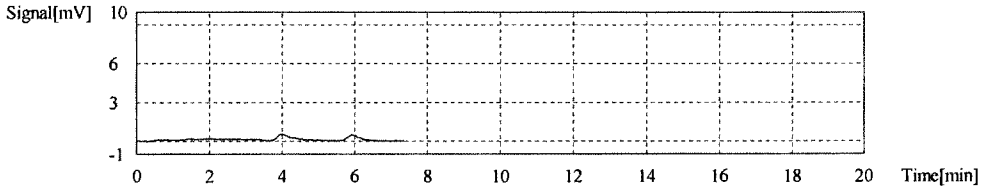
Sample Name:	CAL
Sample ID:	3100606211
Cal. Curve:	09.12.2022.2022_09_12_13_48_09.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.724	50uL	1.000	*******		9/12/2022 1:58:20 PM
2	1.656	50uL	1.000	*******		9/12/2022 2:00:30 PM
3	1.075	50uL	1.000	*******		9/12/2022 2:02:37 PM

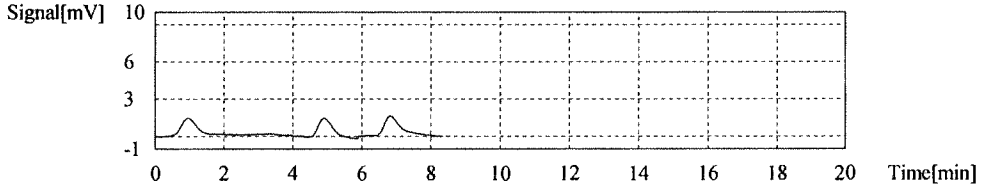
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	1.485



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.172	50uL	1.000	*******		9/12/2022 2:13:20 PM
2	4.566	50uL	1.000	*******		9/12/2022 2:15:31 PM
3	5.372	50uL	1.000	*******		9/12/2022 2:18:11 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	5.370



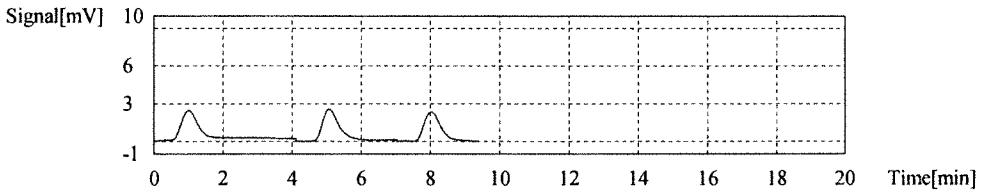
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.434	50uL	1.000	*******		9/12/2022 2:29:04 PM
2	8.527	50uL	1.000	*******		9/12/2022 2:32:14 PM
3	7.960	50uL	1.000	*******		9/12/2022 2:34:50 PM

TOC-Control L Report

2022_09_12_002.CAL.tlx

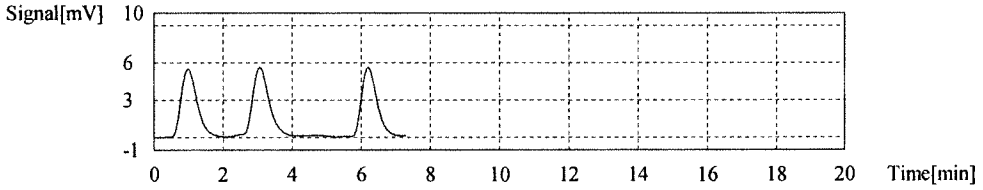
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 8.640



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	17.74	50uL	1.000	*******		9/12/2022 2:43:40 PM
2	19.48	50uL	1.000	*******		9/12/2022 2:47:03 PM
3	17.29	50uL	1.000	*******		9/12/2022 2:49:20 PM

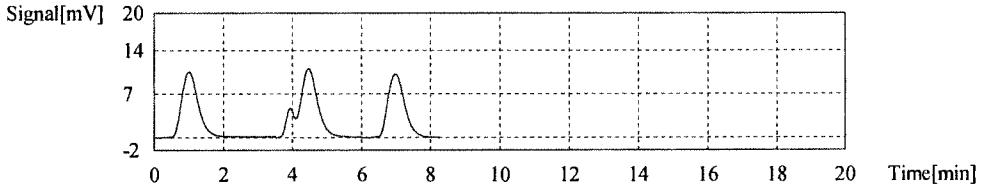
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 18.17



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.42	50uL	1.000	*******		9/12/2022 2:59:35 PM
2	44.64	50uL	1.000	*******		9/12/2022 3:02:21 PM
3	34.88	50uL	1.000	*******		9/12/2022 3:04:52 PM

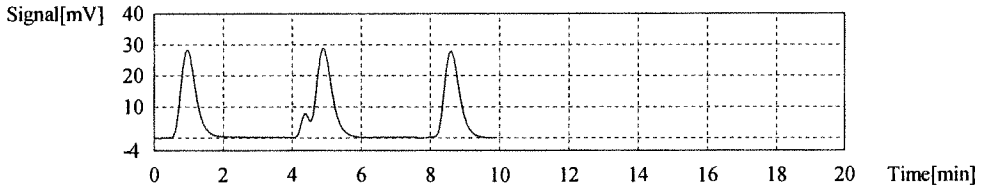
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 38.31



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	89.89	50uL	1.000	*******		9/12/2022 3:15:34 PM
2	104.9	50uL	1.000	*******		9/12/2022 3:19:31 PM
3	86.51	50uL	1.000	*******		9/12/2022 3:22:02 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 93.77



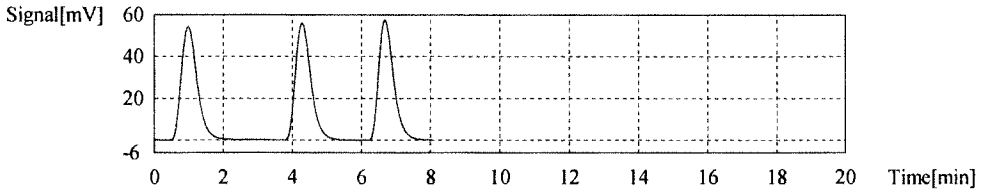
Conc: 50.00mg/L

TOC-Control L Report

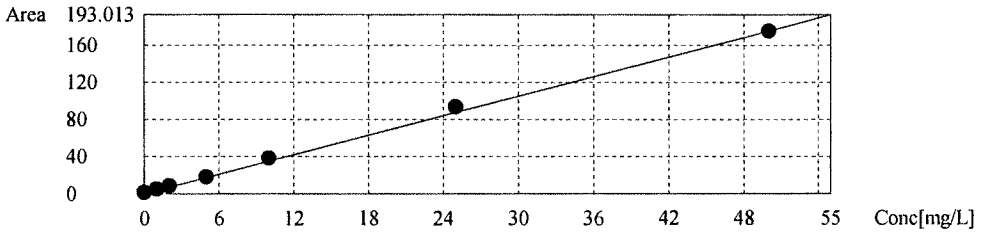
2022_09_12_002.CAL.tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	176.2	50uL	1.000	*******		9/12/2022 3:32:07 PM
2	175.5	50uL	1.000	*******		9/12/2022 3:34:47 PM
3	174.7	50uL	1.000	*******		9/12/2022 3:37:18 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 175.5



Slope: 3.506
Intercept 0.000
r^2 0.9990
r 0.9995
RSE(%) N/A
Zero Shift Yes



Sample

Sample Name: ICV
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

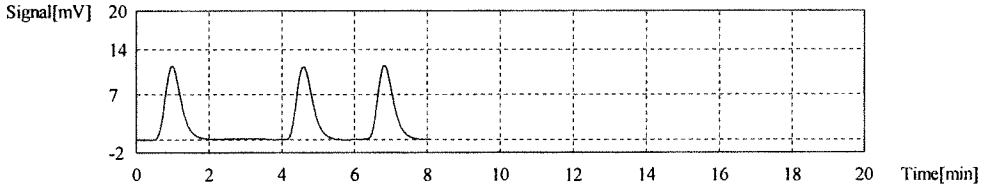
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.12mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.32	10.36mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:47:42 PM
2	35.22	10.04mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:50:09 PM
3	34.91	9.956mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:52:36 PM

Mean Area 35.48
Mean Conc. 10.12mg/L



Sample

TOC-Control L Report

2022_09_12_002.CAL.tlx

Sample Name: ICB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

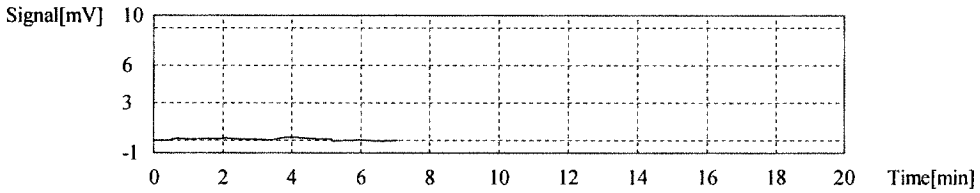
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2565mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.534	0.4375mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:02:48 PM
2	0.9051	0.2581mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:04:58 PM
3	0.2590	0.07387mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:07:06 PM

Mean Area 0.8994
Mean Conc. 0.2565mg/L



C:\TOC-L\Data\2022_11_17_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:23.65mg/L	
2	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.07045mg	
3	Unknown	NPOC	MBLK-11172022		09.12.2022.	1.000	NPOC:0.00921mg	
4	Unknown	NPOC	LCS-11172022	3100606203	09.12.2022.	1.000	NPOC:10.14mg/L	
5	Unknown	NPOC	LCSD-11172022		09.12.2022.	1.000	NPOC:10.16mg/L	
6	Unknown	NPOC	HS22110180-01		09.12.2022.	1.000	NPOC:0.5938mg/	
7	Unknown	NPOC	HS22110180-01MS		09.12.2022.	1.000	NPOC:10.69mg/L	
8	Unknown	NPOC	HS22110180-02		09.12.2022.	1.000	NPOC:0.7111mg/	
9	Unknown	NPOC	HS22110180-03		09.12.2022.	1.000	NPOC:0.6171mg/	
10	Unknown	NPOC	HS22110180-04		09.12.2022.	1.000	NPOC:0.6364mg/	
11	Unknown	NPOC	HS22110189-01		09.12.2022.	1.000	NPOC:3.690mg/L	
12	Unknown	NPOC	HS22110189-02		09.12.2022.	1.000	NPOC:13.25mg/L	
13	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:23.71mg/L	
14	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.03370mg	
15	Unknown	NPOC	HS22110635-01		09.12.2022.	1.000	NPOC:6.019mg/L	
16	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:23.61mg/L	
17	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.000mg/L	

	Status	Date / Time	Vial
1	Completed	11/17/2022 11:15:51	1
2	Completed	11/17/2022 11:28:46	2
3	Completed	11/17/2022 11:41:41	3
4	Completed	11/17/2022 11:55:42	4
5	Completed	11/17/2022 12:09:52	5
6	Completed	11/17/2022 12:22:46	6
7	Completed	11/17/2022 12:36:40	7
8	Completed	11/17/2022 12:49:33	8
9	Completed	11/17/2022 1:02:27	9
10	Completed	11/17/2022 1:15:22	10
11	Completed	11/17/2022 1:31:39	11
12	Completed	11/17/2022 1:51:02	12
13	Completed	11/17/2022 2:06:03	1
14	Completed	11/17/2022 2:18:58	2
15	Completed	11/17/2022 2:32:45	13
16	Completed	11/17/2022 2:47:34	1
17	Completed	11/17/2022 3:00:29	2

TOC-Control L Report

2022_11_17_001.tlx

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status: Completed
Chk. Result:

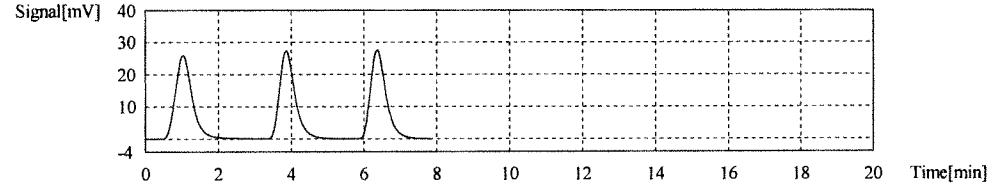
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.65mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	83.27	23.75mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:10:27 AM
2	82.54	23.54mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:13:12 AM
3	82.93	23.65mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:15:51 AM

Mean Area: 82.91
Mean Conc.: 23.65mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.07045mg/L

1. Det

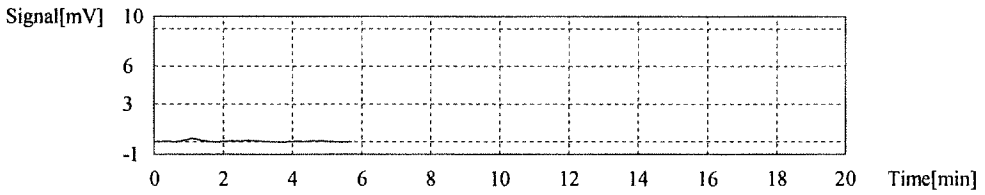
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7411	0.2114mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:24:30 AM
2	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:26:38 AM
3	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:28:46 AM

TOC-Control L Report

2022_11_17_001.tlx

Mean Area 0.2470
Mean Conc. 0.07045mg/L



Sample

Sample Name: MBLK-11172022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

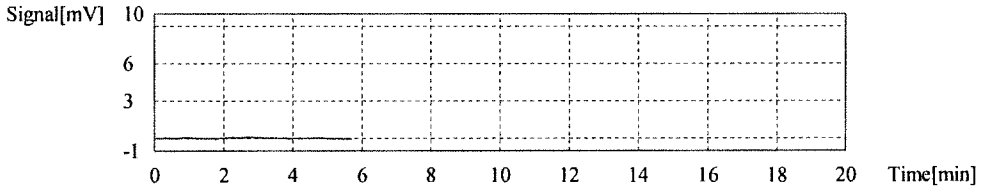
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.00921mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.09690	0.02764mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:37:25 AM
2	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:39:33 AM
3	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:41:41 AM

Mean Area 0.03230
Mean Conc. 0.00921mg/L



Sample

Sample Name: LCS-11172022
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.14mg/L

1. Det

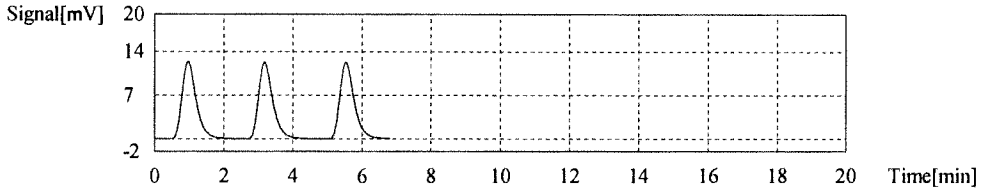
Anal.: NPOC

TOC-Control L Report

2022_11_17_001.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.63	10.16mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:50:40 AM
2	35.69	10.18mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:53:15 AM
3	35.39	10.09mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 11:55:42 AM

Mean Area 35.57
Mean Conc. 10.14mg/L



Sample

Sample Name: LCSD-11172022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

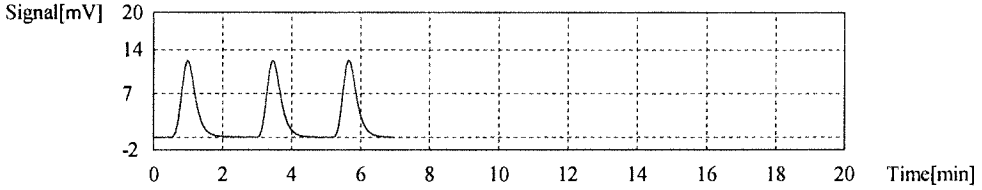
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.11	10.30mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:04:58 PM
2	35.44	10.11mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:07:25 PM
3	35.36	10.08mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:09:52 PM

Mean Area 35.64
Mean Conc. 10.16mg/L



Sample

Sample Name: HS22110180-01
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5938mg/L

1. Det

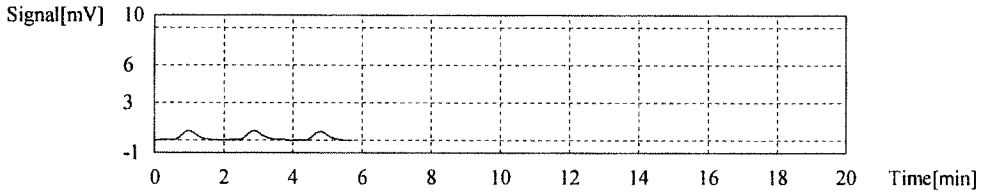
TOC-Control L Report

2022_11_17_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.194	0.6257mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:18:31 PM
2	2.029	0.5787mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:20:39 PM
3	2.023	0.5769mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:22:46 PM

Mean Area 2.082
Mean Conc. 0.5938mg/L



Sample

Sample Name: HS22110180-01MS
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

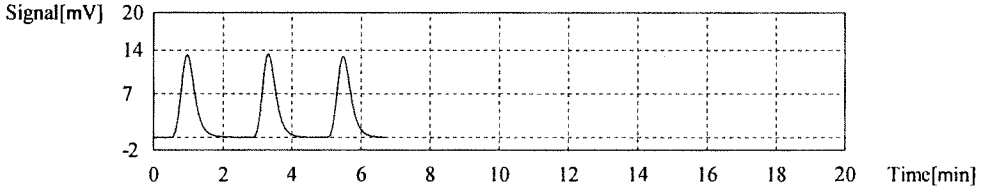
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.69mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.75	10.77mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:31:53 PM
2	37.49	10.69mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:34:17 PM
3	37.24	10.62mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:36:40 PM

Mean Area 37.49
Mean Conc. 10.69mg/L



Sample

Sample Name: HS22110180-02
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7111mg/L

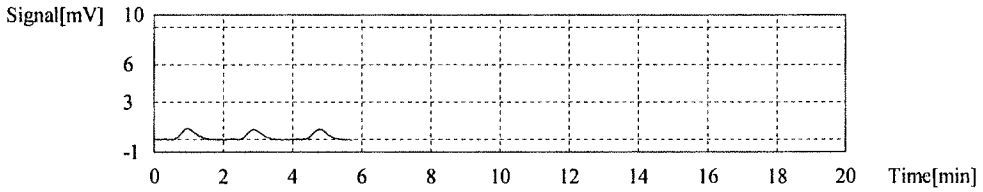
TOC-Control L Report

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.543	0.7252mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:45:19 PM
2	2.583	0.7367mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:47:26 PM
3	2.354	0.6713mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:49:33 PM

Mean Area 2.493
Mean Conc. 0.7111mg/L



Sample

Sample Name: HS22110180-03
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

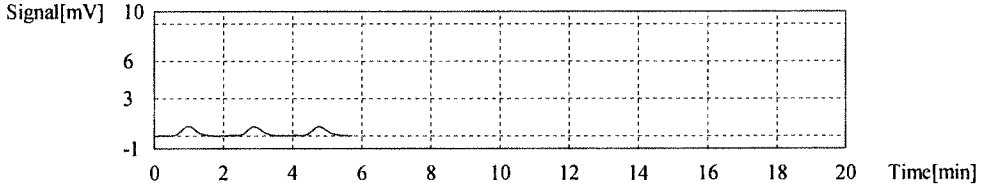
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6171mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.152	0.6137mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 12:58:12 PM
2	2.027	0.5781mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 1:00:19 PM
3	2.312	0.6594mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 1:02:27 PM

Mean Area 2.164
Mean Conc. 0.6171mg/L



Sample

Sample Name: HS22110180-04
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

TOC-Control L Report

2022_11_17_001.tlx

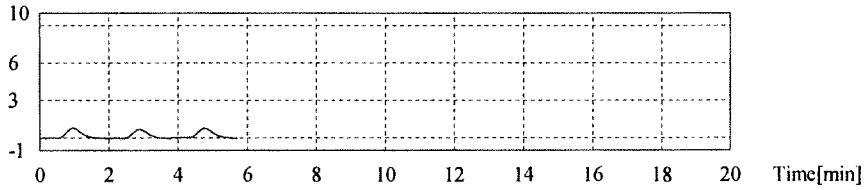
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6364mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.403	0.6853mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 1:11:06 PM
2	2.061	0.5878mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 1:13:13 PM
3	2.230	0.6360mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 1:15:22 PM

Mean Area 2.231
Mean Conc. 0.6364mg/L



Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status Completed
Chk. Result

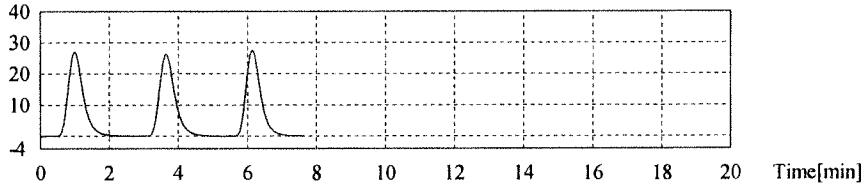
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.71mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	83.67	23.86mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 2:00:36 PM
2	82.87	23.63mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 2:03:20 PM
3	82.88	23.64mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 2:06:03 PM

Mean Area 83.14
Mean Conc. 23.71mg/L



Sample

TOC-Control L Report

2022_11_17_001.tlx

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

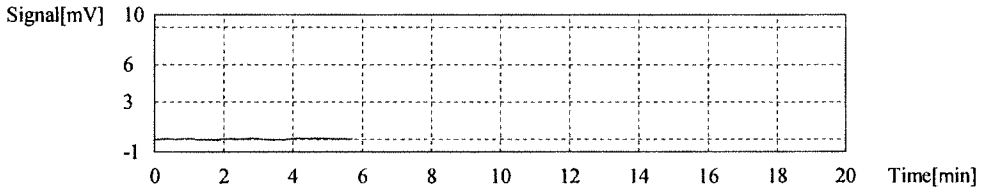
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.03370mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 2:14:42 PM
2	0.1457	0.04155mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 2:16:50 PM
3	0.2088	0.05955mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/17/2022 2:18:58 PM

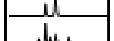
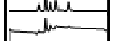
Mean Area 0.1182
Mean Conc. 0.03370mg/L



HS22110180 9056_W IC

ALS WO# HS22110180

Sequence: 110322
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibratio	RA1	1.00	1	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD2		Calibratio	RA2	1.00	2	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD3		Calibratio	RA3	1.00	3	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD4		Calibratio	RA4	1.00	4	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD5		Calibratio	RA5	1.00	5	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD6		Calibratio	RA6	1.00	6	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICV		Unknown	RA7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICB		Unknown	RA8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	MBLK	9056-W-SH	Unknown	R6	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	LCS		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110180-01		Unknown	BC7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110180-01MS		Unknown	BC8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110180-01MSD		Unknown	BD1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110180-02		Unknown	BD2	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110180-03		Unknown	BD3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110180-04		Unknown	BD4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished

Sequence: 110322
Last Update Operator: alshs.nouser

Inject Time
10/31/2022 10:38:34 PM -05:00
10/31/2022 10:43:52 PM -05:00
10/31/2022 10:49:10 PM -05:00
10/31/2022 10:54:27 PM -05:00
10/31/2022 10:59:45 PM -05:00
10/31/2022 11:05:03 PM -05:00
10/31/2022 11:10:21 PM -05:00
10/31/2022 11:36:50 PM -05:00
11/3/2022 9:14:34 PM -05:00
11/3/2022 9:25:09 PM -05:00
11/3/2022 9:56:54 PM -05:00
11/3/2022 10:02:12 PM -05:00
11/3/2022 10:07:29 PM -05:00
11/3/2022 10:12:47 PM -05:00
11/3/2022 10:18:04 PM -05:00
11/3/2022 10:23:22 PM -05:00
11/3/2022 10:28:40 PM -05:00
11/3/2022 10:33:57 PM -05:00
11/3/2022 10:44:32 PM -05:00
11/3/2022 10:55:07 PM -05:00
11/3/2022 11:58:37 PM -05:00
11/4/2022 12:03:55 AM -05:00
11/4/2022 1:12:43 AM -05:00
11/4/2022 1:23:18 AM -05:00
11/4/2022 2:21:30 AM -05:00
11/4/2022 2:26:47 AM -05:00
11/4/2022 3:46:09 AM -05:00
11/4/2022 3:56:44 AM -05:00
11/4/2022 4:54:56 AM -05:00
11/4/2022 5:05:31 AM -05:00
11/4/2022 6:40:56 AM -05:00
11/4/2022 6:51:31 AM -05:00

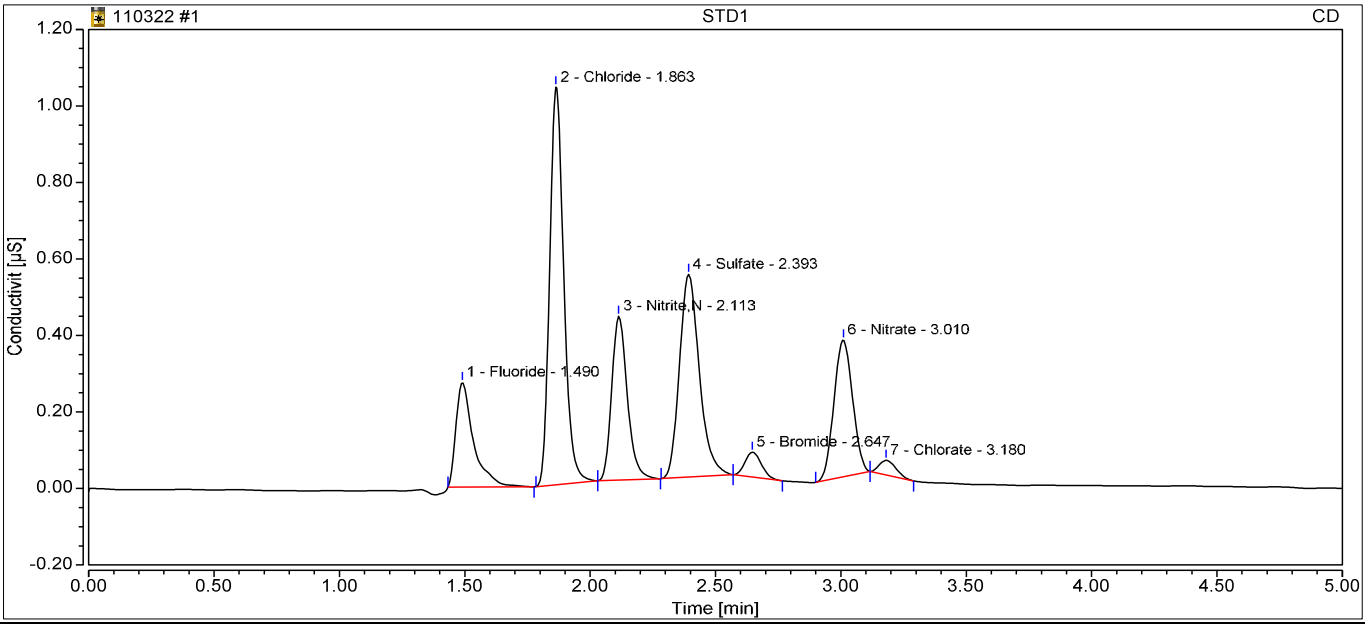
Sequence: 110122
Injection #6: STD6

Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	Fluoride	Lin, WithOffset, 1/	Area	6	15.1684	0.99864	0.0053	0.1996	0.0000
2	Chloride	Lin, WithOffset, 1/	Area	6	2.5972	0.99997	-0.0048	0.1409	0.0000
3	Nitrite,N	Quad, WithOffset,	Area	6	6.3578	0.99980	0.0009	0.3091	-0.0036
4	Sulfate	Lin, WithOffset, 1/	Area	6	5.9781	0.99982	-0.0029	0.0970	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	20.3836	0.99800	-0.0011	0.0524	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	4.2139	0.99991	-0.0029	0.3237	0.0000
7	Chlorate	Quad, WithOffset,	Area	6	4.2286	0.99992	-0.0004	0.0328	-0.0003
8	Phosphate	Lin, WithOffset, 1/	Area	4	12.3125	0.99623	-0.1332	0.1053	0.0000
Maximum					**20.3836**	0.99997			
Minimum					2.5972	**0.99623**			

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**RA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:38**	*Sample Weight:*	**1.0000**

Run Time:



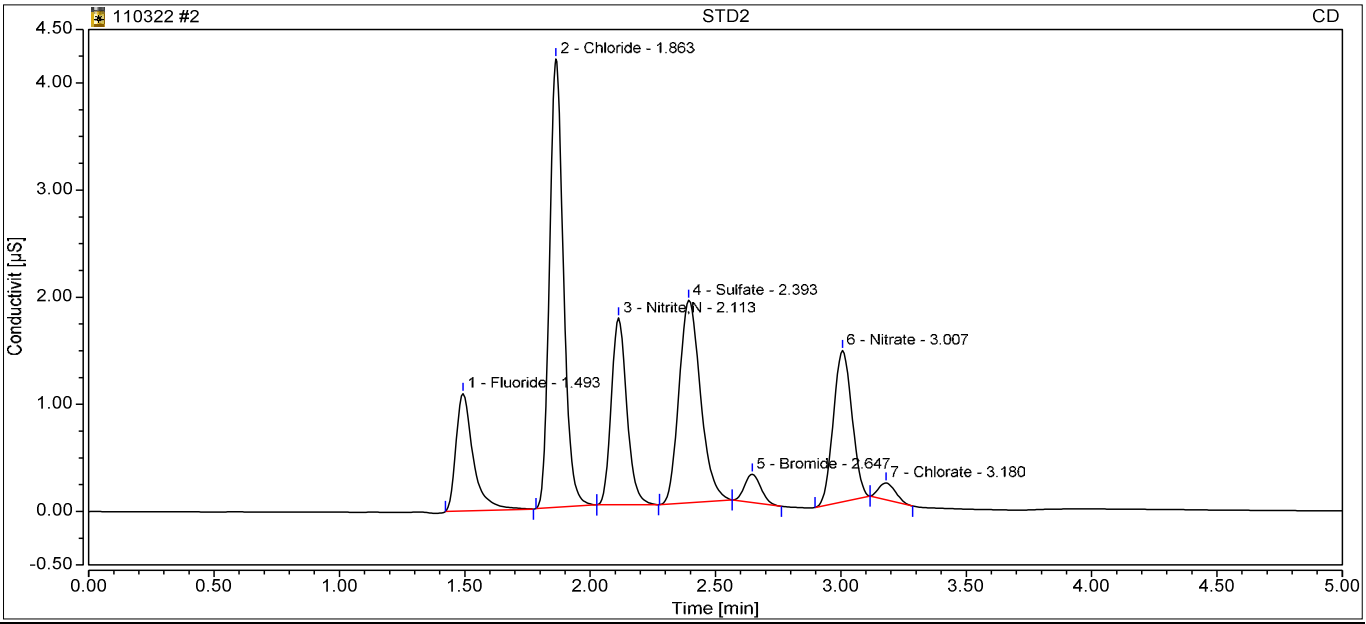
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.022	0.0852	0.0852	1.0000
2	1.86	Chloride	BMB	0.068	0.5148	0.5148	1.0000
3	2.11	Nitrite,N	BMB	0.031	0.0970	0.0970	1.0000
4	2.39	Sulfate	BMB	0.049	0.5311	0.5311	1.0000
5	2.65	Bromide	BMB	0.005	0.1150	0.1150	1.0000
6	3.01	Nitrate	BMB	0.031	0.1040	0.1040	1.0000
7	3.18	Chlorate	BMB	0.003	0.1042	0.1042	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.208**		**1.55**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:43**	*Sample Weight:*	**1.0000**

Run Time:

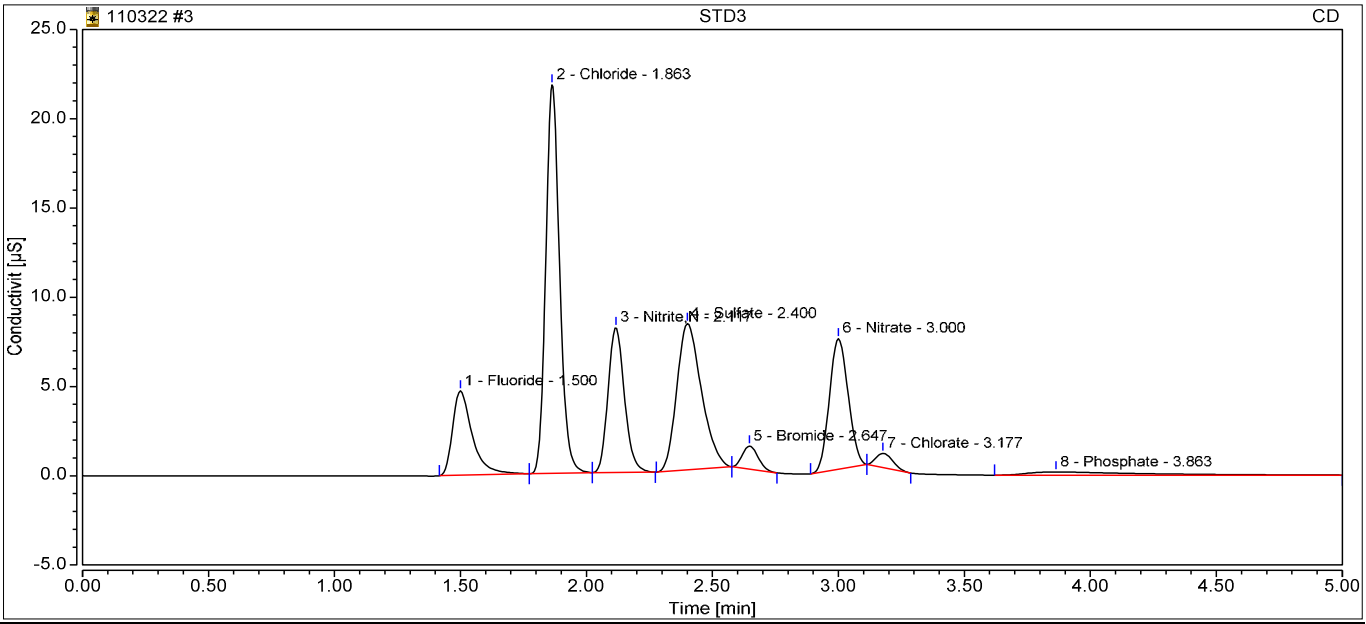


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.088	0.4122	0.4122	1.0000
2	1.86	Chloride	BMB	0.270	1.9496	1.9496	1.0000
3	2.11	Nitrite,N	BMB	0.125	0.4047	0.4047	1.0000
4	2.39	Sulfate	BMB	0.188	1.9673	1.9673	1.0000
5	2.65	Bromide	BMB	0.020	0.3994	0.3994	1.0000
6	3.01	Nitrate	BMB	0.122	0.3853	0.3853	1.0000
7	3.18	Chlorate	BMB	0.012	0.3874	0.3874	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.825**		**5.91**	

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:49**	*Sample Weight:*	**1.0000**

Run Time:



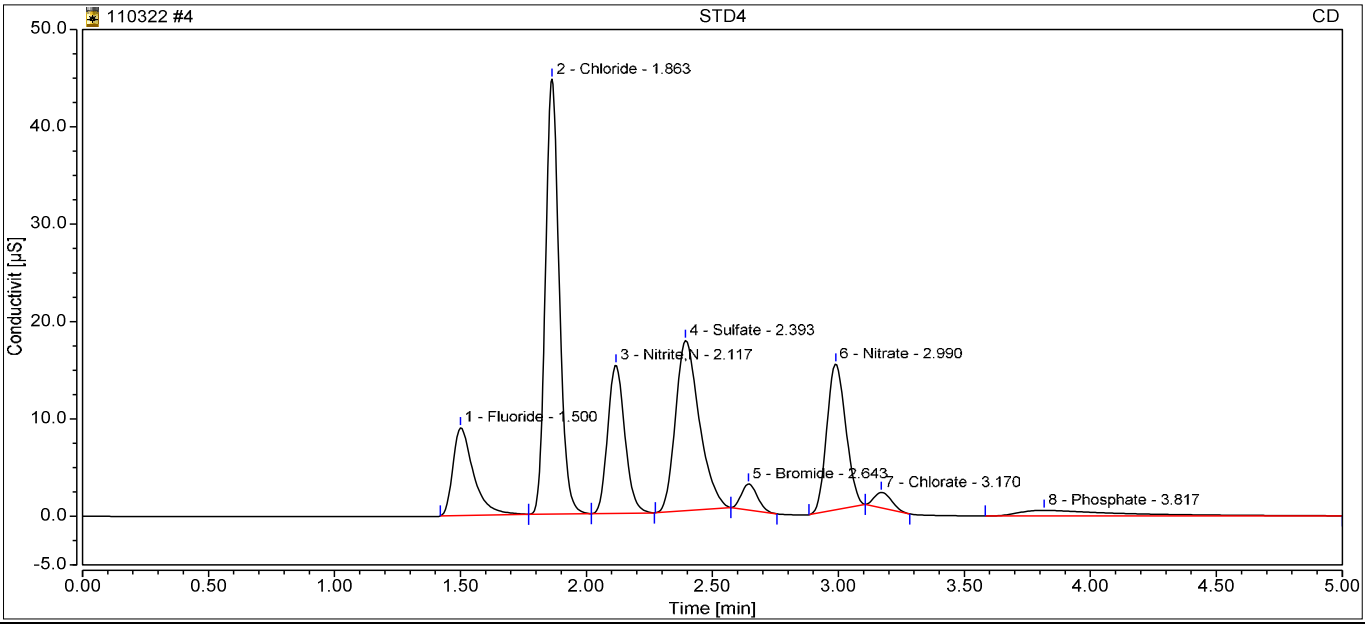
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.429	2.1217	2.1217	1.0000
2	1.86	Chloride	BMB	1.386	9.8732	9.8732	1.0000
3	2.12	Nitrite,N	BMB	0.613	2.0277	2.0277	1.0000
4	2.40	Sulfate	BMB	0.929	9.6042	9.6042	1.0000
5	2.65	Bromide	BMB	0.094	1.8176	1.8176	1.0000
6	3.00	Nitrate	BMB	0.631	1.9587	1.9587	1.0000
7	3.18	Chlorate	BMB	0.063	1.9542	1.9542	1.0000
8	3.86	Phosphate	BMB	0.093	2.1481	2.1481	1.0000
Total:			**0.000**	**4.237**		**31.51**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:54**	*Sample Weight:*	**1.0000**

Run Time:



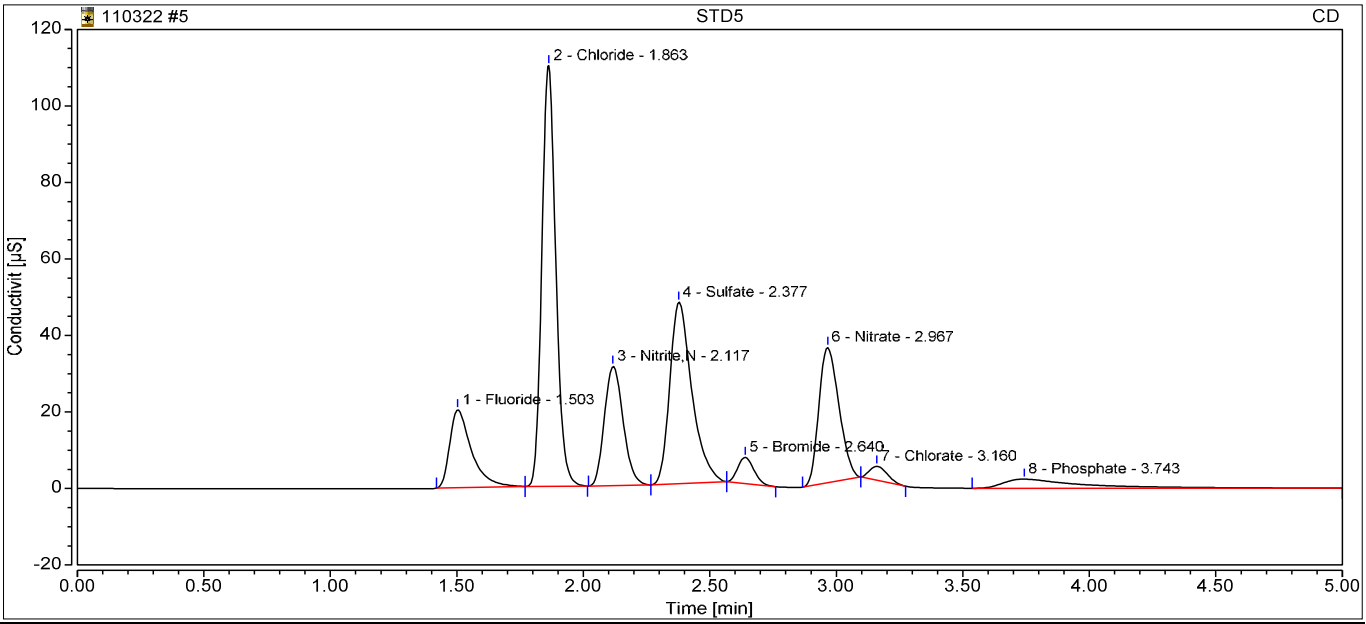
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.857	4.2694	4.2694	1.0000
2	1.86	Chloride	BMB	2.841	20.2023	20.2023	1.0000
3	2.12	Nitrite,N	BMB	1.202	4.0794	4.0794	1.0000
4	2.39	Sulfate	BMB	1.922	19.8403	19.8403	1.0000
5	2.64	Bromide	BMB	0.195	3.7434	3.7434	1.0000
6	2.99	Nitrate	BMB	1.310	4.0569	4.0569	1.0000
7	3.17	Chlorate	BMB	0.128	4.0374	4.0374	1.0000
8	3.82	Phosphate	BMB	0.268	3.8049	3.8049	1.0000
Total:			**0.000**	**8.723**		**64.03**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:59**	*Sample Weight:*	**1.0000**

Run Time:



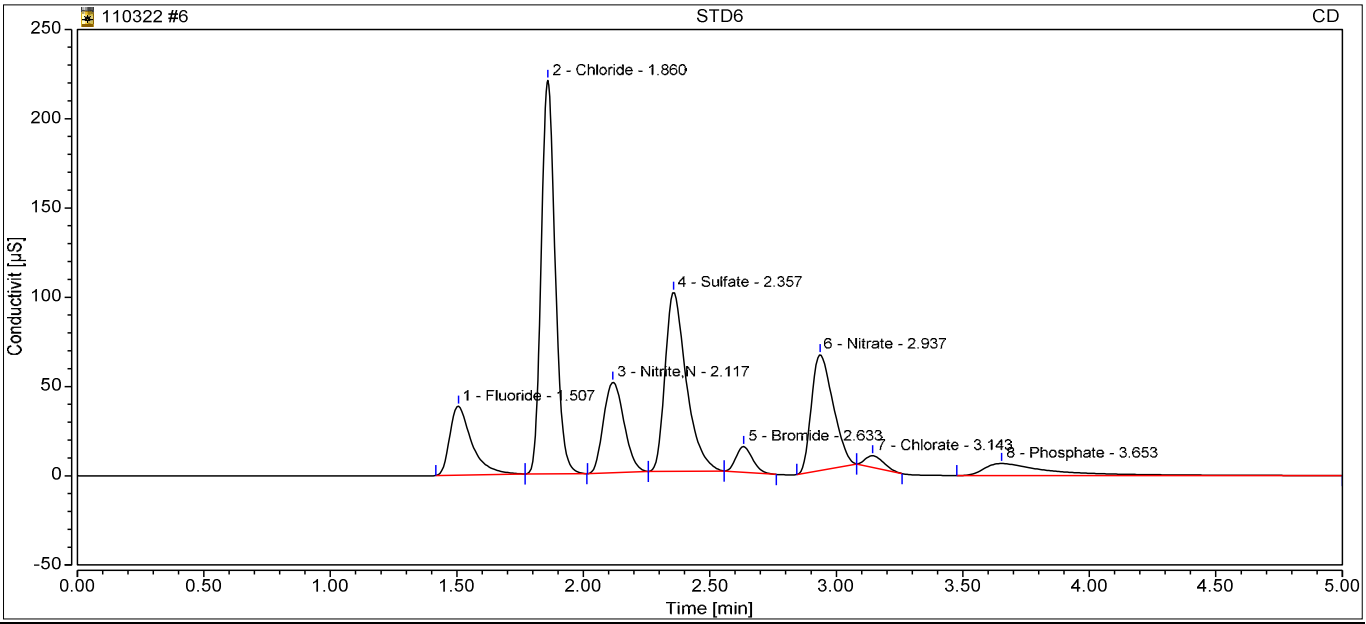
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.034	10.1657	10.1657	1.0000
2	1.86	Chloride	BMB	7.018	49.8590	49.8590	1.0000
3	2.12	Nitrite,N	BMB	2.680	9.7843	9.7843	1.0000
4	2.38	Sulfate	BMB	4.810	49.6174	49.6174	1.0000
5	2.64	Bromide	BMB	0.509	9.7228	9.7228	1.0000
6	2.97	Nitrate	BMB	3.255	10.0664	10.0664	1.0000
7	3.16	Chlorate	BMB	0.302	10.0479	10.0479	1.0000
8	3.74	Phosphate	BMB	0.862	9.4475	9.4475	1.0000
Total:			**0.000**	**21.471**		**158.71**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**RA6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 23:05**	*Sample Weight:*	**1.0000**

Run Time:



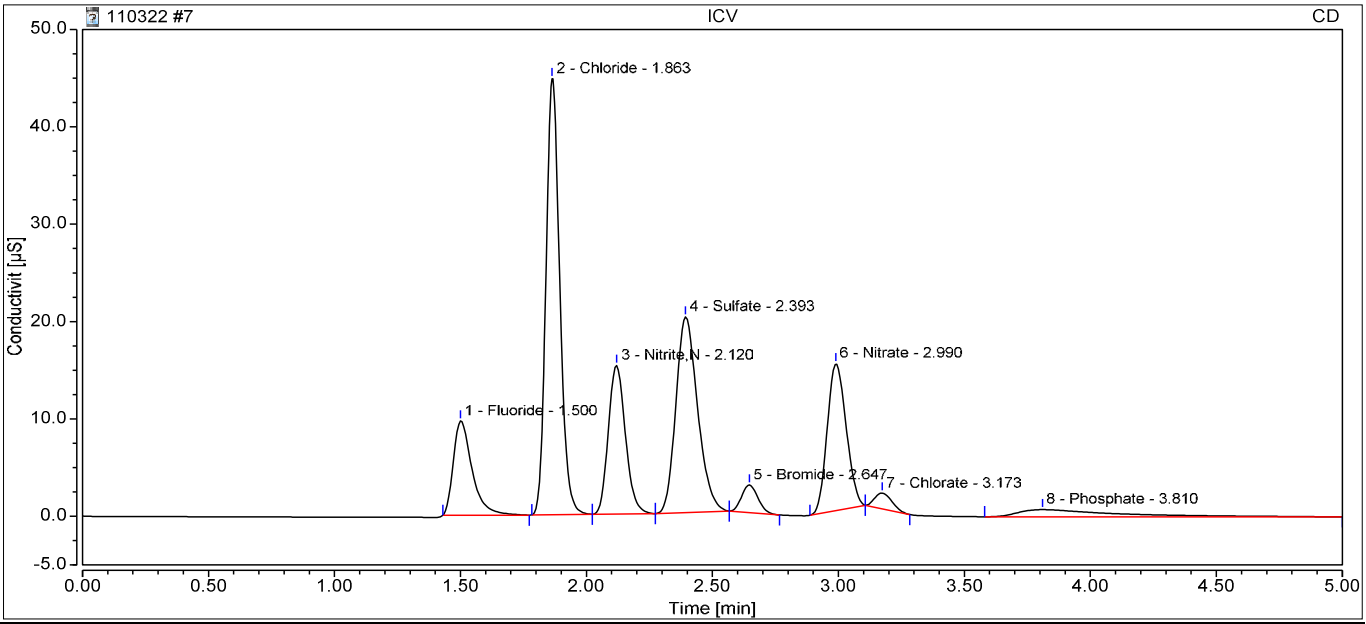
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	3.887	19.4458	19.4458	1.0000
2	1.86	Chloride	BMB	14.095	100.1011	100.1011	1.0000
3	2.12	Nitrite,N	BMB	4.761	20.1238	20.1238	1.0000
4	2.36	Sulfate	BMB	9.788	100.9397	100.9397	1.0000
5	2.63	Bromide	BMB	1.085	20.7019	20.7019	1.0000
6	2.94	Nitrate	BMB	6.448	19.9287	19.9287	1.0000
7	3.14	Chlorate	BMB	0.548	19.9668	19.9668	1.0000
8	3.65	Phosphate	BMB	2.037	20.5994	20.5994	1.0000
Total:			**0.000**	**42.648**		**321.81**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**RA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 23:10**	*Sample Weight:*	**1.0000**

Run Time:



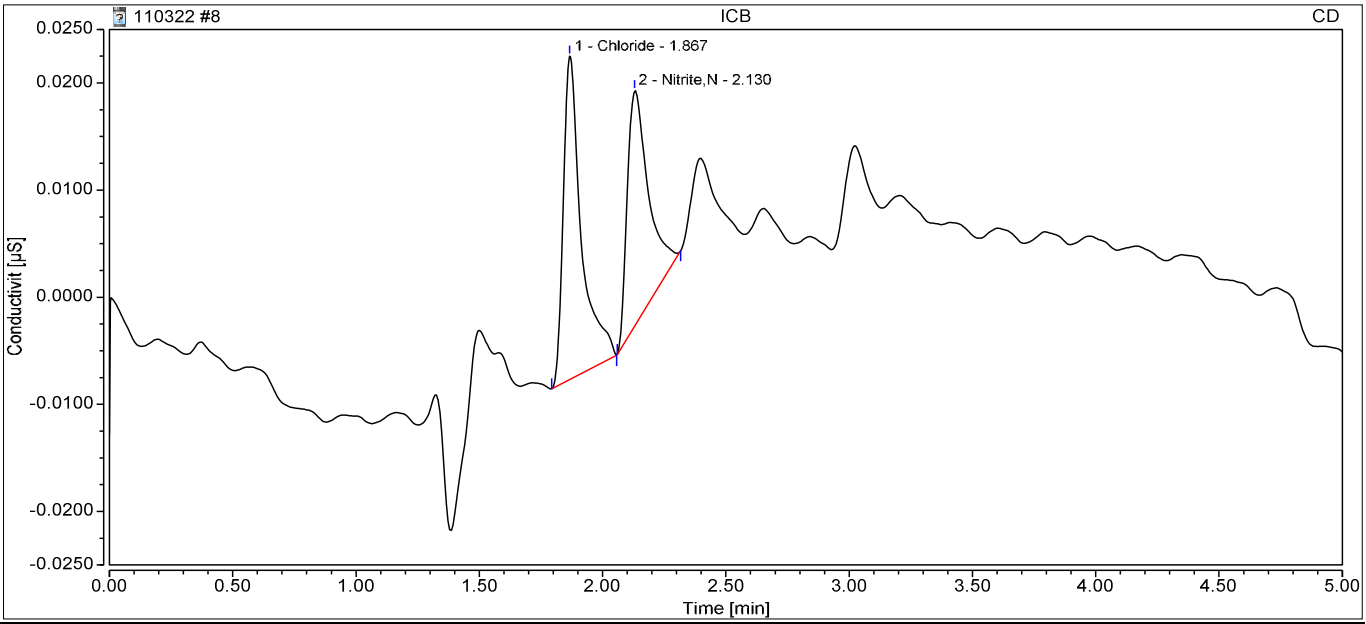
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.841	4.1870	4.1870	1.0000
2	1.86	Chloride	BMB	2.842	20.2080	20.2080	1.0000
3	2.12	Nitrite,N	BMB	1.200	4.0730	4.0730	1.0000
4	2.39	Sulfate	BMB	2.008	20.7307	20.7307	1.0000
5	2.65	Bromide	BMB	0.213	4.0840	4.0840	1.0000
6	2.99	Nitrate	BMB	1.316	4.0734	4.0734	1.0000
7	3.17	Chlorate	BMB	0.129	4.0720	4.0720	1.0000
8	3.81	Phosphate	BMB	0.327	4.3679	4.3679	1.0000
Total:			**0.000**	**8.875**		**65.80**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**RA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 23:36**	*Sample Weight:*	**1.0000**

Run Time:



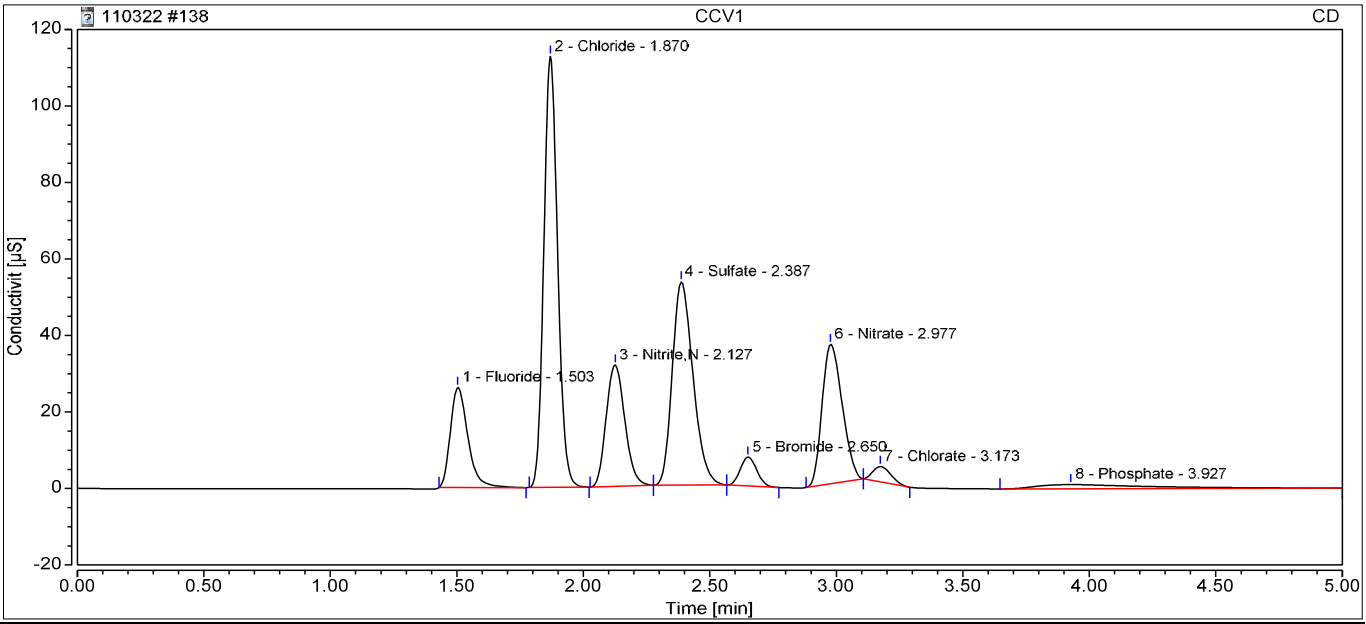
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.87	Chloride	BMB	0.003	0.0521	0.0521	1.0000
2	2.13	Nitrite,N	BMB	0.002	0.0041	0.0041	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.06**	

138 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 21:14**	*Sample Weight:*	**1.0000**

Run Time:



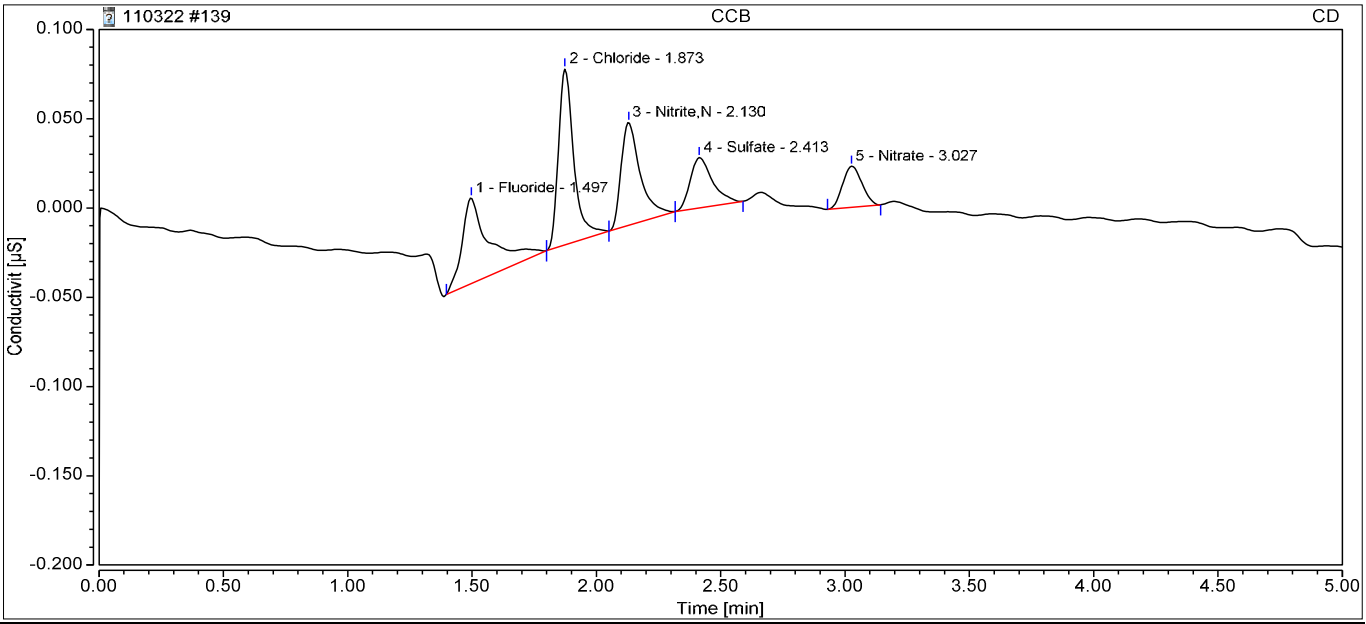
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.102	10.5056	10.5056	1.0000
2	1.87	Chloride	BMB	7.127	50.6314	50.6314	1.0000
3	2.13	Nitrite,N	BMB	2.717	9.9378	9.9378	1.0000
4	2.39	Sulfate	BMB	5.055	52.1452	52.1452	1.0000
5	2.65	Bromide	BMB	0.574	10.9583	10.9583	1.0000
6	2.98	Nitrate	BMB	3.355	10.3733	10.3733	1.0000
7	3.17	Chlorate	BMB	0.336	11.3180	11.3180	1.0000
8	3.93	Phosphate	BMB	0.581	6.7776	6.7776	1.0000
Total:			**0.000**	**21.847**		**162.65**	

139 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 21:25**	*Sample Weight:*	**1.0000**

Run Time:



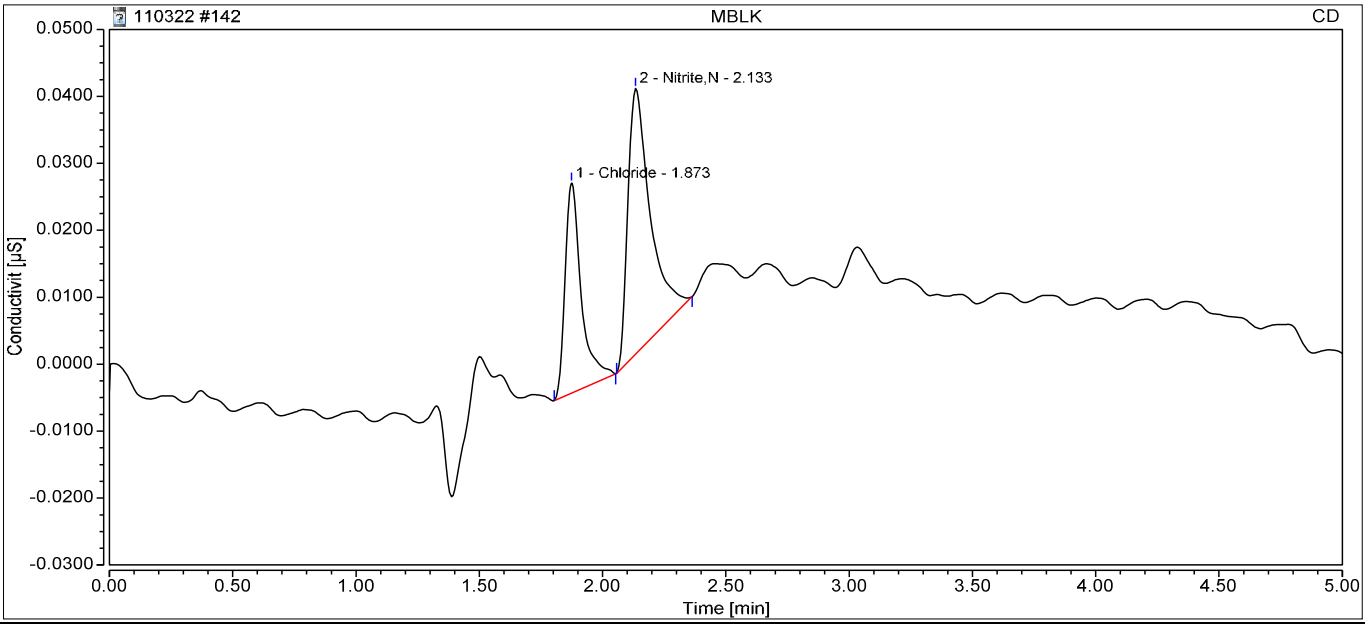
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.006	0.0045	0.0045	1.0000
2	1.87	Chloride	BMB	0.007	0.0839	0.0839	1.0000
3	2.13	Nitrite,N	BMB	0.005	0.0136	0.0136	1.0000
4	2.41	Sulfate	BMB	0.003	0.0597	0.0597	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.03	Nitrate	BMB	0.002	0.0152	0.0152	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.023**		**0.18**	

142 MBLK

Sample Name:	**MBLK**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 21:56**	*Sample Weight:*	**1.0000**

Run Time:



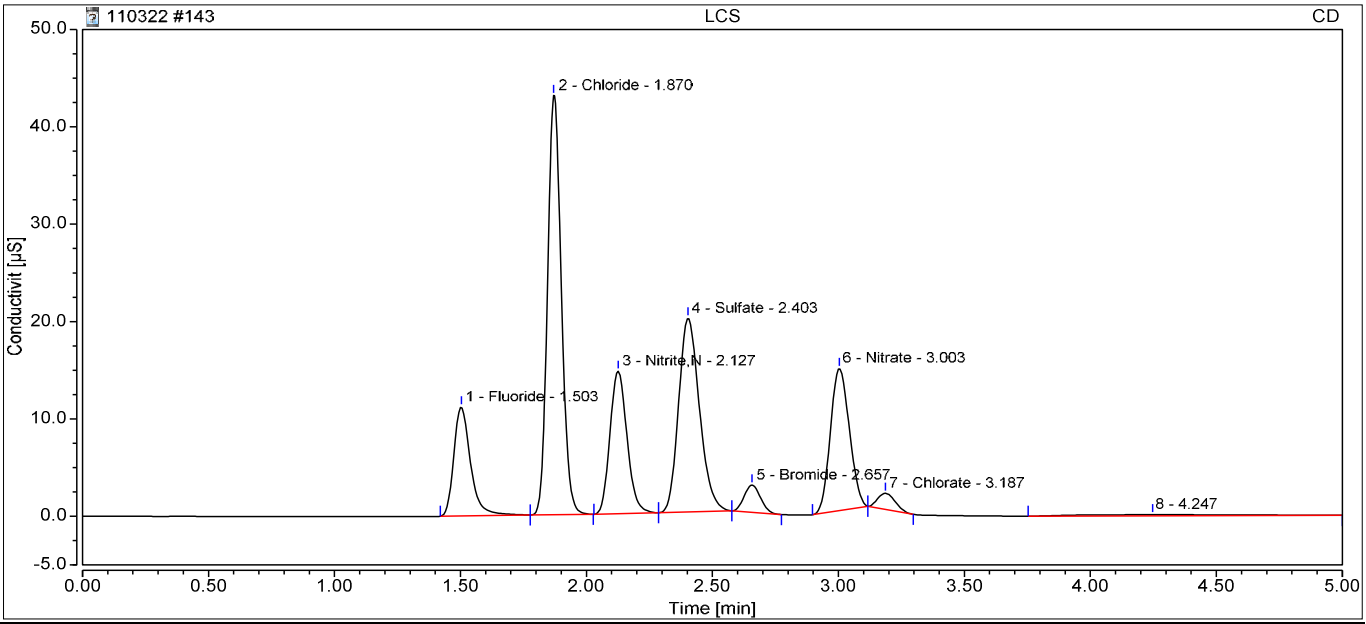
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.87	Chloride	BMB	0.002	0.0508	0.0508	1.0000
2	2.13	Nitrite,N	BMB	0.004	0.0105	0.0105	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.007**		**0.06**	

143 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:02**	*Sample Weight:*	**1.0000**

Run Time:



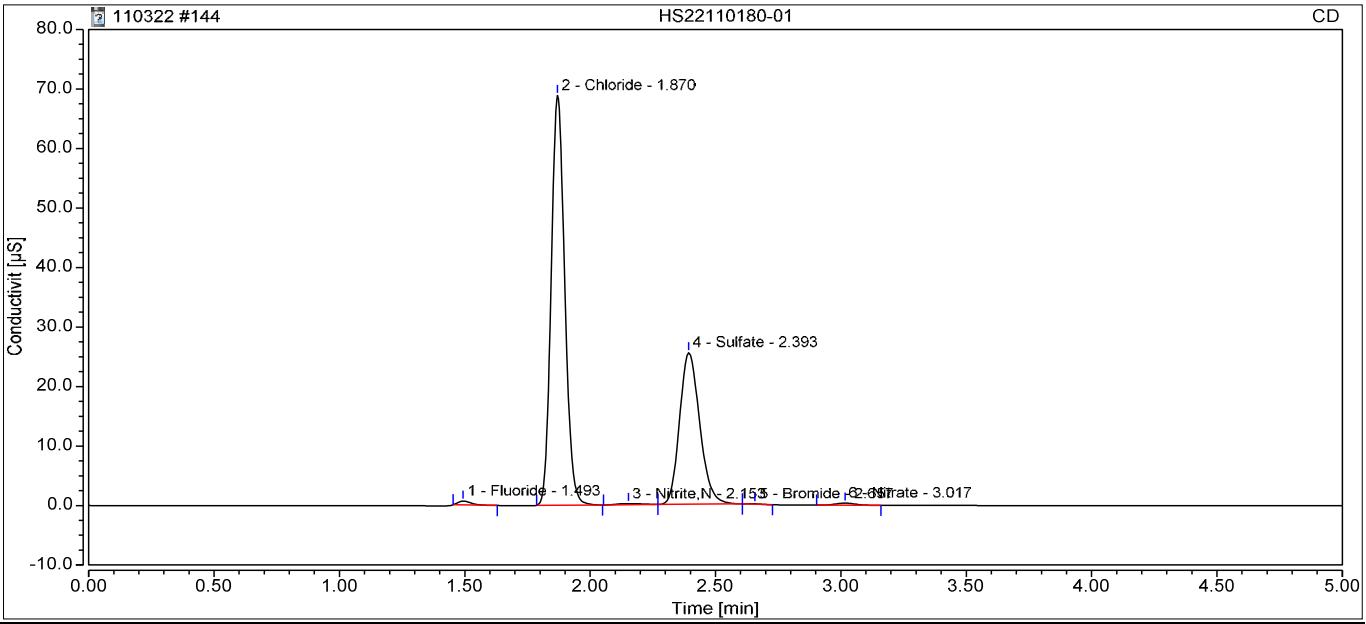
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.862	4.2911	4.2911	1.0000
2	1.87	Chloride	BMB	2.730	19.4142	19.4142	1.0000
3	2.13	Nitrite,N	BMB	1.150	3.8928	3.8928	1.0000
4	2.40	Sulfate	BMB	1.907	19.6854	19.6854	1.0000
5	2.66	Bromide	BMB	0.211	4.0416	4.0416	1.0000
6	3.00	Nitrate	BMB	1.273	3.9430	3.9430	1.0000
7	3.19	Chlorate	BMB	0.134	4.2377	4.2377	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.266**		**59.51**	

144 HS22110180-01

Sample Name:	**HS22110180-01**	*Injection Volume:*	**5.00**
Vial Number:	**BC7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:07**	*Sample Weight:*	**1.0000**

Run Time:



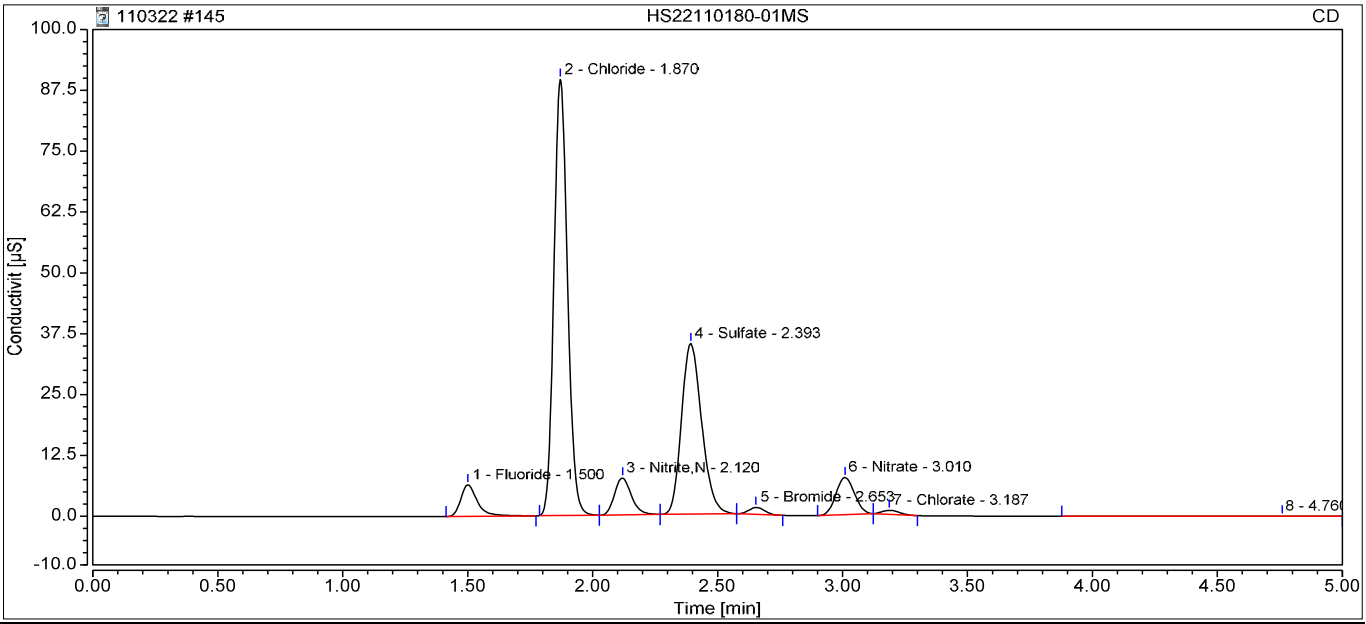
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.039	0.1682	0.1682	1.0000
2	1.87	Chloride	BMB	4.314	30.6621	30.6621	1.0000
3	2.15	Nitrite,N	BMB	0.023	0.0710	0.0710	1.0000
4	2.39	Sulfate	BMB	2.372	24.4864	24.4864	1.0000
5	2.66	Bromide	BMB	0.004	0.0912	0.0912	1.0000
6	3.02	Nitrate	BMB	0.032	0.1079	0.1079	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**6.784**		**55.59**	

145 HS22110180-01MS

Sample Name:	**HS22110180-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**BC8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:12**	*Sample Weight:*	**1.0000**

Run Time:



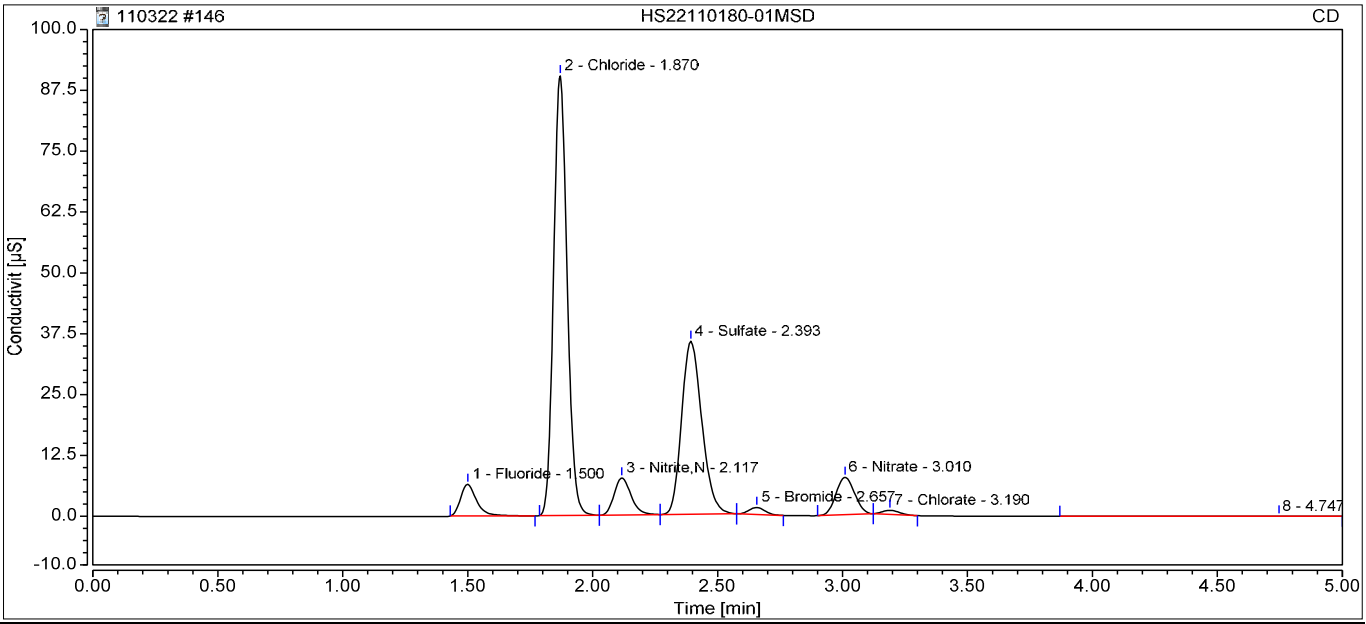
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.499	2.4744	2.4744	1.0000
2	1.87	Chloride	BMB	5.633	40.0228	40.0228	1.0000
3	2.12	Nitrite,N	BMB	0.594	1.9638	1.9638	1.0000
4	2.39	Sulfate	BMB	3.293	33.9815	33.9815	1.0000
5	2.65	Bromide	BMB	0.105	2.0255	2.0255	1.0000
6	3.01	Nitrate	BMB	0.655	2.0330	2.0330	1.0000
7	3.19	Chlorate	BMB	0.066	2.0664	2.0664	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**10.846**		**84.57**	

146 HS22110180-01MSD

Sample Name:	**HS22110180-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:18**	*Sample Weight:*	**1.0000**

Run Time:



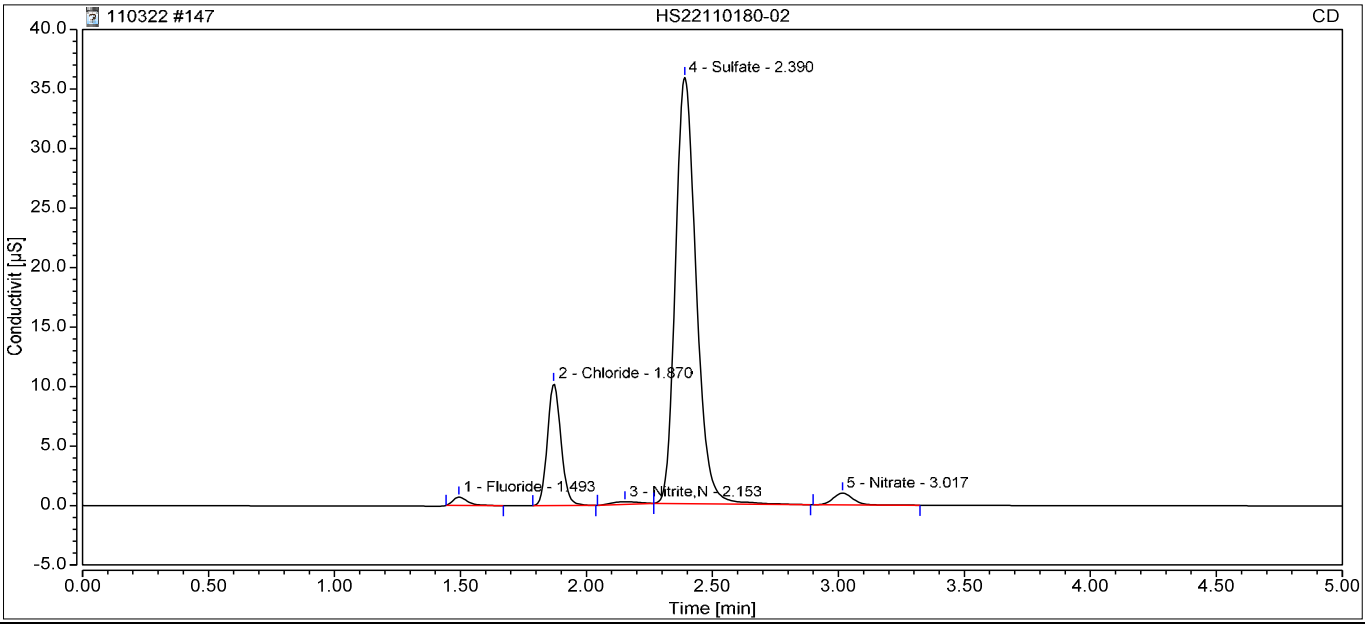
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.488	2.4187	2.4187	1.0000
2	1.87	Chloride	BMB	5.666	40.2557	40.2557	1.0000
3	2.12	Nitrite,N	BMB	0.599	1.9822	1.9822	1.0000
4	2.39	Sulfate	BMB	3.338	34.4467	34.4467	1.0000
5	2.66	Bromide	BMB	0.106	2.0369	2.0369	1.0000
6	3.01	Nitrate	BMB	0.663	2.0578	2.0578	1.0000
7	3.19	Chlorate	BMB	0.067	2.1010	2.1010	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**10.928**		**85.30**	

147 HS22110180-02

Sample Name:	**HS22110180-02**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:23**	*Sample Weight:*	**1.0000**

Run Time:



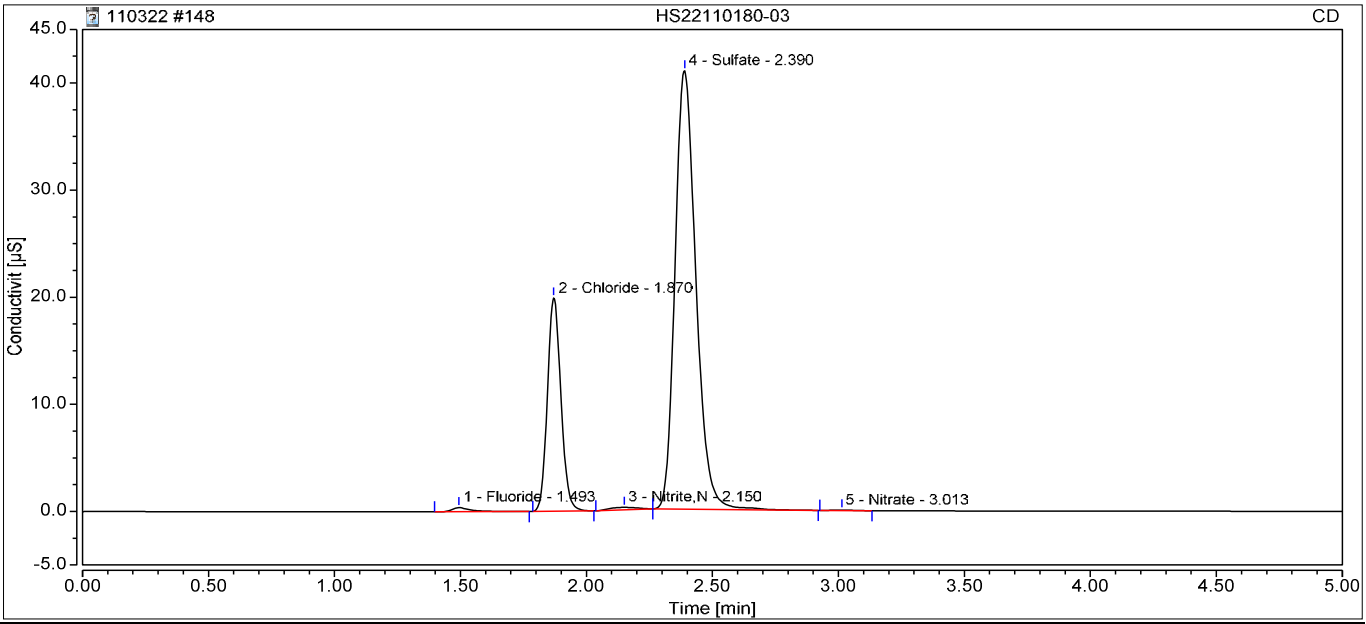
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.047	0.2100	0.2100	1.0000
2	1.87	Chloride	BMB	0.643	4.5979	4.5979	1.0000
3	2.15	Nitrite,N	BMB	0.027	0.0844	0.0844	1.0000
4	2.39	Sulfate	BMB	3.413	35.2132	35.2132	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.02	Nitrate	BMB	0.089	0.2837	0.2837	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**4.219**		**40.39**	

148 HS22110180-03

Sample Name:	**HS22110180-03**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:28**	*Sample Weight:*	**1.0000**

Run Time:



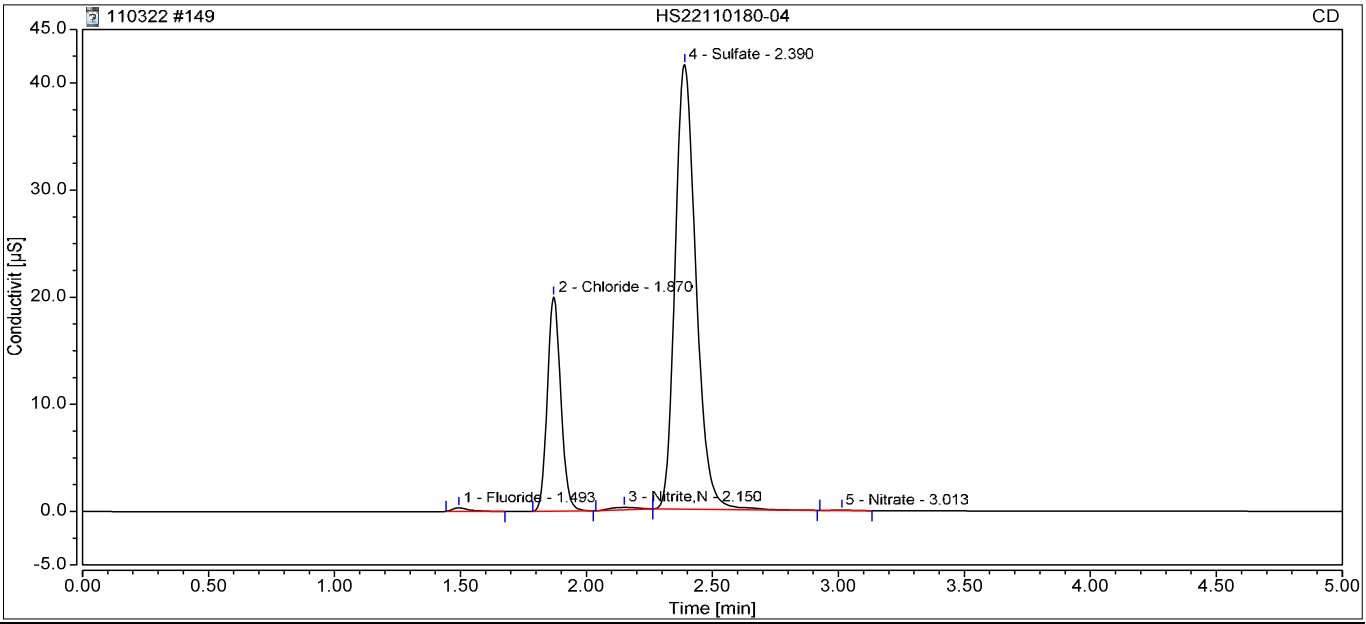
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.034	0.1440	0.1440	1.0000
2	1.87	Chloride	BMB	1.237	8.8181	8.8181	1.0000
3	2.15	Nitrite,N	BMB	0.030	0.0941	0.0941	1.0000
4	2.39	Sulfate	BMB	3.933	40.5770	40.5770	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.01	Nitrate	BMB	0.004	0.0199	0.0199	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**5.238**		**49.65**	

149 HS22110180-04

Sample Name:	**HS22110180-04**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:33**	*Sample Weight:*	**1.0000**

Run Time:



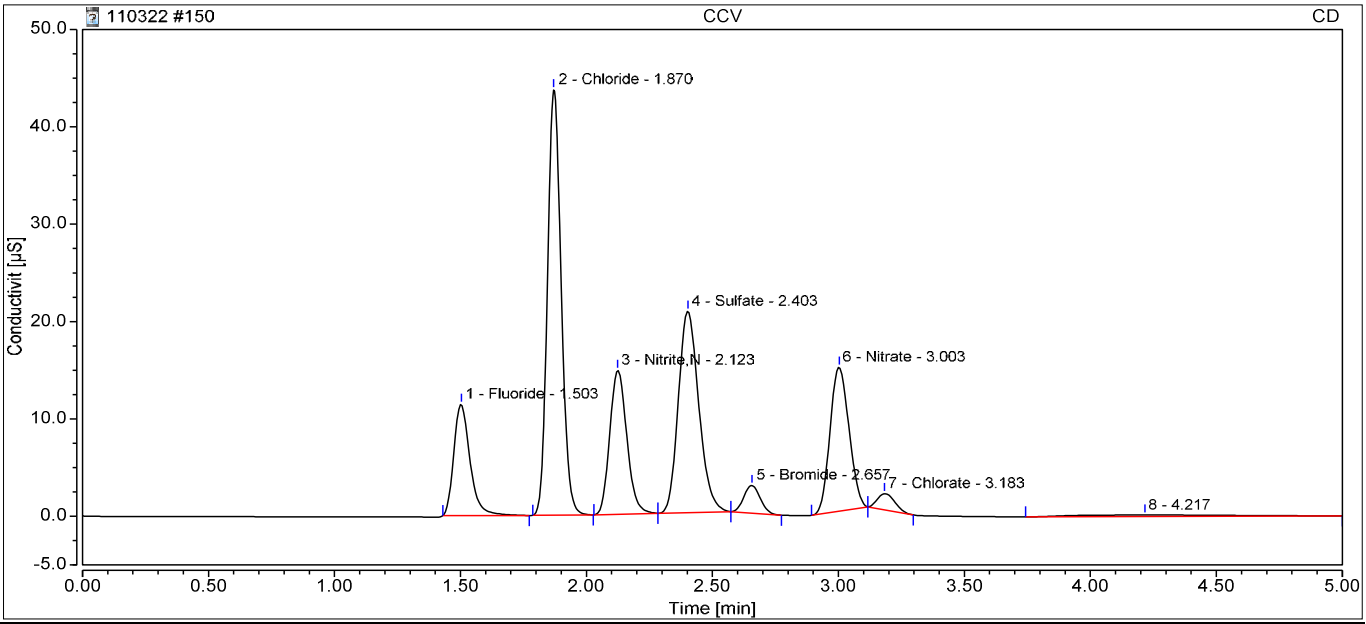
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.025	0.1013	0.1013	1.0000
2	1.87	Chloride	BMB	1.241	8.8423	8.8423	1.0000
3	2.15	Nitrite,N	BMB	0.030	0.0938	0.0938	1.0000
4	2.39	Sulfate	BMB	3.986	41.1229	41.1229	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.01	Nitrate	BMB	0.003	0.0187	0.0187	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**5.285**		**50.18**	

150 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:44**	*Sample Weight:*	**1.0000**

Run Time:



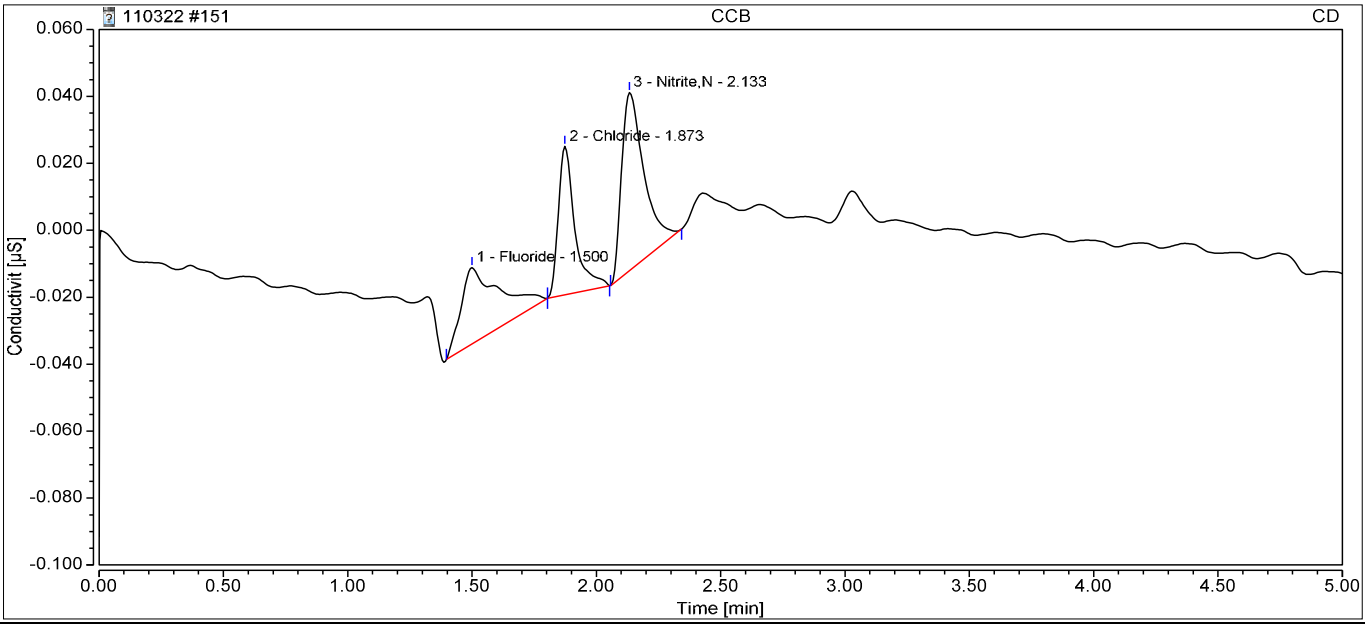
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.855	4.2570	4.2570	1.0000
2	1.87	Chloride	BMB	2.758	19.6113	19.6113	1.0000
3	2.12	Nitrite,N	BMB	1.160	3.9306	3.9306	1.0000
4	2.40	Sulfate	BMB	1.944	20.0701	20.0701	1.0000
5	2.66	Bromide	BMB	0.214	4.0957	4.0957	1.0000
6	3.00	Nitrate	BMB	1.292	4.0017	4.0017	1.0000
7	3.18	Chlorate	BMB	0.135	4.2717	4.2717	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.358**		**60.24**	

151 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 22:55**	*Sample Weight:*	**1.0000**

Run Time:



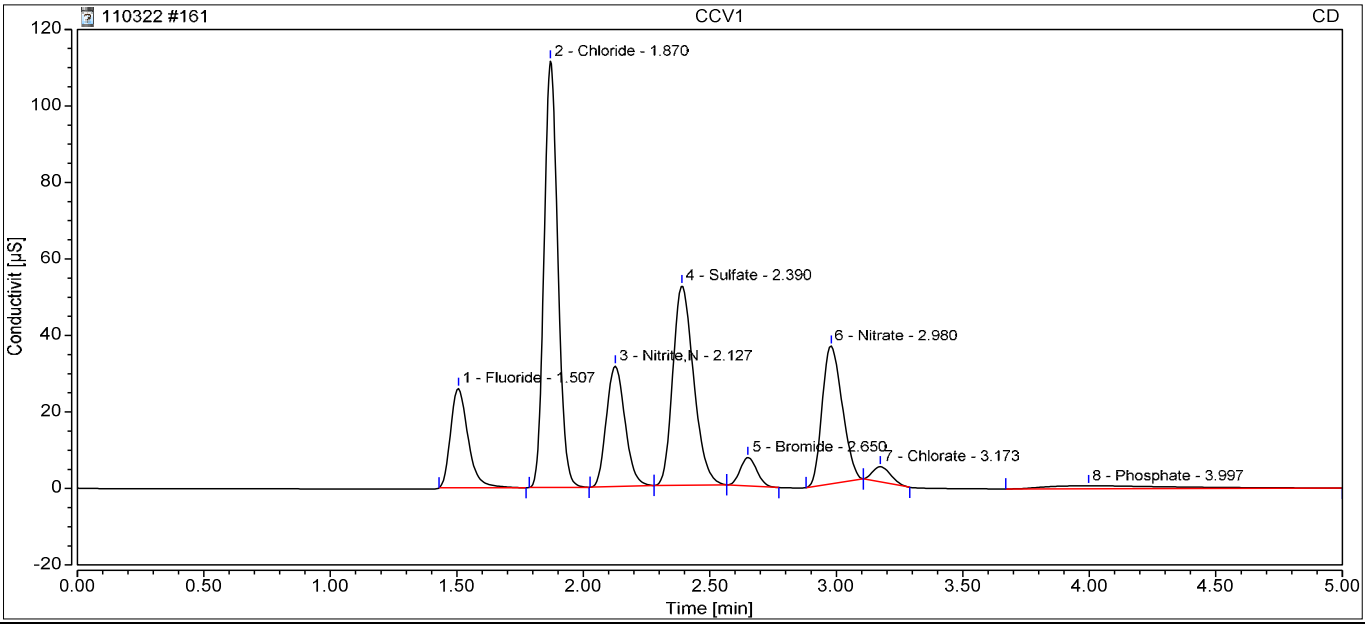
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.004	n.a.	n.a.	1.0000
2	1.87	Chloride	BMB	0.003	0.0581	0.0581	1.0000
3	2.13	Nitrite,N	BMB	0.006	0.0148	0.0148	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.013**		**0.07**	

161 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2022 23:58**	*Sample Weight:*	**1.0000**

Run Time:



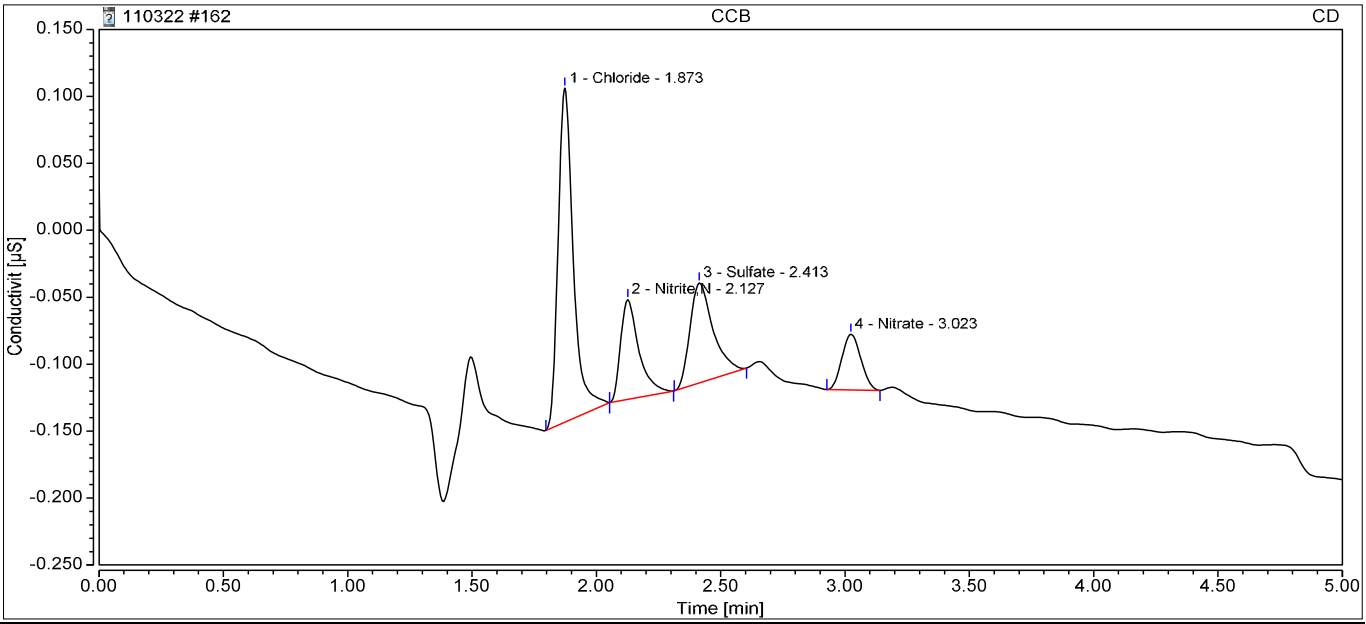
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	2.084	10.4162	10.4162	1.0000
2	1.87	Chloride	BMB	7.049	50.0806	50.0806	1.0000
3	2.13	Nitrite,N	BMB	2.687	9.8120	9.8120	1.0000
4	2.39	Sulfate	BMB	4.981	51.3774	51.3774	1.0000
5	2.65	Bromide	BMB	0.564	10.7711	10.7711	1.0000
6	2.98	Nitrate	BMB	3.313	10.2437	10.2437	1.0000
7	3.17	Chlorate	BMB	0.331	11.1231	11.1231	1.0000
8	4.00	Phosphate	BMB	0.481	5.8274	5.8274	1.0000
Total:			**0.000**	**21.490**		**159.65**	

162 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 00:03**	*Sample Weight:*	**1.0000**

Run Time:



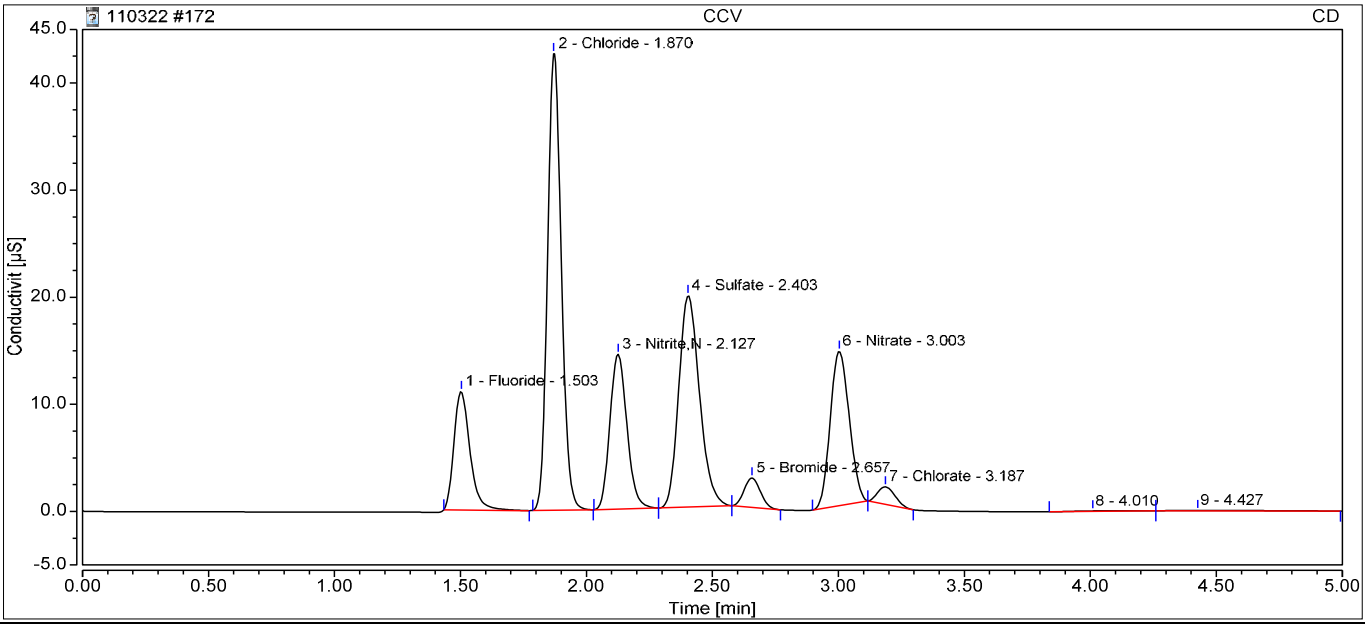
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.87	Chloride	BMB	0.018	0.1592	0.1592	1.0000
2	2.13	Nitrite,N	BMB	0.006	0.0177	0.0177	1.0000
3	2.41	Sulfate	BMB	0.008	0.1123	0.1123	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	3.02	Nitrate	BMB	0.004	0.0202	0.0202	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.036**		**0.31**	

172 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 01:12**	*Sample Weight:*	**1.0000**

Run Time:



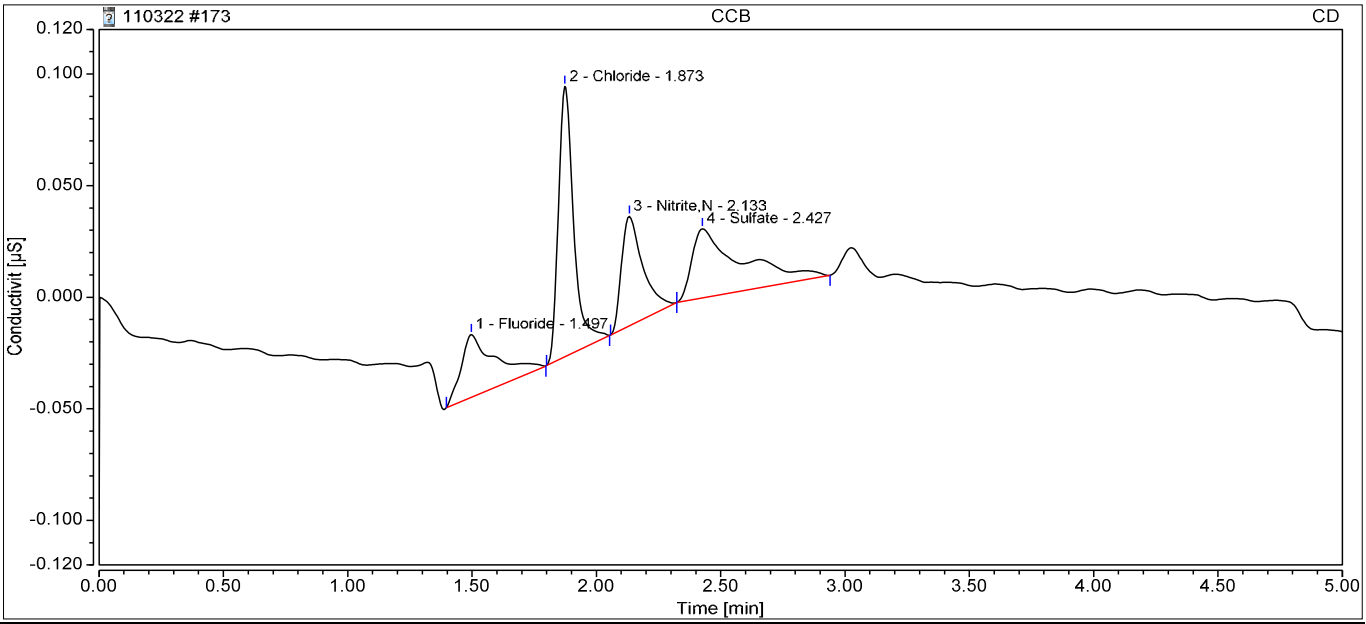
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.820	4.0795	4.0795	1.0000
2	1.87	Chloride	BMB	2.700	19.2004	19.2004	1.0000
3	2.13	Nitrite,N	BMB	1.135	3.8412	3.8412	1.0000
4	2.40	Sulfate	BMB	1.888	19.4914	19.4914	1.0000
5	2.66	Bromide	BMB	0.207	3.9591	3.9591	1.0000
6	3.00	Nitrate	BMB	1.258	3.8946	3.8946	1.0000
7	3.19	Chlorate	BMB	0.131	4.1599	4.1599	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.138**		**58.63**	

173 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 01:23**	*Sample Weight:*	**1.0000**

Run Time:



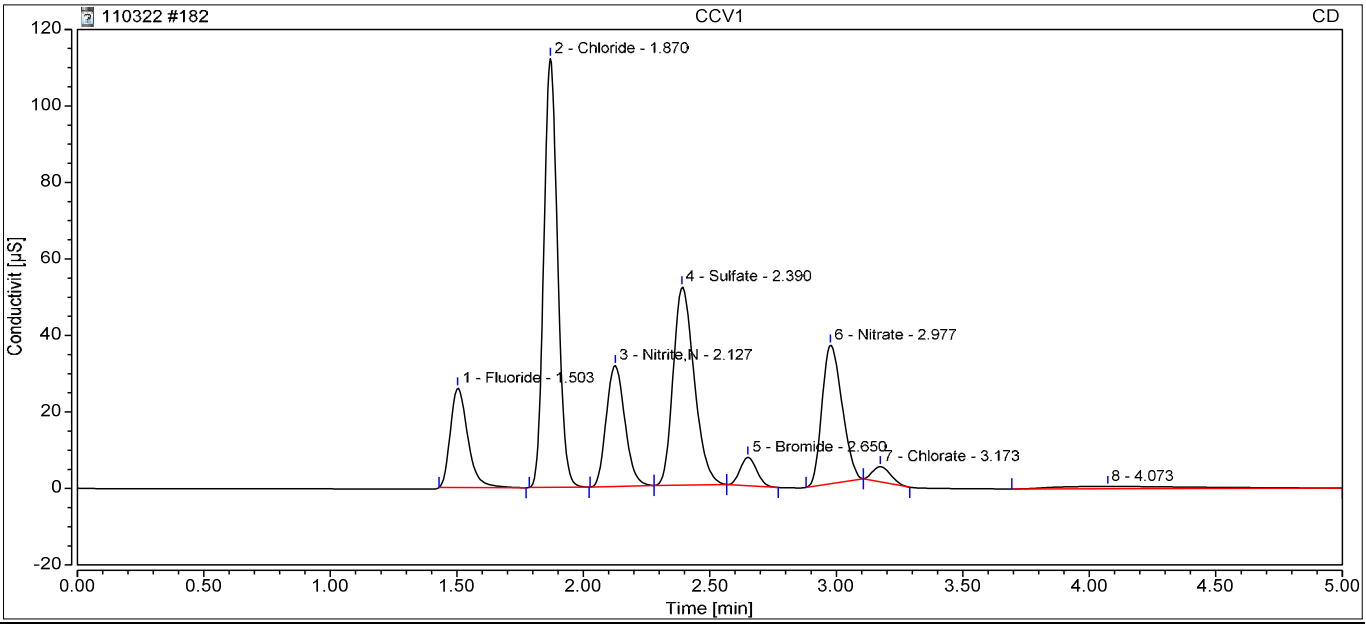
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.004	n.a.	n.a.	1.0000
2	1.87	Chloride	BMB	0.009	0.0952	0.0952	1.0000
3	2.13	Nitrite,N	BMB	0.005	0.0128	0.0128	1.0000
4	2.43	Sulfate	BMB	0.007	0.1024	0.1024	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.025**		**0.21**	

182 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 02:21**	*Sample Weight:*	**1.0000**

Run Time:



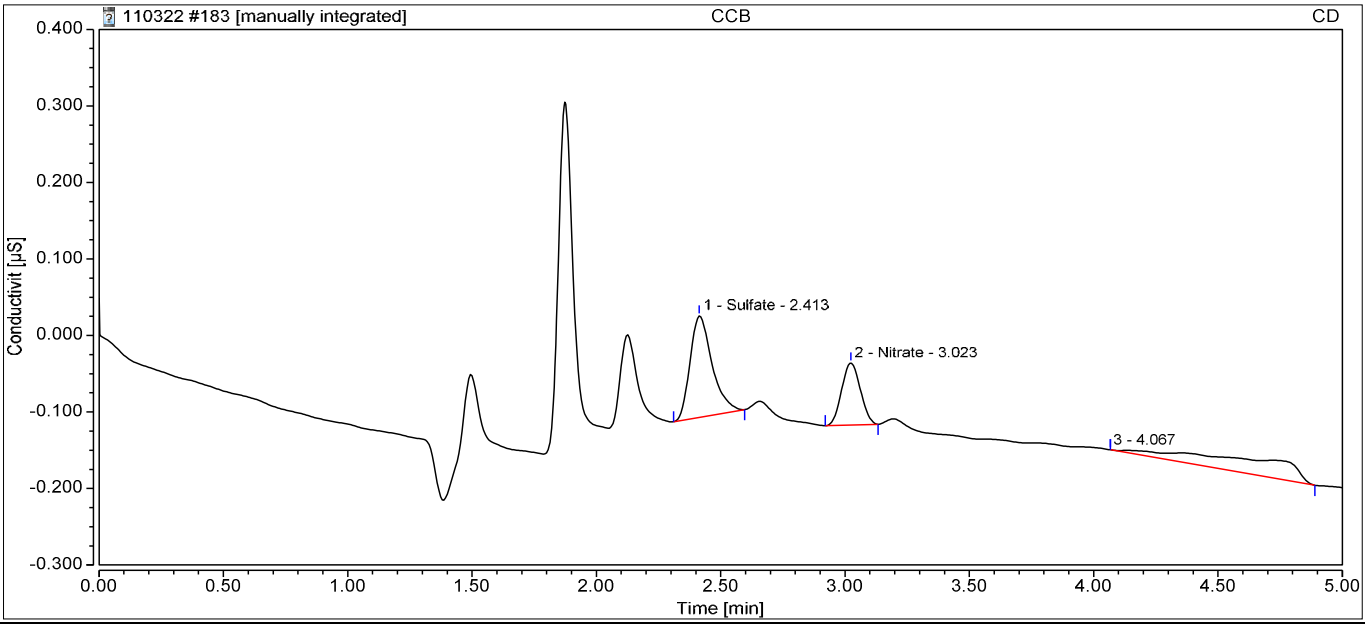
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.088	10.4322	10.4322	1.0000
2	1.87	Chloride	BMB	7.099	50.4351	50.4351	1.0000
3	2.13	Nitrite,N	BMB	2.699	9.8632	9.8632	1.0000
4	2.39	Sulfate	BMB	5.010	51.6745	51.6745	1.0000
5	2.65	Bromide	BMB	0.562	10.7466	10.7466	1.0000
6	2.98	Nitrate	BMB	3.335	10.3110	10.3110	1.0000
7	3.17	Chlorate	BMB	0.332	11.1632	11.1632	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**21.125**		**154.63**	

183 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 02:26**	*Sample Weight:*	**1.0000**

Run Time:



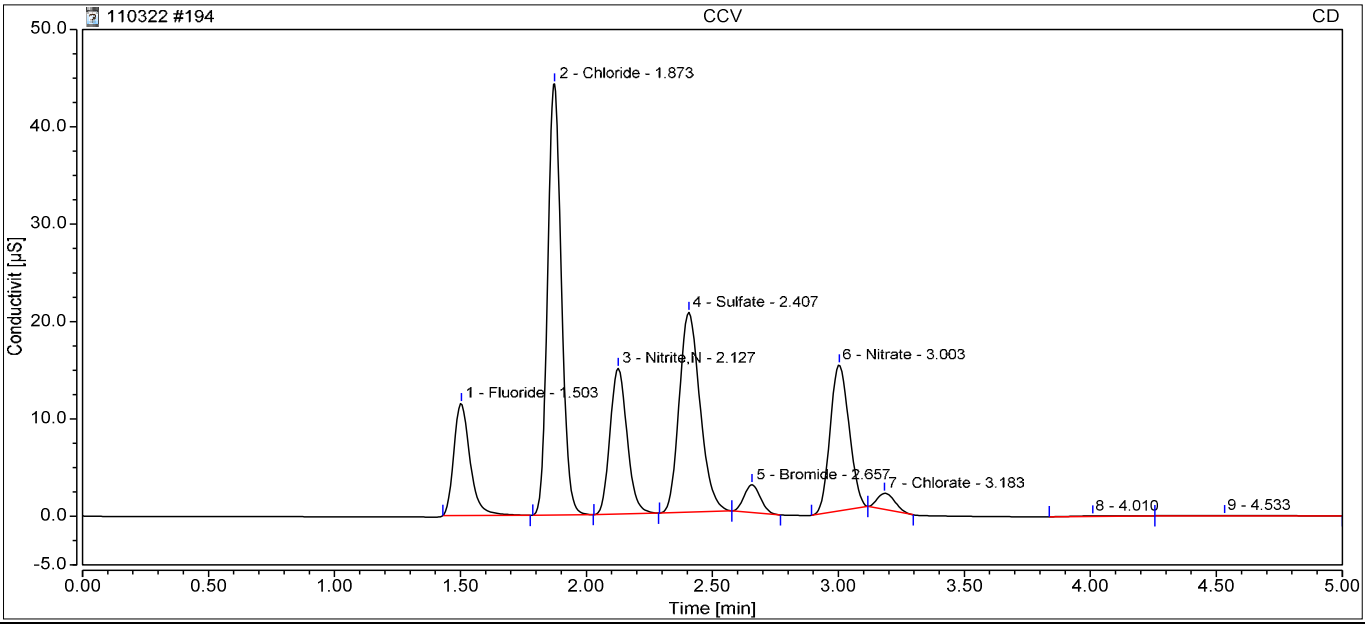
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.41	Sulfate	BMB	0.014	0.1700	0.1700	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	3.02	Nitrate	BMB	0.007	0.0307	0.0307	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.021**		**0.20**	

194 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 03:46**	*Sample Weight:*	**1.0000**

Run Time:



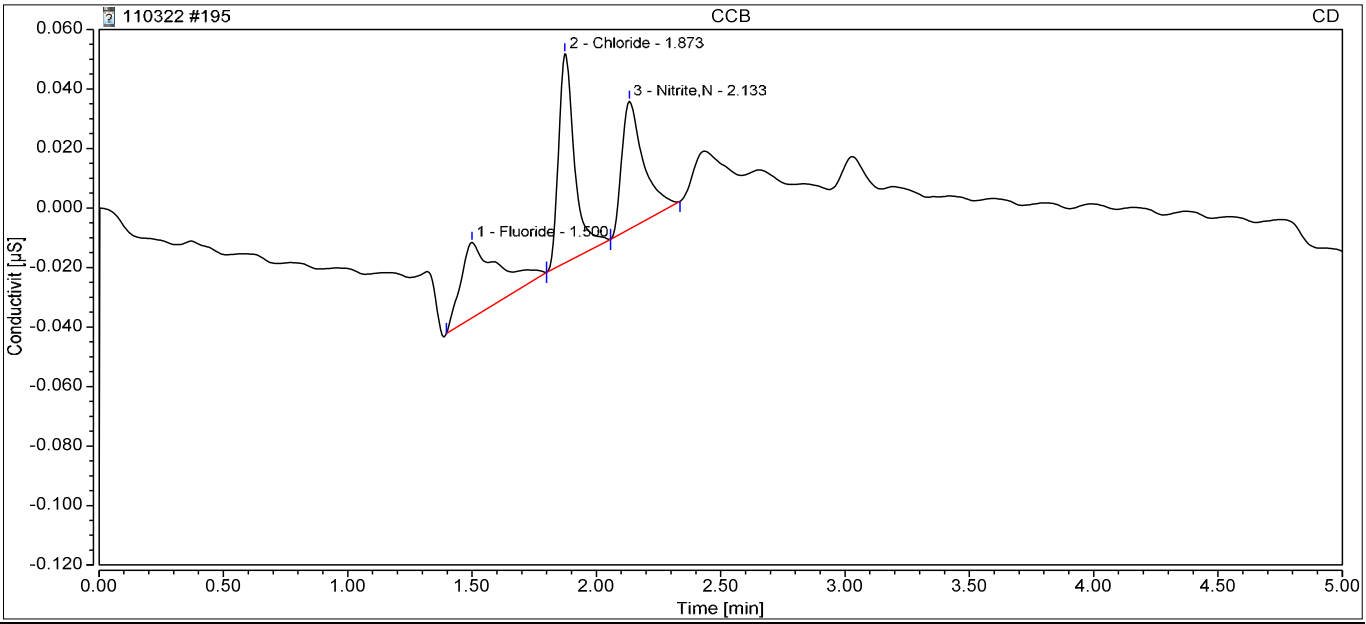
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.864	4.3025	4.3025	1.0000
2	1.87	Chloride	BMB	2.805	19.9503	19.9503	1.0000
3	2.13	Nitrite,N	BMB	1.175	3.9851	3.9851	1.0000
4	2.41	Sulfate	BMB	1.969	20.3281	20.3281	1.0000
5	2.66	Bromide	BMB	0.214	4.0963	4.0963	1.0000
6	3.00	Nitrate	BMB	1.310	4.0574	4.0574	1.0000
7	3.18	Chlorate	BMB	0.136	4.3243	4.3243	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.474**		**61.04**	

195 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 03:56**	*Sample Weight:*	**1.0000**

Run Time:



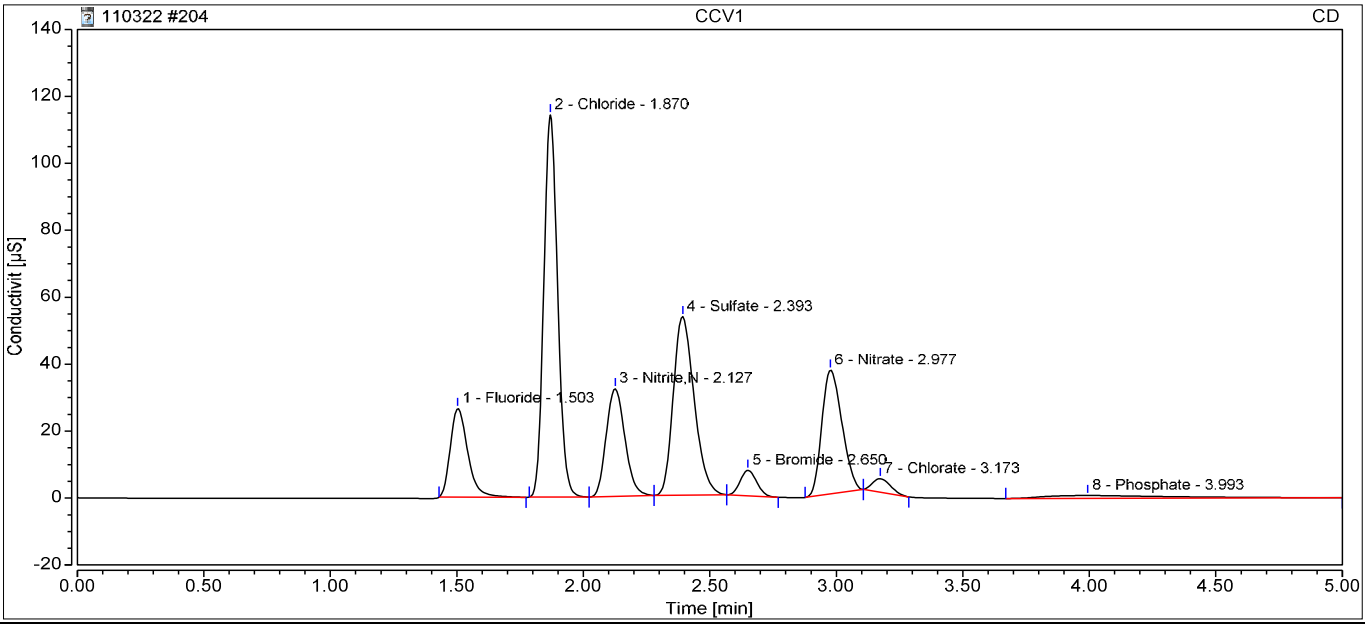
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.004	n.a.	n.a.	1.0000
2	1.87	Chloride	BMB	0.005	0.0711	0.0711	1.0000
3	2.13	Nitrite,N	BMB	0.004	0.0110	0.0110	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.014**		**0.08**	

204 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 04:54**	*Sample Weight:*	**1.0000**

Run Time:



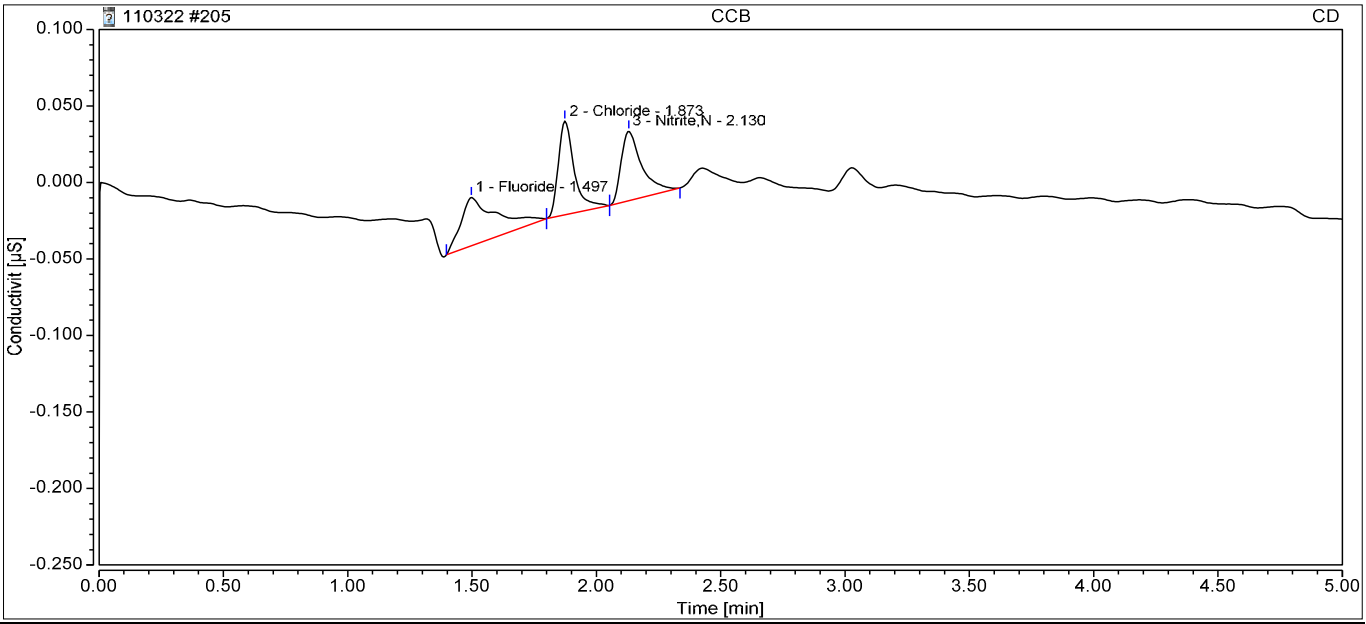
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.124	10.6153	10.6153	1.0000
2	1.87	Chloride	BMB	7.225	51.3289	51.3289	1.0000
3	2.13	Nitrite,N	BMB	2.754	10.0950	10.0950	1.0000
4	2.39	Sulfate	BMB	5.117	52.7781	52.7781	1.0000
5	2.65	Bromide	BMB	0.578	11.0360	11.0360	1.0000
6	2.98	Nitrate	BMB	3.405	10.5297	10.5297	1.0000
7	3.17	Chlorate	BMB	0.338	11.3712	11.3712	1.0000
8	3.99	Phosphate	BMB	0.498	5.9894	5.9894	1.0000
Total:			**0.000**	**22.038**		**163.74**	

205 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 05:05**	*Sample Weight:*	**1.0000**

Run Time:



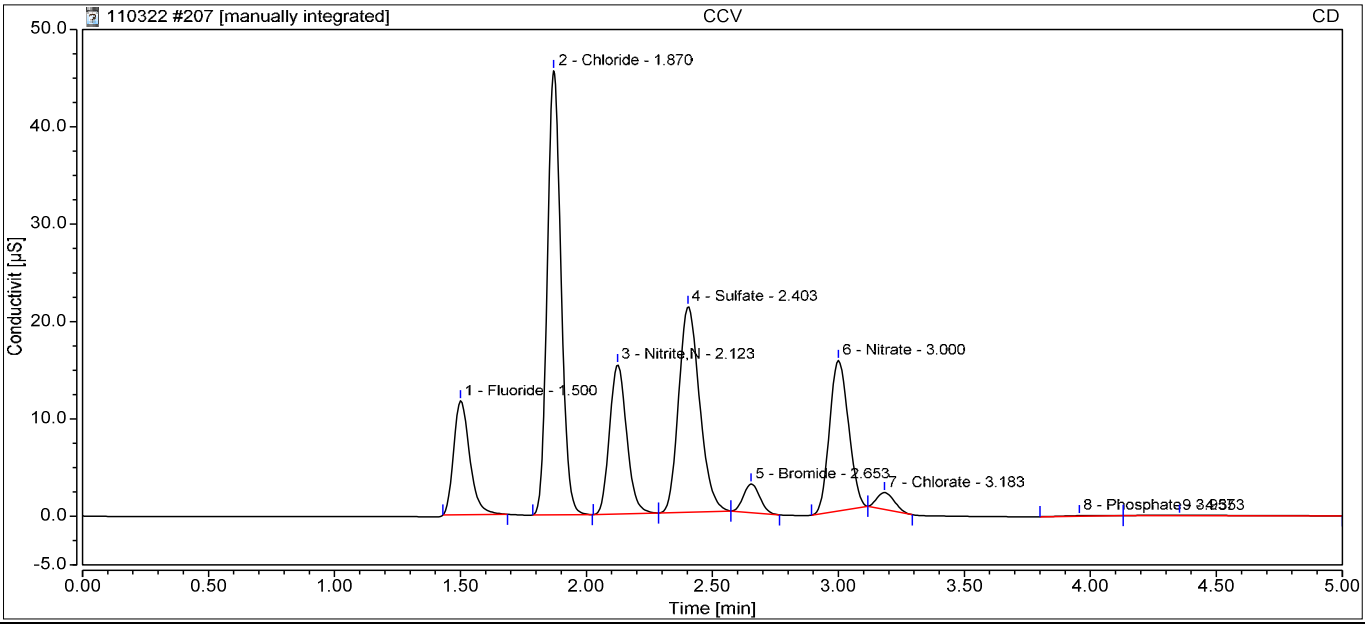
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.005	n.a.	n.a.	1.0000
2	1.87	Chloride	BMB	0.005	0.0663	0.0663	1.0000
3	2.13	Nitrite,N	BMB	0.004	0.0111	0.0111	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.014**		**0.08**	

207 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 06:40**	*Sample Weight:*	**1.0000**

Run Time:



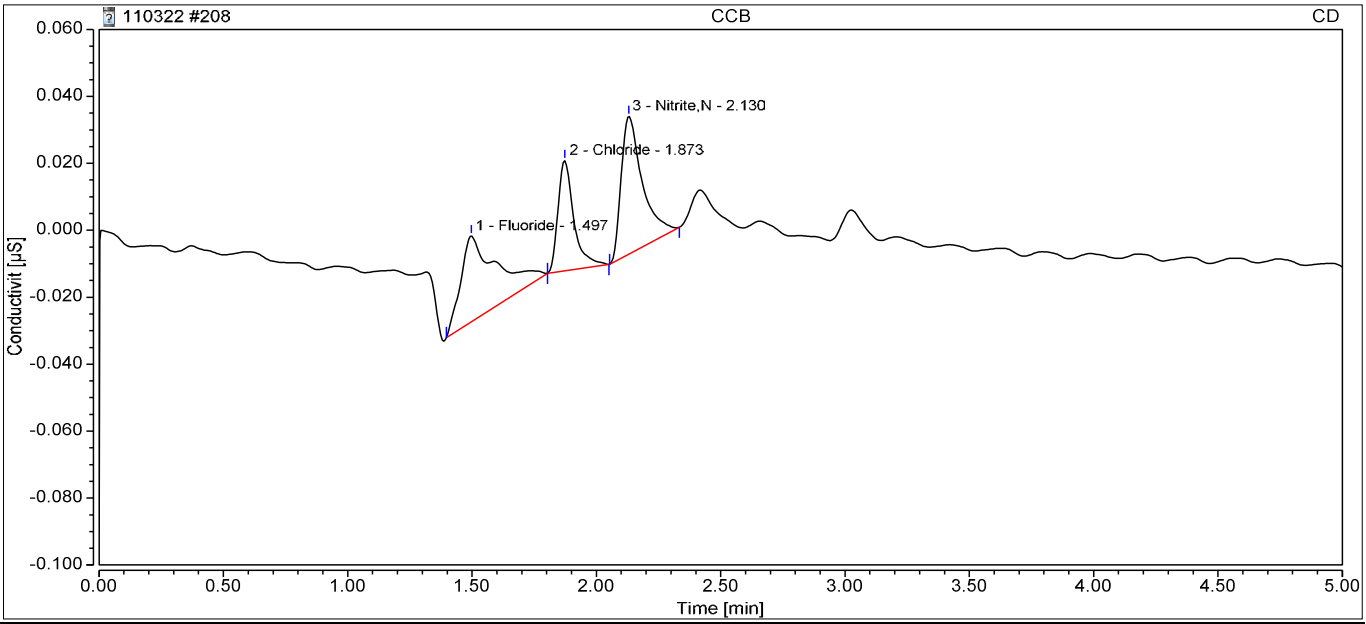
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB*	0.871	4.3364	4.3364	1.0000
2	1.87	Chloride	BMB	2.879	20.4754	20.4754	1.0000
3	2.12	Nitrite,N	BMB	1.210	4.1066	4.1066	1.0000
4	2.40	Sulfate	BMB	2.032	20.9795	20.9795	1.0000
5	2.65	Bromide	BMB	0.221	4.2411	4.2411	1.0000
6	3.00	Nitrate	BMB	1.353	4.1873	4.1873	1.0000
7	3.18	Chlorate	BMB	0.140	4.4427	4.4427	1.0000
8	3.96	Phosphate	BMB	0.008	1.3427	1.3427	1.0000
Total:			**0.000**	**8.714**		**64.11**	

208 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 06:51**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.004	n.a.	n.a.	1.0000
2	1.87	Chloride	BMB	0.002	0.0511	0.0511	1.0000
3	2.13	Nitrite,N	BMB	0.004	0.0101	0.0101	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.011**		**0.06**	

HS22110180 Eurofin Lab J104531-1 Std_Tal_L4 Final Report

ALS WO# HS22110180

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ANALYTICAL REPORT

PREPARED FOR

Attn: Dane Wacasey
ALS Group USA, Corp
10450 Stancliff Rd.
Suite 210
Houston TX 77099

Generated 11/17/2022 3:15 PM

JOB DESCRIPTION

HS22110180

JOB NUMBER

410-104531-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

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Definitions/Glossary

Client: ALS Group USA, Corp
Job ID: 410-104531-1
Project/Site: HS22110180

Qualifiers

GC VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
410-104531-1

Receipt
The samples were received on 11/4/2022 1:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01 — Lab Sample ID: 410-104531-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	100000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-02 — Lab Sample ID: 410-104531-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	43000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-03 — Lab Sample ID: 410-104531-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	93000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110180-04 — Lab Sample ID: 410-104531-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	95000		12000	2600	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01
Lab Sample ID: 410-104531-1

Date Collected: 11/02/22 07:55
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	100000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:30	1

Client Sample ID: HS22110180-02
Lab Sample ID: 410-104531-2

Date Collected: 11/02/22 08:40
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	43000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:38	1

Client Sample ID: HS22110180-03
Lab Sample ID: 410-104531-3

Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	93000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:46	1

Client Sample ID: HS22110180-04
Lab Sample ID: 410-104531-4

Date Collected: 11/02/22 09:30
Matrix: Water
Date Received: 11/04/22 13:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	95000		12000	2600	ug/L		11/08/22 07:23	11/08/22 08:53	1

Default Detection Limits

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method: RSK-175 - Dissolved Gases (GC)

Prep: RSK-175

Analyte	LOQ	DL	Units
Carbon dioxide	12000	2600	ug/L

QC Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-315038/1-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315038

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	2600	U M	12000	2600	ug/L		11/08/22 07:23	11/08/22 07:59	1

Lab Sample ID: LCS 410-315038/2-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315038

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Carbon dioxide			35800	37500		ug/L		105	80 - 122		

Lab Sample ID: LCSD 410-315038/3-A
Matrix: Water
Analysis Batch: 315041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315038

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon dioxide			35800	37900		ug/L		106	80 - 122	1	20

QC Association Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

GC VOA

Prep Batch: 315038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104531-1	HS22110180-01	Total/NA	Water	RSK-175	
410-104531-2	HS22110180-02	Total/NA	Water	RSK-175	
410-104531-3	HS22110180-03	Total/NA	Water	RSK-175	
410-104531-4	HS22110180-04	Total/NA	Water	RSK-175	
MB 410-315038/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-315038/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-315038/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 315041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104531-1	HS22110180-01	Total/NA	Water	RSK-175	315038
410-104531-2	HS22110180-02	Total/NA	Water	RSK-175	315038
410-104531-3	HS22110180-03	Total/NA	Water	RSK-175	315038
410-104531-4	HS22110180-04	Total/NA	Water	RSK-175	315038
MB 410-315038/1-A	Method Blank	Total/NA	Water	RSK-175	315038
LCS 410-315038/2-A	Lab Control Sample	Total/NA	Water	RSK-175	315038
LCSD 410-315038/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	315038

Lab Chronicle

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Client Sample ID: HS22110180-01
Date Collected: 11/02/22 07:55
Date Received: 11/04/22 13:20

Lab Sample ID: 410-104531-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:30

Client Sample ID: HS22110180-02
Date Collected: 11/02/22 08:40
Date Received: 11/04/22 13:20

Lab Sample ID: 410-104531-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:38

Client Sample ID: HS22110180-03
Date Collected: 11/02/22 09:30
Date Received: 11/04/22 13:20

Lab Sample ID: 410-104531-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:46

Client Sample ID: HS22110180-04
Date Collected: 11/02/22 09:30
Date Received: 11/04/22 13:20

Lab Sample ID: 410-104531-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			315038	SE2A	ELLE	11/08/22 07:23
Total/NA	Analysis	RSK-175		1	315041	SE2A	ELLE	11/08/22 08:53

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22

Method Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ALS Group USA, Corp
Project/Site: HS22110180

Job ID: 410-104531-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-104531-1	HS22110180-01	Water	11/02/22 07:55	11/04/22 13:20
410-104531-2	HS22110180-02	Water	11/02/22 08:40	11/04/22 13:20
410-104531-3	HS22110180-03	Water	11/02/22 09:30	11/04/22 13:20
410-104531-4	HS22110180-04	Water	11/02/22 09:30	11/04/22 13:20

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-104531-1

SDG No.:

Instrument ID: 19506-B Analysis Batch Number: 301115

Lab Sample ID: IC 410-301115/10 Client Sample ID:

Date Analyzed: 09/29/22 07:33 Lab File ID: 312022_9_29B.0010.d GC Column: HP Plot ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon dioxide	1.90	Peak assignment corrected	LXF2	09/29/22 07:57

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-104531-1

SDG No.:

Instrument ID: 19506-B Analysis Batch Number: 315041

Lab Sample ID: MB 410-315038/1-A Client Sample ID:

Date Analyzed: 11/08/22 07:59 Lab File ID: 312022_11_8B.0005.d GC Column: HP Plot ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon dioxide	1.95	Peak not integrated	SE2A	11/08/22 08:10

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104531-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
EPH_CO2ICV_00002	09/29/23	09/29/22	DI Water, Lot In House	1 mL	EPH_CO2XX_00002	0.0018 g	Carbon dioxide	547000 ppb
.EPH_CO2XX_00002	09/29/23	Air Products, Lot A214157			(Purchased Reagent)		Carbon dioxide	30.3889 %
EPH_CO2MS_00004	07/16/23	07/18/22	DI Water, Lot In House	1 g	EPH_CO2CRV_00002	0.0018 g	Carbon dioxide	1791000 ppb
.EPH_CO2CRV_00002	07/16/23	Praxair, Lot 4-11-18			(Purchased Reagent)		Carbon dioxide	99.5 %

Method RSK-175 CO2 DOD

Dissolved Gases (GC) by Method RSK_175_CO2 DOD

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 312022_11_8B.0006.d

Lab ID: LCS 410-315038/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Carbon dioxide	35800	37500	105	80-122	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 312022_11_8B.0007.d

Lab ID: LCSD 410-315038/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Carbon dioxide	35800	37900	106	1	20	80-122	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Lab File ID: 312022_11_8B.0005.d Lab Sample ID: MB 410-315038/1-A

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: 19506-B Date Analyzed: 11/08/2022 07:59

GC Column: HP Plot ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-315038/2-A	312022_11_8B.0006.d	11/08/2022 08:07
	LCSD 410-315038/3-A	312022_11_8B.0007.d	11/08/2022 08:15
HS22110180-01	410-104531-1	312022_11_8B.0008.d	11/08/2022 08:30
HS22110180-02	410-104531-2	312022_11_8B.0009.d	11/08/2022 08:38
HS22110180-03	410-104531-3	312022_11_8B.0010.d	11/08/2022 08:46
HS22110180-04	410-104531-4	312022_11_8B.0011.d	11/08/2022 08:53

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Client Sample ID: HS22110180-01 Lab Sample ID: 410-104531-1

Matrix: Water Lab File ID: 312022_11_8B.0008.d

Analysis Method: RSK-175 Date Collected: 11/02/2022 07:55

Sample wt/vol: 5(mL) Date Analyzed: 11/08/2022 08:30

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 315041 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	100000		12000	2600

Report Date: 08-Nov-2022 09:38:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0008.d				
Lims ID:	410-104531-A-1-A				
Client ID:	HS22110180-01				
Sample Type:	Client				
Inject. Date:	08-Nov-2022 08:30:00	ALS Bottle#:	0	Worklist Smp#:	8
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	x				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.938	1.946	-0.008	163702234	99702	H

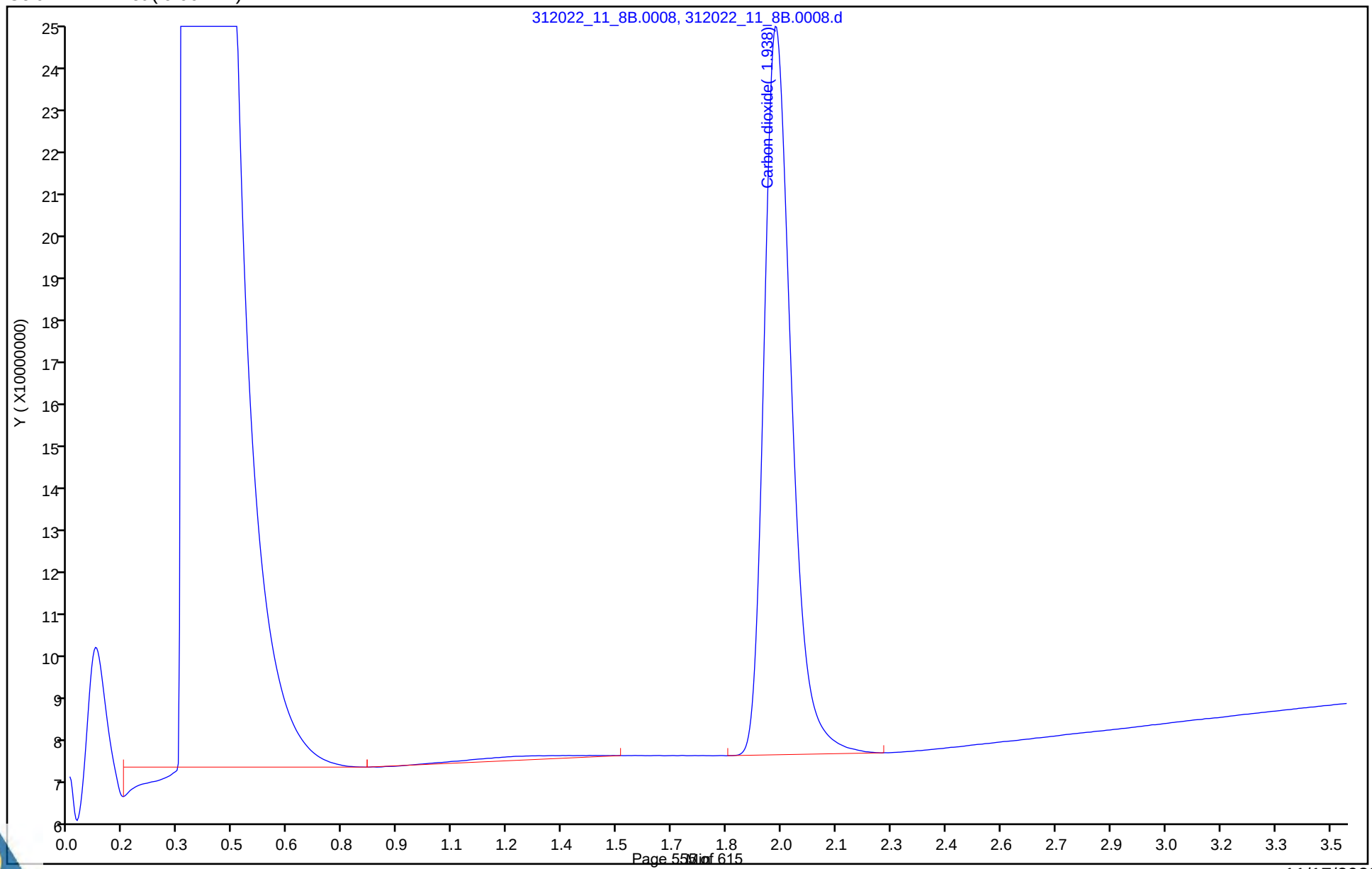
Chrom Revision: 2.3 25-Oct-2022 11:16:06

Report Date: 08-Nov-2022 09:38:27 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0008.d				
Injection Date:	08-Nov-2022 08:30:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104531-A-1-A	Lab Sample ID:	410-104531-1	Worklist Smp#:	8
Client ID:	HS22110180-01				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Client Sample ID: HS22110180-02 Lab Sample ID: 410-104531-2

Matrix: Water Lab File ID: 312022_11_8B.0009.d

Analysis Method: RSK-175 Date Collected: 11/02/2022 08:40

Sample wt/vol: 5(mL) Date Analyzed: 11/08/2022 08:38

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 315041 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	43000		12000	2600

Report Date: 08-Nov-2022 09:38:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0009.d				
Lims ID:	410-104531-A-2-A				
Client ID:	HS22110180-02				
Sample Type:	Client				
Inject. Date:	08-Nov-2022 08:38:00	ALS Bottle#:	0	Worklist Smp#:	9
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	x				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				
First Level Reviewer: SE2A		Date:	08-Nov-2022 08:55:51		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.946	1.946	0.000	70258932H	42791	

QC Flag Legend

Processing Flags

H - Response Measured by Height

Chrom Revision: 2.3 25-Oct-2022 11:16:06

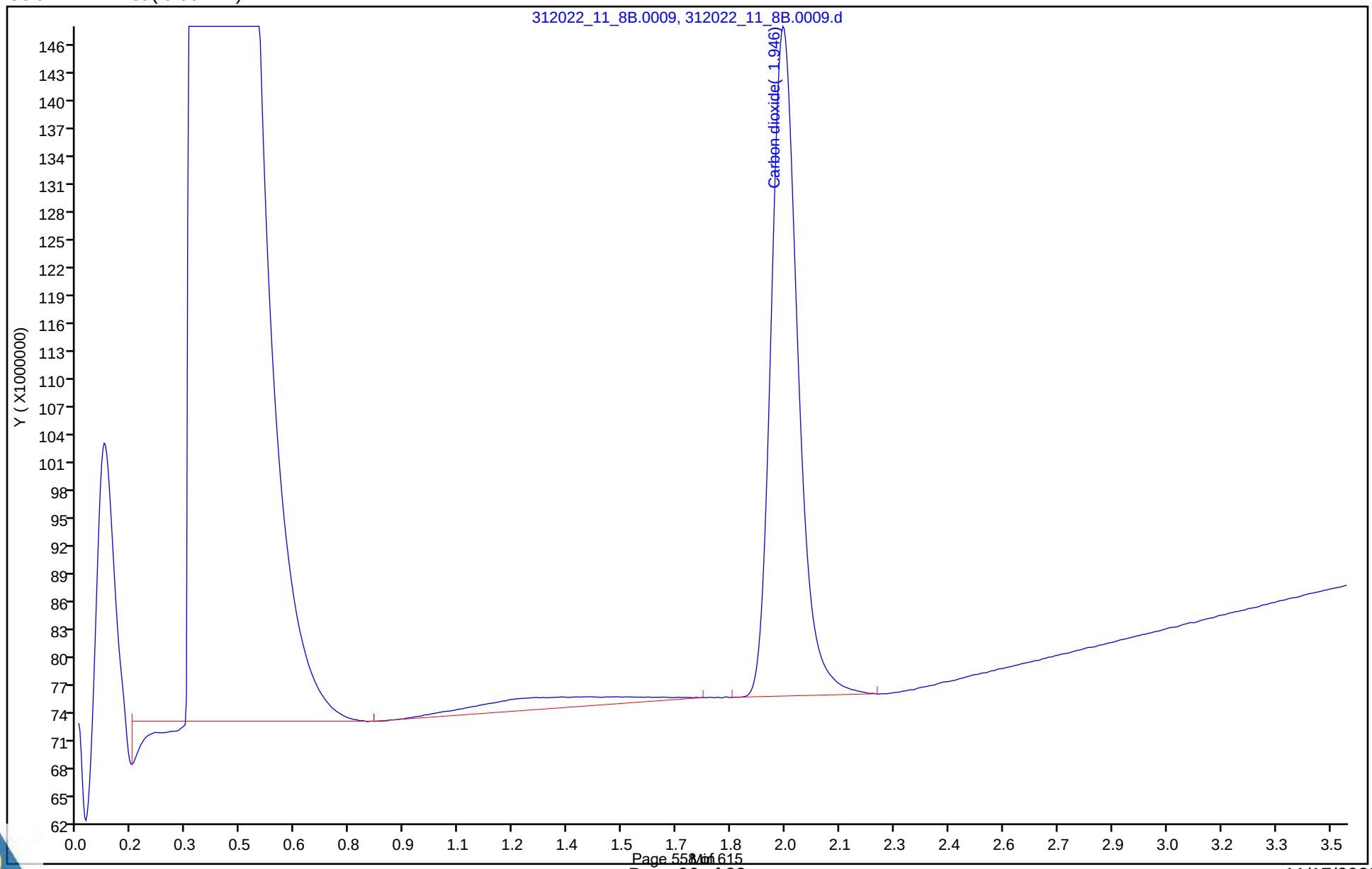
Report Date: 08-Nov-2022 09:38:27 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0009.d

Injection Date:	08-Nov-2022 08:38:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104531-A-2-A	Lab Sample ID:	410-104531-2	Worklist Smp#:	9
Client ID:	HS22110180-02				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Client Sample ID: HS22110180-03 Lab Sample ID: 410-104531-3

Matrix: Water Lab File ID: 312022_11_8B.0010.d

Analysis Method: RSK-175 Date Collected: 11/02/2022 09:30

Sample wt/vol: 5(mL) Date Analyzed: 11/08/2022 08:46

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 315041 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	93000		12000	2600

Report Date: 08-Nov-2022 09:38:28

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0010.d				
Lims ID:	410-104531-A-3-A				
Client ID:	HS22110180-03				
Sample Type:	Client				
Inject. Date:	08-Nov-2022 08:46:00	ALS Bottle#:	0	Worklist Smp#:	10
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	x				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.939	1.946	-0.007	152087831	92628	H

Chrom Revision: 2.3 25-Oct-2022 11:16:06

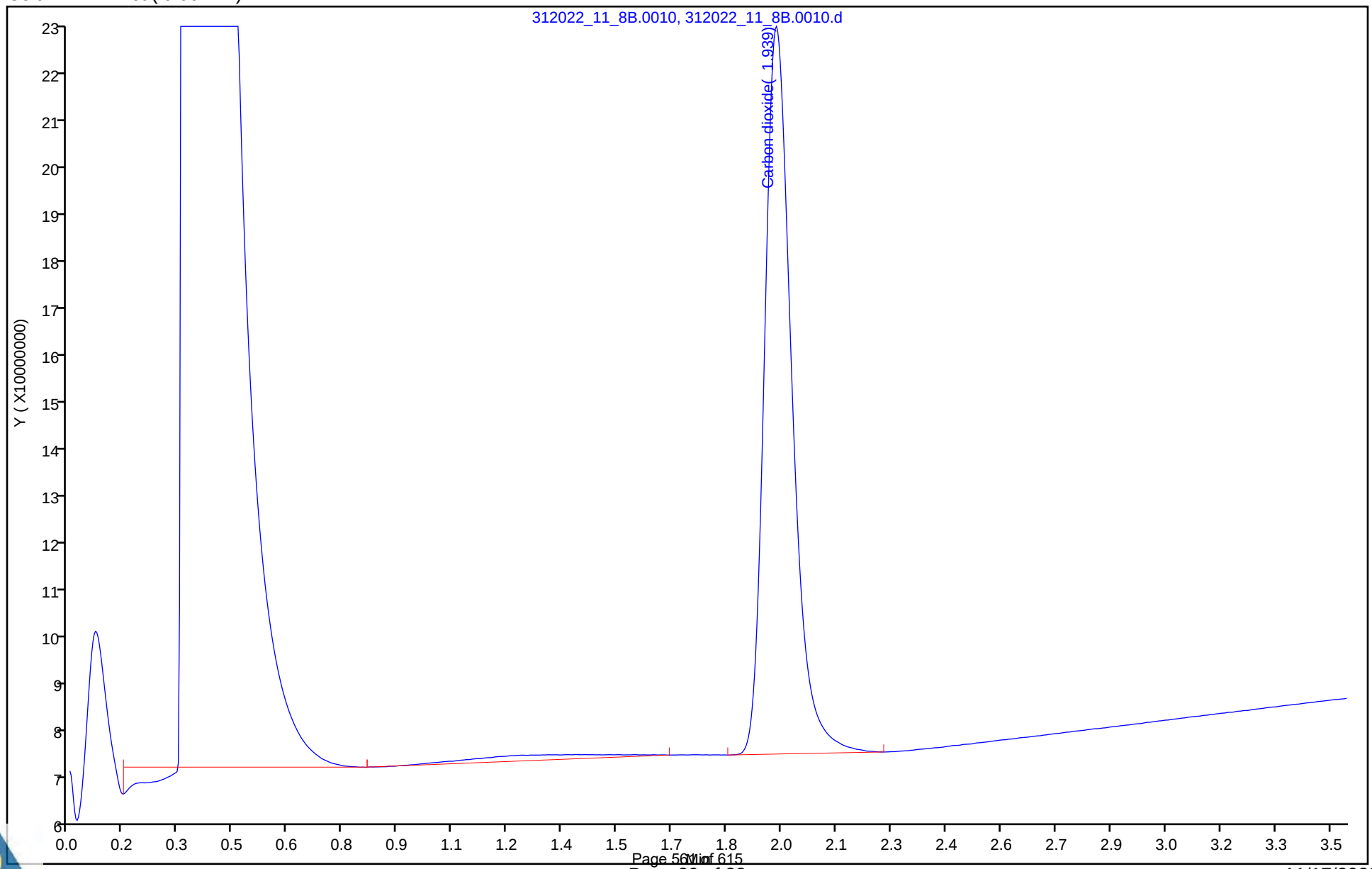
Report Date: 08-Nov-2022 09:38:28 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0010.d

Injection Date:	08-Nov-2022 08:46:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104531-A-3-A	Lab Sample ID:	410-104531-3	Worklist Smp#:	10
Client ID:	HS22110180-03				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Client Sample ID: HS22110180-04 Lab Sample ID: 410-104531-4

Matrix: Water Lab File ID: 312022_11_8B.0011.d

Analysis Method: RSK-175 Date Collected: 11/02/2022 09:30

Sample wt/vol: 5(mL) Date Analyzed: 11/08/2022 08:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 315041 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	95000		12000	2600

Report Date: 08-Nov-2022 09:38:28

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0011.d				
Lims ID:	410-104531-A-4-A				
Client ID:	HS22110180-04				
Sample Type:	Client				
Inject. Date:	08-Nov-2022 08:53:00	ALS Bottle#:	0	Worklist Smp#:	11
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	x				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.940	1.946	-0.006	155971479	94993	H

Chrom Revision: 2.3 25-Oct-2022 11:16:06

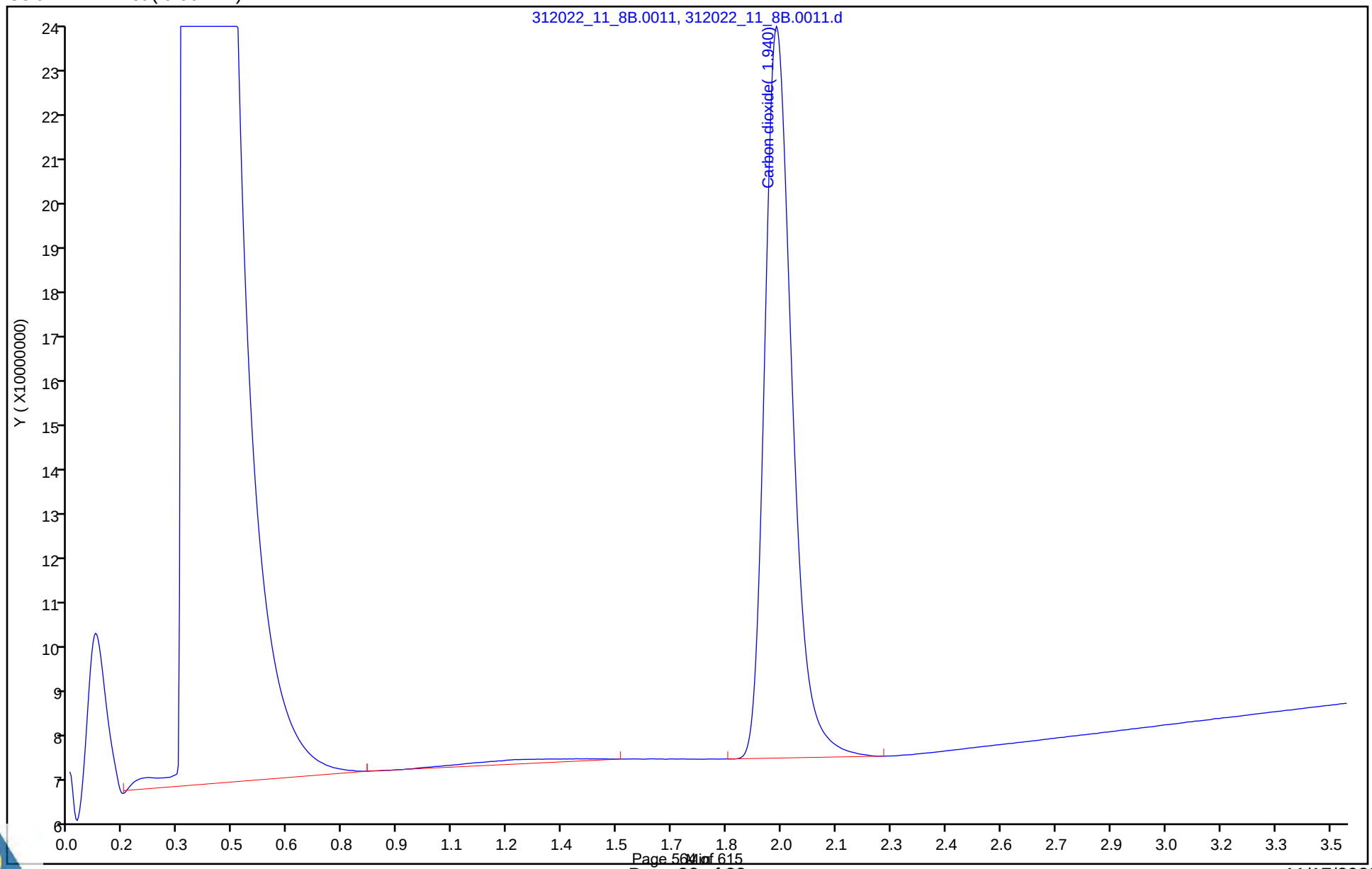
Report Date: 08-Nov-2022 09:38:28 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0011.d

Injection Date:	08-Nov-2022 08:53:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104531-A-4-A	Lab Sample ID:	410-104531-4	Worklist Smp#:	11
Client ID:	HS22110180-04				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104531-1 Analy Batch No.: 301115

SDG No.:

Instrument ID: 19506-B GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/29/2022 06:52 Calibration End Date: 09/29/2022 07:33 Calibration ID: 42648

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-301115/5	312022_9_29B.0005.d
Level 2	IC 410-301115/6	312022_9_29B.0006.d
Level 3	ICRT 410-301115/7	312022_9_29B.0007.d
Level 4	IC 410-301115/8	312022_9_29B.0008.d
Level 5	IC 410-301115/9	312022_9_29B.0009.d
Level 6	IC 410-301115/10	312022_9_29B.0010.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Carbon dioxide	1.939	1.938	1.937	1.931	1.918	1.902					1.907 - 1.967	1.928

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104531-1 Analy Batch No.: 301115

SDG No.:

Instrument ID: 19506-B GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/29/2022 06:52 Calibration End Date: 09/29/2022 07:33 Calibration ID: 42648

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-301115/5	312022_9_29B.0005.d
Level 2	IC 410-301115/6	312022_9_29B.0006.d
Level 3	ICRT 410-301115/7	312022_9_29B.0007.d
Level 4	IC 410-301115/8	312022_9_29B.0008.d
Level 5	IC 410-301115/9	312022_9_29B.0009.d
Level 6	IC 410-301115/10	312022_9_29B.0010.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Carbon dioxide	1658.9 1735.0	1655.7 1440.6	1669.8	1691.6	Ave		1641.9211 0				6.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104531-1 Analy Batch No.: 301115

SDG No.:

Instrument ID: 19506-B GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/29/2022 06:52 Calibration End Date: 09/29/2022 07:33 Calibration ID: 42648

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-301115/5	312022_9_29B.0005.d
Level 2	IC 410-301115/6	312022_9_29B.0006.d
Level 3	ICRT 410-301115/7	312022_9_29B.0007.d
Level 4	IC 410-301115/8	312022_9_29B.0008.d
Level 5	IC 410-301115/9	312022_9_29B.0009.d
Level 6	IC 410-301115/10	312022_9_29B.0010.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Carbon dioxide	Ave	17826195 516013706	35585188	59810588	151483728	310734679	10746 358200	21492	35820	89550	179100

Curve Type Legend
Ave = Average by Height

Report Date: 29-Sep-2022 07:58:25

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0005.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Sep-2022 06:52:00	ALS Bottle#:	0	Worklist Smp#:	5
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-005				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:25	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.939	1.937	0.002	17826195H	10746	10857	

Reagents:

EPH_CO2MS_00004 Amount Added: 30.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

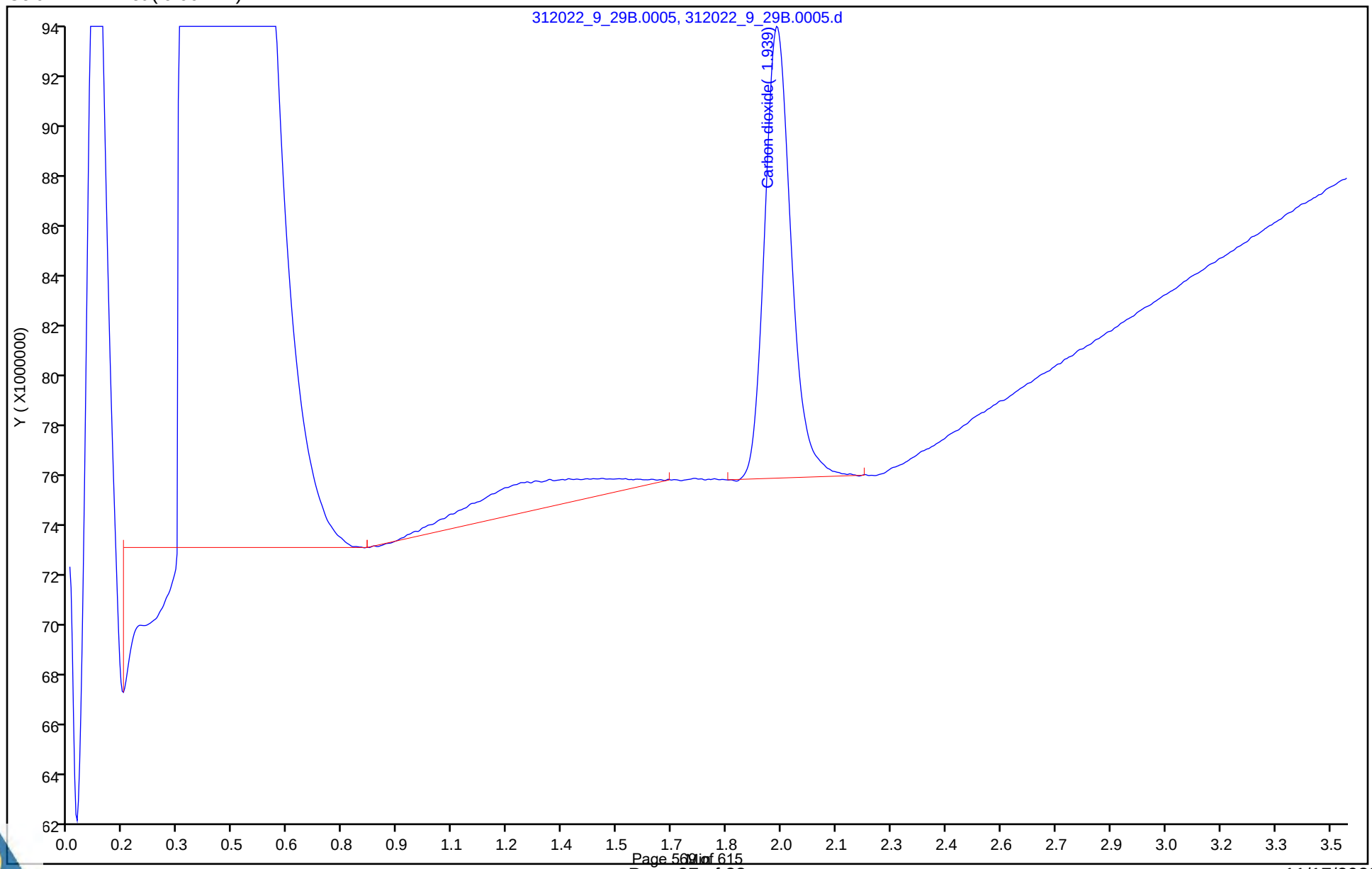
Report Date: 29-Sep-2022 07:58:25 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0005.d

Injection Date:	29-Sep-2022 06:52:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:25

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0006.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	29-Sep-2022 07:00:00	ALS Bottle#:	0	Worklist Smp#:	6
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-006				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:25	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.938	1.937	0.001	35585188	H 21492	21673	

Reagents:

EPH_CO2MS_00004 Amount Added: 60.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

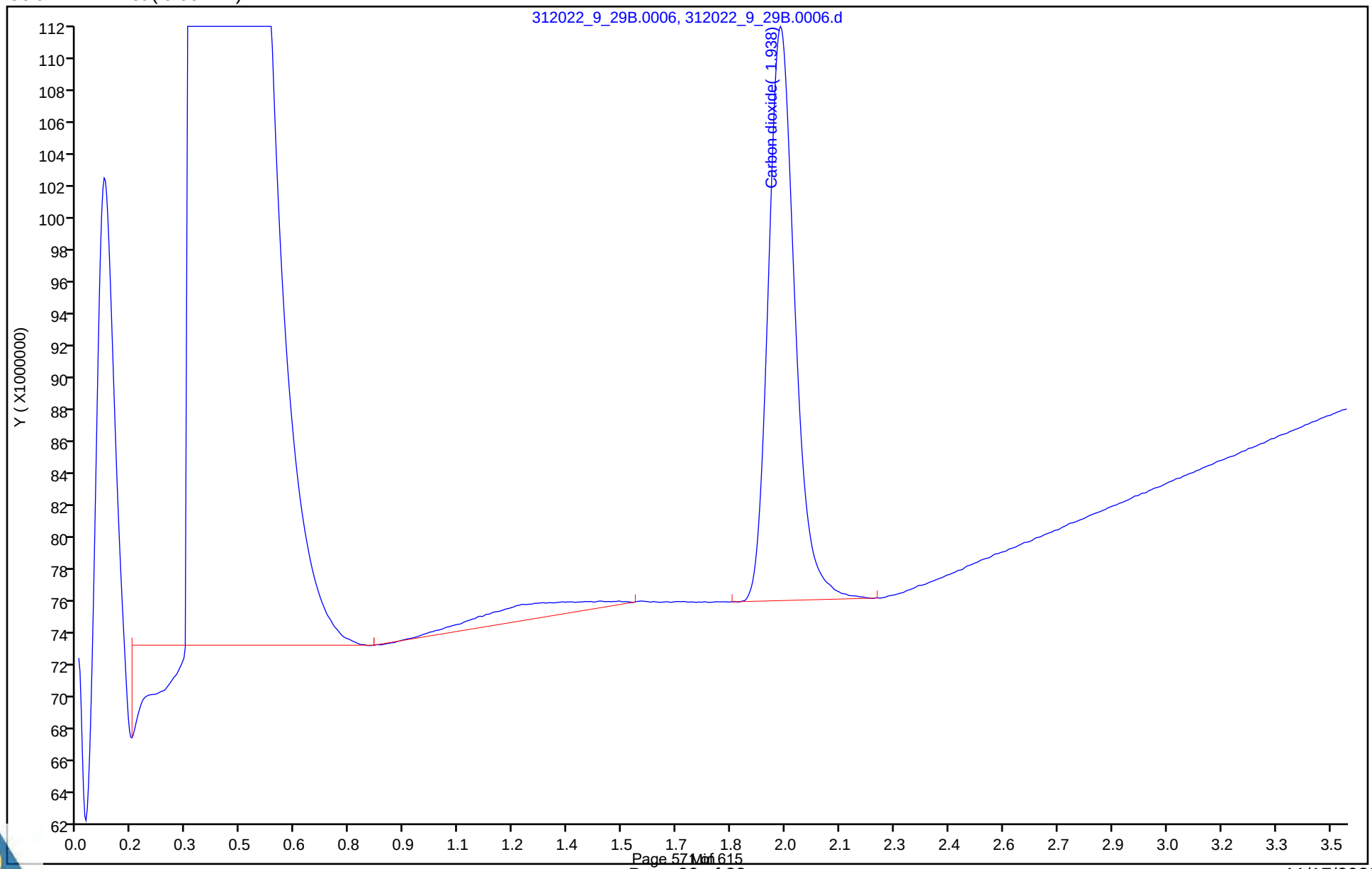
Report Date: 29-Sep-2022 07:58:25 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0006.d

Injection Date:	29-Sep-2022 07:00:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:26

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0007.d				
Lims ID:	ICRT				
Client ID:					
Sample Type:	ICRT	Calib Level:	3		
Inject. Date:	29-Sep-2022 07:08:00	ALS Bottle#:	0	Worklist Smp#:	7
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ICRT				
Misc. Info.:	410-0067491-007				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.937	1.937	0.000	59810588	H 35820	36427	

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

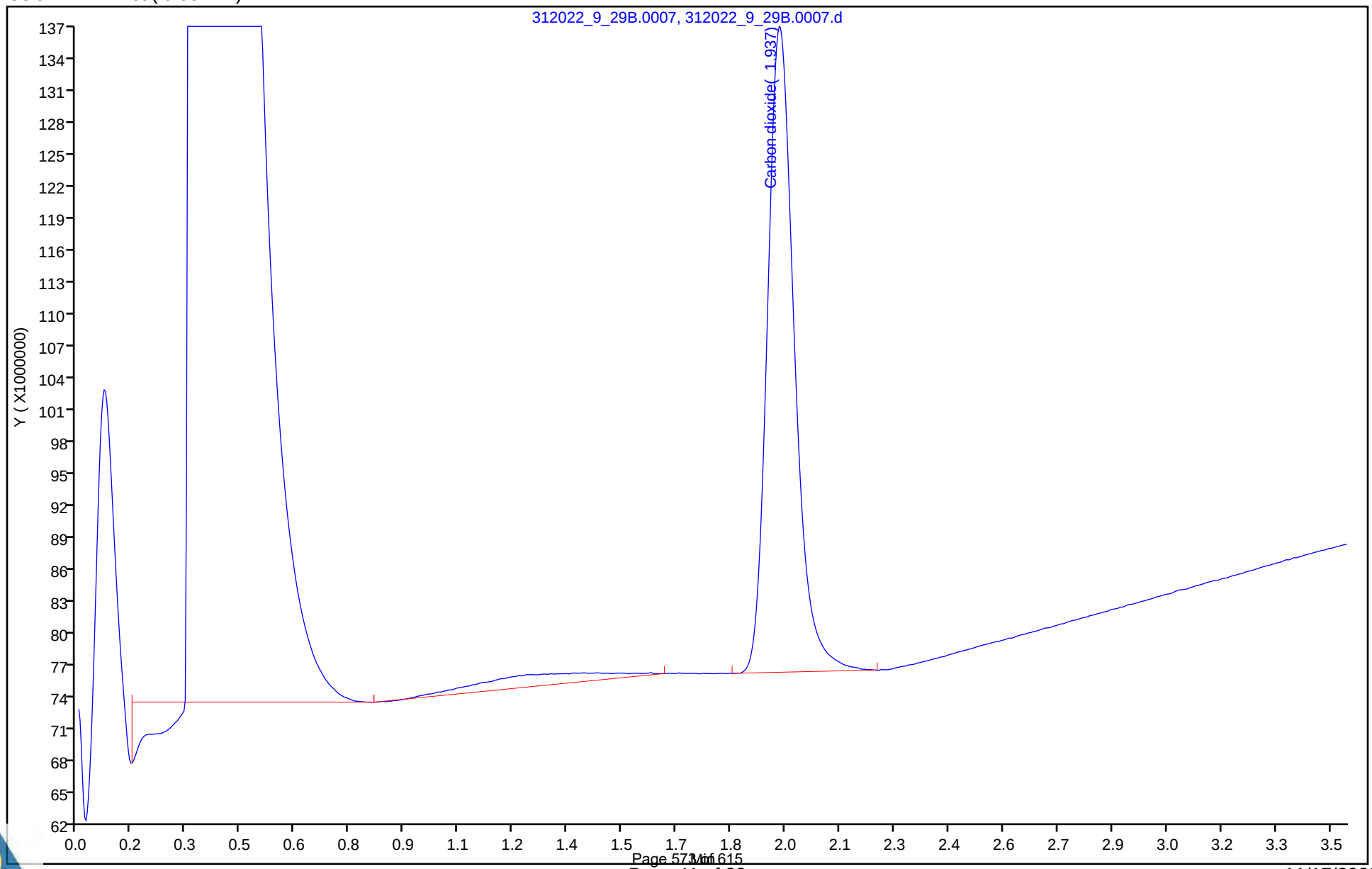
Report Date: 29-Sep-2022 07:58:26 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0007.d

Injection Date:	29-Sep-2022 07:08:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ICRT			Worklist Smp#:	7
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:26

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0008.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	29-Sep-2022 07:16:00	ALS Bottle#:	0	Worklist Smp#:	8
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-008				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.931	1.937	-0.006	151483728	H 89550	92260	

Reagents:

EPH_CO2MS_00004 Amount Added: 250.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

Report Date: 29-Sep-2022 07:58:26 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0008.d

Injection Date: 29-Sep-2022 07:16:00 Instrument ID: 19506-B Operator ID:

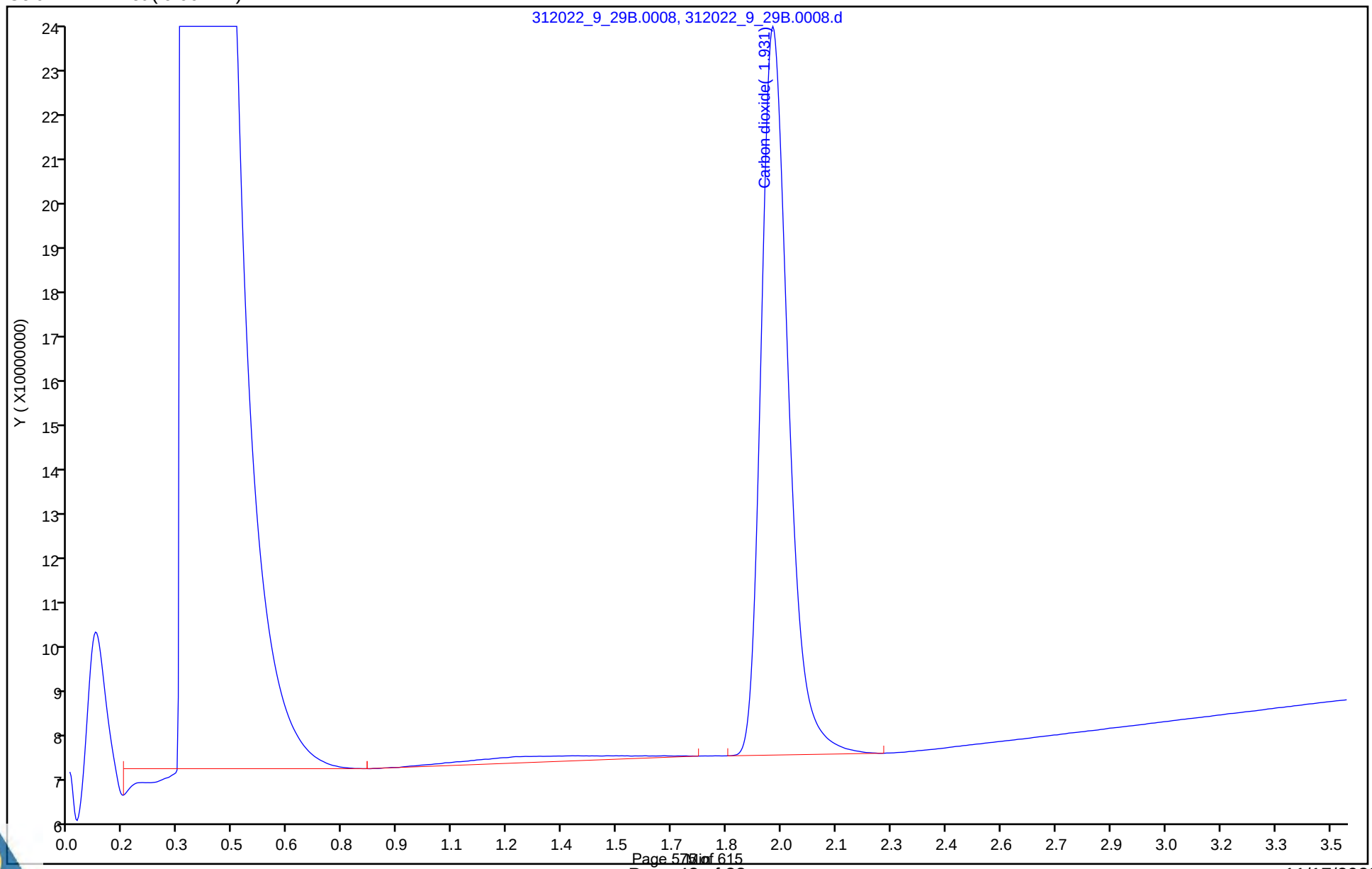
Lims ID: IC Worklist Smp#: 8

Client ID:

Purge Vol: 1.000 mL Dil. Factor: 1.0000 ALS Bottle#: 0

Method: RSK_CO2_19506B Limit Group: GCV - RSK175 CO2

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0009.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	29-Sep-2022 07:25:00	ALS Bottle#:	0	Worklist Smp#:	9
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-009				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:27	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.918	1.937	-0.019	310734679H	179100	189251	

Reagents:

EPH_CO2MS_00004 Amount Added: 500.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

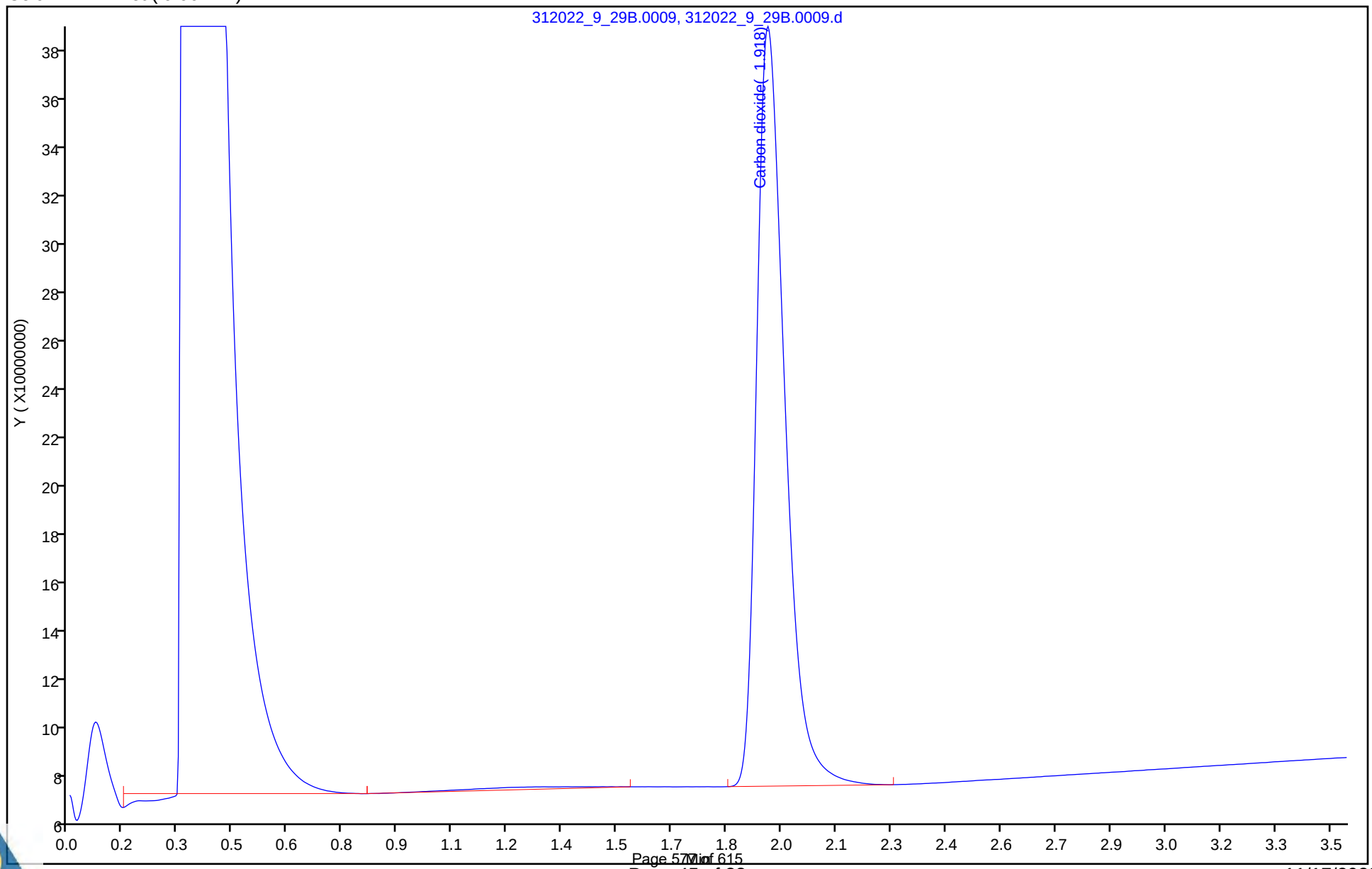
Report Date: 29-Sep-2022 07:58:27 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0009.d

Injection Date:	29-Sep-2022 07:25:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	29-Sep-2022 07:33:00	ALS Bottle#:	0	Worklist Smp#:	10
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-010				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:27	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				
First Level Reviewer: LXF2		Date:	29-Sep-2022 07:57:45		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.902	1.937	-0.035	516013706H	358200	314274	a

QC Flag Legend

Processing Flags
H - Response Measured by Height
Review Flags
a - User Assigned ID

Reagents:

EPH_CO2MS_00004 Amount Added: 1000.00 Units: uL

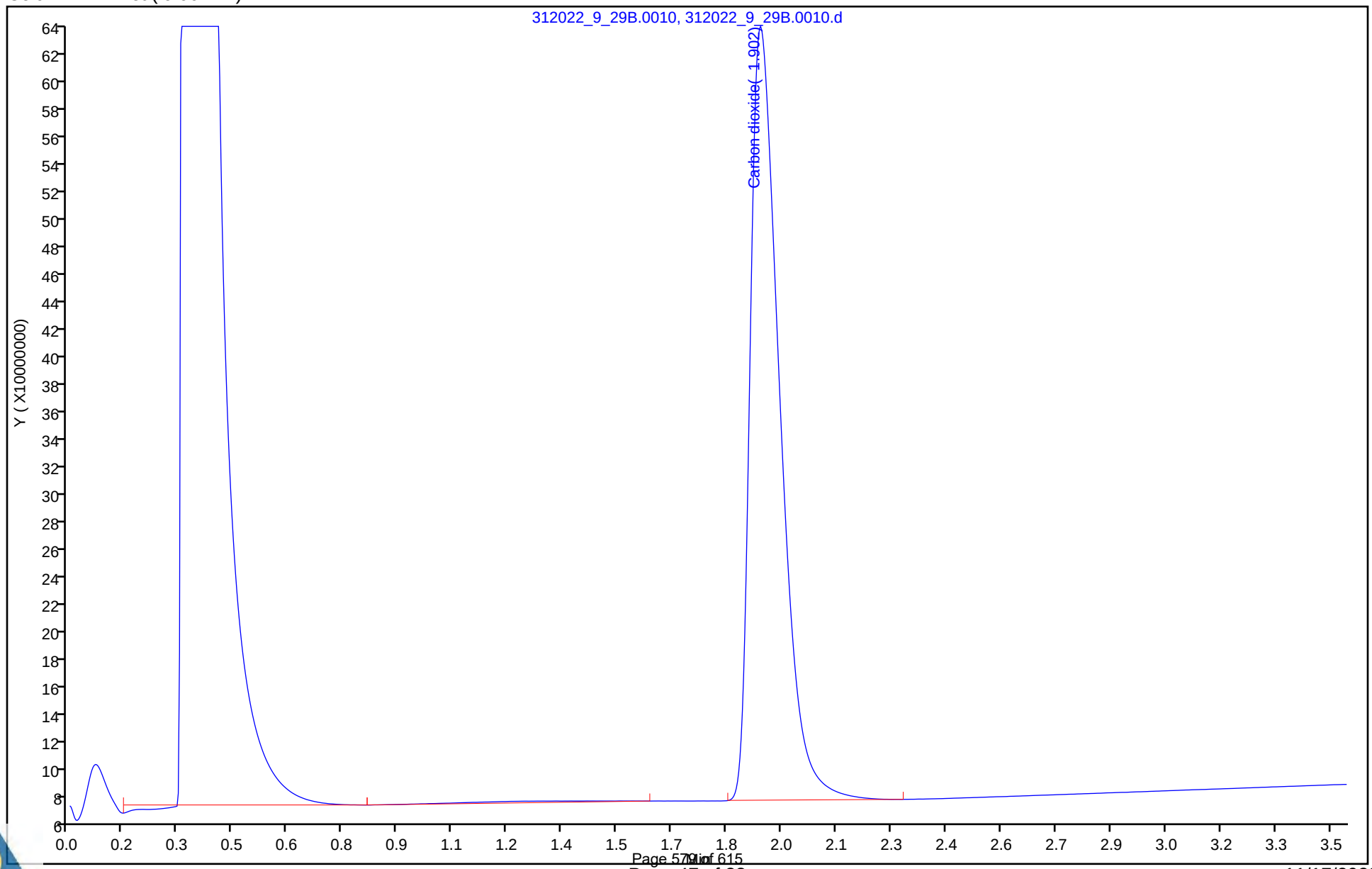
Report Date: 29-Sep-2022 07:58:27 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d

Injection Date:	29-Sep-2022 07:33:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:27 Chrom Revision: 2.3 22-Sep-2022 21:23:26 Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

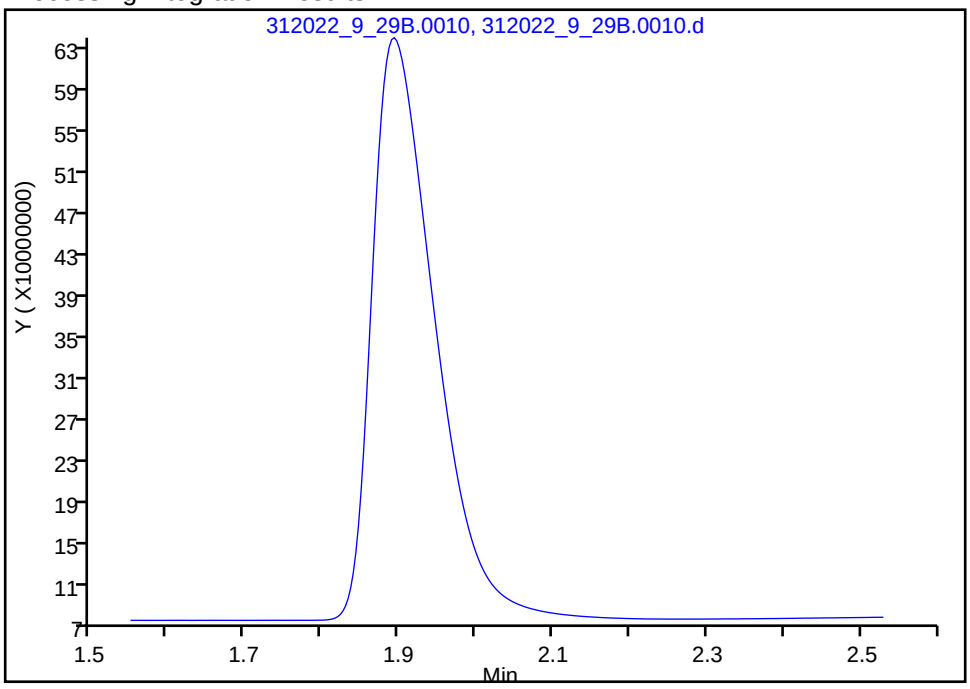
Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d		
Injection Date:	29-Sep-2022 07:33:00	Instrument ID:	19506-B
Lims ID:	IC		
Client ID:			
Operator ID:		ALS Bottle#:	0 Worklist Smp#: 10
Purge Vol:	1.000 mL	Dil. Factor:	1.0000
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2
Column:	HP Plot (0.00 mm)	Detector	0FIDA

1 Carbon dioxide, CAS: 124-38-9

Signal: 1

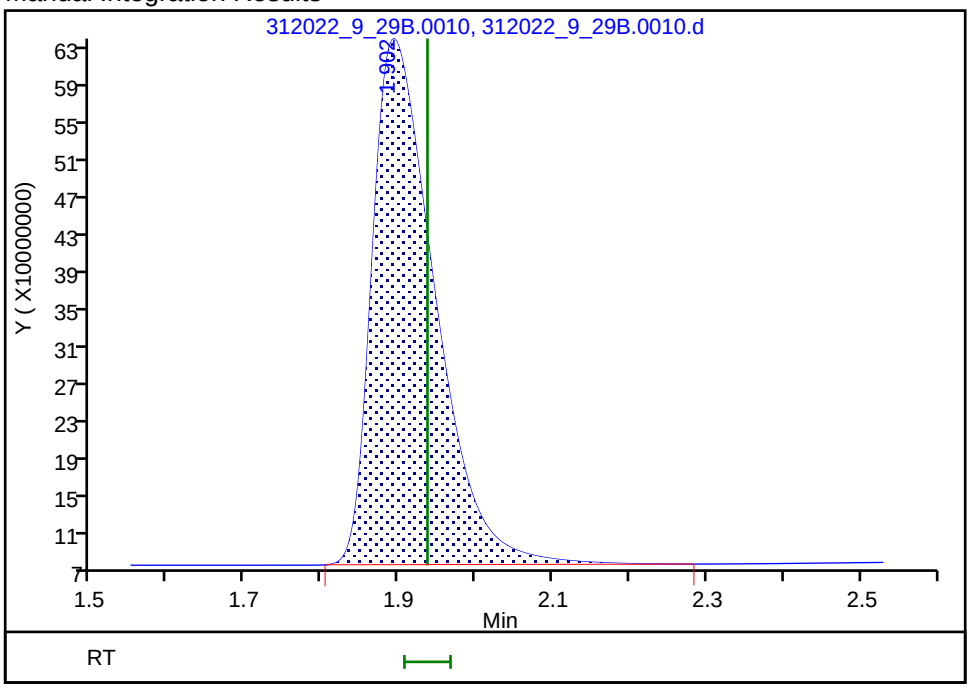
Not Detected
Expected RT: 1.94

Processing Integration Results



Manual Integration Results

RT: 1.90
Height: 516013706
Amount: 314274
Amount Units: ug/l



Reviewer: LXF2, 29-Sep-2022 07:57:34
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Calibration / Carbon dioxide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	HEIGHT
RF Rounding:	0

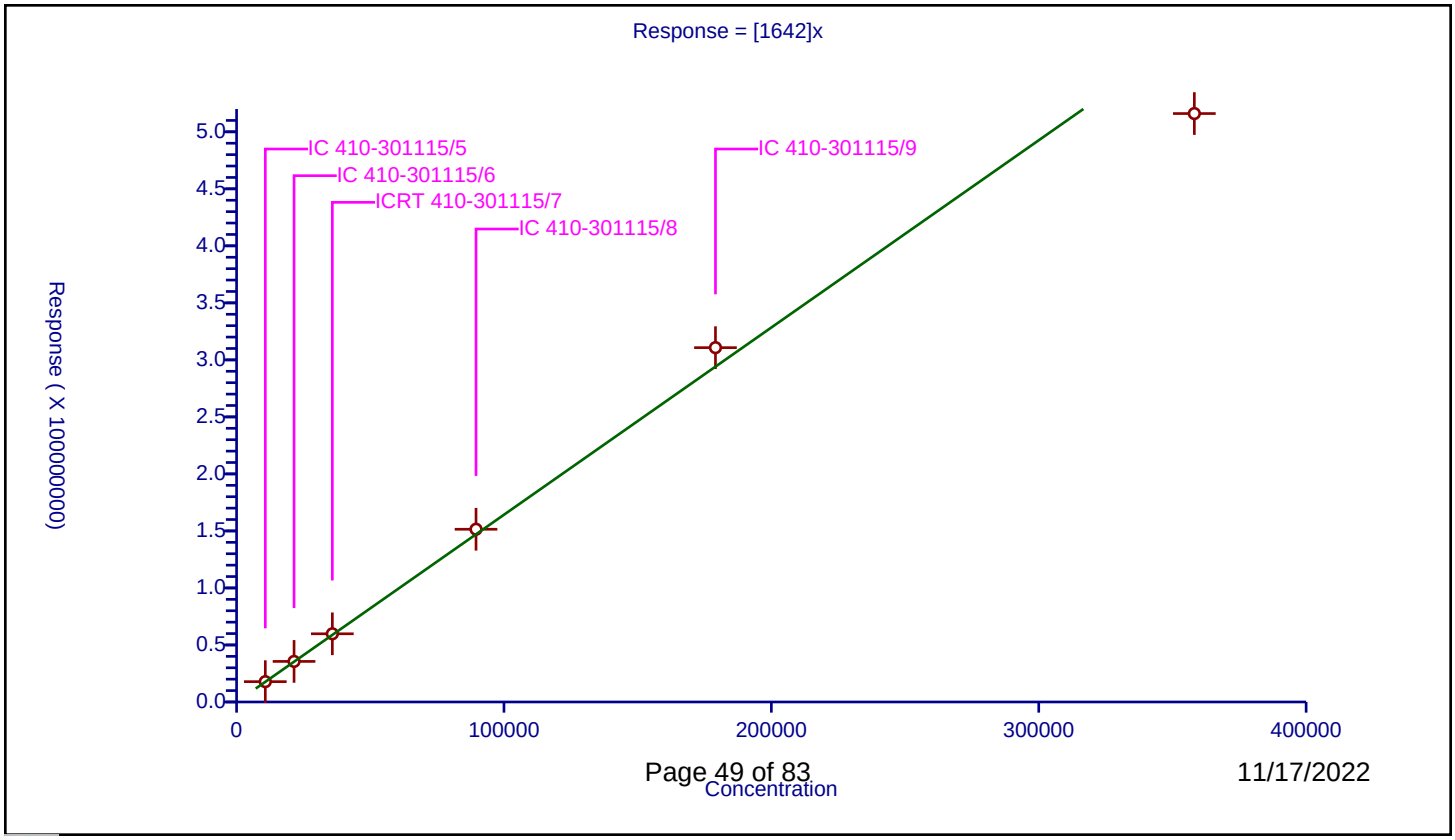
Curve Coefficients

Intercept:	0
Slope:	1642

Error Coefficients

Standard Error:	33200000
Relative Standard Error:	6.3
Correlation Coefficient:	0.990
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-301115/5	10746.0	17826195.0			1658.867951	Y
2	IC 410-301115/6	21492.0	35585188.0			1655.741113	Y
3	ICRT 410-301115/7	35820.0	59810588.0			1669.753992	Y
4	IC 410-301115/8	89550.0	151483728.0			1691.610586	Y
5	IC 410-301115/9	179100.0	310734679.0			1734.978666	Y
6	IC 410-301115/10	358200.0	516013706.0			1440.574277	Y



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Lab Sample ID: ICV 410-301115/13 Calibration Date: 09/29/2022 07:57

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_9_29B.0013.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1624		34600	35000	-1.1	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Lab Sample ID: ICV 410-301115/13 Calibration Date: 09/29/2022 07:57

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_9_29B.0013.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.94	1.91	1.97

Report Date: 29-Sep-2022 08:05:32

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0013.d				
Lims ID:	ICV				
Client ID:					
Sample Type:	ICV				
Inject. Date:	29-Sep-2022 07:57:00	ALS Bottle#:	0	Worklist Smp#:	13
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ICV				
Misc. Info.:	410-0067491-013				
Operator ID:		Instrument ID:	19506-B		
Sublist:					
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 06:05:09	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.936	1.937	-0.001	56861018	H 35008	34631	

Reagents:

EPH_CO2ICV_00002 Amount Added: 320.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

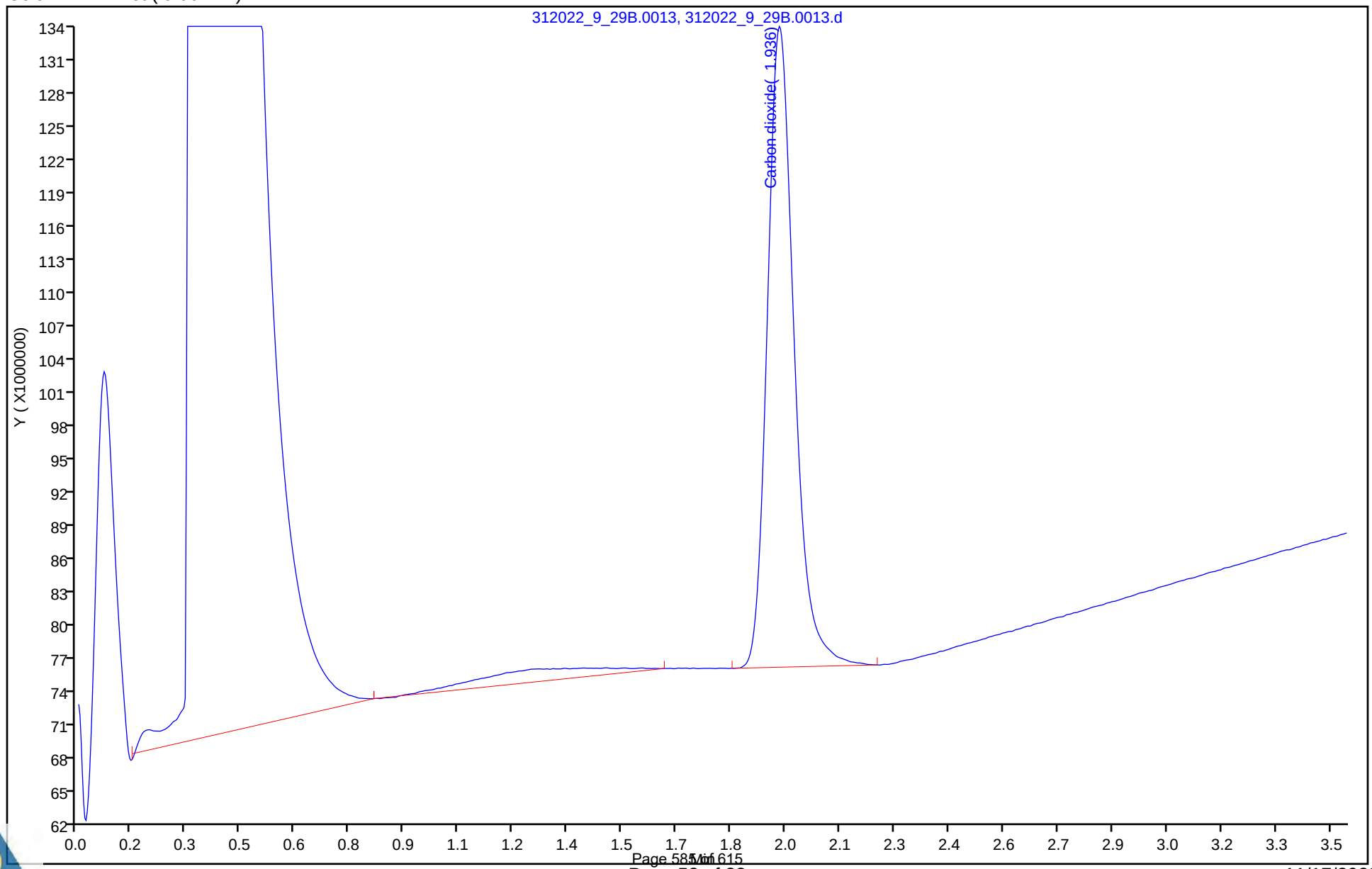
Report Date: 29-Sep-2022 08:05:32 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0013.d

Injection Date:	29-Sep-2022 07:57:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	13
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Lab Sample ID: CCVRT 410-315041/4 Calibration Date: 11/08/2022 07:50

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_8B.0004.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1635		35700	35800	-0.4	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Lab Sample ID: CCVRT 410-315041/4 Calibration Date: 11/08/2022 07:50

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_8B.0004.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.95	1.92	1.98

Report Date: 08-Nov-2022 09:38:26

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0004.d				
Lims ID:	ccvrt				
Client ID:					
Sample Type:	CCVRT				
Inject. Date:	08-Nov-2022 07:50:00	ALS Bottle#:	0	Worklist Smp#:	4
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ccvrt				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				
First Level Reviewer: SE2A		Date:	08-Nov-2022 08:10:03		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.946	1.946	0.000	58562155	H 35820	35667	

QC Flag Legend

Processing Flags

H - Response Measured by Height

Reagents:

EPH_CO2MS_00004 Amount Added: 0.10 Units: mL

Chrom Revision: 2.3 25-Oct-2022 11:16:06

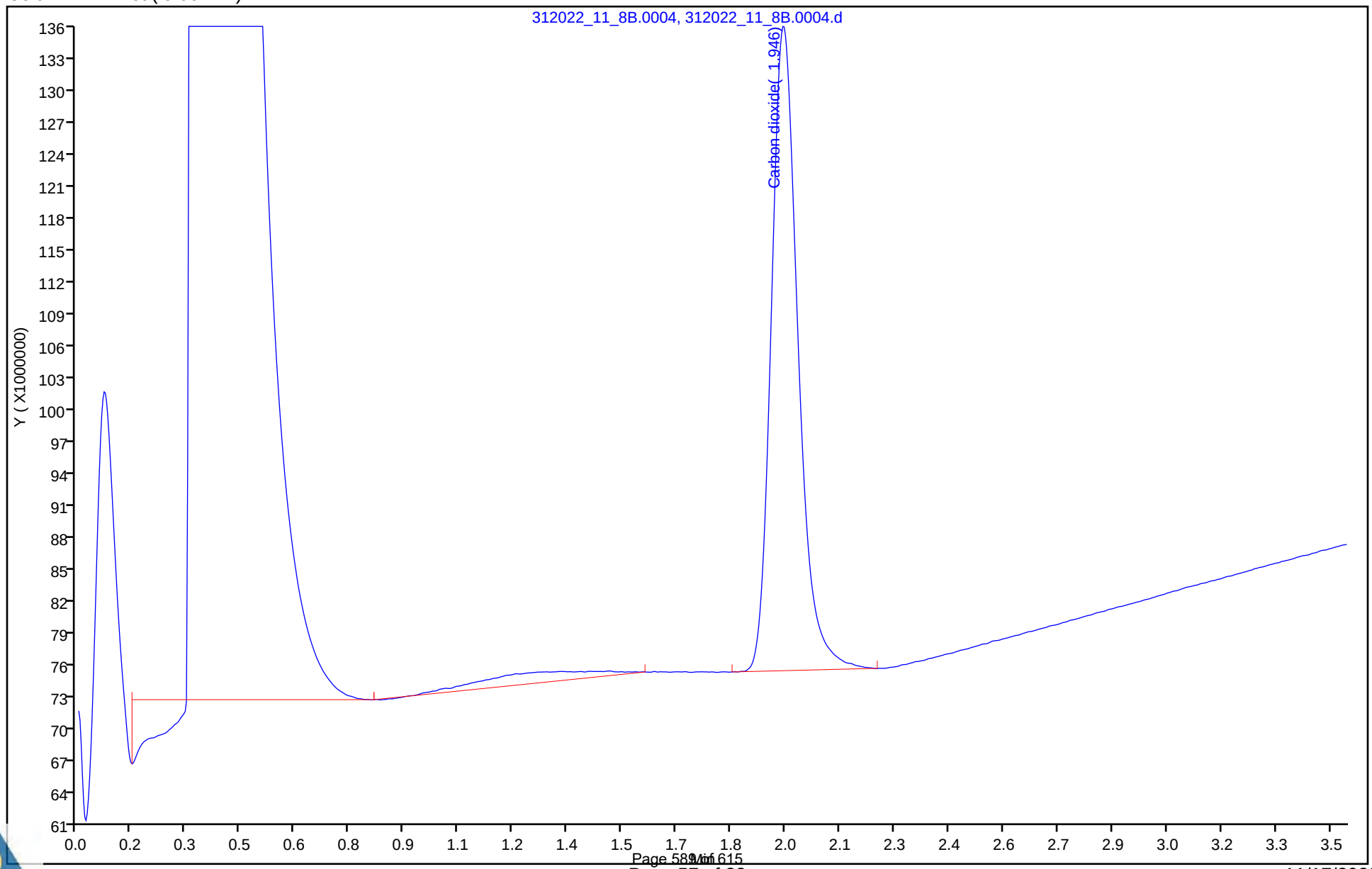
Report Date: 08-Nov-2022 09:38:26 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0004.d

Injection Date:	08-Nov-2022 07:50:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ccvrt			Worklist Smp#:	4
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Lab Sample ID: CCV 410-315041/12 Calibration Date: 11/08/2022 09:01

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_8B.0012.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1579		34400	35800	-3.8	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Lab Sample ID: CCV 410-315041/12 Calibration Date: 11/08/2022 09:01

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_8B.0012.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.95	1.92	1.98

Report Date: 08-Nov-2022 09:38:28

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0012.d				
Lims ID:	ccv				
Client ID:					
Sample Type:	CCV				
Inject. Date:	08-Nov-2022 09:01:00	ALS Bottle#:	0	Worklist Smp#:	12
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ccv				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:28	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.948	1.946	0.002	56560250H	35820	34448	

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

Chrom Revision: 2.3 25-Oct-2022 11:16:06

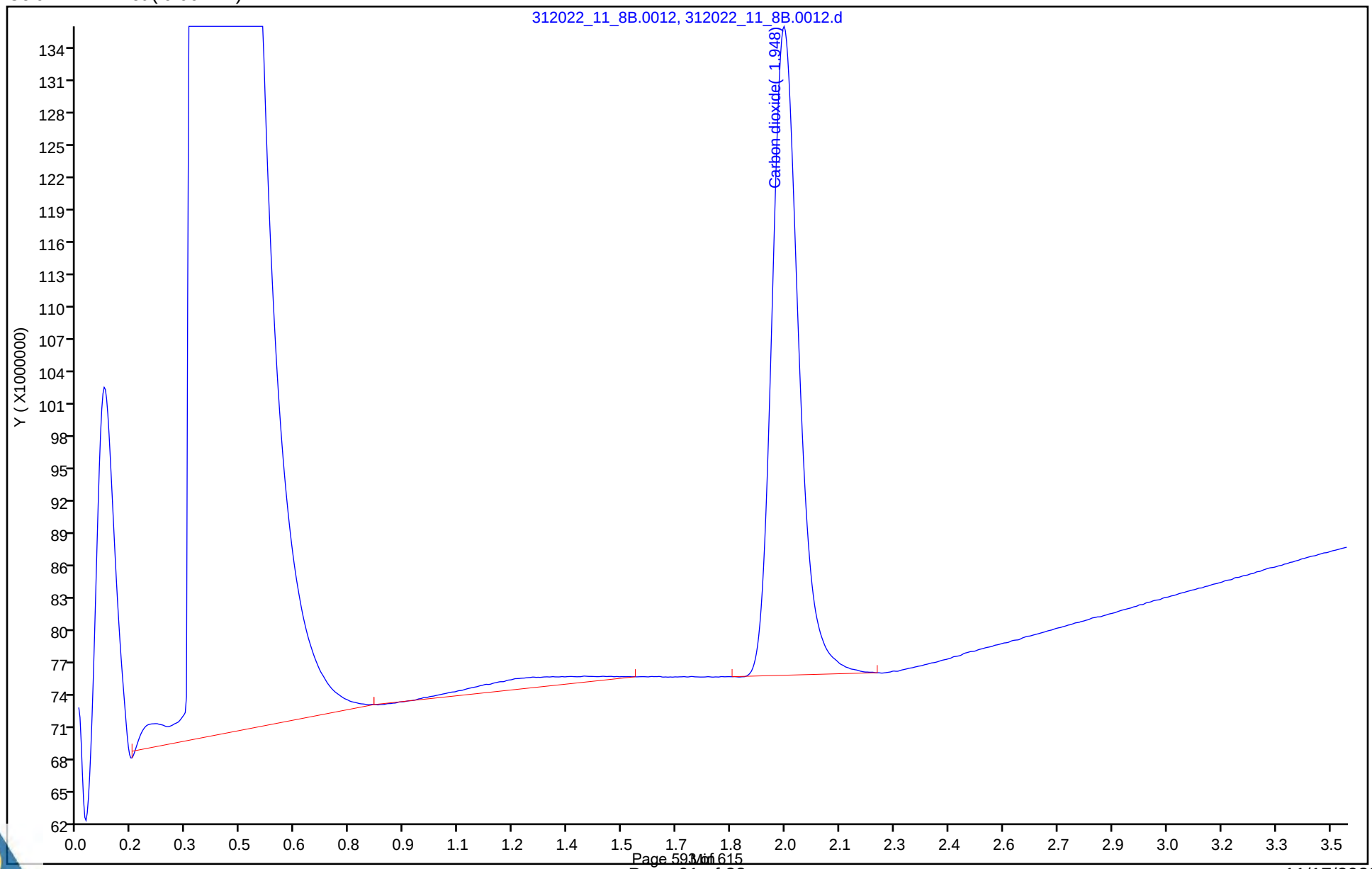
Report Date: 08-Nov-2022 09:38:28 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0012.d

Injection Date:	08-Nov-2022 09:01:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	12
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-315038/1-A

Matrix: Water Lab File ID: 312022_11_8B.0005.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/08/2022 07:59

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH:

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 315041 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	2600	U M	12000	2600

Report Date: 08-Nov-2022 09:38:26

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0005.d				
Lims ID:	MB 410-315038/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	08-Nov-2022 07:59:00	ALS Bottle#:	0	Worklist Smp#:	5
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	mb				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				
First Level Reviewer: SE2A		Date:	08-Nov-2022 08:10:16		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.947	1.946	0.001	1663476H		1013.1	Ma

QC Flag Legend

Processing Flags
- H - Response Measured by Height

Review Flags
- M - Manually Integrated
- a - User Assigned ID

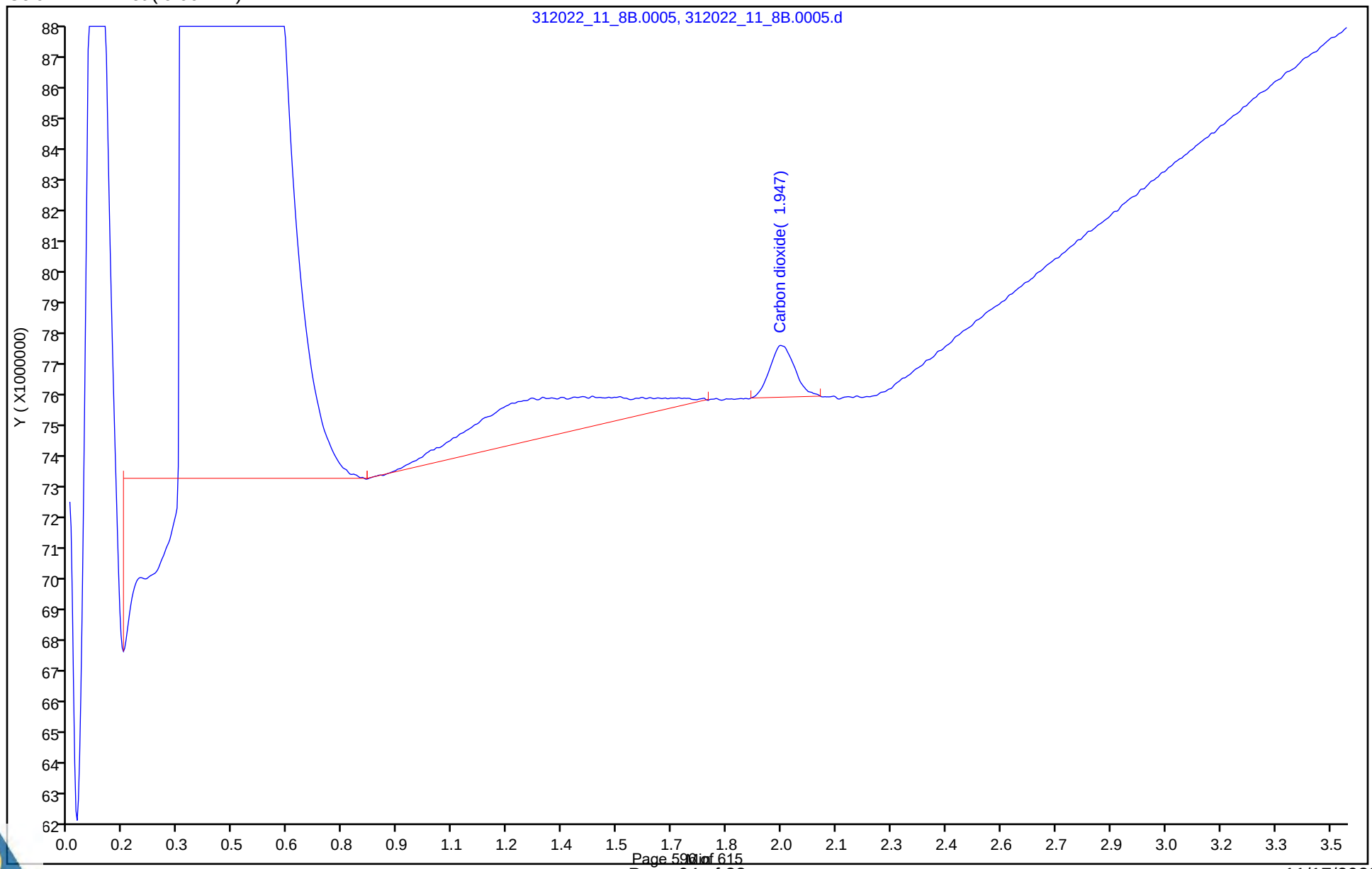
Report Date: 08-Nov-2022 09:38:26 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0005.d

Injection Date:	08-Nov-2022 07:59:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	MB 410-315038/1-A			Worklist Smp#:	5
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 08-Nov-2022 09:38:26

Chrom Revision: 2.3 25-Oct-2022 11:16:06 Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

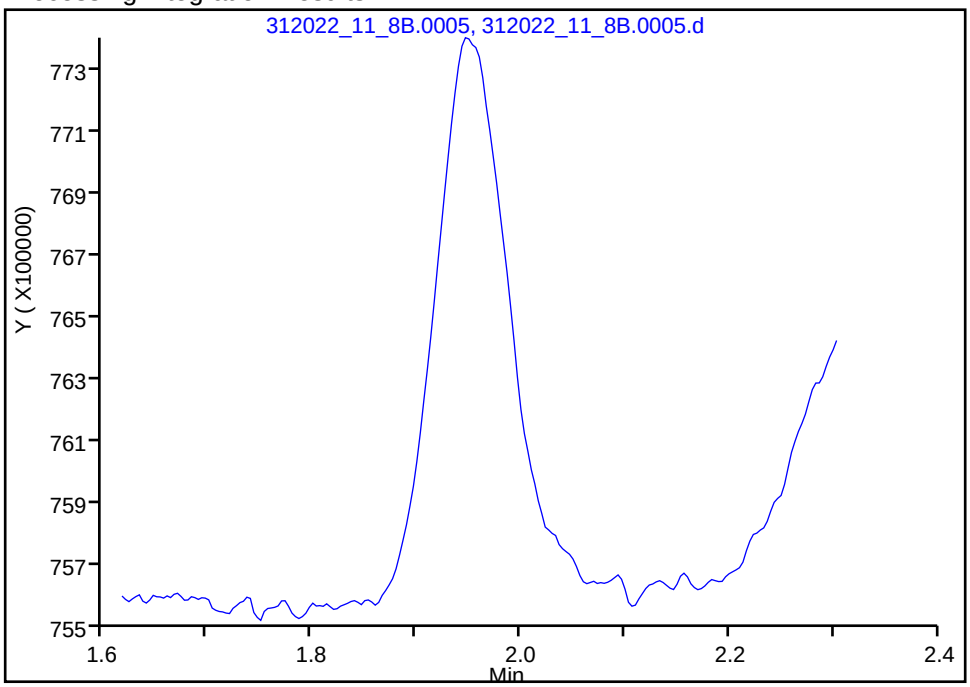
Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0005.d		
Injection Date:	08-Nov-2022 07:59:00	Instrument ID:	19506-B
Lims ID:	MB 410-315038/1-A		
Client ID:			
Operator ID:		ALS Bottle#:	0 Worklist Smp#: 5
Purge Vol:	1.000 mL	Dil. Factor:	1.0000
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2
Column:	HP Plot (0.00 mm)	Detector	0FIDA

1 Carbon dioxide, CAS: 124-38-9

Signal: 1

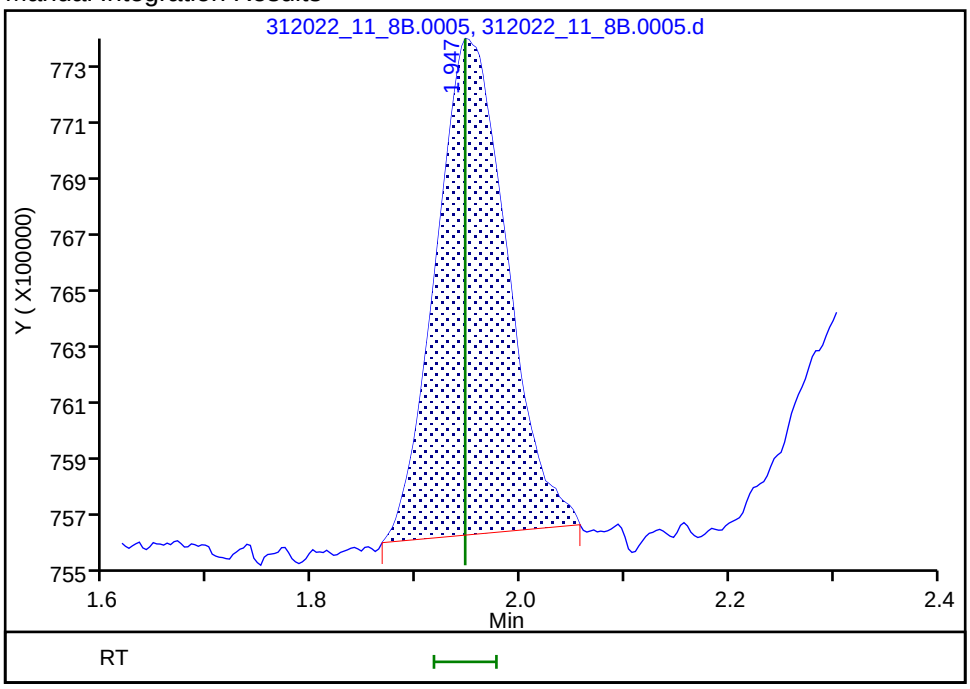
Not Detected
Expected RT: 1.95

Processing Integration Results



Manual Integration Results

RT: 1.95
Height: 1663476
Amount: 1013.1279
Amount Units: ug/l



Reviewer: SE2A, 08-Nov-2022 08:10:14
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Peak not integrated

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-104531-1

SDG No.:

Client Sample ID:
Lab Sample ID: LCS 410-315038/2-A

Matrix: Water
Lab File ID: 312022_11_8B.0006.d

Analysis Method: RSK-175
Date Collected:

Sample wt/vol: 5(mL)
Date Analyzed: 11/08/2022 08:07

Soil Aliquot Vol:
Dilution Factor: 1

Soil Extract Vol.:
GC Column: HP Plot ID: 0.53(mm)

Purge Volume:
Heated Purge: (Y/N) N pH:

% Moisture: % Solids:
Level: (low/med) Low

Analysis Batch No.: 315041
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	37500		12000	2600

Report Date: 08-Nov-2022 09:38:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0006.d				
Lims ID:	LCS 410-315038/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	08-Nov-2022 08:07:00	ALS Bottle#:	0	Worklist Smp#:	6
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	lcs				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				
First Level Reviewer: SE2A		Date:	08-Nov-2022 08:46:54		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.945	1.946	-0.001	61499596	H 35820	37456	

QC Flag Legend

Processing Flags

H - Response Measured by Height

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

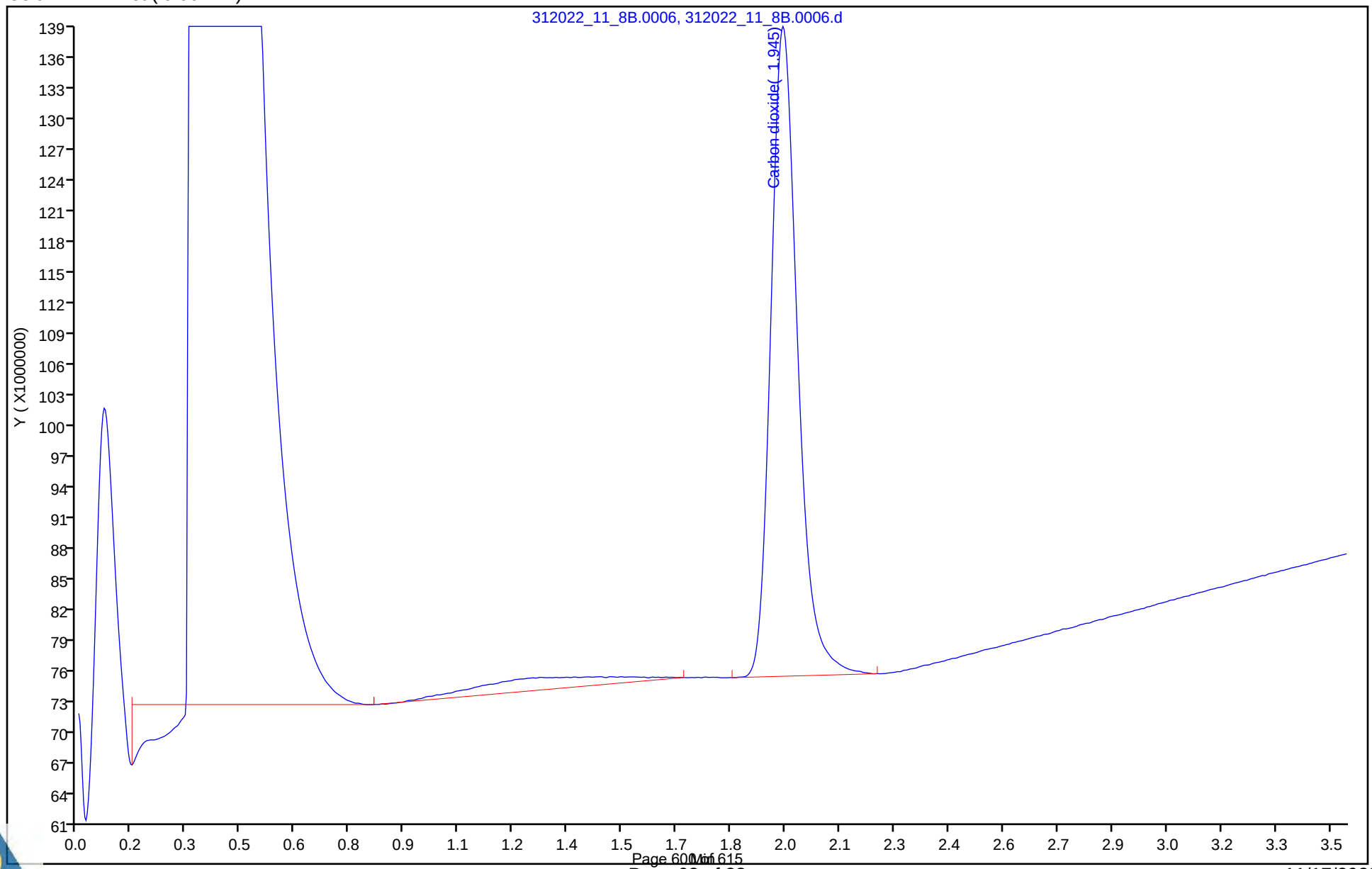
Report Date: 08-Nov-2022 09:38:27 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0006.d

Injection Date:	08-Nov-2022 08:07:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	LCS 410-315038/2-A			Worklist Smp#:	6
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104531-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 410-315038/3-A

Matrix: Water Lab File ID: 312022_11_8B.0007.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/08/2022 08:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH:

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 315041 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	37900		12000	2600

Report Date: 08-Nov-2022 09:38:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0007.d				
Lims ID:	LCSD 410-315038/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	08-Nov-2022 08:15:00	ALS Bottle#:	0	Worklist Smp#:	7
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	lcsd				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	08-Nov-2022 09:38:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				
First Level Reviewer: SE2A		Date:	08-Nov-2022 09:21:51		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.946	1.946	0.000	62163579	H 35820	37860	

QC Flag Legend

Processing Flags

H - Response Measured by Height

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

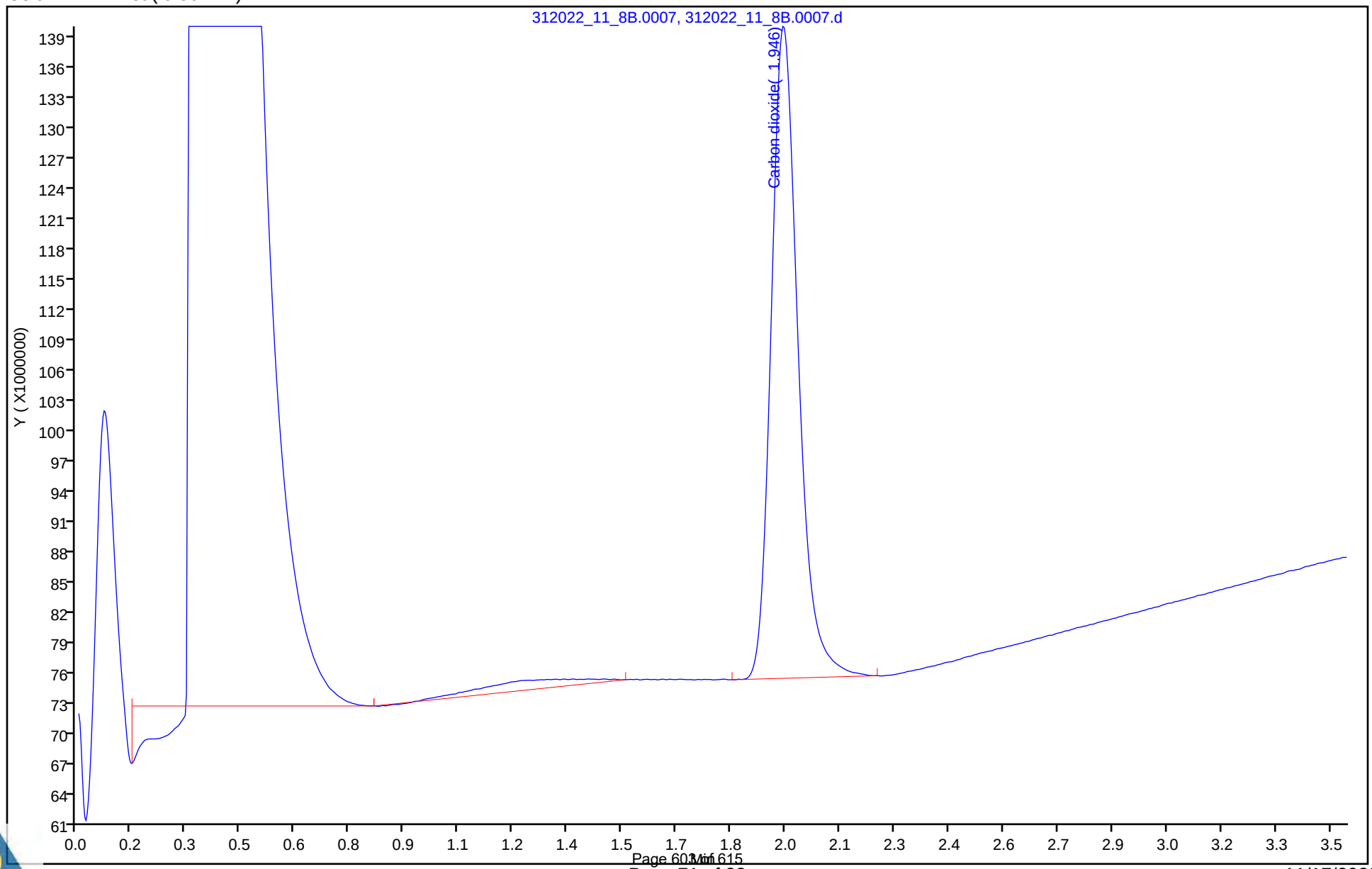
Report Date: 08-Nov-2022 09:38:27 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221108-70613.b\312022_11_8B.0007.d

Injection Date:	08-Nov-2022 08:15:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	LCSD 410-315038/3-A			Worklist Smp#:	7
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Instrument ID: 19506-B Start Date: 09/29/2022 06:44

Analysis Batch Number: 301115 End Date: 09/29/2022 07:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PIBLK 410-301115/4		09/29/2022 06:44	1		HP Plot 0.53(mm)
IC 410-301115/5		09/29/2022 06:52	1	312022_9_29B.0005.d	HP Plot 0.53(mm)
IC 410-301115/6		09/29/2022 07:00	1	312022_9_29B.0006.d	HP Plot 0.53(mm)
ICRT 410-301115/7		09/29/2022 07:08	1	312022_9_29B.0007.d	HP Plot 0.53(mm)
IC 410-301115/8		09/29/2022 07:16	1	312022_9_29B.0008.d	HP Plot 0.53(mm)
IC 410-301115/9		09/29/2022 07:25	1	312022_9_29B.0009.d	HP Plot 0.53(mm)
IC 410-301115/10		09/29/2022 07:33	1	312022_9_29B.0010.d	HP Plot 0.53(mm)
PIBLK 410-301115/11		09/29/2022 07:41	1		HP Plot 0.53(mm)
ICVL 410-301115/12		09/29/2022 07:49	1		HP Plot 0.53(mm)
ICV 410-301115/13		09/29/2022 07:57	1	312022_9_29B.0013.d	HP Plot 0.53(mm)

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104531-1

SDG No.:

Instrument ID: 19506-B Start Date: 11/08/2022 07:50

Analysis Batch Number: 315041 End Date: 11/08/2022 09:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-315041/4		11/08/2022 07:50	1	312022_11_8B.0004.d	HP Plot 0.53(mm)
MB 410-315038/1-A		11/08/2022 07:59	1	312022_11_8B.0005.d	HP Plot 0.53(mm)
LCS 410-315038/2-A		11/08/2022 08:07	1	312022_11_8B.0006.d	HP Plot 0.53(mm)
LCSD 410-315038/3-A		11/08/2022 08:15	1	312022_11_8B.0007.d	HP Plot 0.53(mm)
410-104531-1	HS22110180-01	11/08/2022 08:30	1	312022_11_8B.0008.d	HP Plot 0.53(mm)
410-104531-2	HS22110180-02	11/08/2022 08:38	1	312022_11_8B.0009.d	HP Plot 0.53(mm)
410-104531-3	HS22110180-03	11/08/2022 08:46	1	312022_11_8B.0010.d	HP Plot 0.53(mm)
410-104531-4	HS22110180-04	11/08/2022 08:53	1	312022_11_8B.0011.d	HP Plot 0.53(mm)
CCV 410-315041/12		11/08/2022 09:01	1	312022_11_8B.0012.d	HP Plot 0.53(mm)

GC VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-104531-1

SDG No.:

Batch Number: 301115 Batch Start Date: 09/29/22 06:44 Batch Analyst: Kennedy, Johanna C

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EPH_CO2ICV 00002	EPH_CO2MS 00004		
IC 410-301115/5		RSK-175		5 mL	5 mL		30 uL		
IC 410-301115/6		RSK-175		5 mL	5 mL		60 uL		
ICRT 410-301115/7		RSK-175		5 mL	5 mL		100 uL		
IC 410-301115/8		RSK-175		5 mL	5 mL		250 uL		
IC 410-301115/9		RSK-175		5 mL	5 mL		500 uL		
IC 410-301115/10		RSK-175		5 mL	5 mL		1000 uL		
ICV 410-301115/13		RSK-175		5 mL	5 mL	320 uL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-104531-1

SDG No.:

Batch Number: 315038 Batch Start Date: 11/08/22 07:23 Batch Analyst: Ford, Ashley

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Headspace		
MB 410-315038/1		RSK-175, RSK-175		n/a SU	5 mL	5 mL	n/a		
LCS 410-315038/2		RSK-175, RSK-175		n/a SU	5 mL	5 mL	n/a		
LCSD 410-315038/3		RSK-175, RSK-175		n/a SU	5 mL	5 mL	n/a		
410-104531-A-1	HS22110180-01	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104531-A-2	HS22110180-02	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104531-A-3	HS22110180-03	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104531-A-4	HS22110180-04	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		

Batch Notes	
Pipette/Syringe/Dispenser ID	7105
pH Indicator ID	10bdh1521

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

410-104531 Chain of Custody

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20264**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601 **Phone:** +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110180
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110180-01**	**35BWW26-221102**	**Groundwater**	**02 Nov 2022 07:55**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
2.	**HS22110180-02**	**35BWW08-221102**	**Groundwater**	**02 Nov 2022 08:40**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
3.	**HS22110180-03**	**35BWW12-221102**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
4.	**HS22110180-04**	**35BWW12-221102-FD**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022

Comments: DOD QSM 5.3; Please analyze RSK-175 CO2, DL/LOD/LOQ Level II and Level IV Report, LHAAP EQUIS EDD
Send report and EDD to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 11/4/22 1320

Cooler ID(s): _____ Temperature(s): 2.2 °C

RIGHT SOLUTIONS | RIGHT PARTNER

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Purchase Order

PO: HS22110180

VENDOR:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	20264
TSR:	Ron Martino

	Item	Catalog No	Unit Price	Quantity	Ext Price
1.	RSK - CO2; Keesler; Level IV, EQUIS EDD	NA	$115.25	4	$461.00

Order Total: $461.00

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Houston, TX 77099
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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20264**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601
Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110180
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110180-01**	**35BWW26-221102**	**Groundwater**	**02 Nov 2022 07:55**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
2.	**HS22110180-02**	**35BWW08-221102**	**Groundwater**	**02 Nov 2022 08:40**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
3.	**HS22110180-03**	**35BWW12-221102**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022
4.	**HS22110180-04**	**35BWW12-221102-FD**	**Groundwater**	**02 Nov 2022 09:30**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			17 Nov 2022

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: CODE TG Date/Time: 11/3/22 1811

Received By: Date/Time: 11/4/22 1320

Cooler ID(s): Temperature(s): 2.2 °C

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www.alsglobal.com

Purchase Order

PO: HS22110180

VENDOR:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	20264
TSR:	Ron Martino

	Item	Catalog No	Unit Price	Quantity	Ext Price
1.	RSK - CO2; Keesler; Level IV, EQUIS EDD	NA		4	

Order Total:

Login Sample Receipt Checklist

Client: ALS Group USA, Corp

Job Number: 410-104531-1

Login Number: 104531
List Number: 1
Creator: Roth, Stephanie

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
11/17/2022 3:15 PM

Authorized for release by
Kelly Bauer, Project Manager
Kelly.Bauer@et.eurofinsus.com
717 556-7262

Eurofins Lancaster Laboratories Environment Testing, LLC

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Kelly Bauer

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right solutions.
right partner.

WorkOrder: HS22110211

35BWW01-221101

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

22-Nov-2022

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Run Log

Raw Data VOA9 421678

Raw Data VOA9 421679

HS22110211 LHAAP 37 November 2022 Final Level II REV1

ALS WO# HS22110211

10450 Stancliff Rd. Suite 210
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February 07, 2023

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22110211**

Laboratory Results for: **LHAAP 37 November 2022**

Dear Vicki Graves ,

ALS Environmental received 10 sample(s) on Nov 02, 2022 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: DANE.WACASEY
Dane J. Wacasey

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Work Order: HS22110211

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110211-01	35BWW01-221101	Groundwater		01-Nov-2022 08:00	02-Nov-2022 09:35	☐
HS22110211-02	35BWW10-221101	Groundwater		01-Nov-2022 08:40	02-Nov-2022 09:35	☐
HS22110211-03	35BWW05-221101	Groundwater		01-Nov-2022 09:20	02-Nov-2022 09:35	☐
HS22110211-04	LHSWW58-221101	Groundwater		01-Nov-2022 10:00	02-Nov-2022 09:35	☐
HS22110211-05	35BWW11-221101	Groundwater		01-Nov-2022 10:40	02-Nov-2022 09:35	☐
HS22110211-06	35BWW20-221101	Groundwater		01-Nov-2022 11:20	02-Nov-2022 09:35	☐
HS22110211-07	35BWW09-221101	Groundwater		01-Nov-2022 12:00	02-Nov-2022 09:35	☐
HS22110211-08	35BWW19-221101	Groundwater		01-Nov-2022 12:40	02-Nov-2022 09:35	☐
HS22110211-09	35BWW18-221101	Groundwater		01-Nov-2022 13:20	02-Nov-2022 09:35	☐
HS22110211-10	Trip Blank-221101	Water	CG-090622-779	01-Nov-2022 00:00	02-Nov-2022 09:35	☐

Revision:1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2022
Work Order: HS22110211

Work Order Comments

- This report was revised February 7, 2023, to adjust the VOC analyte list to include the compounds related to site LHAAP 37.

GCMS Volatiles by Method SW8260

Batch ID: R421679

Sample ID: HS22110281-01MS

- MS and MSD are for an unrelated sample

Sample ID: HS22110281-07MS

- MS and MSD are for an unrelated sample

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW01-221101
Collection Date: 01-Nov-2022 08:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:27
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 20:27
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW01-221101
Collection Date: 01-Nov-2022 08:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:27
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:27
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:27
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:27
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:27*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:27*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:27*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW10-221101
Collection Date: 01-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 20:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW10-221101
Collection Date: 01-Nov-2022 08:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:49
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Tetrachloroethene	**2.6**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 20:49
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Trichloroethene	**1.1**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 20:49
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:49
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:49*
Surr: 4-Bromofluorobenzene	*95.5*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:49*
Surr: Dibromofluoromethane	*92.6*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:49*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW05-221101
Collection Date: 01-Nov-2022 09:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 21:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW05-221101
Collection Date: 01-Nov-2022 09:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:12
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Tetrachloroethene	**3.2**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:12
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Trichloroethene	**5.2**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:12
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:12
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 21:12*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 21:12*
Surr: Dibromofluoromethane	*90.9*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 21:12*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 21:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: LHSWW58-221101
Collection Date: 01-Nov-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:34
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 21:34
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: LHSWW58-221101
Collection Date: 01-Nov-2022 10:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:34
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:34
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:34
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Tetrachloroethene	**15**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:34
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Trichloroethene	**0.94**	J	**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 21:34
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:34
Surr: 1,2-Dichloroethane-d4	*92.2*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 21:34*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 21:34*
Surr: Dibromofluoromethane	*92.8*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 21:34*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 21:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW11-221101
Collection Date: 01-Nov-2022 10:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:56
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 21:56
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW11-221101
Collection Date: 01-Nov-2022 10:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 21:56
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 21:56
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 21:56
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 21:56
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 21:56*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 21:56*
Surr: Dibromofluoromethane	*93.2*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 21:56*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 21:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW20-221101
Collection Date: 01-Nov-2022 11:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1,2-Trichlor-1,2,2-trifluoroethane	**3.6**		**0.50**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:19
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:19
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 22:19
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW20-221101
Collection Date: 01-Nov-2022 11:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:19
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:19
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:19
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Tetrachloroethene	**17**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:19
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Trichloroethene	**3.2**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:19
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:19
Surr: 1,2-Dichloroethane-d4	*94.8*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 22:19*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 22:19*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 22:19*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 22:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW09-221101
Collection Date: 01-Nov-2022 12:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1,2-Trichlor-1,2,2-trifluoroethane	**3.9**		**0.50**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:41
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:41
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 22:41
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW09-221101
Collection Date: 01-Nov-2022 12:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 22:41
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 22:41
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 22:41
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Tetrachloroethene	**1.1**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:41
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Trichloroethene	**56**		**0.20**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 22:41
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 22:41
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 22:41*
Surr: 4-Bromofluorobenzene	*96.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 22:41*
Surr: Dibromofluoromethane	*92.1*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 22:41*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 22:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW19-221101
Collection Date: 01-Nov-2022 12:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 23:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW19-221101
Collection Date: 01-Nov-2022 12:40

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:03
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:03
Surr: 1,2-Dichloroethane-d4	*93.6*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 23:03*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 23:03*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 23:03*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 23:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW18-221101
Collection Date: 01-Nov-2022 13:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 23:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW18-221101
Collection Date: 01-Nov-2022 13:20

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:26
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:26
Surr: 1,2-Dichloroethane-d4	*94.7*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 23:26*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 23:26*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 23:26*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 23:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221101
Collection Date: 01-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 19:42
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 19:42
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221101
Collection Date: 01-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110211
Lab ID:HS22110211-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 19:42
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 19:42
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 19:42
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 19:42
Surr: 1,2-Dichloroethane-d4	*90.3*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 19:42*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 19:42*
Surr: Dibromofluoromethane	*91.4*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 19:42*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 19:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110211-10	Trip Blank-221101	01 Nov 2022 00:00			11 Nov 2022 19:42	1
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS22110211-01	35BWW01-221101	01 Nov 2022 08:00			11 Nov 2022 20:27	1
HS22110211-02	35BWW10-221101	01 Nov 2022 08:40			11 Nov 2022 20:49	1
HS22110211-03	35BWW05-221101	01 Nov 2022 09:20			11 Nov 2022 21:12	1
HS22110211-04	LHSWW58-221101	01 Nov 2022 10:00			11 Nov 2022 21:34	1
HS22110211-05	35BWW11-221101	01 Nov 2022 10:40			11 Nov 2022 21:56	1
HS22110211-06	35BWW20-221101	01 Nov 2022 11:20			11 Nov 2022 22:19	1
HS22110211-07	35BWW09-221101	01 Nov 2022 12:00			11 Nov 2022 22:41	1
HS22110211-08	35BWW19-221101	01 Nov 2022 12:40			11 Nov 2022 23:03	1
HS22110211-09	35BWW18-221101	01 Nov 2022 13:20			11 Nov 2022 23:26	1

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Cyclohexane	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methyl acetate	1.0	1.0								U
Methyl tert-butyl ether	1.0	1.0								U
Methylcyclohexane	1.0	1.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	1.0	1.0								U
Xylenes, Total	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.84*	*1.0*	*50*	*0*	*97.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.6*	*1.0*	*50*	*0*	*91.2*	*80 - 119*				
Surr: Toluene-d8	*53.49*	*1.0*	*50*	*0*	*107*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.76	1.0	20	0	98.8	78 - 124				
1,1,1-Trichloroethane	20	1.0	20	0	100.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.64	1.0	20	0	118	70 - 136				
1,1,2-Trichloroethane	19.59	1.0	20	0	98.0	80 - 119				
1,1-Dichloroethane	18.56	1.0	20	0	92.8	77 - 125				
1,1-Dichloroethene	18.55	1.0	20	0	92.8	71 - 131				
1,1-Dichloropropene	19.43	1.0	20	0	97.1	78 - 125				
1,2,3-Trichlorobenzene	20.6	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	19.12	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	20.67	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	21.75	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	17.7	1.0	20	0	88.5	62 - 128				
1,2-Dibromoethane	20.64	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	19.34	1.0	20	0	96.7	80 - 119				
1,2-Dichloroethane	19.35	1.0	20	0	96.8	73 - 128				
1,2-Dichloropropane	19.19	1.0	20	0	96.0	78 - 122				
1,3,5-Trimethylbenzene	21.56	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	20.24	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	20.17	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	19.23	1.0	20	0	96.2	79 - 118				
2,2-Dichloropropane	17.76	1.0	20	0	88.8	60 - 139				
2-Butanone	39.58	2.0	40	0	99.0	56 - 143				
2-Chlorotoluene	20.57	1.0	20	0	103	79 - 122				
2-Hexanone	38.74	2.0	40	0	96.8	57 - 139				
4-Chlorotoluene	20.7	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	20.89	1.0	20	0	104	77 - 127				
4-Methyl-2-pentanone	39.67	2.0	40	0	99.2	67 - 130				
Acetone	43.31	2.0	40	0	108	39 - 160				
Benzene	19.25	1.0	20	0	96.2	79 - 120				
Bromobenzene	20.48	1.0	20	0	102	80 - 120				
Bromochloromethane	18.31	1.0	20	0	91.6	78 - 123				
Bromodichloromethane	18.79	1.0	20	0	94.0	79 - 125				
Bromoform	17.25	1.0	20	0	86.2	66 - 130				

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.91	1.0	20	0	99.5	53 - 141				
Carbon disulfide	36.73	2.0	40	0	91.8	64 - 133				
Carbon tetrachloride	18.95	1.0	20	0	94.8	72 - 136				
Chlorobenzene	19.44	1.0	20	0	97.2	82 - 118				
Chloroethane	18.47	1.0	20	0	92.3	60 - 138				
Chloroform	19.19	1.0	20	0	96.0	79 - 124				
Chloromethane	18.64	1.0	20	0	93.2	50 - 139				
cis-1,2-Dichloroethene	19.38	1.0	20	0	96.9	78 - 123				
cis-1,3-Dichloropropene	17.21	1.0	20	0	86.1	75 - 124				
Cyclohexane	26.77	1.0	20	0	134	71 - 130				S
Dibromochloromethane	17.79	1.0	20	0	89.0	74 - 126				
Dibromomethane	19.44	1.0	20	0	97.2	79 - 123				
Dichlorodifluoromethane	21.07	1.0	20	0	105	32 - 152				
Ethylbenzene	20.18	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	23.47	1.0	20	0	117	66 - 134				
Isopropylbenzene	21	1.0	20	0	105	72 - 131				
m,p-Xylene	40.86	2.0	40	0	102	80 - 121				
Methyl acetate	18.86	1.0	20	0	94.3	56 - 136				
Methyl tert-butyl ether	19.35	1.0	20	0	96.8	71 - 124				
Methylcyclohexane	21.14	1.0	20	0	106	72 - 132				
Methylene chloride	21.12	2.0	20	0	106	74 - 124				
Naphthalene	20.83	1.0	20	0	104	61 - 128				
n-Butylbenzene	20.76	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.94	1.0	20	0	105	76 - 126				
o-Xylene	20.56	1.0	20	0	103	78 - 122				
sec-Butylbenzene	20.21	1.0	20	0	101	77 - 126				
Styrene	19.21	1.0	20	0	96.1	78 - 123				
tert-Butylbenzene	20.4	1.0	20	0	102	78 - 124				
Tetrachloroethene	19.86	1.0	20	0	99.3	74 - 129				
Toluene	20.44	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	18.65	1.0	20	0	93.3	75 - 124				
trans-1,3-Dichloropropene	16.59	1.0	20	0	83.0	73 - 127				
Trichloroethene	19.52	1.0	20	0	97.6	79 - 123				
Trichlorofluoromethane	19.64	1.0	20	0	98.2	65 - 141				

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	17.64	1.0	20	0	88.2	58 - 137				
Xylenes, Total	61.42	1.0	60	0	102	78 - 122				
Surr: 1,2-Dichloroethane-d4	*49.74*	*1.0*	*50*	*0*	*99.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.58*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.69*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*52.1*	*1.0*	*50*	*0*	*104*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.96	1.0	20	0	110	78 - 124				
1,1,1-Trichloroethane	22.5	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	20.81	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	28.23	1.0	20	0	141	70 - 136				S
1,1,2-Trichloroethane	20.43	1.0	20	0	102	80 - 119				
1,1-Dichloroethane	19.53	1.0	20	0	97.7	77 - 125				
1,1-Dichloroethene	21.15	1.0	20	0	106	71 - 131				
1,1-Dichloropropene	23.81	1.0	20	0	119	78 - 125				
1,2,3-Trichlorobenzene	21.67	1.0	20	0	108	69 - 129				
1,2,3-Trichloropropane	19.13	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	21.37	1.0	20	0	107	69 - 130				
1,2,4-Trimethylbenzene	23.64	1.0	20	0	118	76 - 124				
1,2-Dibromo-3-chloropropane	18.31	1.0	20	0	91.6	62 - 128				
1,2-Dibromoethane	21.64	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.5	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.62	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.78	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	25.04	1.0	20	0	125	75 - 124				S
1,3-Dichlorobenzene	22.47	1.0	20	0	112	80 - 119				
1,3-Dichloropropane	21.81	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	15.18	1.0	20	0	75.9	60 - 139				
2-Butanone	34.26	2.0	40	0	85.7	56 - 143				
2-Chlorotoluene	23.89	1.0	20	0	119	79 - 122				
2-Hexanone	37.29	2.0	40	0	93.2	57 - 139				
4-Chlorotoluene	24.01	1.0	20	0	120	78 - 122				
4-Isopropyltoluene	24.72	1.0	20	0	124	77 - 127				
4-Methyl-2-pentanone	40.65	2.0	40	0	102	67 - 130				
Acetone	26.25	2.0	40	0	65.6	39 - 160				
Benzene	21.46	1.0	20	0	107	79 - 120				
Bromobenzene	22.3	1.0	20	0	112	80 - 120				
Bromochloromethane	18.37	1.0	20	0	91.8	78 - 123				
Bromodichloromethane	20.45	1.0	20	0	102	79 - 125				
Bromoform	17.56	1.0	20	0	87.8	66 - 130				

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.36	1.0	20	0	102	53 - 141				
Carbon disulfide	39.29	2.0	40	0	98.2	64 - 133				
Carbon tetrachloride	25.94	1.0	20	0	130	72 - 136				
Chlorobenzene	22.18	1.0	20	0	111	82 - 118				
Chloroethane	21.25	1.0	20	0	106	60 - 138				
Chloroform	19.62	1.0	20	0	98.1	79 - 124				
Chloromethane	19.95	1.0	20	0	99.7	50 - 139				
cis-1,2-Dichloroethene	19.25	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.2	1.0	20	0	86.0	75 - 124				
Cyclohexane	30.98	1.0	20	0	155	71 - 130				S
Dibromochloromethane	19.04	1.0	20	0	95.2	74 - 126				
Dibromomethane	19.84	1.0	20	0	99.2	79 - 123				
Dichlorodifluoromethane	22.92	1.0	20	0	115	32 - 152				
Ethylbenzene	24.02	1.0	20	0	120	79 - 121				
Hexachlorobutadiene	27.49	1.0	20	0	137	66 - 134				S
Isopropylbenzene	25.87	1.0	20	0	129	72 - 131				
m,p-Xylene	47.54	2.0	40	0	119	80 - 121				
Methyl acetate	13.57	1.0	20	0	67.8	56 - 136				
Methyl tert-butyl ether	15	1.0	20	0	75.0	71 - 124				
Methylcyclohexane	20.24	1.0	20	0	101	72 - 132				
Methylene chloride	19.29	2.0	20	0	96.5	74 - 124				
Naphthalene	21	1.0	20	0	105	61 - 128				
n-Butylbenzene	24.25	1.0	20	0	121	75 - 128				
n-Propylbenzene	24.86	1.0	20	0	124	76 - 126				
o-Xylene	23.84	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.47	1.0	20	0	122	77 - 126				
Styrene	20.4	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.74	1.0	20	0	129	78 - 124				S
Tetrachloroethene	25.46	1.0	20	1.371	120	74 - 129				
Toluene	23.83	1.0	20	0	119	80 - 121				
trans-1,2-Dichloroethene	20.36	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	16.21	1.0	20	0	81.0	73 - 127				
Trichloroethene	36.74	1.0	20	13.95	114	79 - 123				
Trichlorofluoromethane	22.97	1.0	20	0	115	65 - 141				

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	20.94	1.0	20	0	105	58 - 137				
Xylenes, Total	71.38	1.0	60	0	119	78 - 122				
Surr: 1,2-Dichloroethane-d4	*44.28*	*1.0*	*50*	*0*	*88.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.1*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				
Surr: Toluene-d8	*54.31*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.26	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	22.69	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	21.14	1.0	20	0	106	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	29.45	1.0	20	0	147	70 - 136				S
1,1,2-Trichloroethane	21.19	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	20.15	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	21.59	1.0	20	0	108	71 - 131				
1,1-Dichloropropene	24.96	1.0	20	0	125	78 - 125				
1,2,3-Trichlorobenzene	19.53	1.0	20	0	97.6	69 - 129				
1,2,3-Trichloropropane	19.8	1.0	20	0	99.0	73 - 122				
1,2,4-Trichlorobenzene	19.31	1.0	20	0	96.6	69 - 130				
1,2,4-Trimethylbenzene	23.7	1.0	20	0	119	76 - 124				
1,2-Dibromo-3-chloropropane	17.66	1.0	20	0	88.3	62 - 128				
1,2-Dibromoethane	21.66	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.23	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.75	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	21.62	1.0	20	0	108	78 - 122				
1,3,5-Trimethylbenzene	24.67	1.0	20	0	123	75 - 124				
1,3-Dichlorobenzene	22.11	1.0	20	0	111	80 - 119				
1,3-Dichloropropane	21.79	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	20.94	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	15.59	1.0	20	0	78.0	60 - 139				
2-Butanone	35.85	2.0	40	0	89.6	56 - 143				
2-Chlorotoluene	23.43	1.0	20	0	117	79 - 122				
2-Hexanone	38.08	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	23.46	1.0	20	0	117	78 - 122				
4-Isopropyltoluene	24.23	1.0	20	0	121	77 - 127				
4-Methyl-2-pentanone	42.8	2.0	40	0	107	67 - 130				
Acetone	27.47	2.0	40	0	68.7	39 - 160				
Benzene	22.18	1.0	20	0	111	79 - 120				
Bromobenzene	21.81	1.0	20	0	109	80 - 120				
Bromochloromethane	18.77	1.0	20	0	93.9	78 - 123				
Bromodichloromethane	20.68	1.0	20	0	103	79 - 125				
Bromoform	17.9	1.0	20	0	89.5	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.73	1.0	20	0	109	53 - 141				
Carbon disulfide	40.33	2.0	40	0	101	64 - 133				
Carbon tetrachloride	26.39	1.0	20	0	132	72 - 136				
Chlorobenzene	22.36	1.0	20	0	112	82 - 118				
Chloroethane	20.64	1.0	20	0	103	60 - 138				
Chloroform	19.87	1.0	20	0	99.4	79 - 124				
Chloromethane	20.58	1.0	20	0	103	50 - 139				
cis-1,2-Dichloroethene	20.01	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	17.25	1.0	20	0	86.2	75 - 124				
Cyclohexane	32.19	1.0	20	0	161	71 - 130				S
Dibromochloromethane	19.06	1.0	20	0	95.3	74 - 126				
Dibromomethane	20.89	1.0	20	0	104	79 - 123				
Dichlorodifluoromethane	23.85	1.0	20	0	119	32 - 152				
Ethylbenzene	24.12	1.0	20	0	121	79 - 121				
Hexachlorobutadiene	25.48	1.0	20	0	127	66 - 134				
Isopropylbenzene	25.86	1.0	20	0	129	72 - 131				
m,p-Xylene	47.78	2.0	40	0	119	80 - 121				
Methyl acetate	12.82	1.0	20	0	64.1	56 - 136				
Methyl tert-butyl ether	15.17	1.0	20	0	75.9	71 - 124				
Methylcyclohexane	19.65	1.0	20	0	98.2	72 - 132				
Methylene chloride	19.96	2.0	20	0	99.8	74 - 124				
Naphthalene	17.59	1.0	20	0	87.9	61 - 128				
n-Butylbenzene	23.57	1.0	20	0	118	75 - 128				
n-Propylbenzene	24.76	1.0	20	0	124	76 - 126				
o-Xylene	23.71	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.19	1.0	20	0	121	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.68	1.0	20	0	128	78 - 124				S
Tetrachloroethene	29.57	1.0	20	5.324	121	74 - 129				
Toluene	24.32	1.0	20	0	122	80 - 121				S
trans-1,2-Dichloroethene	20.7	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	16.19	1.0	20	0	81.0	73 - 127				
Trichloroethene	24.22	1.0	20	0	121	79 - 123				
Trichlorofluoromethane	23.76	1.0	20	0	119	65 - 141				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	21.47	1.0	20	0	107	58 - 137				
Xylenes, Total	71.49	1.0	60	0	119	78 - 122				
Surr: 1,2-Dichloroethane-d4	*45.47*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.38*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*46.78*	*1.0*	*50*	*0*	*93.6*	*80 - 119*				
Surr: Toluene-d8	*54.45*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.46	1.0	20	0	107	78 - 124	21.96	2.3	20	
1,1,1-Trichloroethane	21.76	1.0	20	0	109	74 - 131	22.5	3.38	20	
1,1,2,2-Tetrachloroethane	20.79	1.0	20	0	104	71 - 121	20.81	0.125	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	27.43	1.0	20	0	137	70 - 136	28.23	2.85	20	S
1,1,2-Trichloroethane	20.89	1.0	20	0	104	80 - 119	20.43	2.19	20	
1,1-Dichloroethane	18.66	1.0	20	0	93.3	77 - 125	19.53	4.55	20	
1,1-Dichloroethene	20.5	1.0	20	0	102	71 - 131	21.15	3.13	20	
1,1-Dichloropropene	23.98	1.0	20	0	120	78 - 125	23.81	0.736	20	
1,2,3-Trichlorobenzene	21.78	1.0	20	0	109	69 - 129	21.67	0.501	20	
1,2,3-Trichloropropane	19.42	1.0	20	0	97.1	73 - 122	19.13	1.5	20	
1,2,4-Trichlorobenzene	21.31	1.0	20	0	107	69 - 130	21.37	0.254	20	
1,2,4-Trimethylbenzene	23.98	1.0	20	0	120	76 - 124	23.64	1.45	20	
1,2-Dibromo-3-chloropropane	17.85	1.0	20	0	89.3	62 - 128	18.31	2.56	20	
1,2-Dibromoethane	21.7	1.0	20	0	108	77 - 121	21.64	0.284	20	
1,2-Dichlorobenzene	21.02	1.0	20	0	105	80 - 119	21.5	2.25	20	
1,2-Dichloroethane	21.09	1.0	20	0	105	73 - 128	20.62	2.26	20	
1,2-Dichloropropane	21.68	1.0	20	0	108	78 - 122	20.78	4.25	20	
1,3,5-Trimethylbenzene	24.61	1.0	20	0	123	75 - 124	25.04	1.73	20	
1,3-Dichlorobenzene	22.19	1.0	20	0	111	80 - 119	22.47	1.25	20	
1,3-Dichloropropane	21.48	1.0	20	0	107	80 - 119	21.81	1.53	20	
1,4-Dichlorobenzene	20.76	1.0	20	0	104	79 - 118	21.15	1.87	20	
2,2-Dichloropropane	14.61	1.0	20	0	73.1	60 - 139	15.18	3.83	20	
2-Butanone	34.24	2.0	40	0	85.6	56 - 143	34.26	0.0692	20	
2-Chlorotoluene	23.55	1.0	20	0	118	79 - 122	23.89	1.42	20	
2-Hexanone	40.04	2.0	40	0	100	57 - 139	37.29	7.11	20	
4-Chlorotoluene	23.13	1.0	20	0	116	78 - 122	24.01	3.75	20	
4-Isopropyltoluene	24.55	1.0	20	0	123	77 - 127	24.72	0.679	20	
4-Methyl-2-pentanone	43.64	2.0	40	0	109	67 - 130	40.65	7.09	20	
Acetone	26.26	2.0	40	0	65.7	39 - 160	26.25	0.062	20	
Benzene	21.75	1.0	20	0	109	79 - 120	21.46	1.33	20	
Bromobenzene	22.1	1.0	20	0	110	80 - 120	22.3	0.913	20	
Bromochloromethane	18.43	1.0	20	0	92.1	78 - 123	18.37	0.324	20	
Bromodichloromethane	20.39	1.0	20	0	102	79 - 125	20.45	0.266	20	
Bromoform	17.69	1.0	20	0	88.4	66 - 130	17.56	0.714	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.2	1.0	20	0	96.0	53 - 141	20.36	5.85	20	
Carbon disulfide	37.68	2.0	40	0	94.2	64 - 133	39.29	4.18	20	
Carbon tetrachloride	25.79	1.0	20	0	129	72 - 136	25.94	0.571	20	
Chlorobenzene	21.88	1.0	20	0	109	82 - 118	22.18	1.38	20	
Chloroethane	19.88	1.0	20	0	99.4	60 - 138	21.25	6.67	20	
Chloroform	19.05	1.0	20	0	95.2	79 - 124	19.62	2.95	20	
Chloromethane	18.96	1.0	20	0	94.8	50 - 139	19.95	5.08	20	
cis-1,2-Dichloroethene	18.55	1.0	20	0	92.8	78 - 123	19.25	3.68	20	
cis-1,3-Dichloropropene	17.54	1.0	20	0	87.7	75 - 124	17.2	1.97	20	
Cyclohexane	30.29	1.0	20	0	151	71 - 130	30.98	2.23	20	S
Dibromochloromethane	18.83	1.0	20	0	94.2	74 - 126	19.04	1.08	20	
Dibromomethane	20.88	1.0	20	0	104	79 - 123	19.84	5.1	20	
Dichlorodifluoromethane	22.12	1.0	20	0	111	32 - 152	22.92	3.55	20	
Ethylbenzene	23.77	1.0	20	0	119	79 - 121	24.02	1.04	20	
Hexachlorobutadiene	25.62	1.0	20	0	128	66 - 134	27.49	7.05	20	
Isopropylbenzene	25.35	1.0	20	0	127	72 - 131	25.87	2.04	20	
m,p-Xylene	46.87	2.0	40	0	117	80 - 121	47.54	1.42	20	
Methyl acetate	14.11	1.0	20	0	70.6	56 - 136	13.57	3.92	20	
Methyl tert-butyl ether	15.48	1.0	20	0	77.4	71 - 124	15	3.11	20	
Methylcyclohexane	20.69	1.0	20	0	103	72 - 132	20.24	2.22	20	
Methylene chloride	18.96	2.0	20	0	94.8	74 - 124	19.29	1.73	20	
Naphthalene	21.8	1.0	20	0	109	61 - 128	21	3.73	20	
n-Butylbenzene	24.11	1.0	20	0	121	75 - 128	24.25	0.569	20	
n-Propylbenzene	24.84	1.0	20	0	124	76 - 126	24.86	0.0937	20	
o-Xylene	22.96	1.0	20	0	115	78 - 122	23.84	3.75	20	
sec-Butylbenzene	23.92	1.0	20	0	120	77 - 126	24.47	2.24	20	
Styrene	20.27	1.0	20	0	101	78 - 123	20.4	0.606	20	
tert-Butylbenzene	25.02	1.0	20	0	125	78 - 124	25.74	2.85	20	S
Tetrachloroethene	24.96	1.0	20	1.371	118	74 - 129	25.46	2	20	
Toluene	23.42	1.0	20	0	117	80 - 121	23.83	1.73	20	
trans-1,2-Dichloroethene	19.46	1.0	20	0	97.3	75 - 124	20.36	4.51	20	
trans-1,3-Dichloropropene	16.25	1.0	20	0	81.3	73 - 127	16.21	0.266	20	
Trichloroethene	35.68	1.0	20	13.95	109	79 - 123	36.74	2.94	20	
Trichlorofluoromethane	21.65	1.0	20	0	108	65 - 141	22.97	5.91	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	19.8	1.0	20	0	99.0	58 - 137	20.94	5.59	20	
Xylenes, Total	69.83	1.0	60	0	116	78 - 122	71.38	2.19	20	
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*	*44.28*	*0.592*	*20*	
Surr: 4-Bromofluorobenzene	*51.97*	*1.0*	*50*	*0*	*104*	*85 - 114*	*51.1*	*1.68*	*20*	
Surr: Dibromofluoromethane	*45.85*	*1.0*	*50*	*0*	*91.7*	*80 - 119*	*45.97*	*0.261*	*20*	
Surr: Toluene-d8	*54.93*	*1.0*	*50*	*0*	*110*	*89 - 112*	*54.31*	*1.12*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.24	1.0	20	0	111	78 - 124	22.26	0.0852	20	
1,1,1-Trichloroethane	22.44	1.0	20	0	112	74 - 131	22.69	1.1	20	
1,1,2,2-Tetrachloroethane	20.92	1.0	20	0	105	71 - 121	21.14	1.02	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	28.65	1.0	20	0	143	70 - 136	29.45	2.72	20	S
1,1,2-Trichloroethane	21.55	1.0	20	0	108	80 - 119	21.19	1.73	20	
1,1-Dichloroethane	18.83	1.0	20	0	94.2	77 - 125	20.15	6.74	20	
1,1-Dichloroethene	20.86	1.0	20	0	104	71 - 131	21.59	3.43	20	
1,1-Dichloropropene	24.92	1.0	20	0	125	78 - 125	24.96	0.177	20	
1,2,3-Trichlorobenzene	21	1.0	20	0	105	69 - 129	19.53	7.26	20	
1,2,3-Trichloropropane	19.09	1.0	20	0	95.5	73 - 122	19.8	3.65	20	
1,2,4-Trichlorobenzene	20.79	1.0	20	0	104	69 - 130	19.31	7.4	20	
1,2,4-Trimethylbenzene	23.34	1.0	20	0	117	76 - 124	23.7	1.54	20	
1,2-Dibromo-3-chloropropane	17.45	1.0	20	0	87.2	62 - 128	17.66	1.19	20	
1,2-Dibromoethane	22.31	1.0	20	0	112	77 - 121	21.66	2.96	20	
1,2-Dichlorobenzene	21.2	1.0	20	0	106	80 - 119	21.23	0.149	20	
1,2-Dichloroethane	21.61	1.0	20	0	108	73 - 128	20.75	4.08	20	
1,2-Dichloropropane	21.32	1.0	20	0	107	78 - 122	21.62	1.42	20	
1,3,5-Trimethylbenzene	23.98	1.0	20	0	120	75 - 124	24.67	2.84	20	
1,3-Dichlorobenzene	22.27	1.0	20	0	111	80 - 119	22.11	0.686	20	
1,3-Dichloropropane	21.88	1.0	20	0	109	80 - 119	21.79	0.414	20	
1,4-Dichlorobenzene	20.73	1.0	20	0	104	79 - 118	20.94	1.04	20	
2,2-Dichloropropane	15.09	1.0	20	0	75.4	60 - 139	15.59	3.28	20	
2-Butanone	34.86	2.0	40	0	87.2	56 - 143	35.85	2.8	20	
2-Chlorotoluene	23.09	1.0	20	0	115	79 - 122	23.43	1.48	20	
2-Hexanone	39.49	2.0	40	0	98.7	57 - 139	38.08	3.65	20	
4-Chlorotoluene	22.82	1.0	20	0	114	78 - 122	23.46	2.78	20	
4-Isopropyltoluene	24.05	1.0	20	0	120	77 - 127	24.23	0.751	20	
4-Methyl-2-pentanone	42.56	2.0	40	0	106	67 - 130	42.8	0.551	20	
Acetone	25.91	2.0	40	0	64.8	39 - 160	27.47	5.85	20	
Benzene	21.88	1.0	20	0	109	79 - 120	22.18	1.35	20	
Bromobenzene	22.15	1.0	20	0	111	80 - 120	21.81	1.53	20	
Bromochloromethane	18.57	1.0	20	0	92.8	78 - 123	18.77	1.09	20	
Bromodichloromethane	20.61	1.0	20	0	103	79 - 125	20.68	0.311	20	
Bromoform	17.93	1.0	20	0	89.6	66 - 130	17.9	0.159	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	20.76	1.0	20	0	104	53 - 141	21.73	4.57	20	
Carbon disulfide	39.03	2.0	40	0	97.6	64 - 133	40.33	3.3	20	
Carbon tetrachloride	26.24	1.0	20	0	131	72 - 136	26.39	0.575	20	
Chlorobenzene	22.49	1.0	20	0	112	82 - 118	22.36	0.561	20	
Chloroethane	20.62	1.0	20	0	103	60 - 138	20.64	0.0959	20	
Chloroform	19.64	1.0	20	0	98.2	79 - 124	19.87	1.19	20	
Chloromethane	19.7	1.0	20	0	98.5	50 - 139	20.58	4.41	20	
cis-1,2-Dichloroethene	19.14	1.0	20	0	95.7	78 - 123	20.01	4.44	20	
cis-1,3-Dichloropropene	17.22	1.0	20	0	86.1	75 - 124	17.25	0.144	20	
Cyclohexane	31.06	1.0	20	0	155	71 - 130	32.19	3.58	20	S
Dibromochloromethane	19.22	1.0	20	0	96.1	74 - 126	19.06	0.87	20	
Dibromomethane	19.99	1.0	20	0	100.0	79 - 123	20.89	4.38	20	
Dichlorodifluoromethane	22.95	1.0	20	0	115	32 - 152	23.85	3.85	20	
Ethylbenzene	24.01	1.0	20	0	120	79 - 121	24.12	0.458	20	
Hexachlorobutadiene	25.75	1.0	20	0	129	66 - 134	25.48	1.08	20	
Isopropylbenzene	26.02	1.0	20	0	130	72 - 131	25.86	0.583	20	
m,p-Xylene	48.64	2.0	40	0	122	80 - 121	47.78	1.79	20	S
Methyl acetate	13.52	1.0	20	0	67.6	56 - 136	12.82	5.26	20	
Methyl tert-butyl ether	15.09	1.0	20	0	75.4	71 - 124	15.17	0.541	20	
Methylcyclohexane	20.01	1.0	20	0	100	72 - 132	19.65	1.85	20	
Methylene chloride	19.44	2.0	20	0	97.2	74 - 124	19.96	2.61	20	
Naphthalene	20.3	1.0	20	0	102	61 - 128	17.59	14.3	20	
n-Butylbenzene	23.93	1.0	20	0	120	75 - 128	23.57	1.54	20	
n-Propylbenzene	24.29	1.0	20	0	121	76 - 126	24.76	1.91	20	
o-Xylene	23.54	1.0	20	0	118	78 - 122	23.71	0.716	20	
sec-Butylbenzene	23.97	1.0	20	0	120	77 - 126	24.19	0.912	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.46	1.47	20	
tert-Butylbenzene	24.99	1.0	20	0	125	78 - 124	25.68	2.73	20	S
Tetrachloroethene	29.89	1.0	20	5.324	123	74 - 129	29.57	1.07	20	
Toluene	24.13	1.0	20	0	121	80 - 121	24.32	0.792	20	
trans-1,2-Dichloroethene	20.11	1.0	20	0	101	75 - 124	20.7	2.86	20	
trans-1,3-Dichloropropene	16.41	1.0	20	0	82.0	73 - 127	16.19	1.32	20	
Trichloroethene	23.46	1.0	20	0	117	79 - 123	24.22	3.19	20	
Trichlorofluoromethane	22.95	1.0	20	0	115	65 - 141	23.76	3.46	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110211

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	20.94	1.0	20	0	105	58 - 137	21.47	2.5	20	
Xylenes, Total	72.18	1.0	60	0	120	78 - 122	71.49	0.968	20	
Surr: 1,2-Dichloroethane-d4	*45.4*	*1.0*	*50*	*0*	*90.8*	*81 - 118*	*45.47*	*0.159*	*20*	
Surr: 4-Bromofluorobenzene	*52.46*	*1.0*	*50*	*0*	*105*	*85 - 114*	*51.38*	*2.09*	*20*	
Surr: Dibromofluoromethane	*46.14*	*1.0*	*50*	*0*	*92.3*	*80 - 119*	*46.78*	*1.38*	*20*	
Surr: Toluene-d8	*55.27*	*1.0*	*50*	*0*	*111*	*89 - 112*	*54.45*	*1.5*	*20*	

The following samples were analyzed in this batch:

HS22110211-01	HS22110211-02	HS22110211-03	HS22110211-04
HS22110211-05	HS22110211-06	HS22110211-07	HS22110211-08
HS22110211-09	HS22110211-10		

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: **HS22110211**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Feb-23

Sample Receipt Checklist

Work Order ID: HS22110211 **Date/Time Received:** 02-Nov-2022 09:35

Client Name: CBI-Houston **Received by:** Corey Grandits

Completed By: /S/ Malcolm Burleson (eSignature) 03-Nov-2022 15:09 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 14-Nov-2022 11:36 (Date/Time)

Matrices: GW Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	3.0UC 2.5C	IR31
Cooler(s)/Kit(s):	46743	
Date/Time sample(s) sent to storage:	11032022/1513	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX, 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35Bww01-221101	wG	11/1/22 0800		3	X						
35Bww10-221101	wG	11/1/22 0840		3	X						
35Bww05-221101	wG	11/1/22 0920		3	X						
LHSmw58-221101	wG	11/1/22 1000		3	X						
35Bww11-221101	wG	11/1/22 1040		3	X						
35Bww20-221101	wG	11/1/22 1120		3	X						
35Bww09-221101	wG	11/1/22 1200		3	X						
35Bww19-221101	wG	11/1/22 1240		3	X						

HS22110211
Aptim Environmental & Infrastucture, Inc.
35BWW01-221101

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/1/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\Users\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No.: 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number:

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW18-221101	WG	11/1/22 1320		3	X						
TRIP BLANK-221101	W	11/1/22		2	X						

HS22110211
Aptim Environmental & Infrastucture, Inc.
35BWW01-221101

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/1/22	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

46743

CUSTODY SEAL

Date: 11/1/22 Time: 1930
Name: Scott Beesinger
Company: ALS

Seal Broken By: SM
Date: 11/02/22

46743

46743

ORIGIN ID:SGRA (903) 930-6193
ATT: SCOTT BEESINGER
APTJM
1203-B EAST GRAND AVE PMB202

MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 26OCT22
ACTWGT: 1.00 LB MAN
CAD: 0221242/CAFE3616
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-37-88653-DW

RMA:

FedEx Express

PRIORITY OVERNIGHT

5789 1999 9883

AB SGRA

77099
TX-US
IAH

3923287 01Nov2022 GGGA 5B1G2/4540/C0BB

HS22110211-MSVOA-SW8260 REV01

ALS WO# HS22110211

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-01	Collected	Received	Matrix	Basis
35BWW01-221101	11/01/22 08:00	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

HS22110211-01				Collected	Received	Matrix	Basis
35BWW01-221101				11/01/22 08:00	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:27	VOA9_421679	V111110
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:27	VOA9_421679	V111110

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-02	Collected	Received	Matrix	Basis
35BWW10-221101	11/01/22 08:40	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

HS22110211-02	Collected	Received	Matrix	Basis
35BWW10-221101	11/01/22 08:40	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:49	VOA9_421679	V111111
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Tetrachloroethene	ug/L	2.6		0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Trichloroethene	ug/L	1.1		0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:49	VOA9_421679	V111111

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-03				Collected	Received	Matrix	Basis
35BWW05-221101				11/01/22 09:20	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

HS22110211-03

35BWW05-221101

Collected	Received	Matrix	Basis
11/01/22 09:20	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 21:12	VOA9_421679	V111112
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Tetrachloroethene	ug/L	3.2		0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Trichloroethene	ug/L	5.2		0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:12	VOA9_421679	V111112

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-04				Collected	Received	Matrix	Basis
LHSWW58-221101				11/01/22 10:00	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-04				Collected	Received	Matrix	Basis
LHSWW58-221101				11/01/22 10:00	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 21:34	VOA9_421679	V111113
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Tetrachloroethene	ug/L	15		0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Trichloroethene	ug/L	0.94	J	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:34	VOA9_421679	V111113

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-05	Collected	Received	Matrix	Basis
35BWW11-221101	11/01/22 10:40	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

HS22110211-05	Collected	Received	Matrix	Basis
35BWW11-221101	11/01/22 10:40	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 21:56	VOA9_421679	V111114
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 21:56	VOA9_421679	V111114

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-06				Collected	Received	Matrix	Basis
35BWW20-221101				11/01/22 11:20	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1,2-Trichlor-1,2,2-	ug/L	3.6		0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-06	Collected	Received	Matrix	Basis
35BWW20-221101	11/01/22 11:20	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 22:19	VOA9_421679	V111115
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Tetrachloroethene	ug/L	17		0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Trichloroethene	ug/L	3.2		0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:19	VOA9_421679	V111115

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-07	Collected	Received	Matrix	Basis
35BWW09-221101	11/01/22 12:00	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1,2-Trichlor-1,2,2-	ug/L	3.9		0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-07

35BWW09-221101

Collected	Received	Matrix	Basis
11/01/22 12:00	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 22:41	VOA9_421679	V111116
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Tetrachloroethene	ug/L	1.1		0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Trichloroethene	ug/L	56		0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 22:41	VOA9_421679	V111116

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-08	Collected	Received	Matrix	Basis
35BWW19-221101	11/01/22 12:40	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

HS22110211-08

Collected	Received	Matrix	Basis
11/01/22 12:40	11/02/22 09:35	Groundwater	Wet

35BWW19-221101

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 23:03	VOA9_421679	V111117
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:03	VOA9_421679	V111117

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-09	Collected	Received	Matrix	Basis
35BWW18-221101	11/01/22 13:20	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-09

35BWW18-221101

Collected	Received	Matrix	Basis
11/01/22 13:20	11/02/22 09:35	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 23:26	VOA9_421679	V111118
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:26	VOA9_421679	V111118

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-10	Collected	Received	Matrix	Basis
Trip Blank-221101	11/01/22 00:00	11/02/22 09:35	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

HS22110211-10	Collected	Received	Matrix	Basis
Trip Blank-221101	11/01/22 00:00	11/02/22 09:35	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 19:42	VOA9_421679	V111108
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:42	VOA9_421679	V111108

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

VBLKW-221110	Collected	Received	Matrix	Basis
VBLKW-221110	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

Volatiles by EPA 8260

VBLKW-221110	Collected	Received	Matrix	Basis
VBLKW-221110	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Cyclohexane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Methyl acetate	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Methyl tert-butyl ether	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Methylcyclohexane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

VBLKW-221110	Collected	Received	Matrix	Basis
VBLKW-221110	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Xylenes, Total	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107

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Form 2

System Monitoring Compound Recovery

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

Volatiles by by EPA 8260

CCV	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	51.28	50	103	80-120	
4-Bromofluorobenzene	52.42	50	105	80-120	
Dibromofluoromethane	51.74	50	103	80-120	
Toluene-d8	52.53	50	105	80-120	

CCB	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43.29	50	86.6	80-120	
4-Bromofluorobenzene	49.33	50	98.7	80-120	
Dibromofluoromethane	44.15	50	88.3	80-120	
Toluene-d8	54.25	50	108	80-120	

VLCSW-221110	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.74	50	99.5	81-118	
4-Bromofluorobenzene	50.58	50	101	85-114	
Dibromofluoromethane	50.69	50	101	80-119	
Toluene-d8	52.1	50	104	89-112	

VBLKW-221110	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.55	50	89.1	81-118	
4-Bromofluorobenzene	48.84	50	97.7	85-114	
Dibromofluoromethane	45.6	50	91.2	80-119	
Toluene-d8	53.49	50	107	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

Volatiles by by EPA 8260

HS22110211-10	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	45	50	90.3	81-118	
4-Bromofluorobenzene	48	50	95.8	85-114	
Dibromofluoromethane	46	50	91.4	80-119	
Toluene-d8	54	50	109	89-112	

HS22110211-01	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	91.3	81-118	
4-Bromofluorobenzene	49	50	97.1	85-114	
Dibromofluoromethane	45	50	89.2	80-119	
Toluene-d8	54	50	109	89-112	

HS22110211-02	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	94.2	81-118	
4-Bromofluorobenzene	48	50	95.5	85-114	
Dibromofluoromethane	46	50	92.6	80-119	
Toluene-d8	54	50	108	89-112	

HS22110211-03	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	92.0	81-118	
4-Bromofluorobenzene	48	50	96.7	85-114	
Dibromofluoromethane	45	50	90.9	80-119	
Toluene-d8	54	50	108	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

Volatiles by by EPA 8260

HS22110211-04	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	92.2	81-118	
4-Bromofluorobenzene	49	50	97.0	85-114	
Dibromofluoromethane	46	50	92.8	80-119	
Toluene-d8	54	50	109	89-112	

HS22110211-05	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	93.2	81-118	
4-Bromofluorobenzene	48	50	96.6	85-114	
Dibromofluoromethane	47	50	93.2	80-119	
Toluene-d8	54	50	108	89-112	

HS22110211-06	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	94.8	81-118	
4-Bromofluorobenzene	47	50	95.0	85-114	
Dibromofluoromethane	46	50	92.4	80-119	
Toluene-d8	54	50	107	89-112	

HS22110211-07	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	92.8	81-118	
4-Bromofluorobenzene	48	50	96.0	85-114	
Dibromofluoromethane	46	50	92.1	80-119	
Toluene-d8	54	50	108	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

Volatiles by by EPA 8260

HS22110211-08	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	93.6	81-118	
4-Bromofluorobenzene	48	50	96.7	85-114	
Dibromofluoromethane	46	50	92.9	80-119	
Toluene-d8	54	50	108	89-112	

HS22110211-09	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	94.7	81-118	
4-Bromofluorobenzene	48	50	95.8	85-114	
Dibromofluoromethane	46	50	91.8	80-119	
Toluene-d8	54	50	108	89-112	

HS22110281-01MS	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	45.47	50	90.9	81-118	
4-Bromofluorobenzene	51.38	50	103	85-114	
Dibromofluoromethane	46.78	50	93.6	80-119	
Toluene-d8	54.45	50	109	89-112	

HS22110281-01MSD	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	45.4	50	90.8	81-118	
4-Bromofluorobenzene	52.46	50	105	85-114	
Dibromofluoromethane	46.14	50	92.3	80-119	
Toluene-d8	55.27	50	111	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

Volatiles by by EPA 8260

HS22110281-07MS	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.28	50	88.6	81-118	
4-Bromofluorobenzene	51.1	50	102	85-114	
Dibromofluoromethane	45.97	50	91.9	80-119	
Toluene-d8	54.31	50	109	89-112	

HS22110281-07MSD	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.55	50	89.1	81-118	
4-Bromofluorobenzene	51.97	50	104	85-114	
Dibromofluoromethane	45.85	50	91.7	80-119	
Toluene-d8	54.93	50	110	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
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www.alsglobal.com

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

		HS22110281-01		HS22110281-01MS				HS22110281-01MSD						
Sample Matrix	Aqueous	**Run Date**	11/11/22	11/12/22				11/12/22						
Units	µg/L	**Run Time**	23:48	03:09				03:31						
		Data File	V111119.D	V111128.D				V111129.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	22.26	20.00	111		22.24	20.00	111		20	0.100	
1,1,1-Trichloroethane	74-131	1	0	22.69	20.00	113		22.44	20.00	112		20	1.10	
1,1,2,2-Tetrachloroethane	71-121	1	0	21.14	20.00	106		20.92	20.00	105		20	1.00	
1,1,2-Trichlor-1,2,2-	70-136	1	0	29.45	20.00	147	*	28.65	20.00	143	*	20	2.70	
1,1,2-Trichloroethane	80-119	1	0	21.19	20.00	106		21.55	20.00	108		20	1.70	
1,1-Dichloroethane	77-125	1	0	20.15	20.00	101		18.83	20.00	94		20	6.70	
1,1-Dichloroethene	71-131	1	0	21.59	20.00	108		20.86	20.00	104		20	3.40	
1,1-Dichloropropene	78-125	1	0	24.96	20.00	125		24.92	20.00	125		20	0.200	
1,2,3-Trichlorobenzene	69-129	1	0	19.53	20.00	98		21	20.00	105		20	7.30	
1,2,3-Trichloropropane	73-122	1	0	19.80	20.00	99		19.09	20.00	96		20	3.60	
1,2,4-Trichlorobenzene	69-130	1	0	19.31	20.00	97		20.79	20.00	104		20	7.40	
1,2,4-Trimethylbenzene	76-124	1	0	23.70	20.00	119		23.34	20.00	117		20	1.50	
1,2-Dibromo-3-	62-128	1	0	17.66	20.00	88		17.45	20.00	87		20	1.20	
1,2-Dibromoethane	77-121	1	0	21.66	20.00	108		22.31	20.00	112		20	3.00	
1,2-Dichlorobenzene	80-119	1	0	21.23	20.00	106		21.2	20.00	106		20	0.100	
1,2-Dichloroethane	73-128	1	0	20.75	20.00	104		21.61	20.00	108		20	4.10	
1,2-Dichloropropane	78-122	1	0	21.62	20.00	108		21.32	20.00	107		20	1.40	
1,3,5-Trimethylbenzene	75-124	1	0	24.67	20.00	123		23.98	20.00	120		20	2.80	
1,3-Dichlorobenzene	80-119	1	0	22.11	20.00	111		22.27	20.00	111		20	0.700	
1,3-Dichloropropane	80-119	1	0	21.79	20.00	109		21.88	20.00	109		20	0.400	
1,4-Dichlorobenzene	79-118	1	0	20.94	20.00	105		20.73	20.00	104		20	1.00	
2,2-Dichloropropane	60-139	1	0	15.59	20.00	78		15.09	20.00	75		20	3.30	
2-Butanone	56-143	1	0	35.85	40.00	90		34.86	40.00	87		20	2.80	
2-Chlorotoluene	79-122	1	0	23.43	20.00	117		23.09	20.00	115		20	1.50	
2-Hexanone	57-139	1	0	38.08	40.00	95		39.49	40.00	99		20	3.70	
4-Chlorotoluene	78-122	1	0	23.46	20.00	117		22.82	20.00	114		20	2.80	
4-Isopropyltoluene	77-127	1	0	24.23	20.00	121		24.05	20.00	120		20	0.800	
4-Methyl-2-pentanone	67-130	1	0	42.80	40.00	107		42.56	40.00	106		20	0.600	
Acetone	39-160	1	0	27.47	40.00	69		25.91	40.00	65		20	5.80	
Benzene	79-120	1	0	22.18	20.00	111		21.88	20.00	109		20	1.40	
Bromobenzene	80-120	1	0	21.81	20.00	109		22.15	20.00	111		20	1.50	
Bromochloromethane	78-123	1	0	18.77	20.00	94		18.57	20.00	93		20	1.10	
Bromodichloromethane	79-125	1	0	20.68	20.00	103		20.61	20.00	103		20	0.300	
Bromoform	66-130	1	0	17.90	20.00	90		17.93	20.00	90		20	0.200	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

		HS22110281-01		HS22110281-01MS				HS22110281-01MSD						
Sample Matrix	Aqueous	**Run Date**	11/11/22	11/12/22				11/12/22						
Units	µg/L	**Run Time**	23:48	03:09				03:31						
		Data File	V111119.D	V111128.D				V111129.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Bromomethane	53-141	1	0	21.73	20.00	109		20.76	20.00	104		20	4.60	
Carbon disulfide	64-133	1	0	40.33	40.00	101		39.03	40.00	98		20	3.30	
Carbon tetrachloride	72-136	1	0	26.39	20.00	132		26.24	20.00	131		20	0.600	
Chlorobenzene	82-118	1	0	22.36	20.00	112		22.49	20.00	112		20	0.600	
Chloroethane	60-138	1	0	20.64	20.00	103		20.62	20.00	103		20	0.100	
Chloroform	79-124	1	0	19.87	20.00	99		19.64	20.00	98		20	1.20	
Chloromethane	50-139	1	0	20.58	20.00	103		19.7	20.00	99		20	4.40	
cis-1,2-Dichloroethene	78-123	1	0	20.01	20.00	100		19.14	20.00	96		20	4.40	
cis-1,3-Dichloropropene	75-124	1	0	17.25	20.00	86		17.22	20.00	86		20	0.100	
Dibromochloromethane	74-126	1	0	19.06	20.00	95		19.22	20.00	96		20	0.900	
Dibromomethane	79-123	1	0	20.89	20.00	104		19.99	20.00	100		20	4.40	
Dichlorodifluoromethane	32-152	1	0	23.85	20.00	119		22.95	20.00	115		20	3.90	
Ethylbenzene	79-121	1	0	24.12	20.00	121		24.01	20.00	120		20	0.500	
Hexachlorobutadiene	66-134	1	0	25.48	20.00	127		25.75	20.00	129		20	1.10	
Isopropylbenzene	72-131	1	0	25.86	20.00	129		26.02	20.00	130		20	0.600	
m,p-Xylene	80-121	1	0	47.78	40.00	119		48.64	40.00	122	*	20	1.80	
Methylene chloride	74-124	1	0	19.96	20.00	100		19.44	20.00	97		20	2.60	
n-Butylbenzene	75-128	1	0	23.57	20.00	118		23.93	20.00	120		20	1.50	
n-Propylbenzene	76-126	1	0	24.76	20.00	124		24.29	20.00	121		20	1.90	
Naphthalene	61-128	1	0	17.59	20.00	88		20.3	20.00	102		20	14.3	
o-Xylene	78-122	1	0	23.71	20.00	119		23.54	20.00	118		20	0.700	
sec-Butylbenzene	77-126	1	0	24.19	20.00	121		23.97	20.00	120		20	0.900	
Styrene	78-123	1	0	20.46	20.00	102		20.76	20.00	104		20	1.50	
tert-Butylbenzene	78-124	1	0	25.68	20.00	128	*	24.99	20.00	125	*	20	2.70	
Tetrachloroethene	74-129	1	5.324	29.57	20.00	121		29.89	20.00	123		20	1.10	
Toluene	80-121	1	0	24.32	20.00	122	*	24.13	20.00	121		20	0.800	
trans-1,2-Dichloroethene	75-124	1	0	20.70	20.00	103		20.11	20.00	101		20	2.90	
trans-1,3-Dichloropropene	73-127	1	0	16.19	20.00	81		16.41	20.00	82		20	1.30	
Trichloroethene	79-123	1	0	24.22	20.00	121		23.46	20.00	117		20	3.20	
Trichlorofluoromethane	65-141	1	0	23.76	20.00	119		22.95	20.00	115		20	3.50	
Vinyl chloride	58-137	1	0	21.47	20.00	107		20.94	20.00	105		20	2.50	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

		HS22110281-07		HS22110281-07MS				HS22110281-07MSD						
Sample Matrix	Aqueous	**Run Date**	11/12/22	11/12/22				11/12/22						
Units	µg/L	**Run Time**	02:02	03:54				04:16						
		Data File	V111125.D	V111130.D				V111131.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	21.96	20.00	110		21.46	20.00	107		20	2.30	
1,1,1-Trichloroethane	74-131	1	0	22.50	20.00	113		21.76	20.00	109		20	3.40	
1,1,2,2-Tetrachloroethane	71-121	1	0	20.81	20.00	104		20.79	20.00	104		20	0.100	
1,1,2-Trichlor-1,2,2-	70-136	1	0	28.23	20.00	141	*	27.43	20.00	137	*	20	2.90	
1,1,2-Trichloroethane	80-119	1	0	20.43	20.00	102		20.89	20.00	104		20	2.20	
1,1-Dichloroethane	77-125	1	0	19.53	20.00	98		18.66	20.00	93		20	4.50	
1,1-Dichloroethene	71-131	1	0	21.15	20.00	106		20.5	20.00	102		20	3.10	
1,1-Dichloropropene	78-125	1	0	23.81	20.00	119		23.98	20.00	120		20	0.700	
1,2,3-Trichlorobenzene	69-129	1	0	21.67	20.00	108		21.78	20.00	109		20	0.500	
1,2,3-Trichloropropane	73-122	1	0	19.13	20.00	96		19.42	20.00	97		20	1.50	
1,2,4-Trichlorobenzene	69-130	1	0	21.37	20.00	107		21.31	20.00	107		20	0.300	
1,2,4-Trimethylbenzene	76-124	1	0	23.64	20.00	118		23.98	20.00	120		20	1.50	
1,2-Dibromo-3-	62-128	1	0	18.31	20.00	92		17.85	20.00	89		20	2.60	
1,2-Dibromoethane	77-121	1	0	21.64	20.00	108		21.7	20.00	108		20	0.300	
1,2-Dichlorobenzene	80-119	1	0	21.50	20.00	108		21.02	20.00	105		20	2.30	
1,2-Dichloroethane	73-128	1	0	20.62	20.00	103		21.09	20.00	105		20	2.30	
1,2-Dichloropropane	78-122	1	0	20.78	20.00	104		21.68	20.00	108		20	4.20	
1,3,5-Trimethylbenzene	75-124	1	0	25.04	20.00	125	*	24.61	20.00	123		20	1.70	
1,3-Dichlorobenzene	80-119	1	0	22.47	20.00	112		22.19	20.00	111		20	1.20	
1,3-Dichloropropane	80-119	1	0	21.81	20.00	109		21.48	20.00	107		20	1.50	
1,4-Dichlorobenzene	79-118	1	0	21.15	20.00	106		20.76	20.00	104		20	1.90	
2,2-Dichloropropane	60-139	1	0	15.18	20.00	76		14.61	20.00	73		20	3.80	
2-Butanone	56-143	1	0	34.26	40.00	86		34.24	40.00	86		20	0.100	
2-Chlorotoluene	79-122	1	0	23.89	20.00	119		23.55	20.00	118		20	1.40	
2-Hexanone	57-139	1	0	37.29	40.00	93		40.04	40.00	100		20	7.10	
4-Chlorotoluene	78-122	1	0	24.01	20.00	120		23.13	20.00	116		20	3.70	
4-Isopropyltoluene	77-127	1	0	24.72	20.00	124		24.55	20.00	123		20	0.700	
4-Methyl-2-pentanone	67-130	1	0	40.65	40.00	102		43.64	40.00	109		20	7.10	
Acetone	39-160	1	0	26.25	40.00	66		26.26	40.00	66		20	0.100	
Benzene	79-120	1	0	21.46	20.00	107		21.75	20.00	109		20	1.30	
Bromobenzene	80-120	1	0	22.30	20.00	112		22.1	20.00	110		20	0.900	
Bromochloromethane	78-123	1	0	18.37	20.00	92		18.43	20.00	92		20	0.300	
Bromodichloromethane	79-125	1	0	20.45	20.00	102		20.39	20.00	102		20	0.300	
Bromoform	66-130	1	0	17.56	20.00	88		17.69	20.00	88		20	0.700	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110211**

		HS22110281-07		HS22110281-07MS				HS22110281-07MSD						
Sample Matrix	Aqueous	**Run Date**	11/12/22	11/12/22				11/12/22						
Units	µg/L	**Run Time**	02:02	03:54				04:16						
		Data File	V111125.D	V111130.D				V111131.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Bromomethane	53-141	1	0	20.36	20.00	102		19.2	20.00	96		20	5.90	
Carbon disulfide	64-133	1	0	39.29	40.00	98		37.68	40.00	94		20	4.20	
Carbon tetrachloride	72-136	1	0	25.94	20.00	130		25.79	20.00	129		20	0.600	
Chlorobenzene	82-118	1	0	22.18	20.00	111		21.88	20.00	109		20	1.40	
Chloroethane	60-138	1	0	21.25	20.00	106		19.88	20.00	99		20	6.70	
Chloroform	79-124	1	0	19.62	20.00	98		19.05	20.00	95		20	2.90	
Chloromethane	50-139	1	0	19.95	20.00	100		18.96	20.00	95		20	5.10	
cis-1,2-Dichloroethene	78-123	1	0	19.25	20.00	96		18.55	20.00	93		20	3.70	
cis-1,3-Dichloropropene	75-124	1	0	17.20	20.00	86		17.54	20.00	88		20	2.00	
Dibromochloromethane	74-126	1	0	19.04	20.00	95		18.83	20.00	94		20	1.10	
Dibromomethane	79-123	1	0	19.84	20.00	99		20.88	20.00	104		20	5.10	
Dichlorodifluoromethane	32-152	1	0	22.92	20.00	115		22.12	20.00	111		20	3.60	
Ethylbenzene	79-121	1	0	24.02	20.00	120		23.77	20.00	119		20	1.00	
Hexachlorobutadiene	66-134	1	0	27.49	20.00	137	*	25.62	20.00	128		20	7.10	
Isopropylbenzene	72-131	1	0	25.87	20.00	129		25.35	20.00	127		20	2.00	
m,p-Xylene	80-121	1	0	47.54	40.00	119		46.87	40.00	117		20	1.40	
Methylene chloride	74-124	1	0	19.29	20.00	97		18.96	20.00	95		20	1.70	
n-Butylbenzene	75-128	1	0	24.25	20.00	121		24.11	20.00	121		20	0.600	
n-Propylbenzene	76-126	1	0	24.86	20.00	124		24.84	20.00	124		20	0.100	
Naphthalene	61-128	1	0	21.00	20.00	105		21.8	20.00	109		20	3.70	
o-Xylene	78-122	1	0	23.84	20.00	119		22.96	20.00	115		20	3.70	
sec-Butylbenzene	77-126	1	0	24.47	20.00	122		23.92	20.00	120		20	2.20	
Styrene	78-123	1	0	20.40	20.00	102		20.27	20.00	101		20	0.600	
tert-Butylbenzene	78-124	1	0	25.74	20.00	129	*	25.02	20.00	125	*	20	2.80	
Tetrachloroethene	74-129	1	1.371	25.46	20.00	120		24.96	20.00	118		20	2.00	
Toluene	80-121	1	0	23.83	20.00	119		23.42	20.00	117		20	1.70	
trans-1,2-Dichloroethene	75-124	1	0	20.36	20.00	102		19.46	20.00	97		20	4.50	
trans-1,3-Dichloropropene	73-127	1	0	16.21	20.00	81		16.25	20.00	81		20	0.300	
Trichloroethene	79-123	1	13.95	36.74	20.00	114		35.68	20.00	109		20	2.90	
Trichlorofluoromethane	65-141	1	0	22.97	20.00	115		21.65	20.00	108		20	5.90	
Vinyl chloride	58-137	1	0	20.94	20.00	105		19.8	20.00	99		20	5.60	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

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Form 3B

Laboratory Control Sample Recovery

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

02/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

VOA9_421679		QC ID	VLCSW-221110			
QC Matrix Aqueous	Units	Run Date	11/11/22			
	ug/L	Run Time	18:36			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	19.76	99		
1,1,1-Trichloroethane	74-131	20	20	100		
1,1,2,2-Tetrachloroethane	71-121	20	19.48	97		
1,1,2-Trichlor-1,2,2-trifluoroethane	70-136	20	23.64	118		
1,1,2-Trichloroethane	80-119	20	19.59	98		
1,1-Dichloroethane	77-125	20	18.56	93		
1,1-Dichloroethene	71-131	20	18.55	93		
1,1-Dichloropropene	78-125	20	19.43	97		
1,2,3-Trichlorobenzene	69-129	20	20.6	103		
1,2,3-Trichloropropane	73-122	20	19.12	96		
1,2,4-Trichlorobenzene	69-130	20	20.67	103		
1,2,4-Trimethylbenzene	76-124	20	21.75	109		
1,2-Dibromo-3-chloropropane	62-128	20	17.7	88		
1,2-Dibromoethane	77-121	20	20.64	103		
1,2-Dichlorobenzene	80-119	20	19.34	97		
1,2-Dichloroethane	73-128	20	19.35	97		
1,2-Dichloroethane-d4	81-118	50	49.74	100		
1,2-Dichloropropane	78-122	20	19.19	96		
1,3,5-Trimethylbenzene	75-124	20	21.56	108		
1,3-Dichlorobenzene	80-119	20	20.24	101		
1,3-Dichloropropane	80-119	20	20.17	101		
1,4-Dichlorobenzene	79-118	20	19.23	96		
2,2-Dichloropropane	60-139	20	17.76	89		
2-Butanone	56-143	40	39.58	99		
2-Chlorotoluene	79-122	20	20.57	103		
2-Hexanone	57-139	40	38.74	97		
4-Bromofluorobenzene	85-114	50	50.58	101		
4-Chlorotoluene	78-122	20	20.7	104		
4-Isopropyltoluene	77-127	20	20.89	104		
4-Methyl-2-pentanone	67-130	40	39.67	99		
Acetone	39-160	40	43.31	108		
Benzene	79-120	20	19.25	96		
Bromobenzene	80-120	20	20.48	102		
Bromochloromethane	78-123	20	18.31	92		
Bromodichloromethane	79-125	20	18.79	94		
Bromoform	66-130	20	17.25	86		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

VOA9_421679		QC ID	VLCSW-221110			
QC Matrix Aqueous	Units ug/L	Run Date Run Time	11/11/22 18:36			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Bromomethane	53-141	20	19.91	100		
Carbon disulfide	64-133	40	36.73	92		
Carbon tetrachloride	72-136	20	18.95	95		
Chlorobenzene	82-118	20	19.44	97		
Chloroethane	60-138	20	18.47	92		
Chloroform	79-124	20	19.19	96		
Chloromethane	50-139	20	18.64	93		
cis-1,2-Dichloroethene	78-123	20	19.38	97		
cis-1,3-Dichloropropene	75-124	20	17.21	86		
Cyclohexane	71-130	20	26.77	134		
Dibromochloromethane	74-126	20	17.79	89		
Dibromofluoromethane	80-119	50	50.69	101		
Dibromomethane	79-123	20	19.44	97		
Dichlorodifluoromethane	32-152	20	21.07	105		
Ethylbenzene	79-121	20	20.18	101		
Hexachlorobutadiene	66-134	20	23.47	117		
Isopropylbenzene	72-131	20	21	105		
m,p-Xylene	80-121	40	40.86	102		
Methyl acetate	56-136	20	18.86	94		
Methyl tert-butyl ether	71-124	20	19.35	97		
Methylcyclohexane	72-132	20	21.14	106		
Methylene chloride	74-124	20	21.12	106		
Naphthalene	61-128	20	20.83	104		
n-Butylbenzene	75-128	20	20.76	104		
n-Propylbenzene	76-126	20	20.94	105		
o-Xylene	78-122	20	20.56	103		
sec-Butylbenzene	77-126	20	20.21	101		
Styrene	78-123	20	19.21	96		
tert-Butylbenzene	78-124	20	20.4	102		
Tetrachloroethene	74-129	20	19.86	99		
Toluene	80-121	20	20.44	102		
Toluene-d8	89-112	50	52.1	104		
trans-1,2-Dichloroethene	75-124	20	18.65	93		
trans-1,3-Dichloropropene	73-127	20	16.59	83		
Trichloroethene	79-123	20	19.52	98		
Trichlorofluoromethane	65-141	20	19.64	98		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110211

Volatiles by EPA 8260

VOA9_421679		QC ID	VLCSW-221110			
QC Matrix Aqueous	Units	Run Date	11/11/22			
	ug/L	Run Time	18:36			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Vinyl chloride	58-137	20	17.64	88		
Xylenes	78-122	60	61.42	102		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

Volatiles by by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-221110	V111107.D	11/11/22 19:20	VOA9_421679
VLCSW-221110	LCS	VLCSW-221110	V111105.D	11/11/22 18:36	VOA9_421679
Trip Blank-221101	SAMP	HS22110211-10	V111108.D	11/11/22 19:42	VOA9_421679
35BWW01-221101	SAMP	HS22110211-01	V111110.D	11/11/22 20:27	VOA9_421679
35BWW10-221101	SAMP	HS22110211-02	V111111.D	11/11/22 20:49	VOA9_421679
35BWW05-221101	SAMP	HS22110211-03	V111112.D	11/11/22 21:12	VOA9_421679
LHSWW58-221101	SAMP	HS22110211-04	V111113.D	11/11/22 21:34	VOA9_421679
35BWW11-221101	SAMP	HS22110211-05	V111114.D	11/11/22 21:56	VOA9_421679
35BWW20-221101	SAMP	HS22110211-06	V111115.D	11/11/22 22:19	VOA9_421679
35BWW09-221101	SAMP	HS22110211-07	V111116.D	11/11/22 22:41	VOA9_421679
35BWW19-221101	SAMP	HS22110211-08	V111117.D	11/11/22 23:03	VOA9_421679
35BWW18-221101	SAMP	HS22110211-09	V111118.D	11/11/22 23:26	VOA9_421679
BatchQC	MS	HS22110281-01MS	V111128.D	11/12/22 03:09	VOA9_421679
BatchQC	MSD	HS22110281-01MSD	V111129.D	11/12/22 03:31	VOA9_421679
BatchQC	MS	HS22110281-07MS	V111130.D	11/12/22 03:54	VOA9_421679
BatchQC	MSD	HS22110281-07MSD	V111131.D	11/12/22 04:16	VOA9_421679

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Form 5

Instrument Performance Check

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 5 - Instrument Performance Check

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421678

Tune File U111101.D 11/11/22 11:34

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	18.5 (18.5)
75	30.0 - 60.0% of mass 95	50.1 (50.1)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.1 (7.12)
173	Less than 2.0% of mass 174	0 (0) 1
174	50.0 - 120.0% of mass 95	91.9 (91.9)
175	4.0 - 9.0% of mass 174	8.1 (8.83) 1
176	93.0 - 101.0% of mass 174	89.1 (97) 1
177	5.0 - 9.0% of mass 176	5.8 (6.51) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	ICAL1	11/11/22 11:56	U111102	VSTD000.25
2	ICAL2	11/11/22 12:18	U111103	VSTD000.5
3	ICAL3	11/11/22 13:03	U111104	VSTD001
4	ICAL4	11/11/22 13:25	U111105	VSTD002
5	ICAL5	11/11/22 13:47	U111106	VSTD005
6	ICAL6	11/11/22 14:09	U111107	VSTD020
7	ICAL7	11/11/22 14:31	U111108	VSTD050
8	ICAL8	11/11/22 14:53	U111109	VSTD100
9	ICAL9	11/11/22 15:16	U111110	VSTD150
10	ICAL	11/11/22 15:38	U111111	VSTD200
11	ICV	11/11/22 16:44	U111114	CCV

Form 5 - Instrument Performance Check

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

Tune File V111101.D 11/11/22 17:07

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	17 (17)
75	30.0 - 60.0% of mass 95	49.5 (49.5)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7 (7.05)
173	Less than 2.0% of mass 174	0 (0) 1
174	50.0 - 120.0% of mass 95	95.2 (95.2)
175	4.0 - 9.0% of mass 174	7.5 (7.92) 1
176	93.0 - 101.0% of mass 174	91.2 (95.8) 1
177	5.0 - 9.0% of mass 176	5.7 (6.3) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	11/11/22 17:51	V111103	CCV
2	CCB	11/11/22 18:13	V111104	CCB
3	LCS	11/11/22 18:36	V111105	VLCSW-221110
4	MBLK	11/11/22 19:20	V111107	VBLKW-221110
5	SAMP	11/11/22 19:42	V111108	Trip Blank-221101
6	SAMP	11/11/22 20:27	V111110	35BWW01-221101
7	SAMP	11/11/22 20:49	V111111	35BWW10-221101
8	SAMP	11/11/22 21:12	V111112	35BWW05-221101
9	SAMP	11/11/22 21:34	V111113	LHSWW58-221101
10	SAMP	11/11/22 21:56	V111114	35BWW11-221101
11	SAMP	11/11/22 22:19	V111115	35BWW20-221101
12	SAMP	11/11/22 22:41	V111116	35BWW09-221101
13	SAMP	11/11/22 23:03	V111117	35BWW19-221101
14	SAMP	11/11/22 23:26	V111118	35BWW18-221101
15	MS	11/12/22 03:09	V111128	ZZZZZZMS
16	MSD	11/12/22 03:31	V111129	ZZZZZZMSD
17	MS	11/12/22 03:54	V111130	ZZZZZZMS
18	MSD	11/12/22 04:16	V111131	ZZZZZZMSD
19	CCV_EN	11/12/22 04:38	V111132	CCV-END

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Form 6

Initial Calibration Data

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156
ICAL End Date 11-NOV-2022 1538

Calibration Files

Level 1 ..voa9.i\U221111.b\U111102.D
Level 2 ..voa9.i\U221111.b\U111103.D
Level 3 ..voa9.i\U221111.b\U111104.D
Level 4 ..voa9.i\U221111.b\U111105.D
Level 5 ..voa9.i\U221111.b\U111106.D
Level 6 ..voa9.i\U221111.b\U111107.D
Level 7 ..voa9.i\U221111.b\U111108.D
Level 8 ..voa9.i\U221111.b\U111109.D
Level 9 ..voa9.i\U221111.b\U111110.D
Level 10 ..voa9.i\U221111.b\U111111.D

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dichlorodifluoromethane	NE 341105	4110 811364	5077 NE	13794 NE	27052	102320	QUAD	0.00497	2.70999	-0.68802	0.99907	
Chloromethane	NE 443180	5083 920649	9584 1404641	18483 1980029	42615	151074	LINR	0.00497	0.55484		0.99958	
Propionitrile	NE 0.07816	0.07866 0.07852	0.09016 0.07944	0.07629 0.07571	0.08264	0.08029	AVRG		0.07998		5.41628	
Vinyl Chloride	NE 0.50798	0.59832 0.54722	0.48678 0.56417	0.49108 0.52557	0.45681	0.41192	AVRG		0.50998		11.11666	
Bromomethane	NE 297603	3746 575509	7086 870933	14046 1235875	31789	112053	LINR	-0.02231	0.34356		0.99971	
Chloroethane	NE 0.37854	0.44333 0.40669	0.31694 0.39504	0.37296 0.36341	0.35911	0.31712	AVRG		0.37257		10.88063	
Trichlorofluoromethane	NE 0.64539	0.77114 0.75423	0.55006 0.73088	0.70734 0.64030	0.62146	0.54678	AVRG		0.66307		12.55101	
Acrolein	NE 55154	810 117779	1204 185978	2628 257093	6241	19477	LINR	0.01996	0.03620		0.99877	
Acetone	NE 354366	13138 675630	16101 999241	24043 1345589	50255	138833	LINR	-0.15051	0.18958		0.99740	
1,1-Dichloroethene	NE 0.42370	0.50391 0.47515	0.37561 0.46979	0.40906 0.43067	0.38649	0.36338	AVRG		0.42642		11.34935	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isobutyl Alcohol	NE 913025	6241 2020674	13495 3236082	27238 4941650	71424	309205	LINR	1.29985	0.06758		0.99681	
Acetonitrile	NE 0.04844	0.04581 0.05248	0.06086 0.05282	0.05273 0.04923	0.04707	0.04784	AVRG		0.05081		9.00444	
Allyl Chloride	NE 1.11129	1.23887 1.16441	1.21521 1.17726	1.18831 1.09891	1.16648	1.10377	AVRG		1.16272		4.26014	
Iodomethane	NE 724437	7282 1610926	11703 2556299	22375 3486199	51771	213421	QUAD	0.08012	1.99245	0.00469	0.99773	
Acrylonitrile	NE 0.22209	0.24684 0.22727	0.25533 0.22443	0.22927 0.21393	0.24716	0.22369	AVRG		0.23222		6.04166	
Methylene Chloride	NE 474209	5802 927668	9340 1389833	17193 1881972	39927	187449	LINR	-0.03078	0.53493		0.99779	
Methyl tert-butyl ether	NE 1.39016	1.41916 1.42962	1.58859 1.46934	1.47221 1.40500	1.39375	1.36506	AVRG		1.43699		4.66185	
Carbon Disulfide	NE 1.21908	1.57212 1.29393	1.24621 1.28724	1.23712 1.17251	1.12709	1.00908	AVRG		1.24049		12.31026	
trans-1,2-Dichloroethene	NE 0.48088	0.48201 0.50036	0.48895 0.49928	0.47112 0.46553	0.44661	0.41184	AVRG		0.47184		5.95719	
Vinyl Acetate	NE 1.25411	1.16950 1.25690	1.23854 1.27898	1.24209 1.17945	1.24238	1.22126	AVRG		1.23147		2.92064	
1,1-Dichloroethane	NE 0.85043	0.94882 0.83499	0.90695 0.83538	0.84670 0.76646	0.81320	0.74642	AVRG		0.83882		7.46823	
Chloroprene	NE 128333	1388 326899	1731 NE	4354 NE	10066	36907	QUAD	0.00855	7.33525	-5.80581	0.99887	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
2-Butanone	NE 0.20501	0.19701 0.20493	0.19886 0.20482	0.19591 0.19351	0.21233	0.20732	AVRG		0.20219		3.04965	
Methacrylonitrile	NE 0.30796	0.31496 0.30603	0.32332 0.29230	0.25346 0.28675	0.29001	0.28602	AVRG		0.29565		6.96547	
2,2-Dichloropropane	NE 341067	3730 779680	5237 1201871	11193 1601634	26695	103832	LINR	0.02661	0.46277		0.99656	
cis-1,2-Dichloroethene	NE 0.55243	0.58259 0.55001	0.61117 0.56642	0.55000 0.53053	0.53949	0.50921	AVRG		0.55465		5.34752	
Chloroform	NE 0.90623	0.94436 0.90665	0.93930 0.91738	0.87644 0.85919	0.88323	0.82810	AVRG		0.89565		4.21446	
Bromochloromethane	NE 0.29375	0.33175 0.28585	0.29863 0.29175	0.31073 0.27551	0.29595	0.28049	AVRG		0.29605		5.71264	
1,1,1-Trichloroethane	NE 0.62162	0.60396 0.70738	0.47776 0.71829	0.57682 0.65969	0.53453	0.52160	AVRG		0.60241		13.81773	
1,1-Dichloropropene	NE 0.34497	0.37548 0.39211	0.32208 0.38053	0.33968 0.35979	0.31118	0.29311	AVRG		0.34655		9.67762	
1,2-Dichloroethane	NE 0.45028	0.45519 0.44762	0.42282 0.43949	0.44932 0.42925	0.43063	0.42893	AVRG		0.43928		2.66727	
Carbon Tetrachloride	NE 320902	3171 877292	5716 NE	12588 NE	26439	99378	QUAD	0.00358	4.77119	-2.62219	0.99939	
Benzene	NE 1.21893	1.33494 1.23107	1.10653 1.19955	1.16917 1.16297	1.10567	1.07155	AVRG		1.17782		6.81618	
Trichloroethene	NE 0.33123	0.34200 0.34997	0.27358 0.35020	0.31968 0.33798	0.31138	0.28438	AVRG		0.32227		8.63536	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Bromodichloromethane	NE 0.40361	0.27950 0.41013	0.32541 0.41914	0.32516 0.41711	0.31974	0.34062	AVRG		0.36005		14.58454	
Methyl Methacrylate	NE 0.45087	0.44818 0.47304	0.43204 0.48592	0.39972 0.46208	0.42042	0.42927	AVRG		0.44462		6.09024	
1,2-Dichloropropane	NE 0.31163	0.31581 0.31737	0.27021 0.31210	0.27890 0.30747	0.29677	0.28567	AVRG		0.29955		5.82511	
Dibromomethane	NE 0.22460	0.21118 0.22126	0.22010 0.22004	0.20775 0.21798	0.21258	0.20735	AVRG		0.21587		2.91287	
4-Methyl-2-Pentanone	NE 0.31356	0.25125 0.32274	0.28167 0.31860	0.26962 0.30750	0.28711	0.29181	AVRG		0.29376		8.18151	
cis-1,3-Dichloropropene	NE 589702	3916 1314625	6701 2111427	12126 2990718	36717	175436	LINR	0.05627	0.51492		0.99885	
Ethyl Methacrylate	NE 0.50593	0.40733 0.53928	0.37773 0.54458	0.38355 0.53641	0.42977	0.45912	AVRG		0.46486		14.72354	
Toluene	NE 1.38778	1.39982 1.44134	1.21104 1.39966	1.26334 1.31011	1.27326	1.25824	AVRG		1.32718		6.11848	
trans-1,3-Dichloropropene	NE 478316	3354 1103954	5135 1776839	10490 2555944	28169	139963	LINR	0.06841	0.43838		0.99809	
2-Hexanone	NE 526402	3253 1147474	6997 1804472	15502 2481566	43345	182995	LINR	0.02689	0.22152		0.99938	
1,1,2-Trichloroethane	NE 0.28535	0.30394 0.28144	0.29168 0.27840	0.31088 0.26792	0.27515	0.27827	AVRG		0.28589		4.87877	
1,3-Dichloropropane	NE 0.59985	0.54458 0.59322	0.62025 0.57919	0.58244 0.55925	0.61540	0.56459	AVRG		0.58431		4.36498	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dibromochloromethane	NE 445683	2776 982012	5711 1554115	10463 2175278	32648	144312	LINR	0.02904	0.38650		0.99954	
Tetrachloroethene	NE 0.26518	0.36052 0.31293	0.25500 0.30103	0.29775 0.28004	0.28276	0.24046	AVRG		0.28841		12.32266	
1,2-Dibromoethane	NE 0.37580	0.32247 0.37689	0.32027 0.36983	0.34309 0.36138	0.33265	0.35104	AVRG		0.35038		6.30276	
1-Chlorohexane	NE 266333	2433 699070	5434 1079275	10304 NE	25743	88434	QUAD	0.02799	4.47506	-0.90746	0.99670	
Chlorobenzene	NE 0.94880	1.03214 0.97595	0.93103 0.95172	0.96579 0.92152	0.93300	0.88690	AVRG		0.94965		4.26342	
1,1,1,2-Tetrachloroethane	NE 0.33048	0.28764 0.34052	0.28110 0.34297	0.30809 0.33306	0.28325	0.28886	AVRG		0.31066		8.41408	
Ethylbenzene	NE 0.43502	0.44772 0.48275	0.38987 0.47917	0.43387 0.45165	0.42415	0.39460	AVRG		0.43764		7.40184	
m,p-Xylenes	NE 0.55781	0.57229 0.61822	0.47739 0.60746	0.53188 0.56602	0.49962	0.47828	AVRG		0.54544		9.58491	
o-Xylene	NE 0.56239	0.52301 0.59976	0.46265 0.60311	0.51870 0.57783	0.50564	0.49517	AVRG		0.53870		9.13822	
Styrene	NE 1123787	7484 2515807	14453 3972522	30964 5467718	87295	369850	LINR	0.02452	0.97782		0.99917	
Bromoform	NE 291068	1530 649870	3479 1062982	7647 1509527	20007	94499	LINR	0.04610	0.26650		0.99912	
Isopropylbenzene	NE 1.27176	1.20161 1.46187	1.06148 1.44003	1.16431 1.33602	1.14251	1.09706	AVRG		1.24185		11.68451	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,1,2,2-Tetrachloroethane	NE 0.99917	0.94673 0.95886	1.10764 0.94009	1.04906 0.90656	1.04746	0.99080	AVRG		0.99404		6.44767	
1,2,3-Trichloropropane	NE 0.85277	0.87208 0.88461	0.83161 0.89266	0.79724 0.87574	0.88013	0.83477	AVRG		0.85796		3.65500	
trans-1,4-Dichloro-2-butene	NE 79394	658 194985	1264 330142	1922 492359	5548	24229	LINR	0.08945	0.08580		0.99526	*
n-Propylbenzene	NE 2.68988	3.02452 3.06948	2.19495 3.07408	2.71517 2.72855	2.41093	2.33363	AVRG		2.69346		12.14017	
Bromobenzene	NE 0.79863	0.78833 0.81550	0.70948 0.81442	0.82995 0.79814	0.80492	0.77153	AVRG		0.79232		4.45882	
1,3,5-Trimethylbenzene	NE 2.02112	2.12091 2.19775	1.72906 2.19016	1.87690 2.05903	1.91318	1.83867	AVRG		1.99409		8.23324	
2-Chlorotoluene	NE 1.90646	2.09036 1.97591	1.76709 1.94903	1.86614 1.83707	1.86391	1.79383	AVRG		1.89442		5.26252	
4-Chlorotoluene	NE 2.16972	2.13619 2.28339	1.96215 2.28292	2.02866 2.13560	2.05117	2.01738	AVRG		2.11858		5.40062	
tert-Butylbenzene	NE 1.68444	2.03427 1.97251	1.49786 1.95203	1.75865 1.81522	1.52886	1.49250	AVRG		1.74848		12.10742	
1,2,4-Trimethylbenzene	NE 2.07216	2.04703 2.17967	2.02846 2.19921	2.27850 2.06798	2.05257	1.94598	AVRG		2.09684		4.87694	
sec-Butylbenzene	NE 1297343	13271 3454225	17948 5412058	48003 7122212	104963	417125	LINR	0.03516	2.50925		0.99562	
p-Isopropyltoluene	NE 1.78818	2.23058 2.15416	1.52520 2.21396	1.93165 2.07475	1.70907	1.59412	AVRG		1.91352		14.13606	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,3-Dichlorobenzene	NE 1.35248	1.40202 1.40005	1.35559 1.41127	1.36137 1.34585	1.32950	1.26312	AVRG		1.35792		3.34986	
1,4-Dichlorobenzene	NE 1.38818	1.83660 1.46138	1.57392 1.47515	1.56102 1.40968	1.42880	1.31535	AVRG		1.49445		10.15208	
Benzyl Chloride	NE 247883	2195 744928	2872 1485347	5046 2305969	12456	67066	QUAD	0.09029	3.65220	-0.79083	0.99371	
n-Butylbenzene	NE 902009	9581 2374641	13013 3785172	30228 5128466	69831	294780	LINR	0.04452	1.78149		0.99722	
1,2-Dichlorobenzene	NE 1.37878	1.77704 1.42178	1.43070 1.43714	1.39596 1.36755	1.39990	1.32522	AVRG		1.43712		9.19399	
1,2-Dibromo-3-Chloropropane	NE 84642	243 194924	881 327600	2331 455426	6526	27340	LINR	0.04588	0.15555		0.99863	*
1,2,4-Trichlorobenzene	NE 0.76535	0.94693 0.87347	0.69416 0.90702	0.70447 0.86757	0.64171	0.67334	AVRG		0.78600		14.49685	
Hexachlorobutadiene	NE 169934	2560 483913	3339 776762	7172 NE	13306	60901	QUAD	0.02461	3.29929	-0.60146	0.99631	
Naphthalene	NE 1.94294	2.34585 2.18241	1.81609 2.25421	1.65121 2.18948	1.56626	1.70385	AVRG		1.96137		14.80479	
1,2,3-Trichlorobenzene	NE 0.74741	0.87691 0.83974	0.77069 0.87025	0.72599 0.83224	0.65950	0.69086	AVRG		0.77929		10.18147	
Methyl Acrylate	NE 0.63788	0.58114 0.65496	0.66638 0.66799	0.60901 0.64003	0.62369	0.64549	AVRG		0.63629		4.41179	
1,4-Dioxane	0.00764 0.00783	0.00572 0.00775	0.00896 0.00761	0.00814 0.00725	0.00720	0.00786	AVRG		0.00759		10.84165	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
n-Hexane	NE 264054	3006 763254	5169 NE	10877 NE	22793	83693	QUAD	-0.00349	3.63906	-1.58945	0.99969	
Freon TF	NE 265554	3044 692856	4273 NE	11940 NE	24730	87464	QUAD	-0.00579	3.55380	-1.38042	0.99977	
Methyl Acetate	NE 0.39255	0.44241 0.38801	0.47450 0.38581	0.41241 0.36342	0.41981	0.40337	AVRG		0.40914		8.14900	
Methylcyclohexane	NE 0.65687	0.75984 0.79486	0.61212 0.81168	0.69781 0.80420	0.57963	0.62796	AVRG		0.70500		12.78092	
Isopropyl alcohol	NE 0.03092	0.03841 0.03087	0.03319 0.03130	0.02908 0.02921	0.03288	0.03100	AVRG		0.03187		8.82721	
Allyl alcohol	NE 264054	3292 763254	5169 NE	12118 NE	22793	83693	QUAD	-0.10577	72.95973	-31.94131	0.99965	
4-Methyl-2-pentanol	NE 1277106	6499 3162203	13051 5345216	24117 7390620	72617	382624	LINR	1.67222	0.06433		0.99650	
Tert-butyl alcohol	NE 0.04819	0.04338 0.04888	0.05078 0.04984	0.04730 0.04794	0.05106	0.04792	AVRG		0.04836		4.73312	
Diethyl ether	NE 0.41981	0.48018 0.43079	0.51716 0.43952	0.48104 0.42304	0.43173	0.41683	AVRG		0.44890		7.84645	
1,3-Butadiene	NE 295655	2660 689246	3837 1073997	9824 1414871	21652	86035	LINR	0.03494	0.41146		0.99555	
Cyclohexane	NE 367931	3722 998644	7250 NE	14256 NE	30806	124554	QUAD	-0.00372	2.56518	-0.74833	0.99996	
Tetrahydrofuran	NE 0.08795	0.09847 0.08816	0.09007 0.08756	0.09190 0.08448	0.07422	0.08471	AVRG		0.08750		7.45264	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
alpha-Methylstyrene	NE 534002	4251 1279645	6442 2085929	15380 2924639	43560	174380	LINR	0.04335	0.99763		0.99882	
Diisopropyl ether	NE 1.46114	1.65230 1.50876	1.79423 1.53589	1.56505 1.46125	1.50440	1.43002	AVRG		1.54589		7.38749	
Butyl acrylate	NE 721684	5755 1660715	9969 2725039	16558 3845538	49075	235491	LINR	0.05054	0.68108		0.99881	
Dicyclopentadiene	NE 2.12006	2.13445 2.53482	2.04605 2.56976	2.26511 2.53580	1.75914	1.94049	AVRG		2.21174		12.99323	
1,2,3-Trimethylbenzene	NE 2.11362	2.43907 2.17979	2.22797 2.18399	2.26544 2.12200	2.12491	2.05537	AVRG		2.19024		5.15864	
Ethanol	NE 0.00644	0.00540 0.00654	0.00792 0.00669	0.00753 0.00634	0.00765	0.00650	AVRG		0.00678		11.61431	
Acetaldehyde	NE 190123	NE 411315	NE 699663	5590 992749	22603	68834	LINR	0.29225	0.06981		0.99646	
Dimethyl Disulfide	NE 293810	631 943799	1885 1785183	3997 NE	12751	73144	QUAD	0.07444	3.48254	-0.98353	0.99316	
1,2-Dichloroethylene (total)	NE 0.51666	0.53230 0.52519	0.55006 0.53285	0.51056 0.49803	0.49305	0.46053	AVRG		0.51325		5.19276	
Xylenes (total)	NE 0.52916	0.50201 0.58032	0.43393 0.58386	0.47444 0.55660	0.45487	0.45013	AVRG		0.50726		11.36948	
Dibromofluoromethane	NE 387990	5430 851798	7603 1264289	15872 1763288	36389	161737	LINR	-0.00697	0.49651		0.99912	
1,2-Dichloroethane-d4	NE 449979	5818 940738	10111 1438278	19160 1994105	47752	187085	LINR	-0.01276	0.56011		0.99925	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Toluene-d8	NE 1.09663	1.45550 1.22885	1.16619 1.12378	1.17555 1.12762	1.10766	1.22325	AVRG		1.18945		9.28870	
4-Bromofluorobenzene	NE 515213	7000 1154383	11689 1769020	19298 2511444	50749	205602	LINR	0.00366	0.44191		0.99969	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

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Form 6I

Initial Calibration Verification (ICV)

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

Instrument ID VOA9.i ICAL Date 11-NOV-2022
Lab File ID U111114.D ICAL Time 1431
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachlor	50.00	50.48	100.98	80-120	
1,1,1-Trichloroeth	50.00	46.48	92.97	80-120	
1,1,2,2-Tetrachlor	50.00	46.60	93.21	80-120	
Freon TF	50.00	45.63	91.28	80-120	
Methyl Acetate	50.00	43.57	87.15	80-120	
Cyclohexane	50.00	45.53	91.08	80-120	
Methylcyclohexane	50.00	44.99	89.98	80-120	
Carbon Disulfide	100.00	86.80	86.81	80-120	
2-Hexanone	100.00	94.33	94.33	80-120	
1,1,2-Trichloroeth	50.00	45.64	91.29	80-120	
1,1-Dichloroethane	50.00	43.38	86.77	80-120	
1,1-Dichloroethene	50.00	43.53	87.06	80-120	
1,1-Dichloropropen	50.00	44.98	89.98	80-120	
1,2,3-Trichloroben	50.00	53.41	106.84	80-120	
1,2,3-Trichloropro	50.00	48.22	96.44	80-120	
1,2,4-Trichloroben	50.00	52.78	105.56	80-120	
1,2,4-Trimethylben	50.00	50.49	100.99	80-120	
1,2-Dibromo-3-Chlo	50.00	44.35	88.70	80-120	
1,2-Dibromoethane	50.00	50.17	100.34	80-120	
Acrolein	100.00	96.32	96.32	80-120	
Acrylonitrile	100.00	87.24	87.24	80-120	
1,2-Dichlorobenzen	50.00	48.01	96.03	80-120	
1,2-Dichloroethane	50.00	46.06	92.13	80-120	
1,2-Dichloropropan	50.00	47.01	94.02	80-120	
1,3,5-Trimethylben	50.00	49.83	99.67	80-120	
1,3-Dichlorobenzen	50.00	49.69	99.39	80-120	
1,3-Dichloropropan	50.00	47.38	94.78	80-120	
1,4-Dichlorobenzen	50.00	47.47	94.95	80-120	
1-Chlorohexane	50.00	42.12	84.26	80-120	
2,2-Dichloropropan	50.00	43.93	87.88	80-120	
2-Butanone	100.00	93.33	93.33	80-120	
2-Chlorotoluene	50.00	48.62	97.25	80-120	
4-Chlorotoluene	50.00	50.10	100.21	80-120	
p-Isopropyltoluene	50.00	47.96	95.92	80-120	

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

Instrument ID VOA9.i ICAL Date 11-NOV-2022
Lab File ID U111114.D ICAL Time 1431
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
4-Methyl-2-Pentano	100.00	102.72	102.73	80-120	
Acetone	100.00	92.23	92.23	80-120	
Benzene	50.00	45.44	90.89	80-120	
Bromobenzene	50.00	49.40	98.82	80-120	
Bromochloromethane	50.00	44.77	89.56	80-120	
Bromodichlorometha	50.00	50.74	101.49	80-120	
Bromoform	50.00	44.72	89.45	80-120	
Bromomethane	50.00	48.21	96.42	80-120	
Carbon Tetrachlori	50.00	47.09	94.19	80-120	
Chlorobenzene	50.00	46.83	93.66	80-120	
Chloroethane	50.00	44.83	89.68	80-120	
Chloroform	50.00	45.09	90.18	80-120	
Chloromethane	50.00	44.04	88.09	80-120	
cis-1,2-Dichloroet	50.00	44.51	89.04	80-120	
cis-1,3-Dichloropr	50.00	43.54	87.10	80-120	
Dibromochlorometha	50.00	45.64	91.28	80-120	
Dibromomethane	50.00	46.84	93.70	80-120	
Dichlorodifluorome	50.00	46.35	92.70	80-120	
Ethylbenzene	50.00	48.48	96.96	80-120	
Hexachlorobutadien	50.00	45.55	91.10	80-120	
Isopropylbenzene	50.00	49.14	98.29	80-120	
m,p-Xylenes	100.00	99.20	99.21	80-120	
Methyl tert-butyl	50.00	45.47	90.96	80-120	
Methylene Chloride	50.00	48.02	96.04	80-120	
n-Butylbenzene	50.00	44.12	88.25	80-120	
n-Propylbenzene	50.00	48.81	97.63	80-120	
Naphthalene	50.00	56.60	113.20	80-120	
o-Xylene	50.00	49.93	99.88	80-120	
sec-Butylbenzene	50.00	42.95	85.91	80-120	
Styrene	50.00	46.28	92.57	80-120	
tert-Butylbenzene	50.00	46.75	93.51	80-120	
Tetrachloroethene	50.00	44.40	88.81	80-120	
Toluene	50.00	48.57	97.14	80-120	
trans-1,2-Dichloro	50.00	46.03	92.06	80-120	

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421678

Volatiles Organics by Method 8260C

Instrument ID VOA9.i ICAL Date 11-NOV-2022
Lab File ID U111114.D ICAL Time 1431
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
trans-1,3-Dichloro	50.00	42.90	85.80	80-120	
Trichloroethene	50.00	46.96	93.93	80-120	
Trichlorofluoromet	50.00	43.09	86.19	80-120	
Vinyl Chloride	50.00	42.99	85.98	80-120	
1,2-Dichloroethyle	50.00	90.55	181.10*	80-120	
Xylenes (total)	150.00	149.14	99.43	80-120	
1,4-Dioxane	1000.00	929.11	92.91	80-120	
Dibromofluorometha	50.00	49.14	98.28	71-125	
1,2-Dichloroethane	50.00	48.13	96.27	70-125	
Toluene-d8	50.00	51.43	102.86	75-125	
4-Bromofluorobenze	50.00	50.93	101.88	72-125	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	45.30184	0.36662	0.100	9.39631	20.0	Quadratic	
Chloromethane	50.0	44.40835	0.49003	0.100	11.18331	20.0	Linear	
Vinyl Chloride	0.50998	0.44205	0.44205	0.100	13.32057	20.0	Averaged	
Bromomethane	50.0	46.64746	0.32819	0.100	6.70508	20.0	Linear	
Chloroethane	0.37257	0.32996	0.32996	0.100	11.43800	20.0	Averaged	
Trichlorofluoromethane	0.66307	0.55355	0.55355	0.100	16.51575	20.0	Averaged	
Acrolein	100	99	0.03549	0.020	0.95266	20.0	Linear	
Acetone	100	99	0.20253	0.100	0.69440	20.0	Linear	
1,1-Dichloroethene	0.42642	0.36802	0.36802	0.100	13.69497	20.0	Averaged	
Iodomethane	100	87.37585	0.41761	0.100	12.62415	20.0	Quadratic	
Acrylonitrile	0.23222	0.21358	0.21358	0.050	8.02627	20.0	Averaged	
Methylene Chloride	50.0	47.49832	0.52463	0.100	5.00335	20.0	Linear	
Methyl tert-butyl ether	1.43699	1.37664	1.37664	0.100	4.19936	20.0	Averaged	
Carbon Disulfide	1.24049	1.07235	1.07235	0.100	13.55374	20.0	Averaged	
trans-1,2-Dichloroethene	0.47184	0.42214	0.42214	0.100	10.53383	20.0	Averaged	
Vinyl Acetate	1.23147	1.22075	1.22075	0.010	0.87043	20.0	Averaged	
1,1-Dichloroethane	0.83882	0.73076	0.73076	0.200	12.88205	20.0	Averaged	
2-Butanone	0.20219	0.19228	0.19228	0.100	4.90292	20.0	Averaged	
2,2-Dichloropropane	50.0	43.73418	0.39246	0.100	12.53163	20.0	Linear	
cis-1,2-Dichloroethene	0.55465	0.50379	0.50379	0.100	9.16993	20.0	Averaged	
Chloroform	0.89565	0.81386	0.81386	0.200	9.13223	20.0	Averaged	
Bromochloromethane	0.29605	0.26826	0.26826	0.100	9.38401	20.0	Averaged	
Dibromofluoromethane	50.0	51.74215	0.51727	0.100	-3.48430	20.0	Linear	
1,1,1-Trichloroethane	0.60241	0.55961	0.55961	0.100	7.10415	20.0	Averaged	
1,1-Dichloropropene	0.34655	0.30357	0.30357	0.100	12.40183	20.0	Averaged	
1,2-Dichloroethane	0.43928	0.41313	0.41313	0.100	5.95338	20.0	Averaged	
Carbon Tetrachloride	50.0	44.86239	0.21201	0.100	10.27522	20.0	Quadratic	
1,2-Dichloroethane-d4	50.0	51.27821	0.58157	0.100	-2.55642	20.0	Linear	
Benzene	1.17782	1.07399	1.07399	0.500	8.81530	20.0	Averaged	
Trichloroethene	0.32227	0.29801	0.29801	0.200	7.52661	20.0	Averaged	
Bromodichloromethane	0.36005	0.35996	0.35996	0.200	0.02545	20.0	Averaged	
2-Chloroethylvinyl ether	++++	++++	1.301e+65	0.001	++++	20.0	Averaged	<-
1,2-Dichloropropane	0.29955	0.28220	0.28220	0.100	5.79129	20.0	Averaged	
Dibromomethane	0.21587	0.20449	0.20449	0.100	5.27145	20.0	Averaged	

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Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.29376	0.29929	0.29929	0.100	-1.88201	20.0	Averaged	
cis-1,3-Dichloropropene	50.0	43.82036	0.42230	0.200	12.35928	20.0	Linear	
Toluene-d8	1.18945	1.24952	1.24952	0.100	-5.05065	20.0	Averaged	
Toluene	1.32718	1.26685	1.26685	0.400	4.54552	20.0	Averaged	
trans-1,3-Dichloropropene	50.0	43.59843	0.35226	0.100	12.80315	20.0	Linear	
2-Hexanone	100	97.07002	0.21205	0.100	2.92998	20.0	Linear	
1,1,2-Trichloroethane	0.28589	0.26880	0.26880	0.100	5.97764	20.0	Averaged	
1,3-Dichloropropane	0.58431	0.55765	0.55765	0.100	4.56197	20.0	Averaged	
Dibromochloromethane	50.0	45.26644	0.33869	0.100	9.46712	20.0	Linear	
Tetrachloroethene	0.28841	0.24520	0.24520	0.200	14.98174	20.0	Averaged	
1,2-Dibromoethane	0.35038	0.35180	0.35180	0.100	-0.40463	20.0	Averaged	
1-Chlorohexane	50.0	40.63460	0.18207	0.100	18.73080	20.0	Quadratic	
Chlorobenzene	0.94965	0.88440	0.88440	0.500	6.87055	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.31066	0.30941	0.30941	0.100	0.40404	20.0	Averaged	
Ethylbenzene	0.43764	0.41532	0.41532	0.100	5.10035	20.0	Averaged	
m,p-Xylenes	0.54544	0.53138	0.53138	0.100	2.57839	20.0	Averaged	
o-Xylene	0.53870	0.53583	0.53583	0.300	0.53217	20.0	Averaged	
Styrene	50.0	47.10274	0.89718	0.300	5.79452	20.0	Linear	
Bromoform	50.0	44.05018	0.22250	0.100	11.89963	20.0	Linear	
Isopropylbenzene	1.24185	1.19114	1.19114	0.100	4.08373	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.99404	0.92840	0.92840	0.300	6.60316	20.0	Averaged	
4-Bromofluorobenzene	50.0	52.41981	0.46168	0.100	-4.83962	20.0	Linear	
1,2,3-Trichloropropane	0.85796	0.81310	0.81310	0.100	5.22808	20.0	Averaged	
n-Propylbenzene	2.69346	2.54556	2.54556	0.100	5.49120	20.0	Averaged	
Bromobenzene	0.79232	0.77613	0.77613	0.100	2.04367	20.0	Averaged	
1,3,5-Trimethylbenzene	1.99409	1.93564	1.93564	0.100	2.93081	20.0	Averaged	
2-Chlorotoluene	1.89442	1.79981	1.79981	0.100	4.99422	20.0	Averaged	
4-Chlorotoluene	2.11858	2.06676	2.06676	0.100	2.44581	20.0	Averaged	
tert-Butylbenzene	1.74848	1.56297	1.56297	0.100	10.60966	20.0	Averaged	
1,2,4-Trimethylbenzene	2.09684	2.07730	2.07730	0.100	0.93209	20.0	Averaged	
sec-Butylbenzene	50.0	41.10067	1.97442	0.100	17.79866	20.0	Linear	
p-Isopropyltoluene	1.91352	1.74070	1.74070	0.100	9.03134	20.0	Averaged	
1,3-Dichlorobenzene	1.35792	1.28925	1.28925	0.600	5.05650	20.0	Averaged	
1,4-Dichlorobenzene	1.49445	1.36247	1.36247	0.400	8.83156	20.0	Averaged	

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Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
n-Butylbenzene	50.0	41.70674	1.40669	0.500	16.58653	20.0	Linear	
1,2-Dichlorobenzene	1.43712	1.34078	1.34078	0.400	6.70335	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	44.81103	0.13228	0.050	10.37794	20.0	Linear	
1,2,4-Trichlorobenzene	0.78600	0.81853	0.81853	0.200	-4.13820	20.0	Averaged	
Hexachlorobutadiene	50.0	42.27359	0.26124	0.100	15.45283	20.0	Quadratic	
Naphthalene	1.96137	2.11799	2.11799	0.200	-7.98556	20.0	Averaged	
1,2,3-Trichlorobenzene	0.77929	0.77639	0.77639	0.100	0.37183	20.0	Averaged	
1,2-Dichloroethylene (total	0.51325	0.46296	0.46296	0.200	9.79687	20.0	Averaged	
Xylenes (total)	0.50726	0.49998	0.49998	0.100	1.43551	20.0	Averaged	
1,4-Dioxane	0.00759	0.00695	0.00695	0.001	8.45372	20.0	Averaged	
Cyclohexane	50.0	43.53627	0.38388	0.100	12.92746	20.0	Quadratic	
Freon TF	50.0	44.03509	0.27988	0.100	11.92983	20.0	Quadratic	
1,3-Butadiene	50.0	40.84909	0.32178	0.100	18.30182	20.0	Linear	
Methylcyclohexane	0.70500	0.71558	0.71558	0.100	-1.50165	20.0	Averaged	
Methyl Acetate	0.40914	0.36957	0.36957	0.100	9.67136	20.0	Averaged	
Tert-butyl alcohol	0.04836	0.04669	0.04669	0.005	3.46919	20.0	Averaged	
Isopropyl alcohol	0.03187	0.02904	0.02904	0.005	8.88845	20.0	Averaged	
trans-1,4-Dichloro-2-butene	50.0	43.31474	0.06665	0.050	13.37052	20.0	Linear	
Isobutyl Alcohol	1000	878	0.05493	0.005	12.21710	20.0	Linear	
Acetonitrile	0.05081	0.04934	0.04934	0.005	2.89458	20.0	Averaged	
Allyl Chloride	1.16272	1.08937	1.08937	0.100	6.30846	20.0	Averaged	
Methacrylonitrile	0.29565	0.27483	0.27483	0.100	7.03951	20.0	Averaged	
Methyl Methacrylate	0.44462	0.44678	0.44678	0.100	-0.48720	20.0	Averaged	
Propionitrile	0.07998	0.07519	0.07519	0.010	5.98896	20.0	Averaged	
n-Hexane	50.0	42.58924	0.26591	0.100	14.82153	20.0	Quadratic	
Acetaldehyde	++++	++++	1.301e+65	0.001	++++	20.0	Linear	<-
Methyl Acrylate	0.63629	0.62414	0.62414	0.100	1.90914	20.0	Averaged	
Dimethyl Disulfide	50.0	44.85014	0.25449	0.020	10.29972	20.0	Quadratic	
Chloroprene	50.0	45.65845	0.13851	0.100	8.68310	20.0	Quadratic	
Ethyl Methacrylate	0.46486	0.50587	0.50587	0.100	-8.82224	20.0	Averaged	
1,2,3-Trimethylbenzene	2.19024	2.13888	2.13888	0.100	2.34499	20.0	Averaged	
Ethanol	0.00678	0.00588	0.00588	0.001	13.31151	20.0	Averaged	
Dicyclopentadiene	2.21174	2.26606	2.26606	0.100	-2.45594	20.0	Averaged	
alpha-Methylstyrene	50.0	45.55246	0.86564	0.100	8.89508	20.0	Linear	

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Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Tetrahydrofuran	0.08750	0.08004	0.08004	0.001	8.52801	20.0	Averaged	
Diisopropyl ether	1.54589	1.42389	1.42389	0.100	7.89188	20.0	Averaged	
4-Methyl-2-pentanol	1000	855	0.04964	0.005	14.46688	20.0	Linear	
Allyl alcohol	1000	852	0.01330	0.004	14.81772	20.0	Quadratic	
Benzyl Chloride	50.0	46.69258	0.24385	0.010	6.61483	20.0	Quadratic	
Butyl acrylate	50.0	46.19878	0.59488	0.100	7.60245	20.0	Linear	
Diethyl ether	0.44890	0.41116	0.41116	0.100	8.40808	20.0	Averaged	

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Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	56.89895	0.47549	0.100	-13.79791	50.0	Quadratic	
Chloromethane	50.0	51.18531	0.56524	0.100	-2.37062	50.0	Linear	
Vinyl Chloride	0.50998	0.55265	0.55265	0.100	-8.36655	50.0	Averaged	
Bromomethane	50.0	49.22676	0.34592	0.100	1.54647	50.0	Linear	
Chloroethane	0.37257	0.38492	0.38492	0.100	-3.31558	50.0	Averaged	
Trichlorofluoromethane	0.66307	0.74328	0.74328	0.100	-12.09792	50.0	Averaged	
Acrolein	100	101	0.03637	0.020	-1.46448	50.0	Linear	
Acetone	100	88.94584	0.18289	0.100	11.05416	50.0	Linear	
1,1-Dichloroethene	0.42642	0.45248	0.45248	0.100	-6.11130	50.0	Averaged	
Iodomethane	100	98.97663	0.47559	0.100	1.02337	50.0	Quadratic	
Acrylonitrile	0.23222	0.22375	0.22375	0.050	3.64888	50.0	Averaged	
Methylene Chloride	50.0	54.32705	0.59769	0.100	-8.65410	50.0	Linear	
Methyl tert-butyl ether	1.43699	1.38733	1.38733	0.100	3.45586	50.0	Averaged	
Carbon Disulfide	1.24049	1.24201	1.24201	0.100	-0.12257	50.0	Averaged	
trans-1,2-Dichloroethene	0.47184	0.48988	0.48988	0.100	-3.82192	50.0	Averaged	
Vinyl Acetate	1.23147	0.83726	0.83726	0.010	32.01142	50.0	Averaged	
1,1-Dichloroethane	0.83882	0.82679	0.82679	0.200	1.43388	50.0	Averaged	
2-Butanone	0.20219	0.20048	0.20048	0.100	0.84625	50.0	Averaged	
2,2-Dichloropropane	50.0	36.93645	0.32955	0.100	26.12710	50.0	Linear	
cis-1,2-Dichloroethene	0.55465	0.56475	0.56475	0.100	-1.82062	50.0	Averaged	
Chloroform	0.89565	0.92577	0.92577	0.200	-3.36269	50.0	Averaged	
Bromochloromethane	0.29605	0.28906	0.28906	0.100	2.35891	50.0	Averaged	
Dibromofluoromethane	50.0	51.54549	0.51532	0.100	-3.09099	50.0	Linear	
1,1,1-Trichloroethane	0.60241	0.68553	0.68553	0.100	-13.79856	50.0	Averaged	
1,1-Dichloropropene	0.34655	0.37458	0.37458	0.100	-8.08933	50.0	Averaged	
1,2-Dichloroethane	0.43928	0.44189	0.44189	0.100	-0.59314	50.0	Averaged	
Carbon Tetrachloride	50.0	58.49872	0.29101	0.100	-16.99744	50.0	Quadratic	
1,2-Dichloroethane-d4	50.0	52.03160	0.59001	0.100	-4.06320	50.0	Linear	
Benzene	1.17782	1.18091	1.18091	0.500	-0.26205	50.0	Averaged	
Trichloroethene	0.32227	0.36523	0.36523	0.200	-13.33174	50.0	Averaged	
Bromodichloromethane	0.36005	0.37797	0.37797	0.200	-4.97870	50.0	Averaged	
2-Chloroethylvinyl ether	++++	++++	1.301e+65	0.001	++++	50.0	Averaged	<-
1,2-Dichloropropane	0.29955	0.29981	0.29981	0.100	-0.08856	50.0	Averaged	
Dibromomethane	0.21587	0.21012	0.21012	0.100	2.66223	50.0	Averaged	

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Project 35BWW01-221101

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Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.29376	0.31296	0.31296	0.100	-6.53563	50.0	Averaged	
cis-1,3-Dichloropropene	50.0	42.38437	0.40751	0.200	15.23126	50.0	Linear	
Toluene-d8	1.18945	1.21769	1.21769	0.100	-2.37394	50.0	Averaged	
Toluene	1.32718	1.41559	1.41559	0.400	-6.66171	50.0	Averaged	
trans-1,3-Dichloropropene	50.0	41.18683	0.33112	0.100	17.62634	50.0	Linear	
2-Hexanone	100	94.94839	0.20735	0.100	5.05161	50.0	Linear	
1,1,2-Trichloroethane	0.28589	0.27933	0.27933	0.100	2.29470	50.0	Averaged	
1,3-Dichloropropane	0.58431	0.59075	0.59075	0.100	-1.10229	50.0	Averaged	
Dibromochloromethane	50.0	46.60904	0.34907	0.100	6.78191	50.0	Linear	
Tetrachloroethene	0.28841	0.29704	0.29704	0.200	-2.99157	50.0	Averaged	
1,2-Dibromoethane	0.35038	0.37274	0.37274	0.100	-6.38261	50.0	Averaged	
1-Chlorohexane	50.0	52.66818	0.24090	0.100	-5.33637	50.0	Quadratic	
Chlorobenzene	0.94965	0.95809	0.95809	0.500	-0.88836	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.31066	0.32789	0.32789	0.100	-5.54599	50.0	Averaged	
Ethylbenzene	0.43764	0.47133	0.47133	0.100	-7.69582	50.0	Averaged	
m,p-Xylenes	0.54544	0.59255	0.59255	0.100	-8.63624	50.0	Averaged	
o-Xylene	0.53870	0.58401	0.58401	0.300	-8.41180	50.0	Averaged	
Styrene	50.0	48.79053	0.93018	0.300	2.41894	50.0	Linear	
Bromoform	50.0	44.17203	0.22315	0.100	11.65594	50.0	Linear	
Isopropylbenzene	1.24185	1.43525	1.43525	0.100	-15.57315	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.99404	0.86919	0.86919	0.300	12.56053	50.0	Averaged	
4-Bromofluorobenzene	50.0	50.82004	0.44754	0.100	-1.64008	50.0	Linear	
1,2,3-Trichloropropane	0.85796	0.86330	0.86330	0.100	-0.62264	50.0	Averaged	
n-Propylbenzene	2.69346	3.04019	3.04019	0.100	-12.87275	50.0	Averaged	
Bromobenzene	0.79232	0.81992	0.81992	0.100	-3.48304	50.0	Averaged	
1,3,5-Trimethylbenzene	1.99409	2.21197	2.21197	0.100	-10.92652	50.0	Averaged	
2-Chlorotoluene	1.89442	1.99933	1.99933	0.100	-5.53804	50.0	Averaged	
4-Chlorotoluene	2.11858	2.26337	2.26337	0.100	-6.83465	50.0	Averaged	
tert-Butylbenzene	1.74848	1.98511	1.98511	0.100	-13.53312	50.0	Averaged	
1,2,4-Trimethylbenzene	2.09684	2.24120	2.24120	0.100	-6.88448	50.0	Averaged	
sec-Butylbenzene	50.0	52.77202	2.56015	0.100	-5.54404	50.0	Linear	
p-Isopropyltoluene	1.91352	2.09929	2.09929	0.100	-9.70824	50.0	Averaged	
1,3-Dichlorobenzene	1.35792	1.39630	1.39630	0.600	-2.82652	50.0	Averaged	
1,4-Dichlorobenzene	1.49445	1.44809	1.44809	0.400	3.10249	50.0	Averaged	

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Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
n-Butylbenzene	50.0	49.58806	1.68750	0.500	0.82388	50.0	Linear	
1,2-Dichlorobenzene	1.43712	1.41674	1.41674	0.400	1.41760	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	45.09610	0.13316	0.050	9.80780	50.0	Linear	
1,2,4-Trichlorobenzene	0.78600	0.81401	0.81401	0.200	-3.56384	50.0	Averaged	
Hexachlorobutadiene	50.0	53.17159	0.33536	0.100	-6.34318	50.0	Quadratic	
Naphthalene	1.96137	2.04423	2.04423	0.200	-4.22454	50.0	Averaged	
1,2,3-Trichlorobenzene	0.77929	0.79993	0.79993	0.100	-2.64889	50.0	Averaged	
1,2-Dichloroethylene (total	0.51325	0.52731	0.52731	0.200	-2.74055	50.0	Averaged	
Xylenes (total)	0.50726	0.54415	0.54415	0.100	-7.27268	50.0	Averaged	
1,4-Dioxane	0.00759	0.00706	0.00706	0.001	7.03511	50.0	Averaged	
Cyclohexane	50.0	64.98889	0.62045	0.100	-29.97778	50.0	Quadratic	
Freon TF	50.0	60.95001	0.40991	0.100	-21.90003	50.0	Quadratic	
1,3-Butadiene	50.0	51.04054	0.40564	0.100	-2.08108	50.0	Linear	
Methylcyclohexane	0.70500	0.70626	0.70626	0.100	-0.17844	50.0	Averaged	
Methyl Acetate	0.40914	0.39277	0.39277	0.100	4.00273	50.0	Averaged	
Tert-butyl alcohol	0.04836	0.04770	0.04770	0.005	1.38215	50.0	Averaged	
Isopropyl alcohol	0.03187	0.03068	0.03068	0.005	3.74708	50.0	Averaged	
trans-1,4-Dichloro-2-butene	50.0	37.95138	0.05745	0.050	24.09723	50.0	Linear	
Isobutyl Alcohol	1000	892	0.05586	0.005	10.84789	50.0	Linear	
Acetonitrile	0.05081	0.04920	0.04920	0.005	3.15608	50.0	Averaged	
Allyl Chloride	1.16272	1.12532	1.12532	0.100	3.21663	50.0	Averaged	
Methacrylonitrile	0.29565	0.30021	0.30021	0.100	-1.54418	50.0	Averaged	
Methyl Methacrylate	0.44462	0.45273	0.45273	0.100	-1.82578	50.0	Averaged	
Propionitrile	0.07998	0.08015	0.08015	0.010	-0.20923	50.0	Averaged	
n-Hexane	50.0	56.96166	0.37565	0.100	-13.92331	50.0	Quadratic	
Acetaldehyde	200	215	0.06982	0.001	-7.32049	50.0	Linear	
Methyl Acrylate	0.63629	0.64143	0.64143	0.100	-0.80876	50.0	Averaged	
Dimethyl Disulfide	50.0	40.60515	0.22628	0.020	18.78971	50.0	Quadratic	
Chloroprene	50.0	59.02783	0.18765	0.100	-18.05565	50.0	Quadratic	
Ethyl Methacrylate	0.46486	0.47626	0.47626	0.100	-2.45249	50.0	Averaged	
1,2,3-Trimethylbenzene	2.19024	2.17376	2.17376	0.100	0.75246	50.0	Averaged	
Ethanol	0.00678	0.00680	0.00680	0.001	-0.31514	50.0	Averaged	
Dicyclopentadiene	2.21174	2.28878	2.28878	0.100	-3.48312	50.0	Averaged	
alpha-Methylstyrene	50.0	48.00118	0.91450	0.100	3.99763	50.0	Linear	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project 35BWW01-221101

Workorder HS22110211

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Tetrahydrofuran	0.08750	0.08855	0.08855	0.001	-1.20012	50.0	Averaged	
Diisopropyl ether	1.54589	1.46605	1.46605	0.100	5.16453	50.0	Averaged	
4-Methyl-2-pentanol	1000	838	0.04851	0.005	16.22800	50.0	Linear	
Allyl alcohol	1000	1140	0.01878	0.004	-13.97151	50.0	Quadratic	
Benzyl Chloride	50.0	26.44168	0.12337	0.010	47.11664	50.0	Quadratic	
Butyl acrylate	50.0	44.99797	0.57853	0.100	10.00406	50.0	Linear	
Diethyl ether	0.44890	0.42651	0.42651	0.100	4.98702	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 8 - Internal Standard Area and RT Summary

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

RunID
VOA9_421679

		IS1				IS2				IS3				IS4			
Sample ID	File ID	Area		RT		Area		RT		Area		RT		Area		RT	
12-HOUR STD (CCV)	V111103	878052	#	4.82	#	1433114	#	5.55	#	1344668	#	8.19	#	689775	#	10.17	#
CCB	V111104	1066844		4.82		1575798		5.55		1360971		8.19		642918		10.17	
VLCSW-221110	V111105	876868		4.82		1431204		5.56		1295894		8.19		644296		10.17	
VBLKW-221110	V111107	1027876		4.82		1547005		5.56		1339369		8.19		608012		10.17	
HS22110211-10	V111108	1013011		4.82		1523582		5.56		1331164		8.19		603668		10.17	
HS22110211-01	V111110	1020973		4.82		1532090		5.56		1336466		8.19		619180		10.17	
HS22110211-02	V111111	975017		4.82		1466800		5.56		1287956		8.19		590354		10.17	
HS22110211-03	V111112	989136		4.82		1479966		5.55		1282341		8.19		587206		10.17	
HS22110211-04	V111113	975251		4.82		1473399		5.55		1270664		8.19		580575		10.17	
HS22110211-05	V111114	969737		4.82		1450596		5.56		1279264		8.19		585998		10.18	
HS22110211-06	V111115	951876		4.82		1436567		5.56		1254731		8.19		571286		10.17	
HS22110211-07	V111116	958271		4.82		1443556		5.55		1255999		8.19		564625		10.17	
HS22110211-08	V111117	955948		4.82		1429486		5.56		1265273		8.19		582574		10.17	
HS22110211-09	V111118	970349		4.82		1456694		5.56		1276199		8.19		567821		10.17	
ZZZZZZMS	V111128	980561		4.82		1479499		5.56		1314041		8.19		655744		10.17	
ZZZZZZMSD	V111129	986832		4.82		1470507		5.56		1289923		8.19		662708		10.17	
ZZZZZZMS	V111130	1004508		4.82		1516443		5.55		1336596		8.19		665150		10.17	
ZZZZZZMSD	V111131	1017481		4.82		1489684		5.56		1331355		8.19		667906		10.17	
CCV-END	V111132	828688		4.82		1396797		5.56		1288898		8.19		651380		10.17	

IS1 - Pentafluorobenzene IS2 - 1,4-Difluorobenzene IS3 - Chlorobenzene-d5 IS4 - 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention Time IS - Internal Standard

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

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Analysis Run Log

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

MSVOA09 -Logbook

Batch: 51987 **Analyst:** Presenta Cabascango

Date: 11-11-2022 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-11-2022 11:34 am	1.00	50 mL	50 mL	U111101.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	11-11-2022 11:56 am	1.00	50 mL	50 mL	U111102.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	11-11-2022 12:18 pm	1.00	50 mL	50 mL	U111103.D	Liquid	Y	NA
4	VSTD001	ICAL3	11-11-2022 01:03 pm	1.00	50 mL	50 mL	U111104.D	Liquid	Y	NA
5	VSTD002	ICAL4	11-11-2022 01:25 pm	1.00	50 mL	50 mL	U111105.D	Liquid	Y	NA
6	VSTD005	ICAL5	11-11-2022 01:47 pm	1.00	50 mL	50 mL	U111106.D	Liquid	Y	NA
7	VSTD020	ICAL6	11-11-2022 02:09 pm	1.00	50 mL	50 mL	U111107.D	Liquid	Y	NA
8	VSTD050	ICAL7	11-11-2022 02:31 pm	1.00	50 mL	50 mL	U111108.D	Liquid	Y	NA
9	VSTD100	ICAL8	11-11-2022 02:53 pm	1.00	50 mL	50 mL	U111109.D	Liquid	Y	NA
10	VSTD150	ICAL9	11-11-2022 03:16 pm	1.00	50 mL	50 mL	U111110.D	Liquid	Y	NA
11	VSTD200	ICAL	11-11-2022 03:38 pm	1.00	50 mL	50 mL	U111111.D	Liquid	Y	NA
12	BLANK	SAMP	11-11-2022 04:00 pm	1.00	50 mL	50 mL	U111112.D	Liquid	Y	NA
13	BLANK	SAMP	11-11-2022 04:22 pm	1.00	50 mL	50 mL	U111113.D	Liquid	Y	NA
14	CCV	CCV	11-11-2022 04:44 pm	1.00	50 mL	50 mL	U111114.D	Liquid	Y	NA
15	BFB	TUNE	11-11-2022 05:07 pm	1.00	50 mL	50 mL	V111101.D	Liquid	Y	NA
16	CCV	CCV	11-11-2022 05:29 pm	1.00	50 mL	50 mL	V111102a.D	Liquid	Y	NA
17	CCV	CCV	11-11-2022 05:51 pm	1.00	50 mL	50 mL	V111103.D	Liquid	Y	NA
18	CCB	SAMP	11-11-2022 06:13 pm	1.00	50 mL	50 mL	V111104.D	Liquid	Y	NA
19	VLCSW-221110	LCS	11-11-2022 06:36 pm	1.00	50 mL	50 mL	V111105.D	Liquid	Y	NA
20	BLANK	SAMP	11-11-2022 06:58 pm	1.00	50 mL	50 mL	V111106.D	Liquid	Y	NA
21	VBLKW-221110	MBLK	11-11-2022 07:20 pm	1.00	50 mL	50 mL	V111107.D	Liquid	Y	NA
22	HS22110211-10	SAMP	11-11-2022 07:42 pm	1.00	50 mL	50 mL	V111108.D	Liquid	Y	NA
23	HS22110281-08	SAMP	11-11-2022 08:05 pm	1.00	50 mL	50 mL	V111109.D	Liquid	Y	NA
24	HS22110211-01	SAMP	11-11-2022 08:27 pm	1.00	50 mL	50 mL	V111110.D	Liquid	Y	NA
25	HS22110211-02	SAMP	11-11-2022 08:49 pm	1.00	50 mL	50 mL	V111111.D	Liquid	Y	NA
26	HS22110211-03	SAMP	11-11-2022 09:12 pm	1.00	50 mL	50 mL	V111112.D	Liquid	Y	NA
27	HS22110211-04	SAMP	11-11-2022 09:34 pm	1.00	50 mL	50 mL	V111113.D	Liquid	Y	NA
28	HS22110211-05	SAMP	11-11-2022 09:56 pm	1.00	50 mL	50 mL	V111114.D	Liquid	Y	NA
29	HS22110211-06	SAMP	11-11-2022 10:19 pm	1.00	50 mL	50 mL	V111115.D	Liquid	Y	NA
30	HS22110211-07	SAMP	11-11-2022 10:41 pm	1.00	50 mL	50 mL	V111116.D	Liquid	Y	NA
31	HS22110211-08	SAMP	11-11-2022 11:03 pm	1.00	50 mL	50 mL	V111117.D	Liquid	Y	NA
32	HS22110211-09	SAMP	11-11-2022 11:26 pm	1.00	50 mL	50 mL	V111118.D	Liquid	Y	NA
33	HS22110281-01	SAMP	11-11-2022 11:48 pm	1.00	50 mL	50 mL	V111119.D	Liquid	Y	NA
34	HS22110281-02	SAMP	11-12-2022 12:10 am	1.00	50 mL	50 mL	V111120.D	Liquid	Y	NA
35	HS22110281-03	SAMP	11-12-2022 12:33 am	1.00	50 mL	50 mL	V111121.D	Liquid	Y	NA
36	HS22110281-04	SAMP	11-12-2022 12:55 am	1.00	50 mL	50 mL	V111122.D	Liquid	Y	NA
37	HS22110281-05	SAMP	11-12-2022 01:17 am	1.00	50 mL	50 mL	V111123.D	Liquid	Y	NA
38	HS22110281-06	SAMP	11-12-2022 01:40 am	1.00	50 mL	50 mL	V111124.D	Liquid	Y	NA
39	HS22110281-07	SAMP	11-12-2022 02:02 am	1.00	50 mL	50 mL	V111125.D	Liquid	Y	NA
40	HS22110257-05	SAMP	11-12-2022 02:24 am	1.00	50 mL	50 mL	V111126.D	Liquid	Y	NA
41	HS22110257-01	SAMP	11-12-2022 02:47 am	25.00	2 mL	50 mL	V111127.D	Liquid	Y	NA

MSVOA09 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS22110281-01MS	MS	11-12-2022 03:09 am	1.00	50 mL	50 mL	V111128.D	Liquid	Y	NA
43	HS22110281-01MSD	MSD	11-12-2022 03:31 am	1.00	50 mL	50 mL	V111129.D	Liquid	Y	NA
44	HS22110281-07MS	MS	11-12-2022 03:54 am	1.00	50 mL	50 mL	V111130.D	Liquid	Y	NA
45	HS22110281-07MSD	MSD	11-12-2022 04:16 am	1.00	50 mL	50 mL	V111131.D	Liquid	Y	NA
46	CCV-END	CCV	11-12-2022 04:38 am	1.00	50 mL	50 mL	V111132.D	Liquid	Y	NA
47	VLANK	SAMP	11-12-2022 05:00 am	1.00	50 mL	50 mL	V111133.D	Liquid	Y	NA

Form 13 - Analysis Run Log

Client Aptim Environmental & Infrastucture, Inc.

Project 35BWW01-221101

Workorder
HS22110211

Volatiles by by EPA 8260

RUNID
VOA9_421679

Run ID VOA9_421679 **Start Date** 11/11/22 **EndDate** 11/12/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
CCV	CCV	CCV	V111103.D	11/11/22 17:51	1
CCB	CCB	CCB	V111104.D	11/11/22 18:13	1
VLCSW-221110	LCS	VLCSW-221110	V111105.D	11/11/22 18:36	1
VBLKW-221110	MBLK	VBLKW-221110	V111107.D	11/11/22 19:20	1
Trip Blank-221101	SAMP	HS22110211-10	V111108.D	11/11/22 19:42	1
35BWW01-221101	SAMP	HS22110211-01	V111110.D	11/11/22 20:27	1
35BWW10-221101	SAMP	HS22110211-02	V111111.D	11/11/22 20:49	1
35BWW05-221101	SAMP	HS22110211-03	V111112.D	11/11/22 21:12	1
LHSWW58-221101	SAMP	HS22110211-04	V111113.D	11/11/22 21:34	1
35BWW11-221101	SAMP	HS22110211-05	V111114.D	11/11/22 21:56	1
35BWW20-221101	SAMP	HS22110211-06	V111115.D	11/11/22 22:19	1
35BWW09-221101	SAMP	HS22110211-07	V111116.D	11/11/22 22:41	1
35BWW19-221101	SAMP	HS22110211-08	V111117.D	11/11/22 23:03	1
35BWW18-221101	SAMP	HS22110211-09	V111118.D	11/11/22 23:26	1
BatchQC	MS	HS22110281-01MS	V111128.D	11/12/22 03:09	1
BatchQC	MSD	HS22110281-01MSD	V111129.D	11/12/22 03:31	1
BatchQC	MS	HS22110281-07MS	V111130.D	11/12/22 03:54	1
BatchQC	MSD	HS22110281-07MSD	V111131.D	11/12/22 04:16	1

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Raw Data VOA9 421678

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D Page 1
Report Date: 11-Nov-2022 13:32

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 11-NOV-2022 11:34
Operator : PC Inst ID: VOA9.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\bfb.m
Meth Date : 27-Sep-2022 15:12 Linh.Pham Quant Type: ISTD
Cal Date : 30-MAR-2018 18:09 Cal File: U033003.d
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
9.197	9.262	(0.000)	95	149504			0.00- 100.00	100.00
9.197	9.262	(0.000)	50	27624			15.00- 40.00	18.48
9.197	9.262	(0.000)	75	74952			30.00- 60.00	50.13
9.197	9.262	(0.000)	96	10641			5.00- 9.00	7.12
9.197	9.262	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
9.197	9.262	(0.000)	174	137344			50.00- 0.00	91.87
9.197	9.262	(0.000)	175	12124			5.00- 9.00	8.83
9.197	9.262	(0.000)	176	133248			95.00- 101.00	97.02
9.197	9.262	(0.000)	177	8679			5.00- 9.00	6.51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.48
75	30.00 - 60.00% of mass 95	50.13
96	5.00 - 9.00% of mass 95	7.12
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	91.87
175	5.00 - 9.00% of mass 174	8.11 (8.83)
176	95.00 - 101.00% of mass 174	89.13 (97.02)
177	5.00 - 9.00% of mass 176	5.81 (6.51)

Data File: U111101.D
Spectrum: Scan 2295 (9.19)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1316	69.10	14810	104.90	188	141.90	182
37.10	6919	70.00	1441	105.90	809	142.90	1780
38.10	5508	70.90	129	106.90	197	143.80	112
39.10	2150	72.00	895	109.30	135	144.30	82
40.00	595	73.10	7249	111.00	317	145.00	216
42.00	109	74.10	26392	111.80	102	145.90	206
42.70	143	75.00	74952	112.90	319	147.20	157
43.30	188	76.00	6455	114.80	166	147.80	586
44.00	1489	77.00	909	115.90	477	148.90	212
45.10	1226	78.00	716	116.90	1178	150.00	117
45.90	126	78.90	5127	117.90	472	151.70	134
47.20	1475	80.10	1346	118.90	964	152.90	109
47.80	881	81.00	5793	122.00	64	153.80	51
49.10	6314	81.90	1461	122.90	75	155.00	323
50.10	27624	82.90	73	123.70	199	157.00	388
51.00	7610	85.00	124	124.60	59	158.70	363
52.00	450	87.00	6171	125.20	84	161.00	140
55.00	648	88.00	7468	126.10	68	166.80	57
56.00	3061	89.60	123	127.10	85	169.80	85
57.10	4377	91.00	793	127.90	658	170.80	173
58.10	284	92.00	4215	128.80	407	172.00	779
60.00	1269	93.00	6965	130.10	691	174.00	137344
61.00	7780	94.00	19896	130.90	130	175.00	12124
62.00	7190	95.00	149504	133.20	93	176.00	133248
63.10	5787	96.10	10641	133.80	66	176.90	8679
64.00	625	97.00	278	134.90	268	177.90	303
65.00	661	100.70	61	136.70	181	207.40	75
65.60	145	102.10	85	137.10	324	260.80	65
67.20	599	102.90	105	139.50	96	281.00	101
68.00	15662	103.80	893	141.00	1663		

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D Page 1

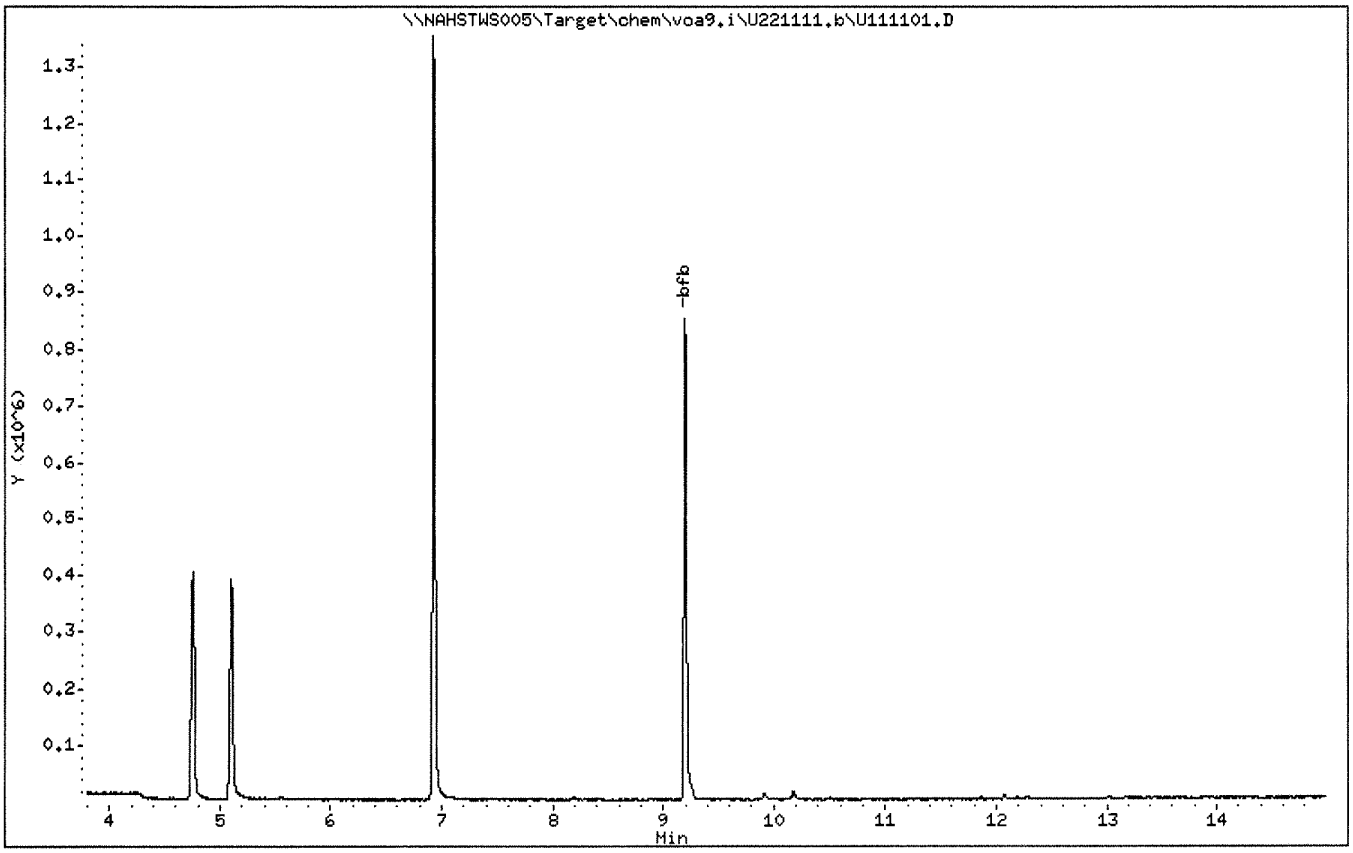
Date : 11-NOV-2022 11:34

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D Page 2

Date : 11-NOV-2022 11:34

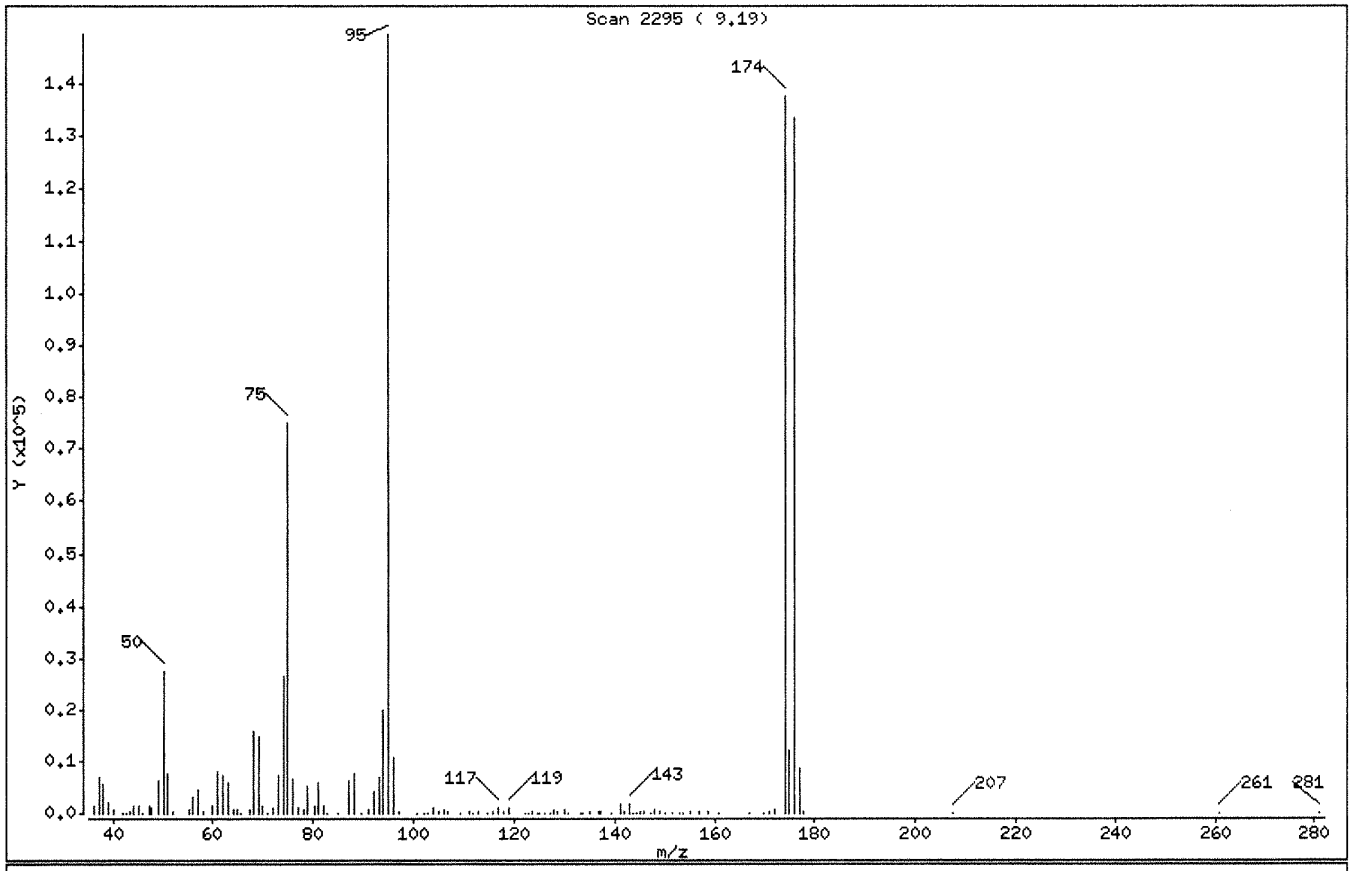
Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.48
75	30.00 - 60.00% of mass 95	50.13
96	5.00 - 9.00% of mass 95	7.12
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	91.87
175	5.00 - 9.00% of mass 174	8.11 (8.83)
176	95.00 - 101.00% of mass 174	89.13 (97.02)
177	5.00 - 9.00% of mass 176	5.81 (6.51)

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D

Date : 11-NOV-2022 11:34

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: U111101.D
Spectrum: Scan 2295 (9.19)
Location of Maximum: 95.05
Number of points: 119

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36.10	1316	69.10	14810	104.90	188	141.90	182
37.10	6919	70.00	1441	105.90	809	142.90	1780
38.10	5508	70.90	129	106.90	197	143.80	112
39.10	2150	72.00	895	109.30	135	144.30	82
40.00	595	73.10	7249	111.00	317	145.00	216
42.00	109	74.10	26392	111.80	102	145.90	206
42.70	143	75.00	74952	112.90	319	147.20	157
43.30	188	76.00	6455	114.80	166	147.80	586
44.00	1489	77.00	909	115.90	477	148.90	212
45.10	1226	78.00	716	116.90	1178	150.00	117
45.90	126	78.90	5127	117.90	472	151.70	134
47.20	1475	80.10	1346	118.90	964	152.90	109
47.80	881	81.00	5793	122.00	64	153.80	51
49.10	6314	81.90	1461	122.90	75	155.00	323
50.10	27624	82.90	73	123.70	199	157.00	388
51.00	7610	85.00	124	124.60	59	158.70	363
52.00	450	87.00	6171	125.20	84	161.00	140
55.00	648	88.00	7468	126.10	68	166.80	57
56.00	3061	89.60	123	127.10	85	169.80	85
57.10	4377	91.00	793	127.90	658	170.80	173
58.10	284	92.00	4215	128.80	407	172.00	779
60.00	1269	93.00	6965	130.10	691	174.00	137344
61.00	7780	94.00	19896	130.90	130	175.00	12124
62.00	7190	95.00	149504	133.20	93	176.00	133248
63.10	5787	96.10	10641	133.80	66	176.90	8679
64.00	625	97.00	278	134.90	268	177.90	303
65.00	661	100.70	61	136.70	181	207.40	75
65.60	145	102.10	85	137.10	324	260.80	65
67.20	599	102.90	105	139.50	96	281.00	101
68.00	15662	103.80	893	141.00	1663		

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D
Inj Date : 11-NOV-2022 11:34
InstruID : VOA9.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 11-NOV-2022 11:56
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	802614	50.0000	
2	Dichlorodifluoromethane	85	1.164	1.164	(0.241)	1404	0.25000	0.48
3	Chloromethane	50	1.299	1.299	(0.269)	4868	0.25000	0.79(M)
5	Vinyl Chloride	62	1.381	1.381	(0.287)	2092	0.25000	0.25
6	Bromomethane	94	1.629	1.629	(0.338)	3952	0.25000	
7	Chloroethane	64	1.696	1.696	(0.352)	5358	0.25000	0.89
8	Trichlorofluoromethane	101	1.899	1.899	(0.394)	2458	0.25000	0.23
9	Acrolein	56	2.274	2.274	(0.471)	1108	0.50000	2.90
10	Acetone	43	2.420	2.420	(0.502)	14421	0.50000	
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	1725	0.25000	0.25
15	Iodomethane	142	2.480	2.480	(0.514)	5219	0.50000	4.65
16	Acrylonitrile	53	3.072	3.072	(0.637)	1784	0.50000	0.47
17	Methylene Chloride	84	2.787	2.787	(0.578)	5715	0.25000	(M)
18	Methyl tert-butyl ether	73	3.083	3.083	(0.639)	6711	0.25000	0.29
19	Carbon Disulfide	76	2.529	2.529	(0.524)	15315	0.50000	0.76
20	trans-1,2-Dichloroethene	96	3.065	3.065	(0.635)	2440	0.25000	0.32
21	Vinyl Acetate	43	3.619	3.619	(0.751)	12261	0.50000	0.62
22	1,1-Dichloroethane	63	3.522	3.522	(0.730)	4303	0.25000	0.31(T)
24	2-Butanone	43	4.275	4.275	(0.887)	1504	0.50000	0.46
27	cis-1,2-Dichloroethene	96	4.200	4.200	(0.871)	2804	0.25000	0.31

28 Chloroform	83	4.575	4.575 (0.949)	4373	0.25000	0.30
29 Bromochloromethane	128	4.474	4.474 (0.928)	1295	0.25000	0.27

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D Page 2
Report Date: 16-Nov-2022 09:41

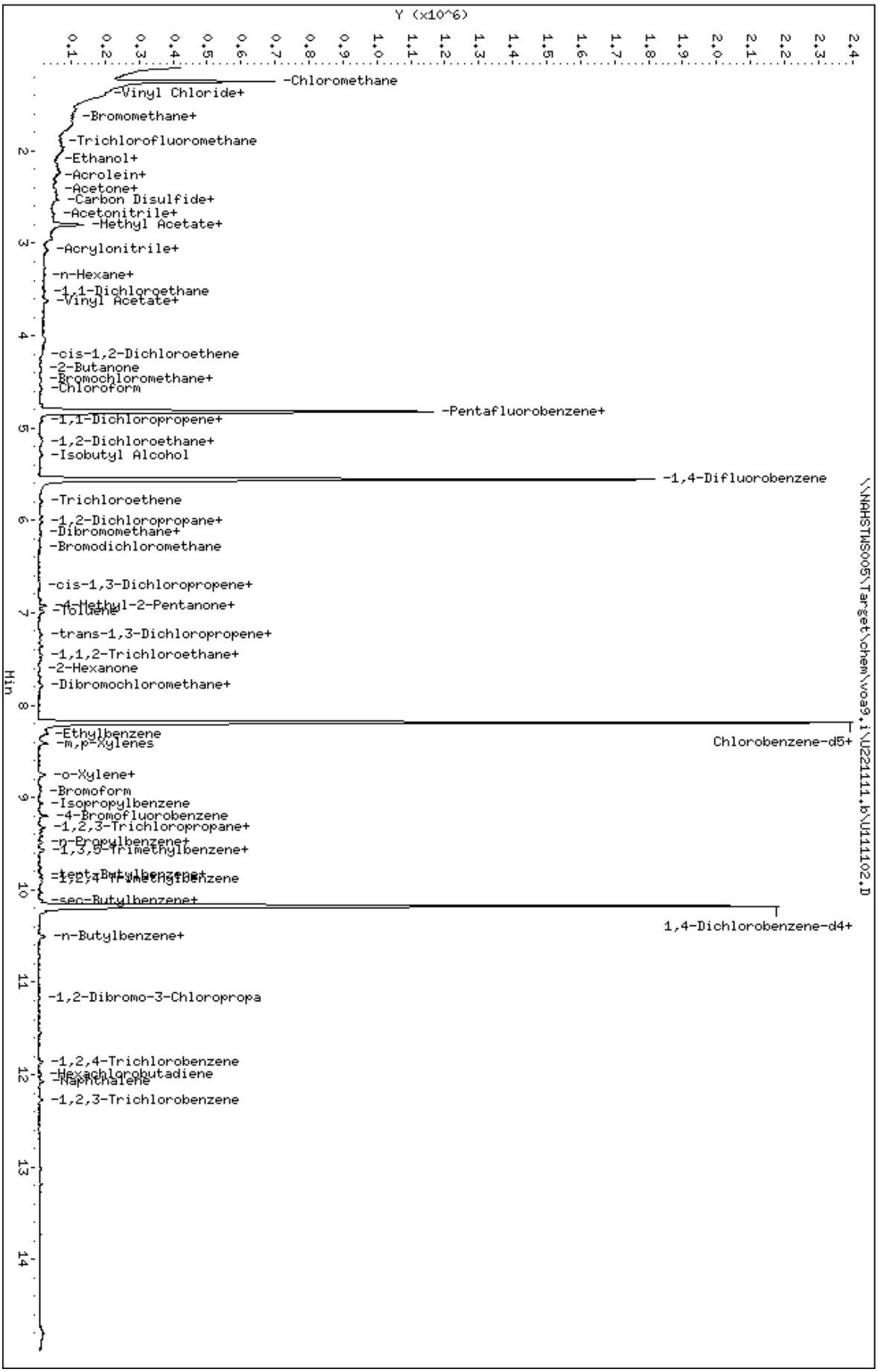
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
$	30 Dibromofluoromethane	113	4.759	4.759	(0.987)	3553	0.25000	0.09
	31 1,1,1-Trichloroethane	97	4.752	4.752	(0.985)	2195	0.25000	0.22
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	2386	0.25000	0.24
	33 1,2-Dichloroethane	62	5.186	5.186	(0.933)	4335	0.25000	0.35
	34 Carbon Tetrachloride	117	4.883	4.883	(0.879)	1102	0.25000	0.36(M)
$	35 1,2-Dichloroethane-d4	65	5.108	5.108	(1.059)	4078	0.25000	
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1400897	50.0000	
	37 Benzene	78	5.149	5.149	(0.926)	9909	0.25000	0.30
	38 Trichloroethene	130	5.801	5.801	(1.044)	2880	0.25000	0.31
	39 Bromodichloromethane	83	6.288	6.288	(1.132)	2267	0.25000	0.22(M)
	42 1,2-Dichloropropane	63	6.019	6.019	(1.083)	3160	0.25000	0.37
	44 Dibromomethane	93	6.131	6.131	(1.103)	2049	0.25000	0.33
	45 4-Methyl-2-Pentanone	43	6.862	6.862	(0.838)	4596	0.50000	0.60
	46 cis-1,3-Dichloropropene	75	6.701	6.701	(1.206)	2056	0.25000	2.95
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1302353	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	10884	0.25000	0.35
	50 Toluene	91	6.986	6.986	(0.853)	8903	0.25000	0.25
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.296)	1153	0.25000	3.51
	52 2-Hexanone	43	7.601	7.601	(0.928)	3210	0.50000	1.90
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	2288	0.25000	0.30
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	4701	0.25000	0.30
	55 Dibromochloromethane	129	7.698	7.698	(0.940)	1611	0.25000	1.61
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	1869	0.25000	0.24
	57 1,2-Dibromoethane	107	7.792	7.792	(0.951)	2367	0.25000	0.25
	58 1-Chlorohexane	55	8.208	8.208	(1.477)	1440	0.25000	1.62(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	7150	0.25000	0.28
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.011)	2146	0.25000	0.26
	61 Ethylbenzene	106	8.313	8.313	(1.015)	3025	0.25000	0.26
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	6219	0.50000	0.43
	63 o-Xylene	106	8.751	8.751	(1.069)	3602	0.25000	0.25
	64 Styrene	104	8.766	8.766	(1.070)	4077	0.25000	1.38
	66 Bromoform	173	8.924	8.924	(1.090)	1211	0.25000	2.47(T)
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	6913	0.25000	0.21
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	6793	0.25000	0.77
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	583623	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	3110	0.25000	0.31
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	7402	0.25000	0.23
	74 Bromobenzene	156	9.321	9.321	(0.916)	2946	0.25000	0.31
	75 1,3,5-Trimethylbenzene	105	9.569	9.569	(0.941)	5644	0.25000	0.24
	76 2-Chlorotoluene	91	9.490	9.490	(0.933)	5604	0.25000	0.25
	77 4-Chlorotoluene	91	9.584	9.584	(0.942)	6064	0.25000	0.24
	78 tert-Butylbenzene	119	9.842	9.842	(0.968)	5248	0.25000	0.25
	79 1,2,4-Trimethylbenzene	105	9.887	9.887	(0.972)	5673	0.25000	0.23
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	5780	0.25000	1.95
	82 p-Isopropyltoluene	119	10.153	10.153	(0.998)	5466	0.25000	0.24
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	5235	0.25000	0.33
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	6513	0.25000	0.37
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	4371	0.25000	2.43
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	4979	0.25000	0.29
	89 1,2-Dibromo-3-Chloropropane	155	11.173	11.173	(1.098)	369	0.25000	2.49(M)
	90 1,2,4-Trichlorobenzene	180	11.867	11.867	(1.167)	3176	0.25000	0.34
	91 Hexachlorobutadiene	225	12.001	12.001	(1.180)	1532	0.25000	1.66

92 Naphthalene	128	12.073	12.073 (1.187)	10075	0.25000	0.44
93 1,2,3-Trichlorobenzene	180	12.275	12.275 (1.207)	3315	0.25000	0.36

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
M 94 1,2-Dichloroethylene (total)	96				5244	0.50000	
M 95 Xylenes (total)	106				9821	0.75000	
135 1,4-Dioxane	88	6.202	6.202	(1.286)	613	5.00000	5.02(M)
141 Cyclohexane	56	4.800	4.800	(0.995)	2282	0.25000	0.17(M)
138 Freon TF	101	2.341	2.341	(0.485)	1579	0.25000	0.05
140 1,3-Butadiene	54	1.411	1.411	(0.293)	1113	0.25000	1.91
147 Methylcyclohexane	55	5.959	5.959	(1.072)	4225	0.25000	0.21
146 Methyl Acetate	43	2.723	2.723	(0.565)	3825	0.25000	0.58

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



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Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

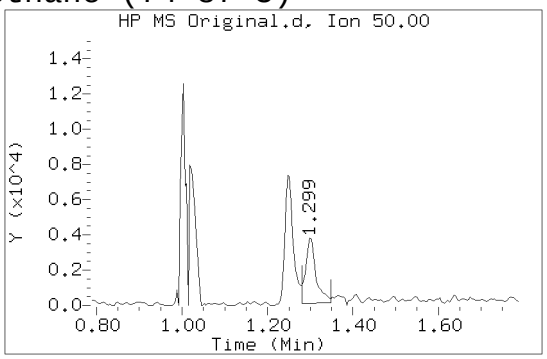
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

Chloromethane (74-87-3)

Reason Code:

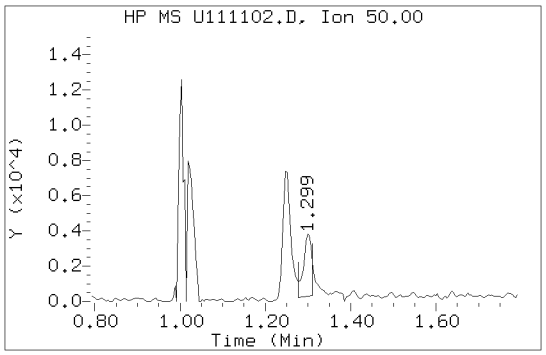
BEFORE

MASS
50
AREA
6401
HEIGHT
3725
16-Nov-2022
09:38
linh
pham



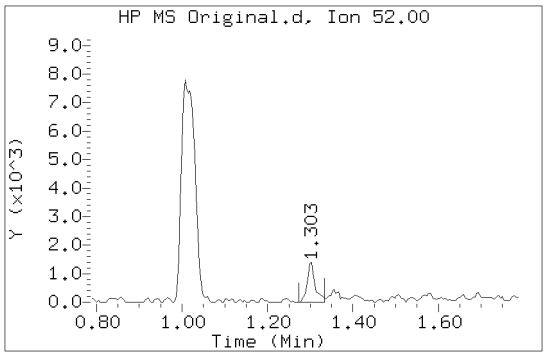
AFTER

MASS
50
AREA
4868
HEIGHT
3560
16-Nov-2022
09:41
linh
pham



BEFORE

MASS
52
AREA
1800
HEIGHT
1390
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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AREA
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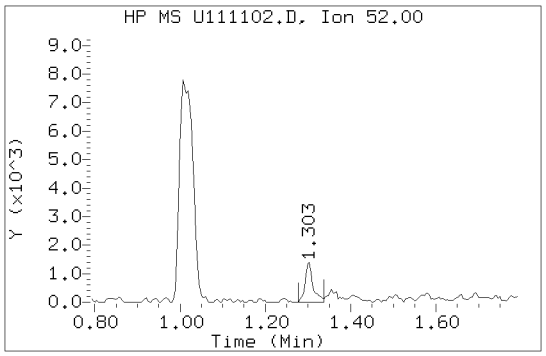
HEIGHT
1390
16-Nov-2022
09:41
linh
pham



Methylene Chloride (75-09-2)

Reason Code:

BEFORE

MASS
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AREA
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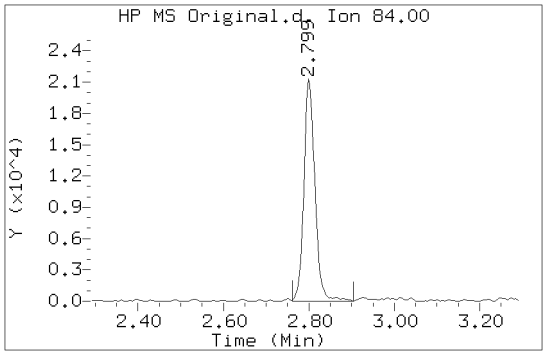
HEIGHT
21304
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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AREA
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HEIGHT
10511
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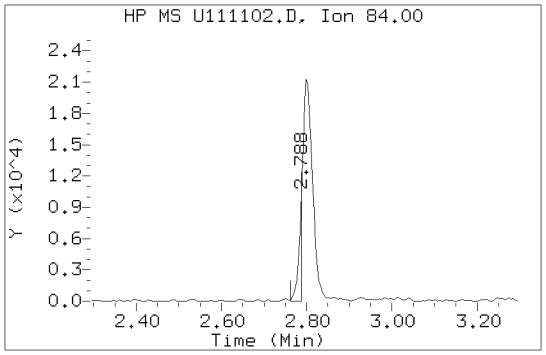
09:41
linh
pham



BEFORE

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AREA
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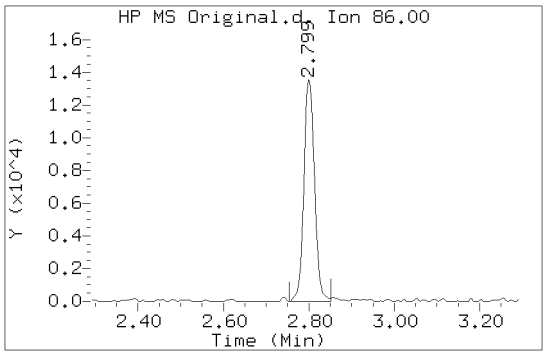
HEIGHT
13546
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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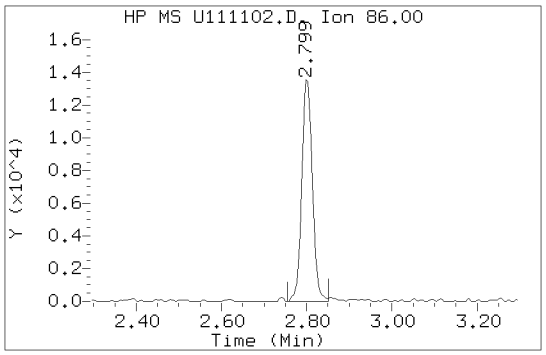
AREA
23995
HEIGHT
13546
16-Nov-2022
09:41
linh
pham



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Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

Methylene Chloride (75-09-2)

Reason Code:

BEFORE

MASS
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AREA
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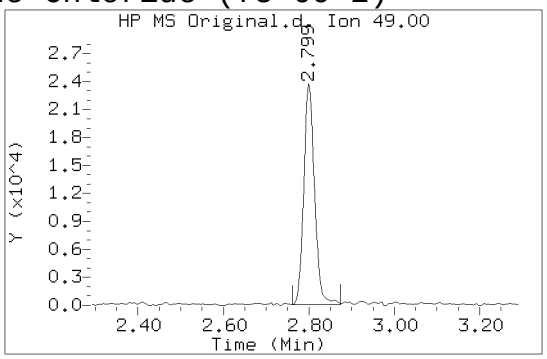
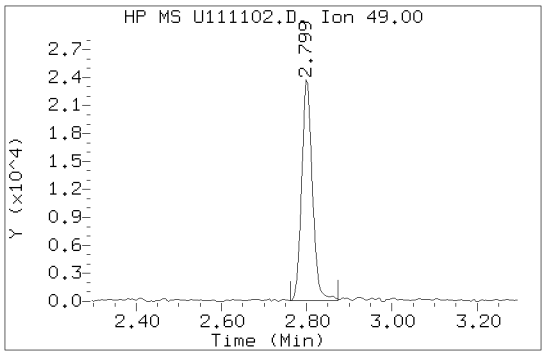
HEIGHT
23666
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
42071
HEIGHT
23666
16-Nov-2022
09:41
linh
pham

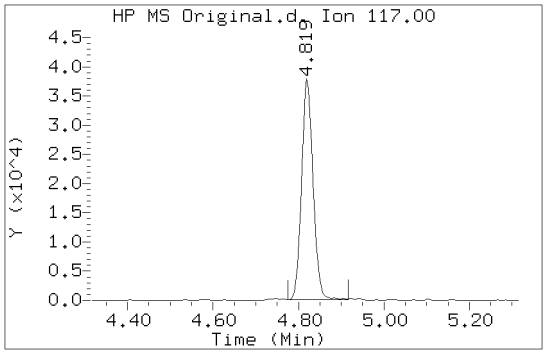


Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE

MASS
117
AREA
72507
HEIGHT
37904
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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AREA
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349
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09:41
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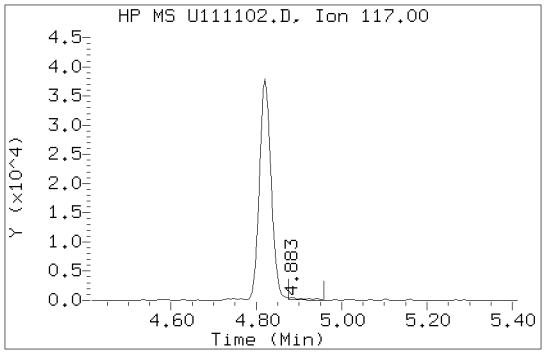

BEFORE

MASS
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AREA
3921
HEIGHT
2136
16-Nov-2022
09:38
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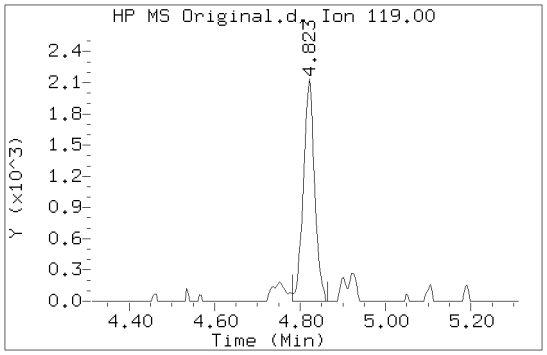
pham



AFTER

MASS
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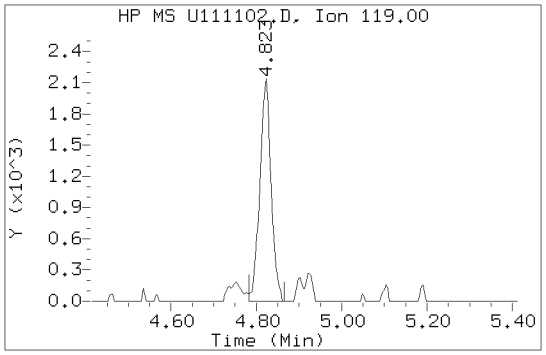
AREA
3921
HEIGHT
2136
16-Nov-2022
09:41
linh
pham

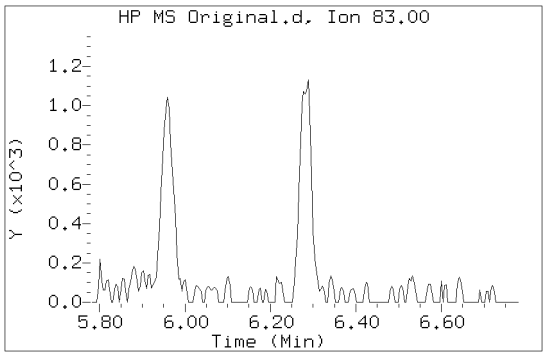


Bromodichloromethane (75-27-4)

Reason Code:

BEFORE

MASS
83
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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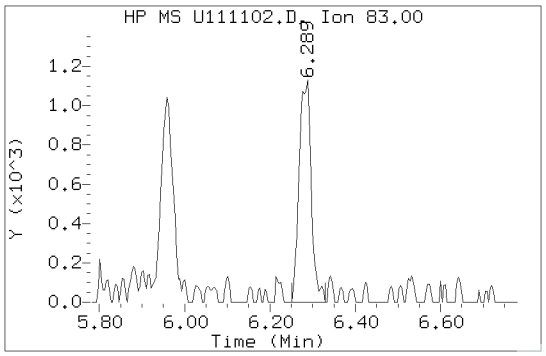
AREA
2267
HEIGHT
1131
16-Nov-2022
09:41
linh
pham

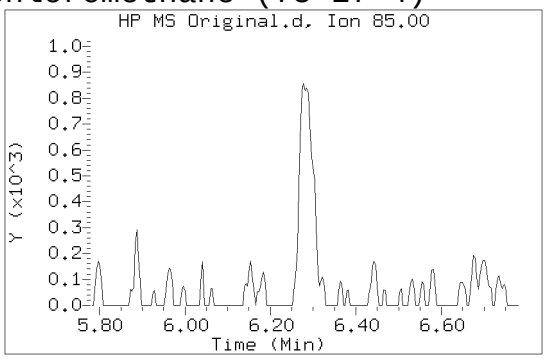


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

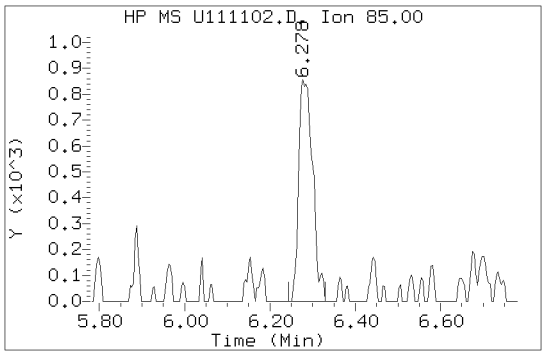
Bromodichloromethane (75-27-4)

Reason Code:

BEFORE
MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER
MASS
85
AREA
1985
HEIGHT
856
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
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AREA
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HEIGHT
0
16-Nov-2022
09:38
linh
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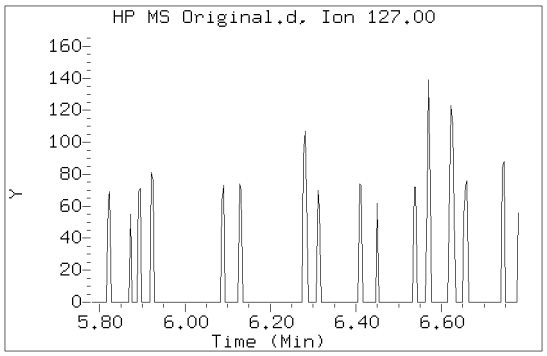

AFTER
MASS
127
AREA
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HEIGHT
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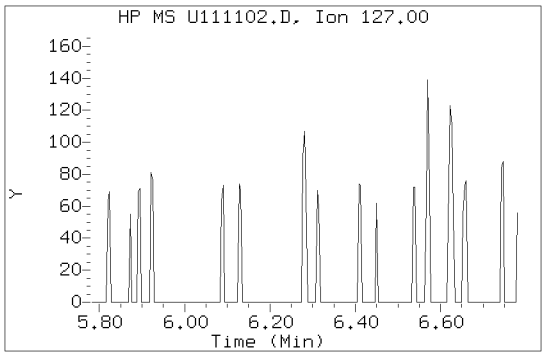
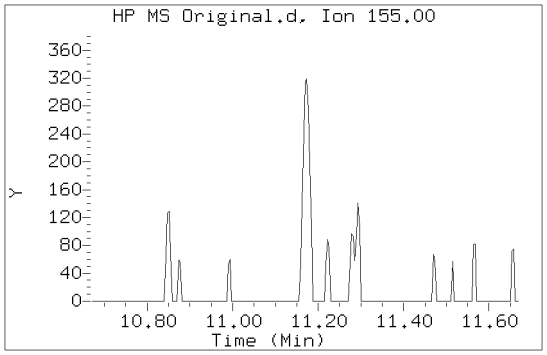
16-Nov-2022
09:41
linh
pham



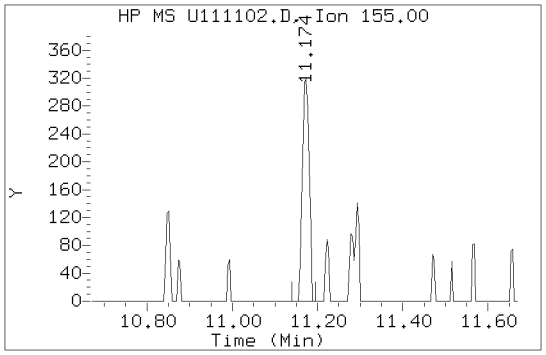
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

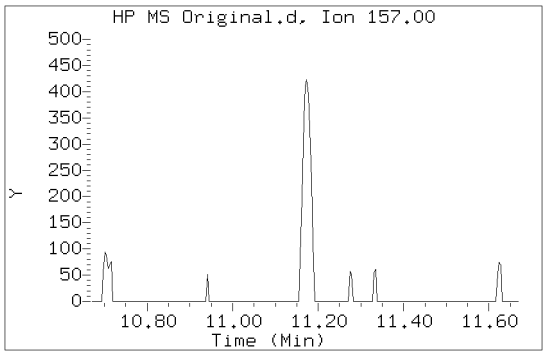
BEFORE
MASS
155
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



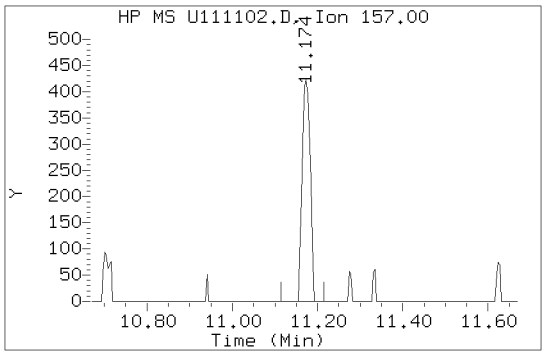
AFTER
MASS
155
AREA
369
HEIGHT
319
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
157
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER
MASS
157
AREA
577
HEIGHT
423
16-Nov-2022
09:41
linh
pham

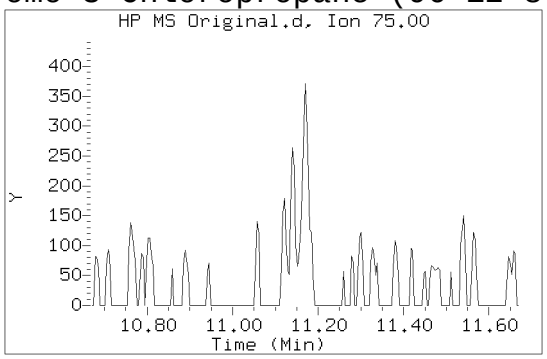


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

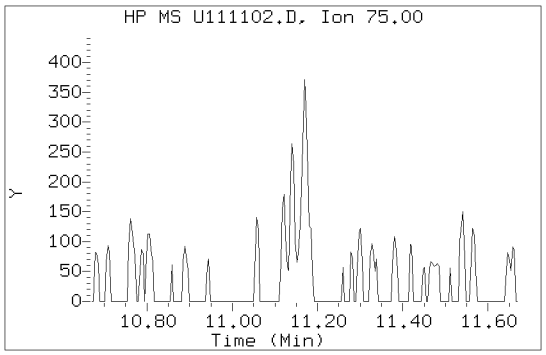
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

BEFORE
MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



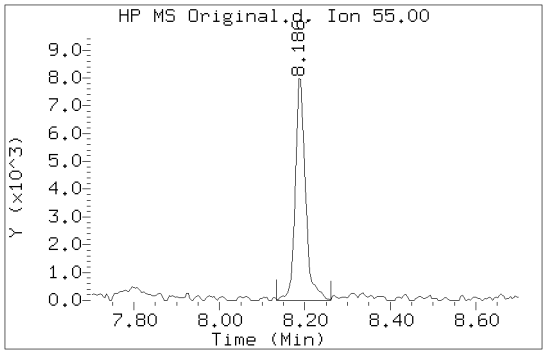
AFTER
MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham



1-Chlorohexane (544-10-5)

Reason Code:

BEFORE
MASS
55
AREA
13371
HEIGHT
7973
16-Nov-2022
09:38
linh
pham



AFTER
MASS
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AREA
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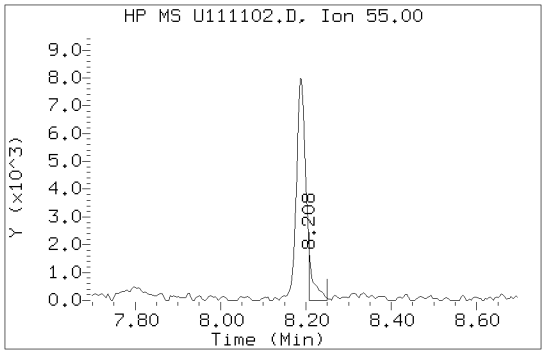
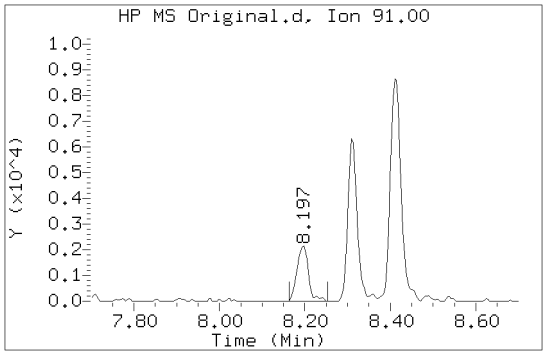
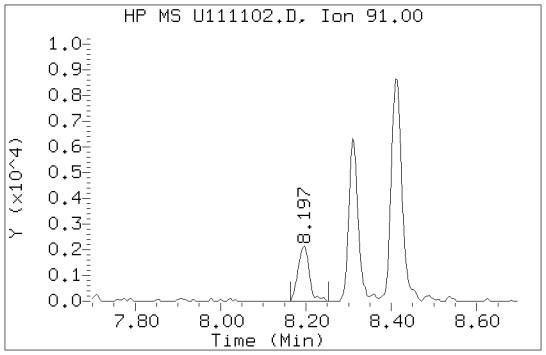
HEIGHT
1739
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
91
AREA
4053
HEIGHT
2147
16-Nov-2022
09:38
linh
pham



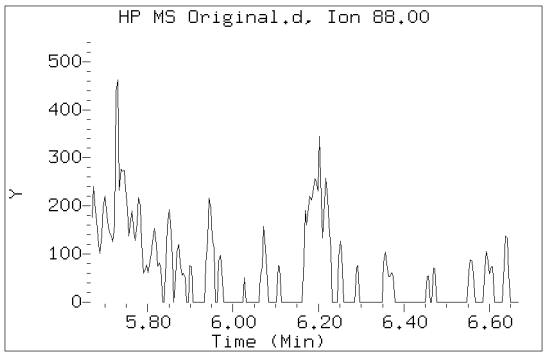
AFTER
MASS
91
AREA
4053
HEIGHT
2147
16-Nov-2022
09:41
linh
pham



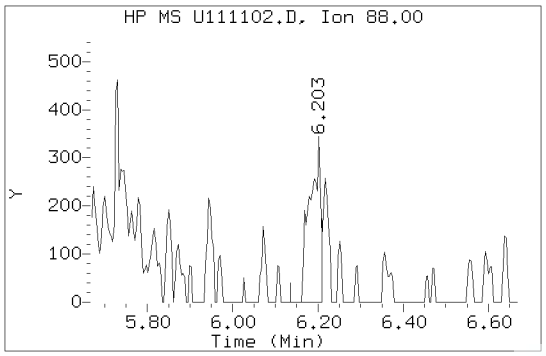
1,4-Dioxane ()

Reason Code:

BEFORE
MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER
MASS
88
AREA
613
HEIGHT
344
16-Nov-2022
09:41
linh
pham



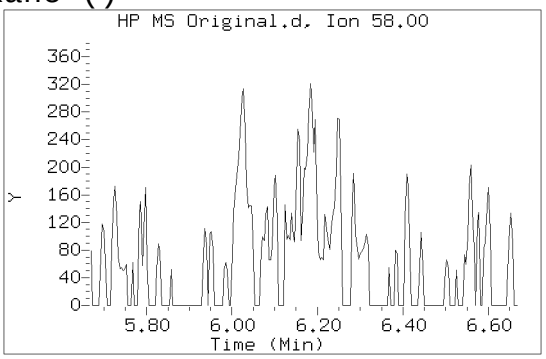
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

1,4-Dioxane ()

Reason Code:

BEFORE

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:41
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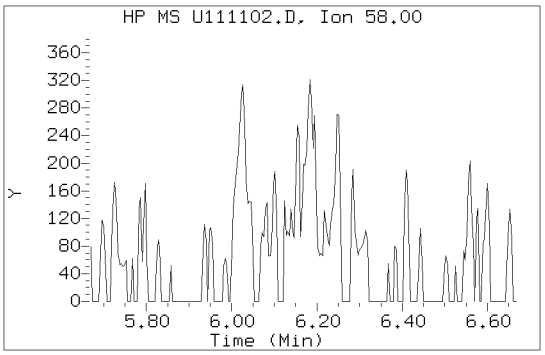
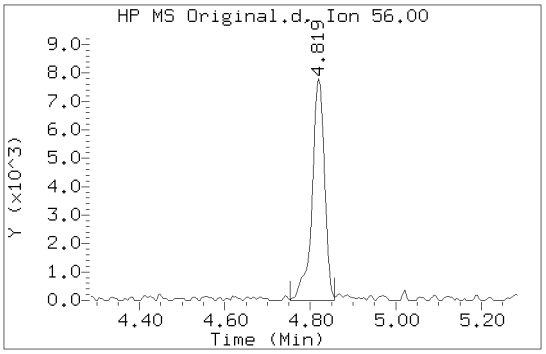


Cyclohexane (110-82-7)

Reason Code:

BEFORE

MASS
56
AREA
15875
HEIGHT
7801
16-Nov-2022
09:38
linh
pham



AFTER

MASS
56
AREA
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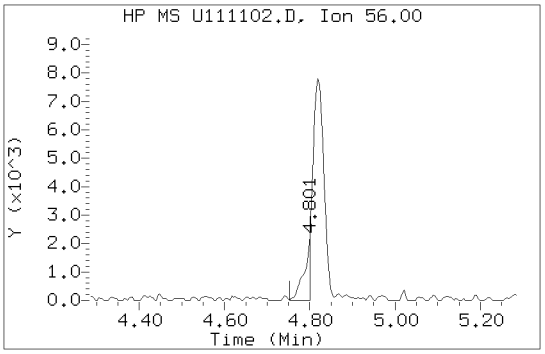
HEIGHT
2288
16-Nov-2022
09:41
linh
pham



BEFORE

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AREA
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HEIGHT
9948
16-Nov-2022
09:38
linh
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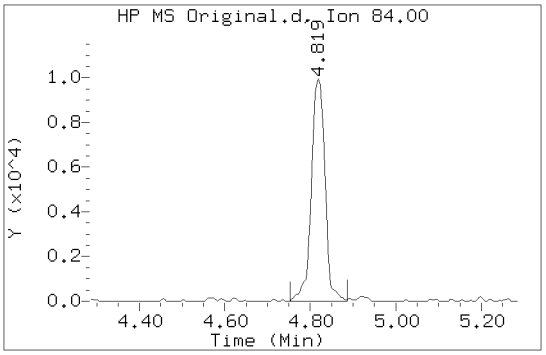
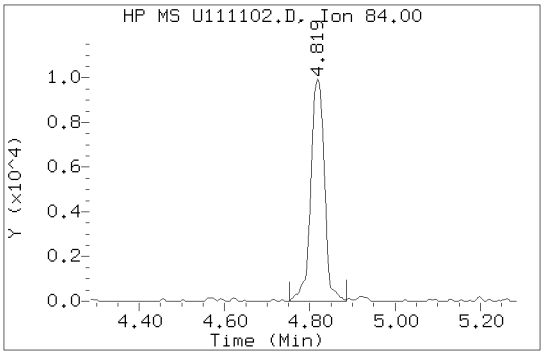


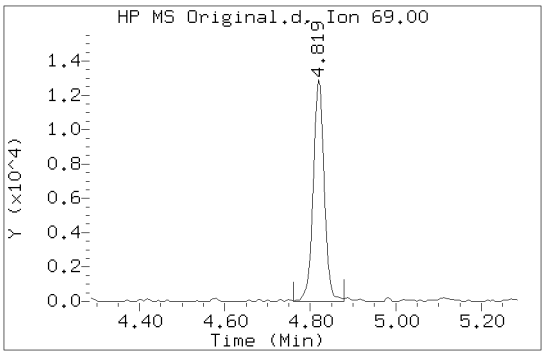
AFTER

MASS
84
AREA
22211
HEIGHT
9948
16-Nov-2022
09:41
linh
pham



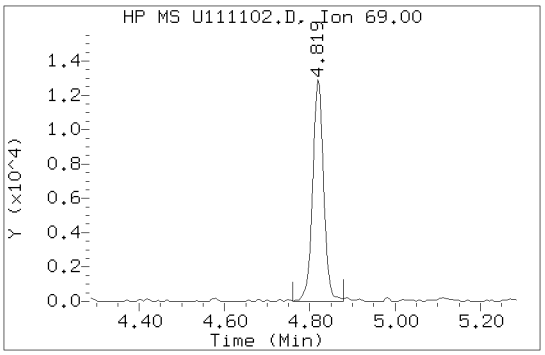
BEFORE

MASS
69
AREA
23202
HEIGHT
12914
16-Nov-2022
09:38
linh
pham



AFTER

MASS
69
AREA
23202
HEIGHT
12914
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 11-NOV-2022 12:18
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 11:56 Cal File: U111102.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.822	4.822	(1.000)	762633	50.0000	
2	Dichlorodifluoromethane	85	1.167	1.167	(0.242)	4110	0.50000	0.97(M)
3	Chloromethane	50	1.302	1.302	(0.270)	5083	0.50000	0.84(M)
5	Vinyl Chloride	62	1.385	1.385	(0.287)	4563	0.50000	0.58
6	Bromomethane	94	1.632	1.632	(0.339)	3746	0.50000	(M)
7	Chloroethane	64	1.711	1.711	(0.355)	3381	0.50000	0.59(M)
8	Trichlorofluoromethane	101	1.906	1.906	(0.395)	5881	0.50000	0.58
9	Acrolein	56	2.281	2.281	(0.473)	810	1.00000	2.46(M)
10	Acetone	43	2.419	2.419	(0.502)	13138	1.00000	(M)
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	3843	0.50000	0.59
15	Iodomethane	142	2.479	2.479	(0.514)	7282	1.00000	4.95(M)
16	Acrylonitrile	53	3.079	3.079	(0.639)	3765	1.00000	1.06(M)
17	Methylene Chloride	84	2.791	2.791	(0.579)	5802	0.50000	(M)
18	Methyl tert-butyl ether	73	3.091	3.091	(0.641)	10823	0.50000	0.49
19	Carbon Disulfide	76	2.532	2.532	(0.525)	23979	1.00000	1.26(M)
20	trans-1,2-Dichloroethene	96	3.072	3.072	(0.637)	3676	0.50000	0.51
21	Vinyl Acetate	43	3.623	3.623	(0.751)	17838	1.00000	0.94
22	1,1-Dichloroethane	63	3.518	3.518	(0.730)	7236	0.50000	0.56
24	2-Butanone	43	4.283	4.283	(0.888)	3005	1.00000	0.97
26	2,2-Dichloropropane	77	4.196	4.196	(0.870)	3730	0.50000	1.85

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	4443	0.50000	0.52
28 Chloroform	83	4.582	4.582 (0.950)	7202	0.50000	0.52

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D Page 2
Report Date: 16-Nov-2022 09:41

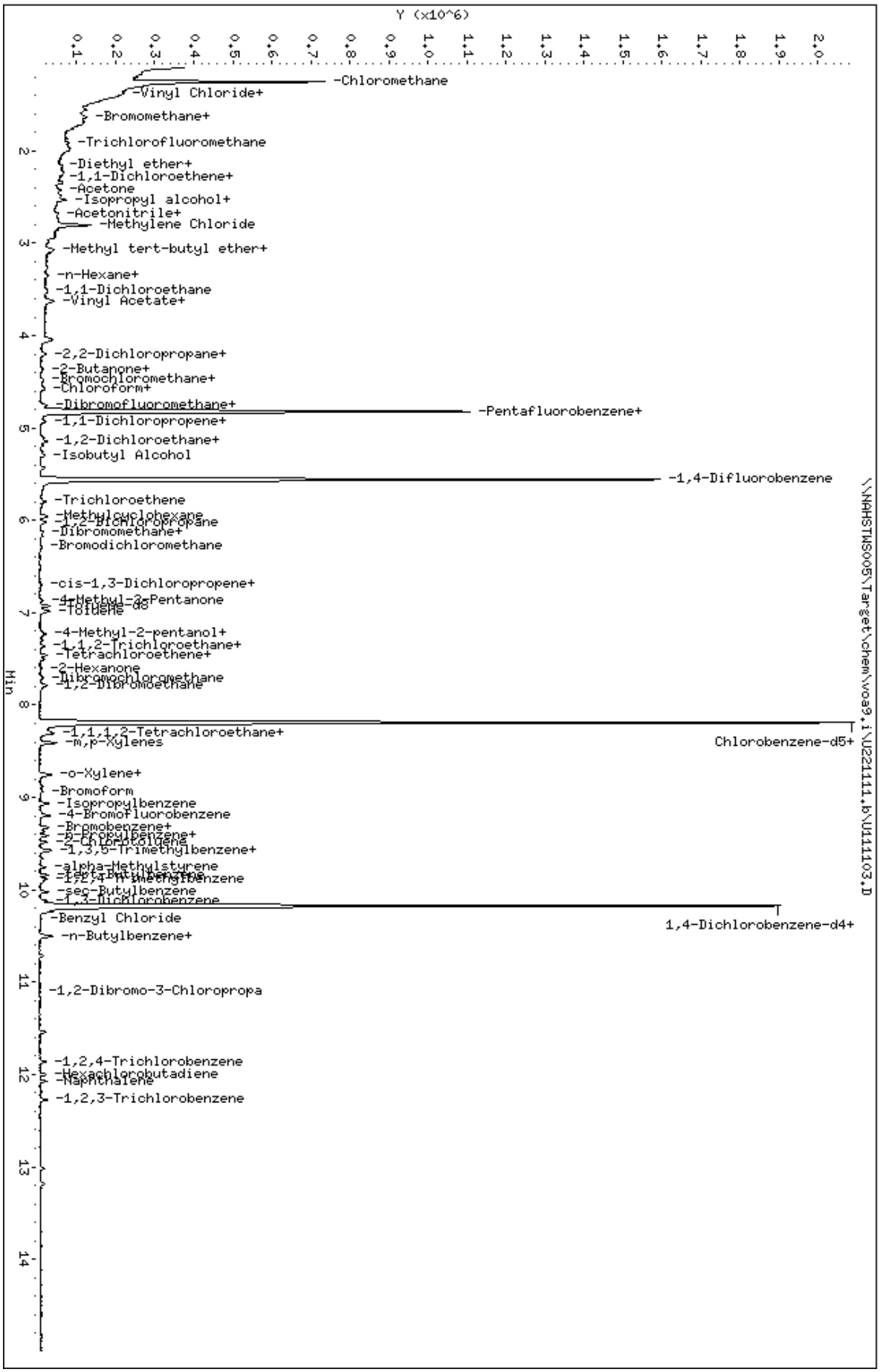
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.474	4.474	(0.928)	2530	0.50000	0.56
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	5430	0.50000	0.36
	31 1,1,1-Trichloroethane	97	4.751	4.751	(0.985)	4606	0.50000	0.50
	32 1,1-Dichloropropene	75	4.931	4.931	(0.887)	4644	0.50000	0.54(M)
	33 1,2-Dichloroethane	62	5.186	5.186	(0.933)	5630	0.50000	0.51
	34 Carbon Tetrachloride	117	4.916	4.916	(0.885)	3171	0.50000	0.78(MH)
$	35 1,2-Dichloroethane-d4	65	5.107	5.107	(1.059)	5818	0.50000	0.04(M)
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1236833	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	16511	0.50000	0.56
	38 Trichloroethene	130	5.793	5.793	(1.042)	4230	0.50000	0.53
	39 Bromodichloromethane	83	6.284	6.284	(1.131)	3457	0.50000	0.38(M)
	42 1,2-Dichloropropane	63	6.018	6.018	(1.083)	3906	0.50000	0.52
	44 Dibromomethane	93	6.127	6.127	(1.103)	2612	0.50000	0.48
	45 4-Methyl-2-Pentanone	43	6.865	6.865	(0.838)	5613	1.00000	0.85
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	3916	0.50000	3.12(M)
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1117002	50.0000	
$	48 Toluene-d8	98	6.925	6.925	(0.846)	16258	0.50000	0.61(M)
	50 Toluene	91	6.985	6.985	(0.853)	15636	0.50000	0.52
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	3354	0.50000	3.72(M)
	52 2-Hexanone	43	7.604	7.604	(0.929)	3253	1.00000	2.00
	53 1,1,2-Trichloroethane	83	7.360	7.360	(0.899)	3395	0.50000	0.53
	54 1,3-Dichloropropane	76	7.506	7.506	(0.917)	6083	0.50000	0.46(M)
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	2776	0.50000	1.77
	56 Tetrachloroethene	164	7.461	7.461	(0.911)	4027	0.50000	0.62
	57 1,2-Dibromoethane	107	7.791	7.791	(0.951)	3602	0.50000	0.46
	58 1-Chlorohexane	55	8.204	8.204	(1.476)	2433	0.50000	1.83(M)
	59 Chlorobenzene	112	8.211	8.211	(1.003)	11529	0.50000	0.54
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	3213	0.50000	0.46
	61 Ethylbenzene	106	8.312	8.312	(1.015)	5001	0.50000	0.51
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	12785	1.00000	1.04
	63 o-Xylene	106	8.747	8.747	(1.068)	5842	0.50000	0.48
	64 Styrene	104	8.762	8.762	(1.070)	7484	0.50000	1.56
	66 Bromoform	173	8.920	8.920	(1.089)	1530	0.50000	2.56(T)
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	13422	0.50000	0.48
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	4895	0.50000	0.47(M)
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	7000	0.50000	0.89
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	517041	50.0000	
	71 1,2,3-Trichloropropane	75	9.370	9.370	(0.921)	4509	0.50000	0.50(M)
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	15638	0.50000	0.56
	74 Bromobenzene	156	9.325	9.325	(0.917)	4076	0.50000	0.49
	75 1,3,5-Trimethylbenzene	105	9.564	9.564	(0.940)	10966	0.50000	0.53
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	10808	0.50000	0.55
	77 4-Chlorotoluene	91	9.579	9.579	(0.942)	11045	0.50000	0.50
	78 tert-Butylbenzene	119	9.842	9.842	(0.968)	10518	0.50000	0.58
	79 1,2,4-Trimethylbenzene	105	9.879	9.879	(0.971)	10584	0.50000	0.48(M)
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	13271	0.50000	2.26
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	11533	0.50000	0.58
	83 1,3-Dichlorobenzene	146	10.119	10.119	(0.995)	7249	0.50000	0.51
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	9496	0.50000	0.61
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	9581	0.50000	2.74
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	9188	0.50000	0.61
	89 1,2-Dibromo-3-Chloropropane	155	11.165	11.165	(1.098)	243	0.50000	2.44(M)

90 1,2,4-Trichlorobenzene	180	11.862	11.862 (1.166)	4896	0.50000	0.60
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	2560	0.50000	2.04(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.072	12.072	(1.187)	12129	0.50000	0.59
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	4534	0.50000	0.56(M)
M	94 1,2-Dichloroethylene (total)	96				8119	1.00000	
M	95 Xylenes (total)	106				18627	1.50000	
	135 1,4-Dioxane	88	6.176	6.176	(1.281)	872	10.0000	7.52(M)
	141 Cyclohexane	56	4.796	4.796	(0.995)	3722	0.50000	0.43(M)
	138 Freon TF	101	2.348	2.348	(0.487)	3044	0.50000	0.41
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	2660	0.50000	2.17(M)
	147 Methylcyclohexane	55	5.955	5.955	(1.071)	9398	0.50000	0.53
	146 Methyl Acetate	43	2.727	2.727	(0.566)	3374	0.50000	0.54(M)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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-Chloromethane
-Vinyl Chloride+
-Bromomethane+
-Trichlorofluoromethane
-Diethyl ether+
-1,1-Dichloroethene+
-Acetone
-Isopropyl alcohol+
-Acetonitrile+
-Methylene Chloride
-Methyl tert-butyl ether+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-2,2-Dichloropropane+
-2-Butanone+
-Bromochloromethane+
-Chloroform+
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane
-1,2-Dichloropropane
-Dibromomethane+
-Bromodichloromethane
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone
-Toluene-d8
-Toluene
-4-Methyl-2-pentanol+
-1,1,2-Trichloroethane+
-Tetrachloroethene+
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene+
-n-Propylbenzene+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-4-Ethyltoluene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
Min
2 3 4 5 6 7 8 9 10 11 12 13 14
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Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA9,i
Operator: PC
Column diameter: 0.18
Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Dichlorodifluoromethane (75-71-8)

Reason Code:

BEFORE

MASS
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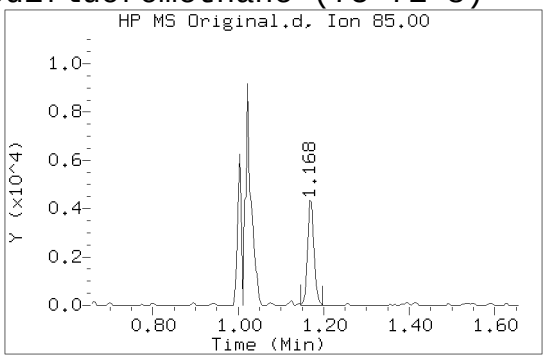
4558
HEIGHT
4341
16-Nov-2022
09:38
linh
pham



AFTER

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09:41
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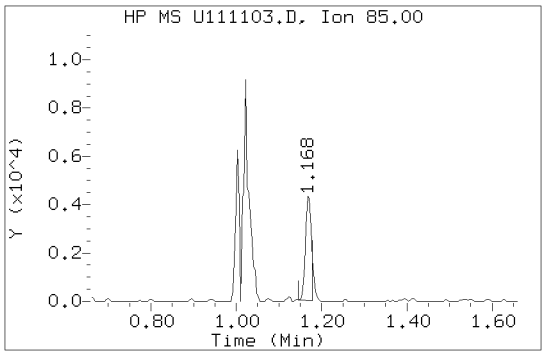

BEFORE

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1320
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09:38
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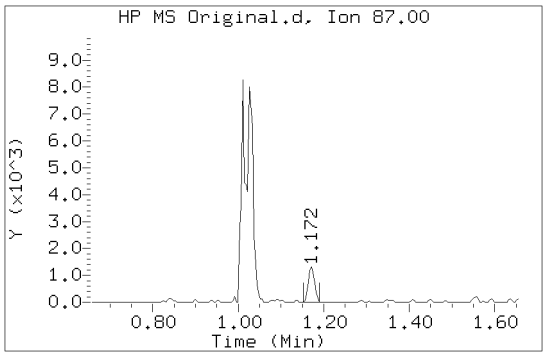

AFTER

MASS
87
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1320
16-Nov-2022
09:41
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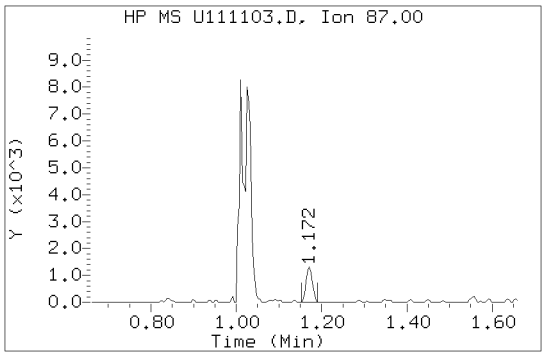

Chloromethane (74-87-3)

Reason Code:

BEFORE

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AREA
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16-Nov-2022
09:38
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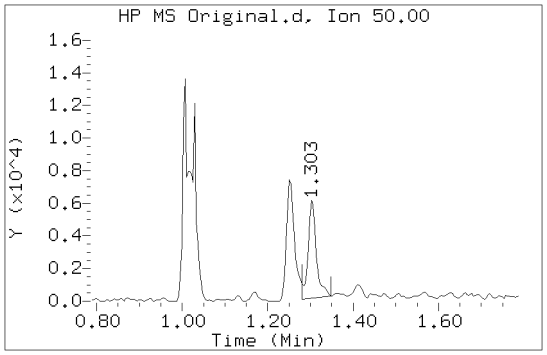

AFTER

MASS
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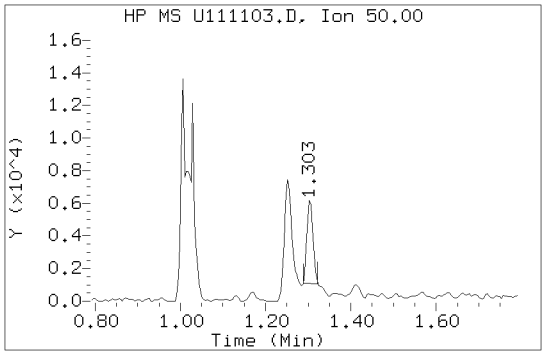
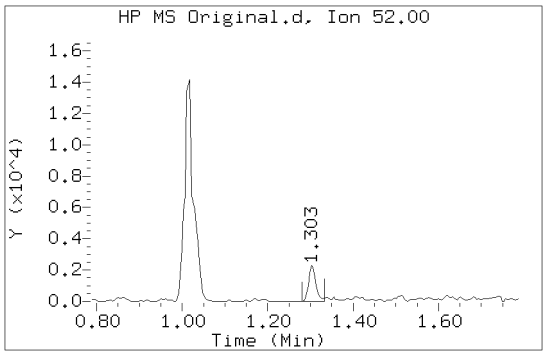
AREA
5083
HEIGHT
5079
16-Nov-2022
09:41
linh
pham



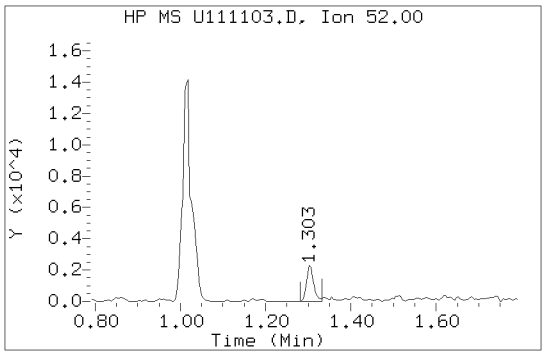
BEFORE

MASS
52
AREA
2677
HEIGHT
2306
16-Nov-2022
09:38
linh
pham



AFTER

MASS
52
AREA
2677
HEIGHT
2306
16-Nov-2022
09:41
linh
pham



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Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Bromomethane (74-83-9)

Reason Code:

BEFORE
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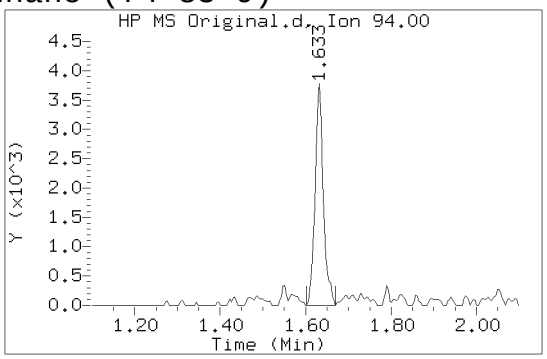
AREA
5067
HEIGHT
3779
16-Nov-2022
09:38
linh
pham



AFTER
MASS
94
AREA
3746
HEIGHT
3779
16-Nov-2022
09:41
linh
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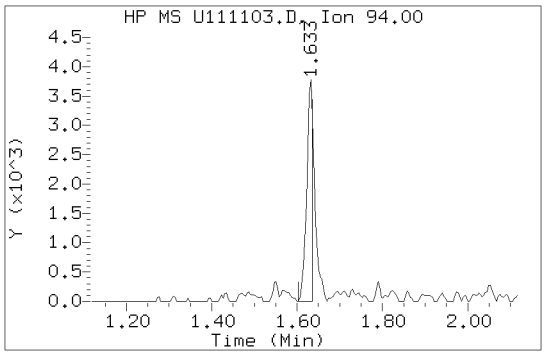

BEFORE
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AREA
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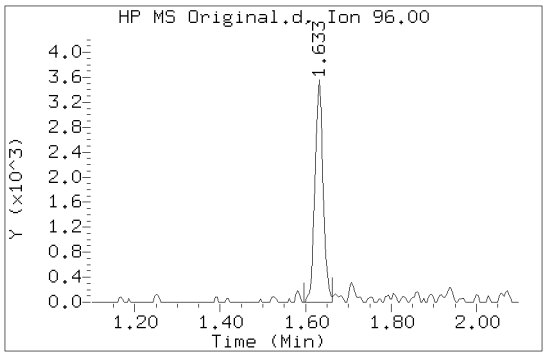
HEIGHT
3557
16-Nov-2022
09:38
linh
pham



AFTER
MASS
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AREA
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HEIGHT
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16-Nov-2022
09:41
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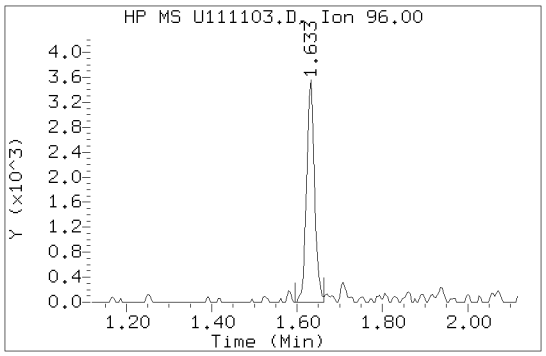

Chloroethane (75-00-3)

Reason Code:

BEFORE
MASS
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AREA
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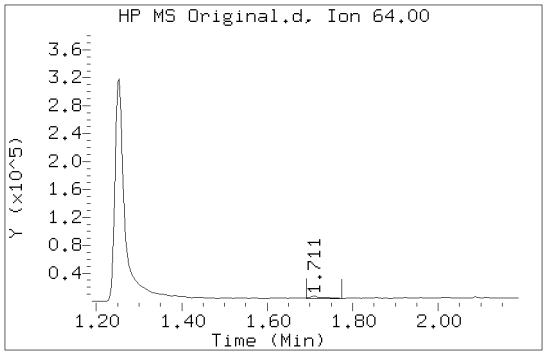
HEIGHT
3754
16-Nov-2022
09:38
linh
pham



AFTER
MASS
64
AREA
3381
HEIGHT
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16-Nov-2022
09:41
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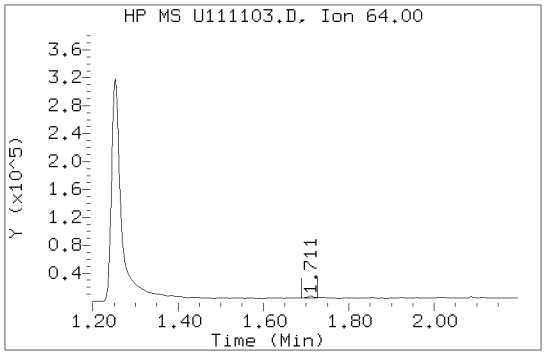
pham



BEFORE
MASS
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AREA
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765
16-Nov-2022
09:38
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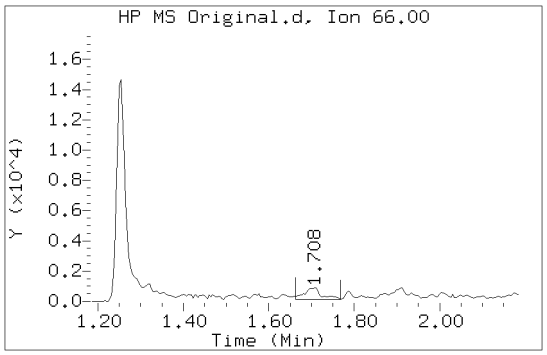

AFTER
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66
AREA
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16-Nov-2022
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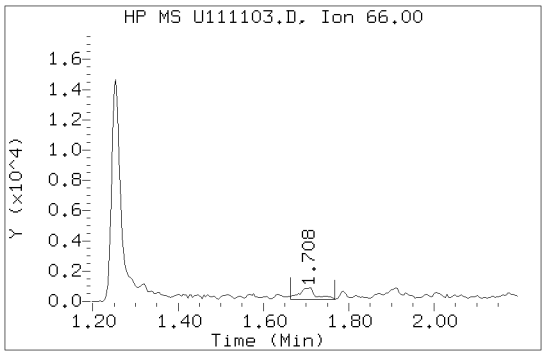

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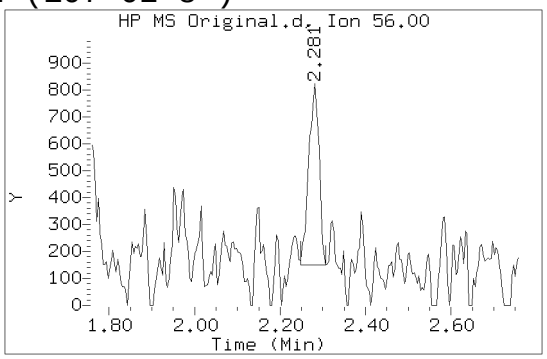
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Acrolein (107-02-8)

Reason Code:

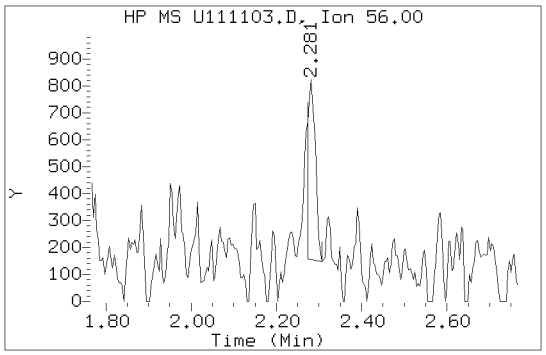
BEFORE

MASS
56
AREA
1123
HEIGHT
672
16-Nov-2022
09:38
linh
pham



AFTER

MASS
56
AREA
810
HEIGHT
668
16-Nov-2022
09:41
linh
pham



BEFORE

MASS
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AREA
770
HEIGHT
473
16-Nov-2022
09:38
linh
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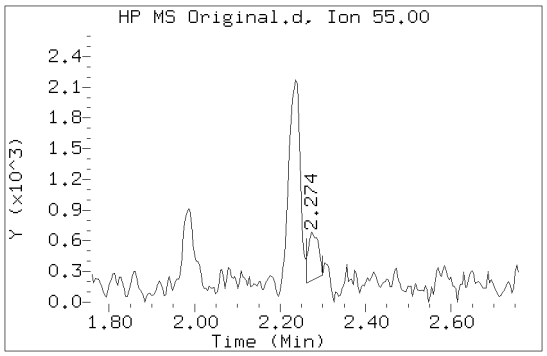

AFTER

MASS
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09:41
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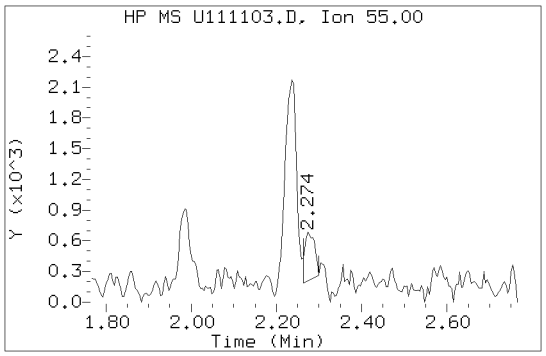

Acetone (67-64-1)

Reason Code:

BEFORE

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AREA
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HEIGHT
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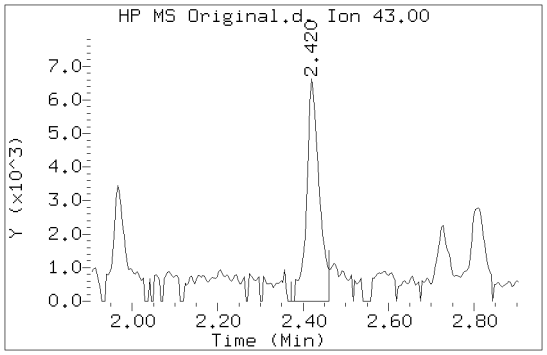
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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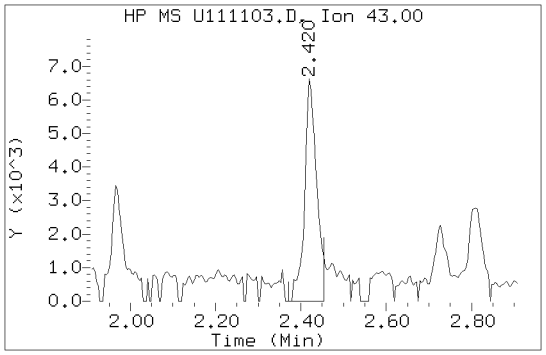
AREA
13138
HEIGHT
6627
16-Nov-2022
09:41
linh
pham



BEFORE

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AREA
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HEIGHT
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16-Nov-2022
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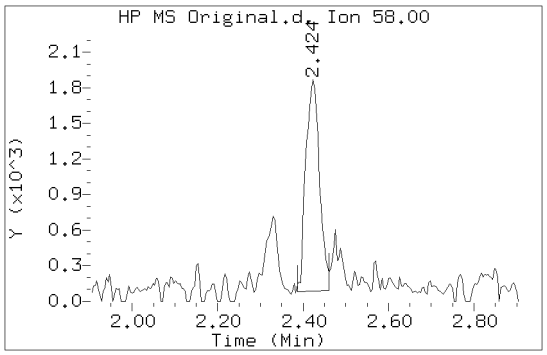

AFTER

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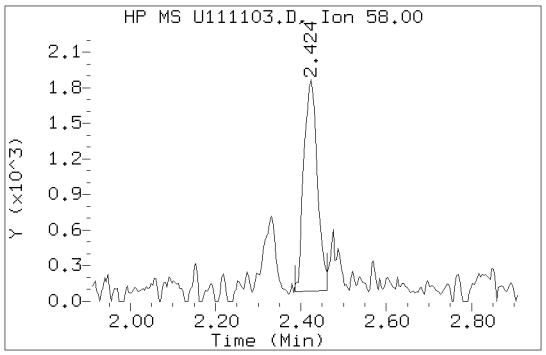

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Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Iodomethane (74-88-4)

Reason Code:

BEFORE

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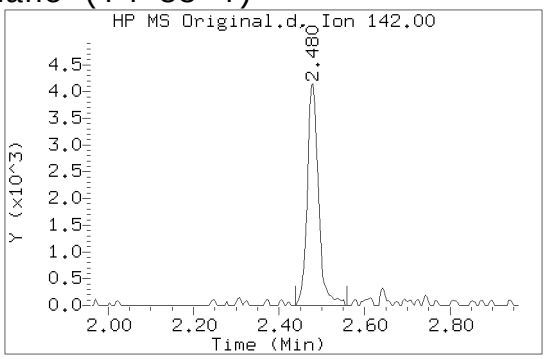
16-Nov-2022
09:38
linh
pham



AFTER

MASS
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HEIGHT
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16-Nov-2022
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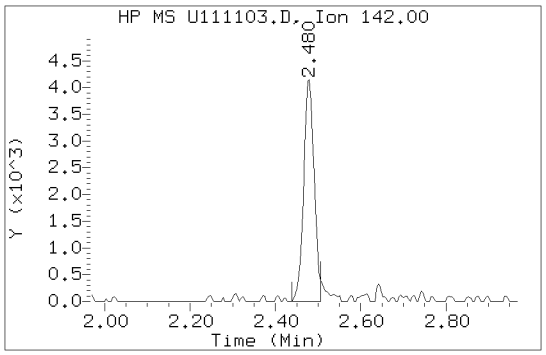
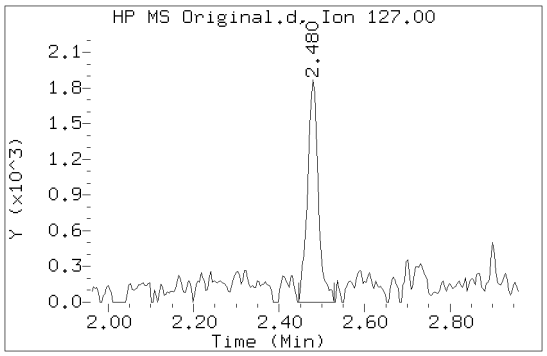
linh
pham



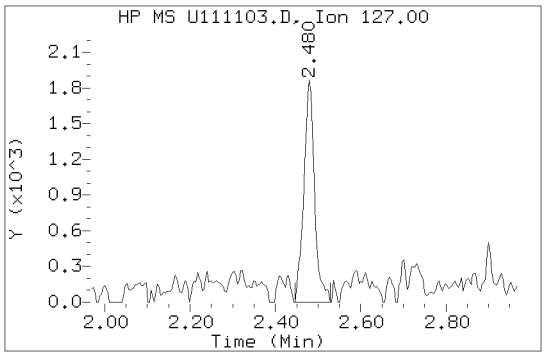
BEFORE

MASS
127
AREA
3331
HEIGHT
1869
16-Nov-2022
09:38
linh
pham



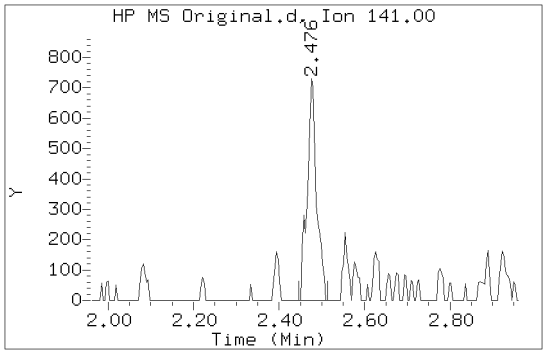
AFTER

MASS
127
AREA
3331
HEIGHT
1869
16-Nov-2022
09:41
linh
pham



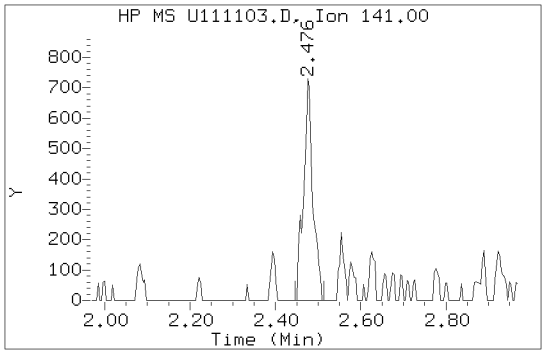
BEFORE

MASS
141
AREA
1140
HEIGHT
730
16-Nov-2022
09:38
linh
pham



AFTER

MASS
141
AREA
1140
HEIGHT
730
16-Nov-2022
09:41
linh
pham

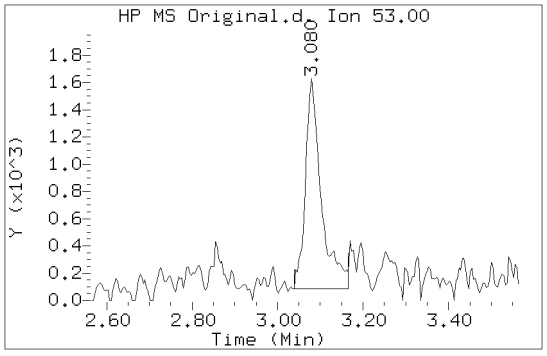


Acrylonitrile (107-13-1)

Reason Code:

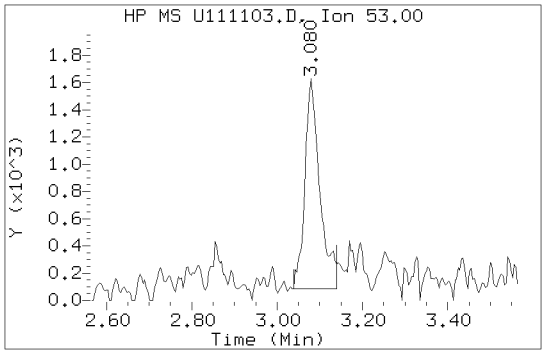
BEFORE

MASS
53
AREA
4003
HEIGHT
1543
16-Nov-2022
09:38
linh
pham



AFTER

MASS
53
AREA
3765
HEIGHT
1543
16-Nov-2022
09:41
linh
pham



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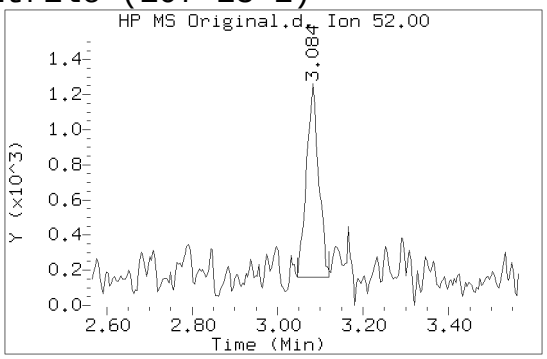
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Acrylonitrile (107-13-1)

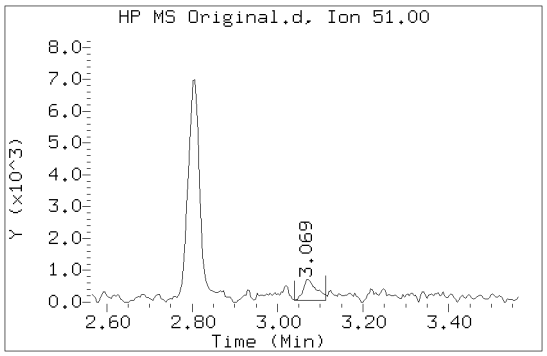
BEFORE

MASS
52
AREA
2193
HEIGHT
1103
16-Nov-2022
09:38
linh
pham



BEFORE

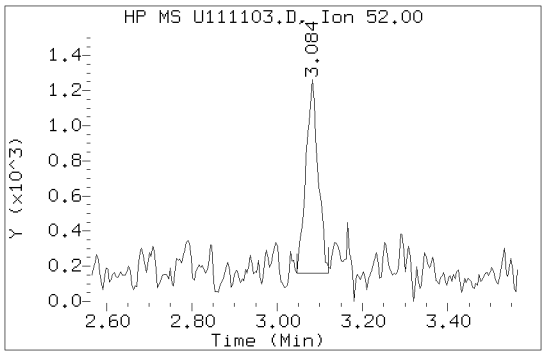
MASS
51
AREA
1433
HEIGHT
651
16-Nov-2022
09:38
linh
pham



Reason Code:

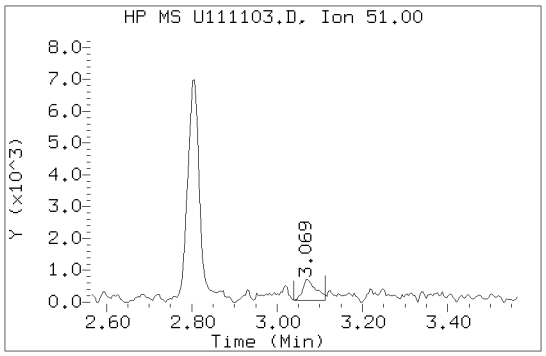
AFTER

MASS
52
AREA
2193
HEIGHT
1103
16-Nov-2022
09:41
linh
pham



AFTER

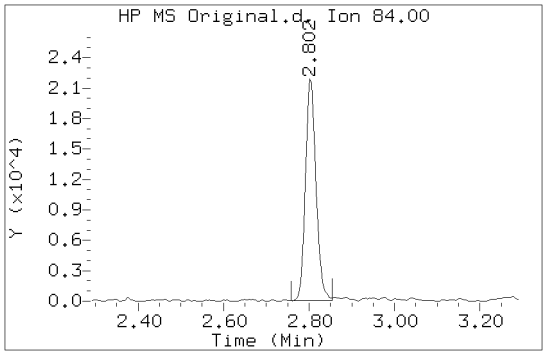
MASS
51
AREA
1433
HEIGHT
651
16-Nov-2022
09:41
linh
pham



Methylene Chloride (75-09-2)

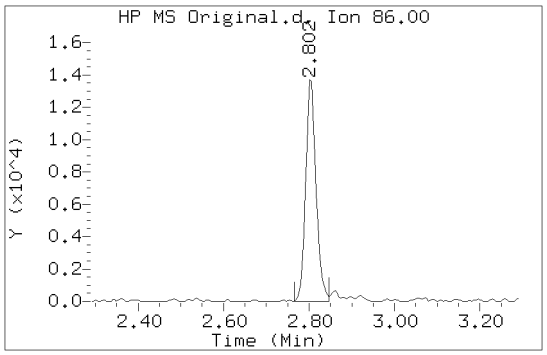
BEFORE

MASS
84
AREA
38413
HEIGHT
21860
16-Nov-2022
09:38
linh
pham



BEFORE

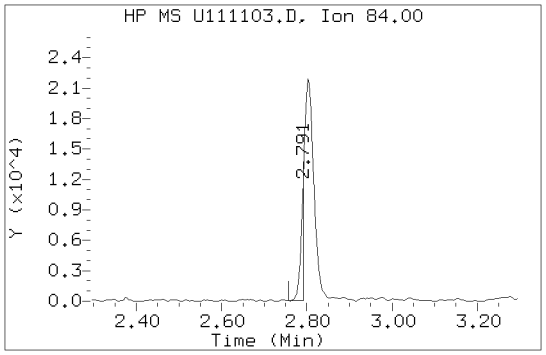
MASS
86
AREA
23611
HEIGHT
13710
16-Nov-2022
09:38
linh
pham



Reason Code:

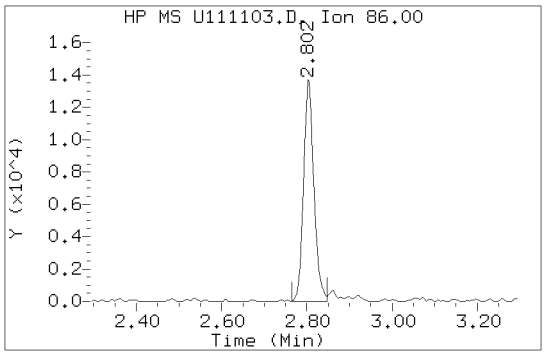
AFTER

MASS
84
AREA
5802
HEIGHT
11796
16-Nov-2022
09:41
linh
pham



AFTER

MASS
86
AREA
23611
HEIGHT
13710
16-Nov-2022
09:41
linh
pham



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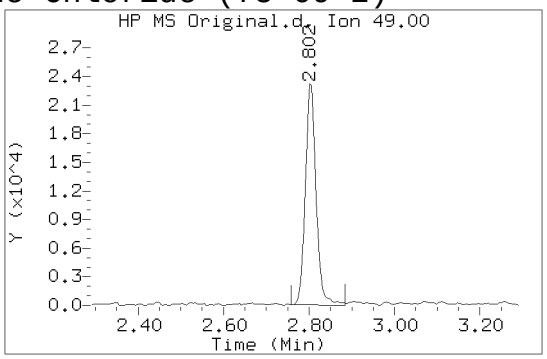
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Methylene Chloride (75-09-2)

Reason Code:

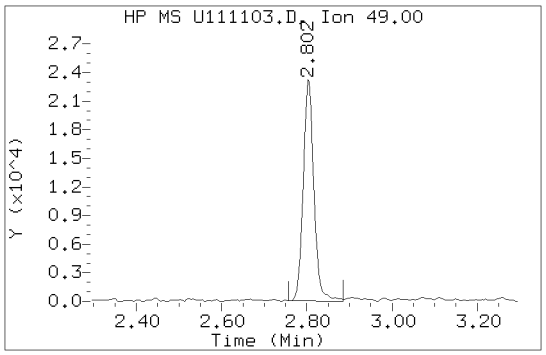
BEFORE

MASS
49
AREA
41352
HEIGHT
23207
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
41352
HEIGHT
23207
16-Nov-2022
09:41
linh
pham

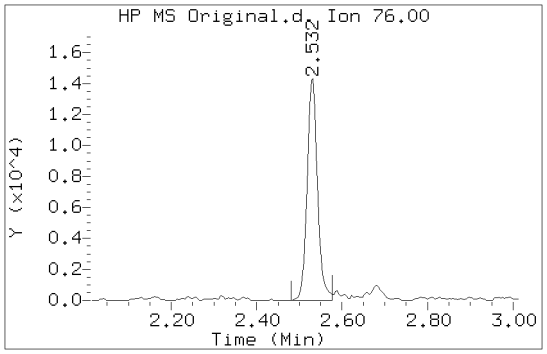


Carbon Disulfide (75-15-0)

Reason Code:

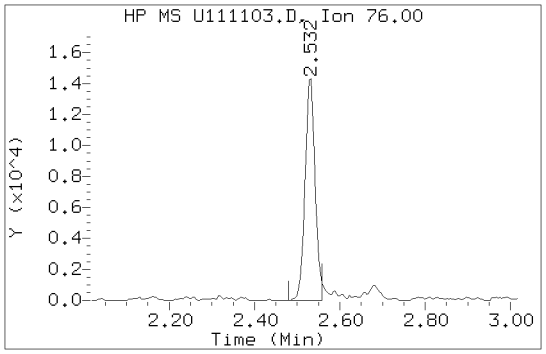
BEFORE

MASS
76
AREA
24625
HEIGHT
14312
16-Nov-2022
09:38
linh
pham



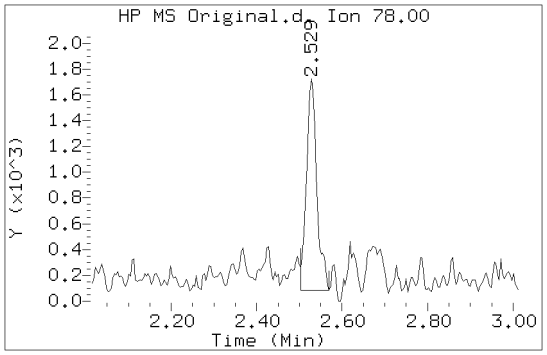
AFTER

MASS
76
AREA
23979
HEIGHT
14312
16-Nov-2022
09:41
linh
pham



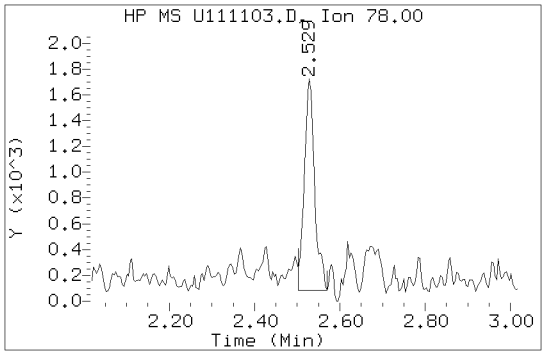
BEFORE

MASS
78
AREA
2830
HEIGHT
1637
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
2830
HEIGHT
1637
16-Nov-2022
09:41
linh
pham

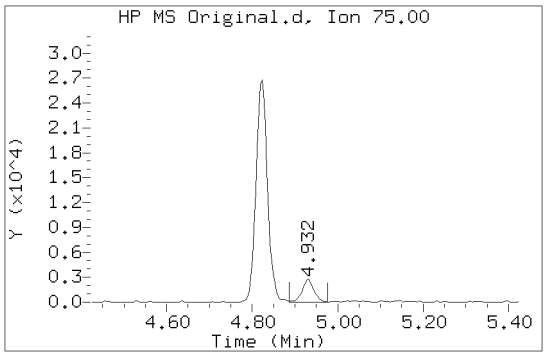


1,1-Dichloropropene (563-58-6)

Reason Code:

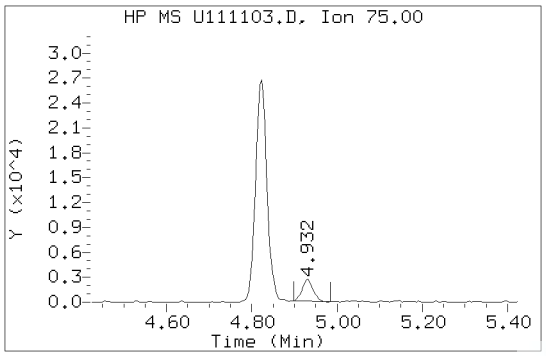
BEFORE

MASS
75
AREA
5310
HEIGHT
2778
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
4644
HEIGHT
2659
16-Nov-2022
09:41
linh
pham



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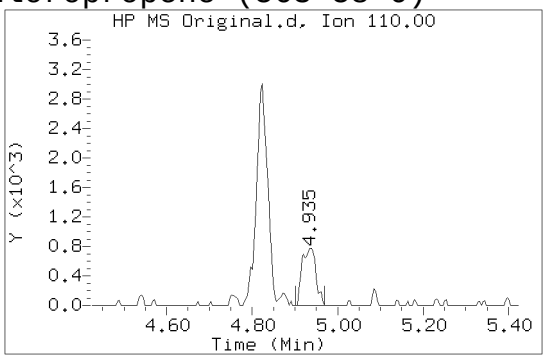
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,1-Dichloropropene (563-58-6)

Reason Code:

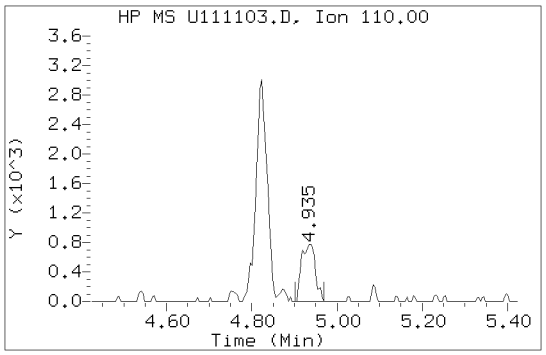
BEFORE

MASS
110
AREA
1773
HEIGHT
776
16-Nov-2022
09:38
linh
pham



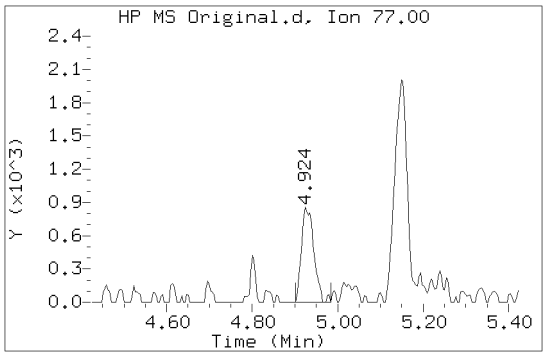
AFTER

MASS
110
AREA
1773
HEIGHT
776
16-Nov-2022
09:41
linh
pham



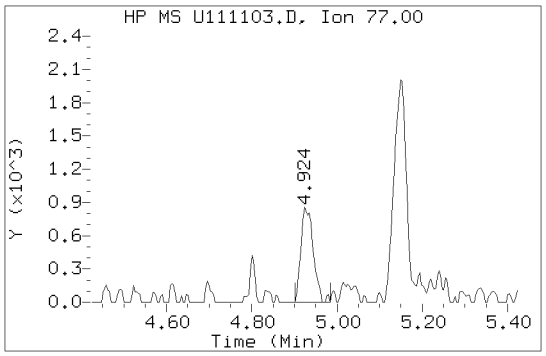
BEFORE

MASS
77
AREA
1749
HEIGHT
856
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
1749
HEIGHT
856
16-Nov-2022
09:41
linh
pham

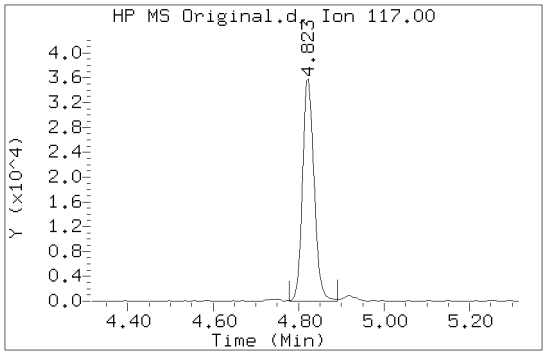


Carbon Tetrachloride (56-23-5)

Reason Code:

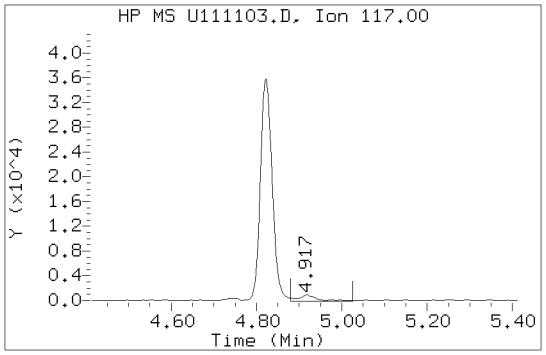
BEFORE

MASS
117
AREA
68937
HEIGHT
35816
16-Nov-2022
09:38
linh
pham



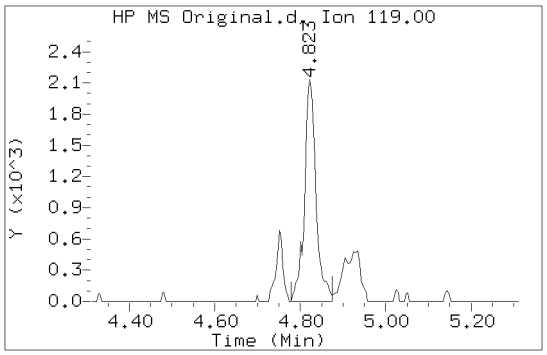
AFTER

MASS
117
AREA
3171
HEIGHT
1078
16-Nov-2022
09:41
linh
pham



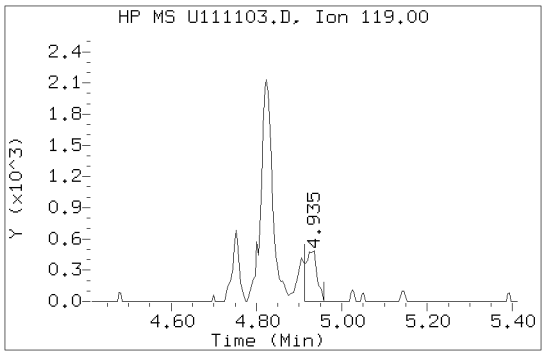
BEFORE

MASS
119
AREA
4044
HEIGHT
2131
16-Nov-2022
09:38
linh
pham



AFTER

MASS
119
AREA
893
HEIGHT
487
16-Nov-2022
09:41
linh
pham



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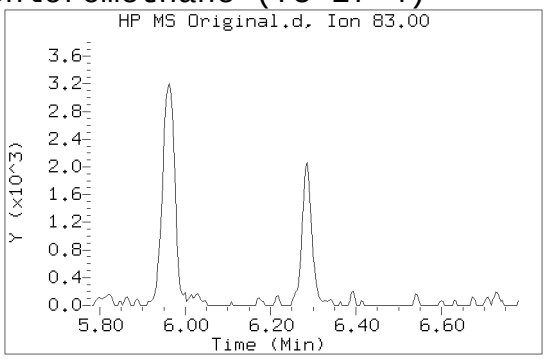
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Bromodichloromethane (75-27-4)

Reason Code:

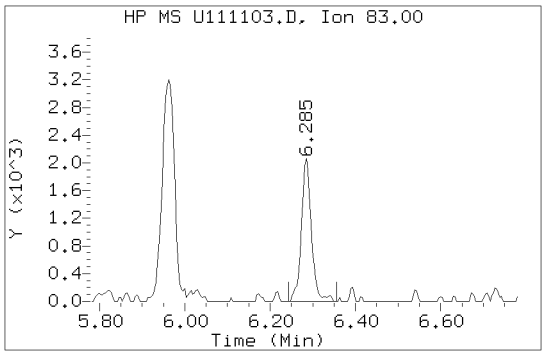
BEFORE

MASS
83
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



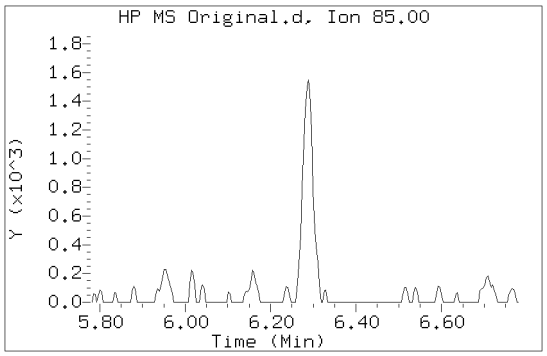
AFTER

MASS
83
AREA
3457
HEIGHT
2066
16-Nov-2022
09:41
linh
pham



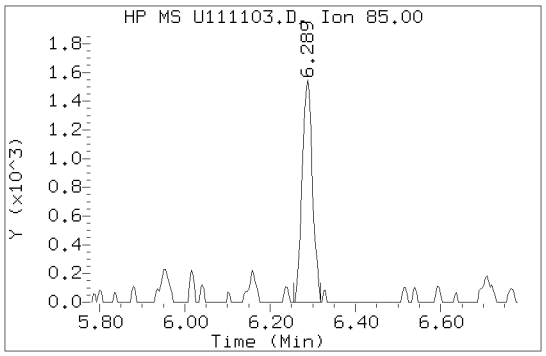
BEFORE

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



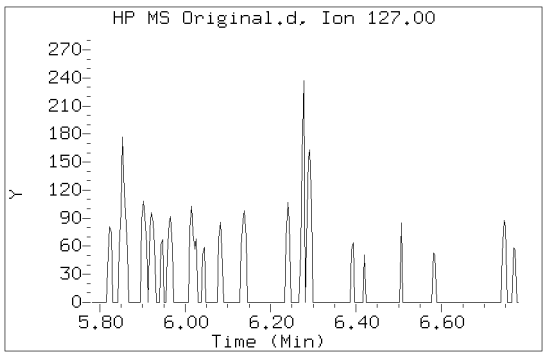
AFTER

MASS
85
AREA
2670
HEIGHT
1548
16-Nov-2022
09:41
linh
pham



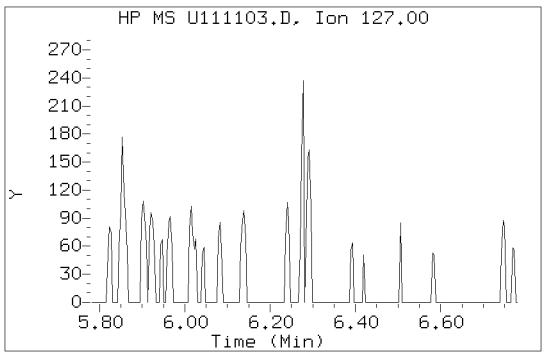
BEFORE

MASS
127
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

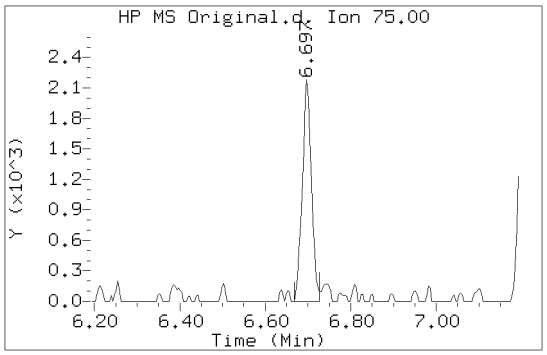


cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

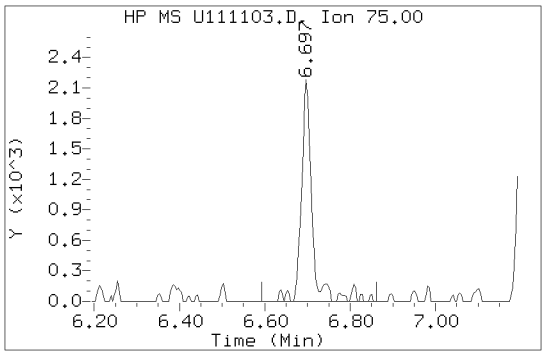
BEFORE

MASS
75
AREA
3321
HEIGHT
2181
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
3916
HEIGHT
2181
16-Nov-2022
09:41
linh
pham



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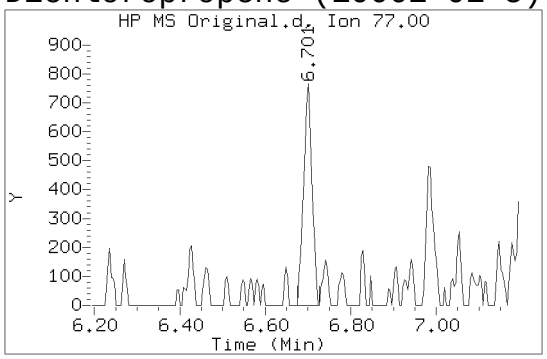
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

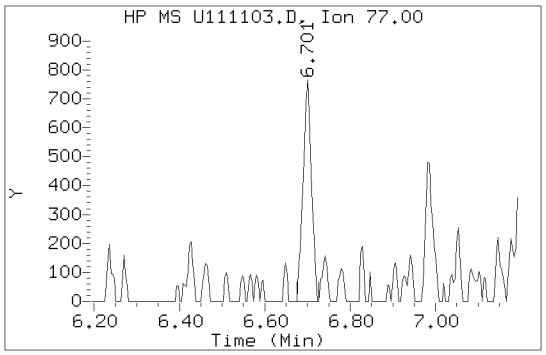
BEFORE

MASS
77
AREA
1071
HEIGHT
766
16-Nov-2022
09:38
linh
pham



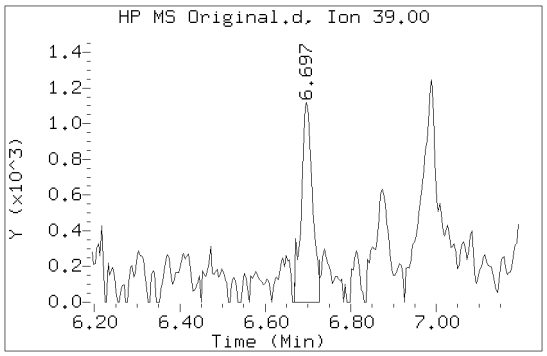
AFTER

MASS
77
AREA
1071
HEIGHT
766
16-Nov-2022
09:41
linh
pham



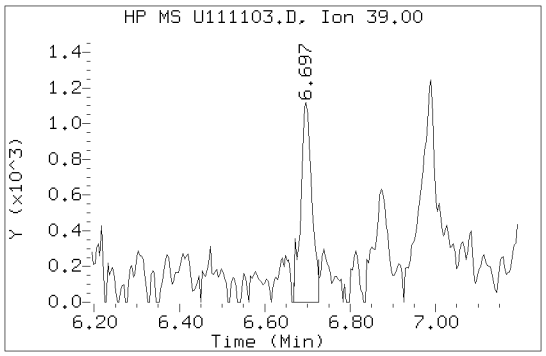
BEFORE

MASS
39
AREA
2078
HEIGHT
1121
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
2078
HEIGHT
1121
16-Nov-2022
09:41
linh
pham

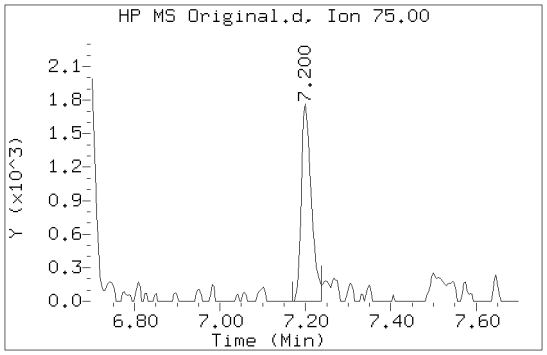


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

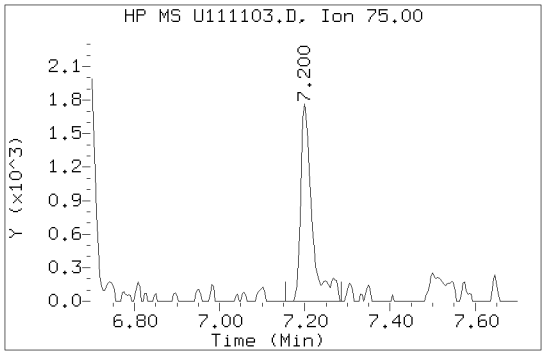
BEFORE

MASS
75
AREA
2943
HEIGHT
1769
16-Nov-2022
09:38
linh
pham



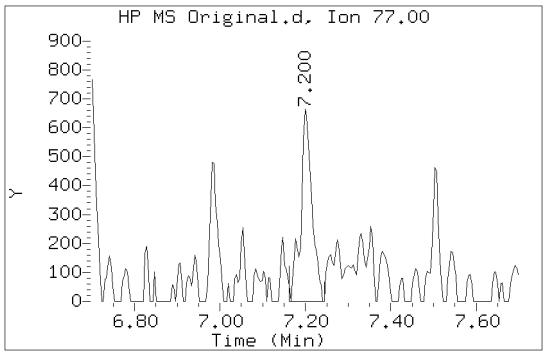
AFTER

MASS
75
AREA
3354
HEIGHT
1769
16-Nov-2022
09:41
linh
pham



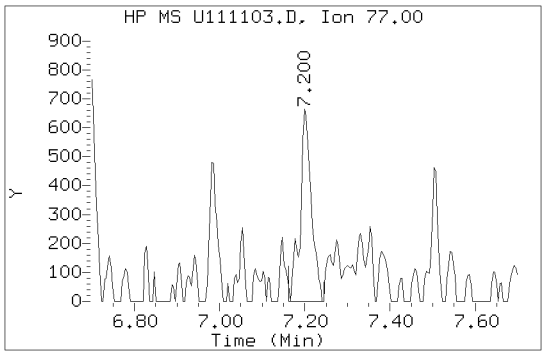
BEFORE

MASS
77
AREA
1239
HEIGHT
664
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
1239
HEIGHT
664
16-Nov-2022
09:41
linh
pham



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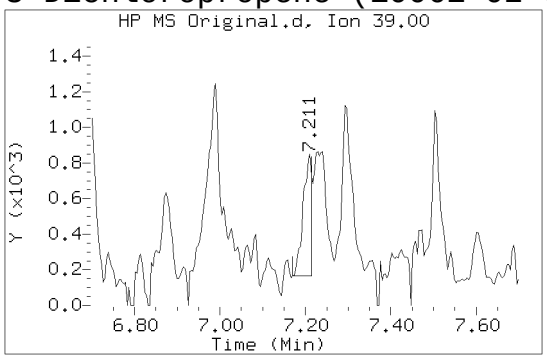
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

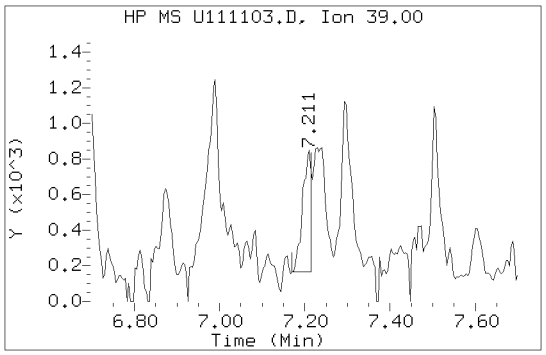
BEFORE

MASS
39
AREA
933
HEIGHT
685
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
933
HEIGHT
685
16-Nov-2022
09:41
linh
pham

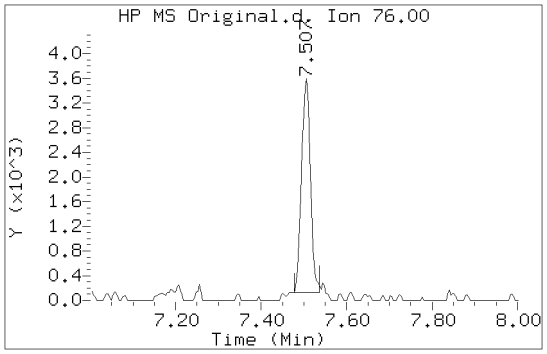


1,3-Dichloropropane (142-28-9)

Reason Code:

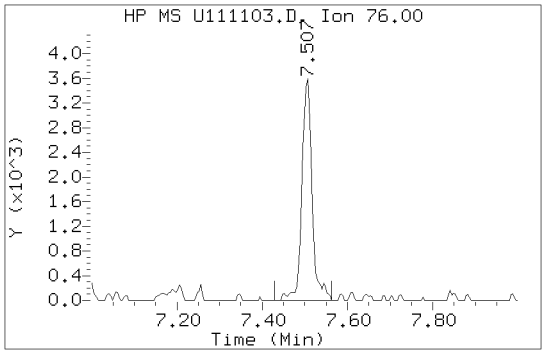
BEFORE

MASS
76
AREA
5190
HEIGHT
3467
16-Nov-2022
09:38
linh
pham



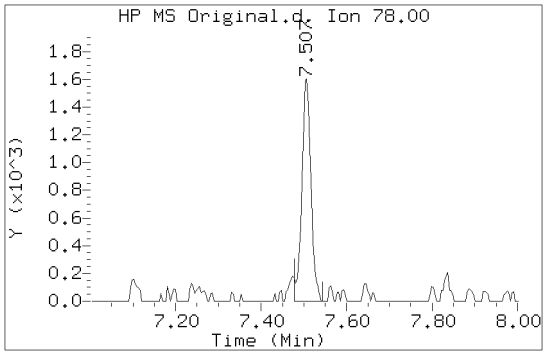
AFTER

MASS
76
AREA
6083
HEIGHT
3594
16-Nov-2022
09:41
linh
pham



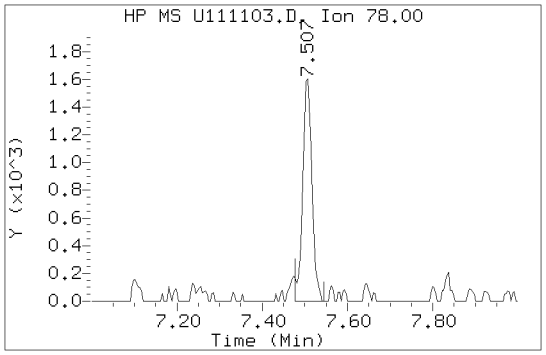
BEFORE

MASS
78
AREA
2453
HEIGHT
1603
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
2453
HEIGHT
1603
16-Nov-2022
09:41
linh
pham

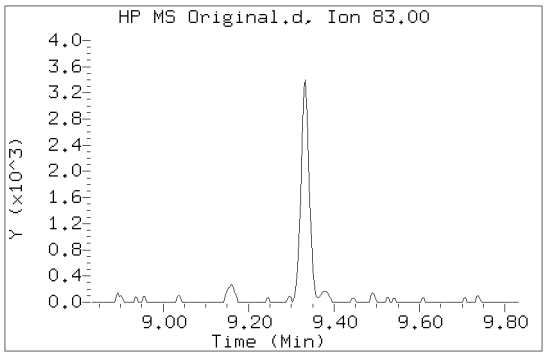


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

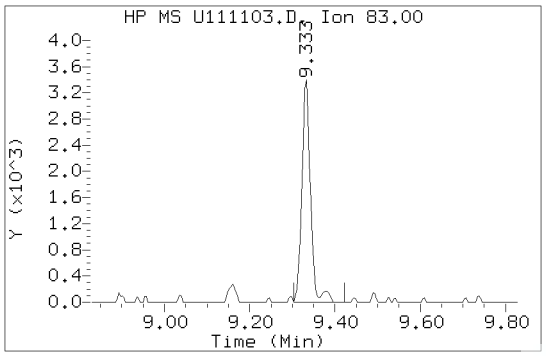
BEFORE

MASS
83
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
83
AREA
4895
HEIGHT
3397
16-Nov-2022
09:41
linh
pham



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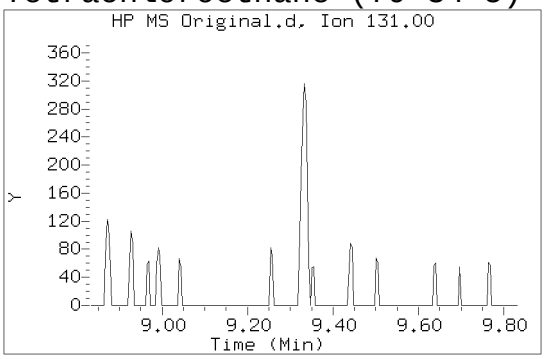
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

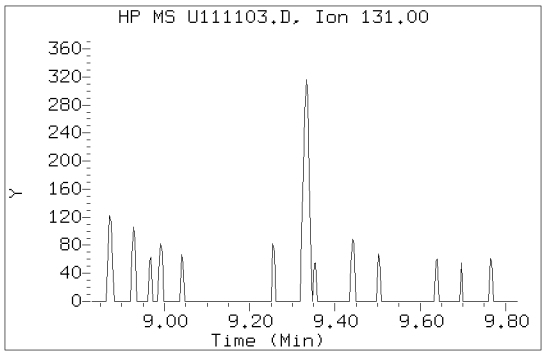
BEFORE

MASS
131
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



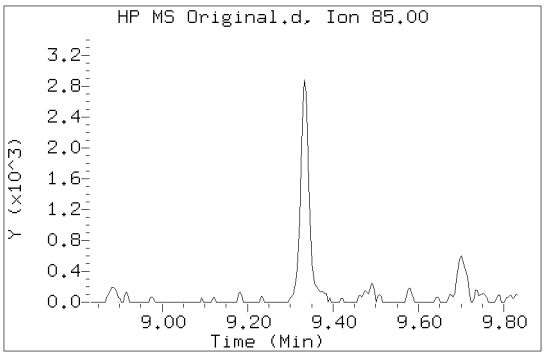
AFTER

MASS
131
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham



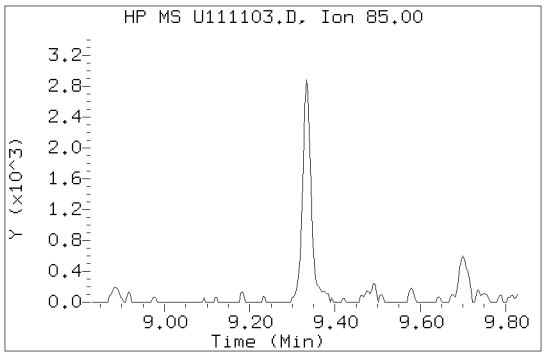
BEFORE

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

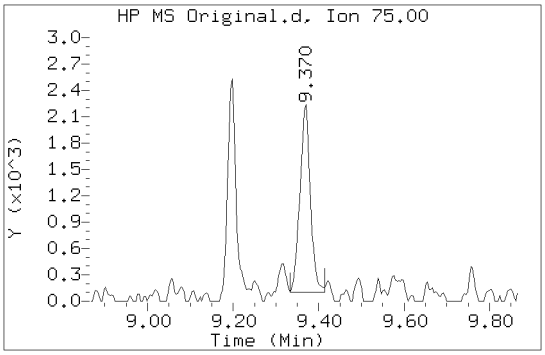


1,2,3-Trichloropropane (96-18-4)

Reason Code:

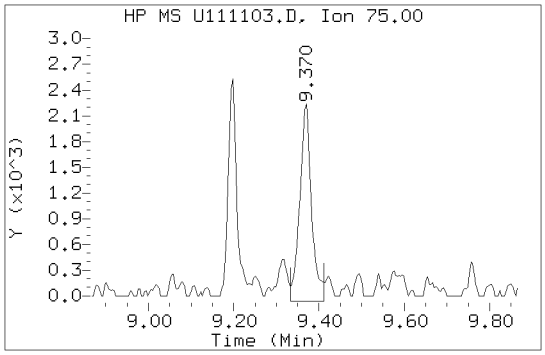
BEFORE

MASS
75
AREA
3690
HEIGHT
2137
16-Nov-2022
09:38
linh
pham



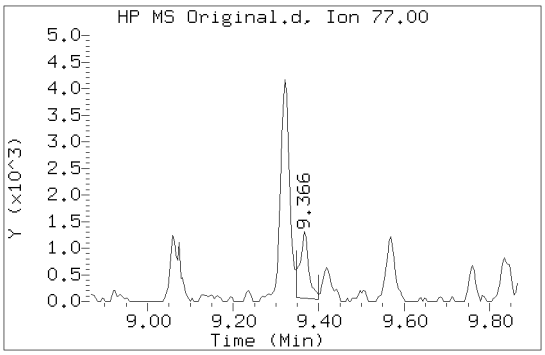
AFTER

MASS
75
AREA
4509
HEIGHT
2305
16-Nov-2022
09:41
linh
pham



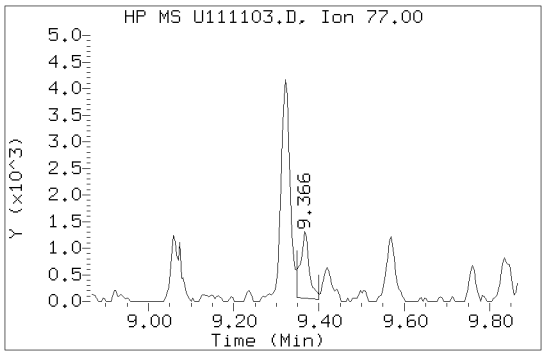
BEFORE

MASS
77
AREA
1865
HEIGHT
1254
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
1865
HEIGHT
1254
16-Nov-2022
09:41
linh
pham



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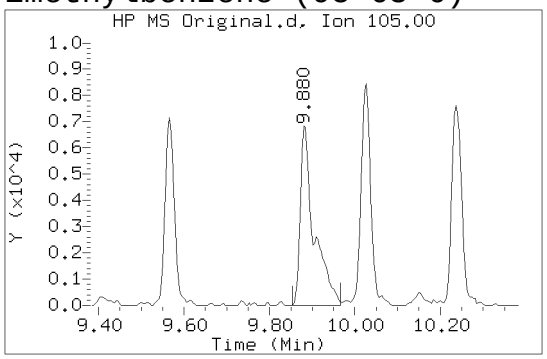
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,2,4-Trimethylbenzene (95-63-6)

Reason Code:

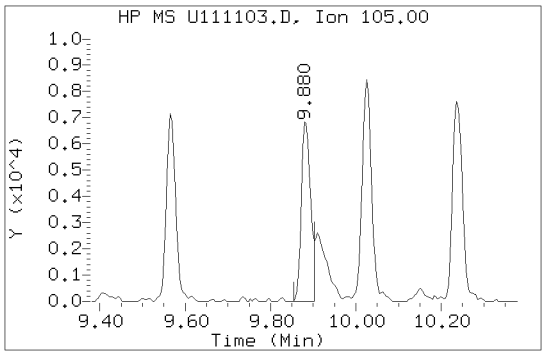
BEFORE

MASS
105
AREA
15568
HEIGHT
6826
16-Nov-2022
09:38
linh
pham



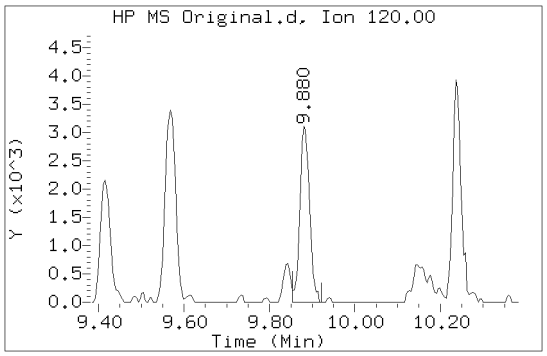
AFTER

MASS
105
AREA
10584
HEIGHT
6826
16-Nov-2022
09:41
linh
pham



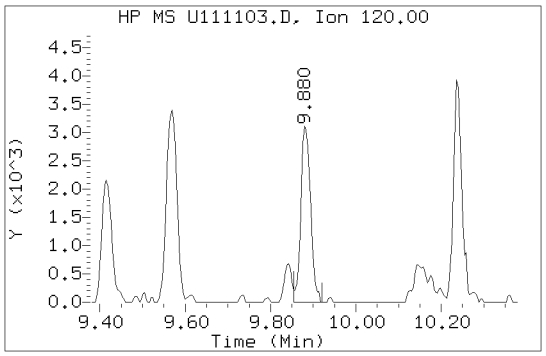
BEFORE

MASS
120
AREA
5048
HEIGHT
3109
16-Nov-2022
09:38
linh
pham



AFTER

MASS
120
AREA
5048
HEIGHT
3109
16-Nov-2022
09:41
linh
pham

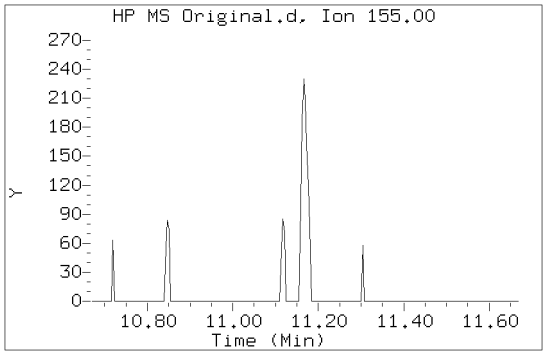


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

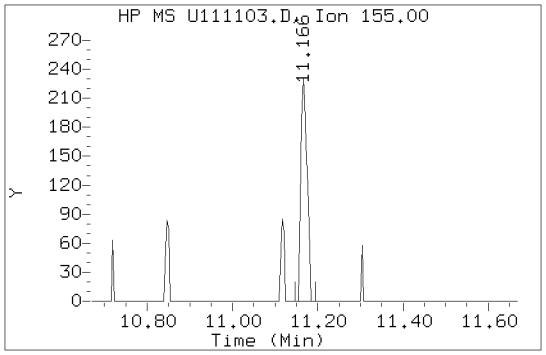
BEFORE

MASS
155
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



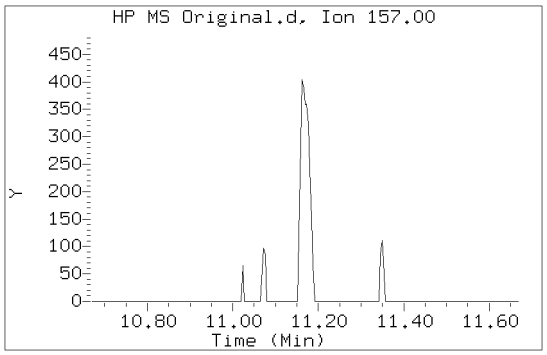
AFTER

MASS
155
AREA
243
HEIGHT
230
16-Nov-2022
09:41
linh
pham



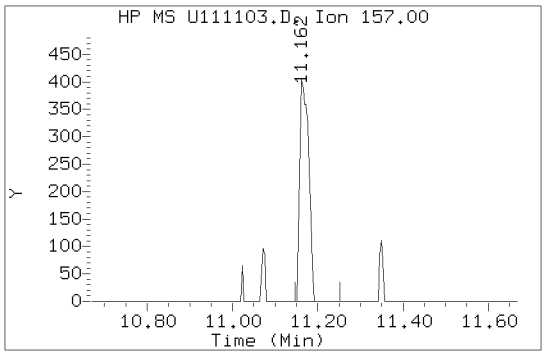
BEFORE

MASS
157
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
157
AREA
607
HEIGHT
404
16-Nov-2022
09:41
linh
pham



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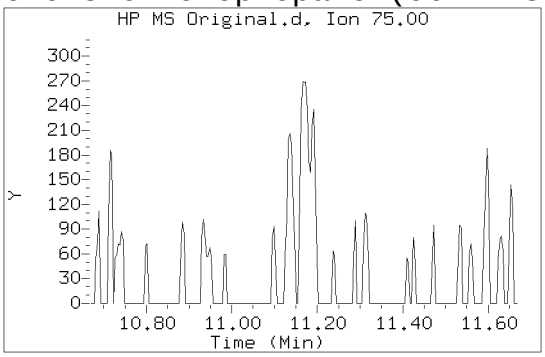
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

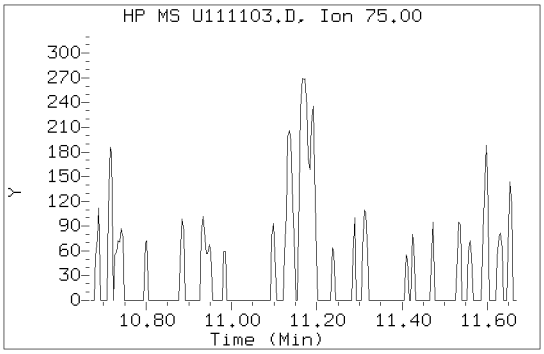
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

BEFORE
MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



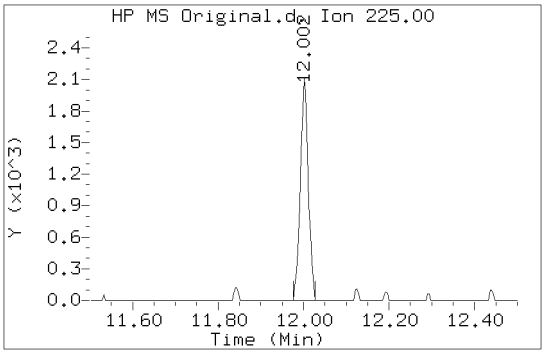
AFTER
MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham



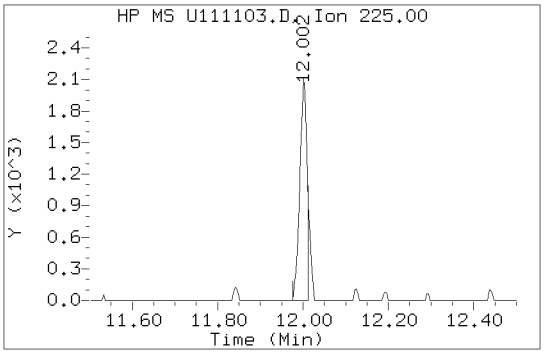
Hexachlorobutadiene (87-68-3)

Reason Code:

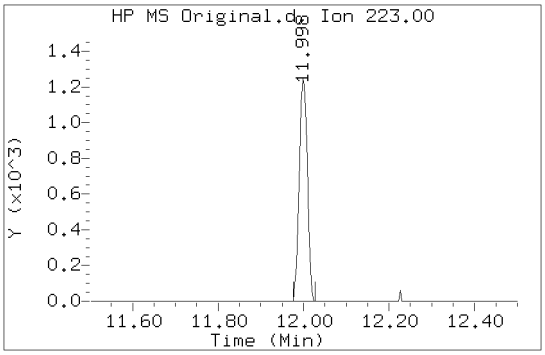
BEFORE
MASS
225
AREA
2814
HEIGHT
2107
16-Nov-2022
09:38
linh
pham



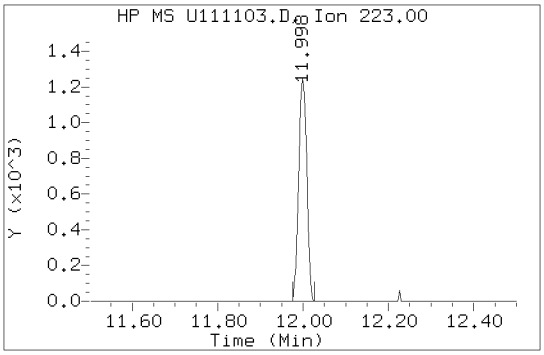
AFTER
MASS
225
AREA
2560
HEIGHT
2107
16-Nov-2022
09:41
linh
pham



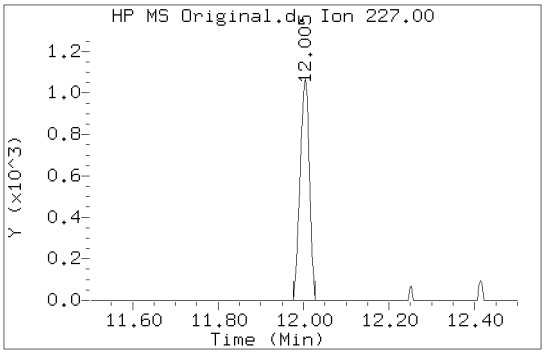
BEFORE
MASS
223
AREA
1709
HEIGHT
1245
16-Nov-2022
09:38
linh
pham



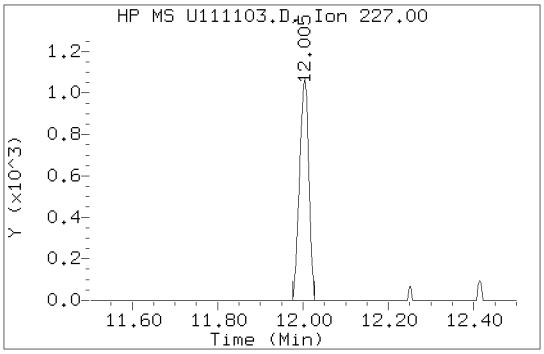
AFTER
MASS
223
AREA
1709
HEIGHT
1245
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
227
AREA
1660
HEIGHT
1069
16-Nov-2022
09:38
linh
pham



AFTER
MASS
227
AREA
1660
HEIGHT
1069
16-Nov-2022
09:41
linh
pham



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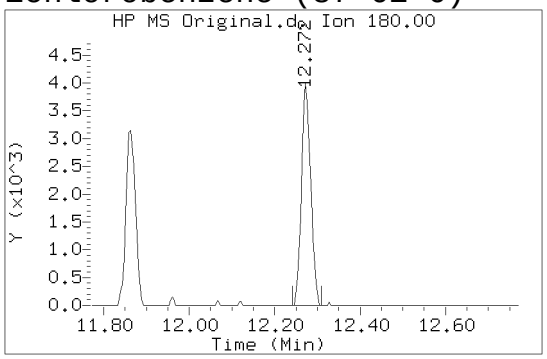
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

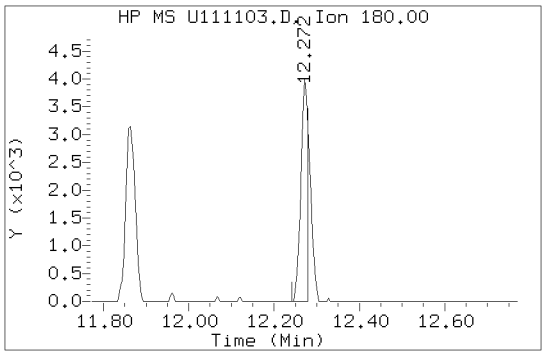
BEFORE

MASS
180
AREA
6119
HEIGHT
3988
16-Nov-2022
09:38
linh
pham



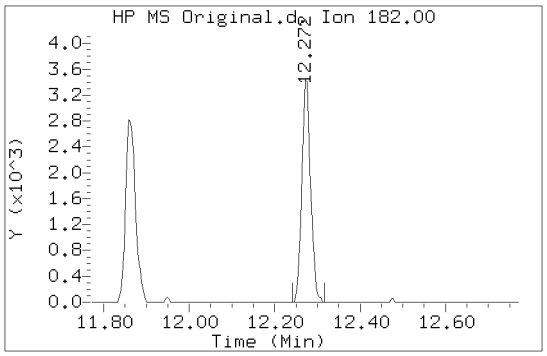
AFTER

MASS
180
AREA
4534
HEIGHT
3988
16-Nov-2022
09:41
linh
pham



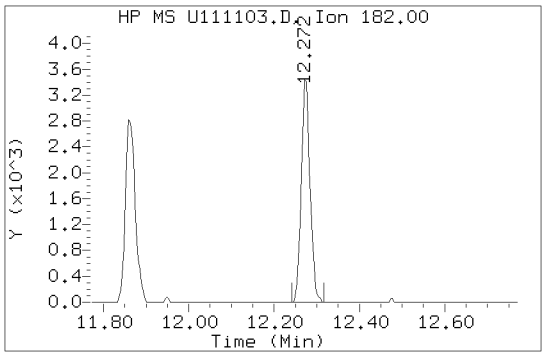
BEFORE

MASS
182
AREA
5029
HEIGHT
3435
16-Nov-2022
09:38
linh
pham



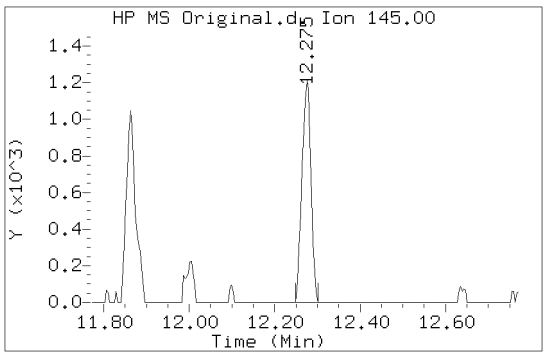
AFTER

MASS
182
AREA
5029
HEIGHT
3435
16-Nov-2022
09:41
linh
pham



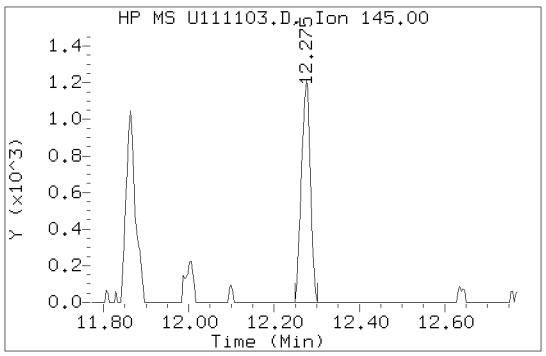
BEFORE

MASS
145
AREA
1818
HEIGHT
1211
16-Nov-2022
09:38
linh
pham



AFTER

MASS
145
AREA
1818
HEIGHT
1211
16-Nov-2022
09:41
linh
pham

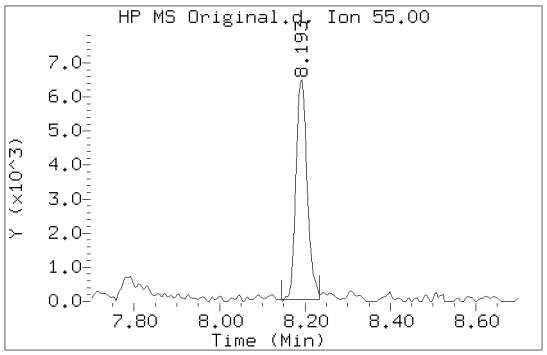


1-Chlorohexane (544-10-5)

Reason Code:

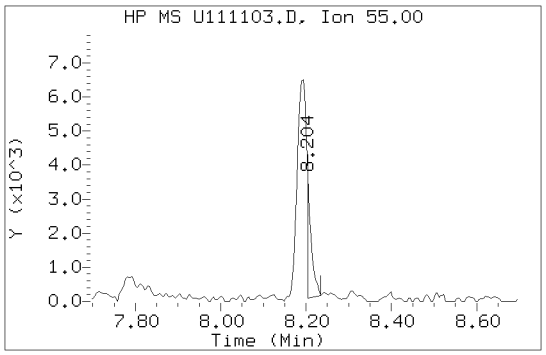
BEFORE

MASS
55
AREA
12120
HEIGHT
6454
16-Nov-2022
09:38
linh
pham



AFTER

MASS
55
AREA
2433
HEIGHT
3655
16-Nov-2022
09:41
linh
pham



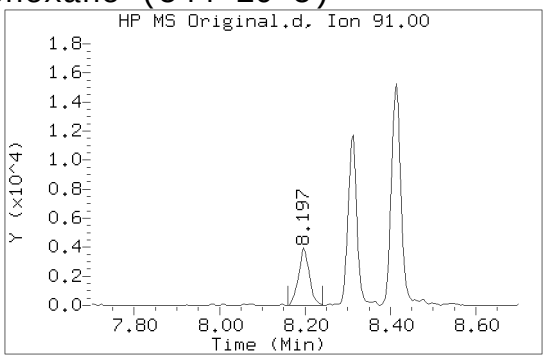
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1-Chlorohexane (544-10-5)

Reason Code:

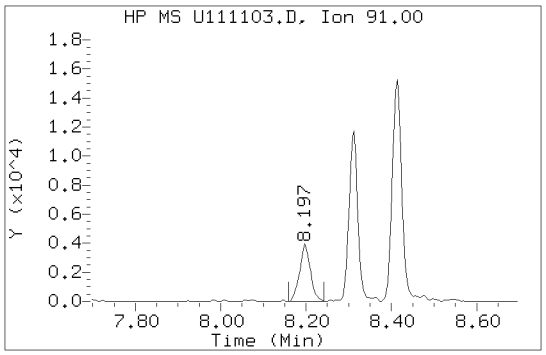
BEFORE

MASS
91
AREA
7045
HEIGHT
3958
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
7045
HEIGHT
3958
16-Nov-2022
09:41
linh
pham

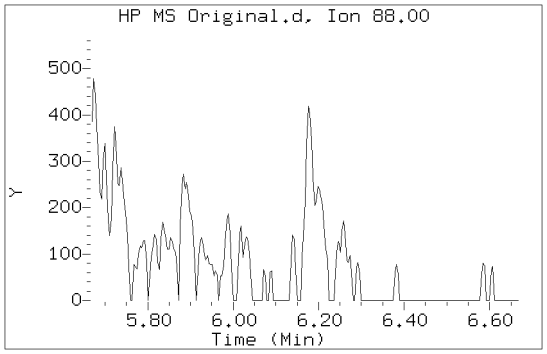


1,4-Dioxane ()

Reason Code:

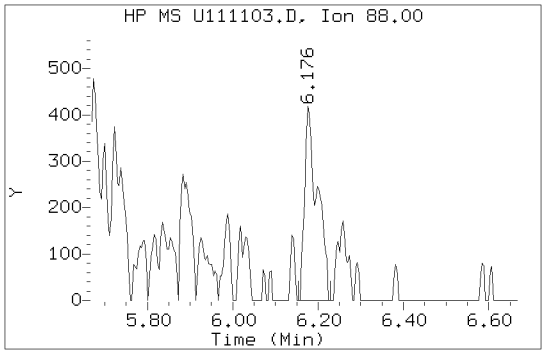
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



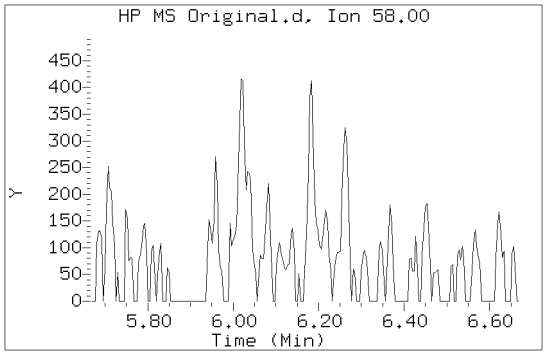
AFTER

MASS
88
AREA
872
HEIGHT
419
16-Nov-2022
09:41
linh
pham



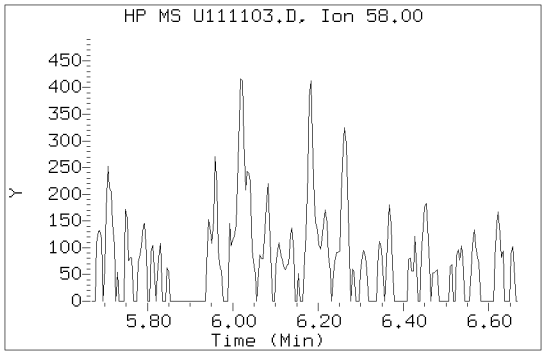
BEFORE

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

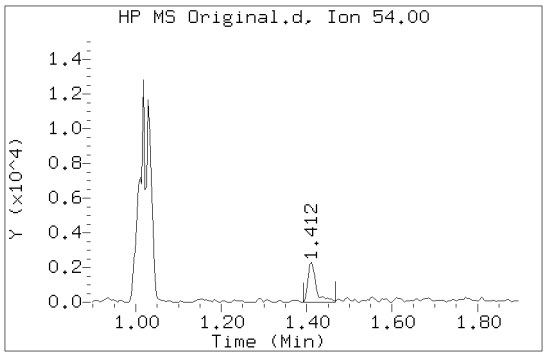


1,3-Butadiene (106-99-0)

Reason Code:

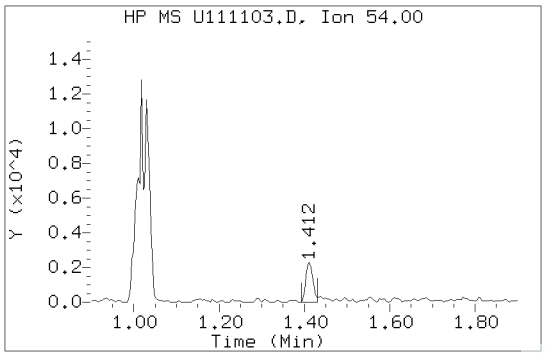
BEFORE

MASS
54
AREA
3093
HEIGHT
2295
16-Nov-2022
09:38
linh
pham



AFTER

MASS
54
AREA
2660
HEIGHT
2295
16-Nov-2022
09:41
linh
pham



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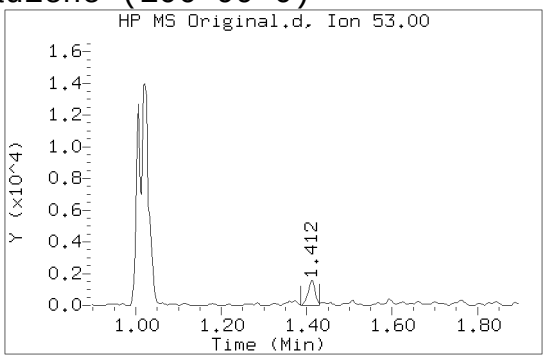
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,3-Butadiene (106-99-0)

Reason Code:

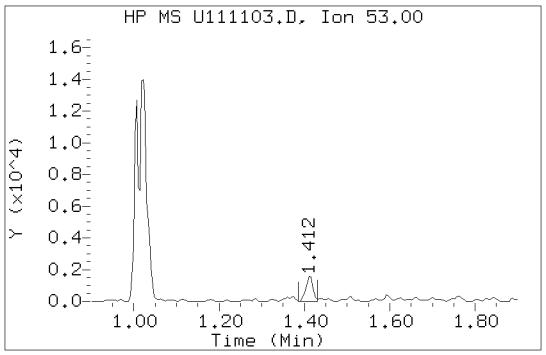
BEFORE

MASS
53
AREA
1823
HEIGHT
1593
16-Nov-2022
09:38
linh
pham



AFTER

MASS
53
AREA
1823
HEIGHT
1593
16-Nov-2022
09:41
linh
pham

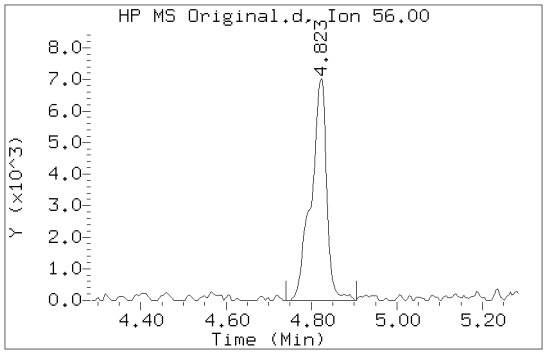


Cyclohexane (110-82-7)

Reason Code:

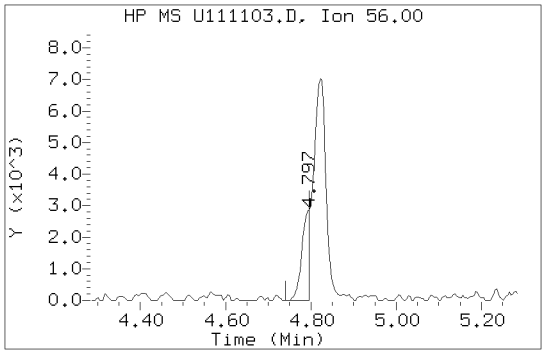
BEFORE

MASS
56
AREA
17813
HEIGHT
7023
16-Nov-2022
09:38
linh
pham



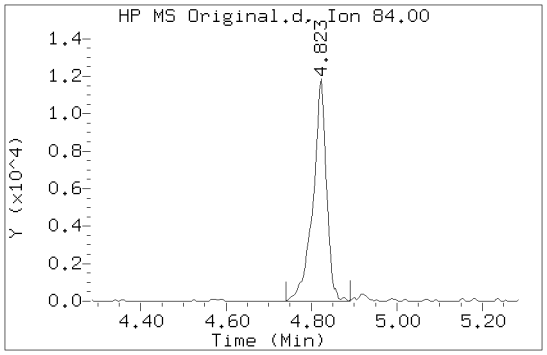
AFTER

MASS
56
AREA
3722
HEIGHT
2858
16-Nov-2022
09:41
linh
pham



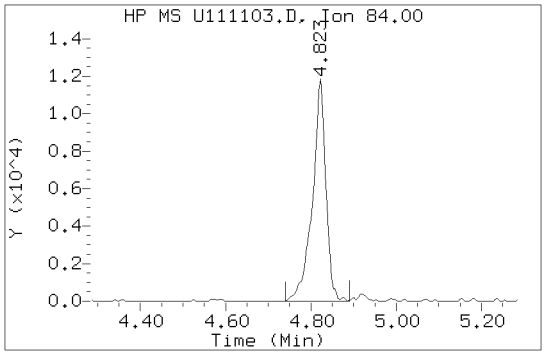
BEFORE

MASS
84
AREA
25973
HEIGHT
11857
16-Nov-2022
09:38
linh
pham



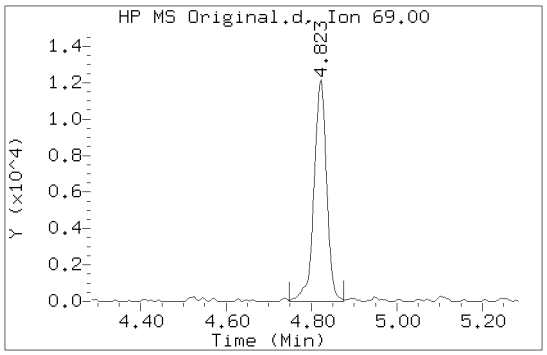
AFTER

MASS
84
AREA
25973
HEIGHT
11857
16-Nov-2022
09:41
linh
pham



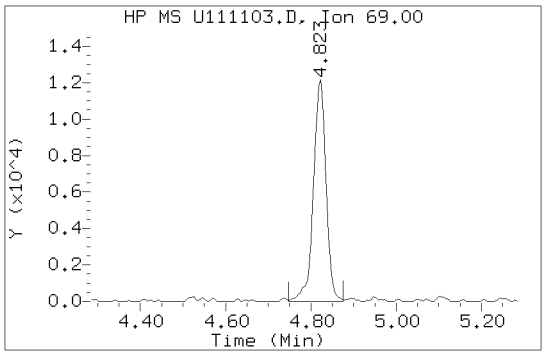
BEFORE

MASS
69
AREA
24994
HEIGHT
12164
16-Nov-2022
09:38
linh
pham



AFTER

MASS
69
AREA
24994
HEIGHT
12164
16-Nov-2022
09:41
linh
pham



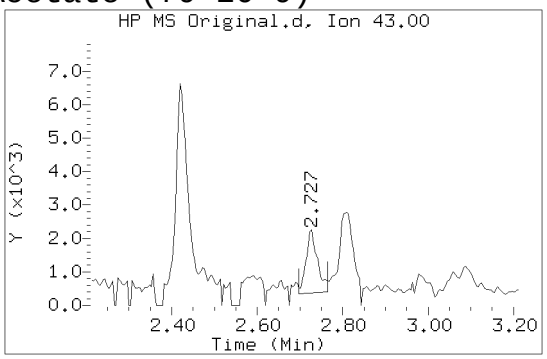
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Methyl Acetate (79-20-9)

Reason Code:

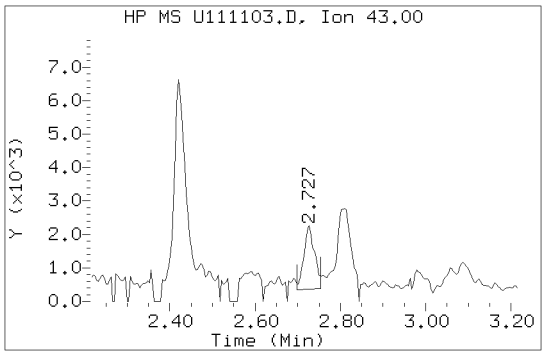
BEFORE

MASS
43
AREA
3615
HEIGHT
1898
16-Nov-2022
09:38
linh
pham



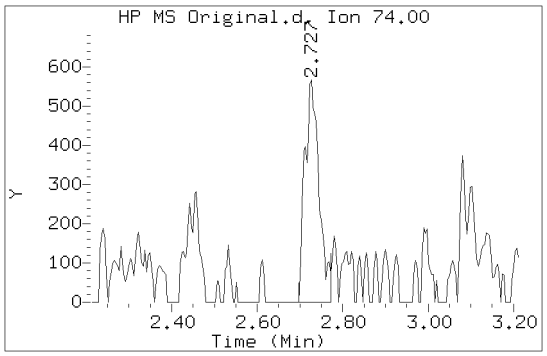
AFTER

MASS
43
AREA
3374
HEIGHT
1899
16-Nov-2022
09:41
linh
pham



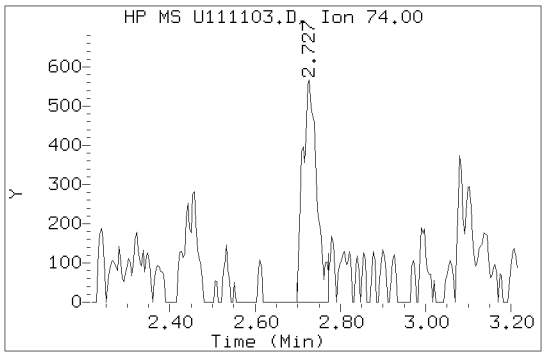
BEFORE

MASS
74
AREA
1334
HEIGHT
567
16-Nov-2022
09:38
linh
pham



AFTER

MASS
74
AREA
1334
HEIGHT
567
16-Nov-2022
09:41
linh
pham

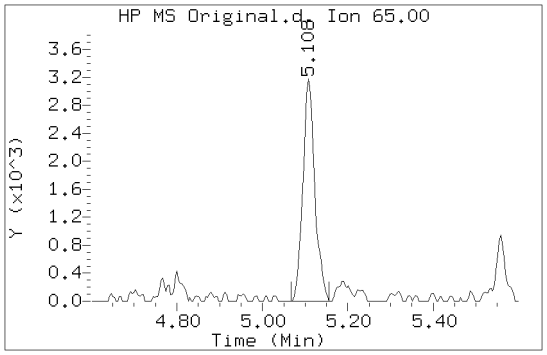


1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

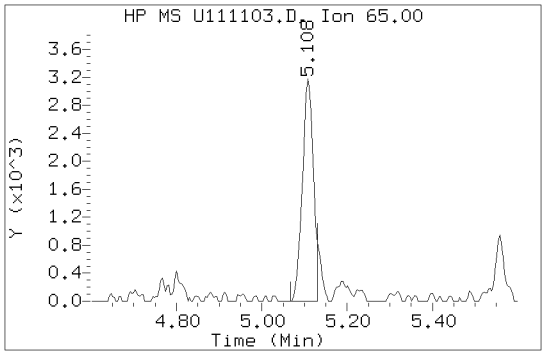
BEFORE

MASS
65
AREA
6294
HEIGHT
3178
16-Nov-2022
09:38
linh
pham



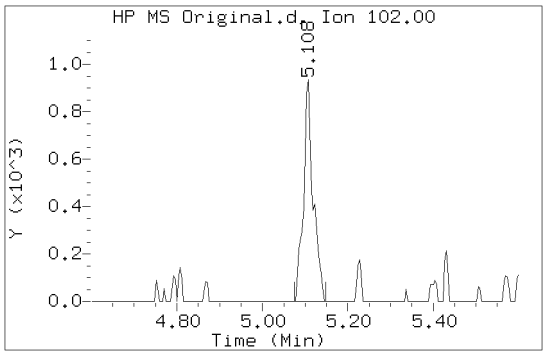
AFTER

MASS
65
AREA
5818
HEIGHT
3178
16-Nov-2022
09:41
linh
pham



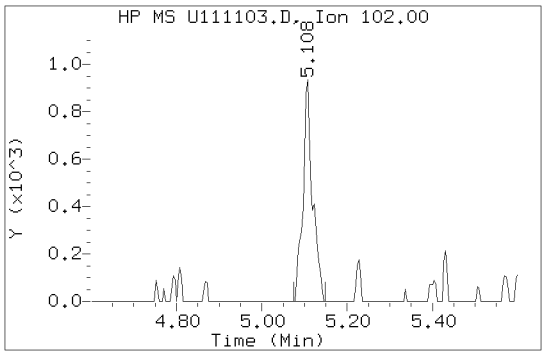
BEFORE

MASS
102
AREA
1491
HEIGHT
935
16-Nov-2022
09:38
linh
pham



AFTER

MASS
102
AREA
1491
HEIGHT
935
16-Nov-2022
09:41
linh
pham

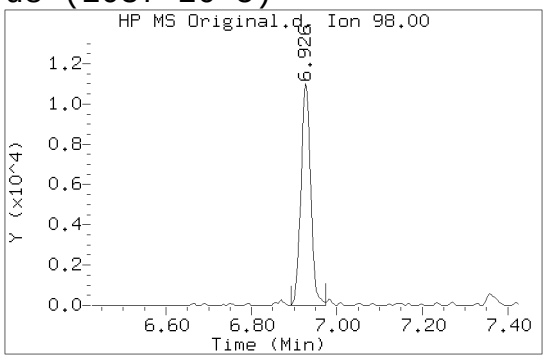


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

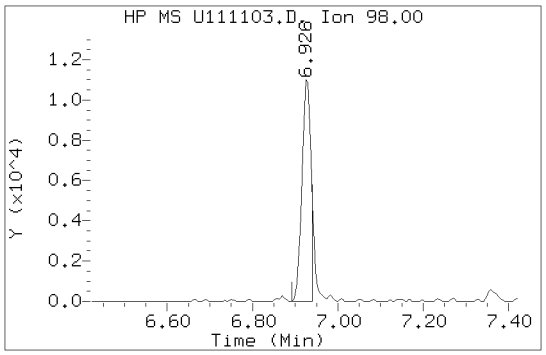
Toluene-d8 (2037-26-5)

Reason Code:

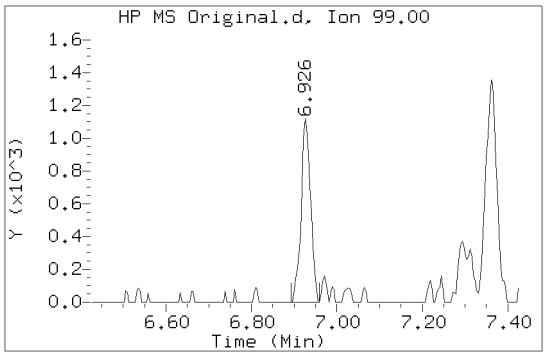
BEFORE
MASS
98
AREA
17806
HEIGHT
11007
16-Nov-2022
09:38
linh
pham



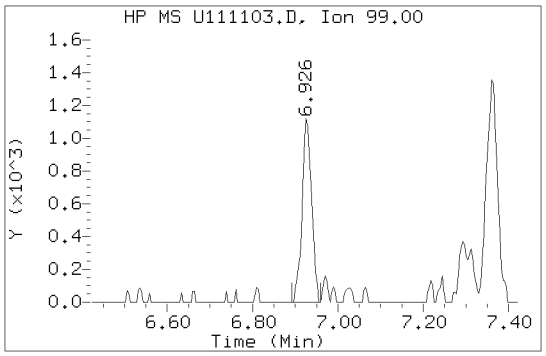
AFTER
MASS
98
AREA
16258
HEIGHT
11007
16-Nov-2022
09:41
linh
pham



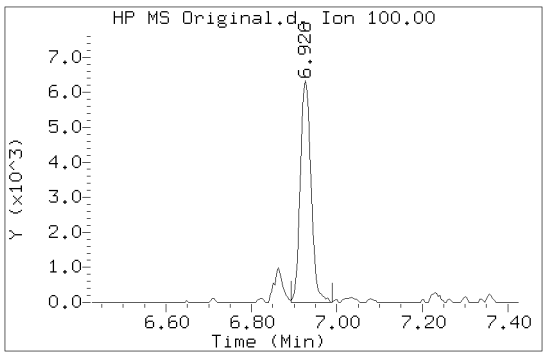
BEFORE
MASS
99
AREA
1755
HEIGHT
1121
16-Nov-2022
09:38
linh
pham



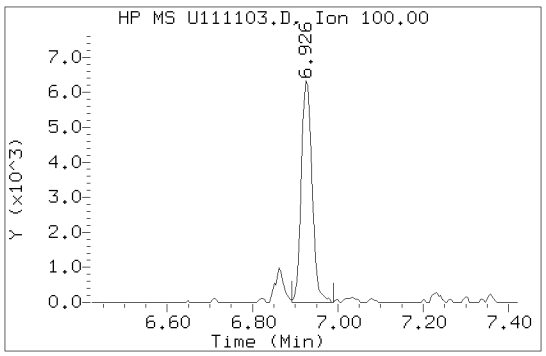
AFTER
MASS
99
AREA
1755
HEIGHT
1121
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
100
AREA
11346
HEIGHT
6332
16-Nov-2022
09:38
linh
pham



AFTER
MASS
100
AREA
11346
HEIGHT
6332
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 11-NOV-2022 13:03
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 12:18 Cal File: U111103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.819	4.819	(1.000)	737196	50.0000	
2	Dichlorodifluoromethane	85	1.160	1.160	(0.241)	5077	1.00000	1.18
3	Chloromethane	50	1.295	1.295	(0.269)	9584	1.00000	1.42(M)
5	Vinyl Chloride	62	1.374	1.374	(0.285)	7177	1.00000	0.95
6	Bromomethane	94	1.621	1.621	(0.337)	7086	1.00000	0.28(M)
7	Chloroethane	64	1.696	1.696	(0.352)	4673	1.00000	0.85
8	Trichlorofluoromethane	101	1.895	1.895	(0.393)	8110	1.00000	0.82
9	Acrolein	56	2.266	2.266	(0.470)	1204	2.00000	3.25(M)
10	Acetone	43	2.409	2.409	(0.500)	16101	2.00000	(M)
11	1,1-Dichloroethene	96	2.330	2.330	(0.484)	5538	1.00000	0.88
15	Iodomethane	142	2.469	2.469	(0.512)	11703	2.00000	5.58
16	Acrylonitrile	53	3.068	3.068	(0.637)	7529	2.00000	2.19(M)
17	Methylene Chloride	84	2.784	2.784	(0.578)	9340	1.00000	(M)
18	Methyl tert-butyl ether	73	3.083	3.083	(0.640)	23422	1.00000	1.10
19	Carbon Disulfide	76	2.521	2.521	(0.523)	36748	2.00000	2.00
20	trans-1,2-Dichloroethene	96	3.057	3.057	(0.634)	7209	1.00000	1.03
21	Vinyl Acetate	43	3.616	3.616	(0.750)	36522	2.00000	2.01
22	1,1-Dichloroethane	63	3.518	3.518	(0.730)	13372	1.00000	1.08
24	2-Butanone	43	4.272	4.272	(0.886)	5864	2.00000	1.96
26	2,2-Dichloropropane	77	4.182	4.182	(0.868)	5237	1.00000	2.09

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.871)	9011	1.00000	1.10
28 Chloroform	83	4.575	4.575 (0.949)	13849	1.00000	1.04

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D Page 2
Report Date: 16-Nov-2022 09:41

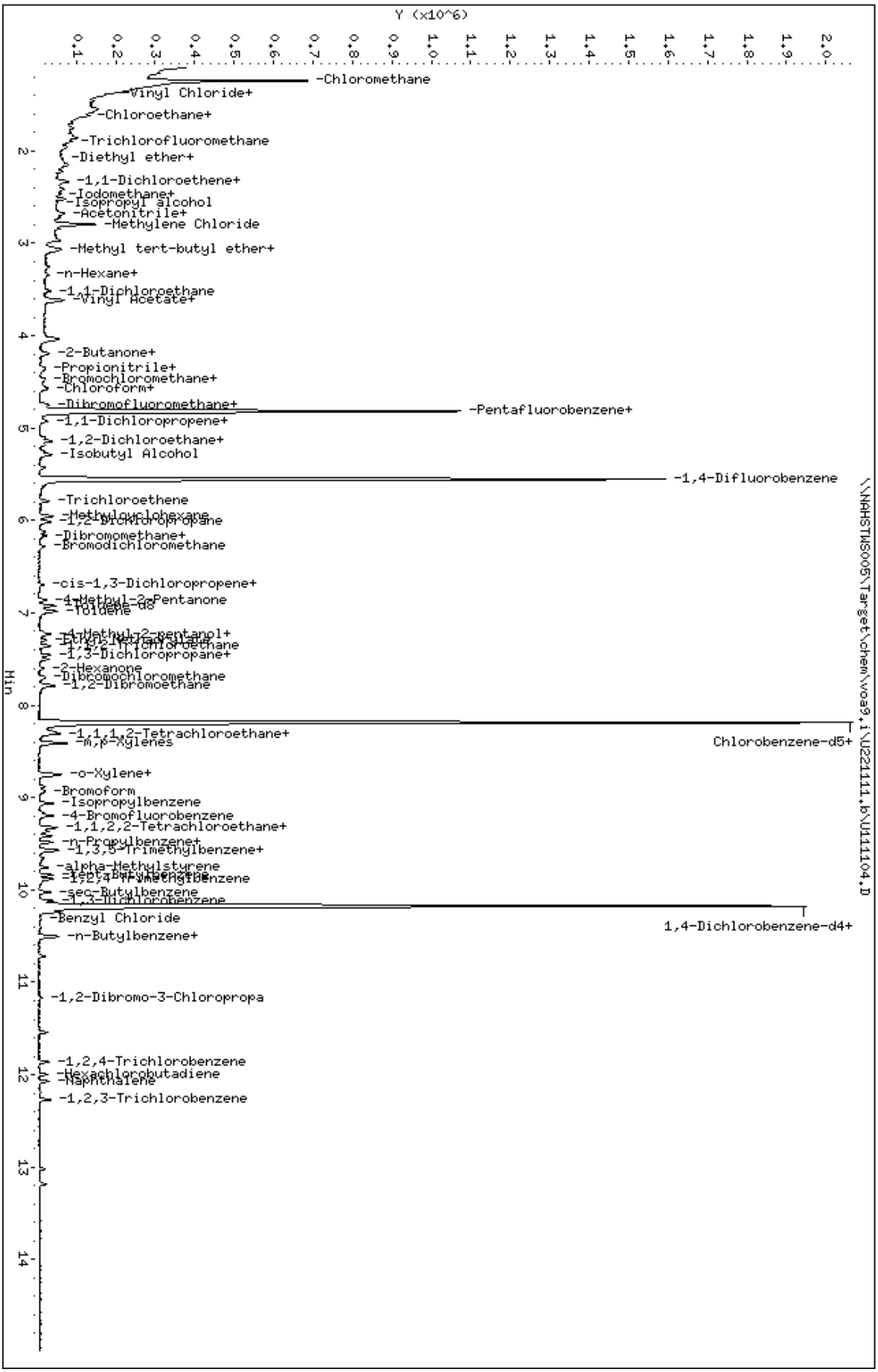
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	4403	1.00000	1.00
$	30 Dibromofluoromethane	113	4.752	4.752	(0.986)	7603	1.00000	0.69
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.984)	7044	1.00000	0.79
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	8022	1.00000	0.92
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	10531	1.00000	0.96
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	5716	1.00000	1.27(MH)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.059)	10111	1.00000	0.58
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1245336	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	27560	1.00000	0.93
	38 Trichloroethene	130	5.794	5.794	(1.043)	6814	1.00000	0.84
	39 Bromodichloromethane	83	6.285	6.285	(1.132)	8105	1.00000	0.90
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	6730	1.00000	0.90
	44 Dibromomethane	93	6.124	6.124	(1.103)	5482	1.00000	1.01
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	12886	2.00000	1.91
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.206)	6701	1.00000	3.33
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1143729	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	26676	1.00000	0.98
	50 Toluene	91	6.982	6.982	(0.853)	27702	1.00000	0.91
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.297)	5135	1.00000	3.89(M)
	52 2-Hexanone	43	7.601	7.601	(0.928)	6997	2.00000	2.72
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	6672	1.00000	1.02
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	14188	1.00000	1.06
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	5711	1.00000	2.09
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	5833	1.00000	0.88
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	7326	1.00000	0.91
	58 1-Chlorohexane	55	8.197	8.197	(1.476)	5434	1.00000	2.37(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	21297	1.00000	0.98
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	6430	1.00000	0.90
	61 Ethylbenzene	106	8.305	8.305	(1.014)	8918	1.00000	0.89
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	21840	2.00000	1.75(M)
	63 o-Xylene	106	8.751	8.751	(1.069)	10583	1.00000	0.85
	64 Styrene	104	8.766	8.766	(1.070)	14453	1.00000	1.87
	66 Bromoform	173	8.920	8.920	(1.089)	3479	1.00000	2.87(T)
	67 Isopropylbenzene	105	9.063	9.063	(1.107)	24281	1.00000	0.85
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	11709	1.00000	1.11
$	69 4-Bromofluorobenzene	95	9.198	9.198	(1.123)	11689	1.00000	1.33
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	528554	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	8791	1.00000	0.96
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	23203	1.00000	0.81
	74 Bromobenzene	156	9.321	9.321	(0.916)	7500	1.00000	0.89
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	18278	1.00000	0.86
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	18680	1.00000	0.93
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	20742	1.00000	0.92
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	15834	1.00000	0.85
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	21443	1.00000	0.96
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	17948	1.00000	2.43
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	16123	1.00000	0.79
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	14330	1.00000	0.99
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	16638	1.00000	1.05
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	13013	1.00000	2.91
	88 1,2-Dichlorobenzene	146	10.513	10.513	(1.034)	15124	1.00000	0.99
	89 1,2-Dibromo-3-Chloropropane	155	11.173	11.173	(1.098)	881	1.00000	2.82

90 1,2,4-Trichlorobenzene	180	11.863	11.863 (1.166)	7338	1.00000	0.88
91 Hexachlorobutadiene	225	12.002	12.002 (1.180)	3339	1.00000	2.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.073	12.073	(1.187)	19198	1.00000	0.92
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	8147	1.00000	0.98
M	94 1,2-Dichloroethylene (total)	96				16220	2.00000	
M	95 Xylenes (total)	106				32423	3.00000	
	135 1,4-Dioxane	88	6.191	6.191	(1.285)	2641	20.0000	23.58(M)
	141 Cyclohexane	56	4.800	4.800	(0.996)	7250	1.00000	1.07(M)
	138 Freon TF	101	2.330	2.330	(0.484)	4273	1.00000	0.73
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	3837	1.00000	2.37
	147 Methylcyclohexane	55	5.951	5.951	(1.072)	15246	1.00000	0.86
	146 Methyl Acetate	43	2.716	2.716	(0.564)	6996	1.00000	1.15(M)
	148 Tert-Butyl alcohol	59	2.975	2.975	(0.617)	14973	20.0000	20.99(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

Chloromethane (74-87-3)

Reason Code:

BEFORE
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HEIGHT
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16-Nov-2022
09:38
linh
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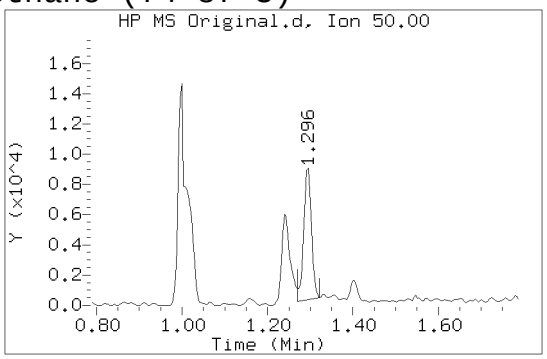

AFTER
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HEIGHT
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16-Nov-2022
09:41
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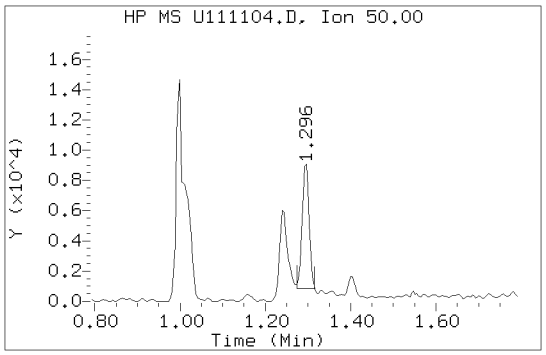

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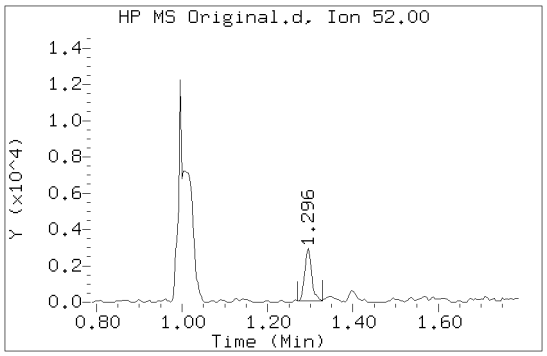

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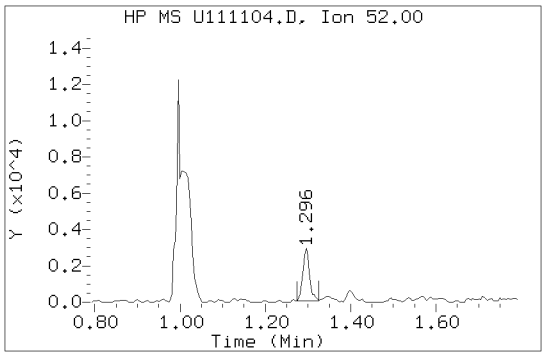

Bromomethane (74-83-9)

Reason Code:

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AREA
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16-Nov-2022
09:38
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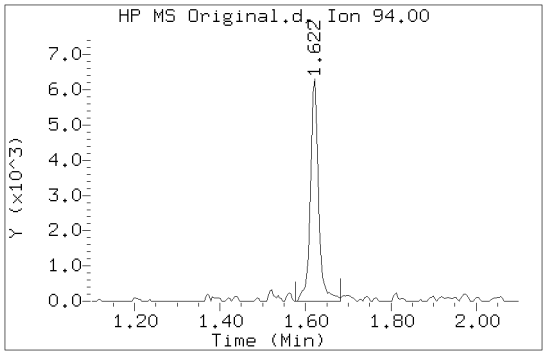

AFTER
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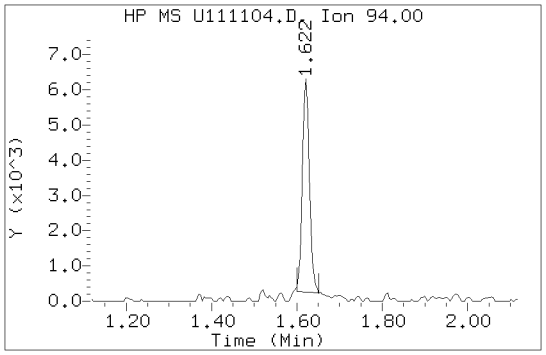

BEFORE
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AREA
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16-Nov-2022
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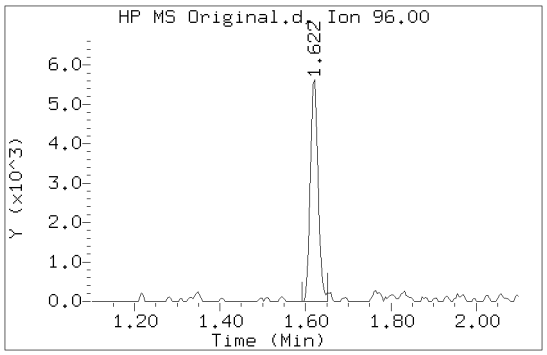

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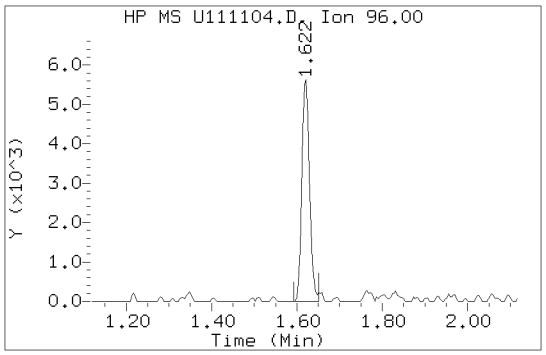

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Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

Acrolein (107-02-8)

Reason Code:

BEFORE

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AREA
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HEIGHT
898
16-Nov-2022
09:38
linh
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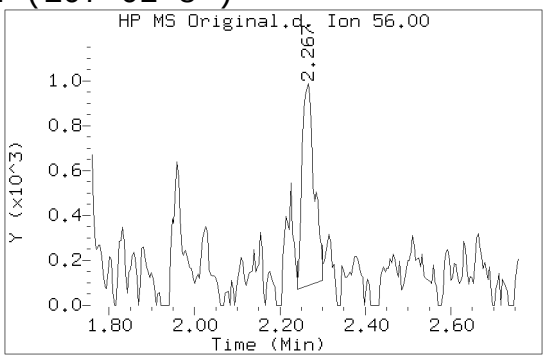

AFTER

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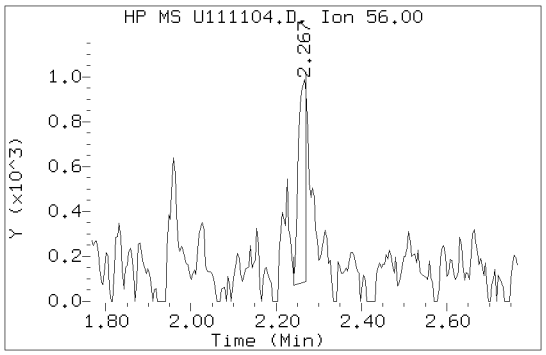

BEFORE

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768
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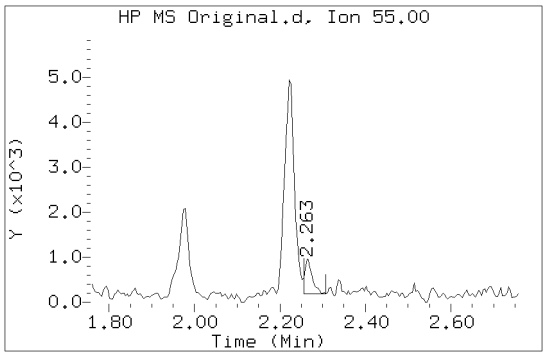

AFTER

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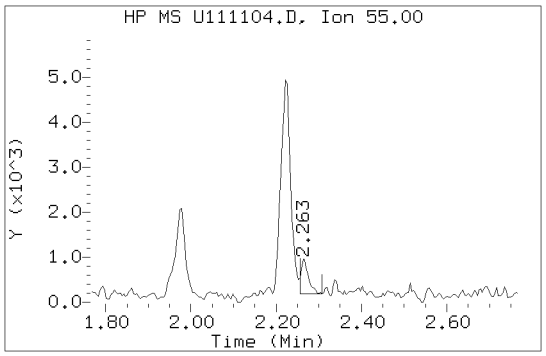

Acetone (67-64-1)

Reason Code:

BEFORE

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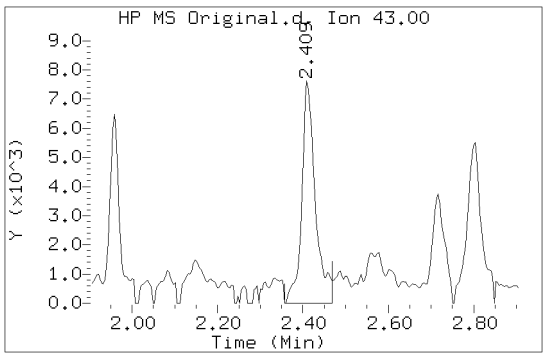

AFTER

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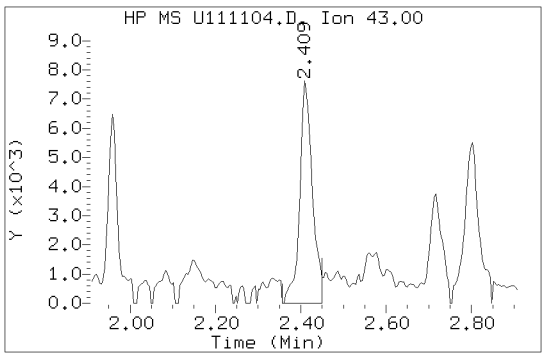

BEFORE

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2645
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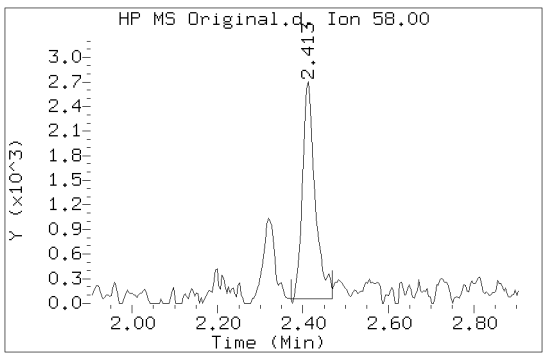

AFTER

MASS
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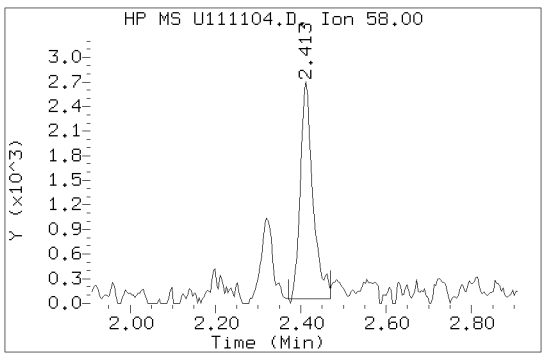

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Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

Acrylonitrile (107-13-1)

Reason Code:

BEFORE

MASS
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16-Nov-2022
09:38
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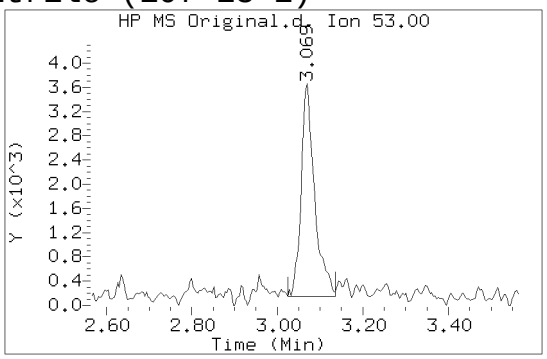

AFTER

MASS
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16-Nov-2022
09:41
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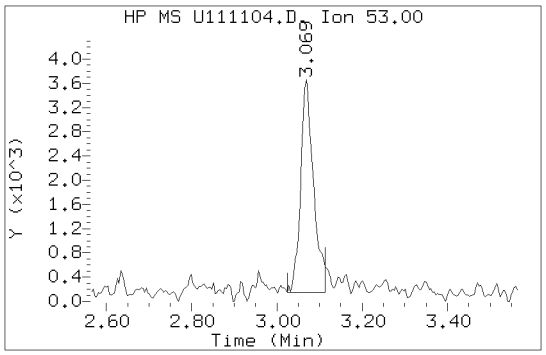

BEFORE

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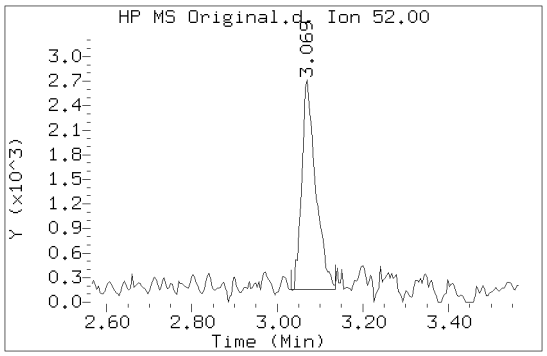

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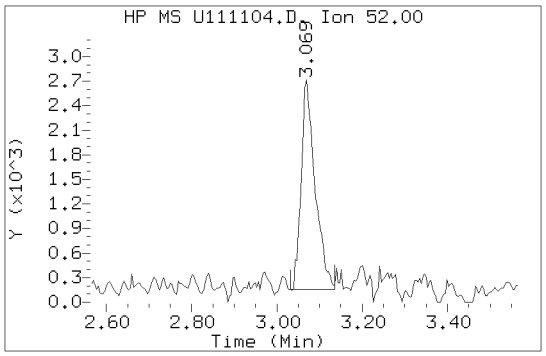

BEFORE

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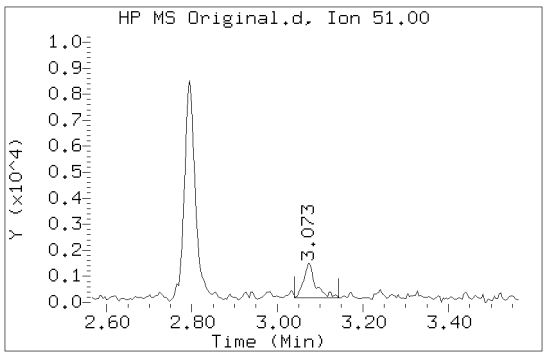

AFTER

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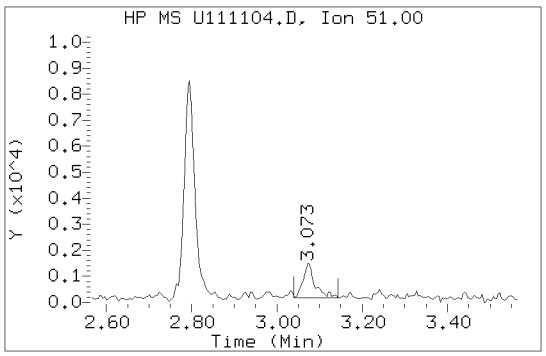

Methylene Chloride (75-09-2)

Reason Code:

BEFORE

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AREA
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HEIGHT
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16-Nov-2022
09:38
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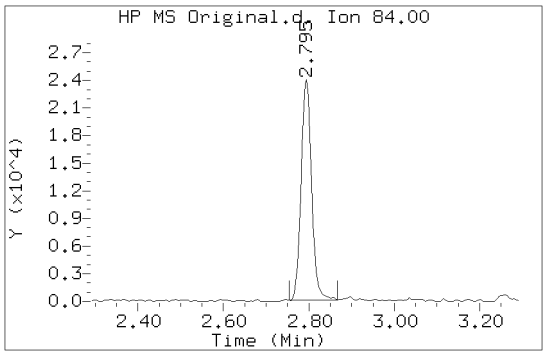
pham



AFTER

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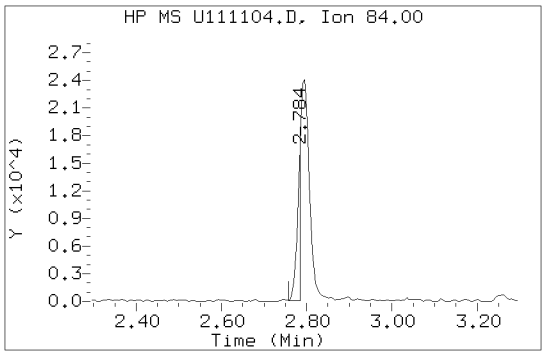

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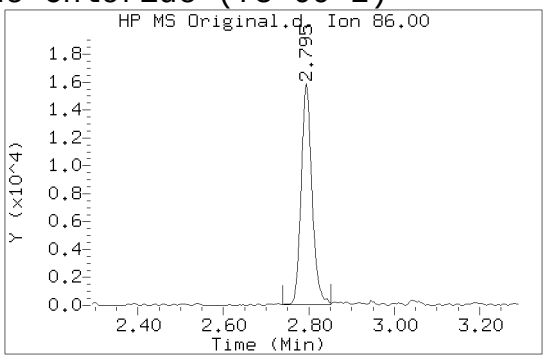
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

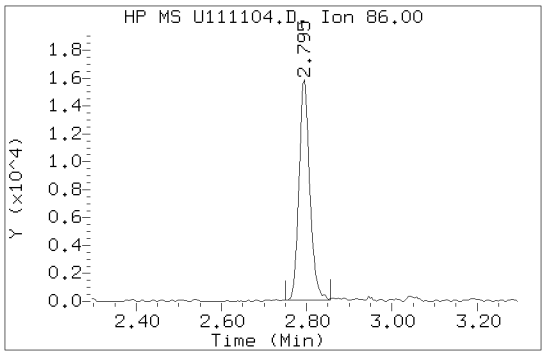
Methylene Chloride (75-09-2)

Reason Code:

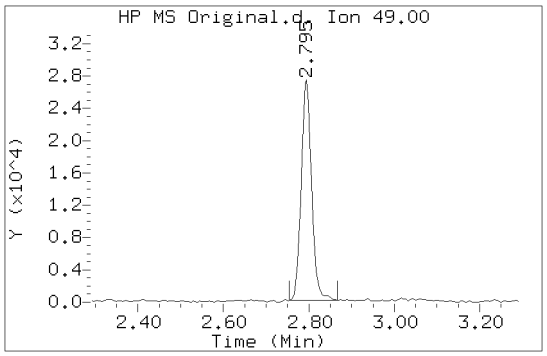
BEFORE
MASS
86
AREA
28445
HEIGHT
15820
16-Nov-2022
09:38
linh
pham



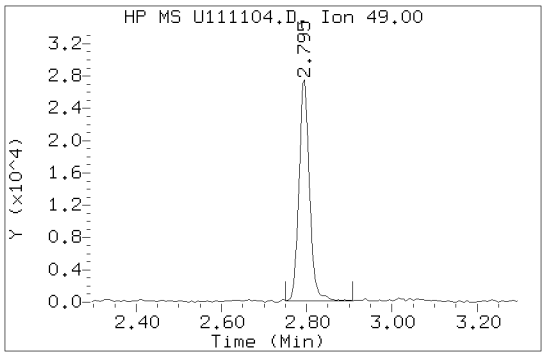
AFTER
MASS
86
AREA
28322
HEIGHT
15798
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
49
AREA
47327
HEIGHT
27302
16-Nov-2022
09:38
linh
pham



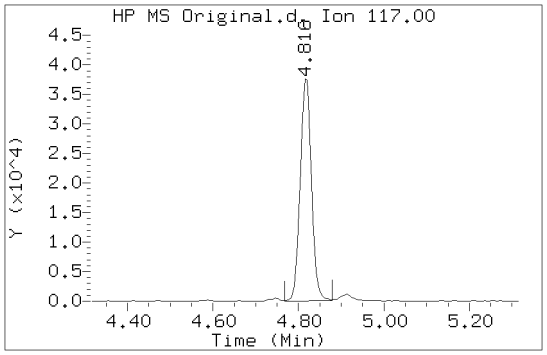
AFTER
MASS
49
AREA
48025
HEIGHT
27369
16-Nov-2022
09:41
linh
pham



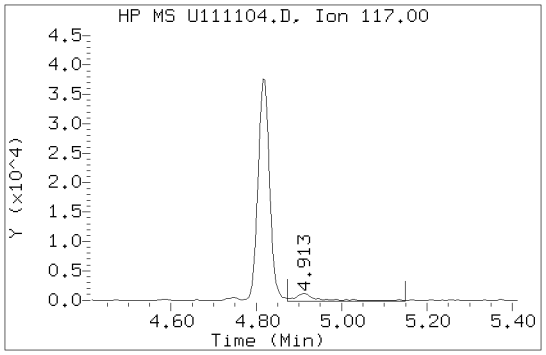
Carbon Tetrachloride (56-23-5)

Reason Code:

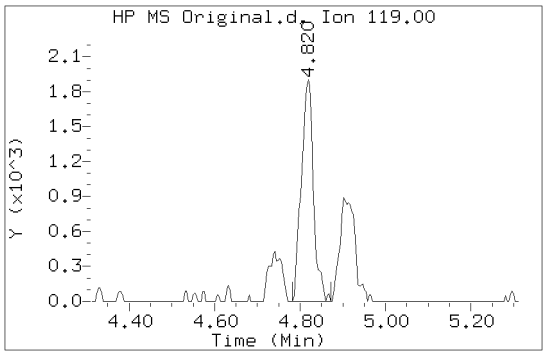
BEFORE
MASS
117
AREA
70415
HEIGHT
37568
16-Nov-2022
09:38
linh
pham



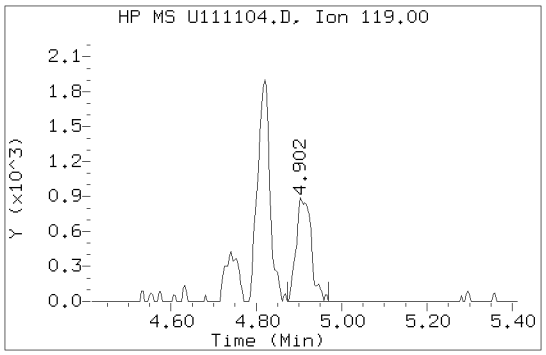
AFTER
MASS
117
AREA
5716
HEIGHT
1304
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
119
AREA
3832
HEIGHT
1903
16-Nov-2022
09:38
linh
pham



AFTER
MASS
119
AREA
2222
HEIGHT
890
16-Nov-2022
09:41
linh
pham



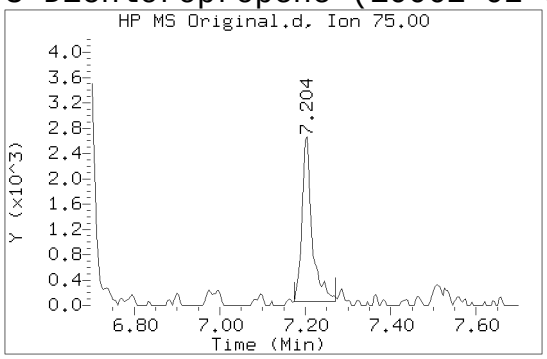
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

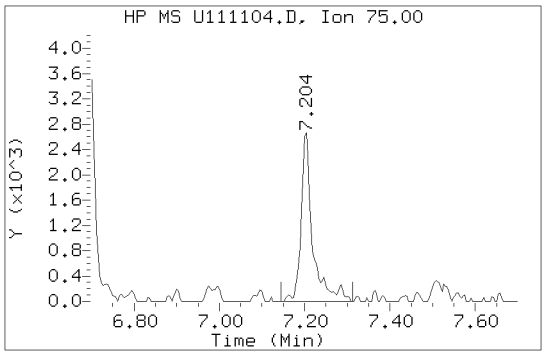
BEFORE

MASS
75
AREA
4405
HEIGHT
2603
16-Nov-2022
09:38
linh
pham



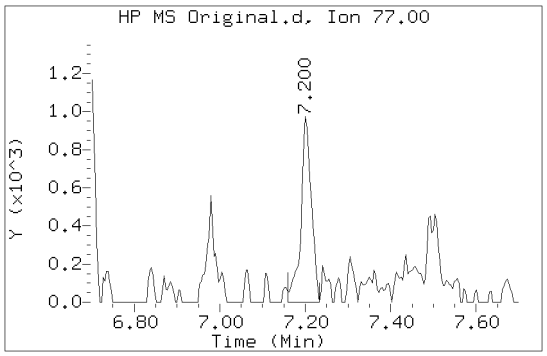
AFTER

MASS
75
AREA
5135
HEIGHT
2665
16-Nov-2022
09:41
linh
pham



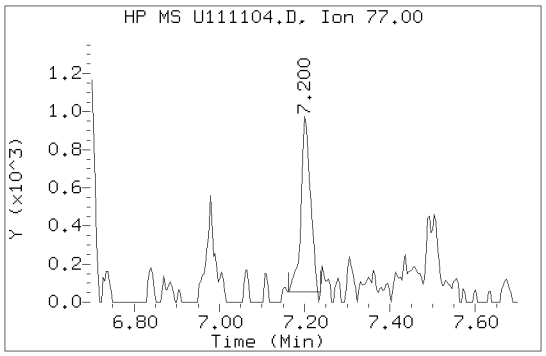
BEFORE

MASS
77
AREA
1689
HEIGHT
973
16-Nov-2022
09:38
linh
pham



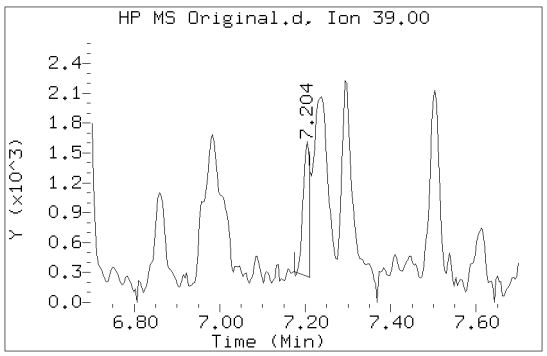
AFTER

MASS
77
AREA
1442
HEIGHT
920
16-Nov-2022
09:41
linh
pham



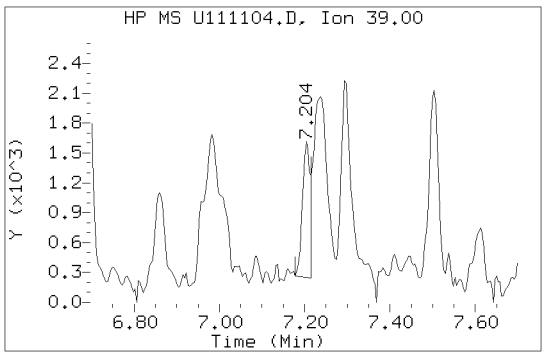
BEFORE

MASS
39
AREA
1512
HEIGHT
1356
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
1788
HEIGHT
1365
16-Nov-2022
09:41
linh
pham

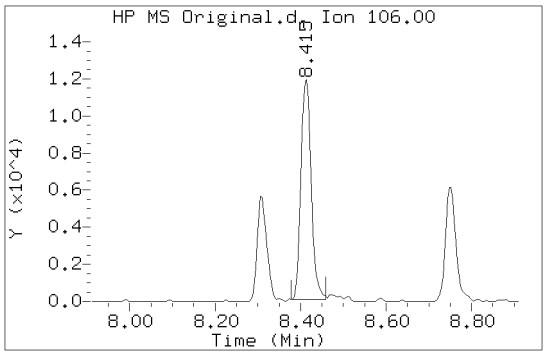


m,p-Xylenes ()

Reason Code:

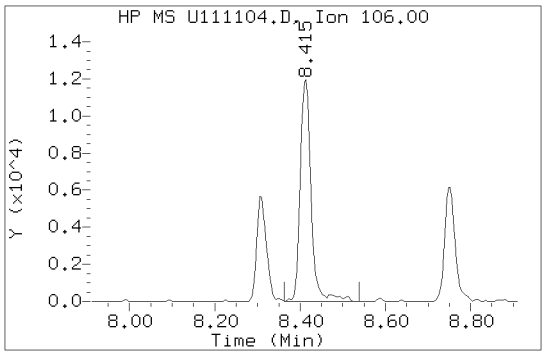
BEFORE

MASS
106
AREA
20386
HEIGHT
11854
16-Nov-2022
09:38
linh
pham



AFTER

MASS
106
AREA
21840
HEIGHT
11958
16-Nov-2022
09:41
linh
pham



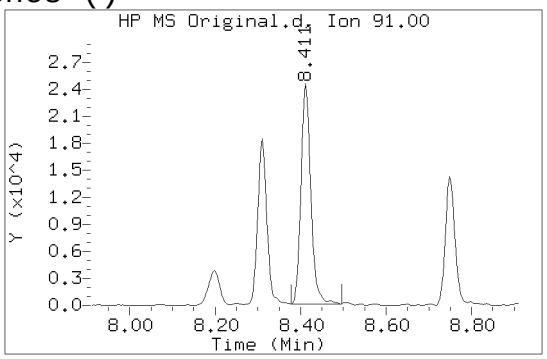
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

m,p-Xylenes ()

Reason Code:

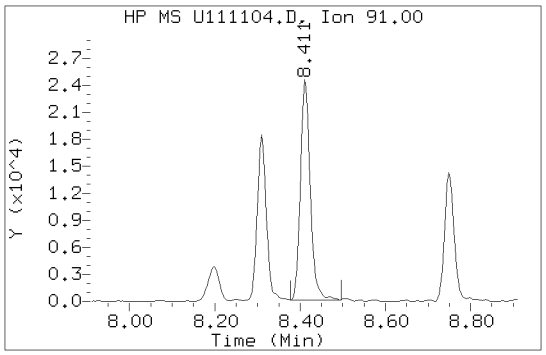
BEFORE

MASS
91
AREA
40195
HEIGHT
24471
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
40195
HEIGHT
24471
16-Nov-2022
09:41
linh
pham

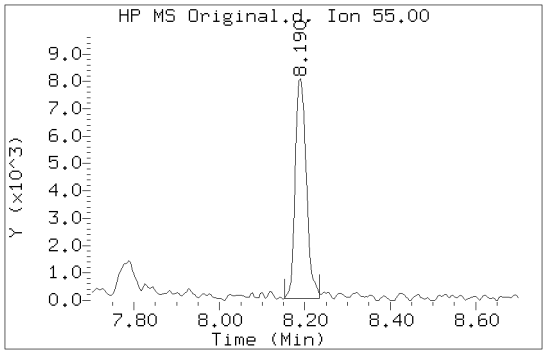


1-Chlorohexane (544-10-5)

Reason Code:

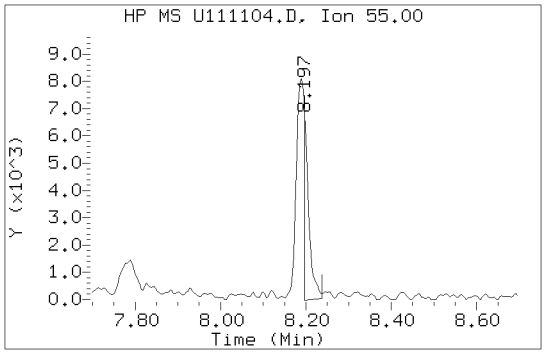
BEFORE

MASS
55
AREA
14750
HEIGHT
8037
16-Nov-2022
09:38
linh
pham



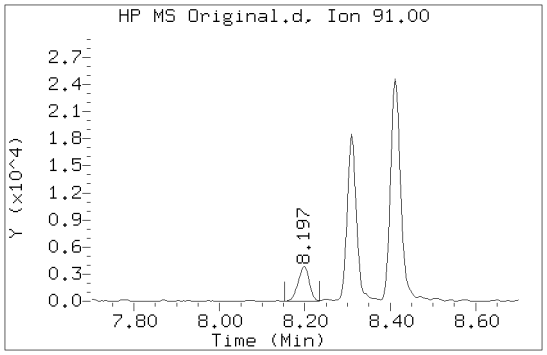
AFTER

MASS
55
AREA
5434
HEIGHT
6809
16-Nov-2022
09:41
linh
pham



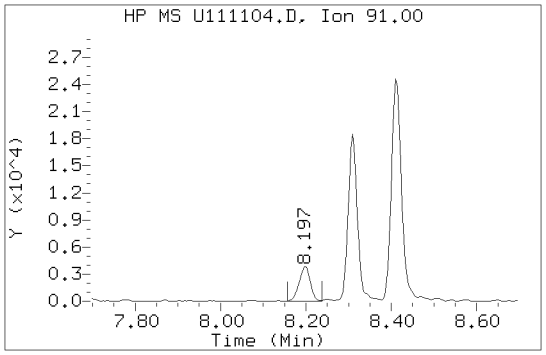
BEFORE

MASS
91
AREA
7066
HEIGHT
3860
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
7085
HEIGHT
3860
16-Nov-2022
09:41
linh
pham

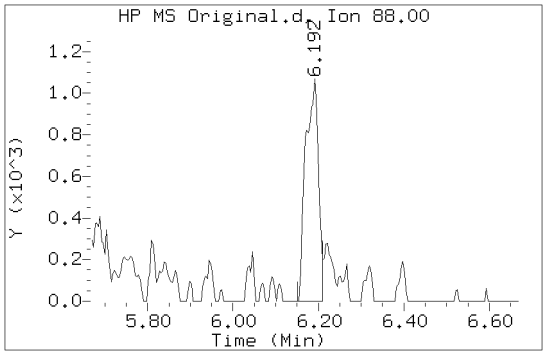


1,4-Dioxane ()

Reason Code:

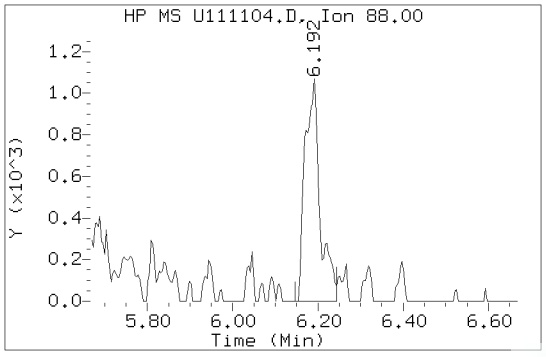
BEFORE

MASS
88
AREA
2259
HEIGHT
1069
16-Nov-2022
09:38
linh
pham



AFTER

MASS
88
AREA
2641
HEIGHT
1069
16-Nov-2022
09:41
linh
pham



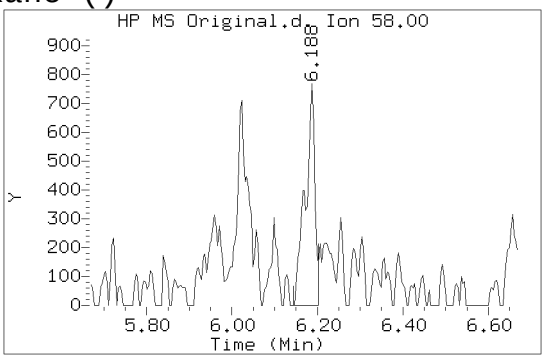
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

1,4-Dioxane ()

Reason Code:

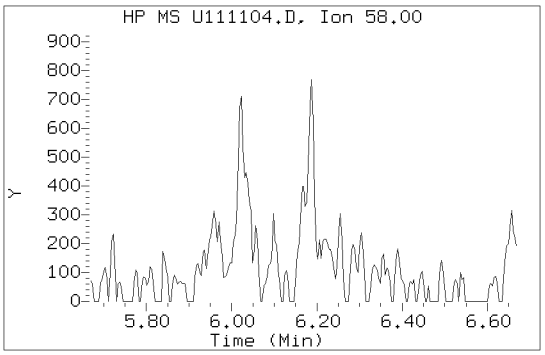
BEFORE

MASS
58
AREA
1225
HEIGHT
769
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

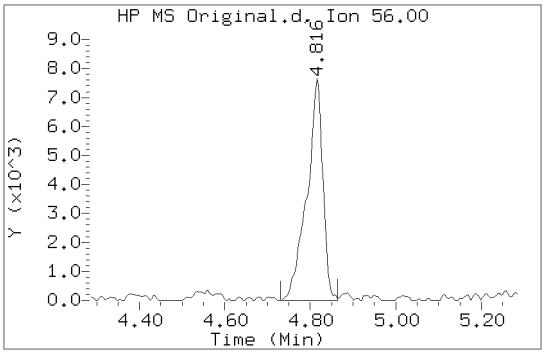


Cyclohexane (110-82-7)

Reason Code:

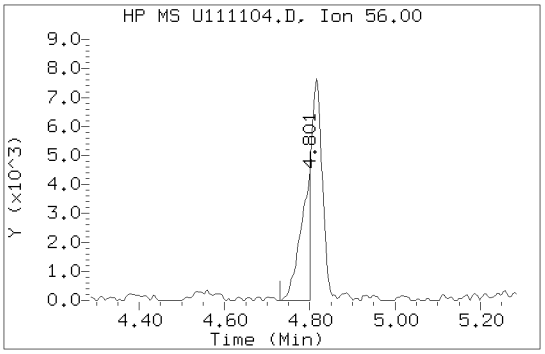
BEFORE

MASS
56
AREA
19950
HEIGHT
7650
16-Nov-2022
09:38
linh
pham



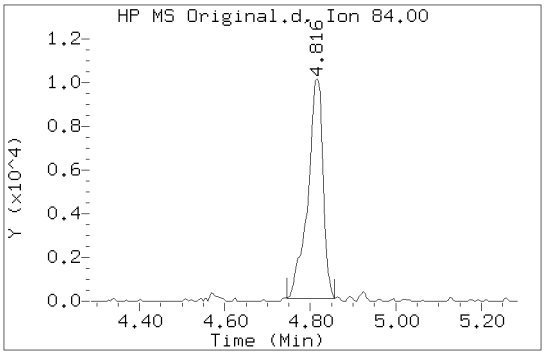
AFTER

MASS
56
AREA
7250
HEIGHT
4471
16-Nov-2022
09:41
linh
pham



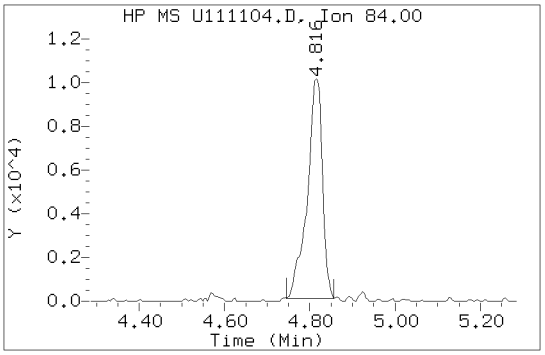
BEFORE

MASS
84
AREA
25113
HEIGHT
10069
16-Nov-2022
09:38
linh
pham



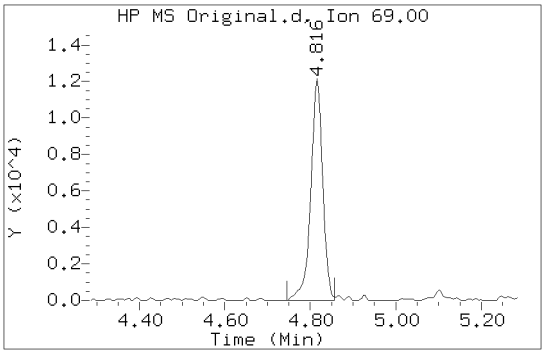
AFTER

MASS
84
AREA
25113
HEIGHT
10069
16-Nov-2022
09:41
linh
pham



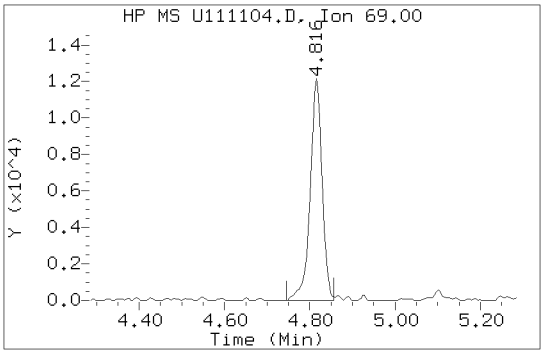
BEFORE

MASS
69
AREA
23610
HEIGHT
12152
16-Nov-2022
09:38
linh
pham



AFTER

MASS
69
AREA
23610
HEIGHT
12152
16-Nov-2022
09:41
linh
pham



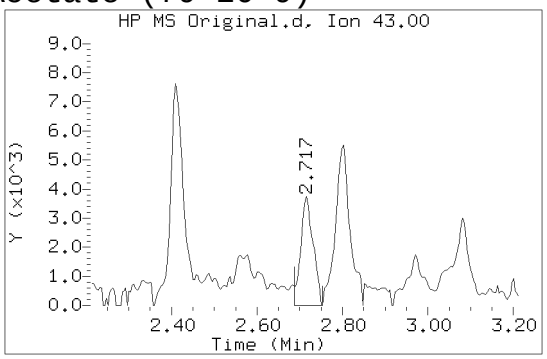
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

Methyl Acetate (79-20-9)

Reason Code:

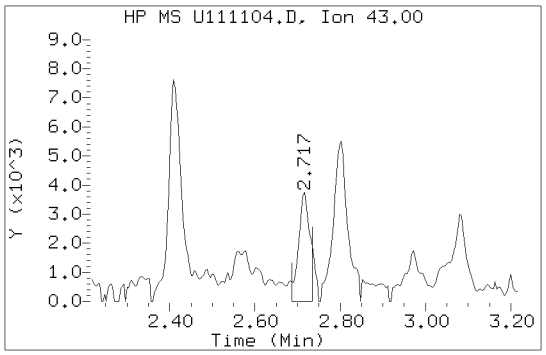
BEFORE

MASS
43
AREA
7685
HEIGHT
3745
16-Nov-2022
09:38
linh
pham



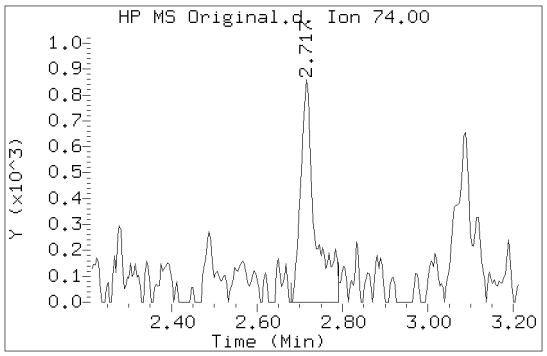
AFTER

MASS
43
AREA
6996
HEIGHT
3745
16-Nov-2022
09:41
linh
pham



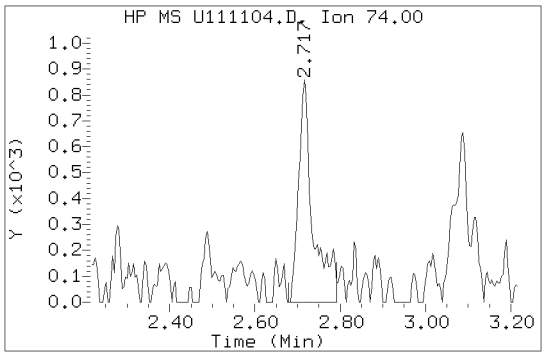
BEFORE

MASS
74
AREA
2046
HEIGHT
858
16-Nov-2022
09:38
linh
pham



AFTER

MASS
74
AREA
2046
HEIGHT
858
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 11-NOV-2022 13:25
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 13:03 Cal File: U111104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.822	4.822	(1.000)	746461	50.0000	
2	Dichlorodifluoromethane	85	1.171	1.171	(0.243)	13794	2.00000	2.74
3	Chloromethane	50	1.306	1.306	(0.271)	18483	2.00000	2.48
5	Vinyl Chloride	62	1.385	1.385	(0.287)	14663	2.00000	1.92
6	Bromomethane	94	1.632	1.632	(0.339)	14046	2.00000	1.62
7	Chloroethane	64	1.707	1.707	(0.354)	11136	2.00000	2.00(M)
8	Trichlorofluoromethane	101	1.906	1.906	(0.395)	21120	2.00000	2.13
9	Acrolein	56	2.281	2.281	(0.473)	2628	4.00000	5.86
10	Acetone	43	2.423	2.423	(0.503)	24043	4.00000	0.96
11	1,1-Dichloroethene	96	2.345	2.345	(0.486)	12214	2.00000	1.91
15	Iodomethane	142	2.476	2.476	(0.513)	22375	4.00000	6.99(M)
16	Acrylonitrile	53	3.076	3.076	(0.638)	13691	4.00000	3.94(M)
17	Methylene Chloride	84	2.798	2.798	(0.580)	17193	2.00000	0.61(M)
18	Methyl tert-butyl ether	73	3.094	3.094	(0.642)	43958	2.00000	2.04
19	Carbon Disulfide	76	2.532	2.532	(0.525)	73877	4.00000	3.98
20	trans-1,2-Dichloroethene	96	3.072	3.072	(0.637)	14067	2.00000	1.99
21	Vinyl Acetate	43	3.619	3.619	(0.750)	74174	4.00000	4.03
22	1,1-Dichloroethane	63	3.525	3.525	(0.731)	25281	2.00000	2.01
24	2-Butanone	43	4.279	4.279	(0.887)	11699	4.00000	3.87
26	2,2-Dichloropropane	77	4.189	4.189	(0.869)	11193	2.00000	2.95

27 cis-1,2-Dichloroethene	96	4.208	4.208 (0.873)	16422	2.00000	1.98
28 Chloroform	83	4.583	4.583 (0.950)	26169	2.00000	1.95

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D Page 2
Report Date: 16-Nov-2022 09:41

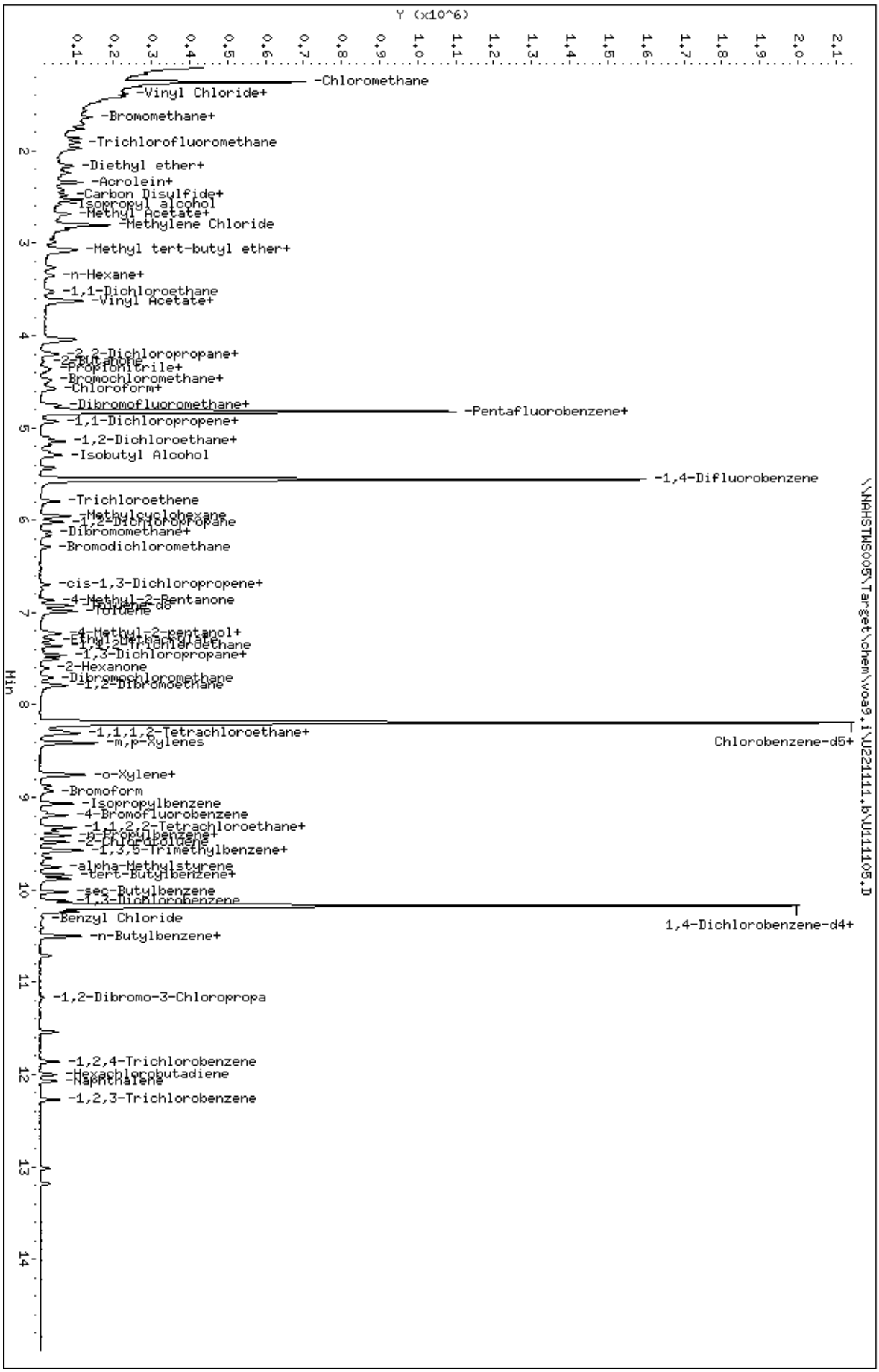
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	9278	2.00000	2.09
$	30 Dibromofluoromethane	113	4.759	4.759	(0.987)	15872	2.00000	1.79
	31 1,1,1-Trichloroethane	97	4.751	4.751	(0.985)	17223	2.00000	1.91
	32 1,1-Dichloropropene	75	4.927	4.927	(0.887)	16910	2.00000	1.96
	33 1,2-Dichloroethane	62	5.186	5.186	(0.933)	22368	2.00000	2.04
	34 Carbon Tetrachloride	117	4.920	4.920	(0.885)	12588	2.00000	2.57(MH)
$	35 1,2-Dichloroethane-d4	65	5.107	5.107	(1.059)	19160	2.00000	1.65
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1244542	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	58203	2.00000	1.98
	38 Trichloroethene	130	5.793	5.793	(1.042)	15914	2.00000	1.98
	39 Bromodichloromethane	83	6.284	6.284	(1.131)	16187	2.00000	1.80(M)
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	13884	2.00000	1.86
	44 Dibromomethane	93	6.131	6.131	(1.103)	10342	2.00000	1.92
	45 4-Methyl-2-Pentanone	43	6.862	6.862	(0.838)	24145	4.00000	3.67(M)
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	12126	2.00000	3.75
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1119395	50.0000	
$	48 Toluene-d8	98	6.925	6.925	(0.846)	52636	2.00000	1.97
	50 Toluene	91	6.985	6.985	(0.853)	56567	2.00000	1.90
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.296)	10490	2.00000	4.38(M)
	52 2-Hexanone	43	7.600	7.600	(0.928)	15502	4.00000	4.47(M)
	53 1,1,2-Trichloroethane	83	7.360	7.360	(0.899)	13920	2.00000	2.17
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	26079	2.00000	1.99
	55 Dibromochloromethane	129	7.698	7.698	(0.940)	10463	2.00000	2.66
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	13332	2.00000	2.06
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	15362	2.00000	1.95
	58 1-Chlorohexane	55	8.196	8.196	(1.475)	10304	2.00000	3.24(M)
	59 Chlorobenzene	112	8.215	8.215	(1.003)	43244	2.00000	2.03
	60 1,1,1,2-Tetrachloroethane	131	8.290	8.290	(1.012)	13795	2.00000	1.98
	61 Ethylbenzene	106	8.309	8.309	(1.015)	19427	2.00000	1.98
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	47631	4.00000	3.90(M)
	63 o-Xylene	106	8.751	8.751	(1.069)	23225	2.00000	1.92
	64 Styrene	104	8.766	8.766	(1.070)	30964	2.00000	2.64(M)
	66 Bromoform	173	8.920	8.920	(1.089)	7647	2.00000	3.58
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	52133	2.00000	1.87
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	22321	2.00000	2.11
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	19298	2.00000	2.13
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	531928	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	16963	2.00000	1.85
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	57771	2.00000	2.01
	74 Bromobenzene	156	9.321	9.321	(0.916)	17659	2.00000	2.09
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	39935	2.00000	1.88
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	39706	2.00000	1.97
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	43164	2.00000	1.91
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	37419	2.00000	2.01
	79 1,2,4-Trimethylbenzene	105	9.883	9.883	(0.972)	48480	2.00000	2.17
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	48003	2.00000	3.55
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	41100	2.00000	2.01
	83 1,3-Dichlorobenzene	146	10.119	10.119	(0.995)	28966	2.00000	2.00
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	33214	2.00000	2.08
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	30228	2.00000	3.82
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	29702	2.00000	1.94
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	2331	2.00000	3.70

90 1,2,4-Trichlorobenzene	180	11.862	11.862 (1.166)	14989	2.00000	1.79
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	7172	2.00000	3.44

		QUANT SIG					AMOUNTS CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	92 Naphthalene	128	12.072	12.072	(1.187)	35133	2.00000	1.68
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	15447	2.00000	1.86
M	94 1,2-Dichloroethylene (total)	96				30489	4.00000	
M	95 Xylenes (total)	106				70856	6.00000	
	135 1,4-Dioxane	88	6.179	6.179	(1.281)	4861	40.0000	42.87
	141 Cyclohexane	56	4.789	4.789	(0.993)	14256	2.00000	2.24(MH)
	138 Freon TF	101	2.345	2.345	(0.486)	11940	2.00000	2.53
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	9824	2.00000	3.34
	147 Methylcyclohexane	55	5.955	5.955	(1.071)	34738	2.00000	1.97
	146 Methyl Acetate	43	2.727	2.727	(0.566)	12314	2.00000	2.01
	148 Tert-Butyl alcohol	59	2.986	2.986	(0.619)	28249	40.0000	39.12(a)
	149 Isopropyl Alcohol	45	2.577	2.577	(0.534)	17365	40.0000	36.49

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Sample Info: VSTD002;VSTD002:1:4;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

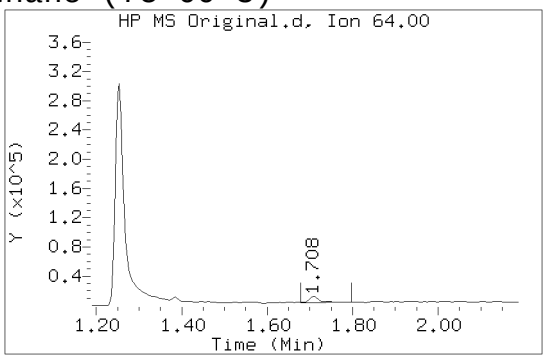
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Chloroethane (75-00-3)

Reason Code:

BEFORE

MASS
64
AREA
14950
HEIGHT
8839
16-Nov-2022
09:38
linh
pham



AFTER

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AREA
11136
HEIGHT
8446
16-Nov-2022
09:41
linh
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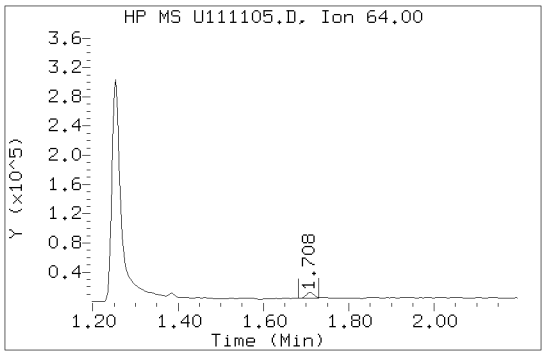

BEFORE

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AREA
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09:38
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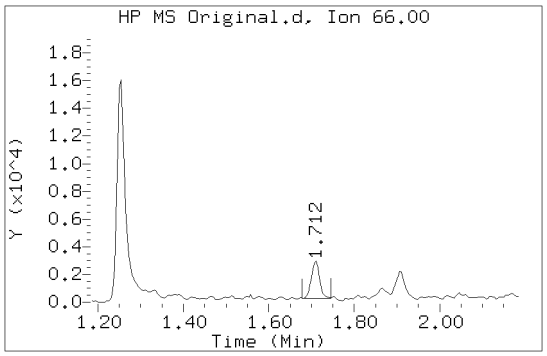

AFTER

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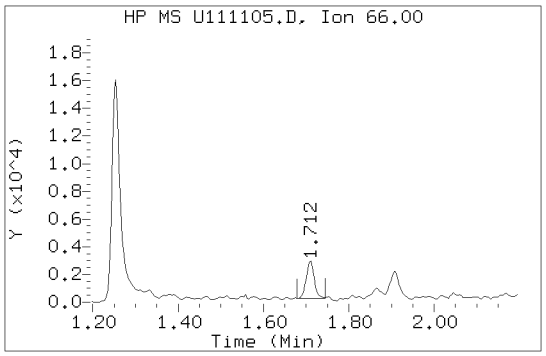

Iodomethane (74-88-4)

Reason Code:

BEFORE

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AREA
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HEIGHT
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16-Nov-2022
09:38
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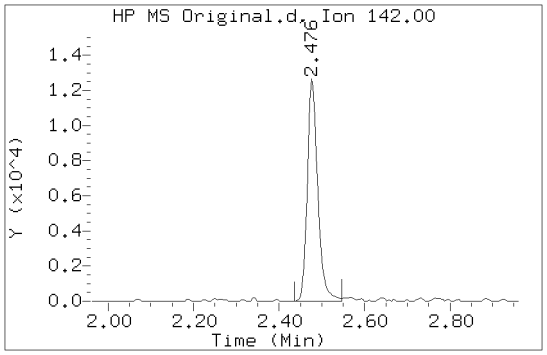

AFTER

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09:41
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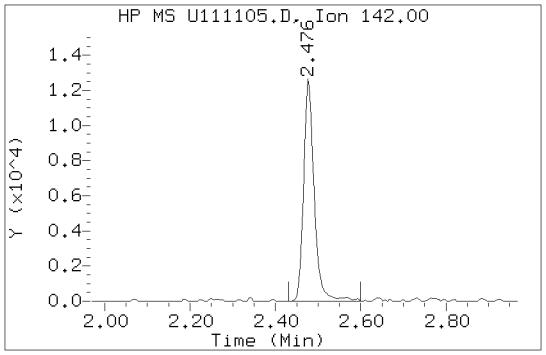

BEFORE

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AREA
9975
HEIGHT
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16-Nov-2022
09:38
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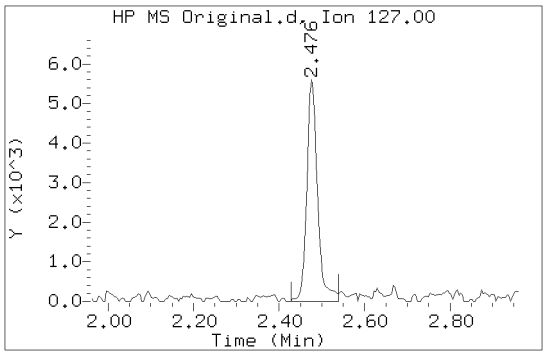

AFTER

MASS
127
AREA
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16-Nov-2022
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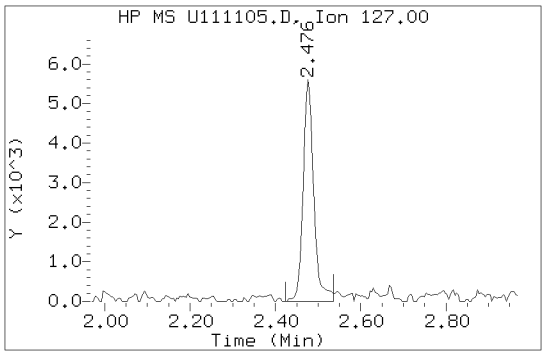

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Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Iodomethane (74-88-4)

Reason Code:

BEFORE
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HEIGHT
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16-Nov-2022
09:38
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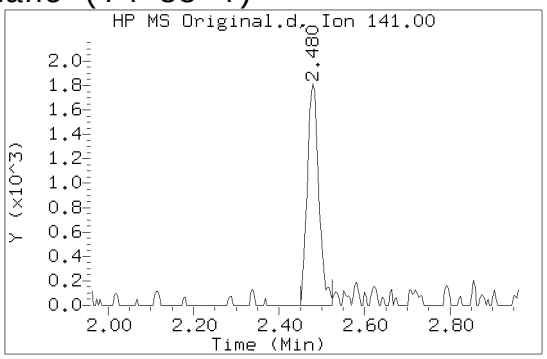

AFTER
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16-Nov-2022
09:41
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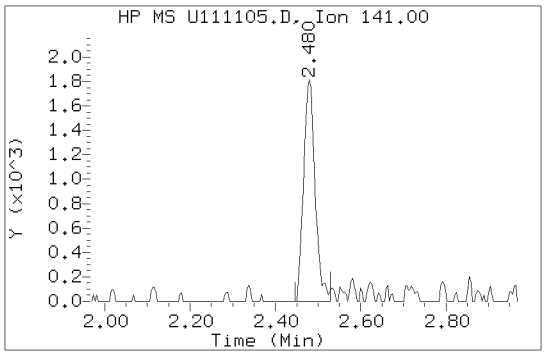

Acrylonitrile (107-13-1)

Reason Code:

BEFORE
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AREA
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09:38
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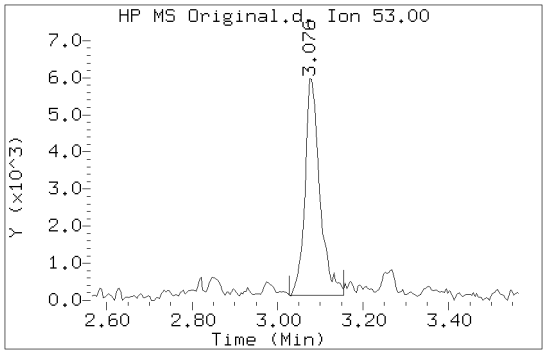

AFTER
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16-Nov-2022
09:41
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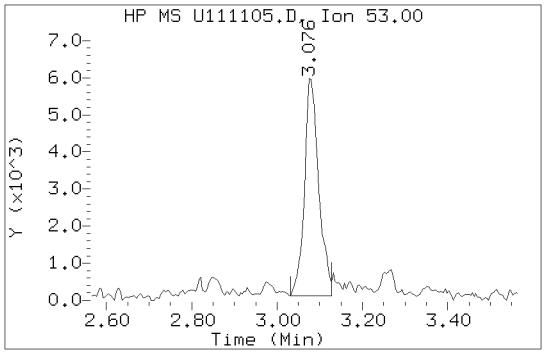

BEFORE
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AREA
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16-Nov-2022
09:38
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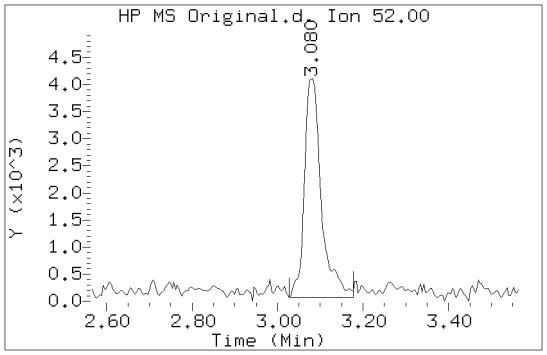

AFTER
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AREA
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09:41
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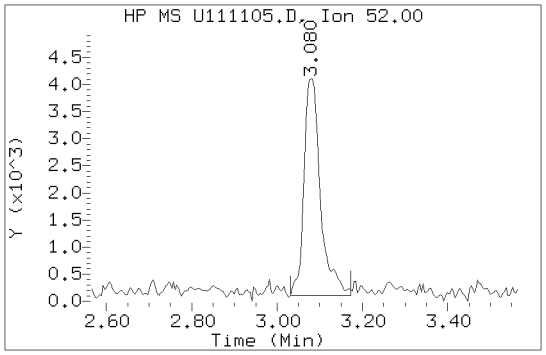

BEFORE
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AREA
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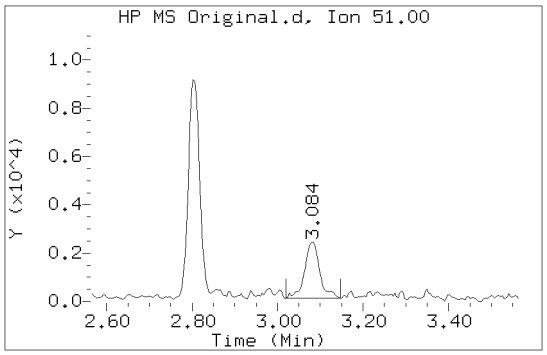

AFTER
MASS
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16-Nov-2022
09:41
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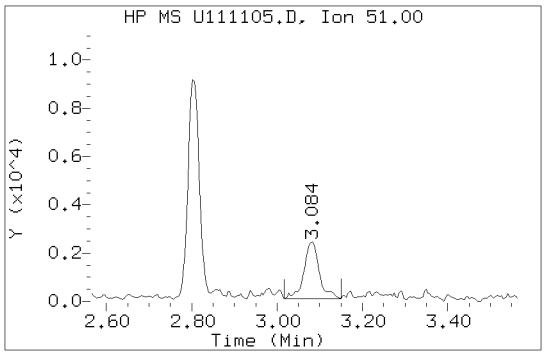

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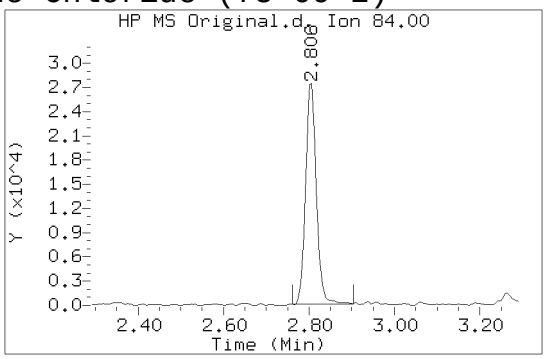
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Methylene Chloride (75-09-2)

Reason Code:

BEFORE

MASS
84
AREA
48450
HEIGHT
27283
16-Nov-2022
09:38
linh
pham



AFTER

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17193
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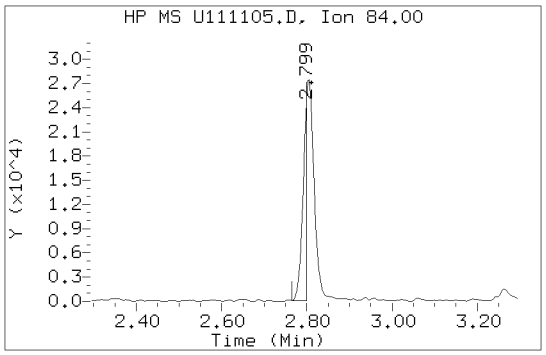

BEFORE

MASS
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AREA
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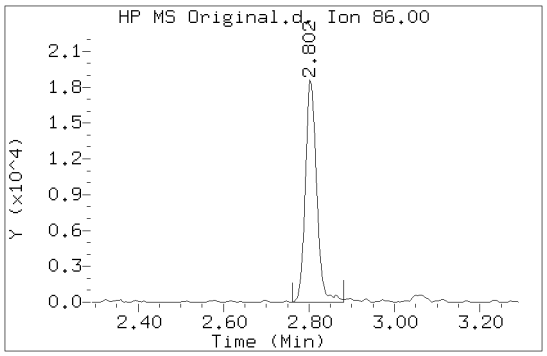
HEIGHT
18616
16-Nov-2022
09:38
linh
pham



AFTER

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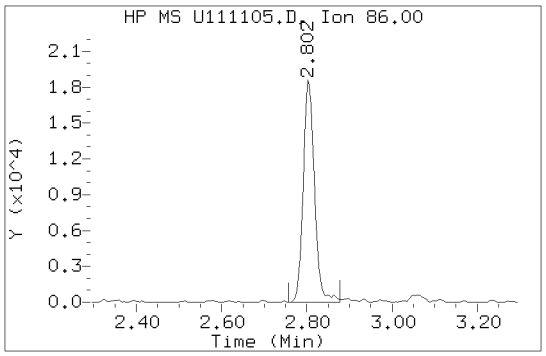

BEFORE

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HEIGHT
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16-Nov-2022
09:38
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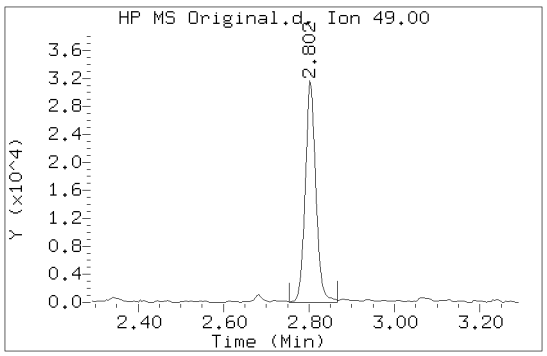

AFTER

MASS
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AREA
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HEIGHT
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16-Nov-2022
09:41
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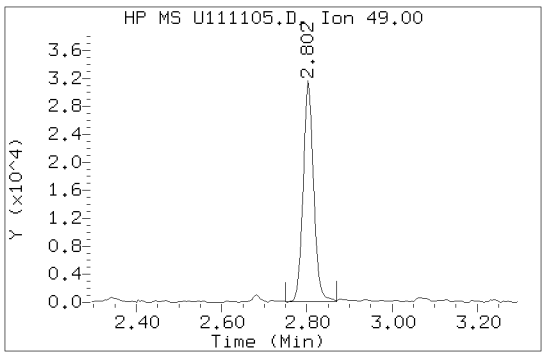
pham



Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE

MASS
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AREA
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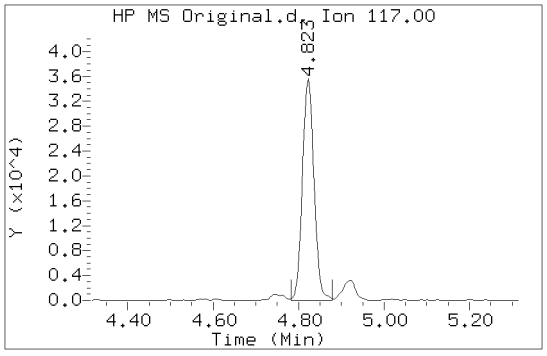
HEIGHT
35624
16-Nov-2022
09:38
linh
pham



AFTER

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16-Nov-2022
09:41
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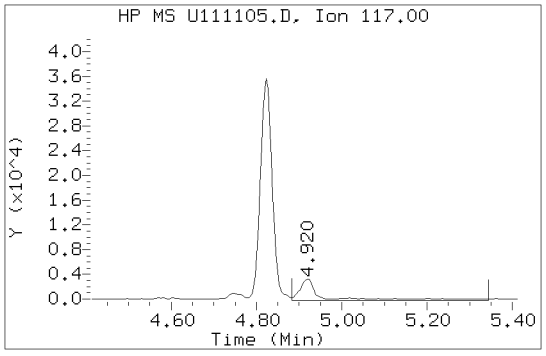

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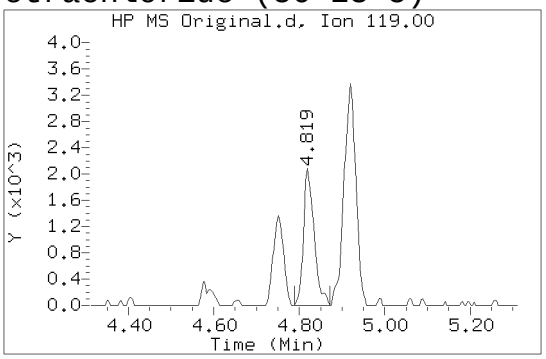
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Carbon Tetrachloride (56-23-5)

Reason Code:

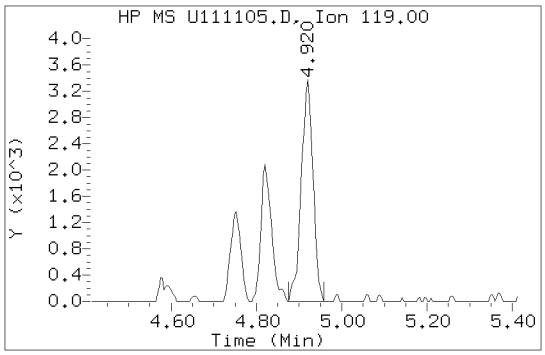
BEFORE

MASS
119
AREA
3654
HEIGHT
2086
16-Nov-2022
09:38
linh
pham



AFTER

MASS
119
AREA
6546
HEIGHT
3378
16-Nov-2022
09:41
linh
pham

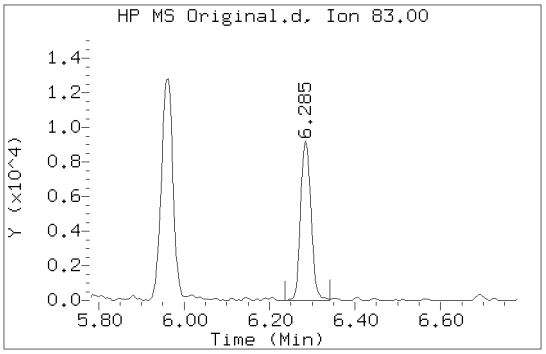


Bromodichloromethane (75-27-4)

Reason Code:

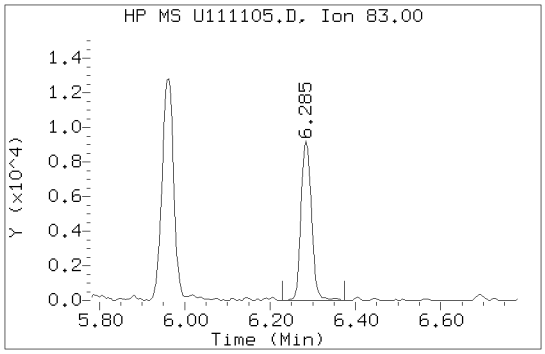
BEFORE

MASS
83
AREA
16064
HEIGHT
9221
16-Nov-2022
09:38
linh
pham



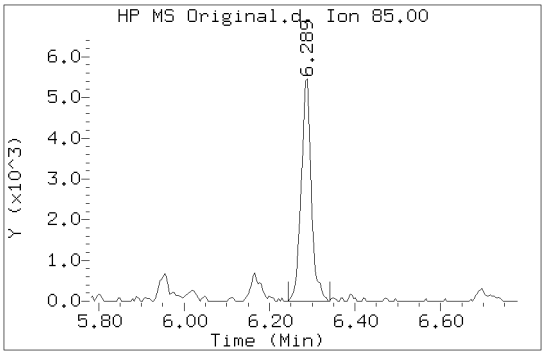
AFTER

MASS
83
AREA
16187
HEIGHT
9221
16-Nov-2022
09:41
linh
pham



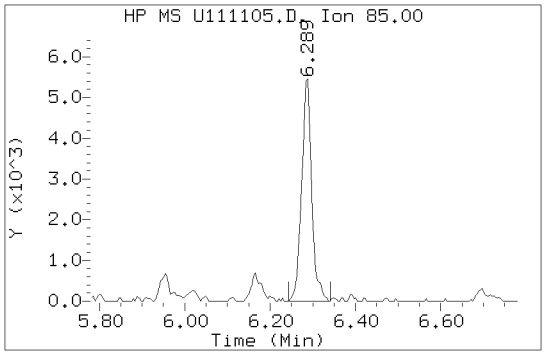
BEFORE

MASS
85
AREA
9177
HEIGHT
5457
16-Nov-2022
09:38
linh
pham



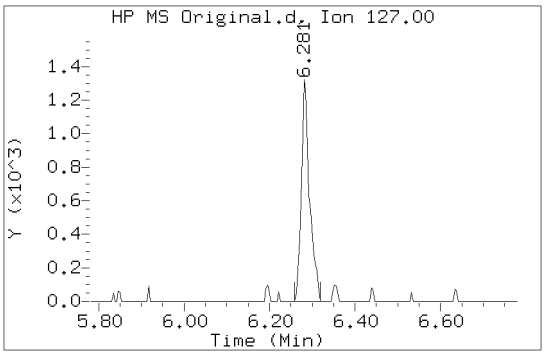
AFTER

MASS
85
AREA
9177
HEIGHT
5457
16-Nov-2022
09:41
linh
pham



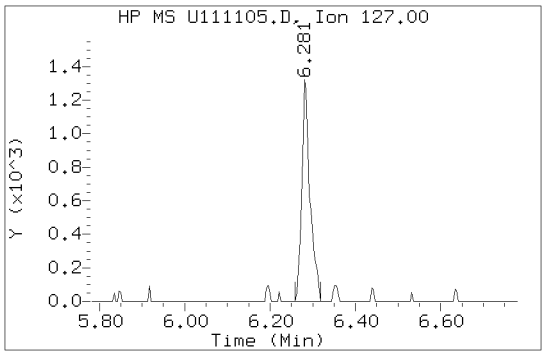
BEFORE

MASS
127
AREA
1824
HEIGHT
1322
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
1824
HEIGHT
1322
16-Nov-2022
09:41
linh
pham



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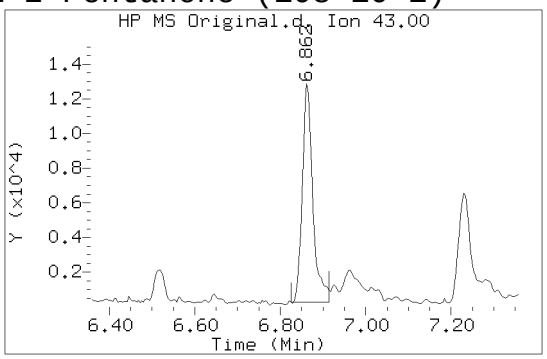
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

4-Methyl-2-Pentanone (108-10-1)

Reason Code:

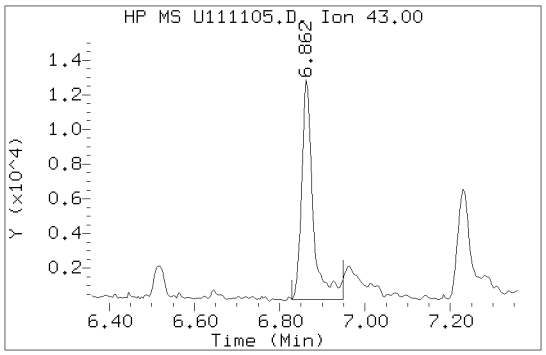
BEFORE

MASS
43
AREA
22006
HEIGHT
12596
16-Nov-2022
09:38
linh
pham



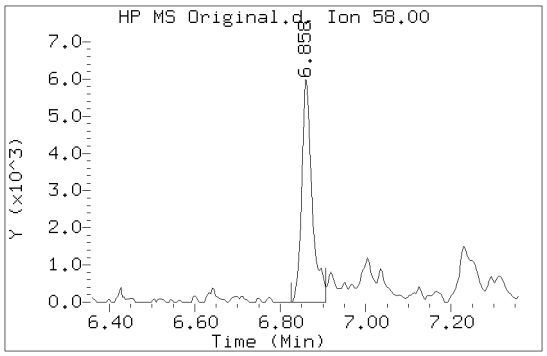
AFTER

MASS
43
AREA
24145
HEIGHT
12668
16-Nov-2022
09:41
linh
pham



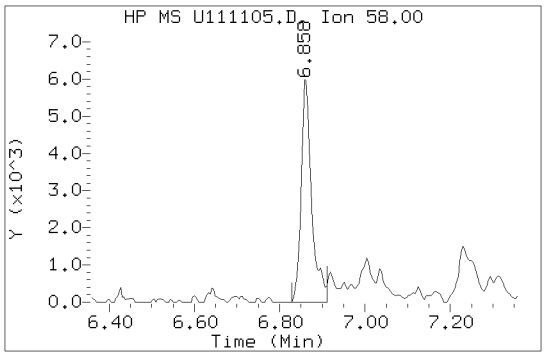
BEFORE

MASS
58
AREA
10421
HEIGHT
5976
16-Nov-2022
09:38
linh
pham



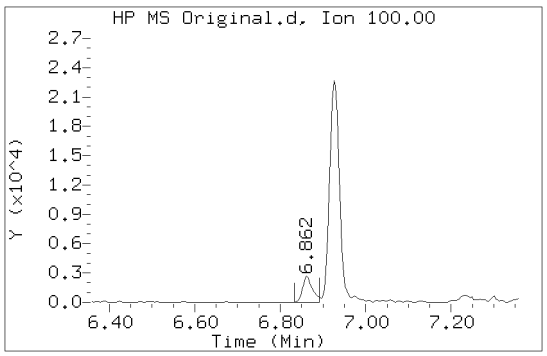
AFTER

MASS
58
AREA
10523
HEIGHT
5976
16-Nov-2022
09:41
linh
pham



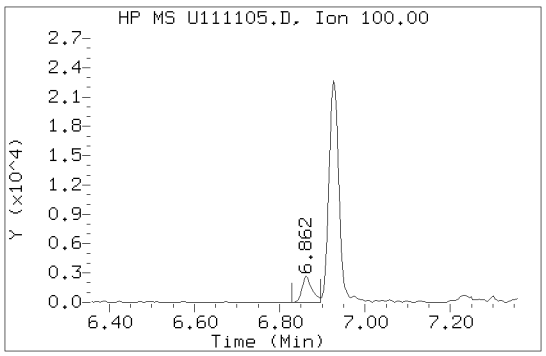
BEFORE

MASS
100
AREA
4434
HEIGHT
2672
16-Nov-2022
09:38
linh
pham



AFTER

MASS
100
AREA
4529
HEIGHT
2672
16-Nov-2022
09:41
linh
pham

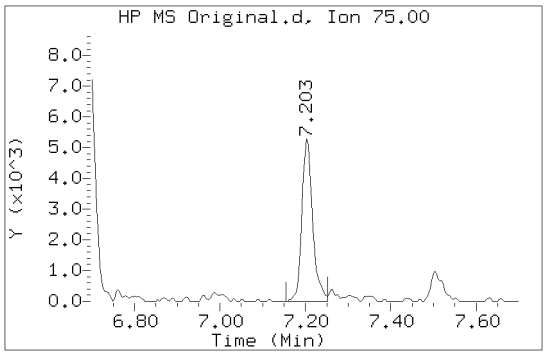


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

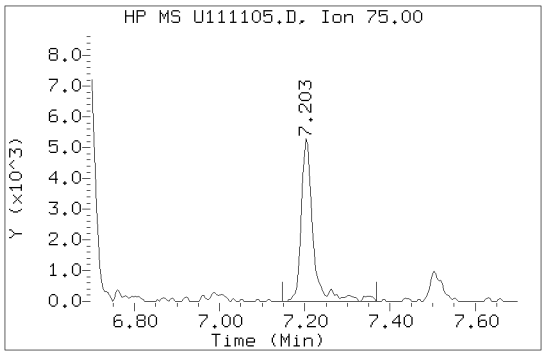
BEFORE

MASS
75
AREA
9434
HEIGHT
5297
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
10490
HEIGHT
5297
16-Nov-2022
09:41
linh
pham



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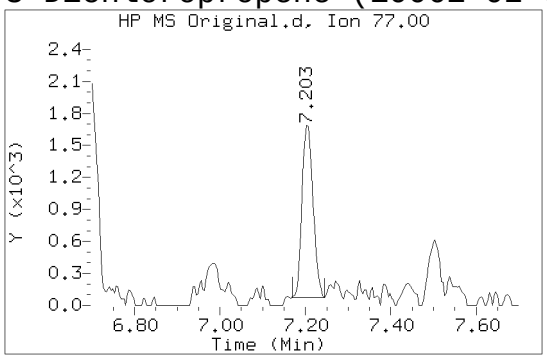
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

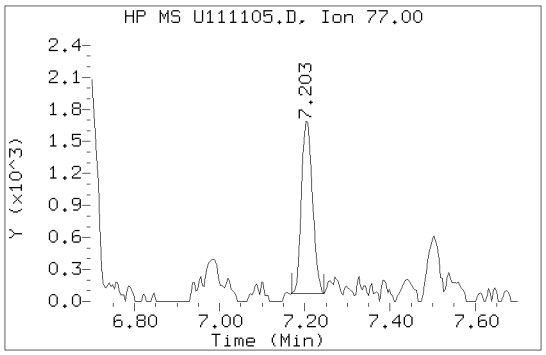
BEFORE

MASS
77
AREA
2936
HEIGHT
1617
16-Nov-2022
09:38
linh
pham



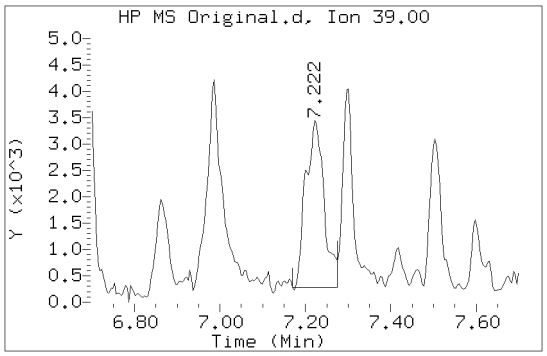
AFTER

MASS
77
AREA
2936
HEIGHT
1617
16-Nov-2022
09:41
linh
pham



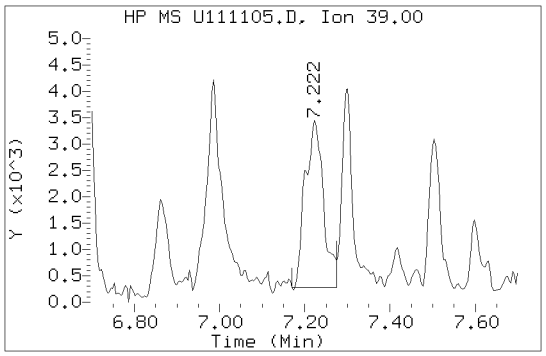
BEFORE

MASS
39
AREA
9473
HEIGHT
3166
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
9473
HEIGHT
3166
16-Nov-2022
09:41
linh
pham

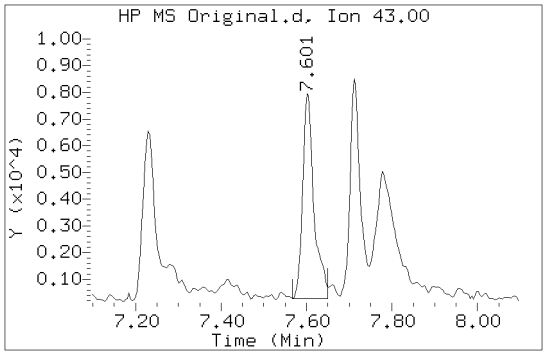


2-Hexanone (591-78-6)

Reason Code:

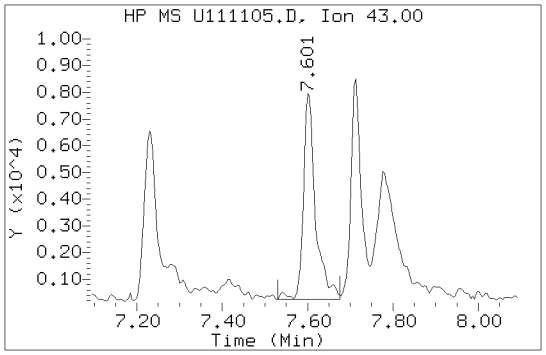
BEFORE

MASS
43
AREA
14384
HEIGHT
7666
16-Nov-2022
09:38
linh
pham



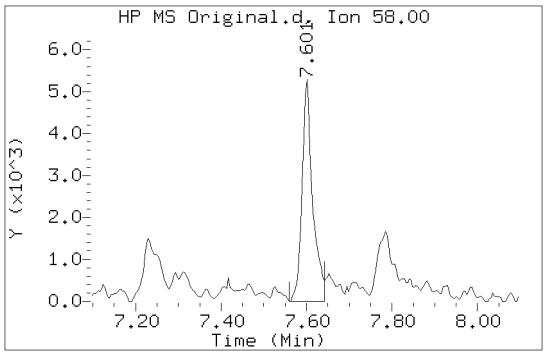
AFTER

MASS
43
AREA
15502
HEIGHT
7702
16-Nov-2022
09:41
linh
pham



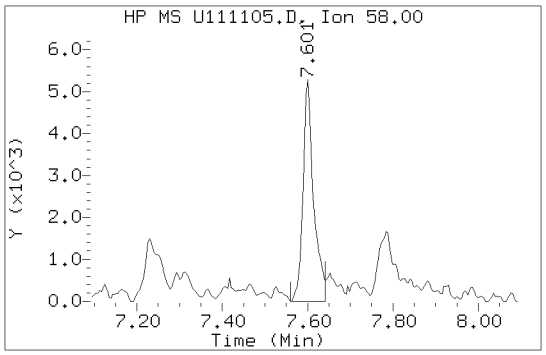
BEFORE

MASS
58
AREA
9305
HEIGHT
5285
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
9305
HEIGHT
5285
16-Nov-2022
09:41
linh
pham



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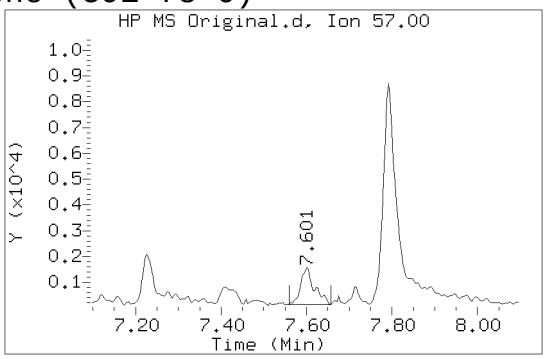
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

2-Hexanone (591-78-6)

Reason Code:

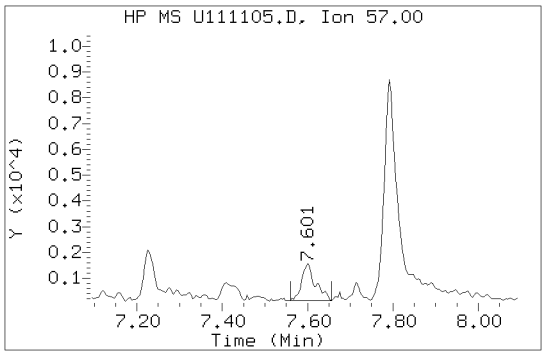
BEFORE

MASS
57
AREA
3259
HEIGHT
1441
16-Nov-2022
09:38
linh
pham



AFTER

MASS
57
AREA
3259
HEIGHT
1441
16-Nov-2022
09:41
linh
pham

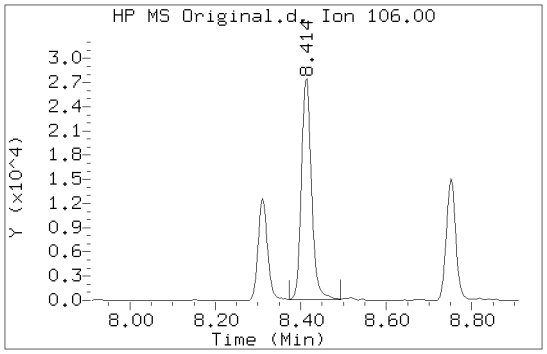


m,p-Xylenes ()

Reason Code:

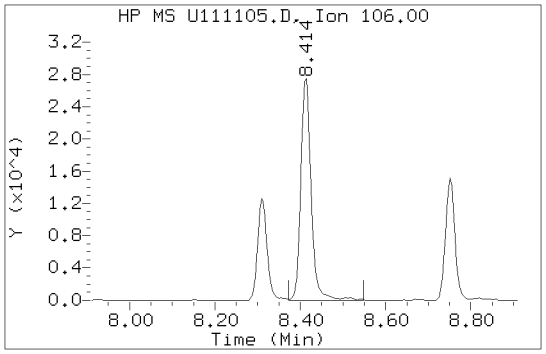
BEFORE

MASS
106
AREA
46362
HEIGHT
27406
16-Nov-2022
09:38
linh
pham



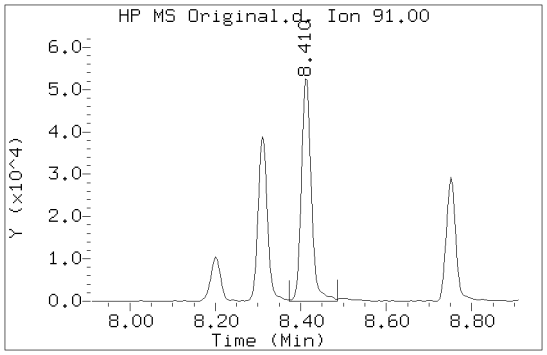
AFTER

MASS
106
AREA
47631
HEIGHT
27496
16-Nov-2022
09:41
linh
pham



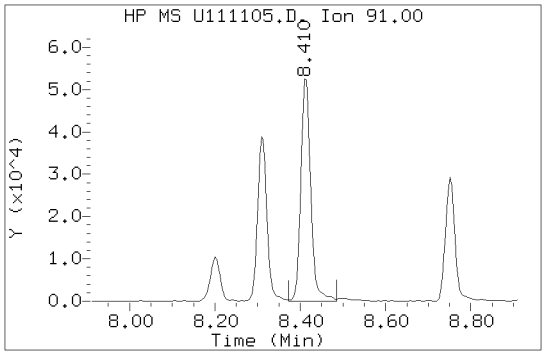
BEFORE

MASS
91
AREA
86830
HEIGHT
52475
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
86830
HEIGHT
52475
16-Nov-2022
09:41
linh
pham

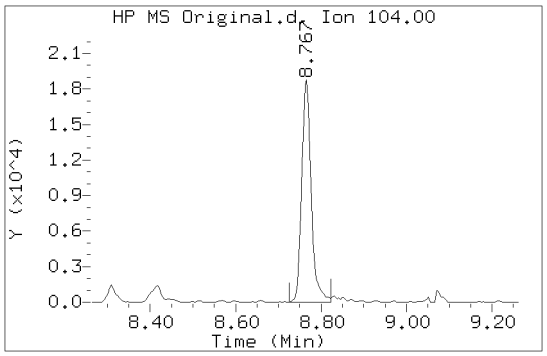


Styrene (100-42-5)

Reason Code:

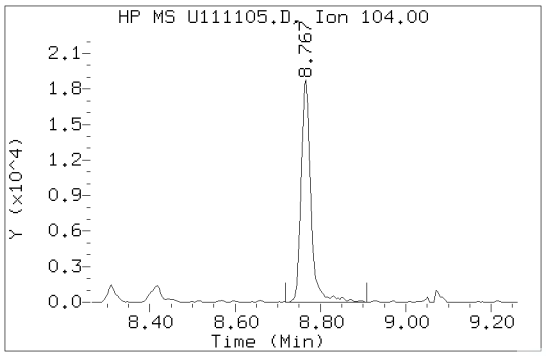
BEFORE

MASS
104
AREA
29906
HEIGHT
18768
16-Nov-2022
09:38
linh
pham



AFTER

MASS
104
AREA
30964
HEIGHT
18768
16-Nov-2022
09:41
linh
pham



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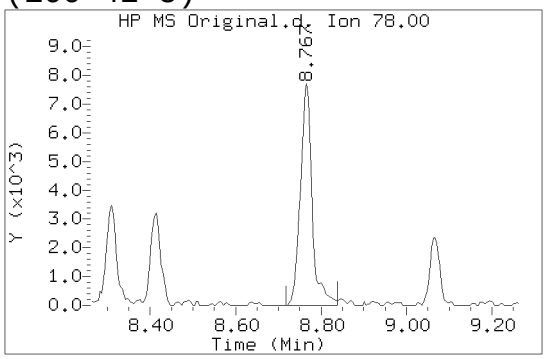
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Styrene (100-42-5)

Reason Code:

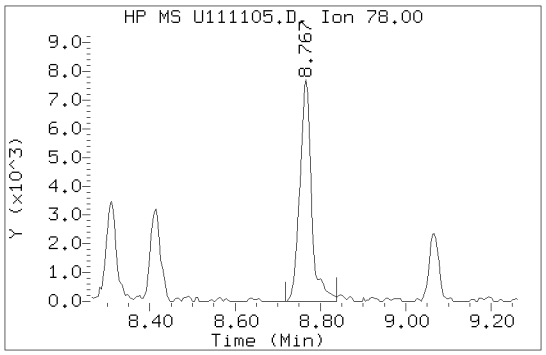
BEFORE

MASS
78
AREA
15064
HEIGHT
7711
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
15064
HEIGHT
7711
16-Nov-2022
09:41
linh
pham

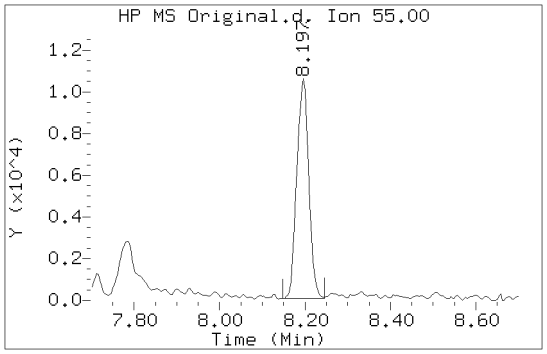


1-Chlorohexane (544-10-5)

Reason Code:

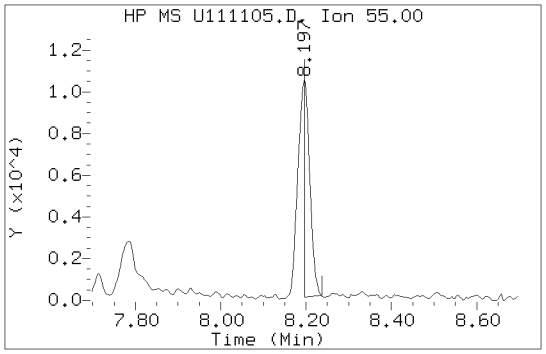
BEFORE

MASS
55
AREA
20998
HEIGHT
10550
16-Nov-2022
09:38
linh
pham



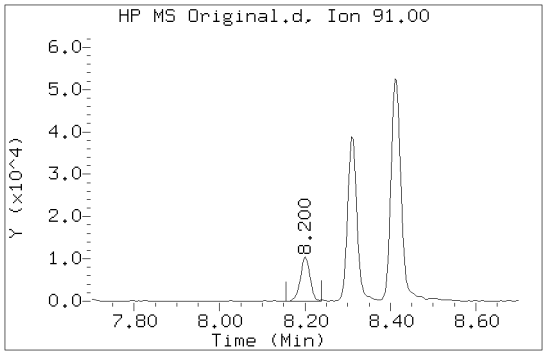
AFTER

MASS
55
AREA
10304
HEIGHT
10491
16-Nov-2022
09:41
linh
pham



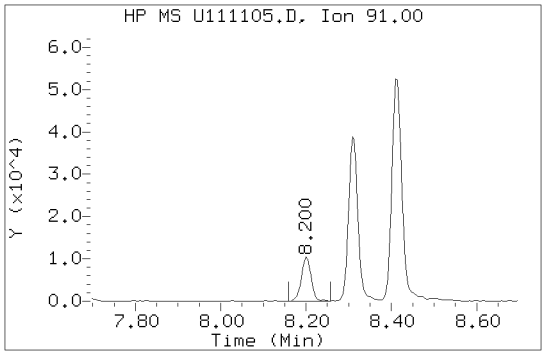
BEFORE

MASS
91
AREA
16655
HEIGHT
10460
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
16811
HEIGHT
10460
16-Nov-2022
09:41
linh
pham

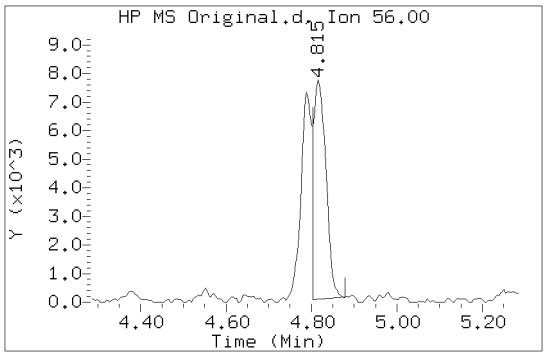


Cyclohexane (110-82-7)

Reason Code:

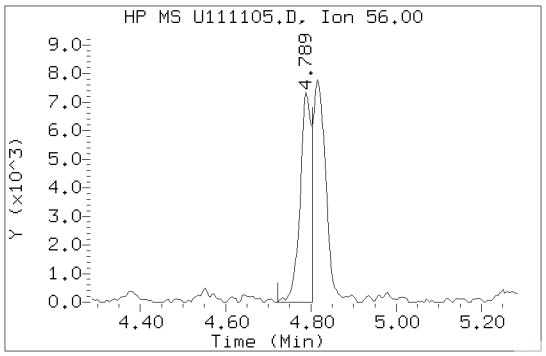
BEFORE

MASS
56
AREA
15386
HEIGHT
7670
16-Nov-2022
09:38
linh
pham



AFTER

MASS
56
AREA
14256
HEIGHT
7360
16-Nov-2022
09:41
linh
pham



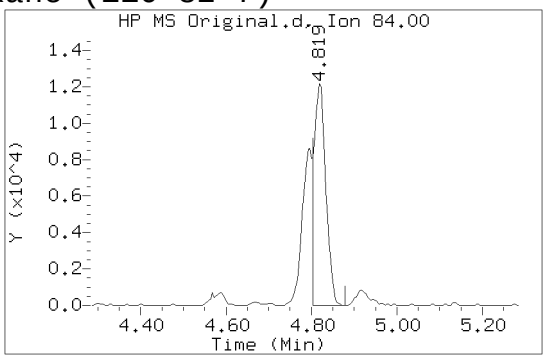
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Cyclohexane (110-82-7)

Reason Code:

BEFORE

MASS
84
AREA
22964
HEIGHT
12170
16-Nov-2022
09:38
linh
pham



AFTER

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16-Nov-2022
09:41
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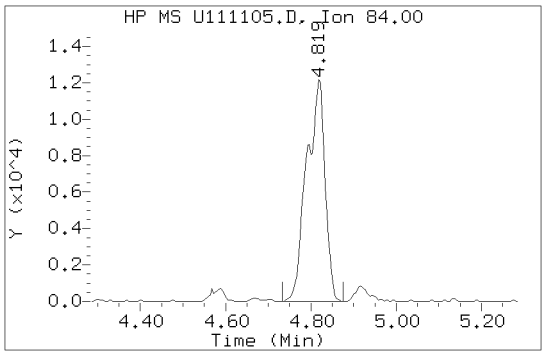

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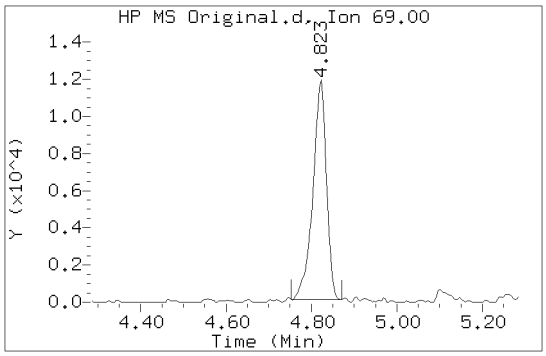

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09:41
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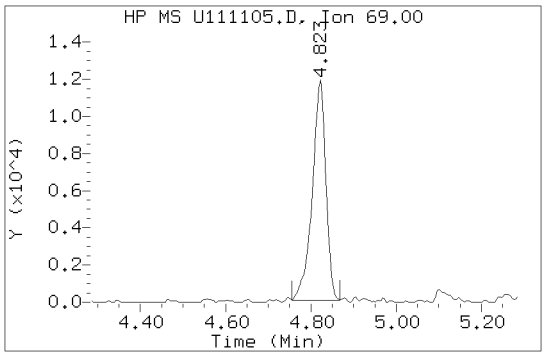
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 11-NOV-2022 13:47
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 13:25 Cal File: U111105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.819	4.819	(1.000)	748411	50.0000	
	2 Dichlorodifluoromethane	85	1.164	1.164	(0.242)	27052	5.00000	5.10
	3 Chloromethane	50	1.299	1.299	(0.270)	42615	5.00000	5.37(M)
	5 Vinyl Chloride	62	1.378	1.378	(0.286)	34188	5.00000	4.47(M)
	6 Bromomethane	94	1.625	1.625	(0.337)	31789	5.00000	5.06(M)
	7 Chloroethane	64	1.704	1.704	(0.354)	26876	5.00000	4.81
	8 Trichlorofluoromethane	101	1.903	1.903	(0.395)	46511	5.00000	4.68
	9 Acrolein	56	2.270	2.270	(0.471)	6241	10.0000	12.51
	10 Acetone	43	2.416	2.416	(0.501)	50255	10.0000	10.18
	11 1,1-Dichloroethene	96	2.337	2.337	(0.485)	28925	5.00000	4.53(M)
	15 Iodomethane	142	2.472	2.472	(0.513)	51771	10.0000	10.89
	16 Acrylonitrile	53	3.076	3.076	(0.638)	36995	10.0000	10.64
	17 Methylene Chloride	84	2.799	2.799	(0.581)	39927	5.00000	3.44(M)
	18 Methyl tert-butyl ether	73	3.087	3.087	(0.641)	104310	5.00000	4.84
	19 Carbon Disulfide	76	2.525	2.525	(0.524)	168705	10.0000	9.08
	20 trans-1,2-Dichloroethene	96	3.065	3.065	(0.636)	33425	5.00000	4.73(M)
	21 Vinyl Acetate	43	3.616	3.616	(0.750)	185962	10.0000	10.08
	22 1,1-Dichloroethane	63	3.522	3.522	(0.731)	60861	5.00000	4.84
	24 2-Butanone	43	4.276	4.276	(0.887)	31782	10.0000	10.50
	26 2,2-Dichloropropane	77	4.186	4.186	(0.869)	26695	5.00000	5.18

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	40376	5.00000	4.86
28 Chloroform	83	4.579	4.579 (0.950)	66102	5.00000	4.93

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D Page 2
Report Date: 16-Nov-2022 09:41

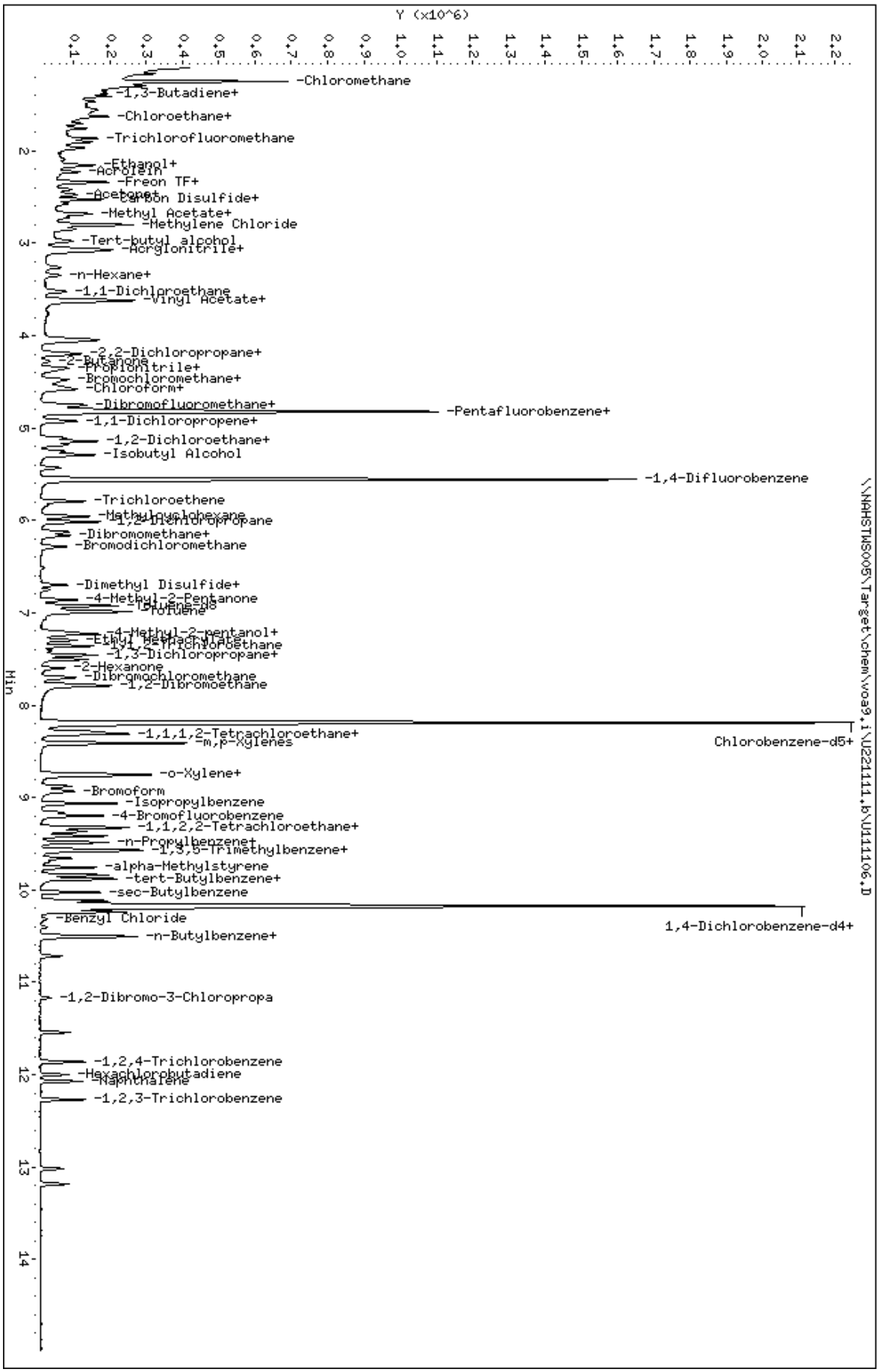
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.474	4.474	(0.928)	22149	5.00000	4.99
$	30 Dibromofluoromethane	113	4.752	4.752	(0.986)	36389	5.00000	4.54
	31 1,1,1-Trichloroethane	97	4.748	4.748	(0.985)	40005	5.00000	4.43
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	39356	5.00000	4.48(M)
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	54464	5.00000	4.90
	34 Carbon Tetrachloride	117	4.917	4.917	(0.885)	26439	5.00000	5.10(MH)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.059)	47752	5.00000	5.05
*	36 1,4-Difluorobenzene	114	5.558	5.558	(1.000)	1264749	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	139839	5.00000	4.69
	38 Trichloroethene	130	5.794	5.794	(1.042)	39382	5.00000	4.83
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	40439	5.00000	4.44(M)
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	37534	5.00000	4.95
	44 Dibromomethane	93	6.124	6.124	(1.102)	26886	5.00000	4.92
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	65855	10.0000	9.77
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	36717	5.00000	5.63(M)
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1146855	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	127033	5.00000	4.65
	50 Toluene	91	6.982	6.982	(0.853)	146024	5.00000	4.79
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.296)	28169	5.00000	5.96(M)
	52 2-Hexanone	43	7.597	7.597	(0.928)	43345	10.0000	9.87
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	31556	5.00000	4.81
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	70577	5.00000	5.26
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	32648	5.00000	5.13
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	32428	5.00000	4.90
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	38150	5.00000	4.74
	58 1-Chlorohexane	55	8.197	8.197	(1.475)	25743	5.00000	5.93(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	107002	5.00000	4.91
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	32485	5.00000	4.55
	61 Ethylbenzene	106	8.309	8.309	(1.015)	48644	5.00000	4.84
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	114599	10.0000	9.15
	63 o-Xylene	106	8.748	8.748	(1.068)	57990	5.00000	4.69
	64 Styrene	104	8.763	8.763	(1.070)	87295	5.00000	5.11(M)
	66 Bromoform	173	8.920	8.920	(1.089)	20007	5.00000	5.57
	67 Isopropylbenzene	105	9.063	9.063	(1.107)	131029	5.00000	4.60
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	58164	5.00000	5.26
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	50749	5.00000	5.18
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	555284	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	48872	5.00000	5.12
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	133875	5.00000	4.47
	74 Bromobenzene	156	9.321	9.321	(0.916)	44696	5.00000	5.07
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	106236	5.00000	4.79
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	103500	5.00000	4.91
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	113898	5.00000	4.84
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	84895	5.00000	4.37
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	113976	5.00000	4.89
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	104963	5.00000	5.52
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	94902	5.00000	4.46
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	73825	5.00000	4.89
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	79339	5.00000	4.78
	87 n-Butylbenzene	91	10.495	10.495	(1.032)	69831	5.00000	5.75
	88 1,2-Dichlorobenzene	146	10.510	10.510	(1.033)	77734	5.00000	4.87
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	6526	5.00000	6.07

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	35633	5.00000	4.08
91 Hexachlorobutadiene	225	12.002	12.002 (1.180)	13306	5.00000	5.16

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	86972	5.00000	3.99
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	36621	5.00000	4.23
M	94 1,2-Dichloroethylene (total)	96				73801	10.0000	
M	95 Xylenes (total)	106				172589	15.0000	
	135 1,4-Dioxane	88	6.176	6.176	(1.282)	10776	100.000	94.80
	141 Cyclohexane	56	4.789	4.789	(0.994)	30806	5.00000	5.02(M)
	138 Freon TF	101	2.341	2.341	(0.486)	24730	5.00000	5.50
	140 1,3-Butadiene	54	1.408	1.408	(0.292)	21652	5.00000	5.26
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	73309	5.00000	4.11
	146 Methyl Acetate	43	2.720	2.720	(0.564)	31419	5.00000	5.13
	148 Tert-Butyl alcohol	59	2.975	2.975	(0.617)	76422	100.000	105.56
	149 Isopropyl Alcohol	45	2.574	2.574	(0.534)	49211	100.000	103.14

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

Chloromethane (74-87-3)

Reason Code:

BEFORE

MASS
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AREA
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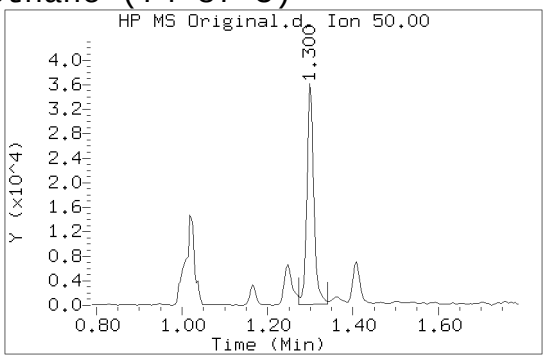
HEIGHT
35998
16-Nov-2022
09:38
linh
pham



AFTER

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36205
16-Nov-2022
09:41
linh
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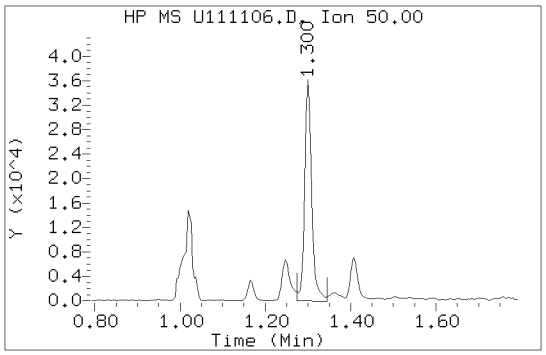

BEFORE

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10930
16-Nov-2022
09:38
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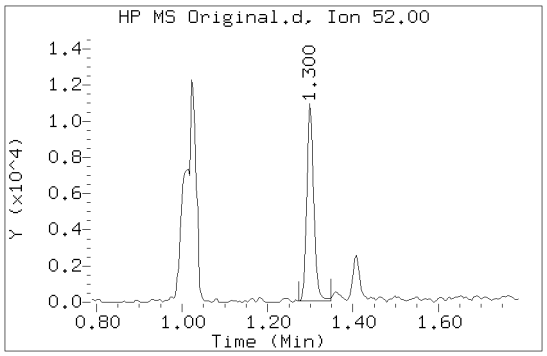

AFTER

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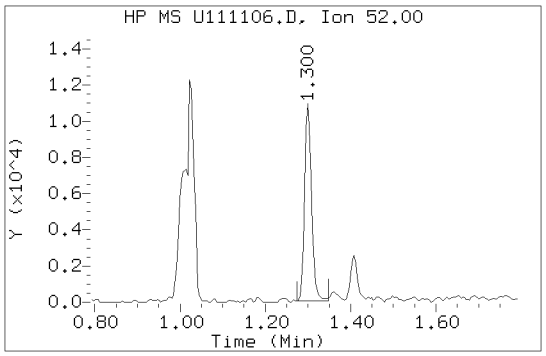

Vinyl Chloride (75-01-4)

Reason Code:

BEFORE

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linh
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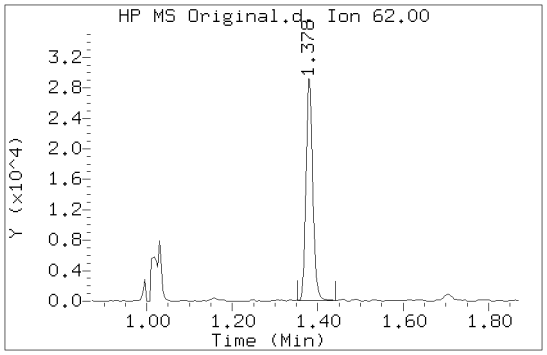

AFTER

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HEIGHT
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16-Nov-2022
09:41
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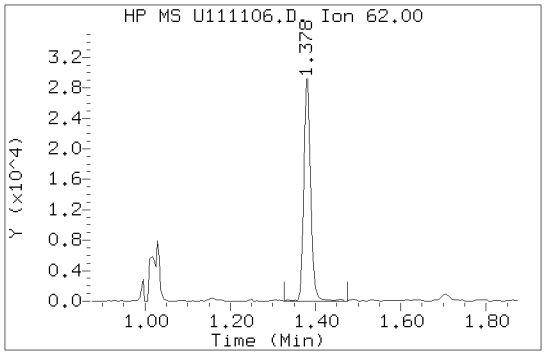
pham



BEFORE

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AREA
41515
HEIGHT
14203
16-Nov-2022
09:38
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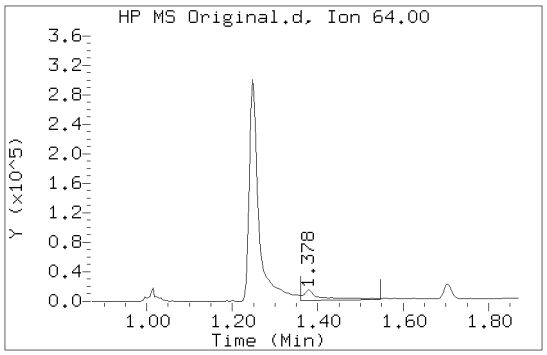
pham



AFTER

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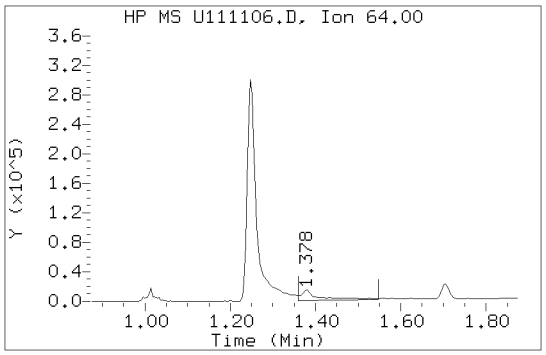

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Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

Bromomethane (74-83-9)

BEFORE

MASS
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AREA
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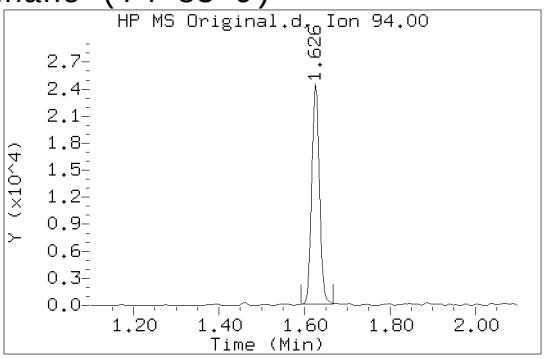
HEIGHT
24474
16-Nov-2022
09:38
linh
pham



BEFORE

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AREA
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23344
16-Nov-2022
09:38
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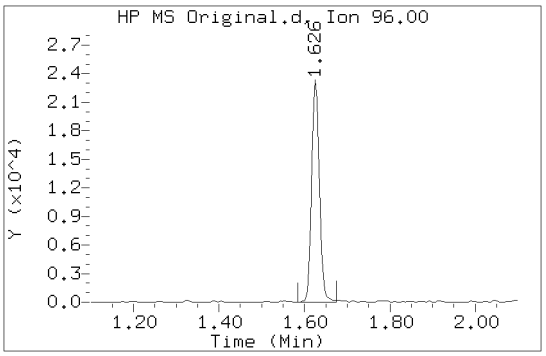

Reason Code:

AFTER

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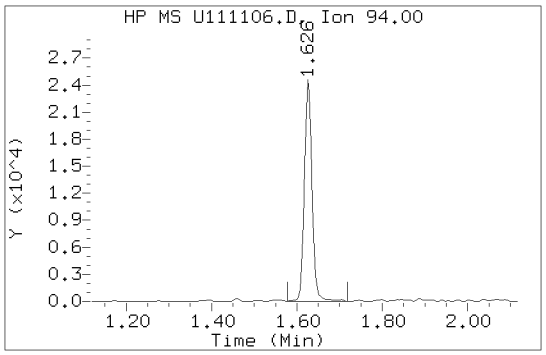

AFTER

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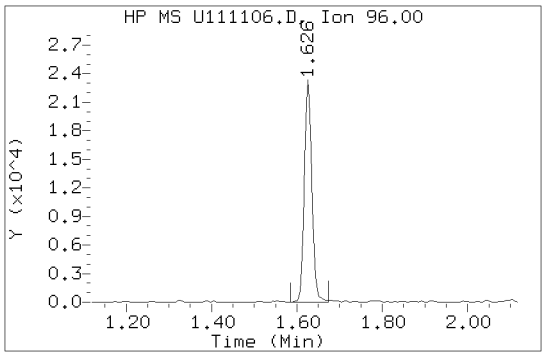

1,1-Dichloroethene (75-35-4)

BEFORE

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AREA
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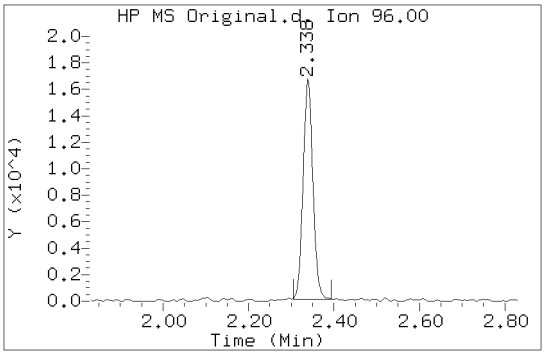
16-Nov-2022
09:38
linh
pham



BEFORE

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16-Nov-2022
09:38
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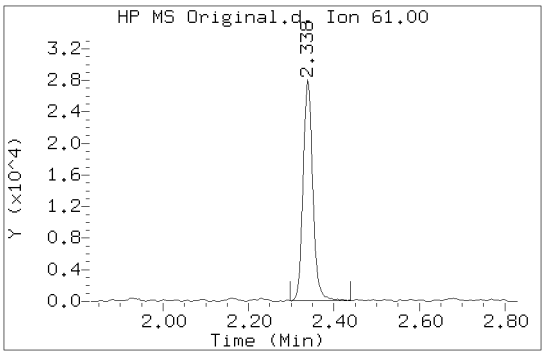

Reason Code:

AFTER

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HEIGHT
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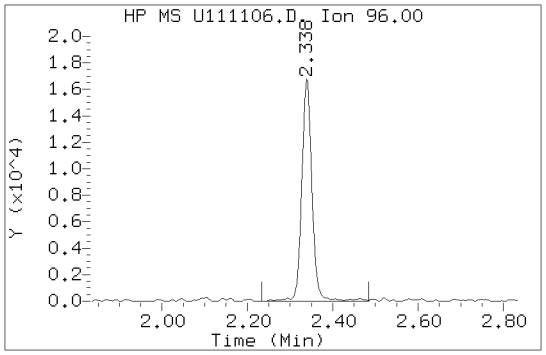

AFTER

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16-Nov-2022
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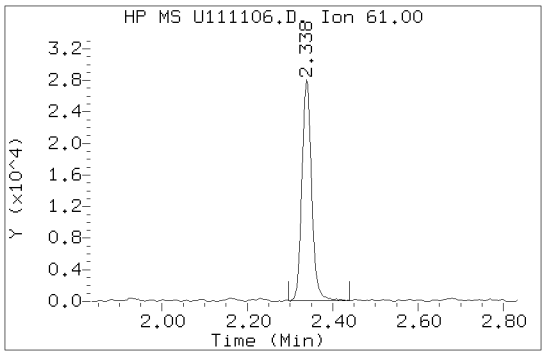
pham



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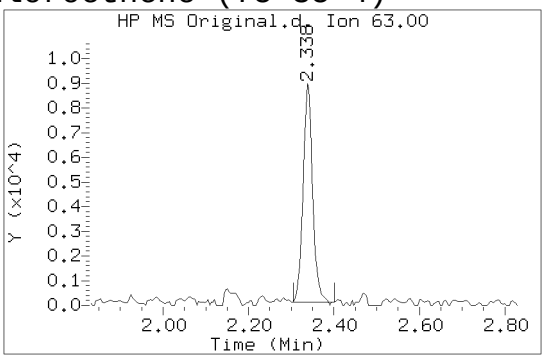
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

1,1-Dichloroethene (75-35-4)

Reason Code:

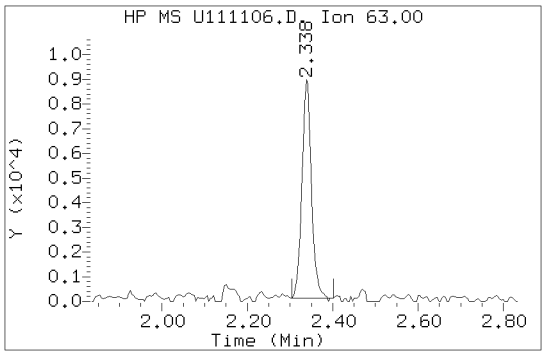
BEFORE

MASS
63
AREA
13992
HEIGHT
8850
16-Nov-2022
09:38
linh
pham



AFTER

MASS
63
AREA
13992
HEIGHT
8850
16-Nov-2022
09:41
linh
pham

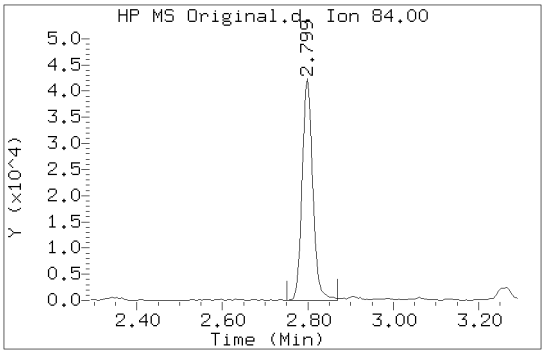


Methylene Chloride (75-09-2)

Reason Code:

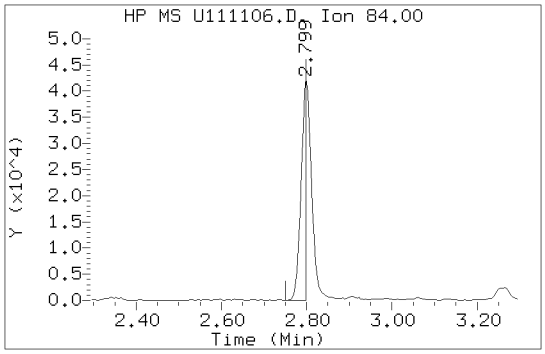
BEFORE

MASS
84
AREA
73921
HEIGHT
42352
16-Nov-2022
09:38
linh
pham



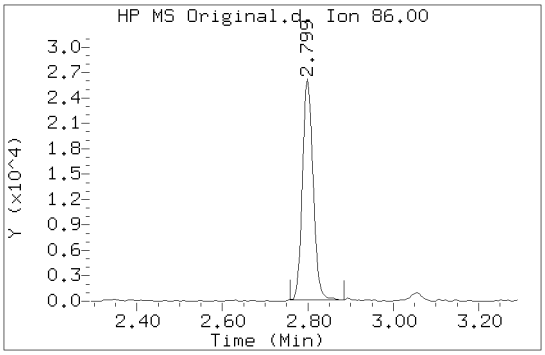
AFTER

MASS
84
AREA
39927
HEIGHT
42352
16-Nov-2022
09:41
linh
pham



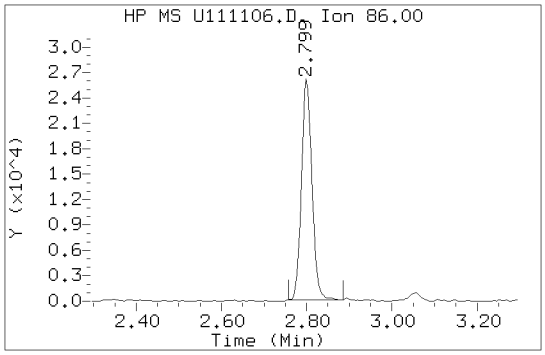
BEFORE

MASS
86
AREA
45489
HEIGHT
26078
16-Nov-2022
09:38
linh
pham



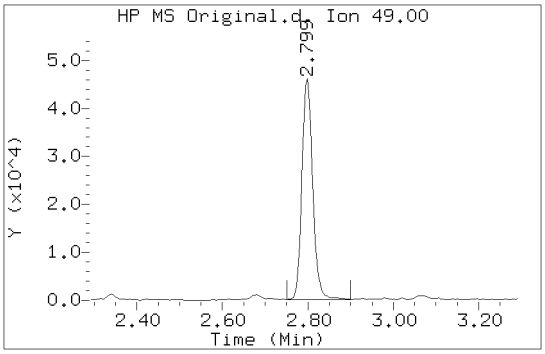
AFTER

MASS
86
AREA
45489
HEIGHT
26078
16-Nov-2022
09:41
linh
pham



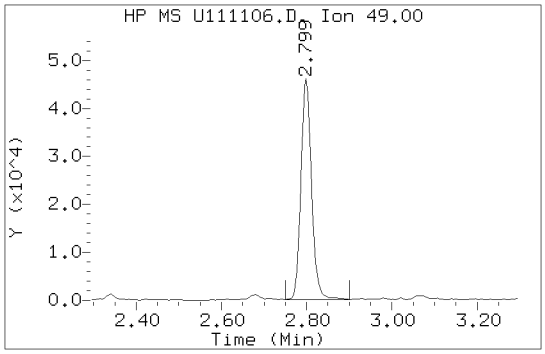
BEFORE

MASS
49
AREA
82374
HEIGHT
46127
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
82374
HEIGHT
46127
16-Nov-2022
09:41
linh
pham



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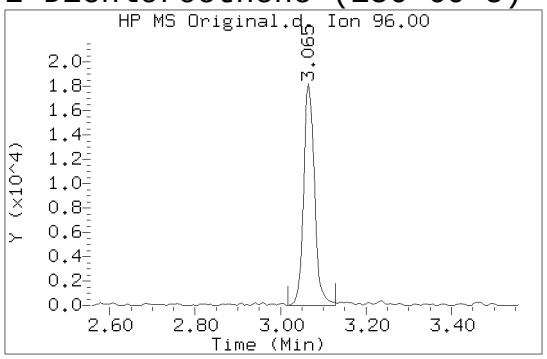
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

trans-1,2-Dichloroethene (156-60-5)

Reason Code:

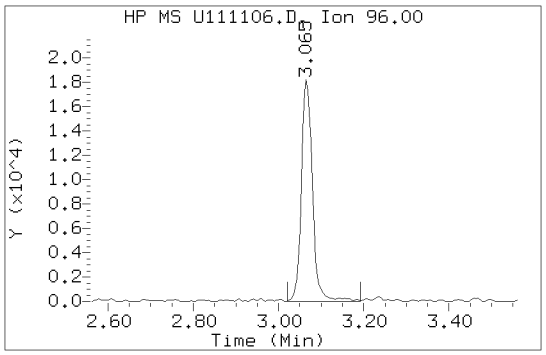
BEFORE

MASS
96
AREA
32752
HEIGHT
18208
16-Nov-2022
09:38
linh
pham



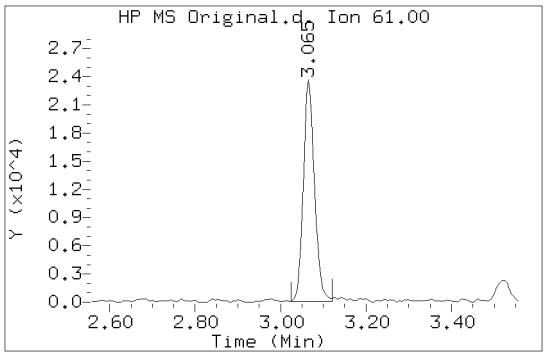
AFTER

MASS
96
AREA
33425
HEIGHT
18208
16-Nov-2022
09:41
linh
pham



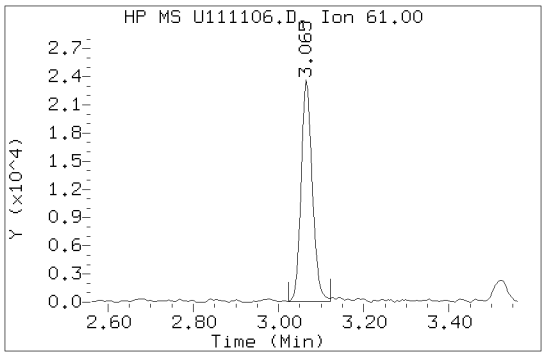
BEFORE

MASS
61
AREA
43467
HEIGHT
23562
16-Nov-2022
09:38
linh
pham



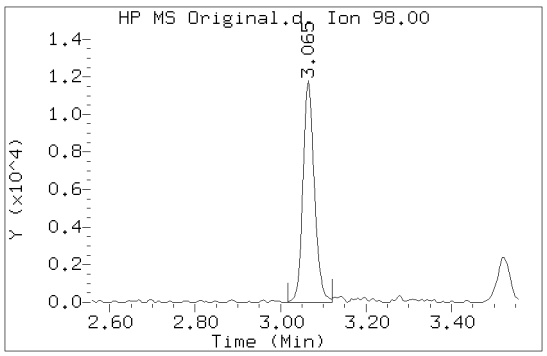
AFTER

MASS
61
AREA
43467
HEIGHT
23562
16-Nov-2022
09:41
linh
pham



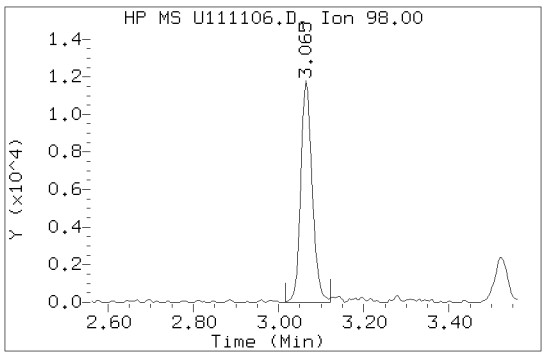
BEFORE

MASS
98
AREA
22331
HEIGHT
11796
16-Nov-2022
09:38
linh
pham



AFTER

MASS
98
AREA
22331
HEIGHT
11796
16-Nov-2022
09:41
linh
pham

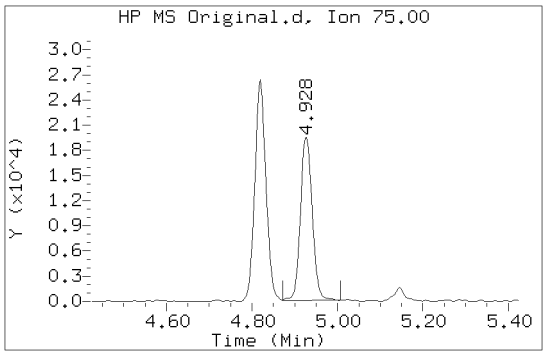


1,1-Dichloropropene (563-58-6)

Reason Code:

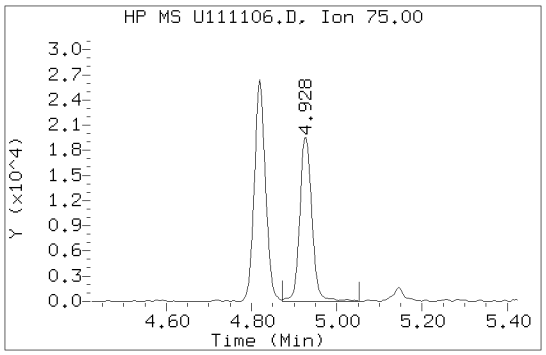
BEFORE

MASS
75
AREA
38344
HEIGHT
19464
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
39356
HEIGHT
19535
16-Nov-2022
09:41
linh
pham

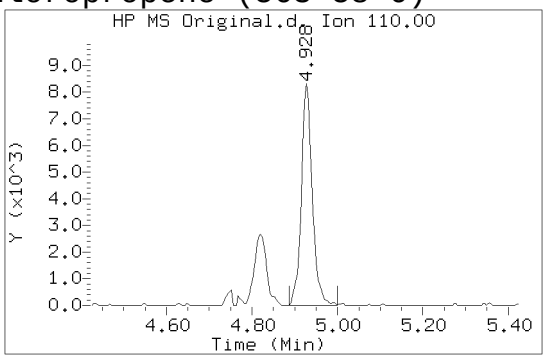


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

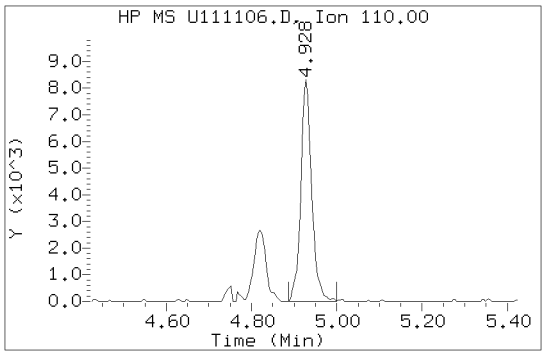
1,1-Dichloropropene (563-58-6)

Reason Code:

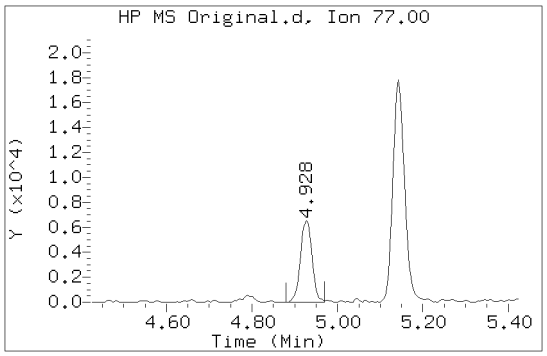
BEFORE
MASS
110
AREA
14970
HEIGHT
8318
16-Nov-2022
09:38
linh
pham



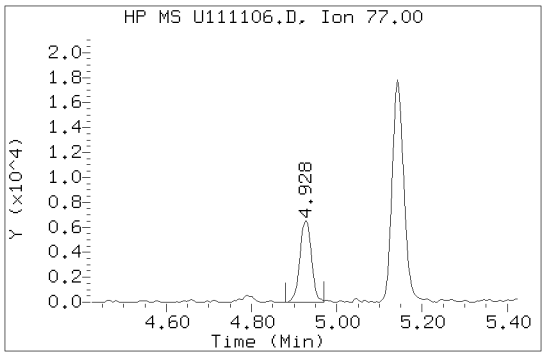
AFTER
MASS
110
AREA
14970
HEIGHT
8318
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
77
AREA
12594
HEIGHT
6536
16-Nov-2022
09:38
linh
pham



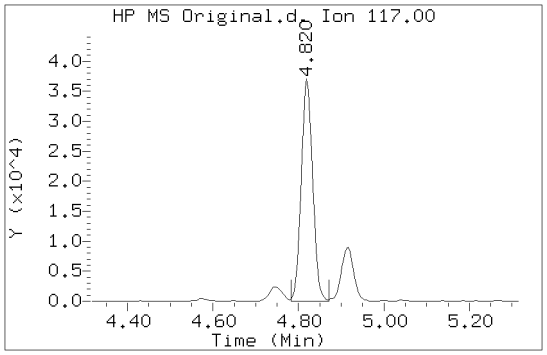
AFTER
MASS
77
AREA
12594
HEIGHT
6536
16-Nov-2022
09:41
linh
pham



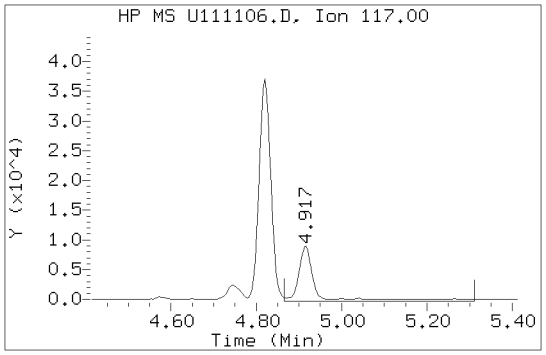
Carbon Tetrachloride (56-23-5)

Reason Code:

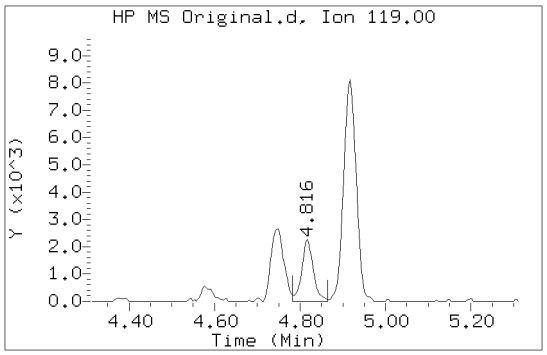
BEFORE
MASS
117
AREA
70347
HEIGHT
37056
16-Nov-2022
09:38
linh
pham



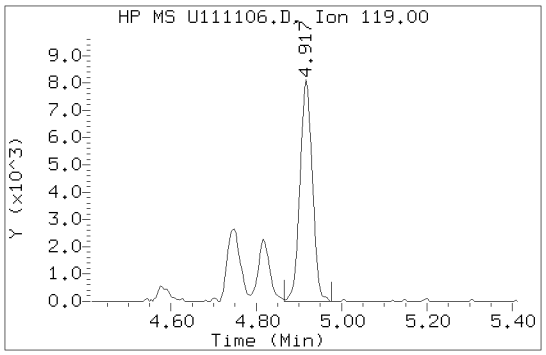
AFTER
MASS
117
AREA
26439
HEIGHT
9250
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
119
AREA
4362
HEIGHT
2268
16-Nov-2022
09:38
linh
pham



AFTER
MASS
119
AREA
16720
HEIGHT
8120
16-Nov-2022
09:41
linh
pham



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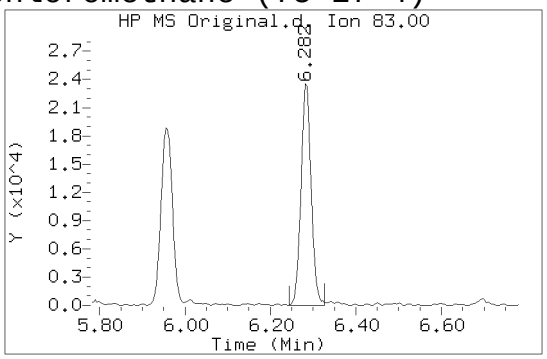
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

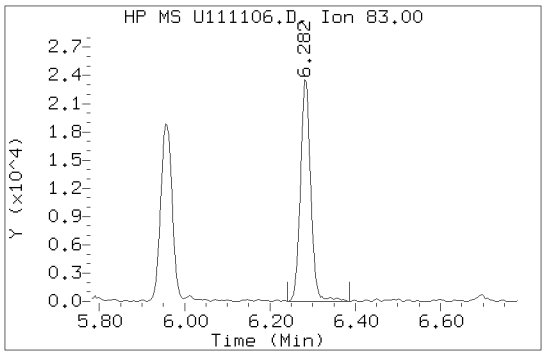
Bromodichloromethane (75-27-4)

Reason Code:

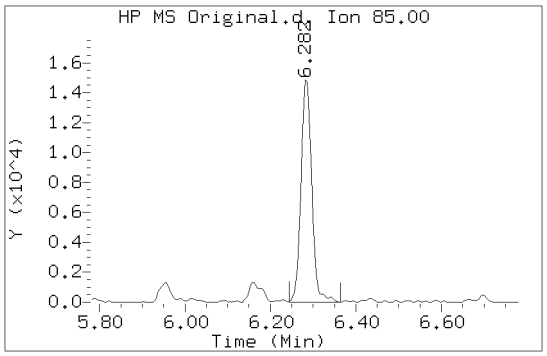
BEFORE
MASS
83
AREA
39635
HEIGHT
23544
16-Nov-2022
09:38
linh
pham



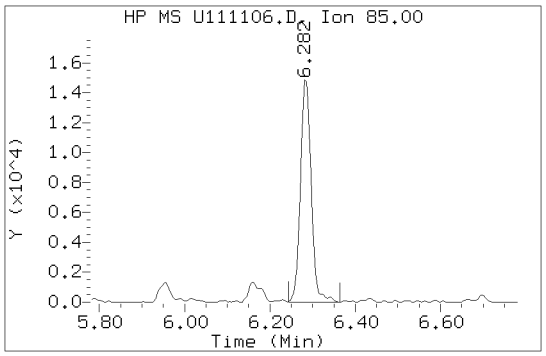
AFTER
MASS
83
AREA
40439
HEIGHT
23544
16-Nov-2022
09:41
linh
pham



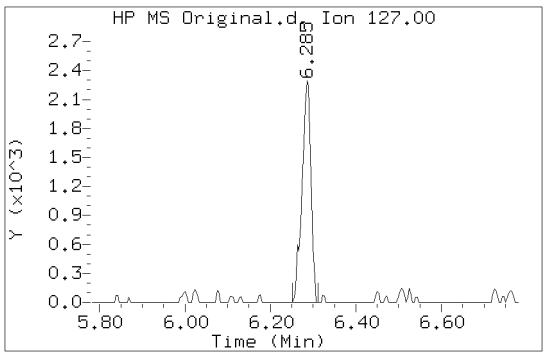
BEFORE
MASS
85
AREA
26749
HEIGHT
14857
16-Nov-2022
09:38
linh
pham



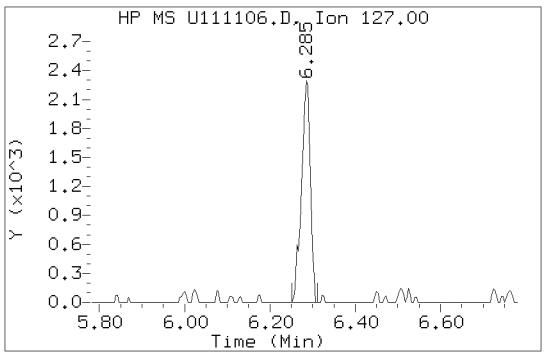
AFTER
MASS
85
AREA
26749
HEIGHT
14857
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
127
AREA
3421
HEIGHT
2295
16-Nov-2022
09:38
linh
pham



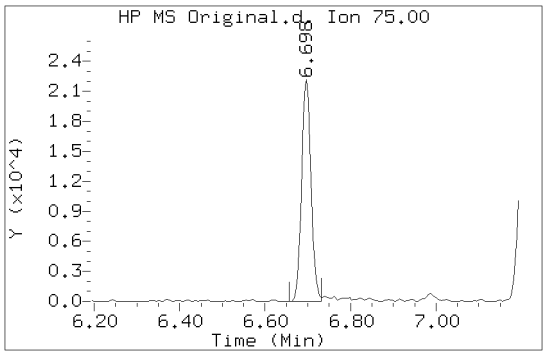
AFTER
MASS
127
AREA
3421
HEIGHT
2295
16-Nov-2022
09:41
linh
pham



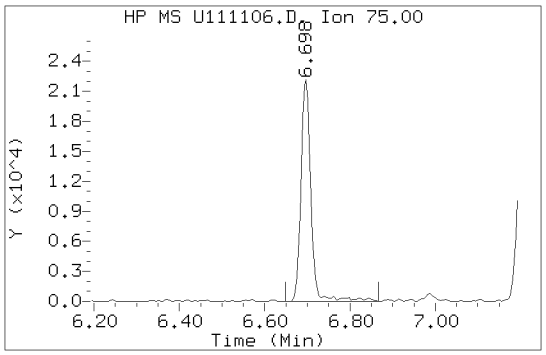
cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

BEFORE
MASS
75
AREA
34563
HEIGHT
22160
16-Nov-2022
09:38
linh
pham



AFTER
MASS
75
AREA
36717
HEIGHT
22160
16-Nov-2022
09:41
linh
pham



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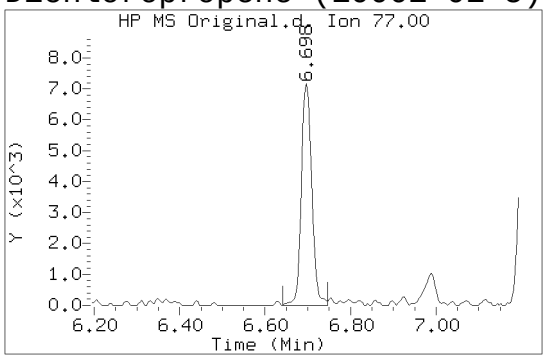
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

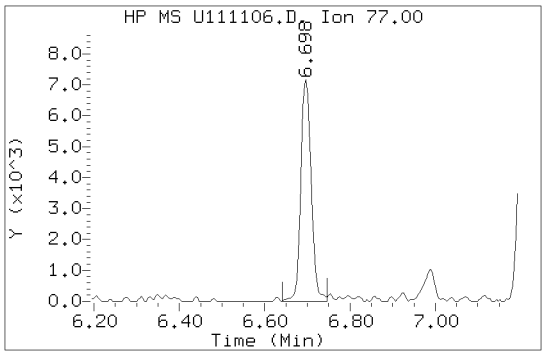
BEFORE

MASS
77
AREA
12442
HEIGHT
7167
16-Nov-2022
09:38
linh
pham



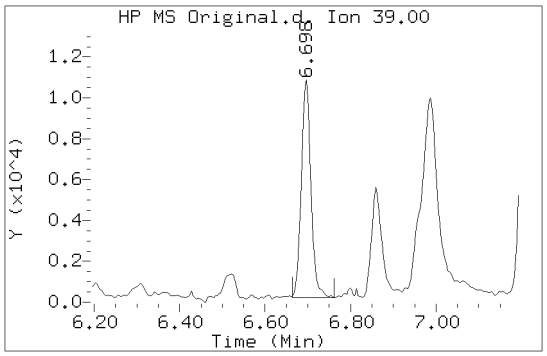
AFTER

MASS
77
AREA
12442
HEIGHT
7167
16-Nov-2022
09:41
linh
pham



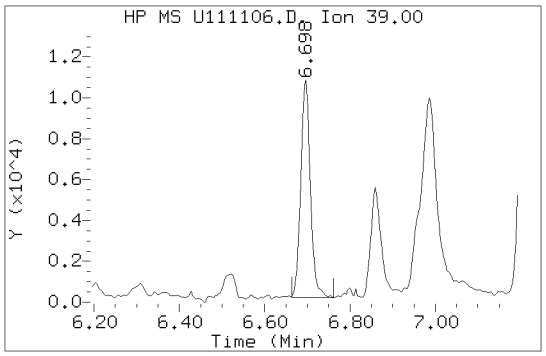
BEFORE

MASS
39
AREA
16901
HEIGHT
10647
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
16901
HEIGHT
10647
16-Nov-2022
09:41
linh
pham

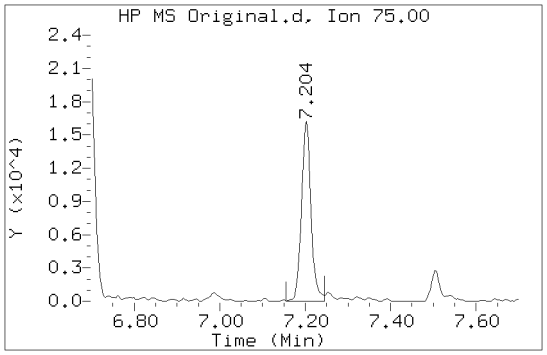


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

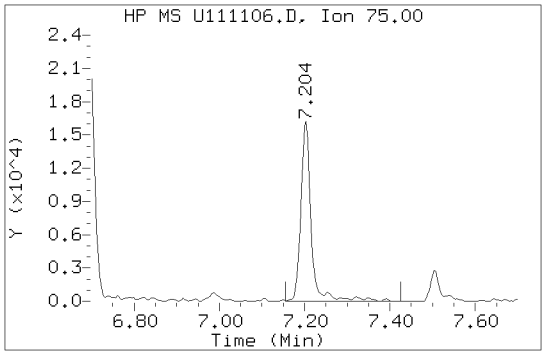
BEFORE

MASS
75
AREA
25866
HEIGHT
16244
16-Nov-2022
09:38
linh
pham



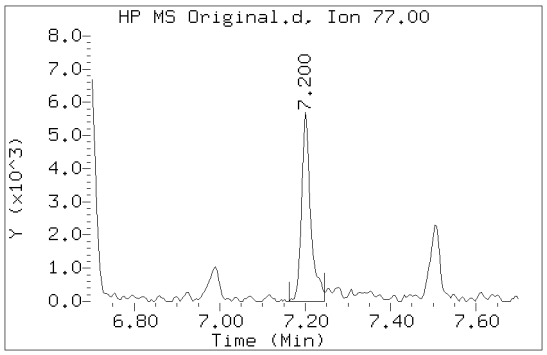
AFTER

MASS
75
AREA
28169
HEIGHT
16244
16-Nov-2022
09:41
linh
pham



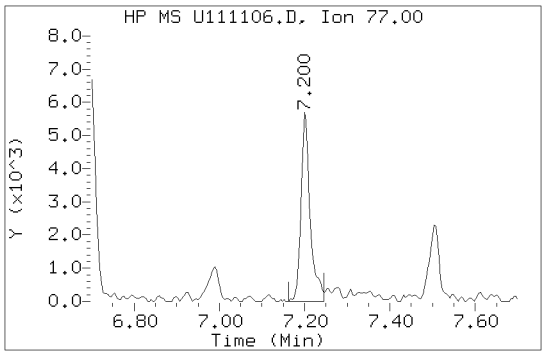
BEFORE

MASS
77
AREA
8739
HEIGHT
5690
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
8739
HEIGHT
5690
16-Nov-2022
09:41
linh
pham



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Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

BEFORE

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16-Nov-2022
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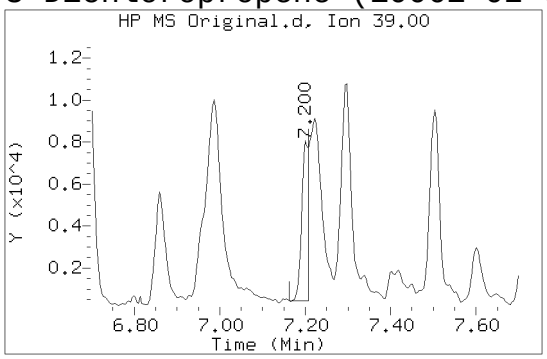

AFTER

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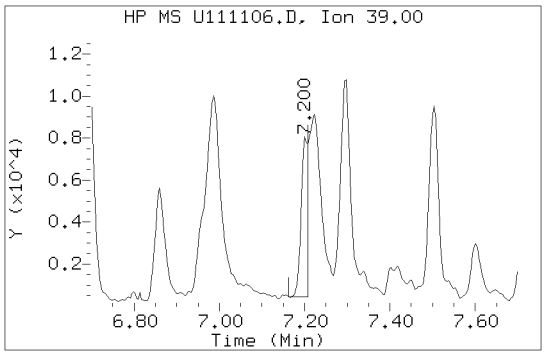

Styrene (100-42-5)

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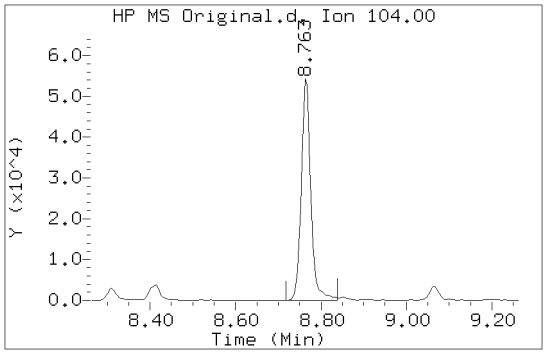

AFTER

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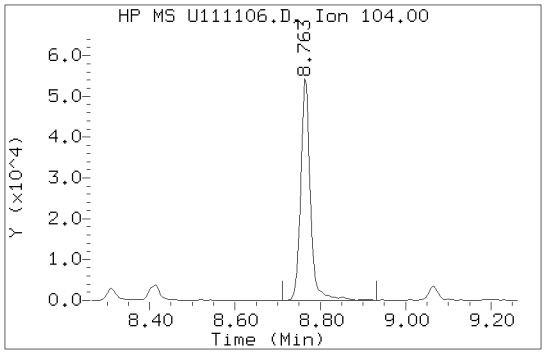

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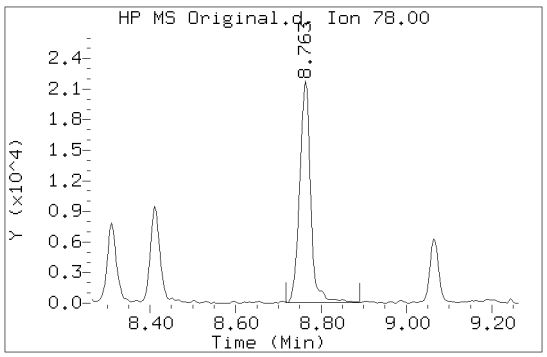

AFTER

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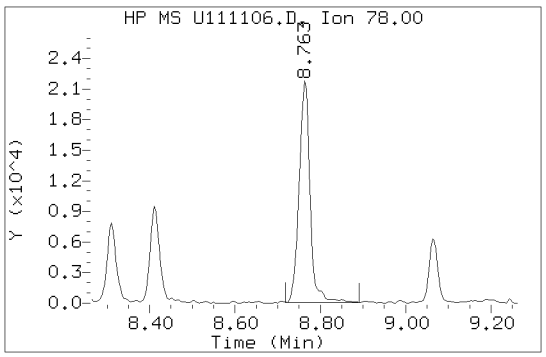

1-Chlorohexane (544-10-5)

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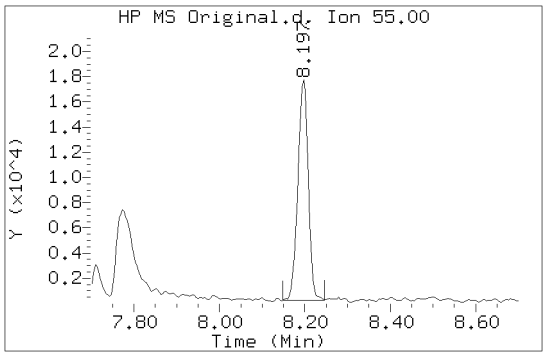

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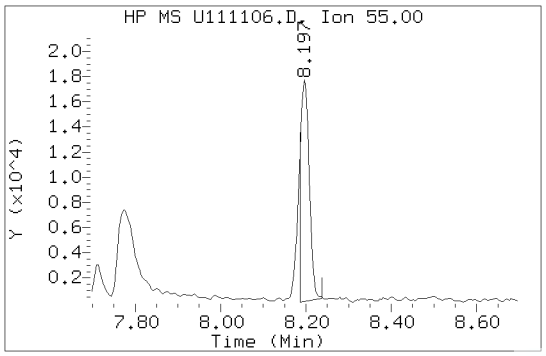

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Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

1-Chlorohexane (544-10-5)

Reason Code:

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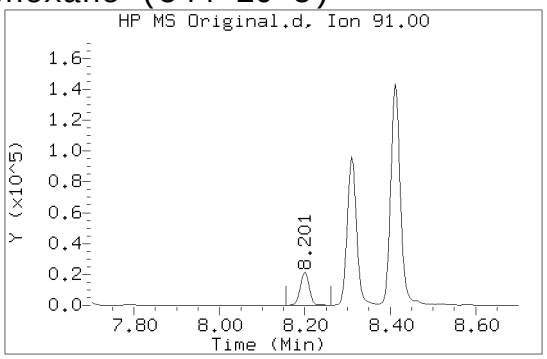

AFTER

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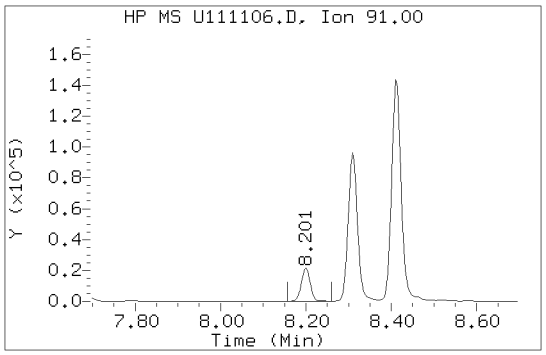

Cyclohexane (110-82-7)

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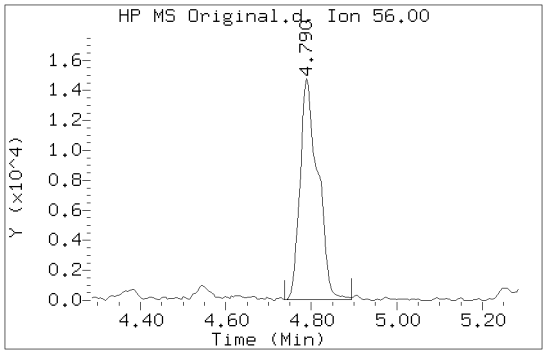

AFTER

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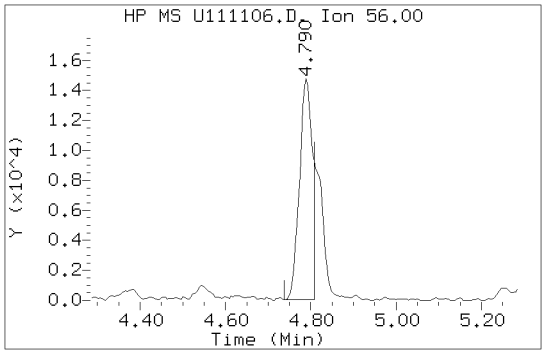

BEFORE

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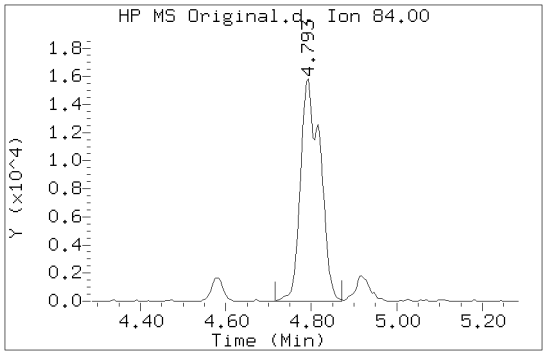

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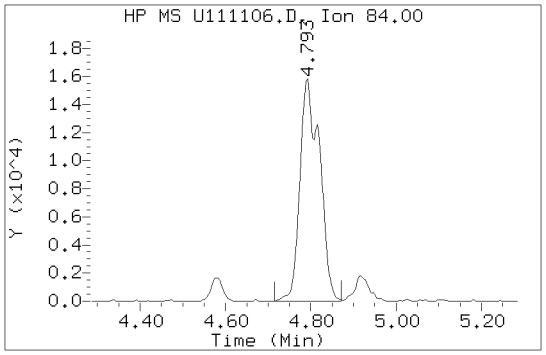

BEFORE

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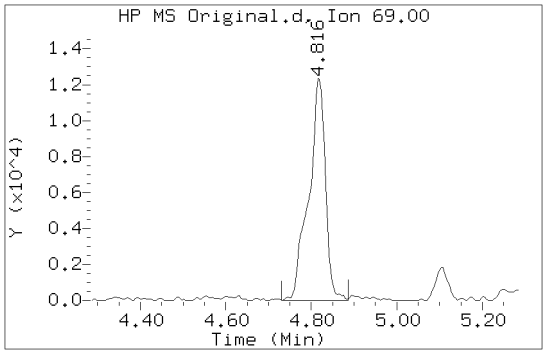

AFTER

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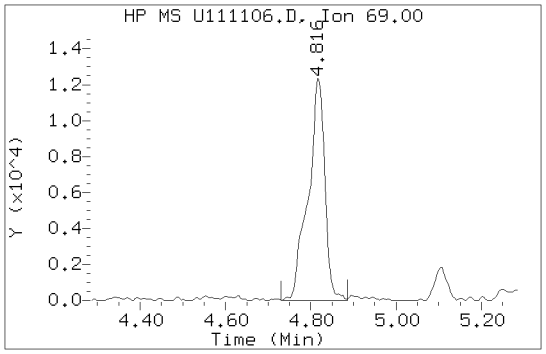

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D
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Inj Date : 11-NOV-2022 14:09
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 13:47 Cal File: U111106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.815	(1.000)	772810	50.0000	
2 Dichlorodifluoromethane	85	1.160	1.160	(0.241)	102320	20.0000	17.58
3 Chloromethane	50	1.295	1.295	(0.269)	151074	20.0000	17.86
5 Vinyl Chloride	62	1.374	1.374	(0.285)	127334	20.0000	16.15
6 Bromomethane	94	1.617	1.617	(0.336)	112053	20.0000	19.98
7 Chloroethane	64	1.696	1.696	(0.352)	98029	20.0000	17.02
8 Trichlorofluoromethane	101	1.895	1.895	(0.394)	169022	20.0000	16.49
9 Acrolein	56	2.266	2.266	(0.471)	19477	40.0000	35.80
10 Acetone	43	2.408	2.408	(0.500)	138833	40.0000	39.85
11 1,1-Dichloroethene	96	2.333	2.333	(0.485)	112330	20.0000	17.04
15 Iodomethane	142	2.464	2.464	(0.512)	213421	40.0000	31.53
16 Acrylonitrile	53	3.068	3.068	(0.637)	138298	40.0000	38.53
17 Methylene Chloride	84	2.794	2.794	(0.580)	187449	20.0000	21.13
18 Methyl tert-butyl ether	73	3.079	3.079	(0.640)	421972	20.0000	18.99
19 Carbon Disulfide	76	2.517	2.517	(0.523)	623860	40.0000	32.53
20 trans-1,2-Dichloroethene	96	3.060	3.060	(0.636)	127310	20.0000	17.45
21 Vinyl Acetate	43	3.608	3.608	(0.749)	755041	40.0000	39.66
22 1,1-Dichloroethane	63	3.514	3.514	(0.730)	230735	20.0000	17.79
24 2-Butanone	43	4.268	4.268	(0.886)	128175	40.0000	41.01
26 2,2-Dichloropropane	77	4.181	4.181	(0.868)	103832	20.0000	15.84

27 cis-1,2-Dichloroethene	96	4.196	4.196 (0.872)	157410	20.0000	18.36
28 Chloroform	83	4.575	4.575 (0.950)	255987	20.0000	18.49

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D Page 2
Report Date: 16-Nov-2022 09:41

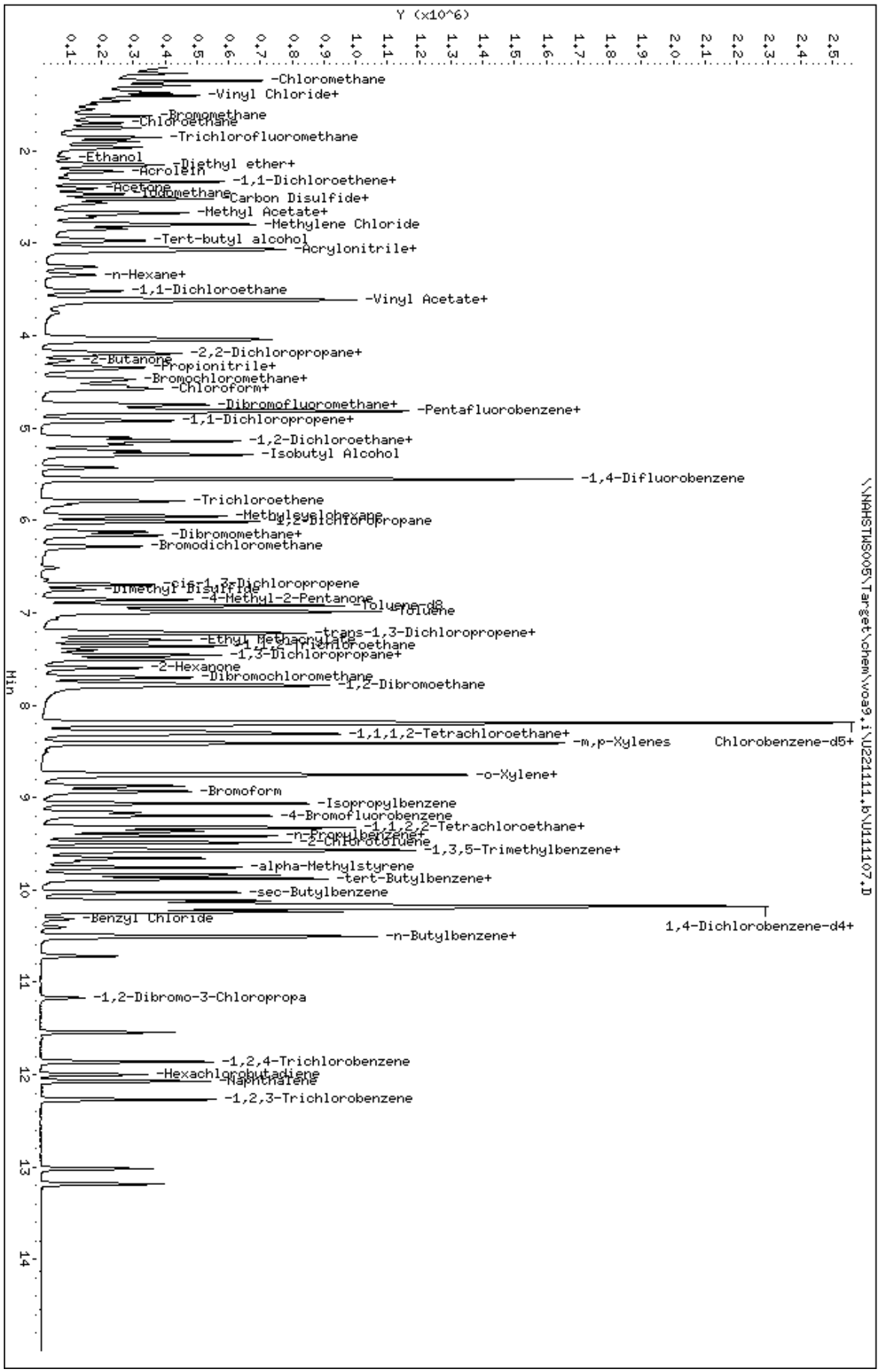
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	86707	20.0000	18.94
$	30 Dibromofluoromethane	113	4.751	4.751	(0.987)	161737	20.0000	20.72
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	161239	20.0000	17.31
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	149156	20.0000	16.91
	33 1,2-Dichloroethane	62	5.178	5.178	(0.933)	218272	20.0000	19.52
	34 Carbon Tetrachloride	117	4.912	4.912	(0.885)	99378	20.0000	18.01(MH)
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	187085	20.0000	20.97
*	36 1,4-Difluorobenzene	114	5.553	5.553	(1.000)	1272199	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	545291	20.0000	18.19
	38 Trichloroethene	130	5.790	5.790	(1.043)	144714	20.0000	17.64
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	173335	20.0000	18.92
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	145372	20.0000	19.07
	44 Dibromomethane	93	6.123	6.123	(1.103)	105517	20.0000	19.21
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	276257	40.0000	39.73
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	175436	20.0000	16.20
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1183393	50.0000	
$	48 Toluene-d8	98	6.925	6.925	(0.846)	579036	20.0000	20.56
	50 Toluene	91	6.982	6.982	(0.853)	595597	20.0000	18.96
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	139963	20.0000	15.96
	52 2-Hexanone	43	7.596	7.596	(0.928)	182995	40.0000	36.24
	53 1,1,2-Trichloroethane	83	7.356	7.356	(0.898)	131723	20.0000	19.46
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	267253	20.0000	19.32
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	144312	20.0000	17.22
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	113823	20.0000	16.67
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	166169	20.0000	20.03
	58 1-Chlorohexane	55	8.196	8.196	(1.476)	88434	20.0000	16.73
	59 Chlorobenzene	112	8.211	8.211	(1.003)	419821	20.0000	18.67
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	136735	20.0000	18.59
	61 Ethylbenzene	106	8.309	8.309	(1.015)	186789	20.0000	18.03
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	452798	40.0000	35.07
	63 o-Xylene	106	8.751	8.751	(1.069)	234394	20.0000	18.38
	64 Styrene	104	8.762	8.762	(1.070)	369850	20.0000	17.20
	66 Bromoform	173	8.920	8.920	(1.089)	94499	20.0000	17.28
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	519303	20.0000	17.66
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	231177	20.0000	19.93
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	205602	20.0000	19.84
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	583309	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	194772	20.0000	19.45
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	544491	20.0000	17.32
	74 Bromobenzene	156	9.321	9.321	(0.916)	180015	20.0000	19.47
	75 1,3,5-Trimethylbenzene	105	9.564	9.564	(0.940)	429004	20.0000	18.44
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	418542	20.0000	18.93
	77 4-Chlorotoluene	91	9.579	9.579	(0.942)	470703	20.0000	19.04
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	348236	20.0000	17.07
	79 1,2,4-Trimethylbenzene	105	9.879	9.879	(0.971)	454043	20.0000	18.56
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	417125	20.0000	16.00
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	371945	20.0000	16.66
	83 1,3-Dichlorobenzene	146	10.119	10.119	(0.995)	294716	20.0000	18.60
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	306903	20.0000	17.60
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	294780	20.0000	16.40
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	309206	20.0000	18.44
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	27340	20.0000	17.35

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	157107	20.0000	17.13
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	60901	20.0000	18.12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	397549	20.0000	17.37
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	161195	20.0000	17.73
M	94 1,2-Dichloroethylene (total)	96				284720	40.0000	
M	95 Xylenes (total)	106				687192	60.0000	
	135 1,4-Dioxane	88	6.172	6.172	(1.282)	48571	400.000	413.82
	141 Cyclohexane	56	4.785	4.785	(0.994)	124554	20.0000	19.51
	138 Freon TF	101	2.333	2.333	(0.485)	87464	20.0000	18.93
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	86035	20.0000	15.27
	147 Methylcyclohexane	55	5.951	5.951	(1.072)	319555	20.0000	17.81
	146 Methyl Acetate	43	2.716	2.716	(0.564)	124692	20.0000	19.71
	148 Tert-Butyl alcohol	59	2.971	2.971	(0.617)	296243	400.000	396.30
	149 Isopropyl Alcohol	45	2.562	2.562	(0.532)	191634	400.000	388.99

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Min
1 2 3 4 5 6 7 8 9 10 11 12 13 14
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane
-Ethanol
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone
-Iodomethane
-Carbon Disulfide+
-Methyl Acetate+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane+
-Chloroform+
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane
-1,2-Dichloropropane
-Dibromomethane+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-Dimethyl Disulfide
-4-Methyl-2-Pentanone
-Toluene-d8
-Toluene
-Ethyl Methacrylate
-trans-1,3-Dichloropropene+
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
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Date : 11-NOV-2022 14:09
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA9.i
Operator: PC
Column diameter: 0.18
Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D
Inj Date : 11-NOV-2022 14:09
InstruID : VOA9.i
LabSampID : VSTD020

Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE

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AREA
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HEIGHT
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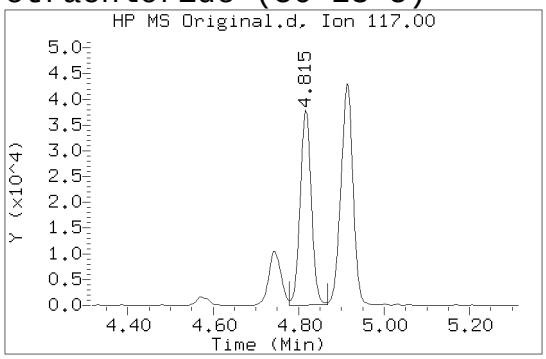
16-Nov-2022
09:38
linh
pham



AFTER

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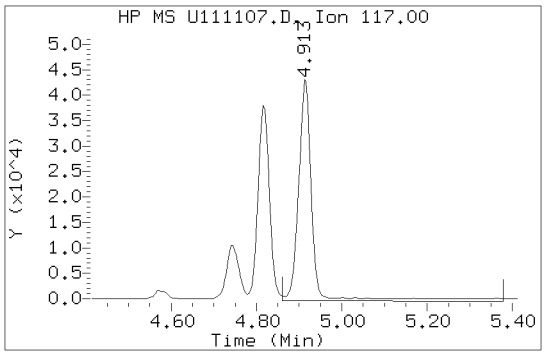

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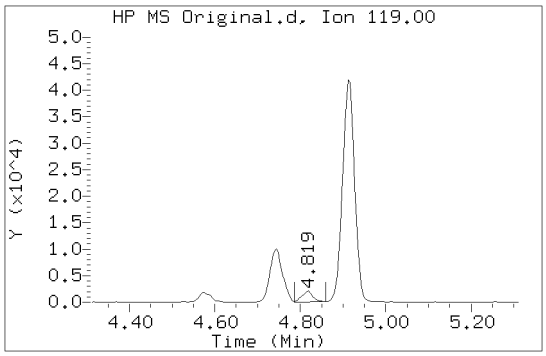

AFTER

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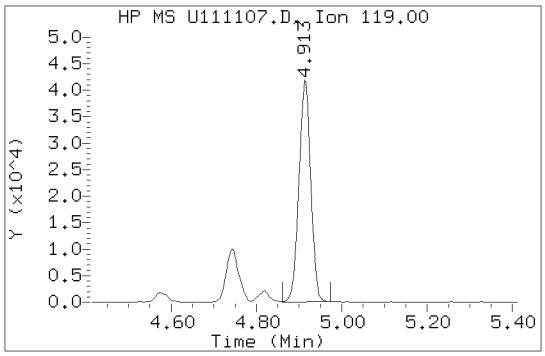


Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-NOV-2022 14:31
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:09 Cal File: U111107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	812571	50.0000	
2	Dichlorodifluoromethane	85	1.171	1.171	(0.243)	341105	50.0000	51.06
3	Chloromethane	50	1.306	1.306	(0.271)	443180	50.0000	49.39
5	Vinyl Chloride	62	1.385	1.385	(0.287)	412771	50.0000	49.80
6	Bromomethane	94	1.629	1.629	(0.338)	297603	50.0000	52.18
7	Chloroethane	64	1.708	1.708	(0.354)	307590	50.0000	50.80
8	Trichlorofluoromethane	101	1.906	1.906	(0.395)	524429	50.0000	48.66
9	Acrolein	56	2.274	2.274	(0.471)	55154	100.000	94.75
10	Acetone	43	2.420	2.420	(0.502)	354366	100.000	107.49
11	1,1-Dichloroethene	96	2.345	2.345	(0.486)	344288	50.0000	49.68
15	Iodomethane	142	2.476	2.476	(0.513)	724437	100.000	93.00
16	Acrylonitrile	53	3.076	3.076	(0.638)	360930	100.000	95.63
17	Methylene Chloride	84	2.802	2.802	(0.581)	474209	50.0000	53.00
18	Methyl tert-butyl ether	73	3.091	3.091	(0.641)	1129602	50.0000	48.37
19	Carbon Disulfide	76	2.528	2.528	(0.524)	1981178	100.000	98.27
20	trans-1,2-Dichloroethene	96	3.068	3.068	(0.636)	390750	50.0000	50.95
21	Vinyl Acetate	43	3.619	3.619	(0.751)	2038112	100.000	101.83
22	1,1-Dichloroethane	63	3.526	3.526	(0.731)	691036	50.0000	50.69
24	2-Butanone	43	4.275	4.275	(0.887)	333171	100.000	101.39
26	2,2-Dichloropropane	77	4.193	4.193	(0.869)	341067	50.0000	46.68

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	448891	50.0000	49.80
28 Chloroform	83	4.583	4.583 (0.950)	736374	50.0000	50.59

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D Page 2
Report Date: 16-Nov-2022 09:41

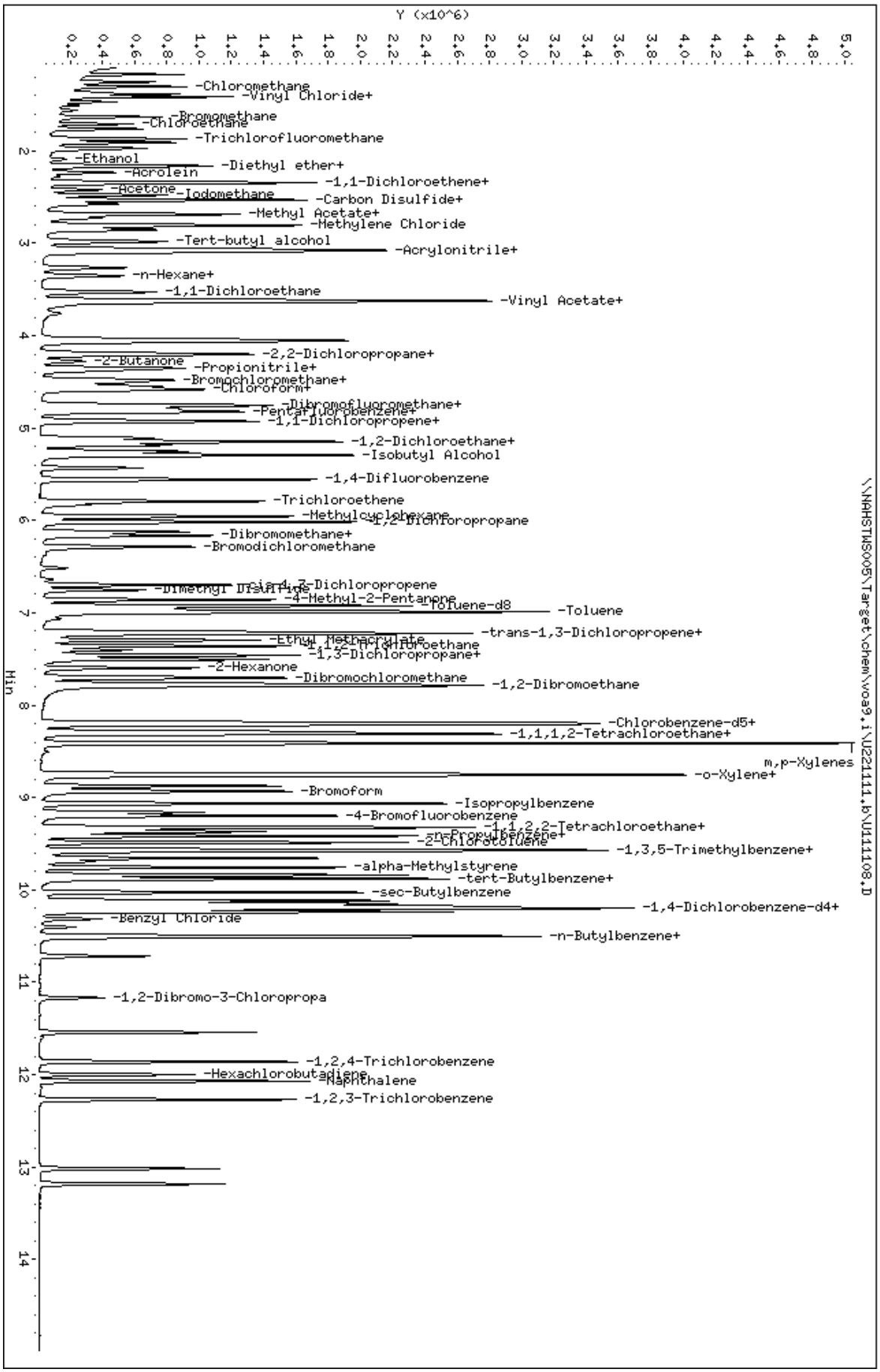
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	238693	50.0000	49.61
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	387990	50.0000	47.73
	31 1,1,1-Trichloroethane	97	4.751	4.751	(0.985)	505108	50.0000	51.59
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	451088	50.0000	49.77
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	588781	50.0000	51.25
	34 Carbon Tetrachloride	117	4.916	4.916	(0.885)	320902	50.0000	50.82(H)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.058)	449979	50.0000	48.79
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1307600	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	1593869	50.0000	51.74
	38 Trichloroethene	130	5.794	5.794	(1.042)	433111	50.0000	51.39
	39 Bromodichloromethane	83	6.285	6.285	(1.131)	527754	50.0000	56.04
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	407482	50.0000	52.01
	44 Dibromomethane	93	6.127	6.127	(1.103)	293688	50.0000	52.02
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	775791	100.000	106.73
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	589702	50.0000	46.60
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1237070	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	1356612	50.0000	46.09
	50 Toluene	91	6.986	6.986	(0.853)	1716781	50.0000	52.28
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	478316	50.0000	45.14
	52 2-Hexanone	43	7.597	7.597	(0.928)	526402	100.000	97.39
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	352998	50.0000	49.90
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	742056	50.0000	51.32
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	445683	50.0000	48.05
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	328049	50.0000	45.97
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	464886	50.0000	53.62
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	266333	50.0000	45.09
	59 Chlorobenzene	112	8.211	8.211	(1.003)	1173726	50.0000	49.95
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	408823	50.0000	53.18
	61 Ethylbenzene	106	8.309	8.309	(1.015)	538156	50.0000	49.70
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1380089	100.000	102.26
	63 o-Xylene	106	8.751	8.751	(1.069)	695717	50.0000	52.19
	64 Styrene	104	8.763	8.763	(1.070)	1123787	50.0000	47.67
	66 Bromoform	173	8.920	8.920	(1.089)	291068	50.0000	46.44
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	1573253	50.0000	51.20
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	623822	50.0000	50.25
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	515213	50.0000	47.30
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	624341	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	532419	50.0000	49.69
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1679400	50.0000	49.93
	74 Bromobenzene	156	9.321	9.321	(0.916)	498617	50.0000	50.39
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1261866	50.0000	50.67
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1190280	50.0000	50.31
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	1354647	50.0000	51.20
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1051666	50.0000	48.16
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1293736	50.0000	49.41
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1297343	50.0000	43.16
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	1116432	50.0000	46.72
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	844411	50.0000	49.79
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	866696	50.0000	46.44
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	902009	50.0000	42.77
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	860829	50.0000	47.97
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	84642	50.0000	45.87

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	477841	50.0000	48.68
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	169934	50.0000	43.90

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	1213056	50.0000	49.53
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	466636	50.0000	47.95
M	94 1,2-Dichloroethylene (total)	96				839641	100.000	
M	95 Xylenes (total)	106				2075806	150.000	
	135 1,4-Dioxane	88	6.172	6.172	(1.280)	127214	1000.00	1030.82
	141 Cyclohexane	56	4.789	4.789	(0.993)	367931	50.0000	50.21
	138 Freon TF	101	2.345	2.345	(0.486)	265554	50.0000	50.40
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	295655	50.0000	45.96
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	858917	50.0000	46.58
	146 Methyl Acetate	43	2.723	2.723	(0.565)	318972	50.0000	47.97
	148 Tert-Butyl alcohol	59	2.978	2.978	(0.618)	783084	1000.00	996.31
	149 Isopropyl Alcohol	45	2.573	2.573	(0.534)	502529	1000.00	970.16

QC Flag Legend

H - Operator selected an alternate compound hit.



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Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D
Inj Date : 11-NOV-2022 14:31
InstruID : VOA9.i
LabSampID : VSTD050

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 11-NOV-2022 14:53
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.819	4.819	(1.000)	829812	50.0000	
2	Dichlorodifluoromethane	85	1.164	1.164	(0.242)	811364	100.000	99.84
3	Chloromethane	50	1.299	1.299	(0.270)	920649	100.000	100.22
5	Vinyl Chloride	62	1.378	1.378	(0.286)	908173	100.000	107.30
6	Bromomethane	94	1.618	1.618	(0.336)	575509	100.000	99.81
7	Chloroethane	64	1.700	1.700	(0.353)	674958	100.000	109.15
8	Trichlorofluoromethane	101	1.903	1.903	(0.395)	1251739	100.000	113.74
9	Acrolein	56	2.270	2.270	(0.471)	117779	200.000	197.04
10	Acetone	43	2.412	2.412	(0.501)	675630	200.000	207.20(A)
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	788572	100.000	111.42
15	Iodomethane	142	2.472	2.472	(0.513)	1610926	200.000	198.28
16	Acrylonitrile	53	3.072	3.072	(0.638)	754362	200.000	195.73
17	Methylene Chloride	84	2.799	2.799	(0.581)	927668	100.000	102.95
18	Methyl tert-butyl ether	73	3.087	3.087	(0.641)	2372627	100.000	99.48
19	Carbon Disulfide	76	2.525	2.525	(0.524)	4294866	200.000	208.61
20	trans-1,2-Dichloroethene	96	3.065	3.065	(0.636)	830414	100.000	106.04
21	Vinyl Acetate	43	3.612	3.612	(0.750)	4171958	200.000	204.12
22	1,1-Dichloroethane	63	3.522	3.522	(0.731)	1385774	100.000	99.54
24	2-Butanone	43	4.272	4.272	(0.886)	680227	200.000	202.71
26	2,2-Dichloropropane	77	4.189	4.189	(0.869)	779680	100.000	102.84

27 cis-1,2-Dichloroethene	96	4.201	4.201 (0.872)	912807	100.000	99.16
28 Chloroform	83	4.579	4.579 (0.950)	1504695	100.000	101.22

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D Page 2
Report Date: 16-Nov-2022 09:41

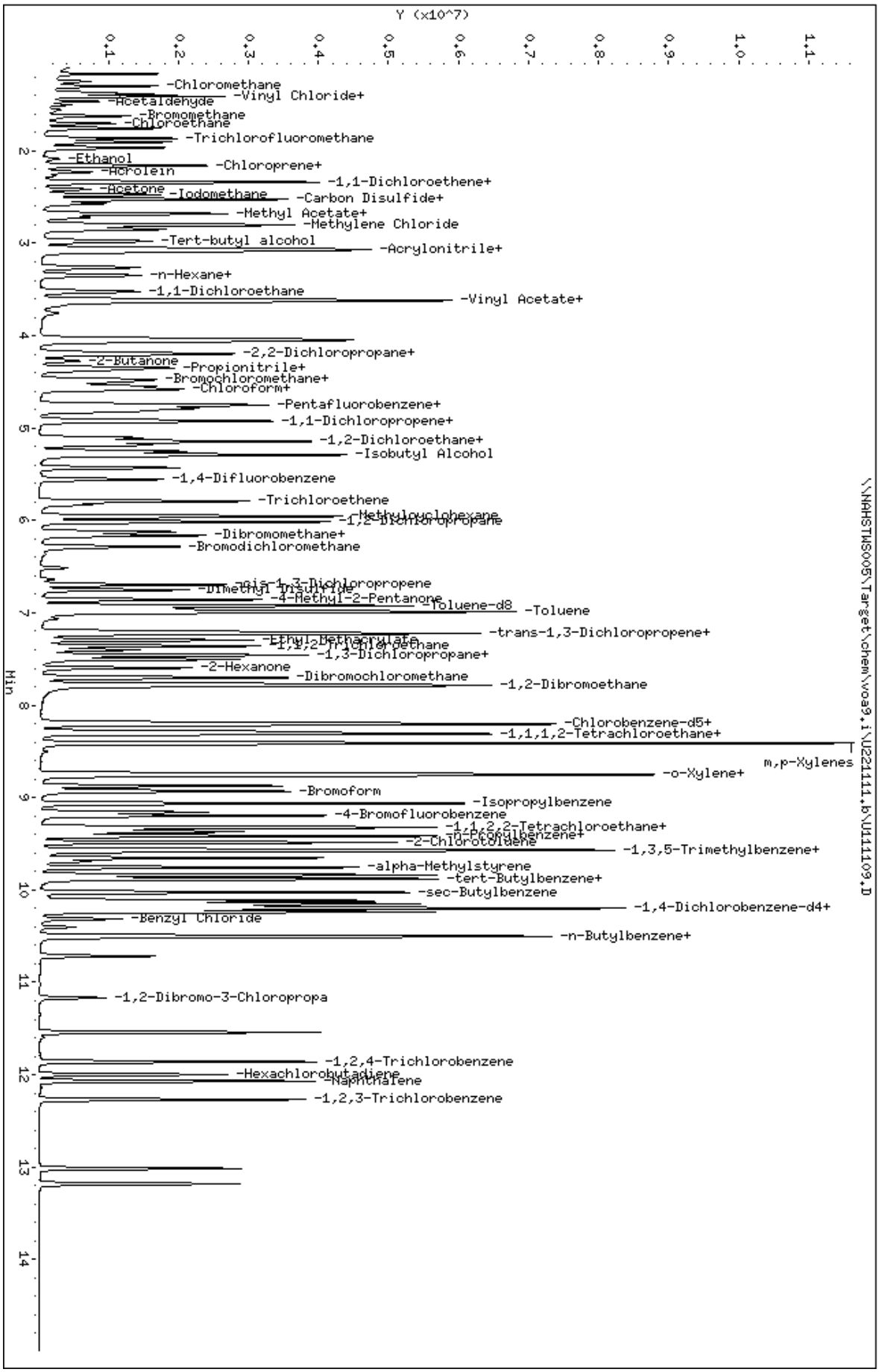
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.474	4.474	(0.928)	474397	100.000	96.55
$	30 Dibromofluoromethane	113	4.755	4.755	(0.987)	851798	100.000	103.02
	31 1,1,1-Trichloroethane	97	4.748	4.748	(0.985)	1173978	100.000	117.42
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	1056974	100.000	113.14
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	1206603	100.000	101.89
	34 Carbon Tetrachloride	117	4.917	4.917	(0.885)	877292	100.000	99.91(H)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.059)	940738	100.000	100.56
*	36 1,4-Difluorobenzene	114	5.558	5.558	(1.000)	1347798	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	3318477	100.000	104.52
	38 Trichloroethene	130	5.794	5.794	(1.042)	943387	100.000	108.59
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	1105555	100.000	113.91
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	855507	100.000	105.95
	44 Dibromomethane	93	6.124	6.124	(1.102)	596416	100.000	102.49
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	1649677	200.000	219.72
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	1314625	100.000	97.52
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1277881	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	3140659	100.000	103.31
	50 Toluene	91	6.982	6.982	(0.853)	3683725	100.000	108.60
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	1103954	100.000	96.84
	52 2-Hexanone	43	7.593	7.593	(0.927)	1147474	200.000	204.02
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	719281	100.000	98.44
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	1516127	100.000	101.52
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	982012	100.000	100.86
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	799766	100.000	108.50
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	963236	100.000	107.56
	58 1-Chlorohexane	55	8.200	8.200	(1.475)	699070	100.000	105.24
	59 Chlorobenzene	112	8.212	8.212	(1.003)	2494297	100.000	102.76
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	870281	100.000	109.60
	61 Ethylbenzene	106	8.309	8.309	(1.015)	1233798	100.000	110.30
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	3160058	200.000	226.68
	63 o-Xylene	106	8.748	8.748	(1.068)	1532844	100.000	111.33
	64 Styrene	104	8.763	8.763	(1.070)	2515807	100.000	101.89
	66 Bromoform	173	8.920	8.920	(1.089)	649870	100.000	97.71
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	3736190	100.000	117.71
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	1273124	100.000	96.46
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	1154383	100.000	102.39
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	663876	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	1174548	100.000	103.10
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	4075504	100.000	113.96
	74 Bromobenzene	156	9.321	9.321	(0.916)	1082776	100.000	102.92
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	2918072	100.000	110.21
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	2623517	100.000	104.30
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	3031770	100.000	107.77
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	2619000	100.000	112.81
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	2894060	100.000	103.95
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	3454225	100.000	105.43
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	2860193	100.000	112.57
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	1858925	100.000	103.10
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	1940353	100.000	97.78
	87 n-Butylbenzene	91	10.495	10.495	(1.032)	2374641	100.000	102.61
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	1887767	100.000	98.93
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	194924	100.000	96.67

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	1159756	100.000	111.12
91 Hexachlorobutadiene	225	12.002	12.002 (1.180)	483913	100.000	105.49

		QUANT SIG					AMOUNTS CAL-AMT	AMOUNTS ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	2897700	100.000	111.26
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	1114963	100.000	107.75
M	94 1,2-Dichloroethylene (total)	96				1743221	200.000	
M	95 Xylenes (total)	106				4692902	300.000	
	135 1,4-Dioxane	88	6.172	6.172	(1.281)	257083	2000.00	2039.87
	141 Cyclohexane	56	4.789	4.789	(0.994)	998644	100.000	99.97
	138 Freon TF	101	2.341	2.341	(0.486)	692856	100.000	99.95
	140 1,3-Butadiene	54	1.408	1.408	(0.292)	689246	100.000	102.68
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	2142631	100.000	112.74(A)
	146 Methyl Acetate	43	2.720	2.720	(0.564)	643954	100.000	94.83
	148 Tert-Butyl alcohol	59	2.975	2.975	(0.617)	1622406	2000.00	2021.29
	149 Isopropyl Alcohol	45	2.570	2.570	(0.533)	1024602	2000.00	1936.96

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111109,D
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Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D
Inj Date : 11-NOV-2022 14:53
InstruID : VOA9.i
LabSampID : VSTD100

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 11-NOV-2022 15:16
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:53 Cal File: U111109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	828884	50.0000	
2	Dichlorodifluoromethane	85	1.168	1.168	(0.242)	1207713	150.000	124.64
3	Chloromethane	50	1.303	1.303	(0.270)	1404641	150.000	152.95
5	Vinyl Chloride	62	1.381	1.381	(0.287)	1402887	150.000	165.93
6	Bromomethane	94	1.618	1.618	(0.335)	870933	150.000	151.80
7	Chloroethane	64	1.704	1.704	(0.353)	982326	150.000	159.04
8	Trichlorofluoromethane	101	1.903	1.903	(0.395)	1817450	150.000	165.34
9	Acrolein	56	2.274	2.274	(0.471)	185978	300.000	310.90
10	Acetone	43	2.416	2.416	(0.501)	999241	300.000	310.41(A)
11	1,1-Dichloroethene	96	2.341	2.341	(0.485)	1168198	150.000	165.25
15	Iodomethane	142	2.476	2.476	(0.513)	2556299	300.000	313.47
16	Acrylonitrile	53	3.076	3.076	(0.638)	1116139	300.000	289.92
17	Methylene Chloride	84	2.802	2.802	(0.581)	1389833	150.000	155.18
18	Methyl tert-butyl ether	73	3.091	3.091	(0.641)	3653746	150.000	153.37
19	Carbon Disulfide	76	2.525	2.525	(0.524)	6401851	300.000	311.30
20	trans-1,2-Dichloroethene	96	3.068	3.068	(0.636)	1241525	150.000	158.72
21	Vinyl Acetate	43	3.616	3.616	(0.750)	6360761	300.000	311.57
22	1,1-Dichloroethane	63	3.526	3.526	(0.731)	2077294	150.000	149.38
24	2-Butanone	43	4.275	4.275	(0.887)	1018651	300.000	303.90
26	2,2-Dichloropropane	77	4.193	4.193	(0.869)	1201871	150.000	157.99

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	1408492	150.000	153.18
28 Chloroform	83	4.583	4.583 (0.950)	2281202	150.000	153.63

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D Page 2
Report Date: 16-Nov-2022 09:41

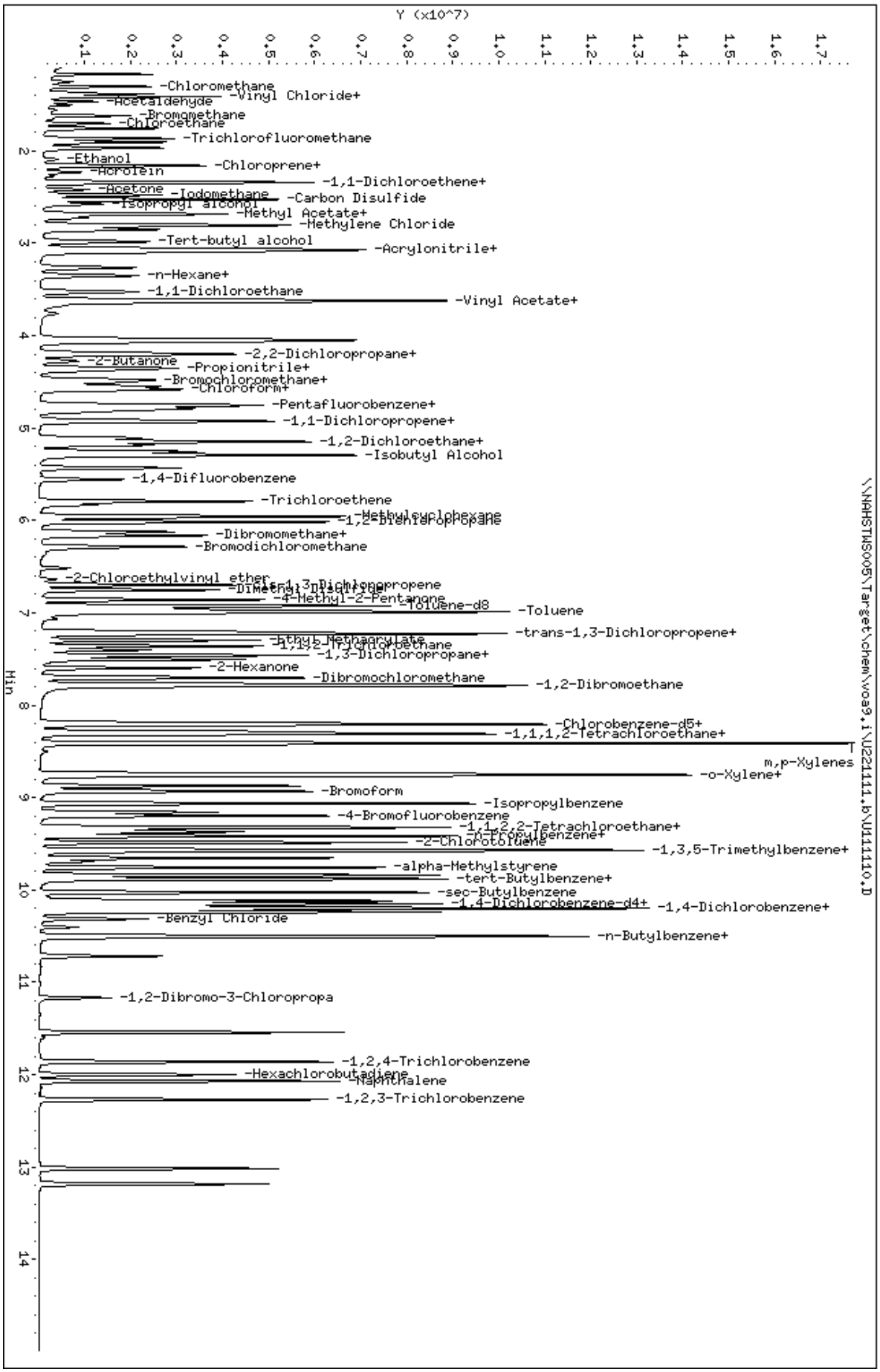
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	725474	150.000	147.82
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	1264289	150.000	153.25
	31 1,1,1-Trichloroethane	97	4.752	4.752	(0.985)	1786137	150.000	178.85
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	1583473	150.000	164.70
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	1828835	150.000	150.07
	34 Carbon Tetrachloride	117	4.920	4.920	(0.885)	1382113	150.000	107.71(H)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.058)	1438278	150.000	154.26
*	36 1,4-Difluorobenzene	114	5.558	5.558	(1.000)	1387080	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	4991600	150.000	152.76
	38 Trichloroethene	130	5.794	5.794	(1.042)	1457254	150.000	163.00
	39 Bromodichloromethane	83	6.285	6.285	(1.131)	1744141	150.000	174.61
	41 2-Chloroethylvinyl ether	63	6.637	6.637	(1.194)	2806	300.000	
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	1298725	150.000	156.28
	44 Dibromomethane	93	6.124	6.124	(1.102)	915651	150.000	152.89
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	2554596	300.000	325.36
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	2111427	150.000	150.62
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1336375	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	4505364	150.000	141.71
	50 Toluene	91	6.986	6.986	(0.853)	5611422	150.000	158.19
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	1776839	150.000	149.52
	52 2-Hexanone	43	7.597	7.597	(0.928)	1804472	300.000	306.12
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	1116139	150.000	146.06
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	2322064	150.000	148.68
	55 Dibromochloromethane	129	7.698	7.698	(0.940)	1554115	150.000	151.89
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	1206878	150.000	156.56
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	1482684	150.000	158.32
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	1079275	150.000	148.02
	59 Chlorobenzene	112	8.212	8.212	(1.003)	3815579	150.000	150.32
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	1375009	150.000	165.59
	61 Ethylbenzene	106	8.309	8.309	(1.015)	1921044	150.000	164.23
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	4870772	300.000	334.11
	63 o-Xylene	106	8.751	8.751	(1.069)	2417950	150.000	167.93
	64 Styrene	104	8.763	8.763	(1.070)	3972522	150.000	153.22
	66 Bromoform	173	8.920	8.920	(1.089)	1062982	150.000	151.53
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	5773262	150.000	173.93
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	1960046	150.000	141.85
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	1769020	150.000	149.95
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	694986	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	1861149	150.000	156.06
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	6409319	150.000	171.19
	74 Bromobenzene	156	9.321	9.321	(0.916)	1698038	150.000	154.18
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	4566398	150.000	164.74
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	4063643	150.000	154.32
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	4759800	150.000	161.63
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	4069891	150.000	167.46
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	4585262	150.000	157.32
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	5412058	150.000	156.92
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	4616018	150.000	173.55
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	2942446	150.000	155.89
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	3075621	150.000	148.06
	87 n-Butylbenzene	91	10.495	10.495	(1.032)	3785172	150.000	155.08
	88 1,2-Dichlorobenzene	146	10.510	10.510	(1.033)	2996374	150.000	150.00

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	327600	150.000	153.80
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	1891097	150.000	173.09

		QUANT SIG					AMOUNTS CAL-AMT	AMOUNTS ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	91 Hexachlorobutadiene	225	12.002	12.002	(1.180)	776762	150.000	148.03
	92 Naphthalene	128	12.069	12.069	(1.186)	4699937	150.000	172.39
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	1814441	150.000	167.50
M	94 1,2-Dichloroethylene (total)	96				2650017	300.000	
M	95 Xylenes (total)	106				7288722	450.000	
	135 1,4-Dioxane	88	6.172	6.172	(1.280)	378469	3000.00	3006.39
	141 Cyclohexane	56	4.789	4.789	(0.993)	1498127	150.000	109.40
	138 Freon TF	101	2.341	2.341	(0.485)	1033853	150.000	113.96
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	1073997	150.000	159.20
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	3377575	150.000	172.69(A)
	146 Methyl Acetate	43	2.724	2.724	(0.565)	959384	150.000	141.44
	148 Tert-Butyl alcohol	59	2.982	2.982	(0.618)	2478594	3000.00	3091.45
	149 Isopropyl Alcohol	45	2.574	2.574	(0.534)	1556758	3000.00	2946.27

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.



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Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D
Inj Date : 11-NOV-2022 15:16
InstruID : VOA9.i
LabSampID : VSTD150

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 11-NOV-2022 15:38
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 15:16 Cal File: U111110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.815	(1.000)	902669	50.0000	
2	Dichlorodifluoromethane	85	1.156	1.156	(0.240)	1585170	200.000	132.11
3	Chloromethane	50	1.288	1.288	(0.267)	1980029	200.000	197.91
5	Vinyl Chloride	62	1.370	1.370	(0.285)	1897666	200.000	206.11(A)
6	Bromomethane	94	1.599	1.599	(0.332)	1235875	200.000	198.13
7	Chloroethane	64	1.689	1.689	(0.351)	1312142	200.000	195.08
8	Trichlorofluoromethane	101	1.891	1.891	(0.393)	2311910	200.000	193.13
9	Acrolein	56	2.259	2.259	(0.469)	257093	400.000	394.39
10	Acetone	43	2.405	2.405	(0.499)	1345589	400.000	385.62(A)
11	1,1-Dichloroethene	96	2.330	2.330	(0.484)	1555002	200.000	201.99(A)
15	Iodomethane	142	2.461	2.461	(0.511)	3486199	400.000	392.25
16	Acrylonitrile	53	3.064	3.064	(0.636)	1544836	400.000	368.48
17	Methylene Chloride	84	2.791	2.791	(0.580)	1881972	200.000	193.33
18	Methyl tert-butyl ether	73	3.079	3.079	(0.640)	5073009	200.000	195.54
19	Carbon Disulfide	76	2.513	2.513	(0.522)	8467076	400.000	378.07
20	trans-1,2-Dichloroethene	96	3.057	3.057	(0.635)	1680883	200.000	197.32
21	Vinyl Acetate	43	3.608	3.608	(0.749)	8517236	400.000	383.10
22	1,1-Dichloroethane	63	3.514	3.514	(0.730)	2767452	200.000	182.74
24	2-Butanone	43	4.268	4.268	(0.886)	1397427	400.000	382.83
26	2,2-Dichloropropane	77	4.182	4.182	(0.868)	1601634	200.000	193.03

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	1915555	200.000	191.30
28 Chloroform	83	4.575	4.575 (0.950)	3102241	200.000	191.85

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D Page 2
Report Date: 16-Nov-2022 09:41

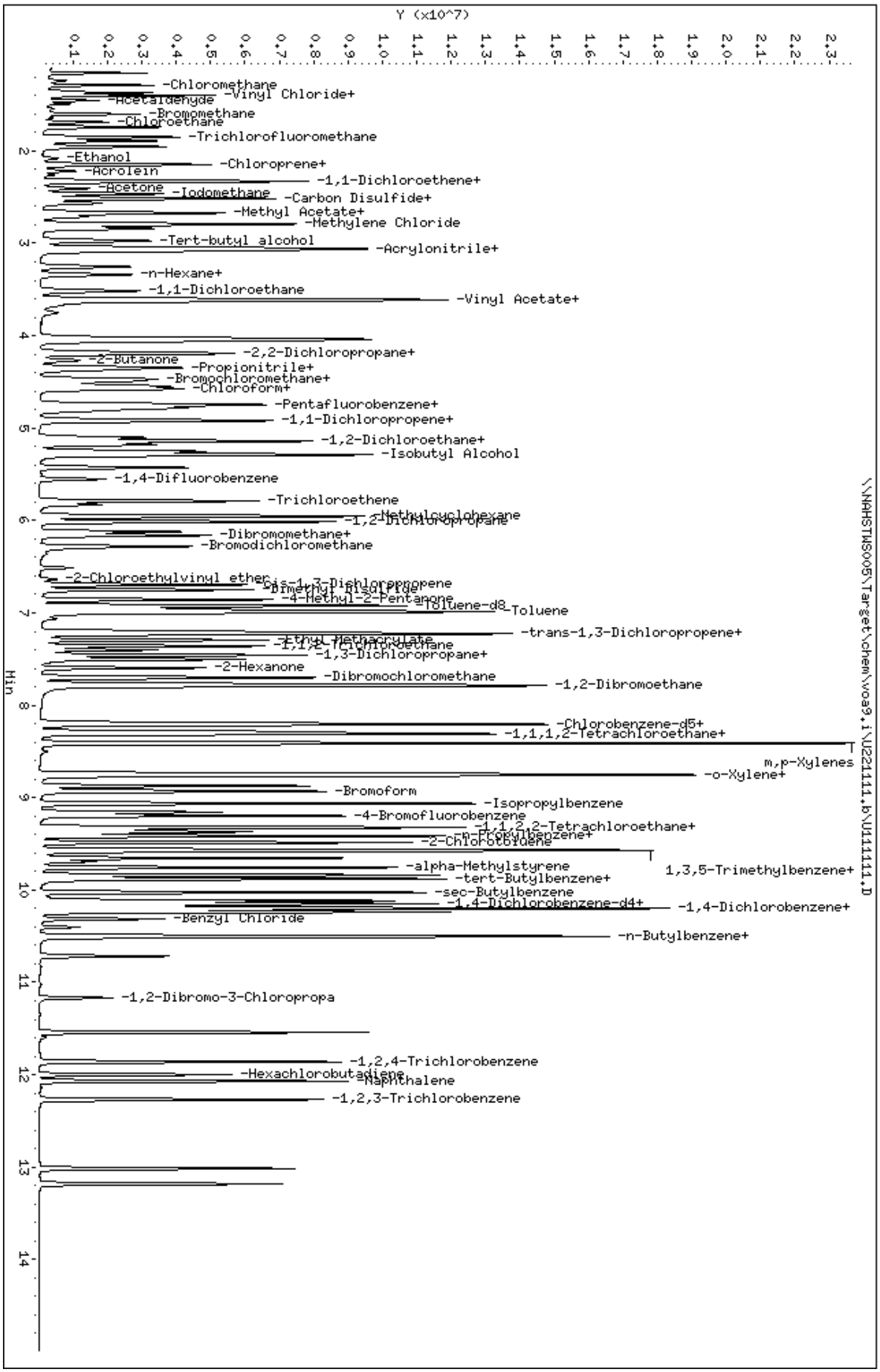
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	994790	200.000	186.12
$	30 Dibromofluoromethane	113	4.751	4.751	(0.987)	1763288	200.000	196.36
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	2381933	200.000	219.01(A)
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	2101515	200.000	207.64(A)
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	2507241	200.000	195.43
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	1867061	200.000	90.86(H)
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	1994105	200.000	196.56
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1460248	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	6792893	200.000	197.47
	38 Trichloroethene	130	5.790	5.790	(1.043)	1974142	200.000	209.75(A)
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	2436310	200.000	231.69(A)
	41 2-Chloroethylvinyl ether	63	6.637	6.637	(1.195)	4550	400.000	
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	1795902	200.000	205.28(A)
	44 Dibromomethane	93	6.120	6.120	(1.102)	1273209	200.000	201.95(A)
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	3507946	400.000	418.70(A)
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	2990718	200.000	201.68(A)
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1426014	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	6432000	200.000	189.60
	50 Toluene	91	6.982	6.982	(0.853)	7472960	200.000	197.42
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	2555944	200.000	203.05(A)
	52 2-Hexanone	43	7.597	7.597	(0.928)	2481566	400.000	394.13
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	1528222	200.000	187.42
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	3189971	200.000	191.42
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	2175278	200.000	198.78
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	1597367	200.000	194.19
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	2061309	200.000	206.27(A)
	58 1-Chlorohexane	55	8.200	8.200	(1.477)	1405026	200.000	174.68
	59 Chlorobenzene	112	8.211	8.211	(1.003)	5256392	200.000	194.07
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	1899770	200.000	214.41(A)
	61 Ethylbenzene	106	8.309	8.309	(1.015)	2576228	200.000	206.39(A)
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	6457254	400.000	415.09(A)
	63 o-Xylene	106	8.751	8.751	(1.069)	3295988	200.000	214.52(A)
	64 Styrene	104	8.762	8.762	(1.070)	5467718	200.000	197.28
	66 Bromoform	173	8.924	8.924	(1.090)	1509527	200.000	200.90(A)
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	7620726	200.000	215.16(A)
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	2688484	200.000	182.39
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	2511444	200.000	199.44
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	741394	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	2597070	200.000	204.14(A)
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	8091721	200.000	202.60(A)
	74 Bromobenzene	156	9.321	9.321	(0.916)	2366942	200.000	201.46(A)
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	6106217	200.000	206.51(A)
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	5447970	200.000	193.94
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	6333292	200.000	201.60(A)
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	5383177	200.000	207.63(A)
	79 1,2,4-Trimethylbenzene	105	9.883	9.883	(0.972)	6132740	200.000	197.24
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	7122212	200.000	193.17
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	6152832	200.000	216.85(A)
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	3991215	200.000	198.22
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	4180524	200.000	188.65
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	5128466	200.000	196.37
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	4055565	200.000	190.31

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	455426	200.000	199.74
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	2572834	200.000	220.75(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	12.001	12.001	(1.180)	1001731	200.000	169.22
	92 Naphthalene	128	12.069	12.069	(1.186)	6493084	200.000	223.26(A)
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	2468081	200.000	213.59(A)
M	94 1,2-Dichloroethylene (total)	96				3596438	400.000	
M	95 Xylenes (total)	106				9753242	600.000	
	135 1,4-Dioxane	88	6.168	6.168	(1.281)	523461	4000.00	3818.25
	141 Cyclohexane	56	4.785	4.785	(0.994)	1915642	200.000	103.49
	138 Freon TF	101	2.330	2.330	(0.484)	1338573	200.000	111.43
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	1414871	200.000	192.22
	147 Methylcyclohexane	55	5.947	5.947	(1.071)	4697351	200.000	228.14(A)
	146 Methyl Acetate	43	2.712	2.712	(0.563)	1312197	200.000	177.64
	148 Tert-Butyl alcohol	59	2.971	2.971	(0.617)	3461937	4000.00	3964.98
	149 Isopropyl Alcohol	45	2.566	2.566	(0.533)	2109579	4000.00	3666.17

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U1111111.D
Date : 11-NOV-2022 15:38
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D
Inj Date : 11-NOV-2022 15:38
InstruID : VOA9.i
LabSampID : VSTD200

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 11-NOV-2022 16:44
Operator : PC Inst ID: VOA9.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 15:38 Cal File: U111111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	903566	50.0000	
2 Dichlorodifluoromethane	85	1.168	1.156	(0.242)	339897	46.3518	46.35
3 Chloromethane	50	1.299	1.288	(0.270)	439111	44.0426	44.04
5 Vinyl Chloride	62	1.381	1.370	(0.287)	396199	42.9901	42.99
6 Bromomethane	94	1.625	1.599	(0.337)	306260	48.2123	48.21
7 Chloroethane	64	1.704	1.689	(0.354)	301887	44.8379	44.83
8 Trichlorofluoromethane	101	1.902	1.891	(0.395)	516374	43.0942	43.09
9 Acrolein	56	2.270	2.259	(0.471)	62358	96.3215	96.32
10 Acetone	43	2.412	2.405	(0.501)	341779	92.2347	92.23
11 1,1-Dichloroethene	96	2.341	2.330	(0.486)	335443	43.5304	43.53
15 Iodomethane	142	2.472	2.461	(0.513)	723163	83.8885	83.88
16 Acrylonitrile	53	3.072	3.064	(0.638)	366124	87.2440	87.24
17 Methylene Chloride	84	2.798	2.791	(0.581)	479084	48.0204	48.02
18 Methyl tert-butyl ether	73	3.087	3.079	(0.641)	1181037	45.4800	45.47
19 Carbon Disulfide	76	2.525	2.513	(0.524)	1945931	86.8052	86.80
20 trans-1,2-Dichloroethene	96	3.065	3.057	(0.636)	392501	46.0313	46.03
21 Vinyl Acetate	43	3.616	3.608	(0.750)	2145502	96.4085	96.40
22 1,1-Dichloroethane	63	3.522	3.514	(0.731)	657620	43.3829	43.38
24 2-Butanone	43	4.272	4.268	(0.886)	341017	93.3309	93.33
26 2,2-Dichloropropane	77	4.189	4.182	(0.869)	356318	43.9375	43.93

27 cis-1,2-Dichloroethene	96	4.204	4.197 (0.872)	446229	44.5194	44.51
28 Chloroform	83	4.579	4.575 (0.950)	729812	45.0901	45.09

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D Page 2
Report Date: 16-Nov-2022 09:41

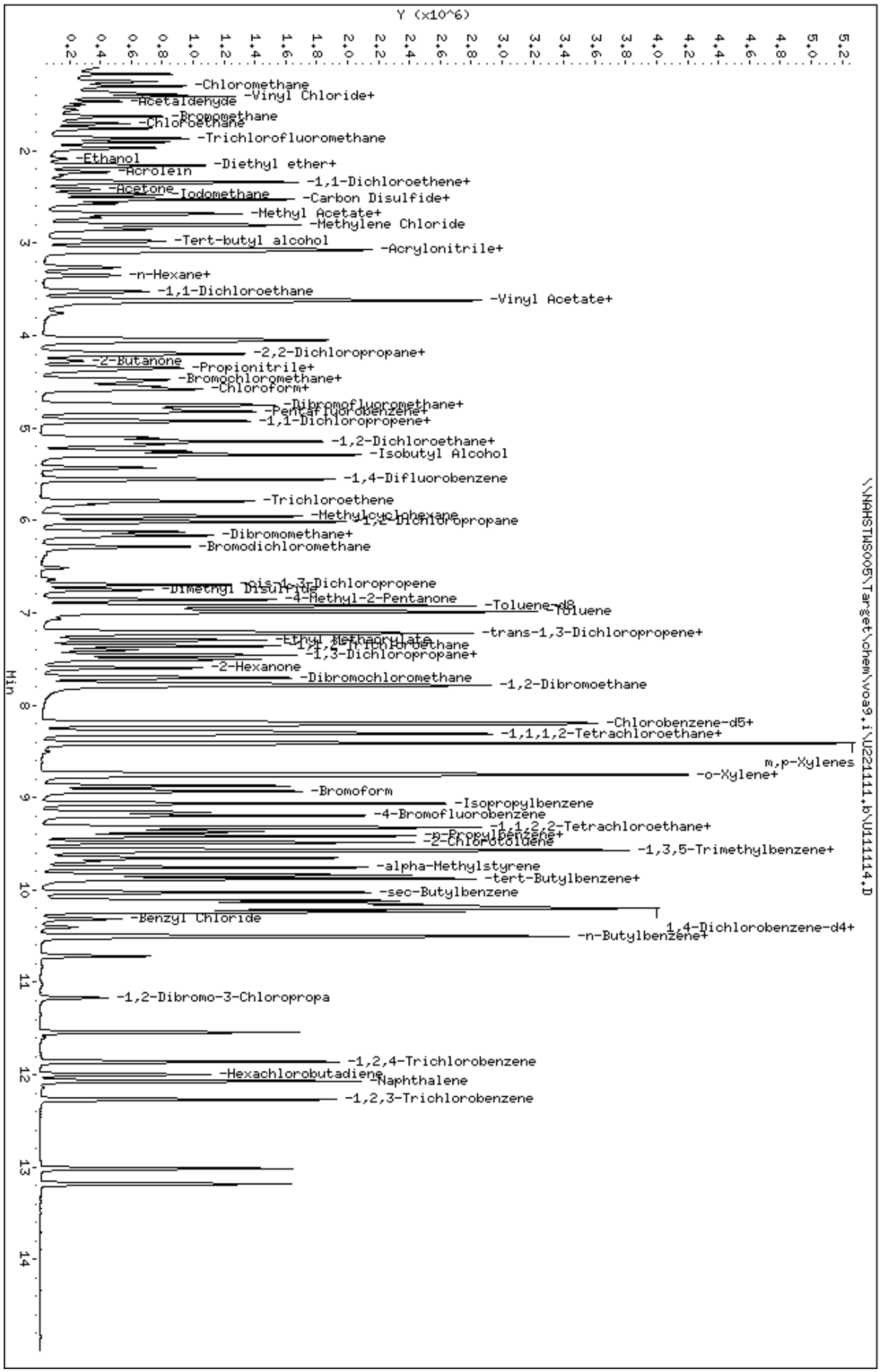
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.478	4.470	(0.929)	239563	44.7787	44.77
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	444059	49.1418	49.14
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	506065	46.4866	46.48
	32 1,1-Dichloropropene	75	4.928	4.924	(0.887)	454927	44.9896	44.98
	33 1,2-Dichloroethane	62	5.183	5.179	(0.933)	590455	46.0656	46.06
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	327270	47.0953	47.09
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	493674	48.1349	48.13
*	36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1458939	50.0000	
	37 Benzene	78	5.145	5.141	(0.926)	1561785	45.4439	45.44
	38 Trichloroethene	130	5.794	5.790	(1.042)	441626	46.9648	46.96
	39 Bromodichloromethane	83	6.285	6.281	(1.131)	533093	50.7431	50.74
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	410894	47.0109	47.01
	44 Dibromomethane	93	6.123	6.120	(1.102)	295095	46.8489	46.84
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	812954	102.727	102.72
	46 cis-1,3-Dichloropropene	75	6.697	6.693	(1.205)	612033	43.5489	43.54
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1346975	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	1648046	51.4321	51.43
	50 Toluene	91	6.982	6.982	(0.853)	1736562	48.5704	48.57
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	505013	42.9012	42.90
	52 2-Hexanone	43	7.597	7.597	(0.928)	554920	94.3338	94.33
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	351552	45.6455	45.64
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	745926	47.3876	47.38
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	460116	45.6418	45.64
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	345019	44.4066	44.40
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	473574	50.1720	50.17
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	276164	42.1279	42.12
	59 Chlorobenzene	112	8.211	8.211	(1.003)	1198088	46.8312	46.83
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	422554	50.4897	50.48
	61 Ethylbenzene	106	8.309	8.309	(1.015)	571600	48.4820	48.48
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1457721	99.2056	99.20
	63 o-Xylene	106	8.748	8.751	(1.068)	724704	49.9375	49.93
	64 Styrene	104	8.763	8.762	(1.070)	1186991	46.2872	46.28
	66 Bromoform	173	8.920	8.924	(1.089)	304563	44.7264	44.72
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	1644157	49.1456	49.14
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	634417	46.6066	46.60
$	69 4-Bromofluorobenzene	95	9.194	9.197	(1.123)	604232	50.9379	50.93
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	684688	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	566529	48.2208	48.22
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1800408	48.8132	48.81
	74 Bromobenzene	156	9.321	9.321	(0.916)	536084	49.4092	49.40
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1360874	49.8369	49.83
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1261469	48.6270	48.62
	77 4-Chlorotoluene	91	9.580	9.576	(0.942)	1453611	50.1050	50.10
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1119496	46.7562	46.75
	79 1,2,4-Trimethylbenzene	105	9.880	9.883	(0.971)	1449923	50.4960	50.49
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1415536	42.9537	42.95
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	1256735	47.9610	47.96
	83 1,3-Dichlorobenzene	146	10.116	10.120	(0.994)	924074	49.6948	49.69
	84 1,4-Dichlorobenzene	146	10.195	10.194	(1.002)	971570	47.4754	47.47
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	1022097	44.1234	44.12
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	944927	48.0157	48.01
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	89589	44.3518	44.35

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	568095	52.7807	52.78
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	193967	45.5503	45.55

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	1520233	56.6016	56.60
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	570054	53.4189	53.41
M	94 1,2-Dichloroethylene (total)	96				838730	90.5507	90.55(R)
M	95 Xylenes (total)	106				2182425	149.143	149.14
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	127503	929.116	929.11
	141 Cyclohexane	56	4.789	4.785	(0.994)	365175	45.5382	45.53
	138 Freon TF	101	2.341	2.330	(0.486)	263371	45.6394	45.63
	140 1,3-Butadiene	54	1.408	1.396	(0.292)	296170	41.5785	41.57
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	925534	44.9923	44.99
	146 Methyl Acetate	43	2.720	2.712	(0.564)	322186	43.5752	43.57
	148 Tert-Butyl alcohol	59	2.975	2.971	(0.617)	834771	955.121	955.12
	149 Isopropyl Alcohol	45	2.570	2.566	(0.533)	520783	904.154	904.15

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



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Date : 11-NOV-2022 16:44
Client ID: ICV
Sample Info: CCV;CCV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D
Inj Date : 11-NOV-2022 16:44
InstruID : VOA9.i
LabSampID : ICV

NO MANUAL INTEGRATIONS

right solutions.
right partner.

Raw Data VOA9 421679

Volatiles by by EPA 8260

Workorder

HS22110211

Client

Aptim Environmental & Infrastucture, Inc.

Project

35BWW01-221101

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D Page 1
Report Date: 12-Nov-2022 20:53

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 11-NOV-2022 17:07
Operator : PC Inst ID: VOA9.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\bfb.m
Meth Date : 27-Sep-2022 15:12 Linh.Pham Quant Type: ISTD
Cal Date : 30-MAR-2018 18:09 Cal File: U033003.d
Als bottle: 16 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
9.197	9.262	(0.000)	95	375040			0.00- 100.00	100.00
9.197	9.262	(0.000)	50	63664			15.00- 40.00	16.98
9.197	9.262	(0.000)	75	185792			30.00- 60.00	49.54
9.197	9.262	(0.000)	96	26432			5.00- 9.00	7.05
9.197	9.262	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
9.197	9.262	(0.000)	174	356928			50.00- 0.00	95.17
9.197	9.262	(0.000)	175	28272			5.00- 9.00	7.92
9.197	9.262	(0.000)	176	342016			95.00- 101.00	95.82
9.197	9.262	(0.000)	177	21560			5.00- 9.00	6.30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.98
75	30.00 - 60.00% of mass 95	49.54
96	5.00 - 9.00% of mass 95	7.05
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	95.17
175	5.00 - 9.00% of mass 174	7.54 (7.92)
176	95.00 - 101.00% of mass 174	91.19 (95.82)
177	5.00 - 9.00% of mass 176	5.75 (6.30)

Data File: V111101.D
Spectrum: Scan 2296 (9.20)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	163	65.10	243	97.90	339	136.90	953
36.10	2570	66.30	143	103.00	393	138.70	218
37.00	16296	68.00	36904	103.90	1710	140.90	4319
38.10	14601	69.00	37848	105.10	755	141.90	942
39.00	5100	70.00	3118	105.90	1800	143.00	4817
40.10	679	72.10	2343	106.90	565	144.00	267
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41.90	530	74.00	62584	110.70	338	145.90	720
43.00	742	75.10	185792	111.10	281	146.80	452
44.10	2330	76.10	16384	111.90	511	147.90	864
45.00	3166	77.10	2145	112.90	532	148.70	285
46.00	274	78.00	1802	115.00	440	149.90	439
47.10	4060	78.90	11947	115.90	1337	152.00	164
48.10	2583	80.00	3605	117.00	2703	153.00	410
49.10	15280	80.90	11973	117.90	1383	153.80	486
50.10	63664	81.90	2431	118.90	2303	154.80	1108
51.10	18944	83.00	276	119.80	196	156.10	302
52.00	846	83.80	129	121.60	73	157.00	778
53.10	128	84.10	107	122.90	215	158.90	515
54.10	85	87.00	17304	123.80	324	161.00	339
55.00	2013	88.00	15387	125.80	90	168.50	173
56.10	5943	89.30	74	126.60	221	169.40	98
57.00	10396	90.20	167	127.80	1264	170.00	282
57.90	564	91.00	1498	129.00	921	171.00	421
59.00	349	92.00	10701	129.90	1667	174.00	356928
60.00	4100	93.00	16094	130.90	569	175.00	28272
61.00	18104	94.10	47240	132.00	157	176.00	342016
62.10	16768	95.10	375040	133.80	155	177.00	21560
63.00	13834	96.00	26432	134.80	1097	177.90	779
64.00	990	97.00	778	135.90	94		

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D

Date : 11-NOV-2022 17:07

Client ID: BFB

Instrument: VOA9.i

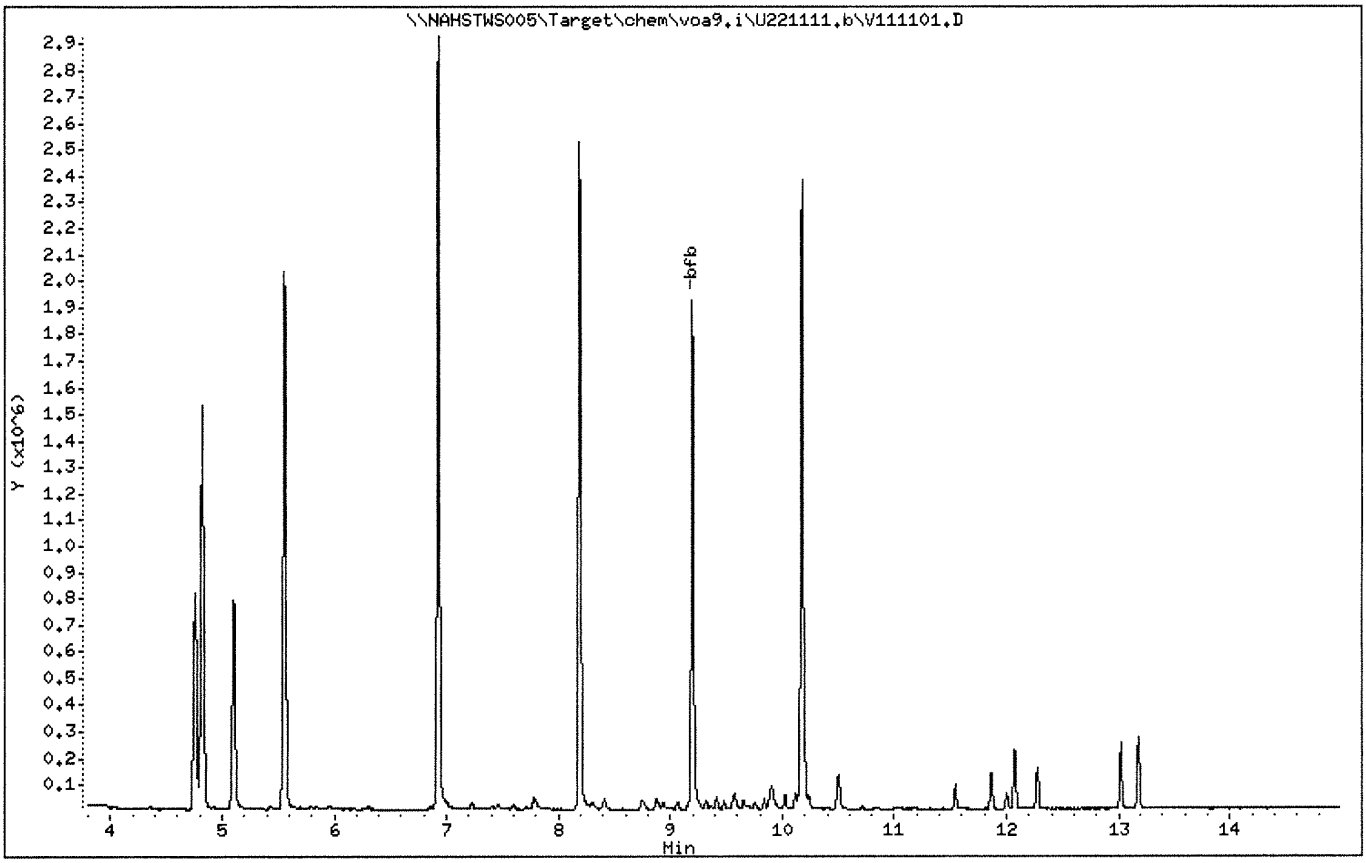
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D

Date : 11-NOV-2022 17:07

Client ID: BFB

Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

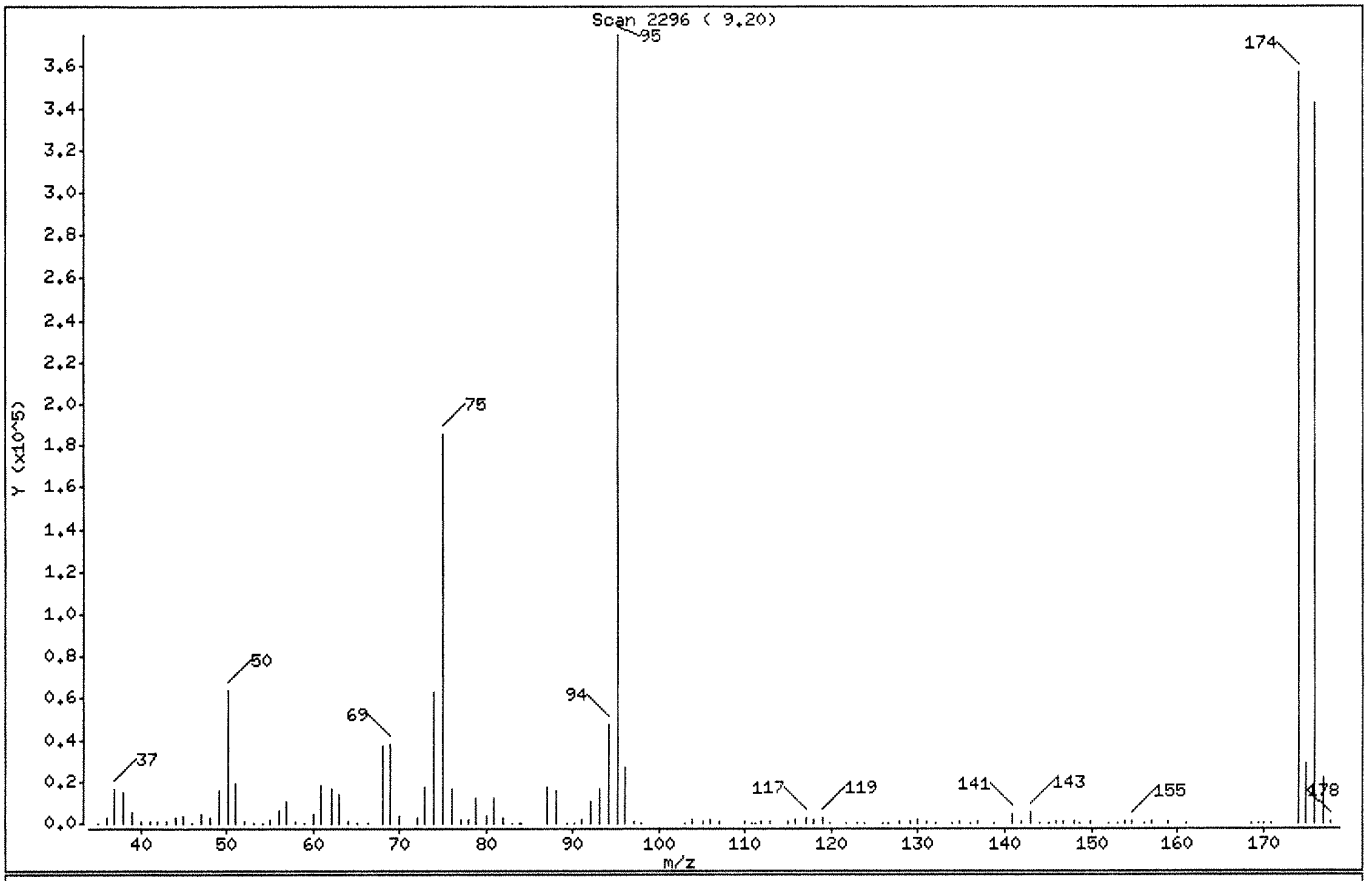
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.98
75	30.00 - 60.00% of mass 95	49.54
96	5.00 - 9.00% of mass 95	7.05
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	95.17
175	5.00 - 9.00% of mass 174	7.54 (7.92)
176	95.00 - 101.00% of mass 174	91.19 (95.82)
177	5.00 - 9.00% of mass 176	5.75 (6.30)

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D

Date : 11-NOV-2022 17:07

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: V111101.D
Spectrum: Scan 2296 (9.20)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	163	65.10	243	97.90	339	136.90	953
36.10	2570	66.30	143	103.00	393	138.70	218
37.00	16296	68.00	36904	103.90	1710	140.90	4319
38.10	14601	69.00	37848	105.10	755	141.90	942
39.00	5100	70.00	3118	105.90	1800	143.00	4817
40.10	679	72.10	2343	106.90	565	144.00	267
41.20	505	73.00	16984	109.90	495	145.00	320
41.90	530	74.00	62584	110.70	338	145.90	720
43.00	742	75.10	185792	111.10	281	146.80	452
44.10	2330	76.10	16384	111.90	511	147.90	864
45.00	3166	77.10	2145	112.90	532	148.70	285
46.00	274	78.00	1802	115.00	440	149.90	439
47.10	4060	78.90	11947	115.90	1337	152.00	164
48.10	2583	80.00	3605	117.00	2703	153.00	410
49.10	15280	80.90	11973	117.90	1383	153.80	486
50.10	63664	81.90	2431	118.90	2303	154.80	1108
51.10	18944	83.00	276	119.80	196	156.10	302
52.00	846	83.80	129	121.60	73	157.00	778
53.10	128	84.10	107	122.90	215	158.90	515
54.10	85	87.00	17304	123.80	324	161.00	339
55.00	2013	88.00	15387	125.80	90	168.50	173
56.10	5943	89.30	74	126.60	221	169.40	98
57.00	10396	90.20	167	127.80	1264	170.00	282
57.90	564	91.00	1498	129.00	921	171.00	421
59.00	349	92.00	10701	129.90	1667	174.00	356928
60.00	4100	93.00	16094	130.90	569	175.00	28272
61.00	18104	94.10	47240	132.00	157	176.00	342016
62.10	16768	95.10	375040	133.80	155	177.00	21560
63.00	13834	96.00	26432	134.80	1097	177.90	779
64.00	990	97.00	778	135.90	94		

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D
Inj Date : 11-NOV-2022 17:07
InstruID : VOA9.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 11-NOV-2022 17:51
Operator : PC Inst ID: VOA9.i
Smp Info : CCV;CCV;2;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.815	(1.000)	878052	50.0000	
2 Dichlorodifluoromethane	85	1.160	1.160	(0.241)	321914	50.0000	45.30
3 Chloromethane	50	1.291	1.291	(0.268)	430276	50.0000	44.40
5 Vinyl Chloride	62	1.374	1.374	(0.285)	388143	50.0000	43.33
6 Bromomethane	94	1.618	1.618	(0.336)	288171	50.0000	46.64
7 Chloroethane	64	1.696	1.696	(0.352)	289719	50.0000	44.28
8 Trichlorofluoromethane	101	1.895	1.895	(0.394)	486050	50.0000	41.74
9 Acrolein	56	2.266	2.266	(0.471)	62330	100.000	99.04
10 Acetone	43	2.409	2.409	(0.500)	355669	100.000	99.30
11 1,1-Dichloroethene	96	2.334	2.334	(0.485)	323141	50.0000	43.15
15 Iodomethane	142	2.469	2.469	(0.513)	733362	100.000	87.37
16 Acrylonitrile	53	3.065	3.065	(0.636)	375074	100.000	91.97
17 Methylene Chloride	84	2.795	2.795	(0.580)	460652	50.0000	47.49
18 Methyl tert-butyl ether	73	3.080	3.080	(0.640)	1208765	50.0000	47.90
19 Carbon Disulfide	76	2.517	2.517	(0.523)	1883164	100.000	86.44
20 trans-1,2-Dichloroethene	96	3.061	3.061	(0.636)	370661	50.0000	44.73
21 Vinyl Acetate	43	3.608	3.608	(0.749)	2143764	100.000	99.12
22 1,1-Dichloroethane	63	3.514	3.514	(0.730)	641645	50.0000	43.55
24 2-Butanone	43	4.268	4.268	(0.886)	337659	100.000	95.09
26 2,2-Dichloropropane	77	4.185	4.185	(0.869)	344604	50.0000	43.73

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	442352	50.0000	45.41
28 Chloroform	83	4.575	4.575 (0.950)	714611	50.0000	45.43

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D Page 2
Report Date: 16-Nov-2022 10:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	235550	50.0000	45.30
$	30 Dibromofluoromethane	113	4.751	4.751	(0.987)	454193	50.0000	51.74
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	491366	50.0000	46.44
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	435049	50.0000	43.79
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	592061	50.0000	47.02
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	303832	50.0000	44.86
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	510652	50.0000	51.27
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1433114	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	1539151	50.0000	45.59
	38 Trichloroethene	130	5.790	5.790	(1.043)	427083	50.0000	46.23
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	515857	50.0000	49.98
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	404423	50.0000	47.10
	44 Dibromomethane	93	6.124	6.124	(1.103)	293060	50.0000	47.36
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	804890	100.000	101.88
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	605205	50.0000	43.82
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	1344668	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	1680194	50.0000	52.52
	50 Toluene	91	6.982	6.982	(0.853)	1703492	50.0000	47.72
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	504834	50.0000	43.59
	52 2-Hexanone	43	7.593	7.593	(0.928)	570270	100.000	97.07
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	361450	50.0000	47.01
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	749856	50.0000	47.71
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	455426	50.0000	45.26
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	329711	50.0000	42.50
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	473049	50.0000	50.20
	58 1-Chlorohexane	55	8.197	8.197	(1.476)	260932	50.0000	40.63
	59 Chlorobenzene	112	8.212	8.212	(1.003)	1189230	50.0000	46.56
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	416051	50.0000	49.79
	61 Ethylbenzene	106	8.309	8.309	(1.015)	558472	50.0000	47.44
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1429055	100.000	97.42
	63 o-Xylene	106	8.748	8.748	(1.069)	720513	50.0000	49.73
	64 Styrene	104	8.763	8.763	(1.071)	1206403	50.0000	47.10
	66 Bromoform	173	8.920	8.920	(1.090)	299195	50.0000	44.05
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	1601683	50.0000	47.95
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	640390	50.0000	46.69
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	620809	50.0000	52.41
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	689775	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	560857	50.0000	47.38
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1755864	50.0000	47.25
	74 Bromobenzene	156	9.317	9.317	(0.916)	535355	50.0000	48.97
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1335159	50.0000	48.53
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1241463	50.0000	47.50
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	1425599	50.0000	48.77
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1078100	50.0000	44.69
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1432867	50.0000	49.53
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1361908	50.0000	41.10
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	1200693	50.0000	45.48
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	889295	50.0000	47.47
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	939798	50.0000	45.58
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	970297	50.0000	41.70
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	924838	50.0000	46.64
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	91240	50.0000	44.81

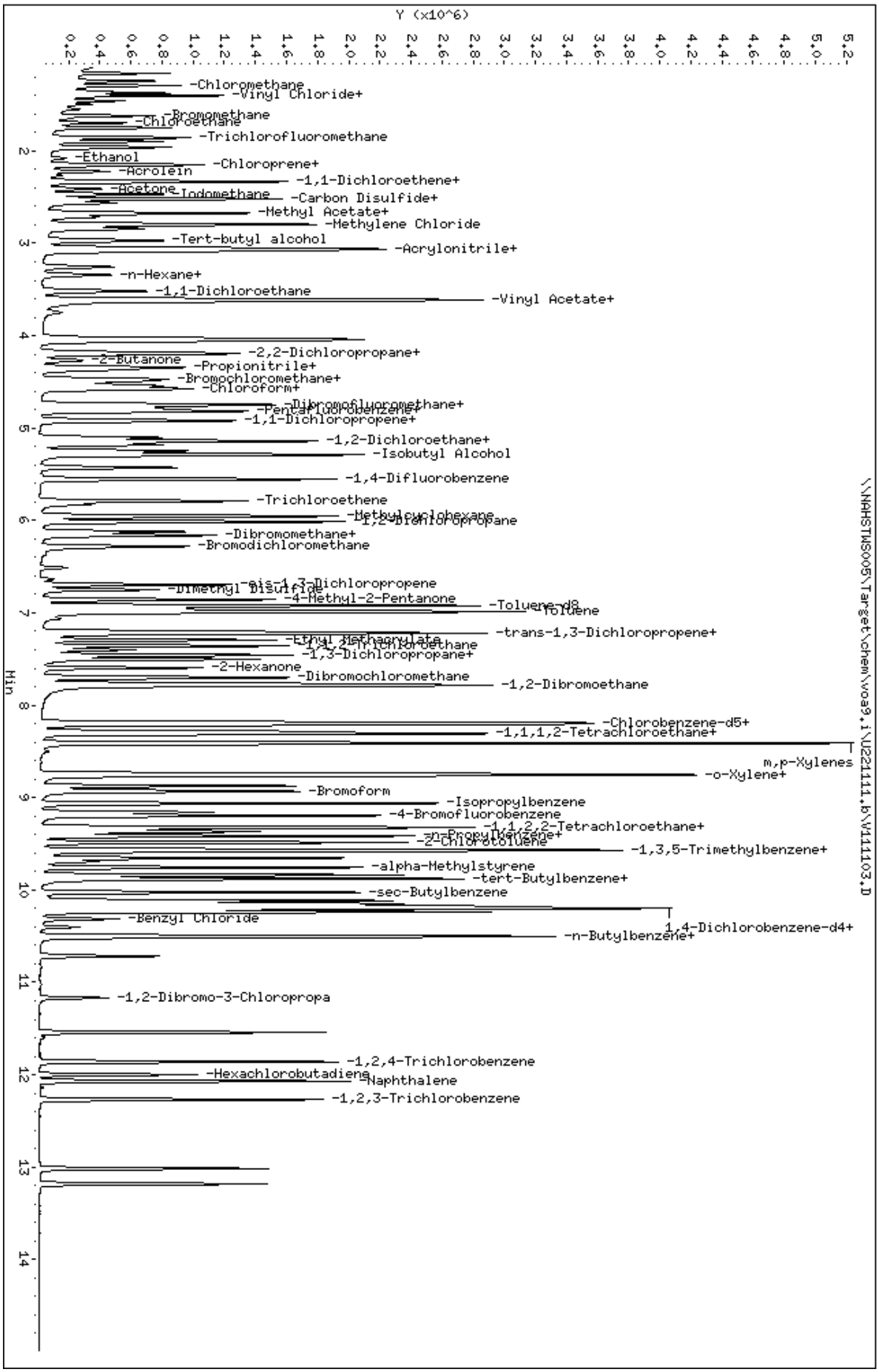
90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	564600	50.0000	52.06
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	180197	50.0000	42.27

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D Page 3
Report Date: 16-Nov-2022 10:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
	92 Naphthalene	128	12.069	12.069	(1.186)	1460939	50.0000	53.99	
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	535535	50.0000	49.81	
M	94 1,2-Dichloroethylene (total)	96				813013	100.000		(a)
	135 1,4-Dioxane	88	6.168	6.168	(1.281)	122082	1000.00	915.46	
	141 Cyclohexane	56	4.785	4.785	(0.994)	337067	50.0000	43.53	
	138 Freon TF	101	2.334	2.334	(0.485)	245745	50.0000	44.03	
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	282537	50.0000	40.84	
	147 Methylcyclohexane	55	5.947	5.947	(1.071)	1025513	50.0000	50.75	
	146 Methyl Acetate	43	2.716	2.716	(0.564)	324506	50.0000	45.16	
	148 Tert-Butyl alcohol	59	2.967	2.967	(0.616)	819852	1000.00	965.30	
	149 Isopropyl Alcohol	45	2.562	2.562	(0.532)	509974	1000.00	911.11	
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	89623	50.0000	43.31	
	12 Isobutyl Alcohol	43	5.288	5.288	(1.098)	964658	1000.00	877.82	
	13 Acetonitrile	39	2.671	2.671	(0.555)	433209	500.000	485.52	
	14 Allyl Chloride	41	2.671	2.671	(0.555)	956527	50.0000	46.84	
	25 Methacrylonitrile	41	4.497	4.497	(0.934)	241319	50.0000	46.48	
	40 Methyl Methacrylate	41	6.157	6.157	(1.279)	392299	50.0000	50.24	
	4 Propionitrile	54	4.343	4.343	(0.902)	660242	500.000	470.05	
	136 n-Hexane	57	3.342	3.342	(0.694)	233483	50.0000	42.58	
	131 Methyl Acrylate	55	4.369	4.369	(0.907)	548027	50.0000	49.04	
	200 Dimethyl Disulfide	94	6.750	6.750	(0.825)	342200	50.0000	44.85	
	23 Chloroprene	53	2.157	2.157	(0.448)	121618	50.0000	45.65	
	49 Ethyl Methacrylate	69	7.293	7.293	(1.313)	724965	50.0000	54.41	
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	1475345	50.0000	48.82	
	167 Ethanol	45	2.079	2.079	(0.432)	103176	1000.00	866.88	
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	1563073	50.0000	51.22	
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	597100	50.0000	45.55	
	142 Tetrahydrofuran	42	4.545	4.545	(0.944)	140560	100.000	91.47	
	156 Diisopropyl ether	45	3.623	3.623	(0.752)	1250252	50.0000	46.05	
	151 4-Methyl-2-pentanol	45	7.218	7.218	(1.300)	1422904	1000.00	855.33	
	150 Allyl alcohol	57	3.342	3.342	(0.694)	233483	1000.00	851.82	
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	327898	50.0000	46.69	
	162 Butyl acrylate	55	8.736	8.736	(1.067)	799919	50.0000	46.19	
	139 Diethyl ether	59	2.146	2.146	(0.446)	361016	50.0000	45.79	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D
Date : 11-NOV-2022 17:51
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D
Inj Date : 11-NOV-2022 17:51
InstruID : VOA9.i
LabSampID : CCV

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111104.D Page 1
Report Date: 12-Nov-2022 20:55

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111104.D
Lab Smp Id: CCB Client Smp ID: CCB
Inj Date : 11-NOV-2022 18:13
Operator : PC Inst ID: VOA9.i
Smp Info : CCB;CCB;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 12-Nov-2022 20:47 pcabasca Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	1066844	50.0000	
$ 30 Dibromofluoromethane	113	4.751	4.751	(0.986)	471378	44.1462	44.14
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	524951	43.2875	43.28
* 36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1575798	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1360971	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1756300	54.2468	54.24
$ 69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	591133	49.3270	49.32
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	642918	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D
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Inj Date : 11-NOV-2022 18:36
Operator : PC Inst ID: VOA9.i
Smp Info : VLCSW-221110;VLCSW-221110;3;;LCS
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 20 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.819	4.815	(1.000)	876868	50.0000	
	2 Dichlorodifluoromethane	85	1.168	1.160	(0.242)	140484	21.0741	21.07
	3 Chloromethane	50	1.299	1.291	(0.270)	178969	18.6413	18.64
	5 Vinyl Chloride	62	1.382	1.374	(0.287)	157776	17.6409	17.64
	6 Bromomethane	94	1.625	1.618	(0.337)	126680	19.9094	19.90
	7 Chloroethane	64	1.704	1.696	(0.354)	120668	18.4679	18.46
	8 Trichlorofluoromethane	101	1.903	1.895	(0.395)	228331	19.6356	19.63
	9 Acrolein	56	2.270	2.266	(0.471)	23384	37.8324	37.83
	10 Acetone	43	2.412	2.409	(0.501)	169028	43.3134	43.31
	11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	138742	18.5527	18.55
	15 Iodomethane	142	2.472	2.469	(0.513)	279557	35.7909	35.79
	16 Acrylonitrile	53	3.072	3.065	(0.638)	153465	37.6827	37.68
	17 Methylene Chloride	84	2.799	2.795	(0.581)	212598	21.1230	21.12
	18 Methyl tert-butyl ether	73	3.087	3.080	(0.641)	487750	19.3544	19.35
	19 Carbon Disulfide	76	2.525	2.517	(0.524)	799017	36.7282	36.72
	20 trans-1,2-Dichloroethene	96	3.065	3.061	(0.636)	154329	18.6503	18.65
	21 Vinyl Acetate	43	3.616	3.608	(0.750)	821991	38.0609	38.06
	22 1,1-Dichloroethane	63	3.522	3.514	(0.731)	273068	18.5626	18.56
	24 2-Butanone	43	4.272	4.268	(0.886)	140359	39.5836	39.58
	26 2,2-Dichloropropane	77	4.186	4.185	(0.869)	133378	17.7648	17.76

27 cis-1,2-Dichloroethene	96	4.204	4.197 (0.872)	188500	19.3789	19.37
28 Chloroform	83	4.579	4.575 (0.950)	301426	19.1901	19.19

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D Page 2
Report Date: 16-Nov-2022 10:00

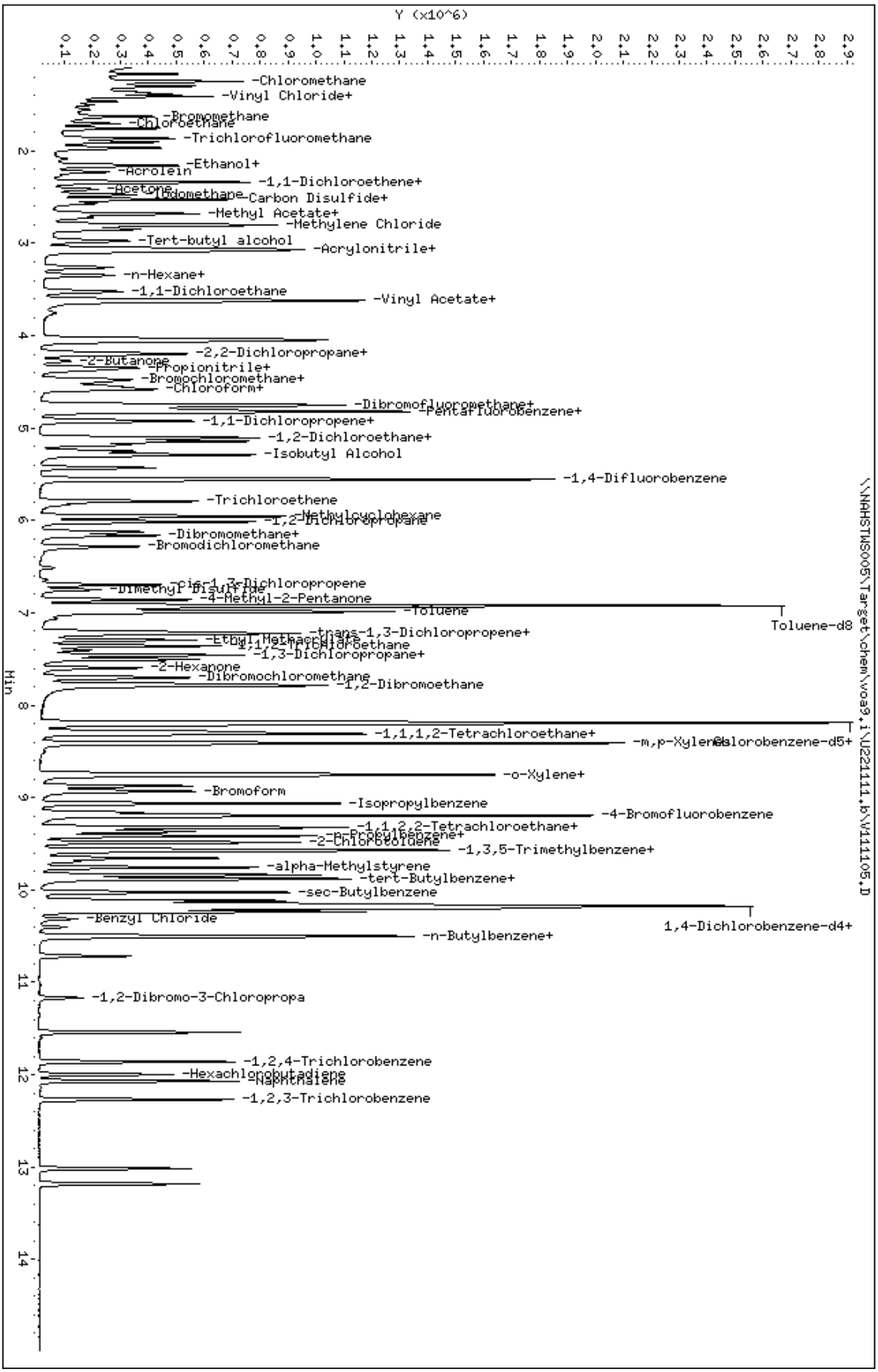
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	95071	18.3116	18.31
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	444378	50.6853	50.68
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	211243	19.9954	19.99
	32 1,1-Dichloropropene	75	4.924	4.924	(0.886)	192722	19.4284	19.42
	33 1,2-Dichloroethane	62	5.183	5.179	(0.933)	243368	19.3548	19.35
	34 Carbon Tetrachloride	117	4.917	4.913	(0.885)	117973	18.9523	18.95
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	494847	49.7393	49.73
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1431204	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	648882	19.2467	19.24
	38 Trichloroethene	130	5.794	5.790	(1.042)	180081	19.5219	19.52
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	193684	18.7933	18.79
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	164548	19.1910	19.19
	44 Dibromomethane	93	6.124	6.124	(1.102)	120144	19.4436	19.44
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	302051	39.6723	39.67
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	212232	17.2130	17.21
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1295894	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1606272	52.1044	52.10
	50 Toluene	91	6.982	6.982	(0.853)	703108	20.4406	20.44
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	165314	16.5949	16.59
	52 2-Hexanone	43	7.597	7.593	(0.928)	214690	38.7388	38.73
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	145176	19.5927	19.59
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	305426	20.1681	20.16
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	163713	17.7948	17.79
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	148470	19.8625	19.86
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	187444	20.6412	20.64
	58 1-Chlorohexane	55	8.197	8.197	(1.475)	127927	21.0367	21.03
	59 Chlorobenzene	112	8.212	8.212	(1.003)	478403	19.4371	19.43
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	159120	19.7622	19.76
	61 Ethylbenzene	106	8.309	8.309	(1.015)	228916	20.1816	20.18
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	577654	40.8620	40.86
	63 o-Xylene	106	8.748	8.748	(1.068)	287036	20.5586	20.55
	64 Styrene	104	8.763	8.763	(1.070)	455868	19.2142	19.21
	66 Bromoform	173	8.920	8.920	(1.089)	103228	17.2500	17.24
	67 Isopropylbenzene	105	9.066	9.062	(1.107)	675872	20.9989	20.99
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	249575	19.4841	19.48
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	577244	50.5822	50.58
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	644296	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	211356	19.1176	19.11
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	726790	20.9403	20.94
	74 Bromobenzene	156	9.321	9.317	(0.916)	209073	20.4777	20.47
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	554045	21.5618	21.56
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	502252	20.5745	20.57
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	565113	20.7003	20.70
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	459556	20.3968	20.39
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	587630	21.7482	21.74
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	596683	20.2115	20.21
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	514971	20.8850	20.88
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	354193	20.2419	20.24
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	370388	19.2335	19.23
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	425359	20.7553	20.75
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	358150	19.3400	19.34
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	30875	17.6970	17.69

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	209359	20.6706	20.67
91 Hexachlorobutadiene	225	12.002	12.001 (1.180)	89093	23.4668	23.46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	526374	20.8267	20.82
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	206870	20.6008	20.60
M	94 1,2-Dichloroethylene (total)	96				342829	38.0292	38.02
M	95 Xylenes (total)	106				864690	61.4206	61.42
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	47486	356.567	356.56
	141 Cyclohexane	56	4.789	4.785	(0.994)	197214	26.7677	26.76
	138 Freon TF	101	2.341	2.334	(0.486)	125031	23.6437	23.64
	140 1,3-Butadiene	54	1.408	1.400	(0.292)	121613	18.6004	18.60
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	426590	21.1394	21.13
	146 Methyl Acetate	43	2.720	2.716	(0.564)	135354	18.8638	18.86
	148 Tert-Butyl alcohol	59	2.975	2.967	(0.617)	315012	371.401	371.40
	149 Isopropyl Alcohol	45	2.570	2.562	(0.533)	195955	350.564	350.56
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	29153	17.5828	17.58
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	355249	364.735	364.73
	13 Acetonitrile	39	2.679	2.671	(0.556)	178948	200.830	200.83
	14 Allyl Chloride	41	2.679	2.671	(0.556)	392411	19.2442	19.24
	25 Methacrylonitrile	41	4.500	4.497	(0.934)	97941	18.8898	18.88
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	148902	19.0963	19.09
	4 Propionitrile	54	4.347	4.343	(0.902)	260193	185.493	185.49(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	138914	26.6560	26.65
	194 Acetaldehyde	44	1.464	1.464	(0.304)	70858	72.4909	72.49(M)
	131 Methyl Acrylate	55	4.377	4.369	(0.908)	217752	19.5139	19.51
	200 Dimethyl Disulfide	94	6.750	6.750	(0.824)	94502	16.1585	16.15
	23 Chloroprene	53	2.161	2.157	(0.449)	50821	20.7092	20.70(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	265184	19.9295	19.92(MH)
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	603041	21.3668	21.36
	167 Ethanol	45	2.086	2.079	(0.433)	39680	333.842	333.84
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	648843	22.7661	22.76
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	227154	19.8374	19.83
	142 Tetrahydrofuran	42	4.553	4.545	(0.945)	58801	38.3175	38.31
	156 Diisopropyl ether	45	3.627	3.623	(0.753)	519787	19.1726	19.17
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	448176	327.006	327.00
	150 Allyl alcohol	57	3.346	3.342	(0.694)	138914	532.546	532.54
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	86297	16.4994	16.49
	162 Butyl acrylate	55	8.736	8.736	(1.067)	284204	18.6271	18.62
	139 Diethyl ether	59	2.150	2.146	(0.446)	149582	19.0005	19.00

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.


Y (x10^6)
Min
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane
-Ethanol+
-Acrolein
-1,1-Dichloroethene+
-Acetone
-Iodomethane
-Carbon Disulfide+
-Methyl Acetate+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane+
-Chloroform+
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane
-1,2-Dichloropropane
-Dibromomethane+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-Dimethyl Disulfide
-4-Methyl-2-Pentanone
-Toluene
Toluene-d8
-Ethyl Methacrylate
-trans-1,3-Dichloropropene+
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-Bromobenzene+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
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Column phase: DB624
Instrument: VOA9.i
Operator: PC
Column diameter: 0.18
Page 1

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Inj Date : 11-NOV-2022 18:36
InstruID : VOA9.i
LabSampID : VLCSW-221110

Ethyl Methacrylate (97-63-2)

Reason Code:

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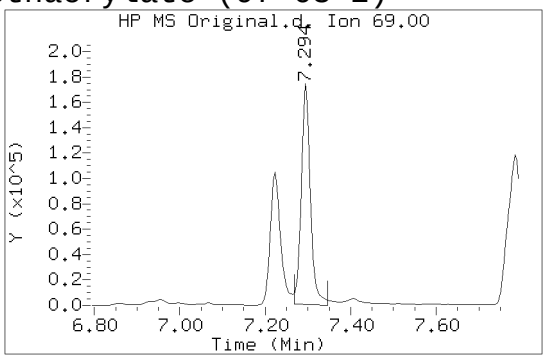
16-Nov-2022
10:00
linh
pham



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16-Nov-2022
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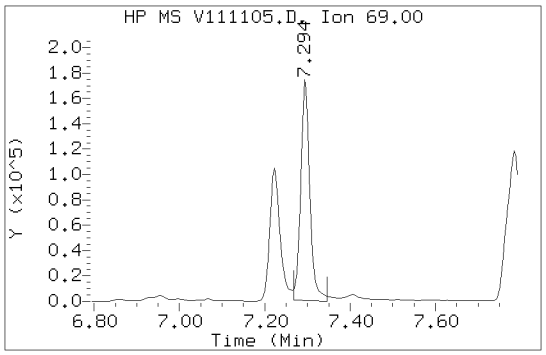

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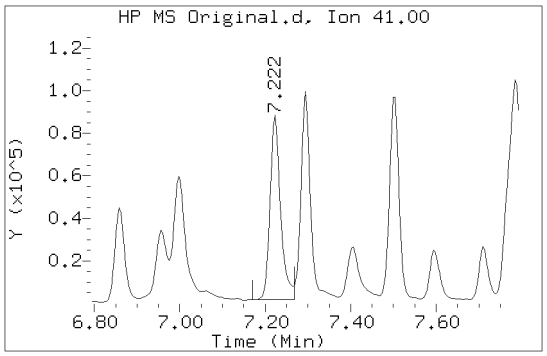

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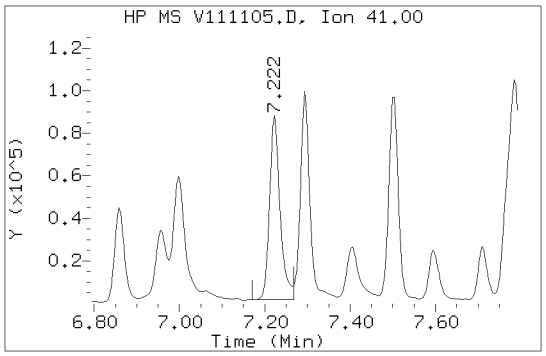

Chloroprene (126-99-8)

Reason Code:

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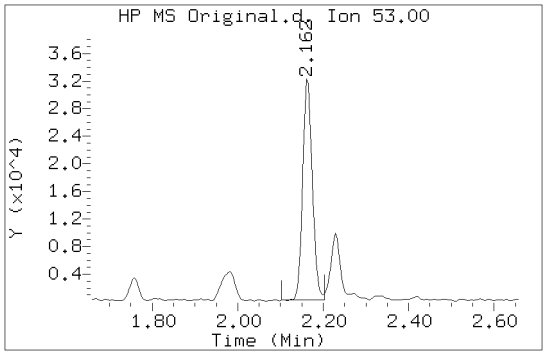

AFTER

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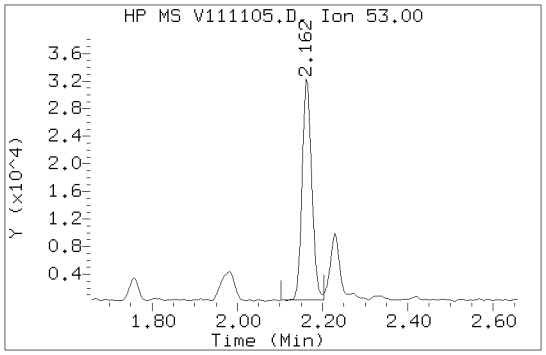

BEFORE

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16-Nov-2022
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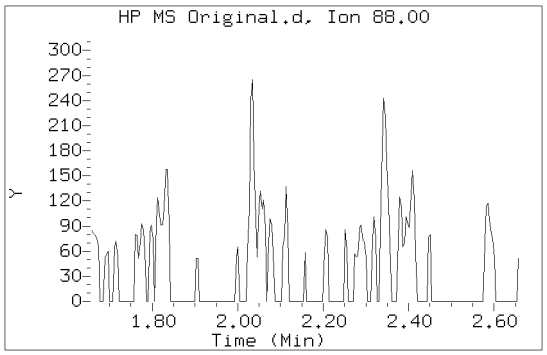

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10:00
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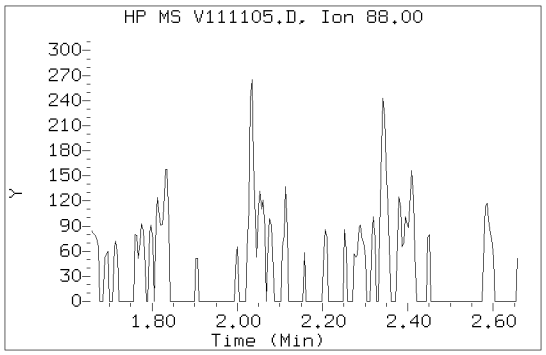

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Inj Date : 11-NOV-2022 18:36
InstruID : VOA9.i
LabSampID : VLCSW-221110

Acetaldehyde (75-07-0)

Reason Code:

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16-Nov-2022
10:00
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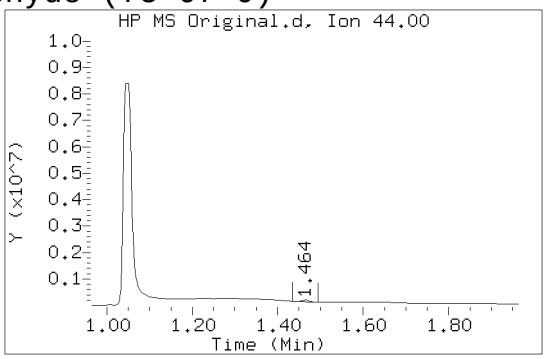
pham



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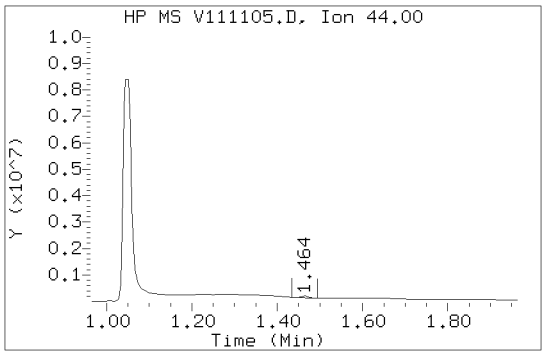
pham



BEFORE
MASS
43
AREA
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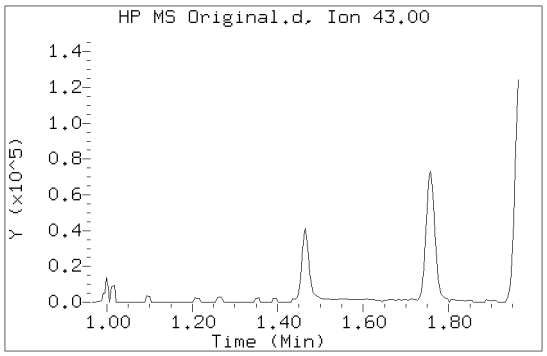
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER
MASS
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AREA
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HEIGHT
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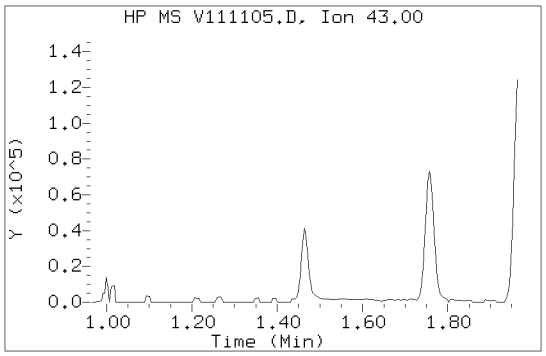
16-Nov-2022
10:00
linh
pham



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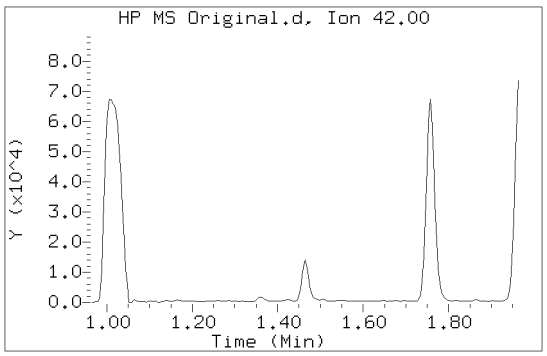
16-Nov-2022
10:00
linh
pham



AFTER
MASS
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AREA
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HEIGHT
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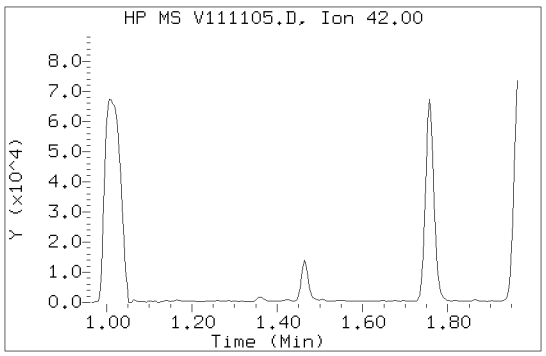
16-Nov-2022
10:00
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D Page 1
Report Date: 16-Nov-2022 10:00

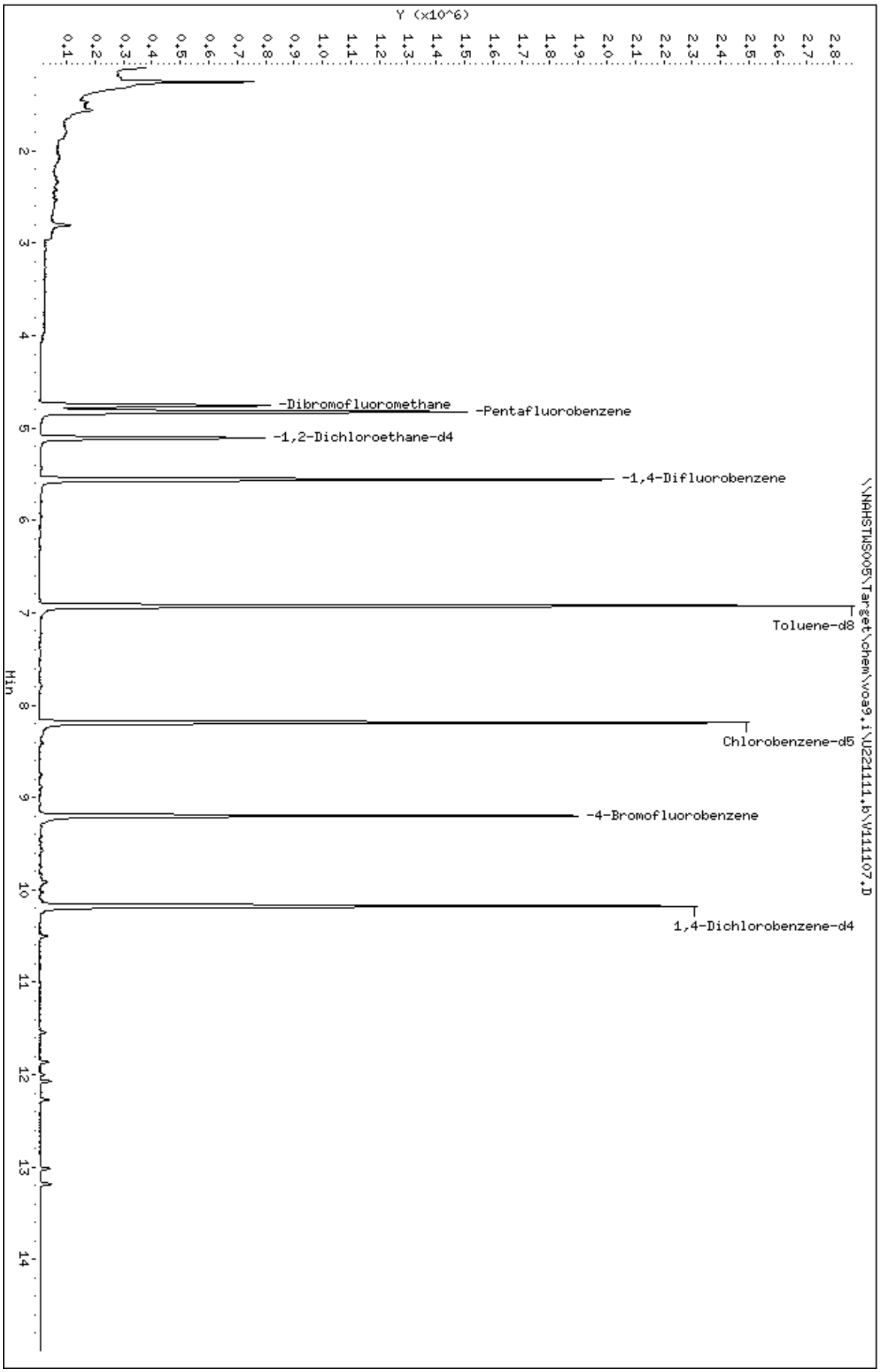
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D
Lab Smp Id: VBLKW-221110 Client Smp ID: VBLKW-221110
Inj Date : 11-NOV-2022 19:20
Operator : PC Inst ID: VOA9.i
Smp Info : VBLKW-221110;VBLKW-221110;3;;BLANK
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 22 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	1027876	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	468953	45.5955	45.59
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	520352	44.5533	44.55
* 36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1547005	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1339369	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1704417	53.4934	53.49
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	576018	48.8427	48.84
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	608012	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D
Date : 11-NOV-2022 19:20
Client ID: VBLKW-221110
Sample Info: VBLKW-221110;VBLKW-221110;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D
Inj Date : 11-NOV-2022 19:20
InstruID : VOA9.i
LabSampID : VBLKW-221110

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111108.D Page 1
Report Date: 16-Nov-2022 10:00

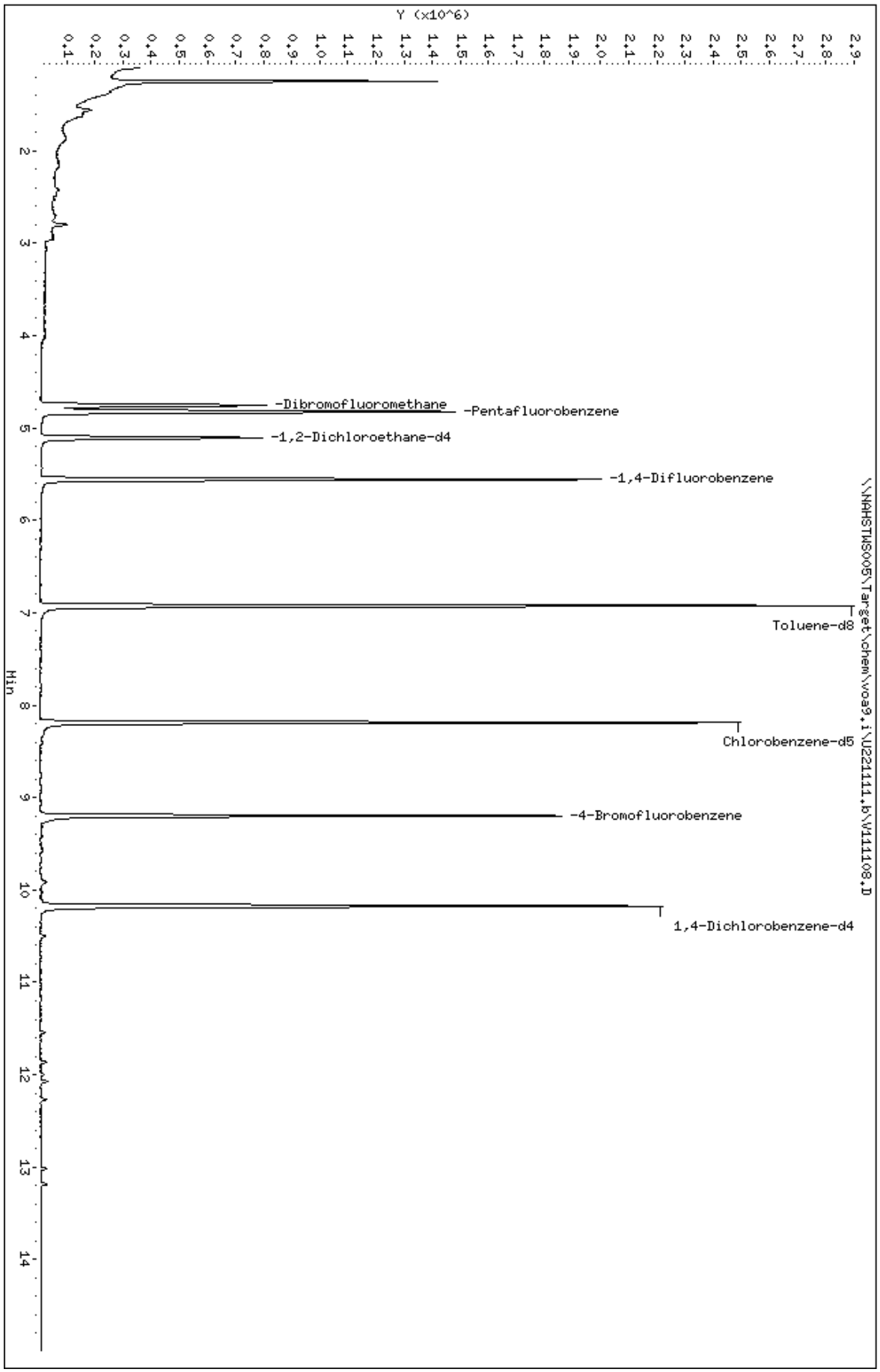
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111108.D
Lab Smp Id: HS22110211-10 Client Smp ID: HS22110211-10
Inj Date : 11-NOV-2022 19:42
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-10;HS22110211-10;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	1013011	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.987)	463401	45.7177	45.71
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	519800	45.1678	45.16
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1523582	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1331164	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1723743	54.4334	54.43
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	561185	47.8819	47.88
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	603668	50.0000	



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Date : 11-NOV-2022 19:42
Client ID: HS22110211-10
Sample Info: HS22110211-10;HS22110211-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111108.D
Inj Date : 11-NOV-2022 19:42
InstruID : VOA9.i
LabSampID : HS22110211-10

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111110.D Page 1
Report Date: 16-Nov-2022 10:00

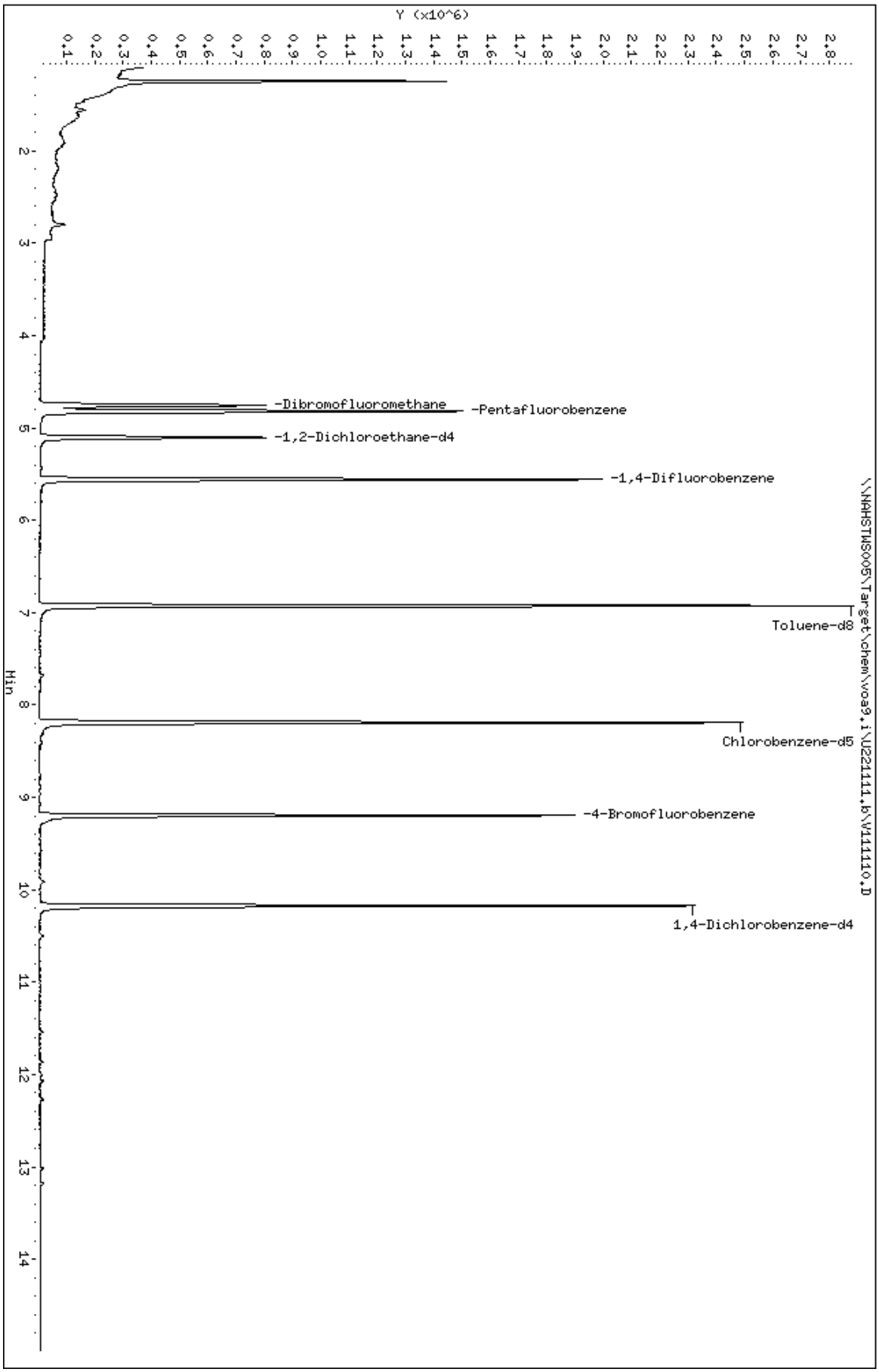
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111110.D
Lab Smp Id: HS22110211-01 Client Smp ID: HS22110211-01
Inj Date : 11-NOV-2022 20:27
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-01;HS22110211-01;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	1020973	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.987)	455660	44.5950	44.59
$ 35 1,2-Dichloroethane-d4	65	5.103	5.100	(1.059)	529395	45.6495	45.64
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1532090	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1336466	50.0000	
$ 48 Toluene-d8	98	6.925	6.922	(0.846)	1727678	54.3412	54.34
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	571491	48.5652	48.56
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	619180	50.0000	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Date : 11-NOV-2022 20:27
Client ID: HS22110211-01
Sample Info: HS22110211-01;HS22110211-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA9,i
Operator: PC
Column diameter: 0.18
Page 1
Y (x10^6)
Min
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS005\Target\chem\voa9,i\U221111,b\V111110.D

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111110.D
Inj Date : 11-NOV-2022 20:27
InstruID : VOA9.i
LabSampID : HS22110211-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111111.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111111.D
Lab Smp Id: HS22110211-02 Client Smp ID: HS22110211-02
Inj Date : 11-NOV-2022 20:49
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-02;HS22110211-02;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

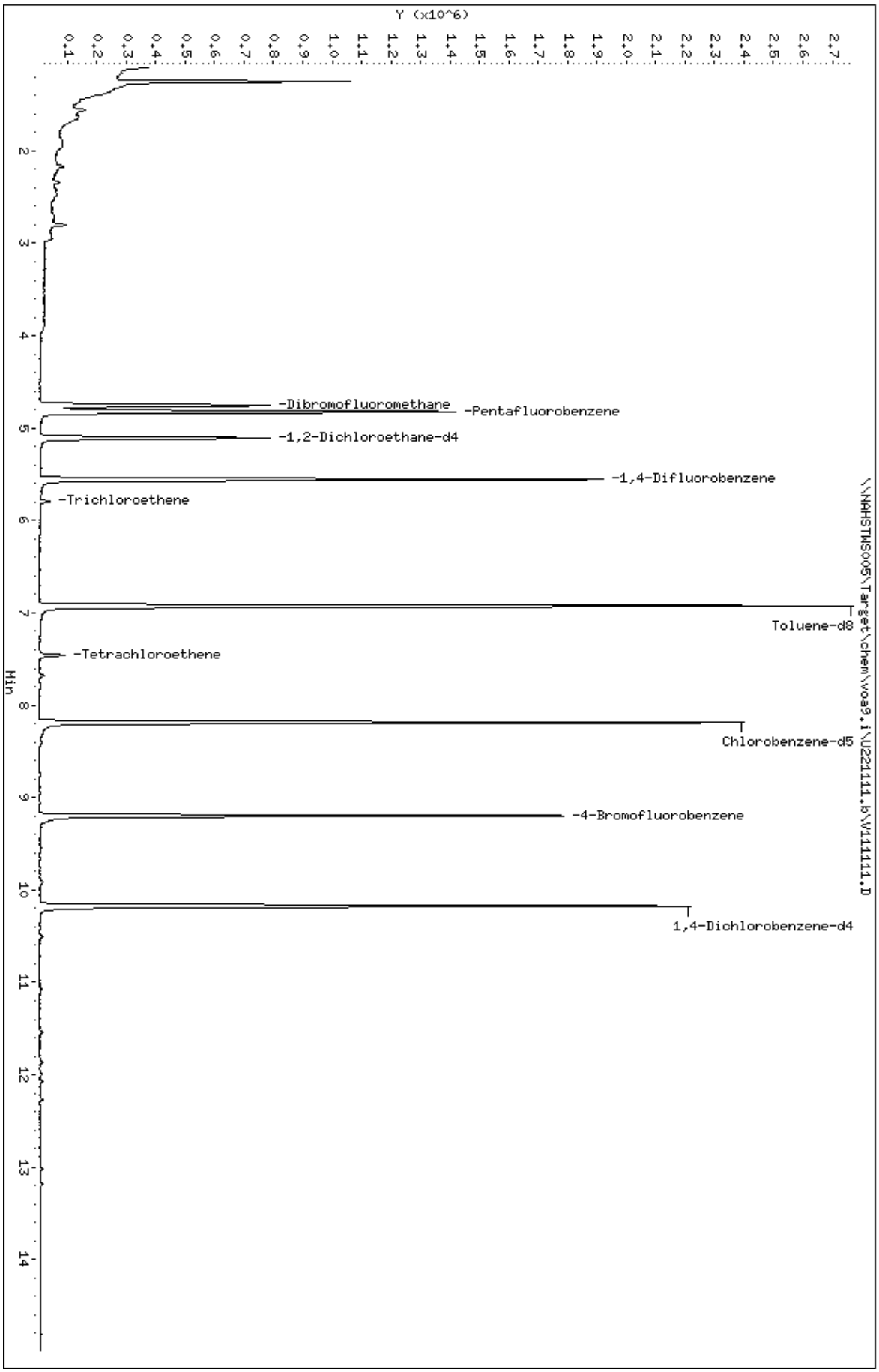
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.823	4.815	(1.000)	975017	50.0000	
$	30 Dibromofluoromethane	113	4.755	4.751	(0.986)	451625	46.2965	46.29
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	521335	47.0933	47.09
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1466800	50.0000	
	38 Trichloroethene	130	5.794	5.790	(1.042)	10343	1.09403	1.09(a)
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1287956	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1651778	53.9107	53.91
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	19506	2.62562	2.62(a)
$	69 4-Bromofluorobenzene	95	9.198	9.194	(1.123)	541342	47.7389	47.73
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	590354	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



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Date : 11-NOV-2022 20:49
Client ID: HS22110211-02
Sample Info: HS22110211-02;HS22110211-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111111.D Page 2

Date : 11-NOV-2022 20:49

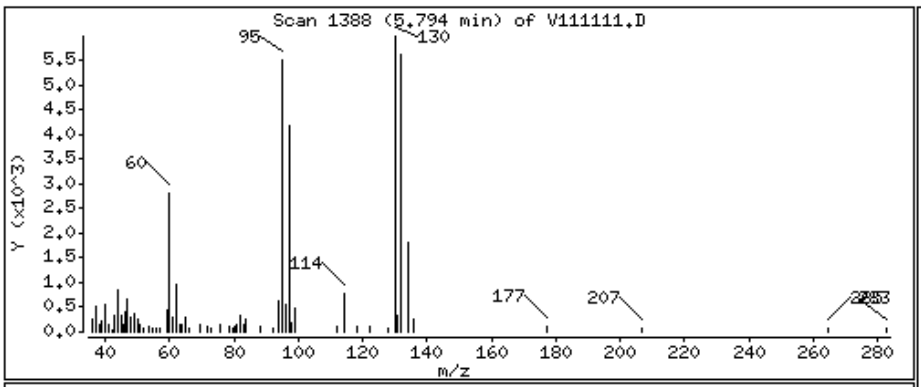
Client ID: HS22110211-02 Instrument: VOA9.i

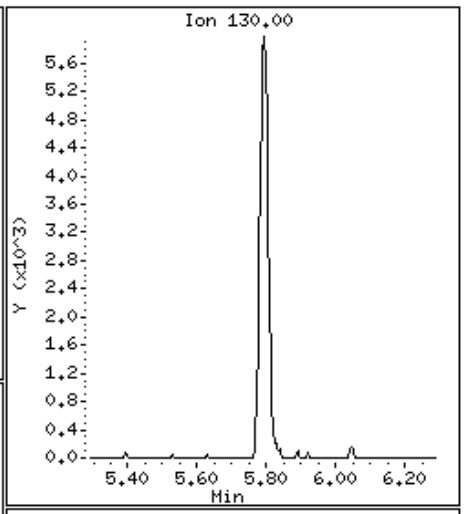
Sample Info: HS22110211-02;HS22110211-02;;;

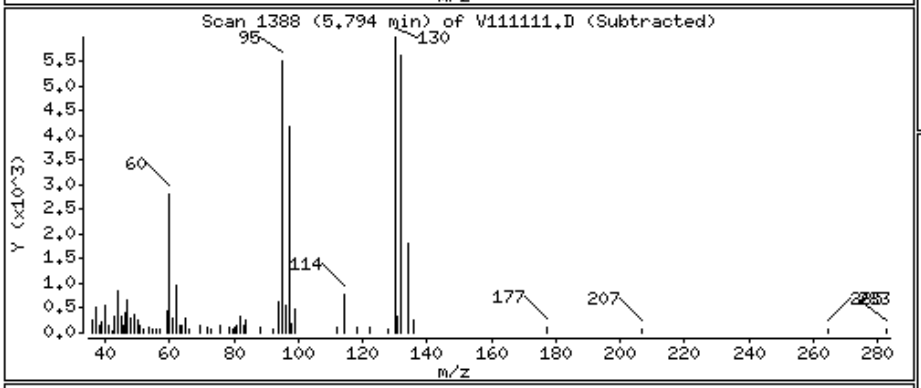
Purge Volume: 5.0 Operator: PC

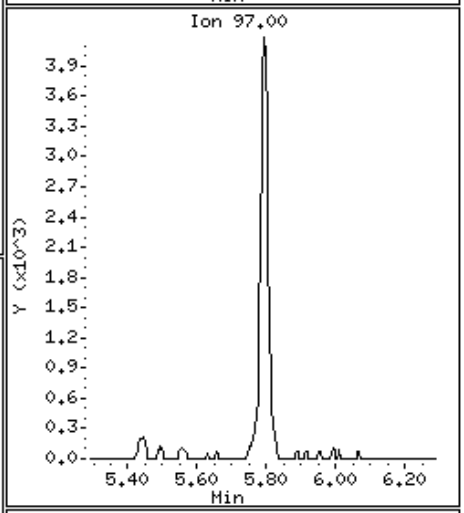
Column phase: DB624 Column diameter: 0.18

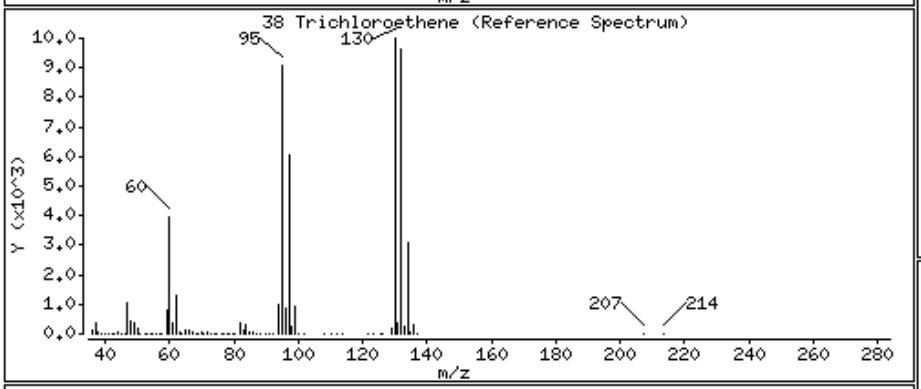
38 Trichloroethene Concentration: 1.09 ug/l

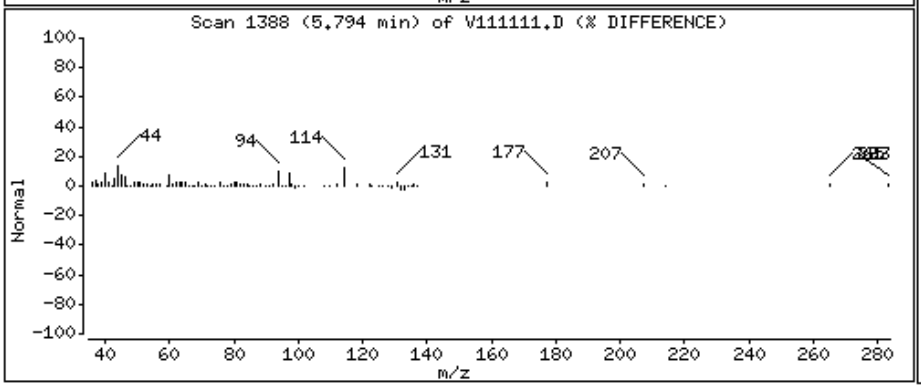


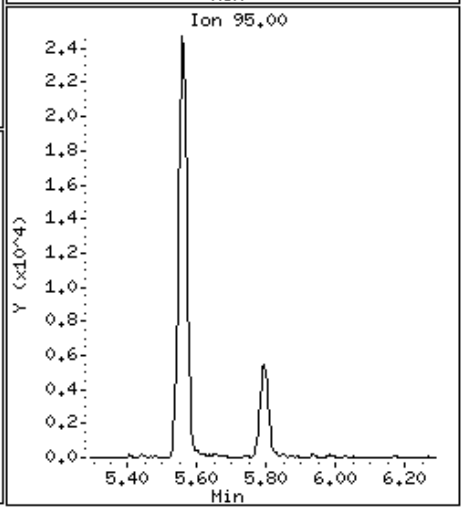












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111111.D Page 3

Date : 11-NOV-2022 20:49

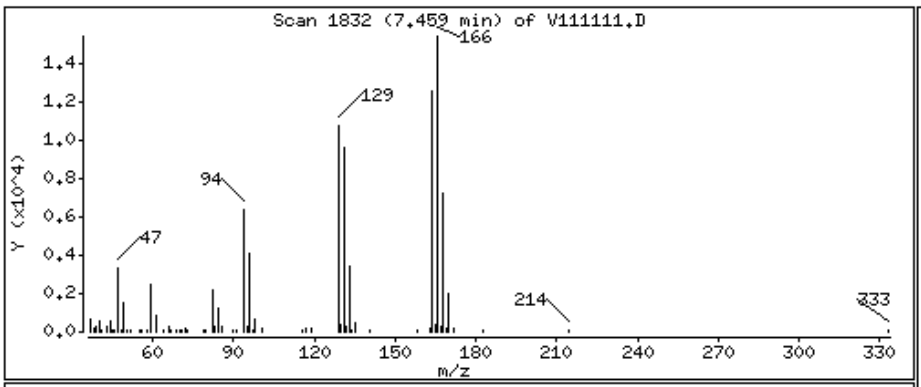
Client ID: HS22110211-02 Instrument: VOA9.i

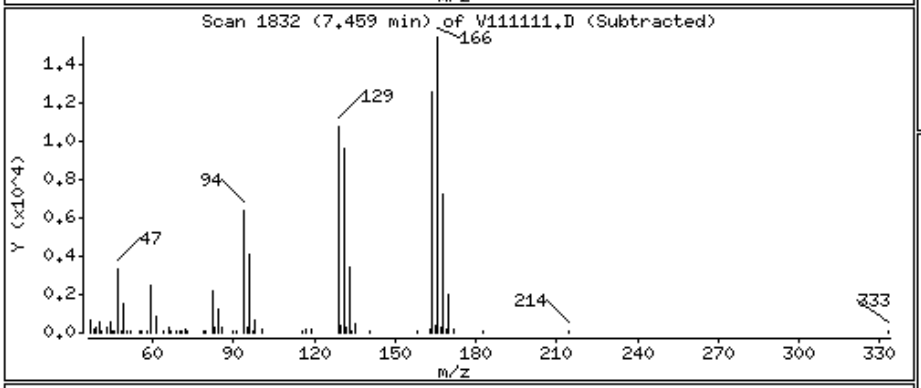
Sample Info: HS22110211-02;HS22110211-02;;;

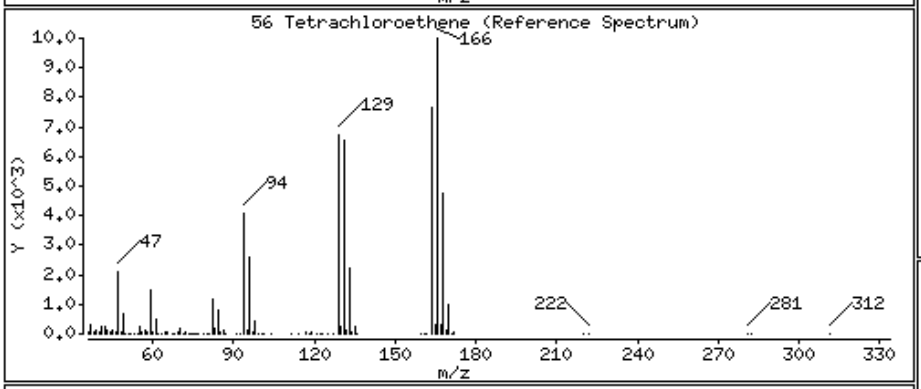
Purge Volume: 5.0 Operator: PC

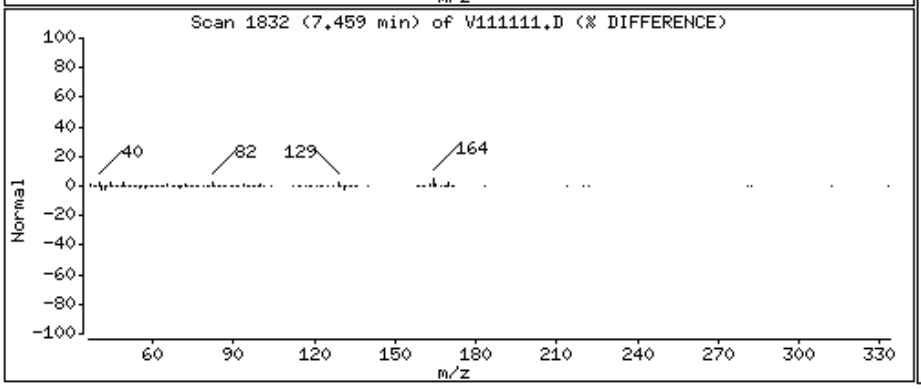
Column phase: DB624 Column diameter: 0.18

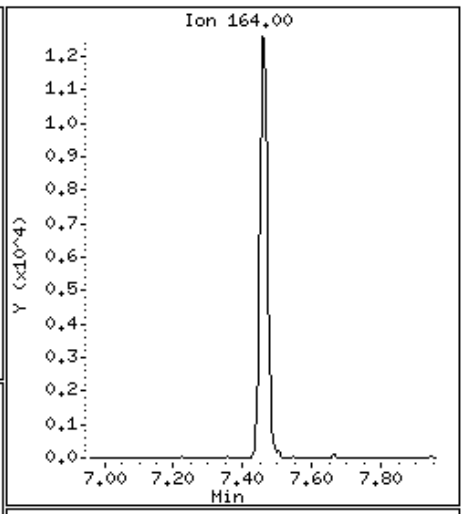
56 Tetrachloroethene Concentration: 2.62 ug/l

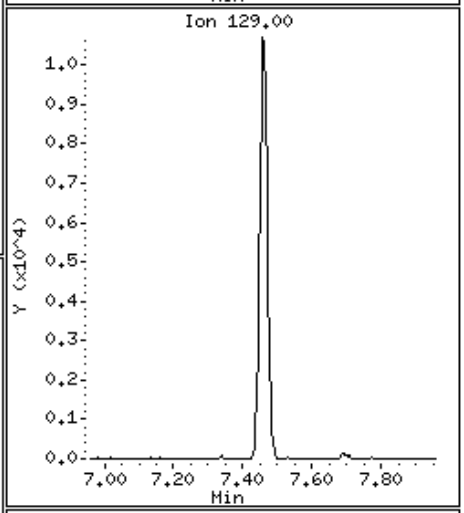


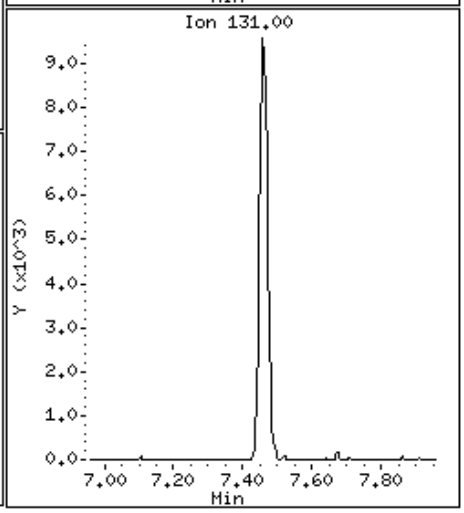












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111111.D
Inj Date : 11-NOV-2022 20:49
InstruID : VOA9.i
LabSampID : HS22110211-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111112.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111112.D
Lab Smp Id: HS22110211-03 Client Smp ID: HS22110211-03
Inj Date : 11-NOV-2022 21:12
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-03;HS22110211-03;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

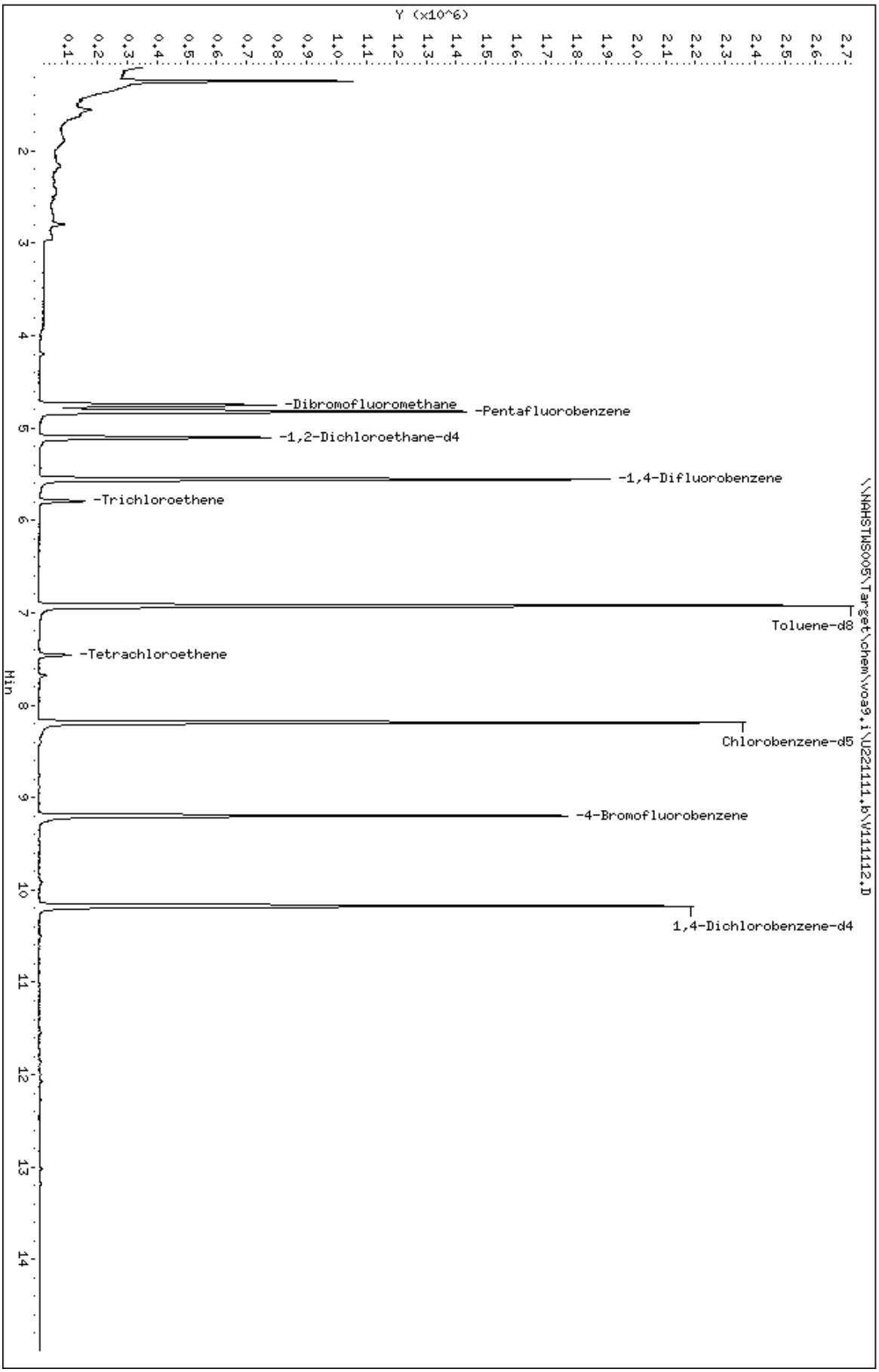
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.819	4.815	(1.000)	989136	50.0000	
$	30 Dibromofluoromethane	113	4.752	4.751	(0.986)	449912	45.4563	45.45
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	516567	45.9817	45.98
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1479966	50.0000	
	38 Trichloroethene	130	5.790	5.790	(1.043)	49418	5.18070	5.18
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1282341	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1641169	53.7990	53.79
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	23875	3.22778	3.22(a)
$	69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	546004	48.3585	48.35
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	587206	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\W111112,D
Date : 11-NOV-2022 21:12
Client ID: HS22110211-03
Sample Info: HS22110211-03;HS22110211-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Page 1

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111112.D Page 2

Date : 11-NOV-2022 21:12

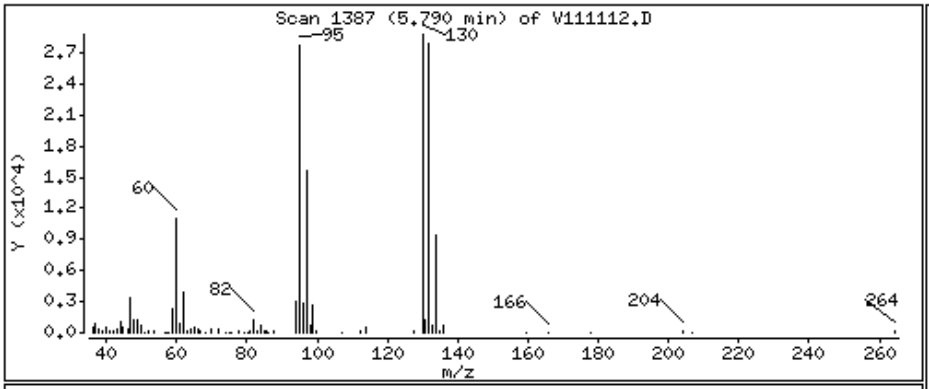
Client ID: HS22110211-03 Instrument: VOA9.i

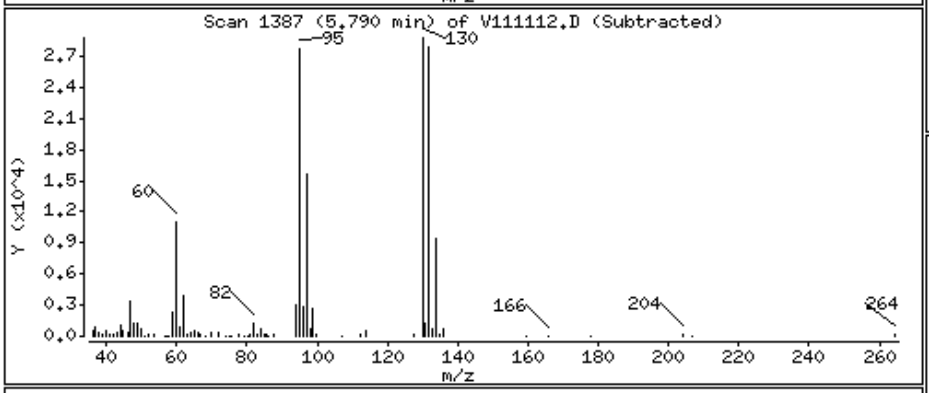
Sample Info: HS22110211-03;HS22110211-03;;;

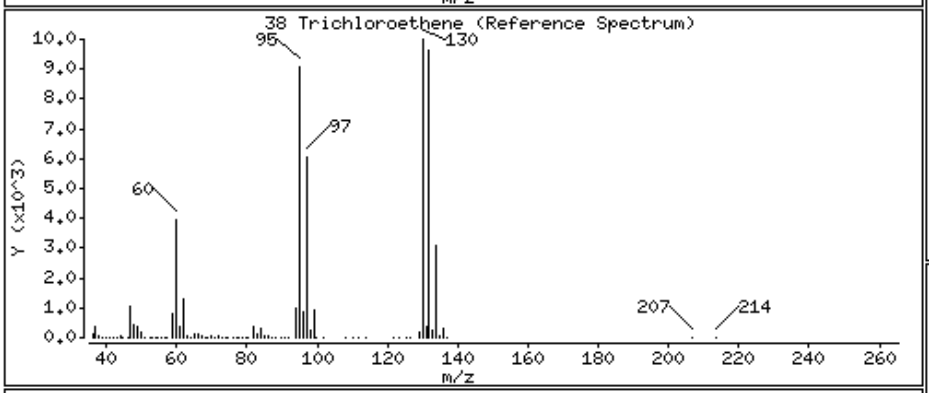
Purge Volume: 5.0 Operator: PC

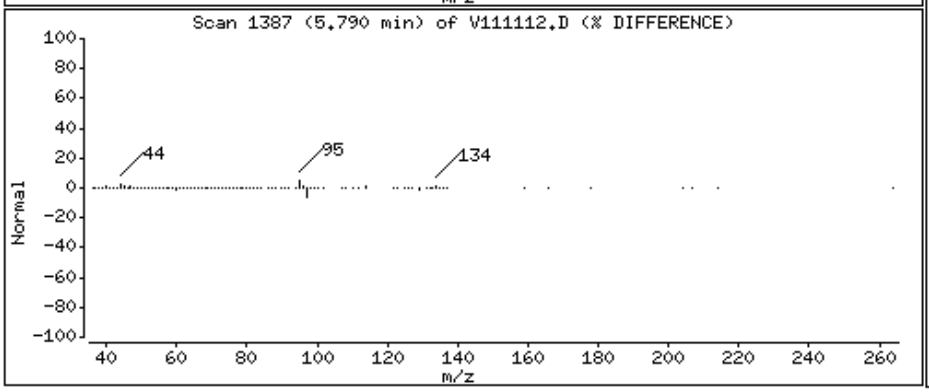
Column phase: DB624 Column diameter: 0.18

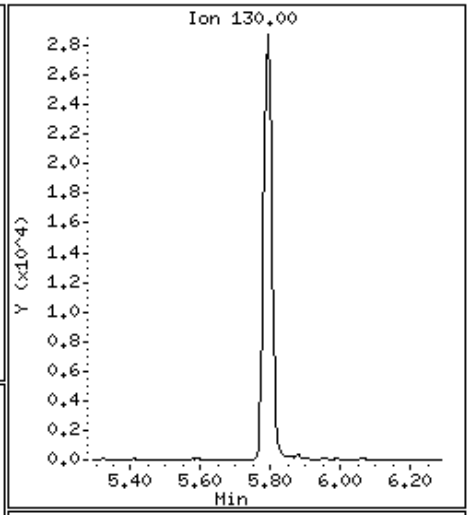
38 Trichloroethene Concentration: 5.18 ug/l

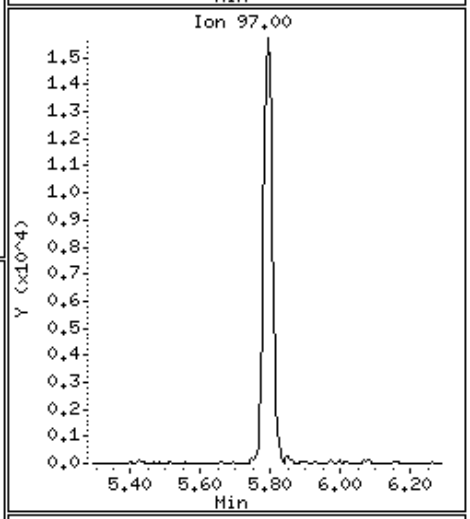


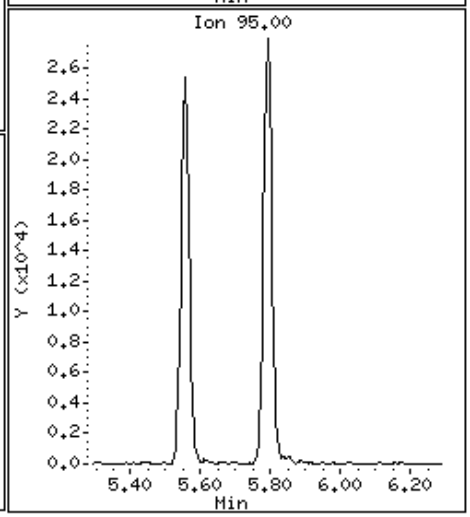












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111112.D Page 3

Date : 11-NOV-2022 21:12

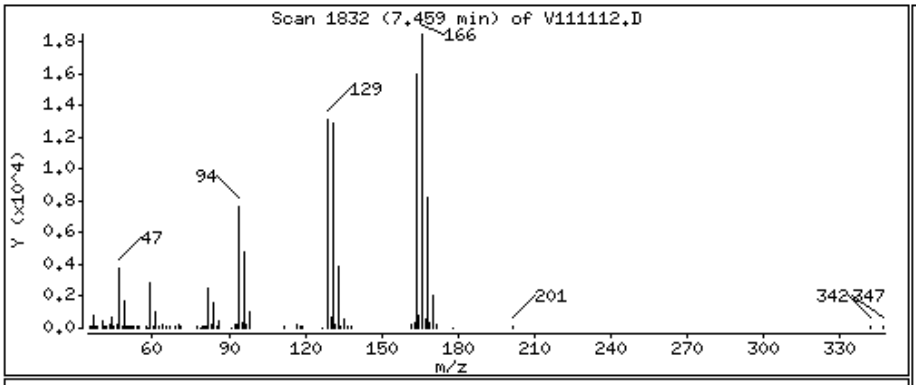
Client ID: HS22110211-03 Instrument: VOA9.i

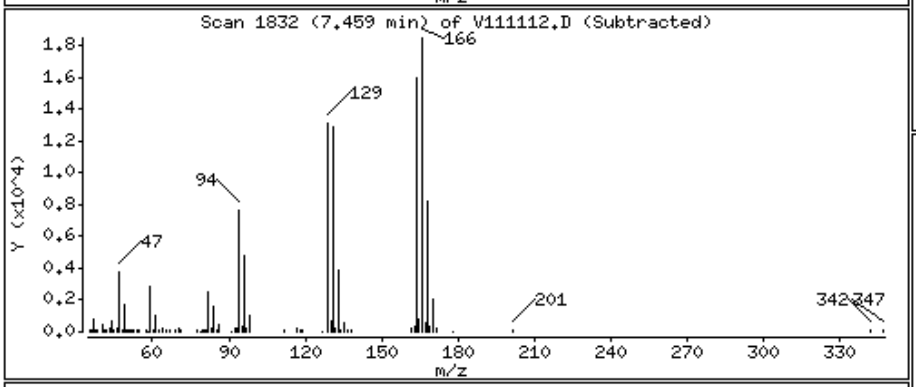
Sample Info: HS22110211-03;HS22110211-03;;;

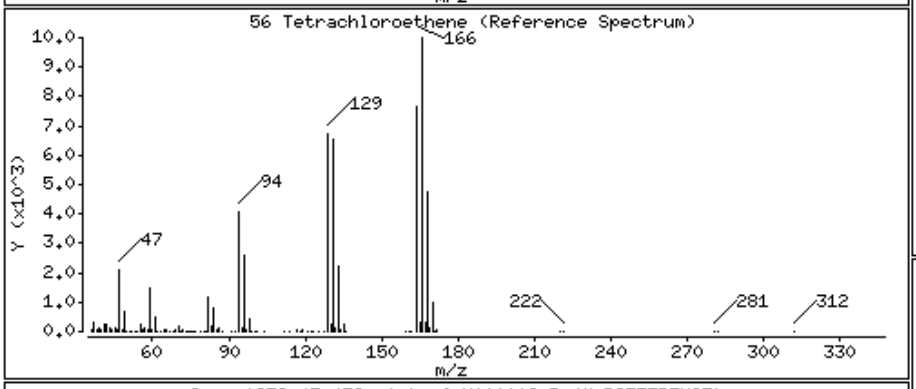
Purge Volume: 5.0 Operator: PC

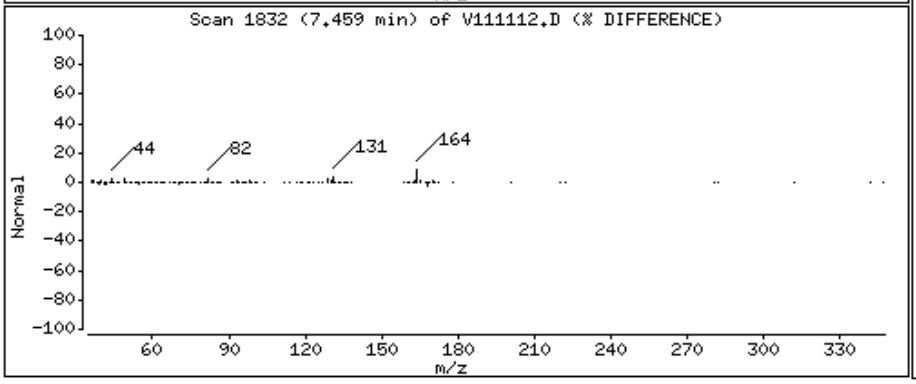
Column phase: DB624 Column diameter: 0.18

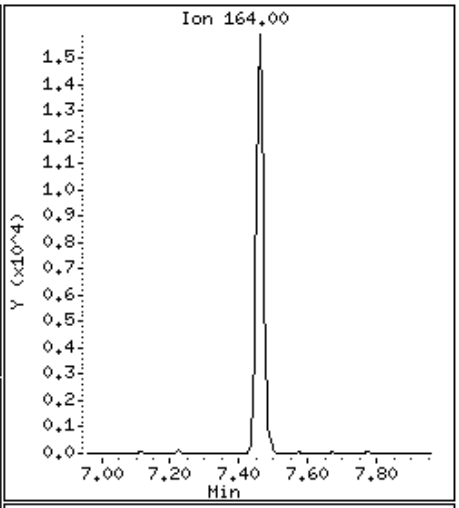
56 Tetrachloroethene Concentration: 3.22 ug/l

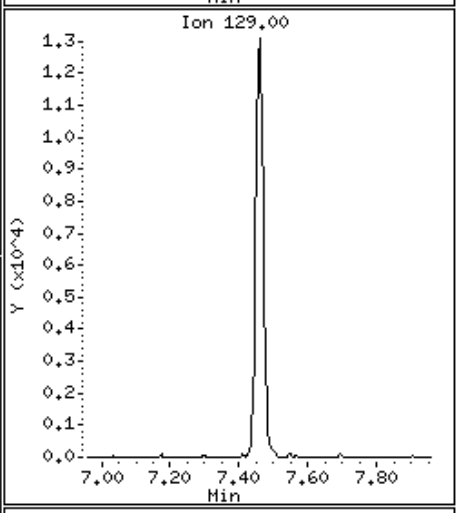


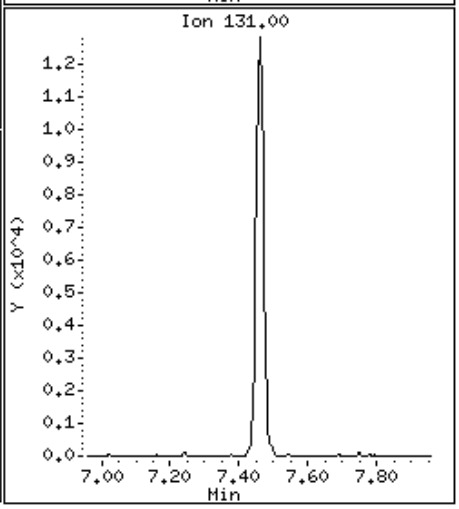












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111112.D
Inj Date : 11-NOV-2022 21:12
InstruID : VOA9.i
LabSampID : HS22110211-03

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111113.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111113.D
Lab Smp Id: HS22110211-04 Client Smp ID: HS22110211-04
Inj Date : 11-NOV-2022 21:34
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-04;HS22110211-04;;;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

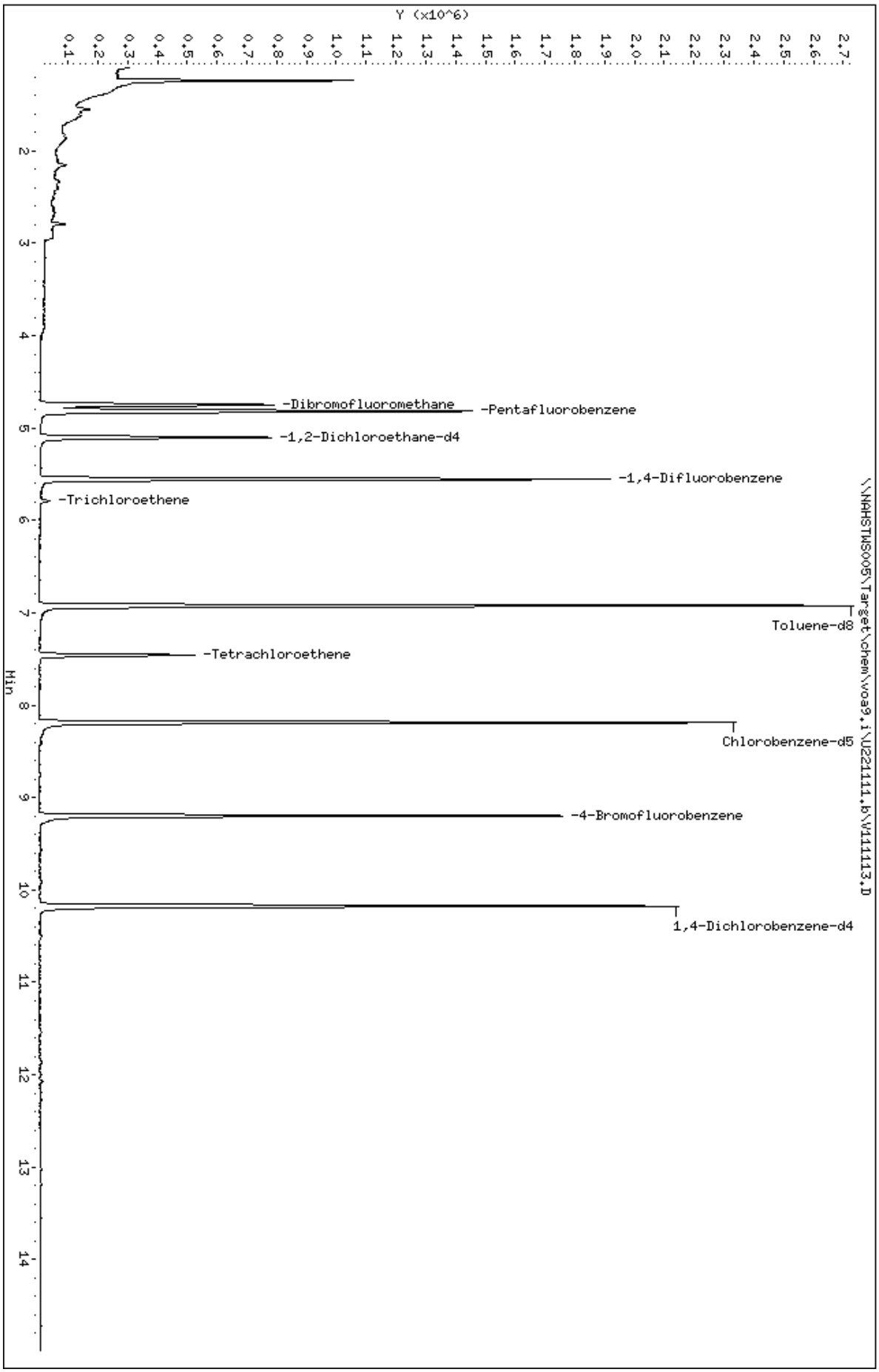
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.815	(1.000)	975251	50.0000	
$ 30 Dibromofluoromethane	113	4.748	4.751	(0.986)	452574	46.3833	46.38
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	510878	46.1247	46.12
* 36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1473399	50.0000	
38 Trichloroethene	130	5.790	5.790	(1.043)	8914	0.93866	0.93(a)
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1270664	50.0000	
$ 48 Toluene-d8	98	6.922	6.922	(0.845)	1641321	54.2984	54.29
56 Tetrachloroethene	164	7.458	7.458	(0.911)	110120	15.0245	15.02
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	542821	48.5178	48.51
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	580575	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



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Date : 11-NOV-2022 21:34
Client ID: HS22110211-04
Sample Info: HS22110211-04;HS22110211-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111113.D

Date : 11-NOV-2022 21:34

Client ID: HS22110211-04

Instrument: VOA9.i

Sample Info: HS22110211-04;HS22110211-04;;;

Purge Volume: 5.0

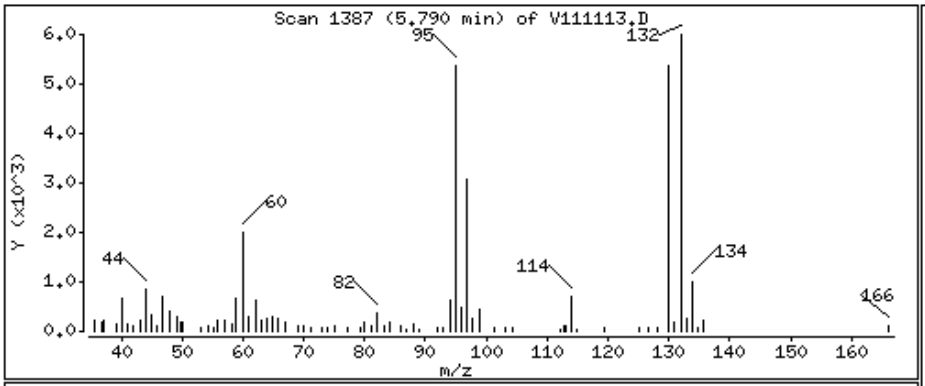
Operator: PC

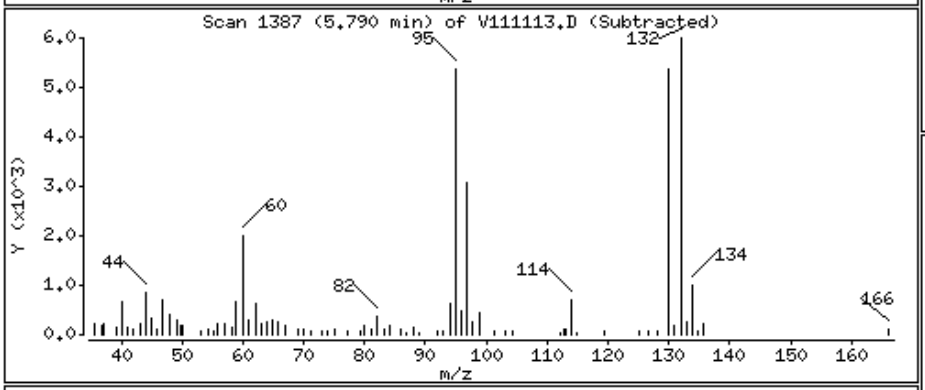
Column phase: DB624

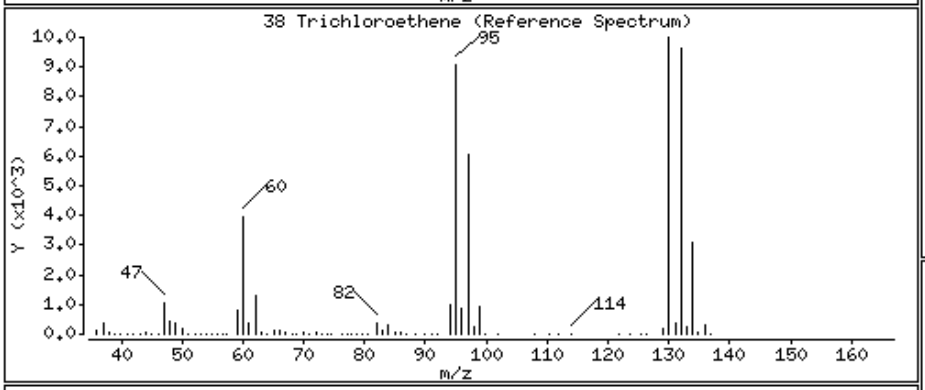
Column diameter: 0.18

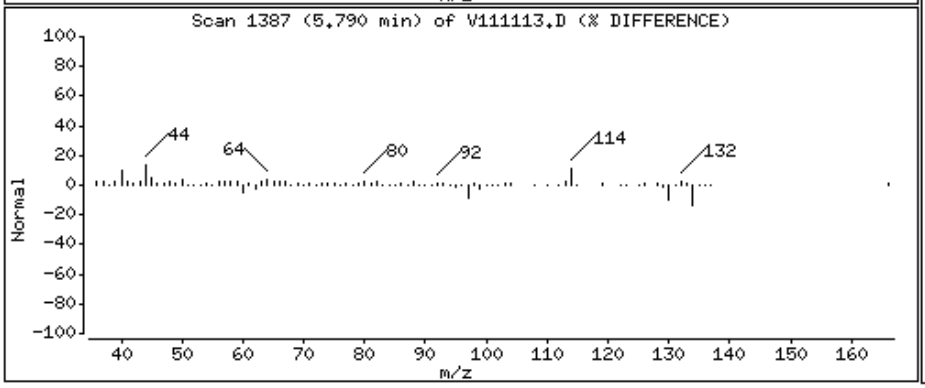
38 Trichloroethene

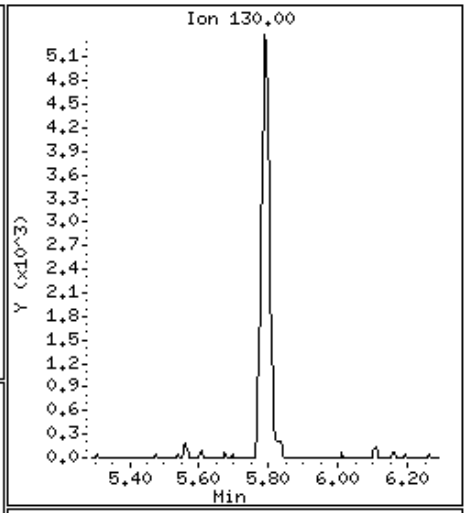
Concentration: 0.93 ug/l

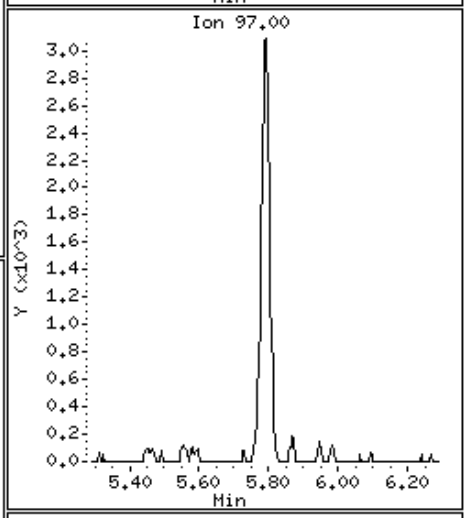


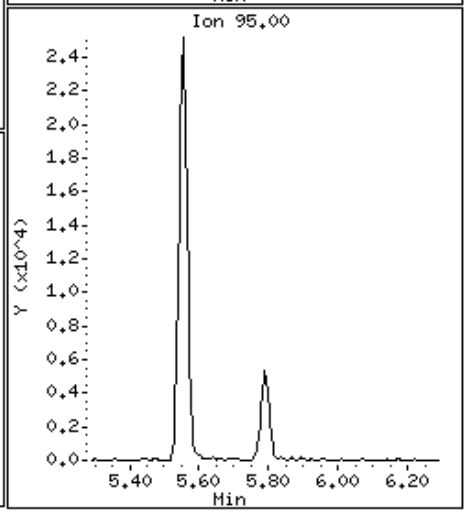












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111113.D Page 3

Date : 11-NOV-2022 21:34

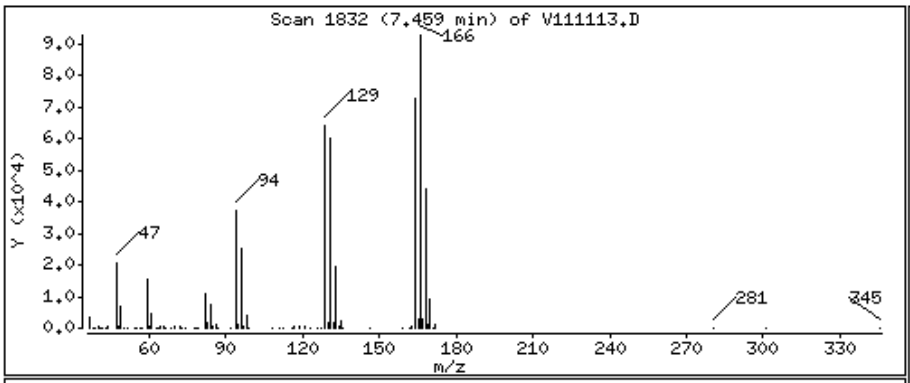
Client ID: HS22110211-04 Instrument: VOA9.i

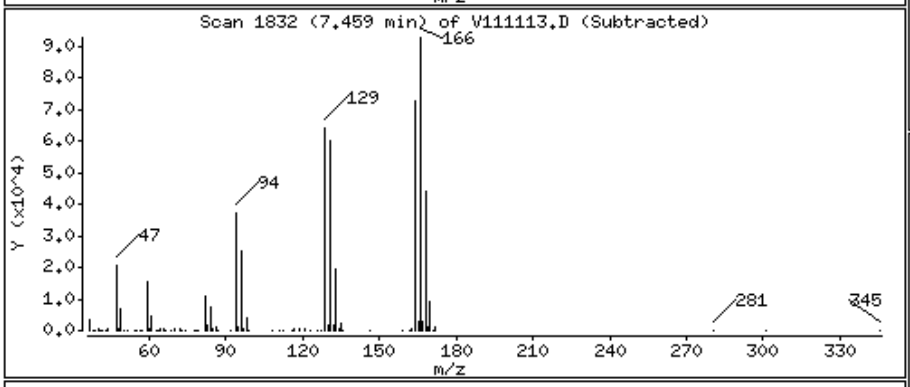
Sample Info: HS22110211-04;HS22110211-04;;;

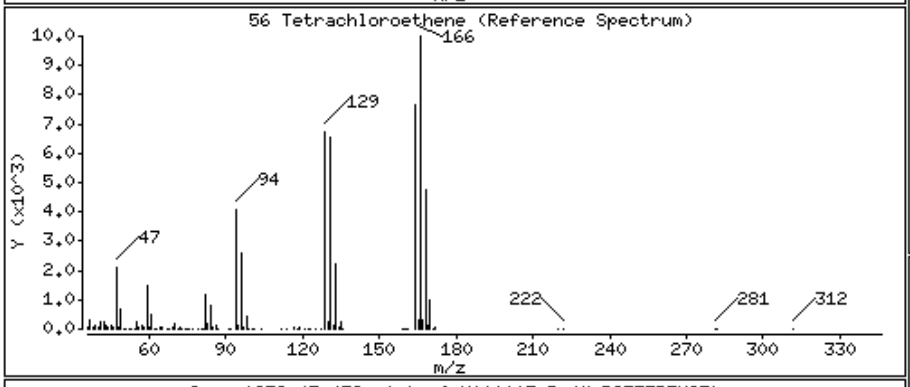
Purge Volume: 5.0 Operator: PC

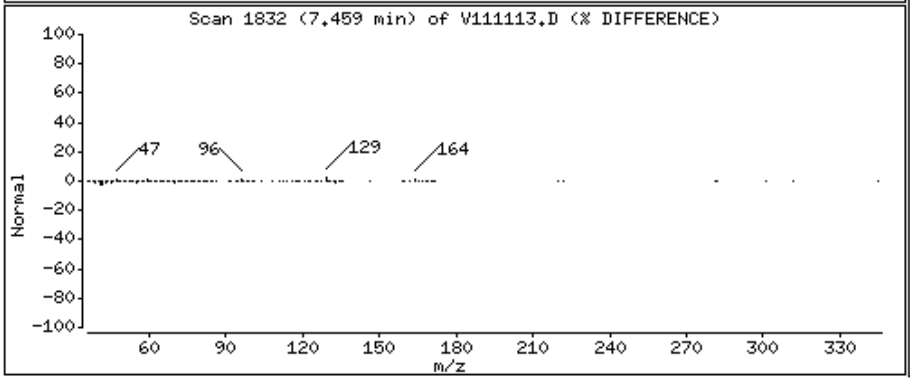
Column phase: DB624 Column diameter: 0.18

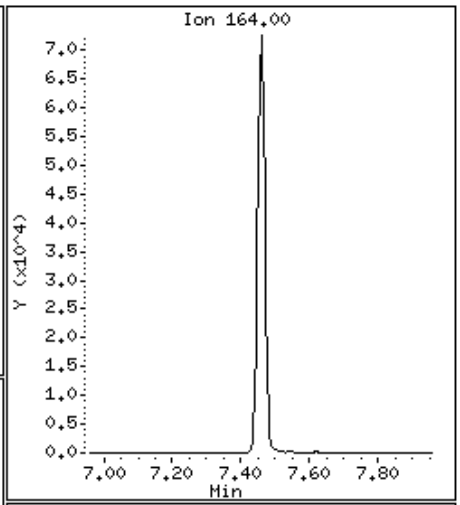
56 Tetrachloroethene Concentration: 15.02 ug/l

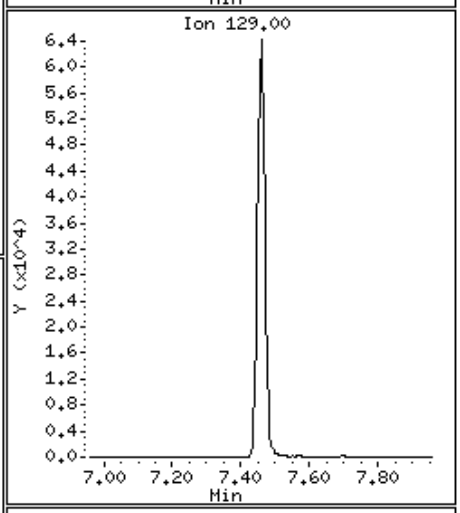


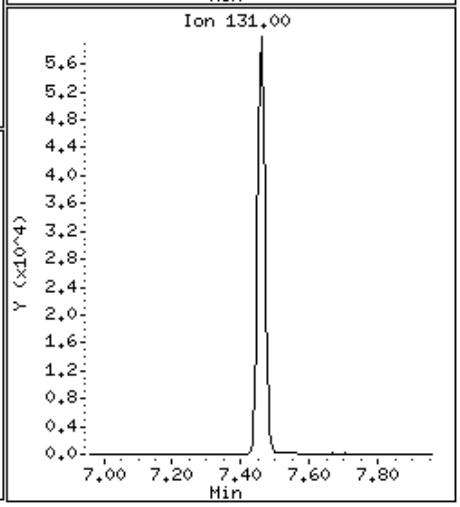












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111113.D
Inj Date : 11-NOV-2022 21:34
InstruID : VOA9.i
LabSampID : HS22110211-04

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111114.D Page 1
Report Date: 16-Nov-2022 10:00

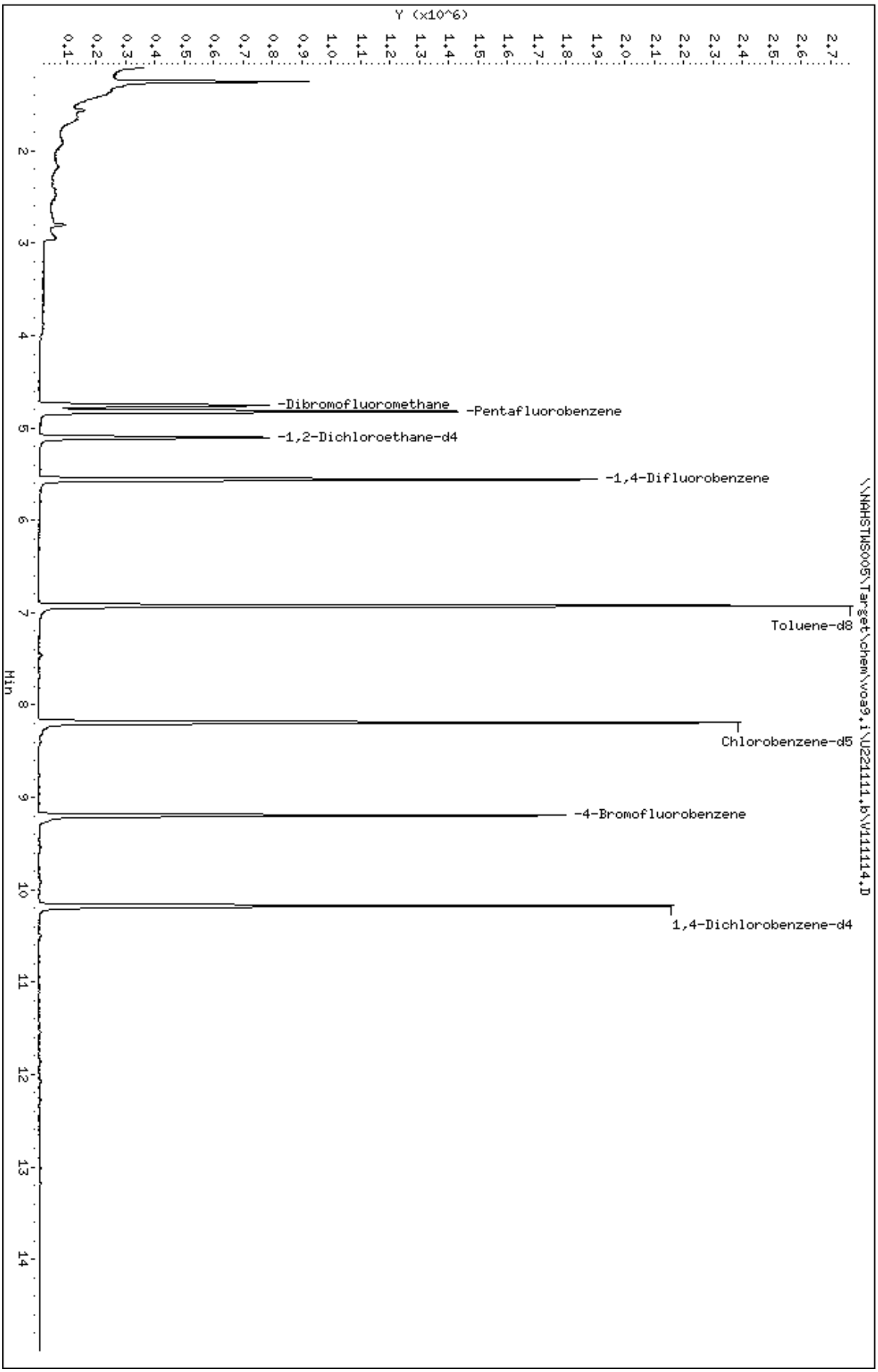
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111114.D
Lab Smp Id: HS22110211-05 Client Smp ID: HS22110211-05
Inj Date : 11-NOV-2022 21:56
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-05;HS22110211-05;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.822	4.815	(1.000)	969737	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	451925	46.5817	46.58
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	513094	46.5945	46.59
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1450596	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1279264	50.0000	
$ 48 Toluene-d8	98	6.925	6.922	(0.846)	1646040	54.0885	54.08
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	544310	48.3245	48.32
* 70 1,4-Dichlorobenzene-d4	152	10.176	10.172	(1.000)	585998	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111114.D
Date : 11-NOV-2022 21:56
Client ID: HS22110211-05
Sample Info: HS22110211-05;HS22110211-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111114.D
Inj Date : 11-NOV-2022 21:56
InstruID : VOA9.i
LabSampID : HS22110211-05

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111115.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111115.D
Lab Smp Id: HS22110211-06 Client Smp ID: HS22110211-06
Inj Date : 11-NOV-2022 22:19
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-06;HS22110211-06;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

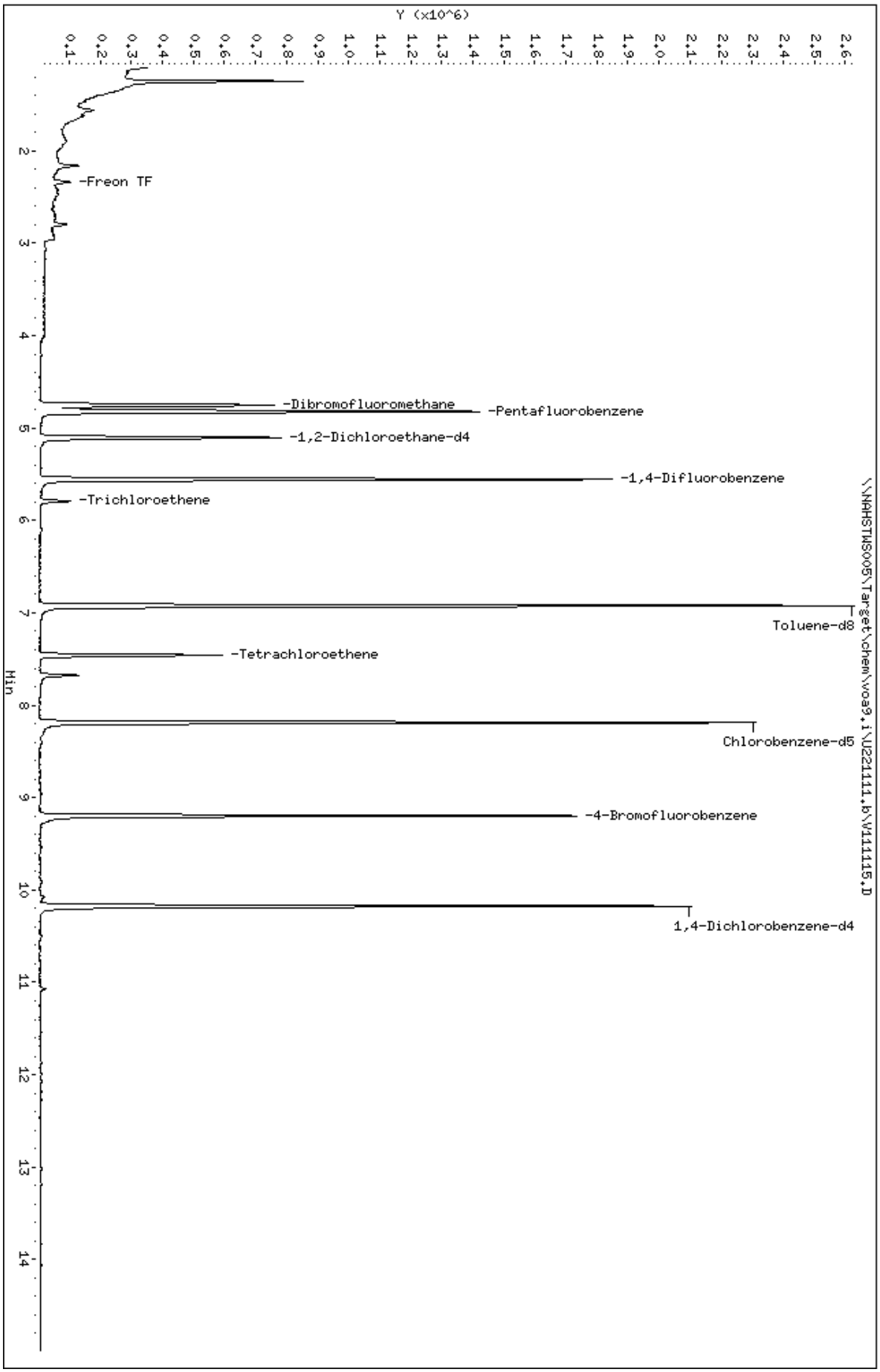
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	951876	50.0000	
$ 30 Dibromofluoromethane	113	4.752	4.751	(0.986)	439888	46.1888	46.18
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	512320	47.4082	47.40
* 36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1436567	50.0000	
38 Trichloroethene	130	5.794	5.790	(1.042)	29474	3.18323	3.18(a)
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1254731	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1598812	53.5638	53.56
56 Tetrachloroethene	164	7.458	7.458	(0.911)	126169	17.4327	17.43
$ 69 4-Bromofluorobenzene	95	9.198	9.194	(1.123)	524626	47.4908	47.49
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	571286	50.0000	
138 Freon TF	101	2.341	2.334	(0.486)	21044	3.60506	3.60(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\V111115.D
Date : 11-NOV-2022 22:19
Client ID: HS22110211-06
Sample Info: HS22110211-06;HS22110211-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111115.D Page 2

Date : 11-NOV-2022 22:19

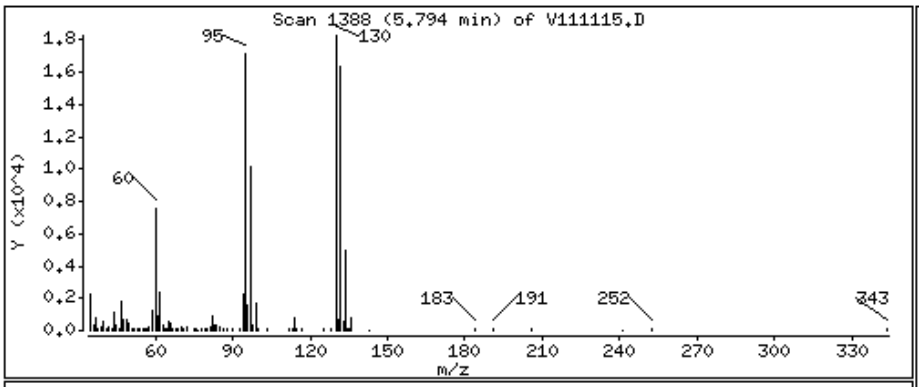
Client ID: HS22110211-06 Instrument: VOA9.i

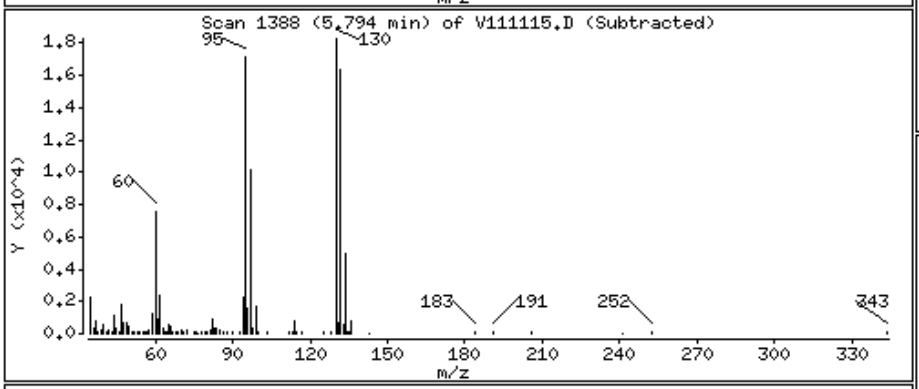
Sample Info: HS22110211-06;HS22110211-06;;;

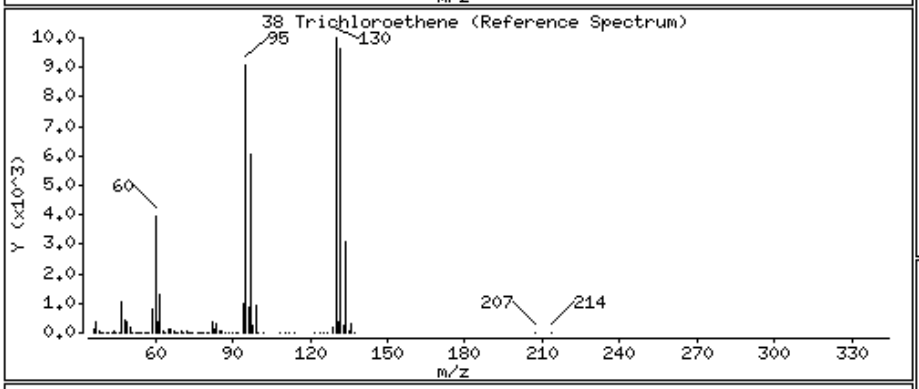
Purge Volume: 5.0 Operator: PC

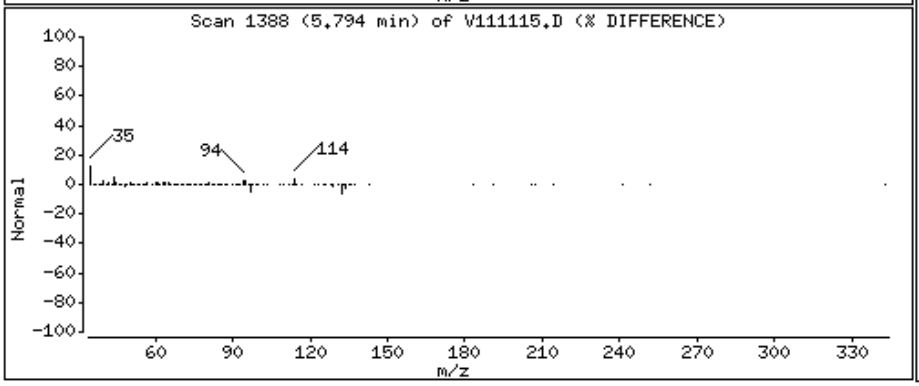
Column phase: DB624 Column diameter: 0.18

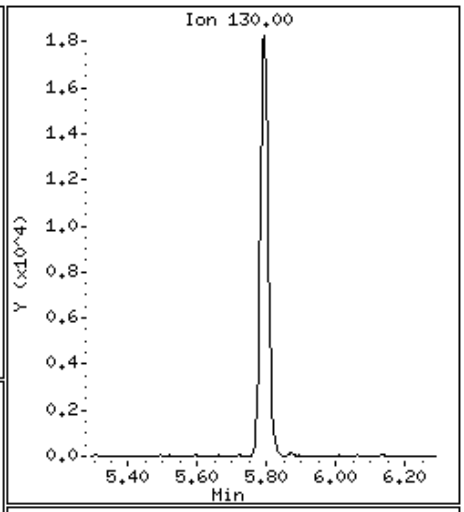
38 Trichloroethene Concentration: 3.18 ug/l

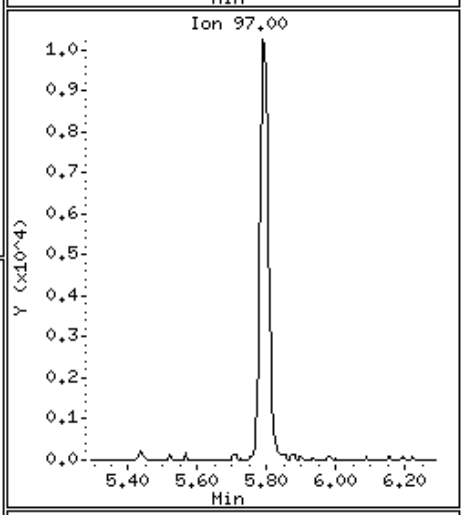


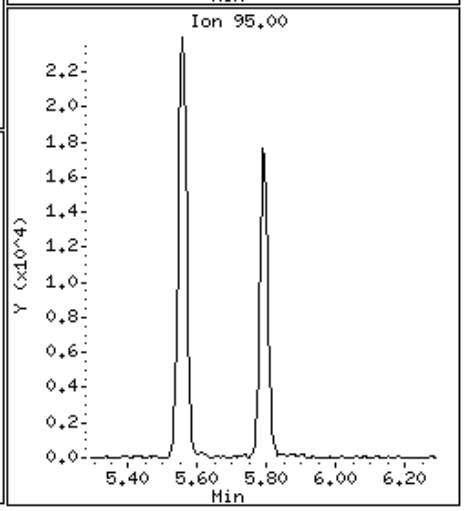












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111115.D Page 3

Date : 11-NOV-2022 22:19

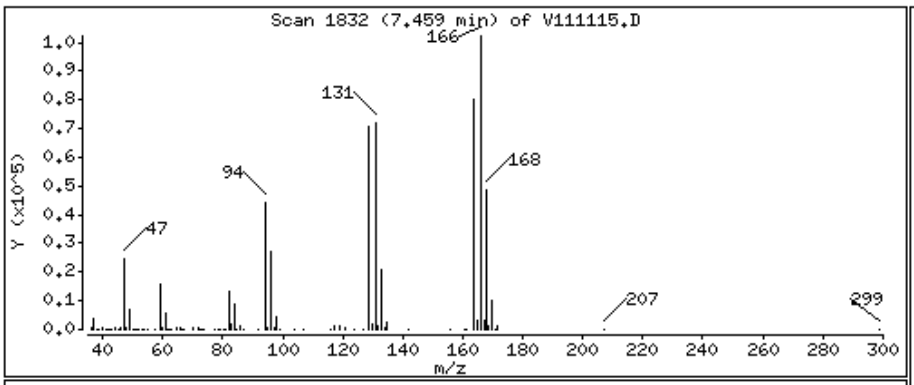
Client ID: HS22110211-06 Instrument: VOA9.i

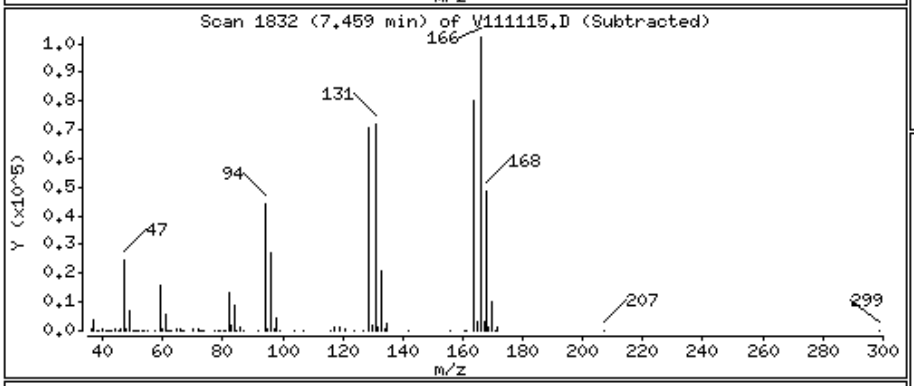
Sample Info: HS22110211-06;HS22110211-06;;;

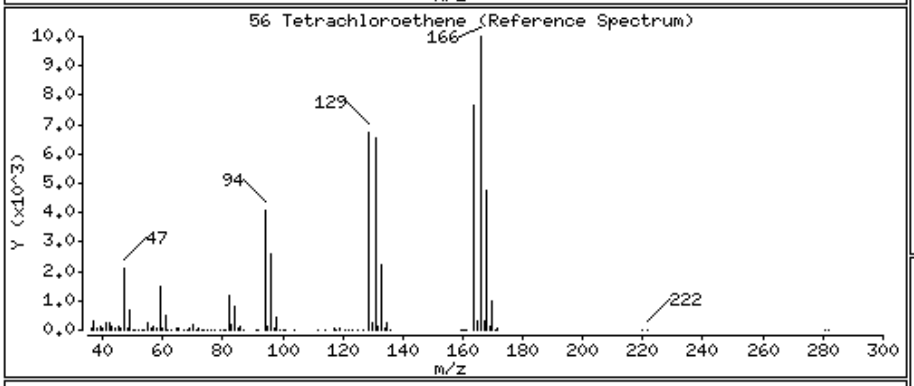
Purge Volume: 5.0 Operator: PC

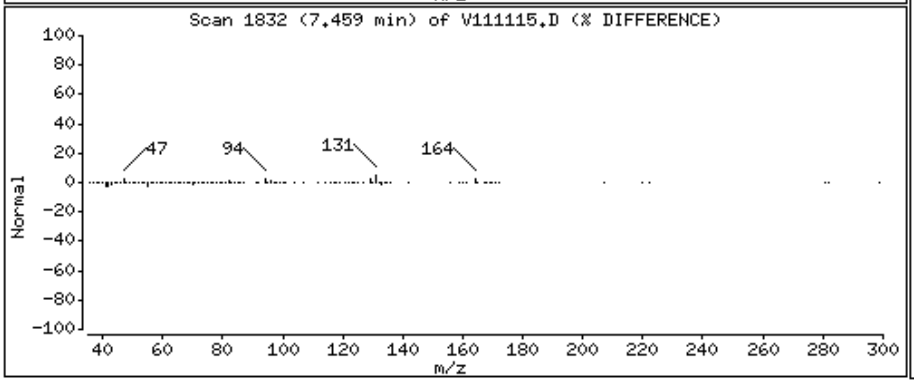
Column phase: DB624 Column diameter: 0.18

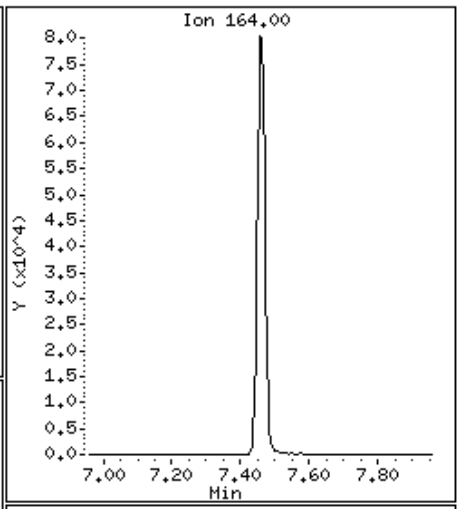
56 Tetrachloroethene Concentration: 17.43 ug/l

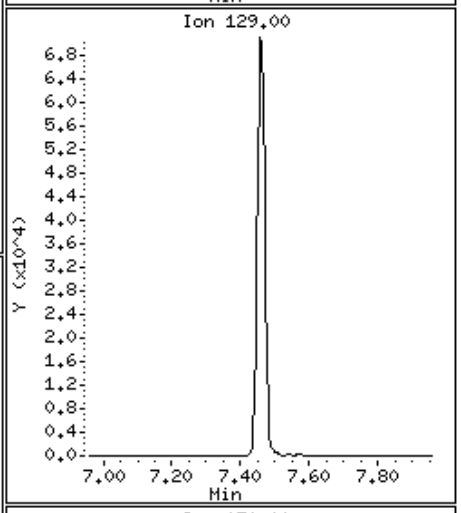


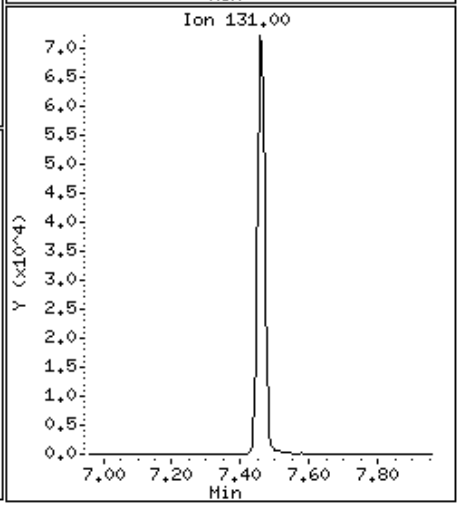












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Date : 11-NOV-2022 22:19

Client ID: HS22110211-06

Instrument: VOA9.i

Sample Info: HS22110211-06;HS22110211-06;;;

Purge Volume: 5.0

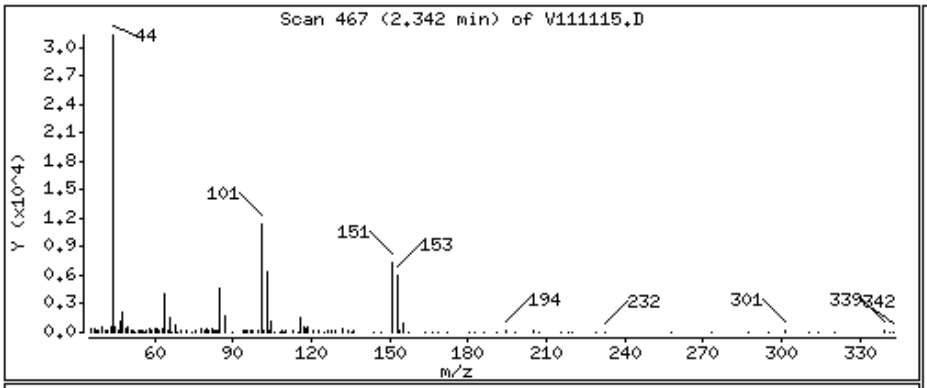
Operator: PC

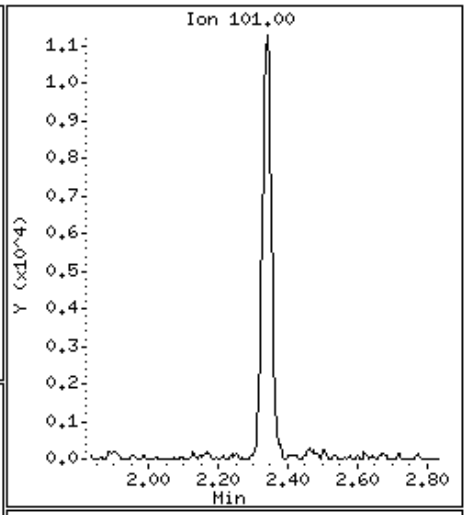
Column phase: DB624

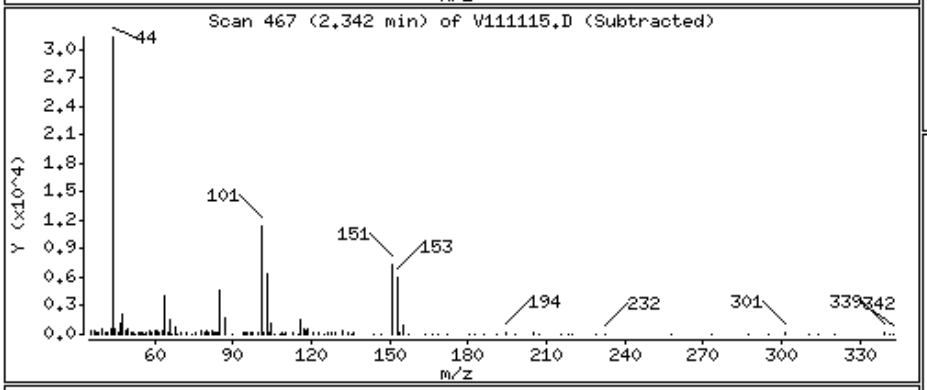
Column diameter: 0.18

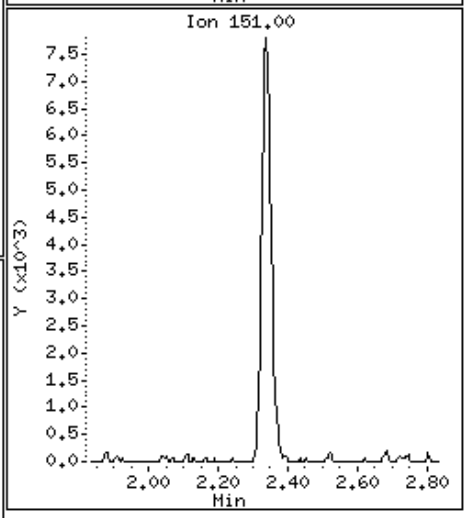
138 Freon TF

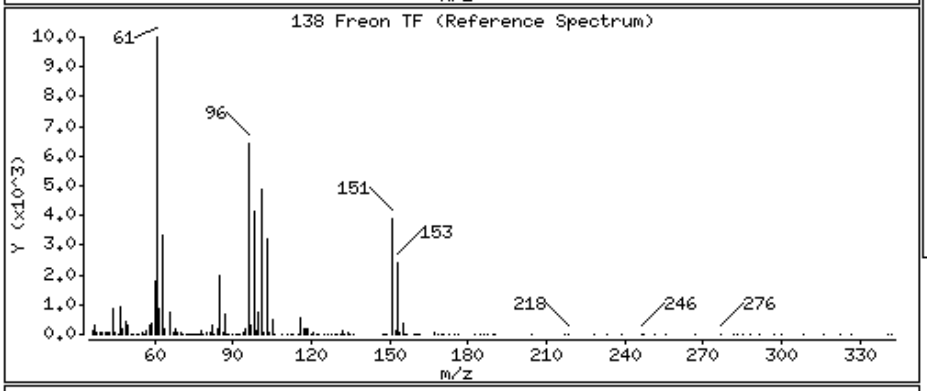
Concentration: 3.60 ug/l

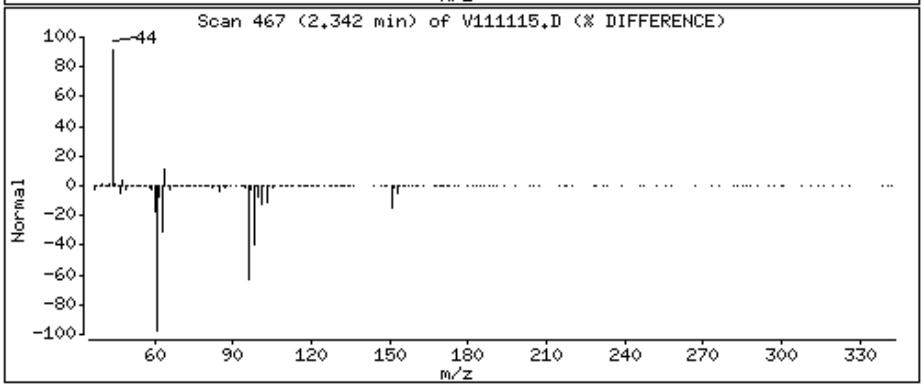












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111115.D
Inj Date : 11-NOV-2022 22:19
InstruID : VOA9.i
LabSampID : HS22110211-06

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111116.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111116.D
Lab Smp Id: HS22110211-07 Client Smp ID: HS22110211-07
Inj Date : 11-NOV-2022 22:41
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-07;HS22110211-07;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 31
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

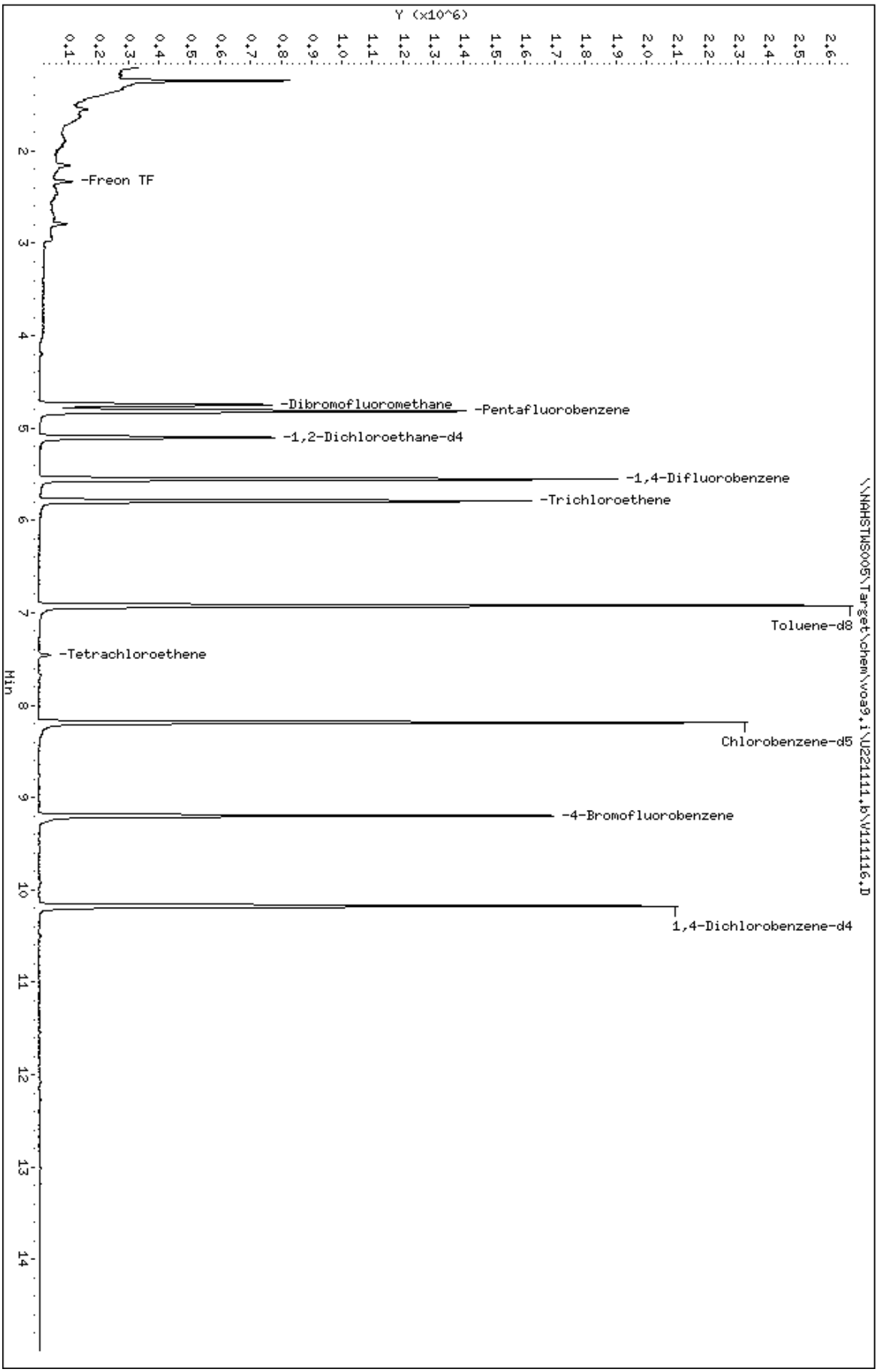
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.815	(1.000)	958271	50.0000	
$ 30 Dibromofluoromethane	113	4.748	4.751	(0.986)	441536	46.0515	46.05
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	504980	46.4038	46.40
* 36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1443556	50.0000	
38 Trichloroethene	130	5.790	5.790	(1.043)	517011	55.5676	55.56
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1255999	50.0000	
$ 48 Toluene-d8	98	6.922	6.922	(0.845)	1606071	53.7526	53.75
56 Tetrachloroethene	164	7.458	7.458	(0.911)	8237	1.13696	1.13(a)
$ 69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	531032	48.0201	48.02
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	564625	50.0000	
138 Freon TF	101	2.334	2.334	(0.485)	23066	3.94753	3.94(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\V111116,D
Date : 11-NOV-2022 22:41
Client ID: HS22110211-07
Sample Info: HS22110211-07;HS22110211-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111116.D Page 2

Date : 11-NOV-2022 22:41

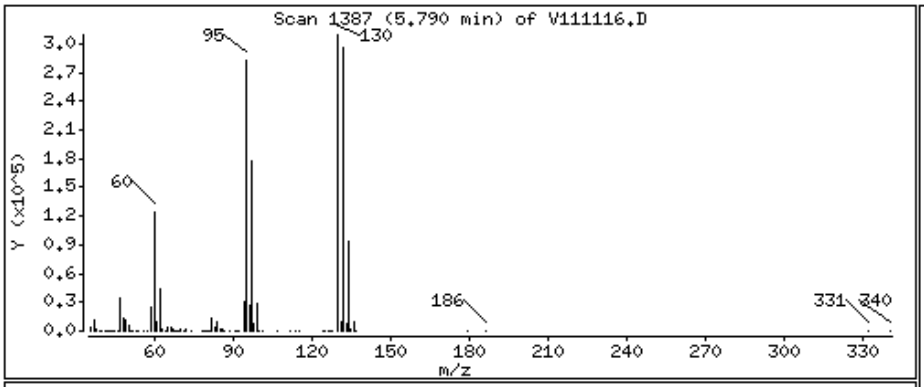
Client ID: HS22110211-07 Instrument: VOA9.i

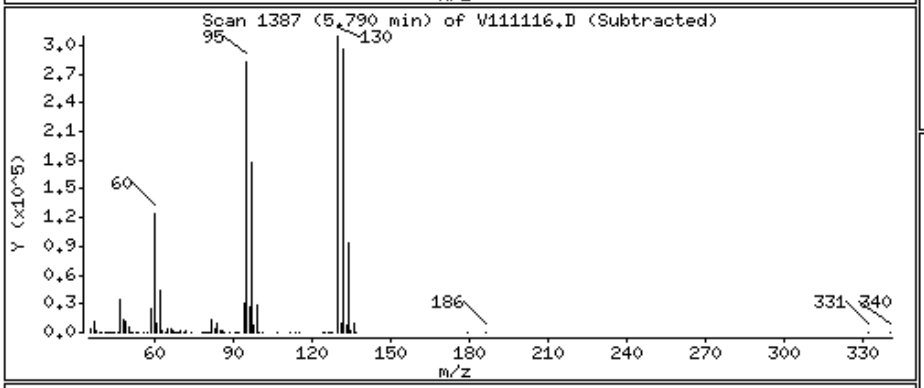
Sample Info: HS22110211-07;HS22110211-07;;;

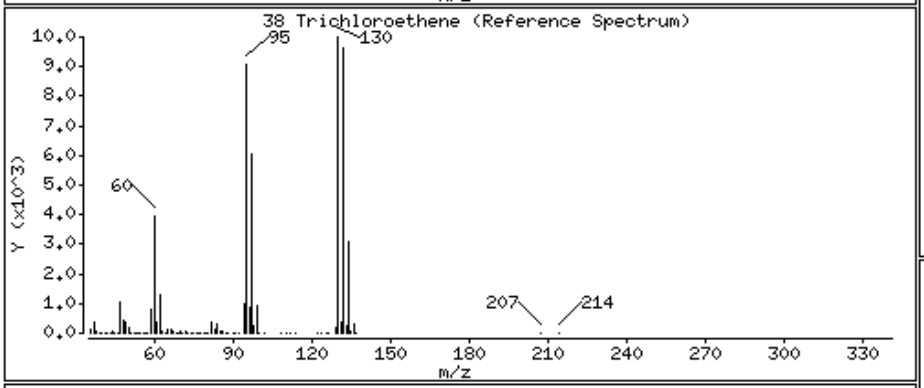
Purge Volume: 5.0 Operator: PC

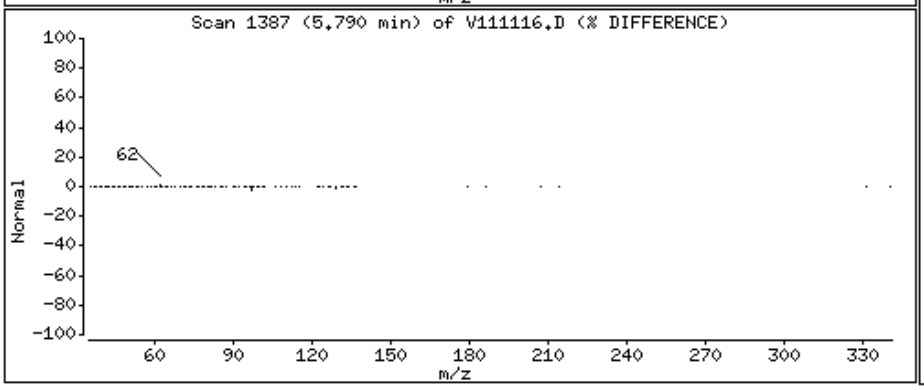
Column phase: DB624 Column diameter: 0.18

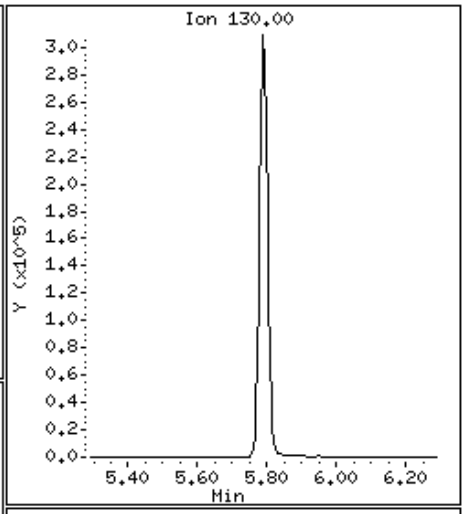
38 Trichloroethene Concentration: 55.56 ug/l

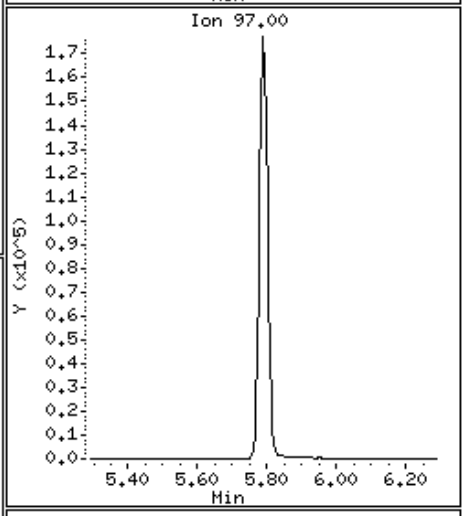


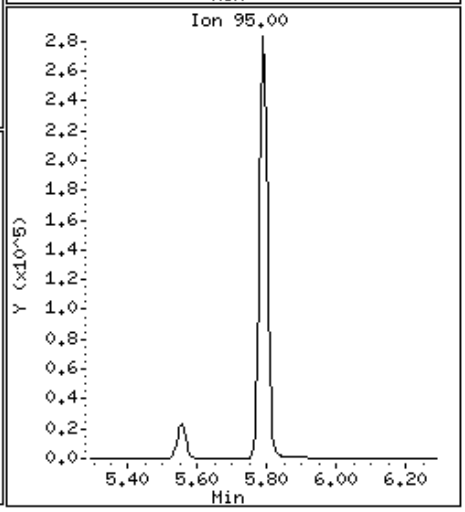












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111116.D Page 3

Date : 11-NOV-2022 22:41

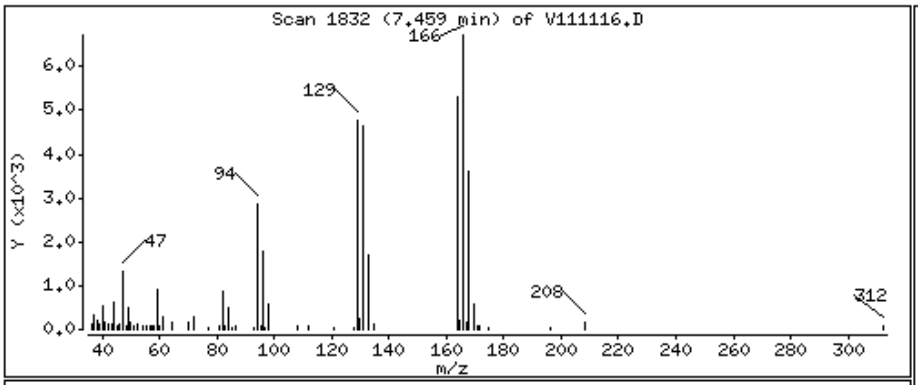
Client ID: HS22110211-07 Instrument: VOA9.i

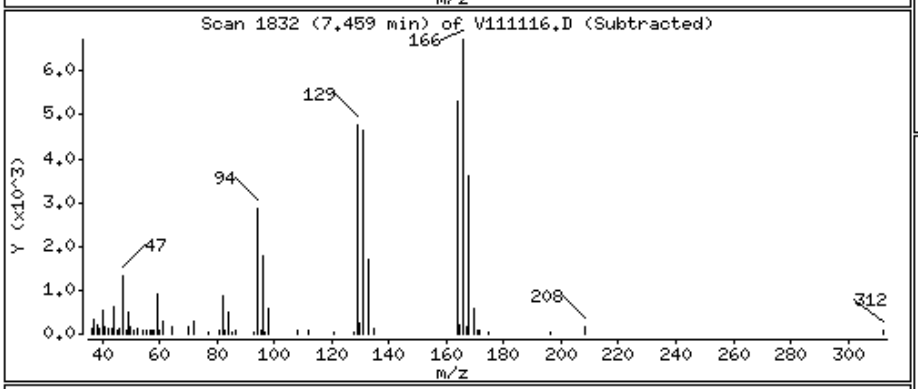
Sample Info: HS22110211-07;HS22110211-07;;;

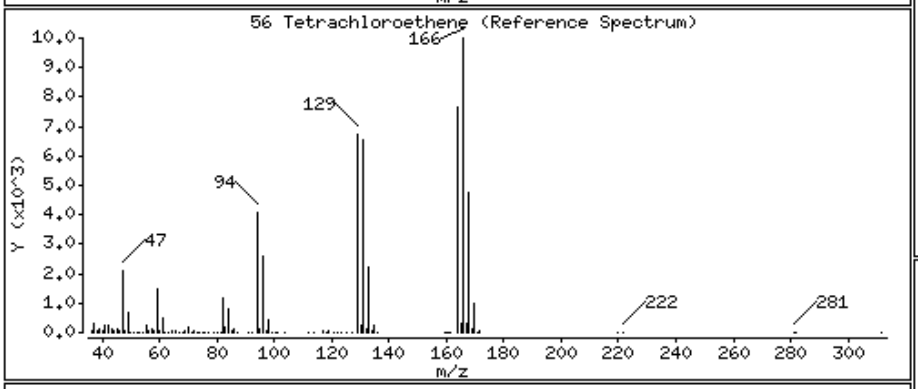
Purge Volume: 5.0 Operator: PC

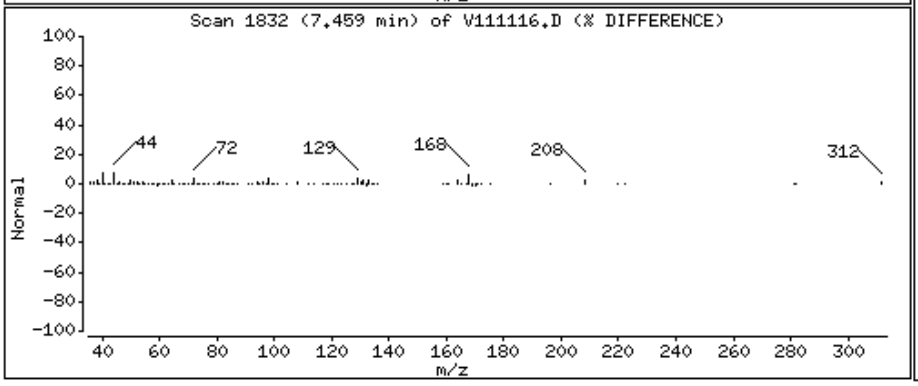
Column phase: DB624 Column diameter: 0.18

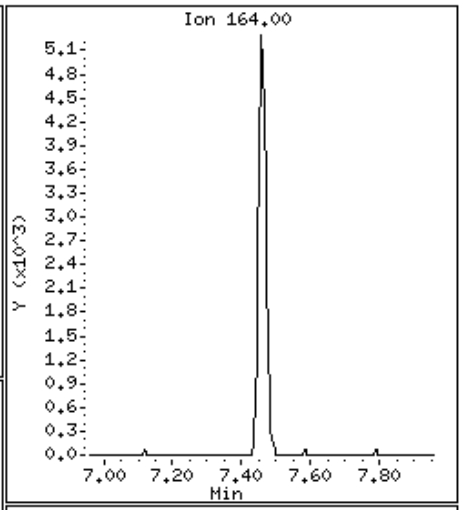
56 Tetrachloroethene Concentration: 1.13 ug/l

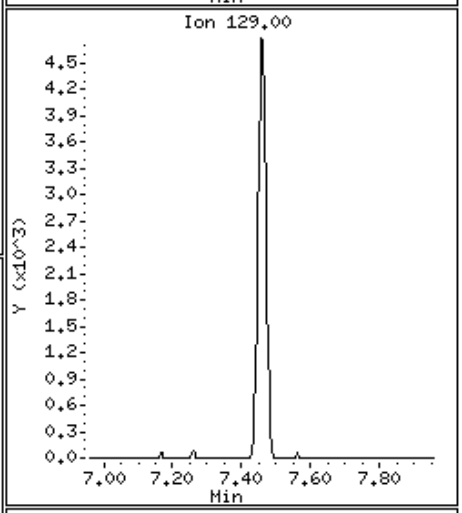


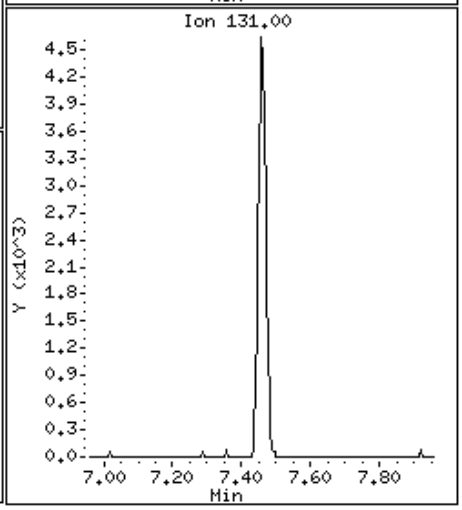












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111116.D Page 4

Date : 11-NOV-2022 22:41

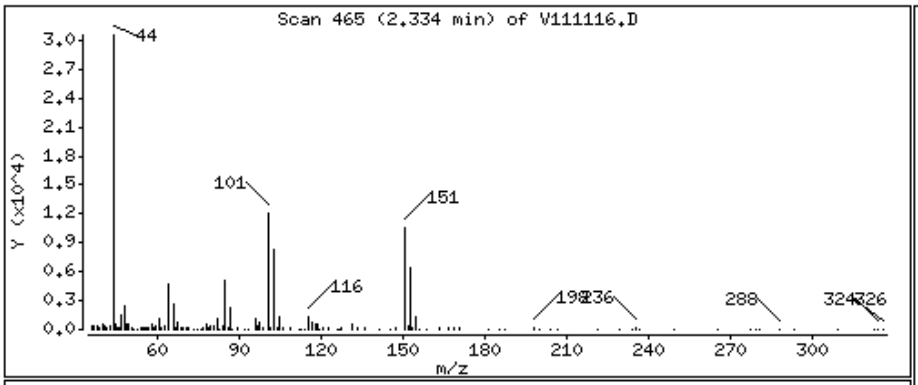
Client ID: HS22110211-07 Instrument: VOA9.i

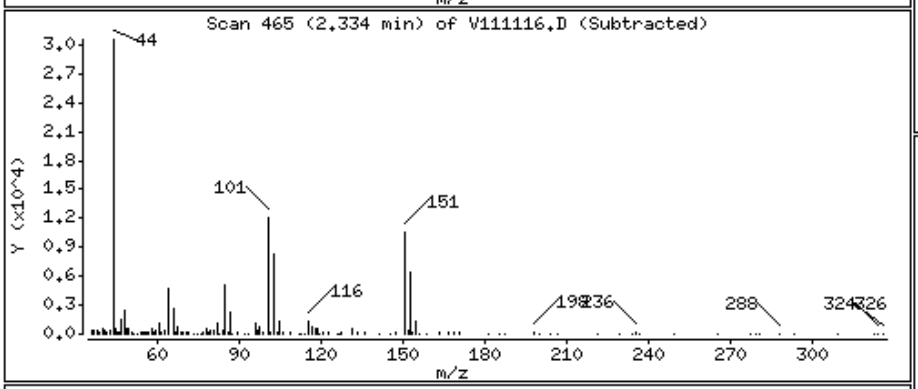
Sample Info: HS22110211-07;HS22110211-07;;;

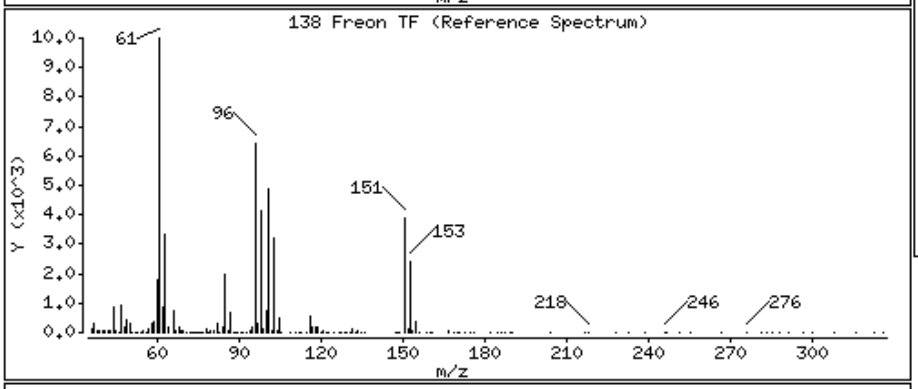
Purge Volume: 5.0 Operator: PC

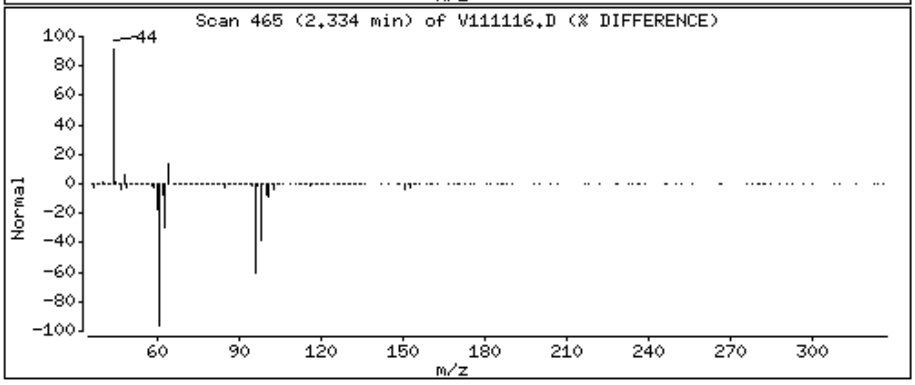
Column phase: DB624 Column diameter: 0.18

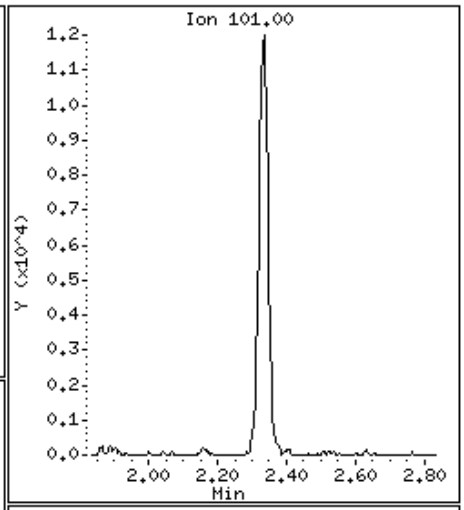
138 Freon TF Concentration: 3.94 ug/l

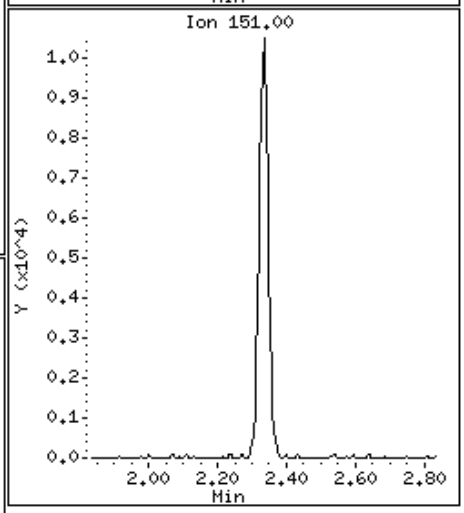












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111116.D
Inj Date : 11-NOV-2022 22:41
InstruID : VOA9.i
LabSampID : HS22110211-07

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111117.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111117.D
Lab Smp Id: HS22110211-08 Client Smp ID: HS22110211-08
Inj Date : 11-NOV-2022 23:03
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-08;HS22110211-08;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 32
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

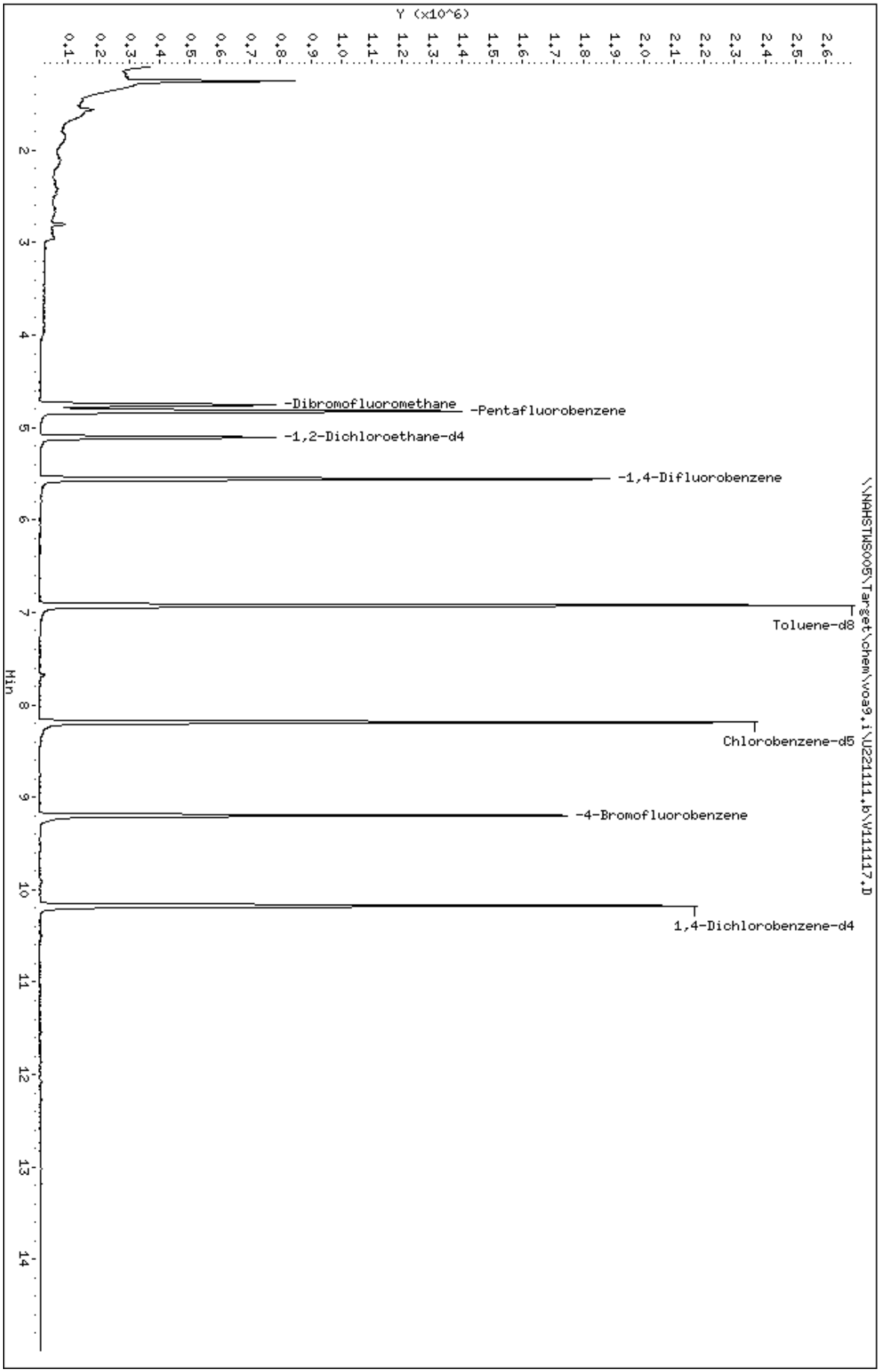
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	955948	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	444212	46.4461	46.44
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	508109	46.8103	46.81
* 36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1429486	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1265273	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1619520	53.8055	53.80
$ 69 4-Bromofluorobenzene	95	9.198	9.194	(1.123)	538602	48.3465	48.34
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	582574	50.0000	

Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\V111117.D
Date : 11-NOV-2022 23:03
Client ID: HS22110211-08
Sample Info: HS22110211-08;HS22110211-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18



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Inj Date : 11-NOV-2022 23:03
InstruID : VOA9.i
LabSampID : HS22110211-08

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111118.D Page 1
Report Date: 16-Nov-2022 10:00

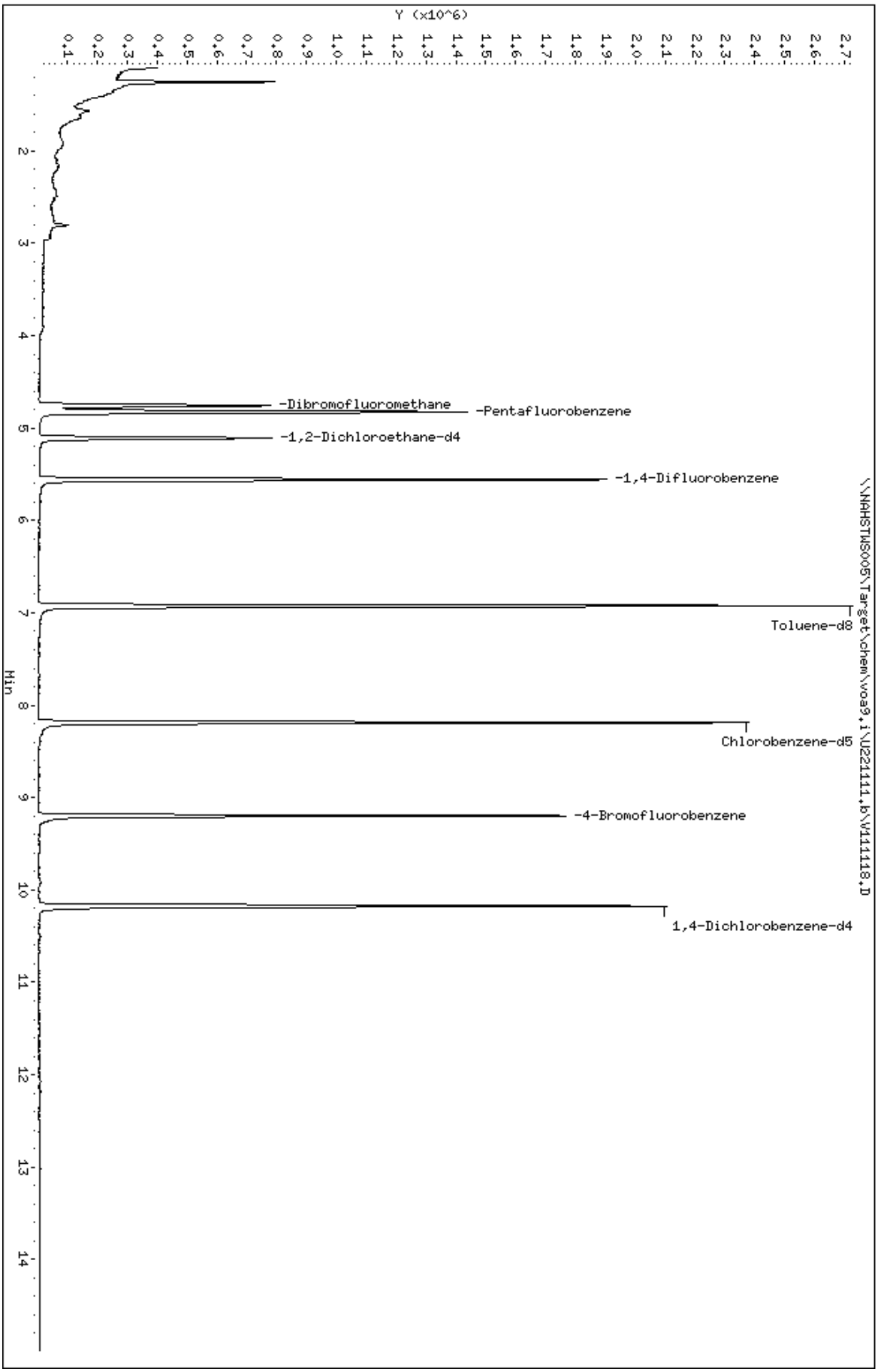
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111118.D
Lab Smp Id: HS22110211-09 Client Smp ID: HS22110211-09
Inj Date : 11-NOV-2022 23:26
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110211-09;HS22110211-09;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 33
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	970349	50.0000	
$ 30 Dibromofluoromethane	113	4.759	4.751	(0.987)	445404	45.8753	45.87
$ 35 1,2-Dichloroethane-d4	65	5.108	5.100	(1.059)	521891	47.3740	47.37
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1456694	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1276199	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1635894	53.8842	53.88
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	538312	47.9084	47.90
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	567821	50.0000	



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Date : 11-NOV-2022 23:26
Client ID: HS22110211-09
Sample Info: HS22110211-09;HS22110211-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111118.D
Inj Date : 11-NOV-2022 23:26
InstruID : VOA9.i
LabSampID : HS22110211-09

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D
Lab Smp Id: HS22110281-01MS Client Smp ID: HS22110281-01MS
Inj Date : 12-NOV-2022 03:09
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-01MS;HS22110281-01MS;3;;MS
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 43 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	980561	50.0000	
2 Dichlorodifluoromethane	85	1.164	1.160	(0.242)	179140	23.8550	23.85
3 Chloromethane	50	1.295	1.291	(0.269)	221271	20.5839	20.58
5 Vinyl Chloride	62	1.378	1.374	(0.286)	214760	21.4730	21.47
6 Bromomethane	94	1.621	1.618	(0.337)	153912	21.7278	21.72
7 Chloroethane	64	1.700	1.696	(0.353)	150812	20.6406	20.64
8 Trichlorofluoromethane	101	1.899	1.895	(0.394)	308932	23.7576	23.75
9 Acrolein	56	2.270	2.266	(0.471)	14065	20.8103	20.81
10 Acetone	43	2.412	2.409	(0.501)	130127	27.4742	27.47
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	180508	21.5852	21.58
15 Iodomethane	142	2.469	2.469	(0.512)	294999	33.9985	33.99
16 Acrylonitrile	53	3.068	3.065	(0.637)	148334	32.5712	32.57
17 Methylene Chloride	84	2.795	2.795	(0.580)	225520	19.9582	19.95
18 Methyl tert-butyl ether	73	3.083	3.080	(0.640)	427545	15.1713	15.17
19 Carbon Disulfide	76	2.521	2.517	(0.523)	981219	40.3338	40.33
20 trans-1,2-Dichloroethene	96	3.061	3.061	(0.635)	191524	20.6976	20.69
21 Vinyl Acetate	43	3.612	3.608	(0.750)	713893	29.5600	29.56
22 1,1-Dichloroethane	63	3.518	3.514	(0.730)	331410	20.1462	20.14
24 2-Butanone	43	4.272	4.268	(0.886)	142166	35.8534	35.85
26 2,2-Dichloropropane	77	4.185	4.185	(0.869)	129427	15.5915	15.59

27 cis-1,2-Dichloroethene	96	4.200	4.197 (0.872)	217688	20.0130	20.01
28 Chloroform	83	4.575	4.575 (0.949)	349025	19.8707	19.87

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D Page 2
Report Date: 16-Nov-2022 10:00

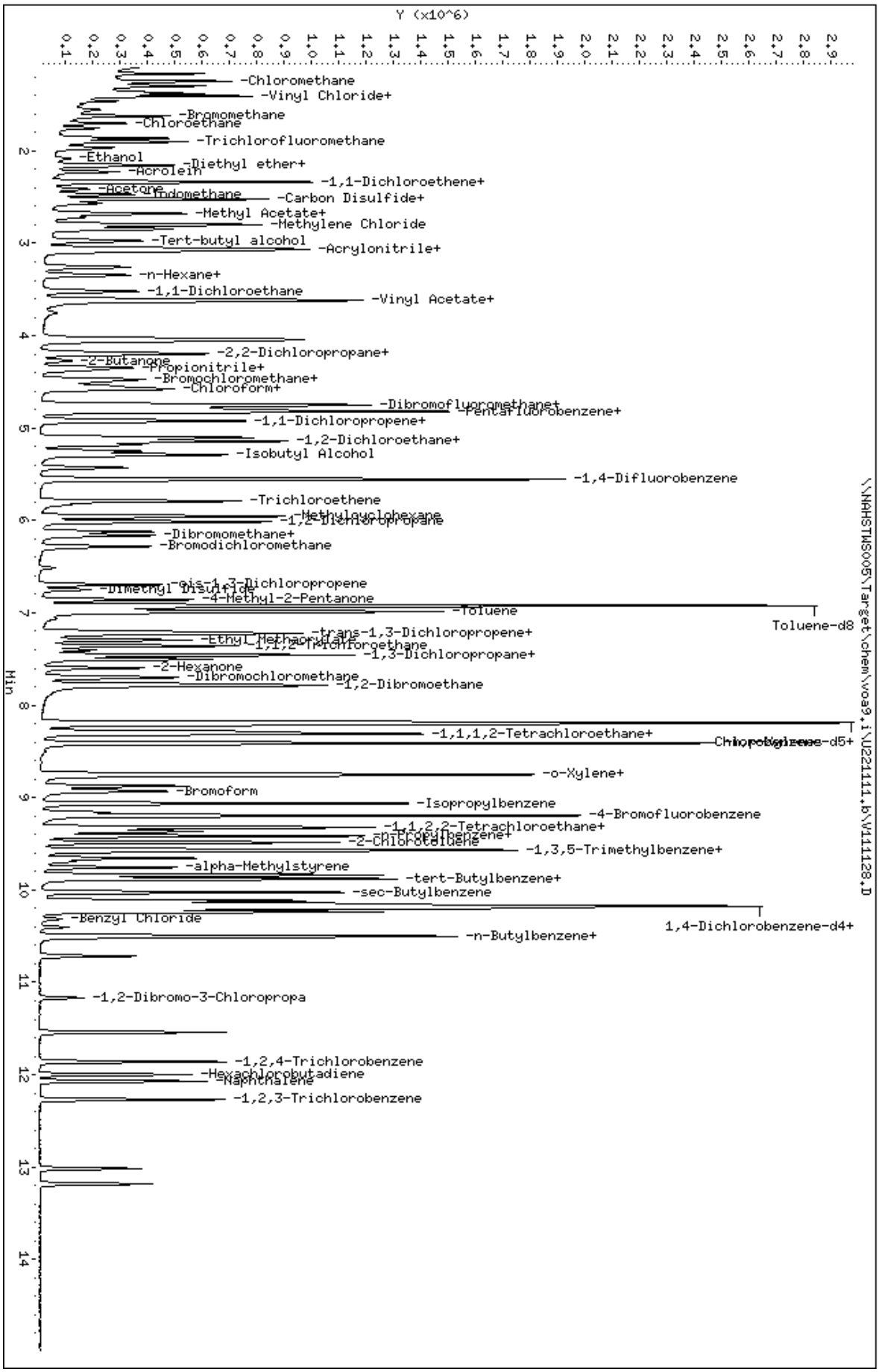
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	108997	18.7738	18.77
$	30 Dibromofluoromethane	113	4.752	4.751	(0.986)	458913	46.7813	46.78
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	267999	22.6851	22.68
	32 1,1-Dichloropropene	75	4.924	4.924	(0.886)	255951	24.9603	24.96
	33 1,2-Dichloroethane	62	5.179	5.179	(0.932)	269656	20.7455	20.74
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	173763	26.3885	26.38
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	506445	45.4679	45.46
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1479499	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	773000	22.1797	22.17
	38 Trichloroethene	130	5.790	5.790	(1.042)	230936	24.2177	24.21
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	220287	20.6769	20.67
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	191634	21.6204	21.62
	44 Dibromomethane	93	6.124	6.124	(1.102)	133436	20.8898	20.88
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	330409	42.7976	42.79
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	219893	17.2458	17.24
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	1314041	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	1701999	54.4471	54.44
	50 Toluene	91	6.982	6.982	(0.853)	848378	24.3233	24.32
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	165690	16.1939	16.19
	52 2-Hexanone	43	7.597	7.593	(0.928)	213837	38.0759	38.07
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	159174	21.1851	21.18
	54 1,3-Dichloropropane	76	7.503	7.499	(0.917)	334566	21.7872	21.78
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	178818	19.0561	19.05
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	224155	29.5735	29.57
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	199422	21.6569	21.65
	58 1-Chlorohexane	55	8.197	8.197	(1.475)	158631	24.8683	24.86
	59 Chlorobenzene	112	8.212	8.212	(1.003)	558054	22.3601	22.36
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	181762	22.2625	22.26
	61 Ethylbenzene	106	8.309	8.309	(1.015)	277436	24.1214	24.12
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	684879	47.7778	47.77
	63 o-Xylene	106	8.748	8.748	(1.069)	335675	23.7102	23.71
	64 Styrene	104	8.763	8.763	(1.071)	494324	20.4623	20.46
	66 Bromoform	173	8.920	8.920	(1.090)	109231	17.9007	17.90
	67 Isopropylbenzene	105	9.066	9.062	(1.108)	844130	25.8643	25.86
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.329	(0.917)	275564	21.1375	21.13
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	594545	51.3759	51.37
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	655744	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	222812	19.8020	19.80
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	874606	24.7592	24.75
	74 Bromobenzene	156	9.321	9.317	(0.916)	226682	21.8148	21.81
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	645297	24.6747	24.67
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	582190	23.4328	23.43
	77 4-Chlorotoluene	91	9.576	9.580	(0.941)	651901	23.4624	23.46
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	588885	25.6806	25.68
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	651827	23.7030	23.70
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	738255	24.1913	24.19
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	608126	24.2324	24.23
	83 1,3-Dichlorobenzene	146	10.120	10.116	(0.995)	393829	22.1141	22.11
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	410500	20.9443	20.94
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	498608	23.5669	23.56
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	400195	21.2332	21.23
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	31340	17.6560	17.65

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	199064	19.3110	19.31
91 Hexachlorobutadiene	225	12.002	12.001 (1.180)	99112	25.4771	25.47

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	452379	17.5865	17.58
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	199565	19.5264	19.52
M	94 1,2-Dichloroethylene (total)	96				409212	40.7106	40.71
M	95 Xylenes (total)	106				1020554	71.4881	71.48
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	49992	335.688	335.68
	141 Cyclohexane	56	4.785	4.785	(0.993)	269069	32.1913	32.19
	138 Freon TF	101	2.337	2.334	(0.485)	176422	29.4461	29.44
	140 1,3-Butadiene	54	1.404	1.400	(0.291)	160367	21.6209	21.62
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	409863	19.6475	19.64
	146 Methyl Acetate	43	2.716	2.716	(0.564)	102895	12.8237	12.82
	148 Tert-Butyl alcohol	59	2.971	2.967	(0.617)	331373	349.376	349.37
	149 Isopropyl Alcohol	45	2.566	2.562	(0.533)	208449	333.481	333.48
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	23338	14.8228	14.82
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	310400	299.198	299.19
	13 Acetonitrile	39	2.675	2.671	(0.555)	161387	161.968	161.96
	14 Allyl Chloride	41	2.675	2.671	(0.555)	366725	16.0827	16.08
	25 Methacrylonitrile	41	4.500	4.497	(0.934)	100466	17.3277	17.32
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	148437	17.0236	17.02
	4 Propionitrile	54	4.343	4.343	(0.901)	271419	173.034	173.03(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	165392	28.2546	28.25
	131 Methyl Acrylate	55	4.373	4.369	(0.907)	208695	16.7245	16.72
	200 Dimethyl Disulfide	94	6.750	6.750	(0.825)	82601	14.4733	14.47
	23 Chloroprene	53	2.161	2.157	(0.449)	61795	22.3882	22.38(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	268387	19.5118	19.51
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	657948	22.9053	22.90
	167 Ethanol	45	2.082	2.079	(0.432)	50044	376.513	376.51
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	587179	20.2428	20.24
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	142751	13.0779	13.07
	142 Tetrahydrofuran	42	4.545	4.545	(0.943)	53904	31.4118	31.41
	156 Diisopropyl ether	45	3.623	3.623	(0.752)	496077	16.3631	16.36
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	434365	311.806	311.80
	150 Allyl alcohol	57	3.346	3.342	(0.694)	165392	564.584	564.58
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	50261	11.4411	11.44
	162 Butyl acrylate	55	8.736	8.736	(1.067)	264186	17.2864	17.28
	139 Diethyl ether	59	2.146	2.146	(0.445)	122888	13.9590	13.95

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Date : 12-NOV-2022 03:09
Client ID: HS22110281-01MS
Sample Info: HS22110281-01MS;HS22110281-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

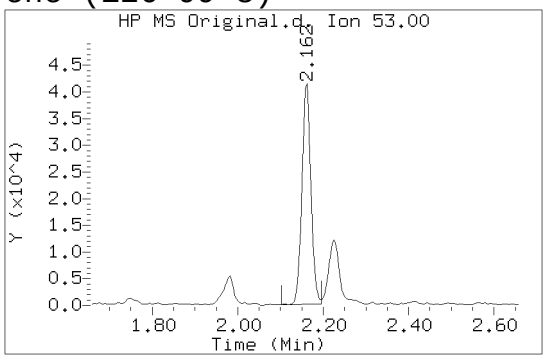
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D
Inj Date : 12-NOV-2022 03:09
InstruID : VOA9.i
LabSampID : HS22110281-01MS

Chloroprene (126-99-8)

Reason Code:

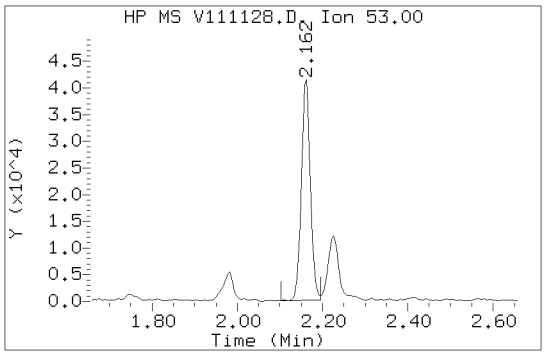
BEFORE

MASS
53
AREA
61795
HEIGHT
41308
16-Nov-2022
10:00
linh
pham



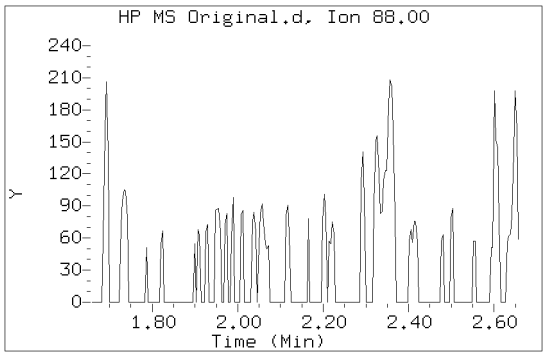
AFTER

MASS
53
AREA
61795
HEIGHT
41308
16-Nov-2022
10:00
linh
pham



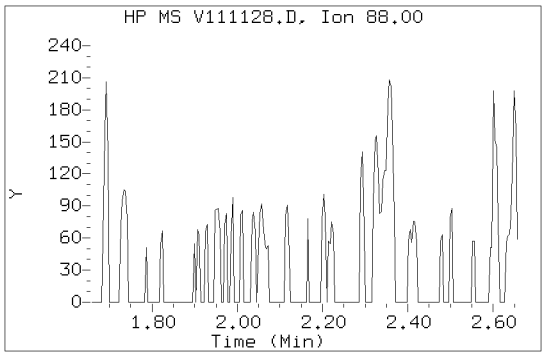
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D
Lab Smp Id: HS22110281-01MSD Client Smp ID: HS22110281-01MSD
Inj Date : 12-NOV-2022 03:31
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-01MSD;HS22110281-01MSD;3;;MSD
Misc Info : 180315V9;WATER;0;1;
Comment :
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Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 43 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	986832	50.0000	
2 Dichlorodifluoromethane	85	1.164	1.160	(0.242)	173066	22.9538	22.95
3 Chloromethane	50	1.299	1.291	(0.270)	212968	19.6965	19.69
5 Vinyl Chloride	62	1.378	1.374	(0.286)	210792	20.9424	20.94
6 Bromomethane	94	1.621	1.618	(0.337)	148311	20.7566	20.75
7 Chloroethane	64	1.704	1.696	(0.354)	151631	20.6208	20.62
8 Trichlorofluoromethane	101	1.903	1.895	(0.395)	300336	22.9498	22.94
9 Acrolein	56	2.270	2.266	(0.471)	18191	26.4594	26.45
10 Acetone	43	2.412	2.409	(0.501)	125119	25.9133	25.91
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	175531	20.8567	20.85
15 Iodomethane	142	2.472	2.469	(0.513)	301287	34.4434	34.44
16 Acrylonitrile	53	3.072	3.065	(0.638)	142266	31.0402	31.04
17 Methylene Chloride	84	2.798	2.795	(0.581)	221529	19.4436	19.44
18 Methyl tert-butyl ether	73	3.087	3.080	(0.641)	427958	15.0895	15.08
19 Carbon Disulfide	76	2.525	2.517	(0.524)	955463	39.0255	39.02
20 trans-1,2-Dichloroethene	96	3.065	3.061	(0.636)	187319	20.1146	20.11
21 Vinyl Acetate	43	3.616	3.608	(0.750)	705352	29.0208	29.02
22 1,1-Dichloroethane	63	3.522	3.514	(0.731)	311783	18.8327	18.83
24 2-Butanone	43	4.272	4.268	(0.886)	139118	34.8617	34.86
26 2,2-Dichloropropane	77	4.189	4.185	(0.869)	125658	15.0882	15.08

27 cis-1,2-Dichloroethene	96	4.204	4.197 (0.872)	209571	19.1443	19.14
28 Chloroform	83	4.579	4.575 (0.950)	347117	19.6365	19.63

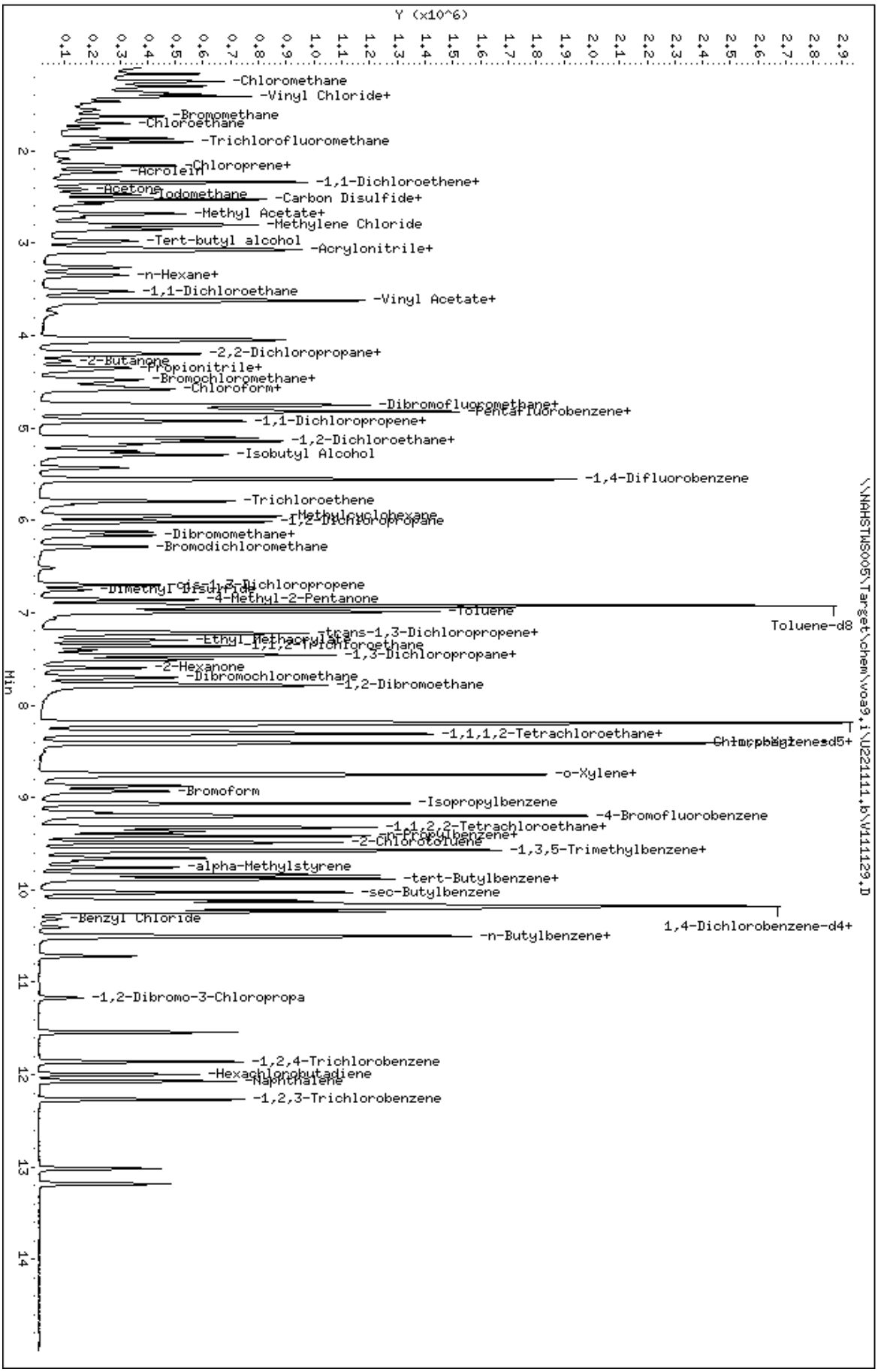
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	108502	18.5698	18.56
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	455553	46.1389	46.13
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	266755	22.4363	22.43
	32 1,1-Dichloropropene	75	4.928	4.924	(0.887)	253945	24.9161	24.91
	33 1,2-Dichloroethane	62	5.183	5.179	(0.933)	279192	21.6104	21.61
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	171637	26.2372	26.23
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	508886	45.3957	45.39
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1470507	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	757972	21.8815	21.88
	38 Trichloroethene	130	5.794	5.790	(1.042)	222332	23.4580	23.45
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	218269	20.6127	20.61
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	187790	21.3163	21.31
	44 Dibromomethane	93	6.124	6.124	(1.102)	126936	19.9937	19.99
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	322561	42.5622	42.56
	46 cis-1,3-Dichloropropene	75	6.697	6.693	(1.205)	218182	17.2211	17.22
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1289923	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1695945	55.2678	55.26
	50 Toluene	91	6.982	6.982	(0.853)	826234	24.1313	24.13
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	167447	16.4082	16.40
	52 2-Hexanone	43	7.597	7.593	(0.928)	218011	39.4930	39.49
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	158977	21.5545	21.55
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	329789	21.8777	21.87
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	177196	19.2226	19.22
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	222403	29.8910	29.89
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	201644	22.3077	22.30
	58 1-Chlorohexane	55	8.200	8.197	(1.475)	153064	24.1980	24.19
	59 Chlorobenzene	112	8.212	8.212	(1.003)	550891	22.4858	22.48
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	178274	22.2436	22.24
	61 Ethylbenzene	106	8.309	8.309	(1.015)	271099	24.0111	24.01
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	684476	48.6425	48.64
	63 o-Xylene	106	8.748	8.748	(1.068)	327164	23.5411	23.54
	64 Styrene	104	8.763	8.763	(1.070)	492887	20.7650	20.76
	66 Bromoform	173	8.924	8.920	(1.090)	107422	17.9291	17.92
	67 Isopropylbenzene	105	9.066	9.062	(1.107)	833478	26.0154	26.01
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.329	(0.917)	275655	20.9223	20.92
$	69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	595976	52.4586	52.45
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	662708	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	217109	19.0924	19.09
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	867130	24.2896	24.28
	74 Bromobenzene	156	9.321	9.317	(0.916)	232624	22.1514	22.15
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	633878	23.9833	23.98
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	579719	23.0881	23.08
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	640743	22.8185	22.81
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	579112	24.9890	24.98
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	648695	23.3412	23.34
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	738788	23.9716	23.97
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	609983	24.0510	24.05
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	400750	22.2663	22.26
	84 1,4-Dichlorobenzene	146	10.191	10.195	(1.002)	410586	20.7286	20.72
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	512546	23.9330	23.93
	88 1,2-Dichlorobenzene	146	10.510	10.506	(1.033)	403841	21.2015	21.20
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	31242	17.4470	17.44

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	216634	20.7946	20.79
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	101345	25.7546	25.75

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	527804	20.3031	20.30
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	216878	20.9974	20.99
M	94 1,2-Dichloroethylene (total)	96				396890	39.2589	39.25
M	95 Xylenes (total)	106				1011640	72.1836	72.18
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	49168	328.056	328.05
	141 Cyclohexane	56	4.789	4.785	(0.994)	260466	31.0602	31.06
	138 Freon TF	101	2.341	2.334	(0.486)	172454	28.6549	28.65
	140 1,3-Butadiene	54	1.408	1.400	(0.292)	153230	20.6157	20.61
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	414974	20.0141	20.01
	146 Methyl Acetate	43	2.720	2.716	(0.564)	109147	13.5164	13.51
	148 Tert-Butyl alcohol	59	2.975	2.967	(0.617)	336203	352.216	352.21
	149 Isopropyl Alcohol	45	2.570	2.562	(0.533)	213054	338.682	338.68
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	20189	13.5936	13.59
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	314619	300.873	300.87
	13 Acetonitrile	39	2.679	2.671	(0.556)	158509	158.069	158.06
	14 Allyl Chloride	41	2.679	2.671	(0.556)	369172	16.0871	16.08
	25 Methacrylonitrile	41	4.504	4.497	(0.935)	98653	16.9069	16.90
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	146632	16.7097	16.70
	4 Propionitrile	54	4.347	4.343	(0.902)	267619	169.527	169.52(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	161365	27.4531	27.45
	131 Methyl Acrylate	55	4.377	4.369	(0.908)	209632	16.6929	16.69
	200 Dimethyl Disulfide	94	6.750	6.750	(0.824)	82970	14.7187	14.71
	23 Chloroprene	53	2.161	2.157	(0.449)	59375	21.4439	21.44
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	266970	19.5275	19.52
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	652311	22.4704	22.47
	167 Ethanol	45	2.086	2.079	(0.433)	49814	372.401	372.40
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	562605	19.1918	19.19
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	140752	12.8121	12.81
	142 Tetrahydrofuran	42	4.553	4.545	(0.945)	56820	32.9007	32.90
	156 Diisopropyl ether	45	3.627	3.623	(0.753)	489904	16.0568	16.05
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	446694	319.718	319.71
	150 Allyl alcohol	57	3.346	3.342	(0.694)	161365	548.521	548.52
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	50154	11.5546	11.55
	162 Butyl acrylate	55	8.736	8.736	(1.067)	276698	18.2744	18.27
	139 Diethyl ether	59	2.150	2.146	(0.446)	124434	14.0448	14.04

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



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Sample Info: HS22110281-01MSD;HS22110281-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D
Inj Date : 12-NOV-2022 03:31
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LabSampID : HS22110281-01MSD

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111130.D Page 1
Report Date: 16-Nov-2022 10:00

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Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111130.D
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Inj Date : 12-NOV-2022 03:54
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-07MS;HS22110281-07MS;3;;MS
Misc Info : 180315V9;WATER;0;1;
Comment   :
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Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 44 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.815	(1.000)	1004508	50.0000	
2 Dichlorodifluoromethane	85	1.160	1.160	(0.241)	175883	22.9190	22.91
3 Chloromethane	50	1.292	1.291	(0.268)	219569	19.9465	19.94
5 Vinyl Chloride	62	1.374	1.374	(0.285)	214566	20.9422	20.94
6 Bromomethane	94	1.618	1.618	(0.336)	148199	20.3555	20.35
7 Chloroethane	64	1.696	1.696	(0.352)	159036	21.2472	21.24
8 Trichlorofluoromethane	101	1.895	1.895	(0.394)	305995	22.9707	22.97
9 Acrolein	56	2.266	2.266	(0.471)	19753	28.1592	28.15
10 Acetone	43	2.409	2.409	(0.500)	128628	26.2462	26.24
11 1,1-Dichloroethene	96	2.334	2.334	(0.485)	181199	21.1513	21.15
15 Iodomethane	142	2.465	2.469	(0.512)	326039	36.3659	36.36
16 Acrylonitrile	53	3.065	3.065	(0.636)	143480	30.7542	30.75
17 Methylene Chloride	84	2.795	2.795	(0.580)	223883	19.2934	19.29
18 Methyl tert-butyl ether	73	3.080	3.080	(0.640)	433092	15.0018	15.00
19 Carbon Disulfide	76	2.517	2.517	(0.523)	979076	39.2863	39.28
20 trans-1,2-Dichloroethene	96	3.061	3.061	(0.636)	193013	20.3613	20.36
21 Vinyl Acetate	43	3.608	3.608	(0.749)	746226	30.1622	30.16
22 1,1-Dichloroethane	63	3.515	3.514	(0.730)	329158	19.5323	19.53
24 2-Butanone	43	4.268	4.268	(0.886)	139183	34.2643	34.26
26 2,2-Dichloropropane	77	4.186	4.185	(0.869)	128793	15.1833	15.18

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	214467	19.2468	19.24
28 Chloroform	83	4.575	4.575 (0.950)	352991	19.6174	19.61

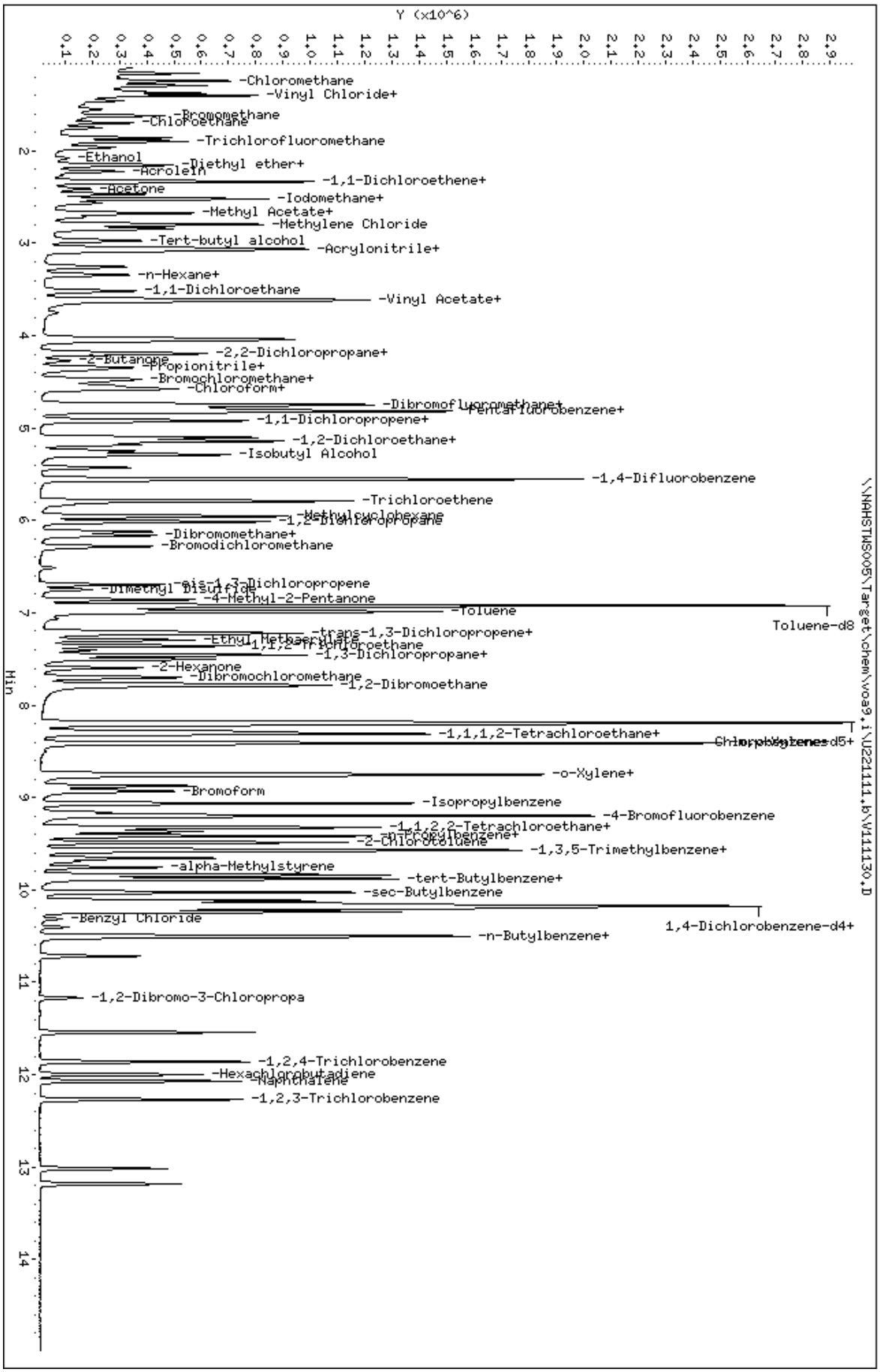
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	109237	18.3666	18.36
$	30 Dibromofluoromethane	113	4.752	4.751	(0.987)	462020	45.9692	45.96
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	272360	22.5046	22.50
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	250229	23.8078	23.80
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	274740	20.6216	20.62
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	174817	25.9378	25.93
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	505498	44.2846	44.28
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1516443	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	766615	21.4606	21.46
	38 Trichloroethene	130	5.790	5.790	(1.043)	359113	36.7418	36.74
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	223264	20.4458	20.44
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	188754	20.7767	20.77
	44 Dibromomethane	93	6.124	6.124	(1.103)	129925	19.8446	19.84
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	319238	40.6528	40.65
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	224644	17.1984	17.19
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1336596	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.845)	1726927	54.3123	54.31
	50 Toluene	91	6.982	6.982	(0.853)	845470	23.8308	23.83
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	170037	16.2096	16.20
	52 2-Hexanone	43	7.597	7.593	(0.928)	212861	37.2912	37.29
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	156168	20.4343	20.43
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	340704	21.8125	21.81
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	181705	19.0385	19.03
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	196303	25.4619	25.46
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	202657	21.6369	21.63
	58 1-Chlorohexane	55	8.200	8.197	(1.476)	152987	23.5109	23.51
	59 Chlorobenzene	112	8.212	8.212	(1.003)	563071	22.1804	22.18
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	182352	21.9579	21.95
	61 Ethylbenzene	106	8.309	8.309	(1.015)	280972	24.0166	24.01
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	693127	47.5373	47.53
	63 o-Xylene	106	8.751	8.748	(1.069)	343330	23.8417	23.84
	64 Styrene	104	8.763	8.763	(1.070)	501115	20.3975	20.39
	66 Bromoform	173	8.920	8.920	(1.089)	108683	17.5606	17.56
	67 Isopropylbenzene	105	9.063	9.062	(1.107)	858803	25.8699	25.86
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	275252	20.8150	20.81
$	69 4-Bromofluorobenzene	95	9.198	9.194	(1.123)	601528	51.1031	51.10
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	665150	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	218320	19.1284	19.12
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	890921	24.8644	24.86
	74 Bromobenzene	156	9.321	9.317	(0.916)	235055	22.3007	22.30
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	664150	25.0364	25.03
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	602111	23.8919	23.89
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	676719	24.0112	24.01
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	598727	25.7406	25.74
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	659300	23.6357	23.63
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	757980	24.4650	24.46
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	629221	24.7184	24.71
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	405927	22.4711	22.47
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	420483	21.1503	21.15
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	521837	24.2453	24.24
	88 1,2-Dichlorobenzene	146	10.510	10.506	(1.033)	411066	21.5016	21.50
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	33153	18.3149	18.31

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	223419	21.3672	21.36
91 Hexachlorobutadiene	225	12.002	12.001 (1.180)	109144	27.4898	27.48

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	548029	21.0037	21.00
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	224671	21.6720	21.67
M	94 1,2-Dichloroethylene (total)	96				407480	39.6081	39.60
M	95 Xylenes (total)	106				1036457	71.3790	71.37
	135 1,4-Dioxane	88	6.169	6.168	(1.281)	48240	316.201	316.20
	141 Cyclohexane	56	4.785	4.785	(0.994)	264345	30.9753	30.97
	138 Freon TF	101	2.334	2.334	(0.485)	172739	28.2256	28.22
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	161457	21.2790	21.27
	147 Methylcyclohexane	55	5.951	5.947	(1.072)	432769	20.2401	20.24
	146 Methyl Acetate	43	2.716	2.716	(0.564)	111533	13.5688	13.56
	148 Tert-Butyl alcohol	59	2.971	2.967	(0.617)	327084	336.633	336.63
	149 Isopropyl Alcohol	45	2.562	2.562	(0.532)	203198	317.330	317.33
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	22758	14.3952	14.39
	12 Isobutyl Alcohol	43	5.291	5.288	(1.099)	316233	297.911	297.91
	13 Acetonitrile	39	2.671	2.671	(0.555)	170510	167.045	167.04
	14 Allyl Chloride	41	2.671	2.671	(0.555)	382556	16.3770	16.37
	25 Methacrylonitrile	41	4.500	4.497	(0.935)	94231	15.8649	15.86
	40 Methyl Methacrylate	41	6.157	6.157	(1.279)	149348	16.7197	16.71
	4 Propionitrile	54	4.343	4.343	(0.902)	265237	165.062	165.06(a)
	136 n-Hexane	57	3.342	3.342	(0.694)	160512	26.8708	26.87
	131 Methyl Acrylate	55	4.373	4.369	(0.908)	212591	16.6306	16.63
	200 Dimethyl Disulfide	94	6.746	6.750	(0.824)	84273	14.5053	14.50
	23 Chloroprene	53	2.158	2.157	(0.448)	61428	21.7705	21.77(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.313)	271087	19.2280	19.22
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	687883	23.6088	23.60
	167 Ethanol	45	2.079	2.079	(0.432)	47815	351.167	351.16
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	529912	18.0102	18.01
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	121667	11.3350	11.33
	142 Tetrahydrofuran	42	4.545	4.545	(0.944)	52992	30.1442	30.14
	156 Diisopropyl ether	45	3.623	3.623	(0.752)	512135	16.4900	16.49
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.300)	446116	312.269	312.26
	150 Allyl alcohol	57	3.342	3.342	(0.694)	160512	536.851	536.85
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	49998	11.2898	11.28
	162 Butyl acrylate	55	8.736	8.736	(1.067)	292215	18.5768	18.57
	139 Diethyl ether	59	2.143	2.146	(0.445)	129133	14.3187	14.31

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Sample Info: HS22110281-07MS;HS22110281-07MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111130.D
Inj Date : 12-NOV-2022 03:54
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LabSampID : HS22110281-07MS

Chloroprene (126-99-8)

Reason Code:

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16-Nov-2022
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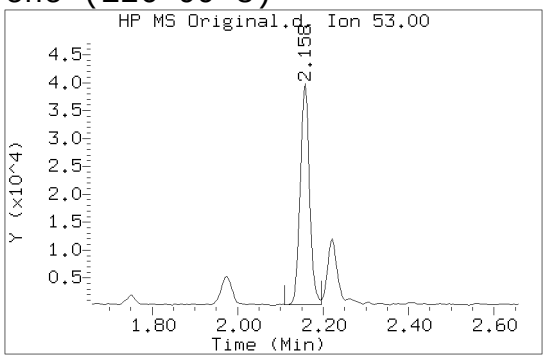

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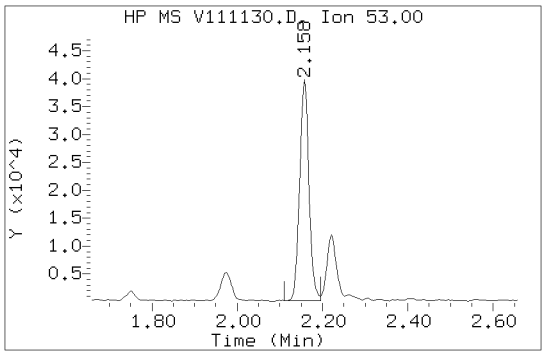

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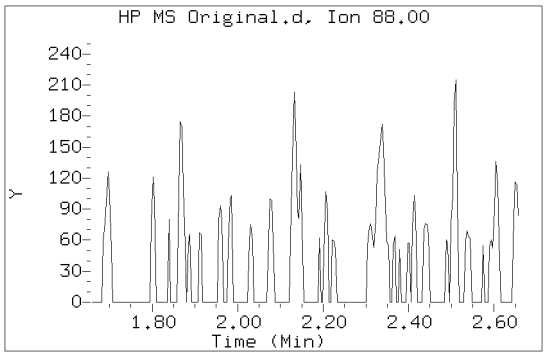

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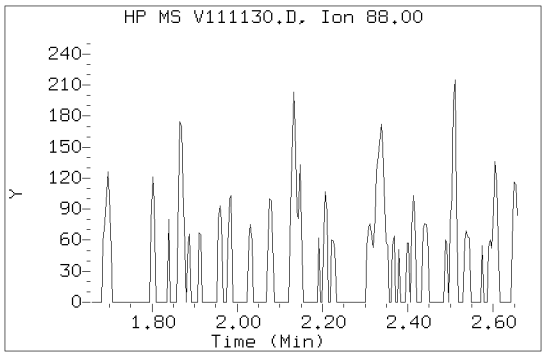

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D
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Inj Date : 12-NOV-2022 04:16
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-07MSD;HS22110281-07MSD;3;;MSD
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 44 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	1017481	50.0000	
2 Dichlorodifluoromethane	85	1.164	1.160	(0.242)	171576	22.1194	22.11
3 Chloromethane	50	1.299	1.291	(0.270)	211251	18.9586	18.95
5 Vinyl Chloride	62	1.378	1.374	(0.286)	205519	19.8034	19.80
6 Bromomethane	94	1.621	1.618	(0.336)	142023	19.1984	19.19
7 Chloroethane	64	1.700	1.696	(0.353)	150694	19.8761	19.87
8 Trichlorofluoromethane	101	1.899	1.895	(0.394)	292162	21.6527	21.65
9 Acrolein	56	2.266	2.266	(0.470)	18844	26.5789	26.57
10 Acetone	43	2.412	2.409	(0.501)	130352	26.2625	26.26
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	177884	20.4996	20.49
15 Iodomethane	142	2.472	2.469	(0.513)	314444	34.8160	34.81
16 Acrylonitrile	53	3.072	3.065	(0.638)	147111	31.1305	31.13
17 Methylene Chloride	84	2.798	2.795	(0.581)	223174	18.9627	18.96
18 Methyl tert-butyl ether	73	3.083	3.080	(0.640)	452563	15.4764	15.47
19 Carbon Disulfide	76	2.525	2.517	(0.524)	951108	37.6775	37.67
20 trans-1,2-Dichloroethene	96	3.064	3.061	(0.636)	186883	19.4633	19.46
21 Vinyl Acetate	43	3.612	3.608	(0.750)	740561	29.5516	29.55
22 1,1-Dichloroethane	63	3.518	3.514	(0.730)	318591	18.6642	18.66
24 2-Butanone	43	4.272	4.268	(0.886)	140883	34.2406	34.24
26 2,2-Dichloropropane	77	4.185	4.185	(0.869)	125084	14.6128	14.61

27 cis-1,2-Dichloroethene	96	4.200	4.197 (0.872)	209392	18.5518	18.55
28 Chloroform	83	4.579	4.575 (0.950)	347163	19.0475	19.04

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D Page 2
Report Date: 16-Nov-2022 10:00

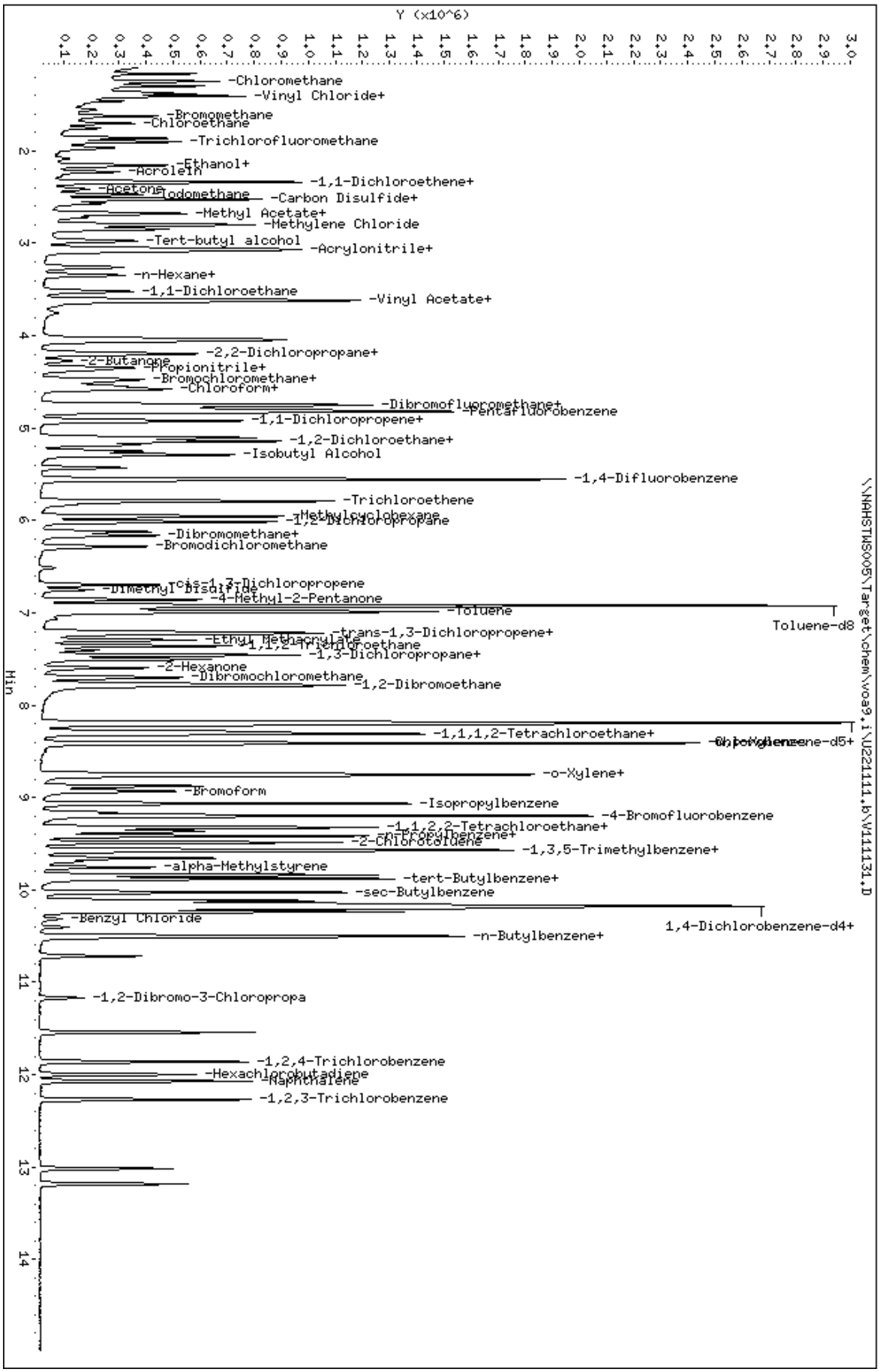
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	111007	18.4262	18.42
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	466774	45.8492	45.84
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	266708	21.7566	21.75
	32 1,1-Dichloropropene	75	4.924	4.924	(0.886)	247629	23.9836	23.98
	33 1,2-Dichloroethane	62	5.182	5.179	(0.933)	276051	21.0922	21.09
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	170677	25.7902	25.79
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	515023	44.5475	44.54
*	36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1489684	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	763154	21.7475	21.74
	38 Trichloroethene	130	5.790	5.790	(1.042)	342564	35.6782	35.67
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	218742	20.3915	20.39
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	193466	21.6779	21.67
	44 Dibromomethane	93	6.123	6.124	(1.102)	134311	20.8830	20.88
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	341345	43.6391	43.63
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	225918	17.5399	17.53
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1331355	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1739598	54.9262	54.92
	50 Toluene	91	6.982	6.982	(0.853)	827727	23.4226	23.42
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	167601	16.2528	16.25
	52 2-Hexanone	43	7.597	7.593	(0.928)	228248	40.0414	40.04
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	159006	20.8876	20.88
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	334202	21.4805	21.48
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	178888	18.8340	18.83
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	191667	24.9584	24.95
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	202437	21.6985	21.69
	58 1-Chlorohexane	55	8.200	8.197	(1.476)	152751	23.8657	23.86
	59 Chlorobenzene	112	8.211	8.212	(1.003)	553185	21.8767	21.87
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	177513	21.4593	21.45
	61 Ethylbenzene	106	8.309	8.309	(1.015)	276962	23.7670	23.76
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	680650	46.8653	46.86
	63 o-Xylene	106	8.751	8.748	(1.069)	329396	22.9641	22.96
	64 Styrene	104	8.762	8.763	(1.070)	495944	20.2743	20.27
	66 Bromoform	173	8.924	8.920	(1.090)	109150	17.6864	17.68
	67 Isopropylbenzene	105	9.066	9.062	(1.107)	838135	25.3467	25.34
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.329	(0.917)	276047	20.7890	20.78
$	69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	609343	51.9677	51.96
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	667906	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	222548	19.4184	19.41
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	893775	24.8411	24.84
	74 Bromobenzene	156	9.321	9.317	(0.916)	233884	22.0980	22.09
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	655451	24.6066	24.60
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	596074	23.5548	23.55
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	654542	23.1285	23.12
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	584319	25.0175	25.01
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	671728	23.9819	23.98
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	742923	23.9221	23.92
	82 p-Isopropyltoluene	119	10.149	10.150	(0.998)	627555	24.5513	24.55
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	402557	22.1926	22.19
	84 1,4-Dichlorobenzene	146	10.194	10.195	(1.002)	414406	20.7586	20.75
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	520726	24.1078	24.10
	88 1,2-Dichlorobenzene	146	10.509	10.506	(1.033)	403582	21.0230	21.02
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	32330	17.8527	17.85

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	223775	21.3129	21.31
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	101551	25.6172	25.61

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	571205	21.8016	21.80
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	226734	21.7808	21.78
M	94 1,2-Dichloroethylene (total)	96				396275	38.0150	38.01
M	95 Xylenes (total)	106				1010046	69.8294	69.82
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	48772	315.612	315.61
	141 Cyclohexane	56	4.785	4.785	(0.993)	261370	30.2921	30.29
	138 Freon TF	101	2.337	2.334	(0.485)	169739	27.4324	27.43
	140 1,3-Butadiene	54	1.408	1.400	(0.292)	151564	19.8484	19.84
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	434668	20.6941	20.69
	146 Methyl Acetate	43	2.720	2.716	(0.564)	117486	14.1108	14.11
	148 Tert-Butyl alcohol	59	2.974	2.967	(0.617)	345231	350.780	350.77
	149 Isopropyl Alcohol	45	2.570	2.562	(0.533)	224326	345.859	345.85
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	23209	14.6317	14.63
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	326697	302.550	302.55
	13 Acetonitrile	39	2.675	2.671	(0.555)	167709	162.206	162.20
	14 Allyl Chloride	41	2.675	2.671	(0.555)	376196	15.8994	15.89
	25 Methacrylonitrile	41	4.504	4.497	(0.935)	108014	17.9536	17.95
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	151706	16.7672	16.76
	4 Propionitrile	54	4.343	4.343	(0.901)	276254	169.726	169.72(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	157607	26.1030	26.10
	131 Methyl Acrylate	55	4.373	4.369	(0.907)	222087	17.1520	17.15
	200 Dimethyl Disulfide	94	6.749	6.750	(0.824)	84574	14.5849	14.58
	23 Chloroprene	53	2.161	2.157	(0.449)	55857	19.6871	19.68(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	286897	20.7149	20.71
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	682711	23.3346	23.33
	167 Ethanol	45	2.082	2.079	(0.432)	49414	358.283	358.28
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	518140	17.5375	17.53
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	120964	11.2444	11.24
	142 Tetrahydrofuran	42	4.549	4.545	(0.944)	57427	32.2505	32.25
	156 Diisopropyl ether	45	3.627	3.623	(0.753)	502725	15.9807	15.98
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	484467	336.387	336.38
	150 Allyl alcohol	57	3.346	3.342	(0.694)	157607	521.462	521.46
	86 Benzyl Chloride	91	10.314	10.315	(1.260)	50656	11.4051	11.40
	162 Butyl acrylate	55	8.736	8.736	(1.067)	300253	19.0832	19.08
	139 Diethyl ether	59	2.150	2.146	(0.446)	129909	14.2211	14.22

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Y (x10^6)
Min
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane
-Ethanol+
-Acrolein
-1,1-Dichloroethene+
-Acetone
-Carbon Disulfide+
-Methyl Acetate+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane+
-Chloroform+
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane
-1,2-Dichloropropane
-Dibromomethane+
-Bromodichloromethane
-Dimethyl Disulfide
cis-1,3-Dichloropropene
-4-Methyl-2-Pentanone
-Toluene
Toluene-d8
-Ethyl Methacrylate
-trans-1,3-Dichloropropene+
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
1,4-Dichlorobenzene-d4+
-Benzyl Chloride
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
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Client ID: HS22110281-07MSD
Sample Info: HS22110281-07MSD;HS22110281-07MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA9.i
Operator: PC
Column diameter: 0.18
Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D
Inj Date : 12-NOV-2022 04:16
InstruID : VOA9.i
LabSampID : HS22110281-07MSD

Chloroprene (126-99-8)

Reason Code:

BEFORE

MASS
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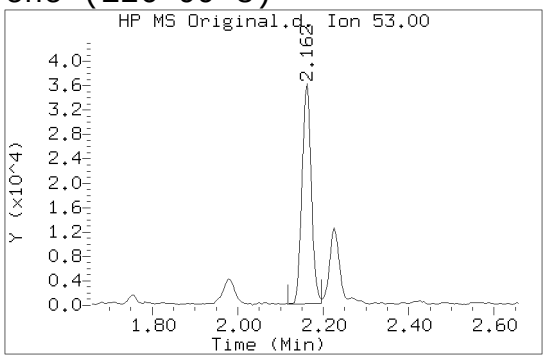
55857
HEIGHT
36039
16-Nov-2022
10:00
linh
pham



AFTER

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16-Nov-2022
10:00
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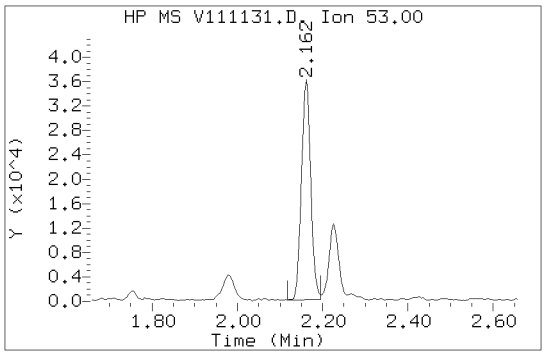

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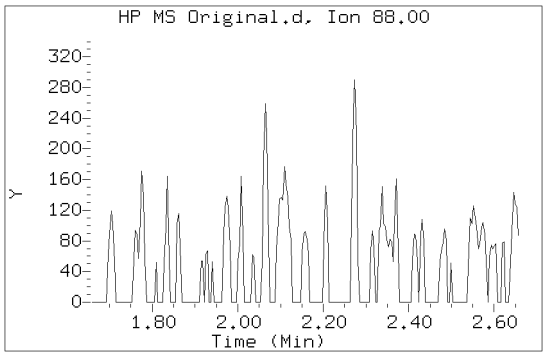

AFTER

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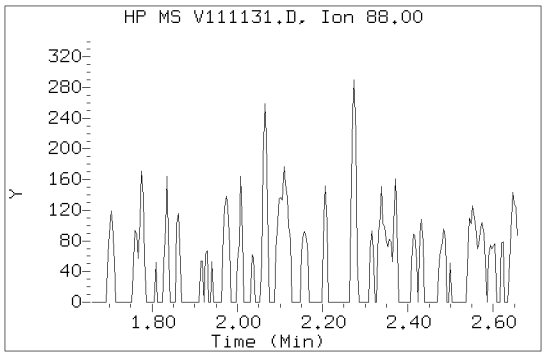

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Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D
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Inj Date : 12-NOV-2022 04:38
Operator : PC Inst ID: VOA9.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 45 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.823	(1.000)	828688	50.0000	
2 Dichlorodifluoromethane	85	1.168	1.168	(0.242)	394029	50.0000	56.89
3 Chloromethane	50	1.303	1.303	(0.270)	468406	50.0000	51.18
5 Vinyl Chloride	62	1.381	1.381	(0.286)	457975	50.0000	54.18
6 Bromomethane	94	1.625	1.625	(0.337)	286657	50.0000	49.22
7 Chloroethane	64	1.704	1.704	(0.353)	318982	50.0000	51.65
8 Trichlorofluoromethane	101	1.902	1.902	(0.395)	615949	50.0000	56.04
9 Acrolein	56	2.273	2.273	(0.471)	60276	100.000	101.46
10 Acetone	43	2.416	2.416	(0.501)	303122	100.000	88.94
11 1,1-Dichloroethene	96	2.341	2.341	(0.485)	374963	50.0000	53.05
15 Iodomethane	142	2.476	2.476	(0.513)	788227	100.000	98.97
16 Acrylonitrile	53	3.072	3.072	(0.637)	370835	100.000	96.35
17 Methylene Chloride	84	2.798	2.798	(0.580)	495296	50.0000	54.32
18 Methyl tert-butyl ether	73	3.087	3.087	(0.640)	1149662	50.0000	48.27
19 Carbon Disulfide	76	2.525	2.525	(0.524)	2058471	100.000	100.12
20 trans-1,2-Dichloroethene	96	3.068	3.068	(0.636)	405955	50.0000	51.91
21 Vinyl Acetate	43	3.615	3.615	(0.750)	1387652	100.000	67.98
22 1,1-Dichloroethane	63	3.522	3.522	(0.730)	685150	50.0000	49.28
24 2-Butanone	43	4.272	4.272	(0.886)	332270	100.000	99.15
26 2,2-Dichloropropane	77	4.189	4.189	(0.869)	273093	50.0000	36.93

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	467999	50.0000	50.91
28 Chloroform	83	4.579	4.579 (0.949)	767175	50.0000	51.68

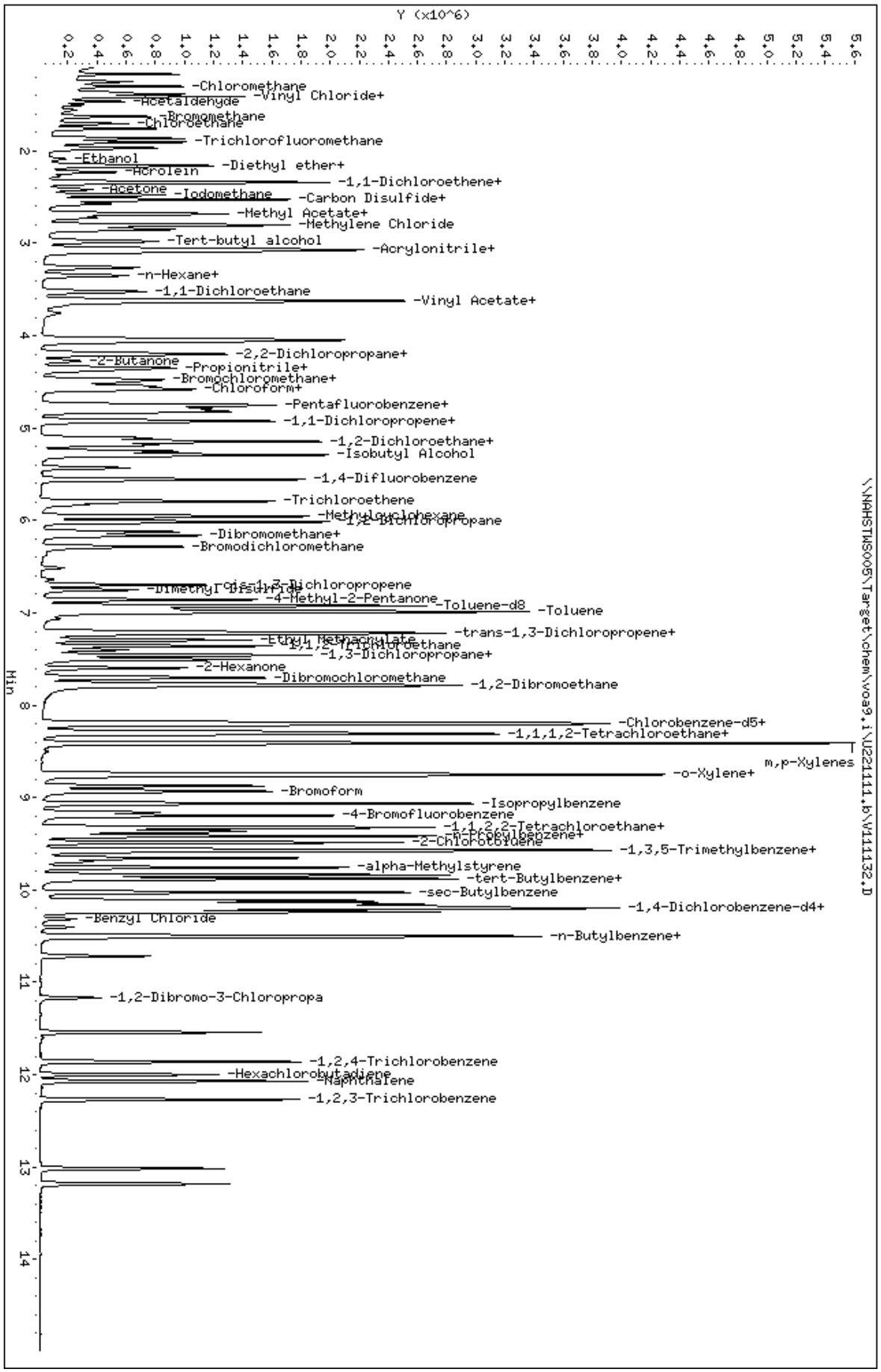
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	239542	50.0000	48.82
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	427040	50.0000	51.54
	31 1,1,1-Trichloroethane	97	4.748	4.748	(0.984)	568089	50.0000	56.89
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	523213	50.0000	54.04
	33 1,2-Dichloroethane	62	5.182	5.182	(0.933)	617226	50.0000	50.29
	34 Carbon Tetrachloride	117	4.916	4.916	(0.885)	406481	50.0000	58.49
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.058)	488937	50.0000	52.03
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1396797	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	1649485	50.0000	50.13
	38 Trichloroethene	130	5.793	5.793	(1.042)	510152	50.0000	56.66
	39 Bromodichloromethane	83	6.285	6.285	(1.131)	527951	50.0000	52.48
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	418776	50.0000	50.04
	44 Dibromomethane	93	6.123	6.123	(1.102)	293501	50.0000	48.66
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	806747	100.000	106.53
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	569212	50.0000	42.38
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1288898	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	1569472	50.0000	51.18
	50 Toluene	91	6.986	6.986	(0.853)	1824550	50.0000	53.33
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	462507	50.0000	41.18
	52 2-Hexanone	43	7.597	7.597	(0.928)	534503	100.000	94.94
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	360030	50.0000	48.85
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	761414	50.0000	50.55
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	449914	50.0000	46.60
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	382848	50.0000	51.49
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	480426	50.0000	53.19
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	336488	50.0000	52.66
	59 Chlorobenzene	112	8.211	8.211	(1.003)	1234876	50.0000	50.44
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	422620	50.0000	52.77
	61 Ethylbenzene	106	8.309	8.309	(1.015)	607490	50.0000	53.84
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1527467	100.000	108.63
	63 o-Xylene	106	8.747	8.747	(1.068)	752730	50.0000	54.20
	64 Styrene	104	8.762	8.762	(1.070)	1198910	50.0000	48.79
	66 Bromoform	173	8.920	8.920	(1.089)	287623	50.0000	44.17
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	1849885	50.0000	57.78
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	566170	50.0000	43.71
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	576837	50.0000	50.82
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	651380	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	562335	50.0000	50.31
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1980317	50.0000	56.43
	74 Bromobenzene	156	9.321	9.321	(0.916)	534079	50.0000	51.74
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1440834	50.0000	55.46
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1302326	50.0000	52.76
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	1474316	50.0000	53.41
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1293058	50.0000	56.76
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1459871	50.0000	53.44
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1667631	50.0000	52.77
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	1367434	50.0000	54.85
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	909521	50.0000	51.41
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	943256	50.0000	48.44
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	1099201	50.0000	49.58
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	922839	50.0000	49.29
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	86739	50.0000	45.09

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	530232	50.0000	51.78
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	218450	50.0000	53.17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
92	Naphthalene	128	12.069	12.069	(1.186)	1331568	50.0000	52.11
93	1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	521059	50.0000	51.32
M 94	1,2-Dichloroethylene (total)	96				873954	100.000	(a)
135	1,4-Dioxane	88	6.172	6.172	(1.280)	117004	1000.00	929.64
141	Cyclohexane	56	4.789	4.789	(0.993)	514163	50.0000	64.98
138	Freon TF	101	2.341	2.341	(0.485)	339687	50.0000	60.95
140	1,3-Butadiene	54	1.408	1.408	(0.292)	336152	50.0000	51.04
147	Methylcyclohexane	55	5.951	5.951	(1.071)	986495	50.0000	50.08
146	Methyl Acetate	43	2.723	2.723	(0.565)	325482	50.0000	47.99
148	Tert-Butyl alcohol	59	2.978	2.978	(0.618)	790489	1000.00	986.17
149	Isopropyl Alcohol	45	2.570	2.570	(0.533)	508463	1000.00	962.52
72	trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	74044	50.0000	37.95(M)
12	Isobutyl Alcohol	43	5.291	5.291	(1.097)	925761	1000.00	891.52
13	Acetonitrile	39	2.678	2.678	(0.555)	407753	500.000	484.21
14	Allyl Chloride	41	2.678	2.678	(0.555)	932542	50.0000	48.39
25	Methacrylonitrile	41	4.504	4.504	(0.934)	248782	50.0000	50.77
40	Methyl Methacrylate	41	6.161	6.161	(1.277)	375176	50.0000	50.91
4	Propionitrile	54	4.346	4.346	(0.901)	664206	500.000	501.04
136	n-Hexane	57	3.349	3.349	(0.695)	311298	50.0000	56.96
194	Acetaldehyde	44	1.464	1.464	(0.304)	231430	200.000	214.64(M)
131	Methyl Acrylate	55	4.376	4.376	(0.908)	531548	50.0000	50.40
200	Dimethyl Disulfide	94	6.749	6.749	(0.824)	291649	50.0000	40.60
23	Chloroprene	53	2.165	2.165	(0.449)	155500	50.0000	59.02(M)
49	Ethyl Methacrylate	69	7.293	7.293	(1.312)	665234	50.0000	51.22
166	1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	1415943	50.0000	49.62
167	Ethanol	45	2.086	2.086	(0.433)	112682	1000.00	1003.15
164	Dicyclopentadiene	66	10.202	10.202	(1.003)	1490866	50.0000	51.74
145	alpha-Methylstyrene	118	9.756	9.756	(0.959)	595689	50.0000	48.00
142	Tetrahydrofuran	42	4.553	4.553	(0.944)	146766	100.000	101.20
156	Diisopropyl ether	45	3.630	3.630	(0.753)	1214902	50.0000	47.41
151	4-Methyl-2-pentanol	45	7.222	7.222	(1.299)	1355197	1000.00	837.72
150	Allyl alcohol	57	3.349	3.349	(0.695)	311298	1000.00	1139.71
86	Benzyl Chloride	91	10.314	10.314	(1.260)	159016	50.0000	26.44
162	Butyl acrylate	55	8.736	8.736	(1.067)	745660	50.0000	44.99
139	Diethyl ether	59	2.153	2.153	(0.447)	353446	50.0000	47.50

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D
Inj Date : 12-NOV-2022 04:38
InstruID : VOA9.i
LabSampID : CCV-END

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

BEFORE

MASS
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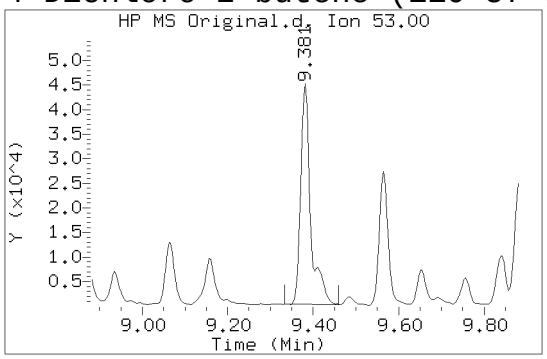
74044
HEIGHT
44884
16-Nov-2022
10:00
linh
pham



AFTER

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16-Nov-2022
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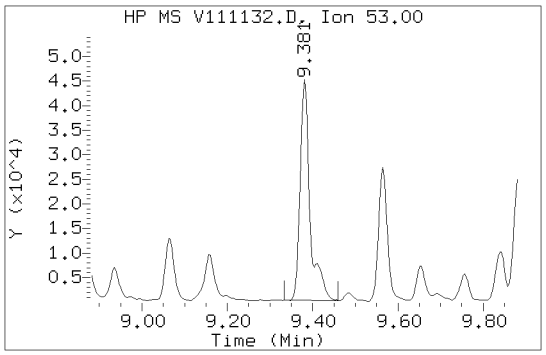

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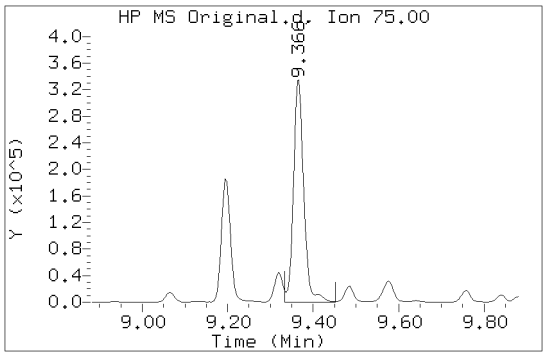

AFTER

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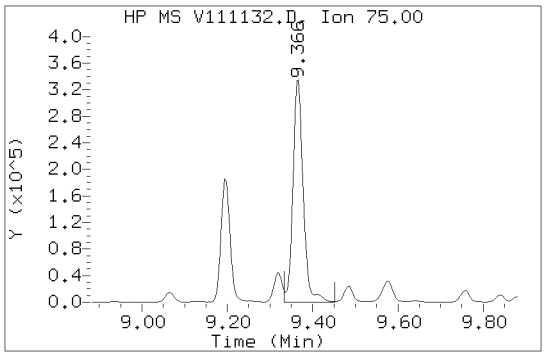

Chloroprene (126-99-8)

Reason Code:

BEFORE

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16-Nov-2022
10:00
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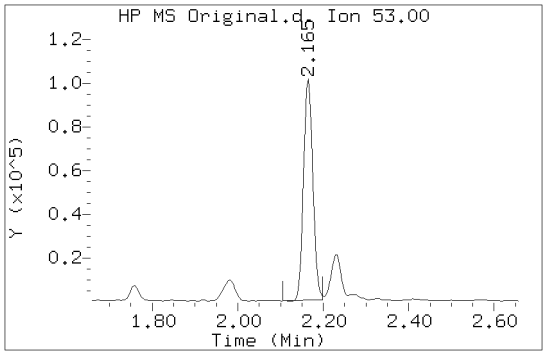

AFTER

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16-Nov-2022
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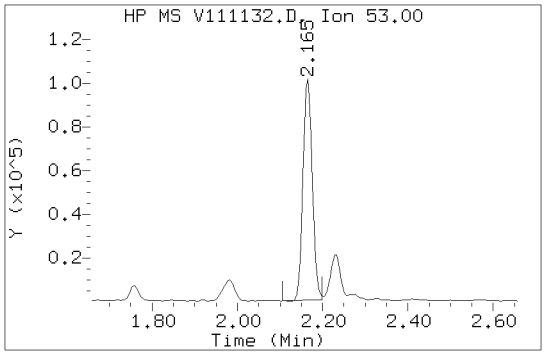
pham



BEFORE

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HEIGHT
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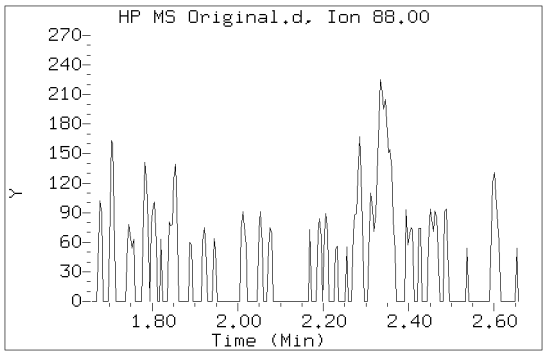
16-Nov-2022
10:00
linh
pham



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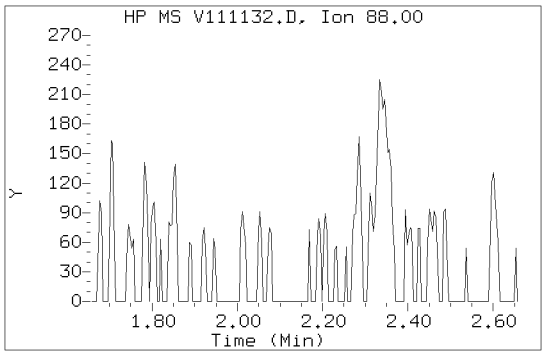

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Inj Date : 12-NOV-2022 04:38
InstruID : VOA9.i
LabSampID : CCV-END

Acetaldehyde (75-07-0)

Reason Code:

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44
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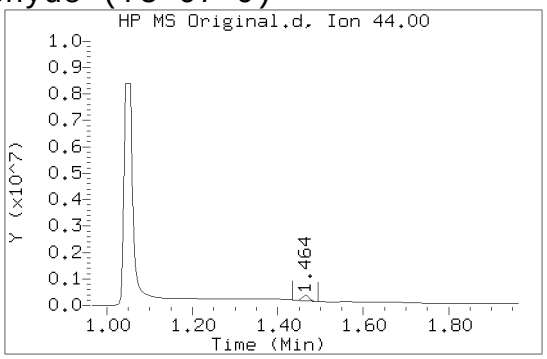
231430
HEIGHT
206816
16-Nov-2022
10:00
linh
pham



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16-Nov-2022
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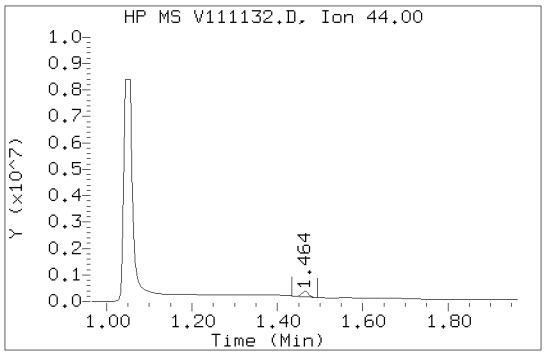

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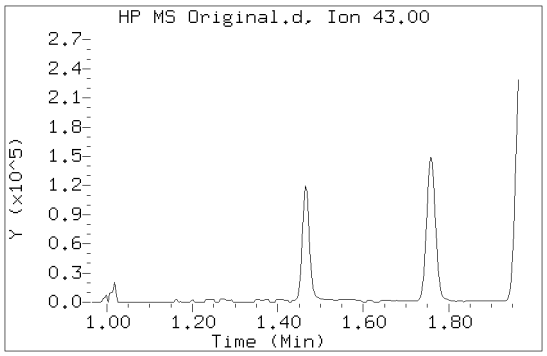

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16-Nov-2022
10:00
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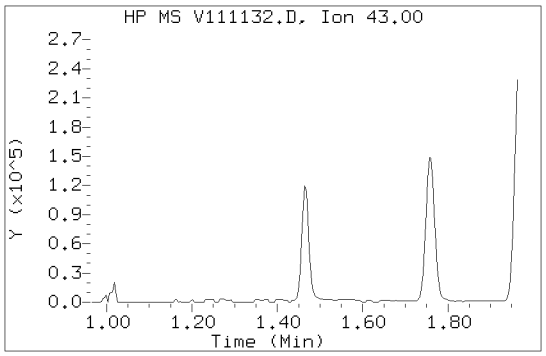

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16-Nov-2022
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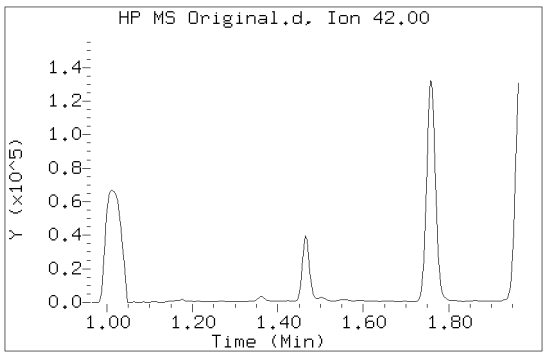
pham



AFTER
MASS
42
AREA
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HEIGHT
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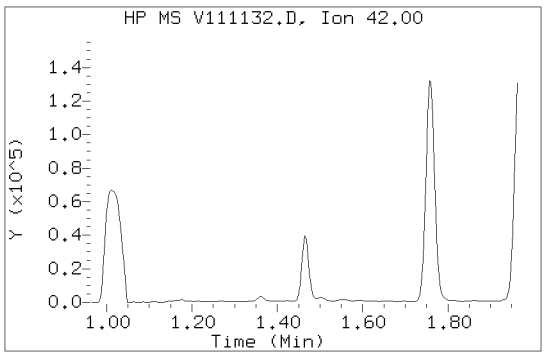
16-Nov-2022
10:00
linh
pham



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WorkOrder: HS22110281

LHAAP 37 November 2022

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

29-Nov-2022

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HS22110281 LHAAP 37 November 2022 Level II REV1

ALS WO# HS22110281

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February 07, 2023

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS22110281**

Laboratory Results for: **LHAAP 37 November 2022**

Dear Vicki Graves ,

ALS Environmental received 8 sample(s) on Nov 04, 2022 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: DANE.WACASEY
Dane J. Wacasey

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Work Order: HS22110281

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110281-01	35BWW04-221103	Groundwater		03-Nov-2022 07:50	04-Nov-2022 09:00	☐
HS22110281-02	35BWW14-221103	Groundwater		03-Nov-2022 08:50	04-Nov-2022 09:00	☐
HS22110281-03	35BWW15-221103	Groundwater		03-Nov-2022 09:35	04-Nov-2022 09:00	☐
HS22110281-04	35BWW23-221103	Groundwater		03-Nov-2022 10:15	04-Nov-2022 09:00	☐
HS22110281-05	35BWW24-221103	Groundwater		03-Nov-2022 11:00	04-Nov-2022 09:00	☐
HS22110281-06	35BWW24-221103-FD	Groundwater		03-Nov-2022 11:00	04-Nov-2022 09:00	☐
HS22110281-07	35BWW25-221103	Groundwater		03-Nov-2022 11:45	04-Nov-2022 09:00	☐
HS22110281-08	Trip Blank-221103	Water	cg-090622-884	03-Nov-2022 00:00	04-Nov-2022 09:00	☐

Revision:1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 37 November 2022
Work Order: HS22110281

Work Order Comments

- This report was revised February 7, 2023, to adjust the VOC analyte list to include the compounds related to site LHAAP 37.

Work Order Comments

- The analysis for CO2 by RSK175 was performed by Eurofins in Lancaster, PA. The Final report is appended.

GC Semivolatiles by Method RSK-175

Batch ID: R421701

Sample ID: 35BWW04-221103 (HS22110281-01MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 35BWW04-221103 (HS22110281-01MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R421679

Sample ID: 35BWW04-221103 (HS22110281-01MS)

- MS and MSD failed QC limit for select compounds due to suspect matrix effect.

Sample ID: 35BWW25-221103 (HS22110281-07MS)

- MS and MSD failed QC limit for select compounds due to suspect matrix effect.

WetChemistry by Method SM5310B

Batch ID: R422135,R422136

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R421072

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW04-221103
Collection Date: 03-Nov-2022 07:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:48
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 23:48
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW04-221103
Collection Date: 03-Nov-2022 07:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 23:48
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 23:48
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 23:48
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Tetrachloroethene	**5.3**		**0.30**	**1.0**	**1.0**	**ug/L**	1	11-Nov-2022 23:48
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 23:48
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 23:48*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 23:48*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 23:48*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 23:48*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	11-Nov-2022 12:49
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	11-Nov-2022 12:49
Methane	**0.00126**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	11-Nov-2022 12:49
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**1.05**		**0.500**	**1.00**	**1.00**	**mg/L**	1	18-Nov-2022 06:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW04-221103
Collection Date: 03-Nov-2022 07:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**3.21**		**0.200**	**0.250**	**0.500**	**mg/L**	1	04-Nov-2022 15:02
Nitrogen, Nitrate (As N)	**0.0327**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	04-Nov-2022 15:02
Sulfate	**26.7**		**0.200**	**0.250**	**0.500**	**mg/L**	1	04-Nov-2022 15:02
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	16-Nov-2022 08:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW14-221103
Collection Date: 03-Nov-2022 08:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1,2-Trichlor-1,2,2-trifluoroethane	**8.4**		**0.50**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:10
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:10
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 00:10
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW14-221103
Collection Date: 03-Nov-2022 08:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:10
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:10
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:10
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Tetrachloroethene	**27**		**0.30**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:10
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Trichloroethene	**6.0**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:10
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:10
Surr: 1,2-Dichloroethane-d4	*96.5*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 00:10*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 00:10*
Surr: Dibromofluoromethane	*94.0*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 00:10*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 00:10*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	11-Nov-2022 14:40
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	11-Nov-2022 14:40
Methane	**0.000932**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	11-Nov-2022 14:40
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.772**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	18-Nov-2022 07:40

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW14-221103
Collection Date: 03-Nov-2022 08:50

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**9.60**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 15:18
Nitrogen, Nitrate (As N)	**0.0507**	J	**0.0300**	**0.0500**	**0.100**	**mg/L**	1	04-Nov-2022 15:18
Sulfate	**49.1**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 15:18
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	16-Nov-2022 08:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW15-221103
Collection Date: 03-Nov-2022 09:35

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 00:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW15-221103
Collection Date: 03-Nov-2022 09:35

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:33
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Tetrachloroethene	**11**		**0.30**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:33
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Trichloroethene	**5.3**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 00:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:33
Surr: 1,2-Dichloroethane-d4	*95.2*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 00:33*
Surr: 4-Bromofluorobenzene	*94.4*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 00:33*
Surr: Dibromofluoromethane	*94.1*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 00:33*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 00:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW23-221103
Collection Date: 03-Nov-2022 10:15

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:55
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 00:55
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW23-221103
Collection Date: 03-Nov-2022 10:15

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 00:55
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 00:55
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 00:55
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 00:55
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 00:55*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 00:55*
Surr: Dibromofluoromethane	*92.1*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 00:55*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 00:55*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: SAM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	11-Nov-2022 14:52
Ethene	**0.000925**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	11-Nov-2022 14:52
Methane	**0.00123**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	11-Nov-2022 14:52
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**0.578**	J	**0.500**	**1.00**	**1.00**	**mg/L**	1	18-Nov-2022 08:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW23-221103
Collection Date: 03-Nov-2022 10:15

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**17.6**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 15:23
Nitrogen, Nitrate (As N)	0.0500	U	0.0300	0.0500	0.100	mg/L	1	04-Nov-2022 15:23
Sulfate	**76.5**		**0.200**	**0.250**	**0.500**	**mg/L**	1	04-Nov-2022 15:23
SUBCONTRACT ANALYSIS - RSK		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	16-Nov-2022 08:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW24-221103
Collection Date: 03-Nov-2022 11:00

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1,2-Trichlor-1,2,2-trifluoroethane	**9.9**		**0.50**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:17
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:17
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 01:17
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW24-221103
Collection Date: 03-Nov-2022 11:00

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:17
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:17
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:17
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Trichloroethene	**4.7**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:17
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:17
Surr: 1,2-Dichloroethane-d4	*93.6*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 01:17*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 01:17*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 01:17*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 01:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW24-221103-FD
Collection Date: 03-Nov-2022 11:00

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1,2-Trichlor-1,2,2-trifluoroethane	**9.6**		**0.50**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:40
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:40
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 01:40
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW24-221103-FD
Collection Date: 03-Nov-2022 11:00

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 01:40
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 01:40
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 01:40
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Trichloroethene	**5.0**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 01:40
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 01:40
Surr: 1,2-Dichloroethane-d4	*92.3*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 01:40*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 01:40*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 01:40*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 01:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW25-221103
Collection Date: 03-Nov-2022 11:45

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 02:02
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	12-Nov-2022 02:02
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: 35BWW25-221103
Collection Date: 03-Nov-2022 11:45

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	12-Nov-2022 02:02
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	12-Nov-2022 02:02
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	12-Nov-2022 02:02
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Tetrachloroethene	**1.4**		**0.30**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 02:02
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Trichloroethene	**14**		**0.20**	**1.0**	**1.0**	**ug/L**	1	12-Nov-2022 02:02
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	12-Nov-2022 02:02
Surr: 1,2-Dichloroethane-d4	*94.1*			**0**	*81-118*	*%REC*	*1*	*12-Nov-2022 02:02*
Surr: 4-Bromofluorobenzene	*95.7*			**0**	*85-114*	*%REC*	*1*	*12-Nov-2022 02:02*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*1*	*12-Nov-2022 02:02*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*12-Nov-2022 02:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221103
Collection Date: 03-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:05
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Nov-2022 20:05
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
Sample ID: Trip Blank-221103
Collection Date: 03-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22110281
Lab ID:HS22110281-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:05
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Nov-2022 20:05
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:05
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:05
Surr: 1,2-Dichloroethane-d4	*90.6*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:05*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:05*
Surr: Dibromofluoromethane	*90.9*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:05*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421072 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			04 Nov 2022 15:02	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			04 Nov 2022 15:18	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			04 Nov 2022 15:23	1
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110281-08	Trip Blank-221103	03 Nov 2022 00:00			11 Nov 2022 20:05	1
Batch ID: R421679 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			11 Nov 2022 23:48	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			12 Nov 2022 00:10	1
HS22110281-03	35BWW15-221103	03 Nov 2022 09:35			12 Nov 2022 00:33	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			12 Nov 2022 00:55	1
HS22110281-05	35BWW24-221103	03 Nov 2022 11:00			12 Nov 2022 01:17	1
HS22110281-06	35BWW24-221103-FD	03 Nov 2022 11:00			12 Nov 2022 01:40	1
HS22110281-07	35BWW25-221103	03 Nov 2022 11:45			12 Nov 2022 02:02	1
Batch ID: R421701 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			11 Nov 2022 12:49	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			11 Nov 2022 14:40	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			11 Nov 2022 14:52	1
Batch ID: R421901 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RSK				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			16 Nov 2022 08:49	1
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			16 Nov 2022 08:49	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			16 Nov 2022 08:49	1
Batch ID: R422135 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS22110281-01	35BWW04-221103	03 Nov 2022 07:50			18 Nov 2022 06:03	1
Batch ID: R422136 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS22110281-02	35BWW14-221103	03 Nov 2022 08:50			18 Nov 2022 07:40	1
HS22110281-04	35BWW23-221103	03 Nov 2022 10:15			18 Nov 2022 08:07	1

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421701 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-221111** Units: **mg/L** Analysis Date: **11-Nov-2022 08:52**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978931** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000500	0.000500								U

LCS Sample ID: **LCS-221111** Units: **mg/L** Analysis Date: **11-Nov-2022 09:00**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978932** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0201	0.00100	0.01804	0	112	75 - 125				
Ethene	0.0186	0.00100	0.0168	0	111	75 - 125				
Methane	0.00859	0.000500	0.009647	0	89.0	75 - 125				

LCSD Sample ID: **LCSD-221111** Units: **mg/L** Analysis Date: **11-Nov-2022 09:08**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978933** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0206	0.00100	0.01804	0	114	75 - 125	0.02012	2.54	30	
Ethene	0.0190	0.00100	0.0168	0	113	75 - 125	0.01862	2.1	30	
Methane	0.00887	0.000500	0.009647	0	91.9	75 - 125	0.008588	3.23	30	

MS Sample ID: **HS22110582-05MS** Units: **mg/L** Analysis Date: **11-Nov-2022 17:06**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978955** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0212	0.00100	0.01804	0	118	75 - 125				
Ethene	0.0187	0.00100	0.0168	0	111	75 - 125				
Methane	0.00886	0.000500	0.009647	0	91.8	75 - 125				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421701 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MS Sample ID: **HS22110281-01MS** Units: **mg/L** Analysis Date: **11-Nov-2022 14:15**
Client ID: **35BWW04-221103** Run ID: **FID-4_421701** SeqNo: **6978947** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0240	0.00100	0.01804	0	133	75 - 125				S
Ethene	0.0223	0.00100	0.0168	0	133	75 - 125				S
Methane	0.00937	0.000500	0.009647	0.001261	84.1	75 - 125				

MSD Sample ID: **HS22110582-05MSD** Units: **mg/L** Analysis Date: **11-Nov-2022 17:18**
Client ID: Run ID: **FID-4_421701** SeqNo: **6978956** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0216	0.00100	0.01804	0	119	75 - 125	0.02121	1.61	30	
Ethene	0.0195	0.00100	0.0168	0	116	75 - 125	0.01872	4.3	30	
Methane	0.00912	0.000500	0.009647	0	94.5	75 - 125	0.008861	2.83	30	

MSD Sample ID: **HS22110281-01MSD** Units: **mg/L** Analysis Date: **11-Nov-2022 14:32**
Client ID: **35BWW04-221103** Run ID: **FID-4_421701** SeqNo: **6978948** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0250	0.00100	0.01804	0	139	75 - 125	0.02404	3.91	30	S
Ethene	0.0227	0.00100	0.0168	0	135	75 - 125	0.02233	1.62	30	S
Methane	0.00951	0.000500	0.009647	0.001261	85.5	75 - 125	0.009369	1.48	30	

The following samples were analyzed in this batch: HS22110281-01 HS22110281-02 HS22110281-04

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichlor-1,2,2-trifluoroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	1.0	1.0								U
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.84*	*1.0*	*50*	*0*	*97.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.6*	*1.0*	*50*	*0*	*91.2*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 19:20**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*53.49*	*1.0*	*50*	*0*	*107*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.76	1.0	20	0	98.8	78 - 124				
1,1,1-Trichloroethane	20	1.0	20	0	100.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	23.64	1.0	20	0	118	70 - 136				
1,1,2-Trichloroethane	19.59	1.0	20	0	98.0	80 - 119				
1,1-Dichloroethane	18.56	1.0	20	0	92.8	77 - 125				
1,1-Dichloroethene	18.55	1.0	20	0	92.8	71 - 131				
1,1-Dichloropropene	19.43	1.0	20	0	97.1	78 - 125				
1,2,3-Trichlorobenzene	20.6	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	19.12	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	20.67	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	21.75	1.0	20	0	109	76 - 124				
1,2-Dibromo-3-chloropropane	17.7	1.0	20	0	88.5	62 - 128				
1,2-Dibromoethane	20.64	1.0	20	0	103	77 - 121				
1,2-Dichlorobenzene	19.34	1.0	20	0	96.7	80 - 119				
1,2-Dichloroethane	19.35	1.0	20	0	96.8	73 - 128				
1,2-Dichloropropane	19.19	1.0	20	0	96.0	78 - 122				
1,3,5-Trimethylbenzene	21.56	1.0	20	0	108	75 - 124				
1,3-Dichlorobenzene	20.24	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	20.17	1.0	20	0	101	80 - 119				
1,4-Dichlorobenzene	19.23	1.0	20	0	96.2	79 - 118				
2,2-Dichloropropane	17.76	1.0	20	0	88.8	60 - 139				
2-Butanone	39.58	2.0	40	0	99.0	56 - 143				
2-Chlorotoluene	20.57	1.0	20	0	103	79 - 122				
2-Hexanone	38.74	2.0	40	0	96.8	57 - 139				
4-Chlorotoluene	20.7	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	20.89	1.0	20	0	104	77 - 127				
4-Methyl-2-pentanone	39.67	2.0	40	0	99.2	67 - 130				
Acetone	43.31	2.0	40	0	108	39 - 160				
Benzene	19.25	1.0	20	0	96.2	79 - 120				
Bromobenzene	20.48	1.0	20	0	102	80 - 120				
Bromochloromethane	18.31	1.0	20	0	91.6	78 - 123				
Bromodichloromethane	18.79	1.0	20	0	94.0	79 - 125				
Bromoform	17.25	1.0	20	0	86.2	66 - 130				

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ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	19.91	1.0	20	0	99.5	53 - 141				
Carbon disulfide	36.73	2.0	40	0	91.8	64 - 133				
Carbon tetrachloride	18.95	1.0	20	0	94.8	72 - 136				
Chlorobenzene	19.44	1.0	20	0	97.2	82 - 118				
Chloroethane	18.47	1.0	20	0	92.3	60 - 138				
Chloroform	19.19	1.0	20	0	96.0	79 - 124				
Chloromethane	18.64	1.0	20	0	93.2	50 - 139				
cis-1,2-Dichloroethene	19.38	1.0	20	0	96.9	78 - 123				
cis-1,3-Dichloropropene	17.21	1.0	20	0	86.1	75 - 124				
Dibromochloromethane	17.79	1.0	20	0	89.0	74 - 126				
Dibromomethane	19.44	1.0	20	0	97.2	79 - 123				
Dichlorodifluoromethane	21.07	1.0	20	0	105	32 - 152				
Ethylbenzene	20.18	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	23.47	1.0	20	0	117	66 - 134				
Isopropylbenzene	21	1.0	20	0	105	72 - 131				
m,p-Xylene	40.86	2.0	40	0	102	80 - 121				
Methylene chloride	21.12	2.0	20	0	106	74 - 124				
Naphthalene	20.83	1.0	20	0	104	61 - 128				
n-Butylbenzene	20.76	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.94	1.0	20	0	105	76 - 126				
o-Xylene	20.56	1.0	20	0	103	78 - 122				
sec-Butylbenzene	20.21	1.0	20	0	101	77 - 126				
Styrene	19.21	1.0	20	0	96.1	78 - 123				
tert-Butylbenzene	20.4	1.0	20	0	102	78 - 124				
Tetrachloroethene	19.86	1.0	20	0	99.3	74 - 129				
Toluene	20.44	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	18.65	1.0	20	0	93.3	75 - 124				
trans-1,3-Dichloropropene	16.59	1.0	20	0	83.0	73 - 127				
Trichloroethene	19.52	1.0	20	0	97.6	79 - 123				
Trichlorofluoromethane	19.64	1.0	20	0	98.2	65 - 141				
Vinyl chloride	17.64	1.0	20	0	88.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.74*	*1.0*	*50*	*0*	*99.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.58*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.69*	*1.0*	*50*	*0*	*101*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221110** Units: **ug/L** Analysis Date: **11-Nov-2022 18:36**
Client ID: Run ID: **VOA9_421679** SeqNo: **6978264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*52.1*	*1.0*	*50*	*0*	*104*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.96	1.0	20	0	110	78 - 124				
1,1,1-Trichloroethane	22.5	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	20.81	1.0	20	0	104	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	28.23	1.0	20	0	141	70 - 136				S
1,1,2-Trichloroethane	20.43	1.0	20	0	102	80 - 119				
1,1-Dichloroethane	19.53	1.0	20	0	97.7	77 - 125				
1,1-Dichloroethene	21.15	1.0	20	0	106	71 - 131				
1,1-Dichloropropene	23.81	1.0	20	0	119	78 - 125				
1,2,3-Trichlorobenzene	21.67	1.0	20	0	108	69 - 129				
1,2,3-Trichloropropane	19.13	1.0	20	0	95.6	73 - 122				
1,2,4-Trichlorobenzene	21.37	1.0	20	0	107	69 - 130				
1,2,4-Trimethylbenzene	23.64	1.0	20	0	118	76 - 124				
1,2-Dibromo-3-chloropropane	18.31	1.0	20	0	91.6	62 - 128				
1,2-Dibromoethane	21.64	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.5	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.62	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.78	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	25.04	1.0	20	0	125	75 - 124				S
1,3-Dichlorobenzene	22.47	1.0	20	0	112	80 - 119				
1,3-Dichloropropane	21.81	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	15.18	1.0	20	0	75.9	60 - 139				
2-Butanone	34.26	2.0	40	0	85.7	56 - 143				
2-Chlorotoluene	23.89	1.0	20	0	119	79 - 122				
2-Hexanone	37.29	2.0	40	0	93.2	57 - 139				
4-Chlorotoluene	24.01	1.0	20	0	120	78 - 122				
4-Isopropyltoluene	24.72	1.0	20	0	124	77 - 127				
4-Methyl-2-pentanone	40.65	2.0	40	0	102	67 - 130				
Acetone	26.25	2.0	40	0	65.6	39 - 160				
Benzene	21.46	1.0	20	0	107	79 - 120				
Bromobenzene	22.3	1.0	20	0	112	80 - 120				
Bromochloromethane	18.37	1.0	20	0	91.8	78 - 123				
Bromodichloromethane	20.45	1.0	20	0	102	79 - 125				
Bromoform	17.56	1.0	20	0	87.8	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	20.36	1.0	20	0	102	53 - 141				
Carbon disulfide	39.29	2.0	40	0	98.2	64 - 133				
Carbon tetrachloride	25.94	1.0	20	0	130	72 - 136				
Chlorobenzene	22.18	1.0	20	0	111	82 - 118				
Chloroethane	21.25	1.0	20	0	106	60 - 138				
Chloroform	19.62	1.0	20	0	98.1	79 - 124				
Chloromethane	19.95	1.0	20	0	99.7	50 - 139				
cis-1,2-Dichloroethene	19.25	1.0	20	0	96.2	78 - 123				
cis-1,3-Dichloropropene	17.2	1.0	20	0	86.0	75 - 124				
Dibromochloromethane	19.04	1.0	20	0	95.2	74 - 126				
Dibromomethane	19.84	1.0	20	0	99.2	79 - 123				
Dichlorodifluoromethane	22.92	1.0	20	0	115	32 - 152				
Ethylbenzene	24.02	1.0	20	0	120	79 - 121				
Hexachlorobutadiene	27.49	1.0	20	0	137	66 - 134				S
Isopropylbenzene	25.87	1.0	20	0	129	72 - 131				
m,p-Xylene	47.54	2.0	40	0	119	80 - 121				
Methylene chloride	19.29	2.0	20	0	96.5	74 - 124				
Naphthalene	21	1.0	20	0	105	61 - 128				
n-Butylbenzene	24.25	1.0	20	0	121	75 - 128				
n-Propylbenzene	24.86	1.0	20	0	124	76 - 126				
o-Xylene	23.84	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.47	1.0	20	0	122	77 - 126				
Styrene	20.4	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.74	1.0	20	0	129	78 - 124				S
Tetrachloroethene	25.46	1.0	20	1.371	120	74 - 129				
Toluene	23.83	1.0	20	0	119	80 - 121				
trans-1,2-Dichloroethene	20.36	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	16.21	1.0	20	0	81.0	73 - 127				
Trichloroethene	36.74	1.0	20	13.95	114	79 - 123				
Trichlorofluoromethane	22.97	1.0	20	0	115	65 - 141				
Vinyl chloride	20.94	1.0	20	0	105	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.28*	*1.0*	*50*	*0*	*88.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.1*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-07MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:54**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.31*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.26	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	22.69	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	21.14	1.0	20	0	106	71 - 121				
1,1,2-Trichlor-1,2,2-trifluoroethane	29.45	1.0	20	0	147	70 - 136				S
1,1,2-Trichloroethane	21.19	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	20.15	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	21.59	1.0	20	0	108	71 - 131				
1,1-Dichloropropene	24.96	1.0	20	0	125	78 - 125				
1,2,3-Trichlorobenzene	19.53	1.0	20	0	97.6	69 - 129				
1,2,3-Trichloropropane	19.8	1.0	20	0	99.0	73 - 122				
1,2,4-Trichlorobenzene	19.31	1.0	20	0	96.6	69 - 130				
1,2,4-Trimethylbenzene	23.7	1.0	20	0	119	76 - 124				
1,2-Dibromo-3-chloropropane	17.66	1.0	20	0	88.3	62 - 128				
1,2-Dibromoethane	21.66	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.23	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.75	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	21.62	1.0	20	0	108	78 - 122				
1,3,5-Trimethylbenzene	24.67	1.0	20	0	123	75 - 124				
1,3-Dichlorobenzene	22.11	1.0	20	0	111	80 - 119				
1,3-Dichloropropane	21.79	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	20.94	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	15.59	1.0	20	0	78.0	60 - 139				
2-Butanone	35.85	2.0	40	0	89.6	56 - 143				
2-Chlorotoluene	23.43	1.0	20	0	117	79 - 122				
2-Hexanone	38.08	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	23.46	1.0	20	0	117	78 - 122				
4-Isopropyltoluene	24.23	1.0	20	0	121	77 - 127				
4-Methyl-2-pentanone	42.8	2.0	40	0	107	67 - 130				
Acetone	27.47	2.0	40	0	68.7	39 - 160				
Benzene	22.18	1.0	20	0	111	79 - 120				
Bromobenzene	21.81	1.0	20	0	109	80 - 120				
Bromochloromethane	18.77	1.0	20	0	93.9	78 - 123				
Bromodichloromethane	20.68	1.0	20	0	103	79 - 125				
Bromoform	17.9	1.0	20	0	89.5	66 - 130				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromomethane	21.73	1.0	20	0	109	53 - 141				
Carbon disulfide	40.33	2.0	40	0	101	64 - 133				
Carbon tetrachloride	26.39	1.0	20	0	132	72 - 136				
Chlorobenzene	22.36	1.0	20	0	112	82 - 118				
Chloroethane	20.64	1.0	20	0	103	60 - 138				
Chloroform	19.87	1.0	20	0	99.4	79 - 124				
Chloromethane	20.58	1.0	20	0	103	50 - 139				
cis-1,2-Dichloroethene	20.01	1.0	20	0	100	78 - 123				
cis-1,3-Dichloropropene	17.25	1.0	20	0	86.2	75 - 124				
Dibromochloromethane	19.06	1.0	20	0	95.3	74 - 126				
Dibromomethane	20.89	1.0	20	0	104	79 - 123				
Dichlorodifluoromethane	23.85	1.0	20	0	119	32 - 152				
Ethylbenzene	24.12	1.0	20	0	121	79 - 121				
Hexachlorobutadiene	25.48	1.0	20	0	127	66 - 134				
Isopropylbenzene	25.86	1.0	20	0	129	72 - 131				
m,p-Xylene	47.78	2.0	40	0	119	80 - 121				
Methylene chloride	19.96	2.0	20	0	99.8	74 - 124				
Naphthalene	17.59	1.0	20	0	87.9	61 - 128				
n-Butylbenzene	23.57	1.0	20	0	118	75 - 128				
n-Propylbenzene	24.76	1.0	20	0	124	76 - 126				
o-Xylene	23.71	1.0	20	0	119	78 - 122				
sec-Butylbenzene	24.19	1.0	20	0	121	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	25.68	1.0	20	0	128	78 - 124				S
Tetrachloroethene	29.57	1.0	20	5.324	121	74 - 129				
Toluene	24.32	1.0	20	0	122	80 - 121				S
trans-1,2-Dichloroethene	20.7	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	16.19	1.0	20	0	81.0	73 - 127				
Trichloroethene	24.22	1.0	20	0	121	79 - 123				
Trichlorofluoromethane	23.76	1.0	20	0	119	65 - 141				
Vinyl chloride	21.47	1.0	20	0	107	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.47*	*1.0*	*50*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.38*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*46.78*	*1.0*	*50*	*0*	*93.6*	*80 - 119*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110281-01MS** Units: **ug/L** Analysis Date: **12-Nov-2022 03:09**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978286** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.45*	*1.0*	*50*	*0*	*109*	*89 - 112*				

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.46	1.0	20	0	107	78 - 124	21.96	2.3	20	
1,1,1-Trichloroethane	21.76	1.0	20	0	109	74 - 131	22.5	3.38	20	
1,1,2,2-Tetrachloroethane	20.79	1.0	20	0	104	71 - 121	20.81	0.125	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	27.43	1.0	20	0	137	70 - 136	28.23	2.85	20	S
1,1,2-Trichloroethane	20.89	1.0	20	0	104	80 - 119	20.43	2.19	20	
1,1-Dichloroethane	18.66	1.0	20	0	93.3	77 - 125	19.53	4.55	20	
1,1-Dichloroethene	20.5	1.0	20	0	102	71 - 131	21.15	3.13	20	
1,1-Dichloropropene	23.98	1.0	20	0	120	78 - 125	23.81	0.736	20	
1,2,3-Trichlorobenzene	21.78	1.0	20	0	109	69 - 129	21.67	0.501	20	
1,2,3-Trichloropropane	19.42	1.0	20	0	97.1	73 - 122	19.13	1.5	20	
1,2,4-Trichlorobenzene	21.31	1.0	20	0	107	69 - 130	21.37	0.254	20	
1,2,4-Trimethylbenzene	23.98	1.0	20	0	120	76 - 124	23.64	1.45	20	
1,2-Dibromo-3-chloropropane	17.85	1.0	20	0	89.3	62 - 128	18.31	2.56	20	
1,2-Dibromoethane	21.7	1.0	20	0	108	77 - 121	21.64	0.284	20	
1,2-Dichlorobenzene	21.02	1.0	20	0	105	80 - 119	21.5	2.25	20	
1,2-Dichloroethane	21.09	1.0	20	0	105	73 - 128	20.62	2.26	20	
1,2-Dichloropropane	21.68	1.0	20	0	108	78 - 122	20.78	4.25	20	
1,3,5-Trimethylbenzene	24.61	1.0	20	0	123	75 - 124	25.04	1.73	20	
1,3-Dichlorobenzene	22.19	1.0	20	0	111	80 - 119	22.47	1.25	20	
1,3-Dichloropropane	21.48	1.0	20	0	107	80 - 119	21.81	1.53	20	
1,4-Dichlorobenzene	20.76	1.0	20	0	104	79 - 118	21.15	1.87	20	
2,2-Dichloropropane	14.61	1.0	20	0	73.1	60 - 139	15.18	3.83	20	
2-Butanone	34.24	2.0	40	0	85.6	56 - 143	34.26	0.0692	20	
2-Chlorotoluene	23.55	1.0	20	0	118	79 - 122	23.89	1.42	20	
2-Hexanone	40.04	2.0	40	0	100	57 - 139	37.29	7.11	20	
4-Chlorotoluene	23.13	1.0	20	0	116	78 - 122	24.01	3.75	20	
4-Isopropyltoluene	24.55	1.0	20	0	123	77 - 127	24.72	0.679	20	
4-Methyl-2-pentanone	43.64	2.0	40	0	109	67 - 130	40.65	7.09	20	
Acetone	26.26	2.0	40	0	65.7	39 - 160	26.25	0.062	20	
Benzene	21.75	1.0	20	0	109	79 - 120	21.46	1.33	20	
Bromobenzene	22.1	1.0	20	0	110	80 - 120	22.3	0.913	20	
Bromochloromethane	18.43	1.0	20	0	92.1	78 - 123	18.37	0.324	20	
Bromodichloromethane	20.39	1.0	20	0	102	79 - 125	20.45	0.266	20	
Bromoform	17.69	1.0	20	0	88.4	66 - 130	17.56	0.714	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	19.2	1.0	20	0	96.0	53 - 141	20.36	5.85	20	
Carbon disulfide	37.68	2.0	40	0	94.2	64 - 133	39.29	4.18	20	
Carbon tetrachloride	25.79	1.0	20	0	129	72 - 136	25.94	0.571	20	
Chlorobenzene	21.88	1.0	20	0	109	82 - 118	22.18	1.38	20	
Chloroethane	19.88	1.0	20	0	99.4	60 - 138	21.25	6.67	20	
Chloroform	19.05	1.0	20	0	95.2	79 - 124	19.62	2.95	20	
Chloromethane	18.96	1.0	20	0	94.8	50 - 139	19.95	5.08	20	
cis-1,2-Dichloroethene	18.55	1.0	20	0	92.8	78 - 123	19.25	3.68	20	
cis-1,3-Dichloropropene	17.54	1.0	20	0	87.7	75 - 124	17.2	1.97	20	
Dibromochloromethane	18.83	1.0	20	0	94.2	74 - 126	19.04	1.08	20	
Dibromomethane	20.88	1.0	20	0	104	79 - 123	19.84	5.1	20	
Dichlorodifluoromethane	22.12	1.0	20	0	111	32 - 152	22.92	3.55	20	
Ethylbenzene	23.77	1.0	20	0	119	79 - 121	24.02	1.04	20	
Hexachlorobutadiene	25.62	1.0	20	0	128	66 - 134	27.49	7.05	20	
Isopropylbenzene	25.35	1.0	20	0	127	72 - 131	25.87	2.04	20	
m,p-Xylene	46.87	2.0	40	0	117	80 - 121	47.54	1.42	20	
Methylene chloride	18.96	2.0	20	0	94.8	74 - 124	19.29	1.73	20	
Naphthalene	21.8	1.0	20	0	109	61 - 128	21	3.73	20	
n-Butylbenzene	24.11	1.0	20	0	121	75 - 128	24.25	0.569	20	
n-Propylbenzene	24.84	1.0	20	0	124	76 - 126	24.86	0.0937	20	
o-Xylene	22.96	1.0	20	0	115	78 - 122	23.84	3.75	20	
sec-Butylbenzene	23.92	1.0	20	0	120	77 - 126	24.47	2.24	20	
Styrene	20.27	1.0	20	0	101	78 - 123	20.4	0.606	20	
tert-Butylbenzene	25.02	1.0	20	0	125	78 - 124	25.74	2.85	20	S
Tetrachloroethene	24.96	1.0	20	1.371	118	74 - 129	25.46	2	20	
Toluene	23.42	1.0	20	0	117	80 - 121	23.83	1.73	20	
trans-1,2-Dichloroethene	19.46	1.0	20	0	97.3	75 - 124	20.36	4.51	20	
trans-1,3-Dichloropropene	16.25	1.0	20	0	81.3	73 - 127	16.21	0.266	20	
Trichloroethene	35.68	1.0	20	13.95	109	79 - 123	36.74	2.94	20	
Trichlorofluoromethane	21.65	1.0	20	0	108	65 - 141	22.97	5.91	20	
Vinyl chloride	19.8	1.0	20	0	99.0	58 - 137	20.94	5.59	20	
Surr: 1,2-Dichloroethane-d4	*44.55*	*1.0*	*50*	*0*	*89.1*	*81 - 118*	*44.28*	*0.592*	*20*	
Surr: 4-Bromofluorobenzene	*51.97*	*1.0*	*50*	*0*	*104*	*85 - 114*	*51.1*	*1.68*	*20*	
Surr: Dibromofluoromethane	*45.85*	*1.0*	*50*	*0*	*91.7*	*80 - 119*	*45.97*	*0.261*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-07MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 04:16**
Client ID: **35BWW25-221103** Run ID: **VOA9_421679** SeqNo: **6978289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*54.93*	*1.0*	*50*	*0*	*110*	*89 - 112*	*54.31*	*1.12*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.24	1.0	20	0	111	78 - 124	22.26	0.0852	20	
1,1,1-Trichloroethane	22.44	1.0	20	0	112	74 - 131	22.69	1.1	20	
1,1,2,2-Tetrachloroethane	20.92	1.0	20	0	105	71 - 121	21.14	1.02	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	28.65	1.0	20	0	143	70 - 136	29.45	2.72	20	S
1,1,2-Trichloroethane	21.55	1.0	20	0	108	80 - 119	21.19	1.73	20	
1,1-Dichloroethane	18.83	1.0	20	0	94.2	77 - 125	20.15	6.74	20	
1,1-Dichloroethene	20.86	1.0	20	0	104	71 - 131	21.59	3.43	20	
1,1-Dichloropropene	24.92	1.0	20	0	125	78 - 125	24.96	0.177	20	
1,2,3-Trichlorobenzene	21	1.0	20	0	105	69 - 129	19.53	7.26	20	
1,2,3-Trichloropropane	19.09	1.0	20	0	95.5	73 - 122	19.8	3.65	20	
1,2,4-Trichlorobenzene	20.79	1.0	20	0	104	69 - 130	19.31	7.4	20	
1,2,4-Trimethylbenzene	23.34	1.0	20	0	117	76 - 124	23.7	1.54	20	
1,2-Dibromo-3-chloropropane	17.45	1.0	20	0	87.2	62 - 128	17.66	1.19	20	
1,2-Dibromoethane	22.31	1.0	20	0	112	77 - 121	21.66	2.96	20	
1,2-Dichlorobenzene	21.2	1.0	20	0	106	80 - 119	21.23	0.149	20	
1,2-Dichloroethane	21.61	1.0	20	0	108	73 - 128	20.75	4.08	20	
1,2-Dichloropropane	21.32	1.0	20	0	107	78 - 122	21.62	1.42	20	
1,3,5-Trimethylbenzene	23.98	1.0	20	0	120	75 - 124	24.67	2.84	20	
1,3-Dichlorobenzene	22.27	1.0	20	0	111	80 - 119	22.11	0.686	20	
1,3-Dichloropropane	21.88	1.0	20	0	109	80 - 119	21.79	0.414	20	
1,4-Dichlorobenzene	20.73	1.0	20	0	104	79 - 118	20.94	1.04	20	
2,2-Dichloropropane	15.09	1.0	20	0	75.4	60 - 139	15.59	3.28	20	
2-Butanone	34.86	2.0	40	0	87.2	56 - 143	35.85	2.8	20	
2-Chlorotoluene	23.09	1.0	20	0	115	79 - 122	23.43	1.48	20	
2-Hexanone	39.49	2.0	40	0	98.7	57 - 139	38.08	3.65	20	
4-Chlorotoluene	22.82	1.0	20	0	114	78 - 122	23.46	2.78	20	
4-Isopropyltoluene	24.05	1.0	20	0	120	77 - 127	24.23	0.751	20	
4-Methyl-2-pentanone	42.56	2.0	40	0	106	67 - 130	42.8	0.551	20	
Acetone	25.91	2.0	40	0	64.8	39 - 160	27.47	5.85	20	
Benzene	21.88	1.0	20	0	109	79 - 120	22.18	1.35	20	
Bromobenzene	22.15	1.0	20	0	111	80 - 120	21.81	1.53	20	
Bromochloromethane	18.57	1.0	20	0	92.8	78 - 123	18.77	1.09	20	
Bromodichloromethane	20.61	1.0	20	0	103	79 - 125	20.68	0.311	20	
Bromoform	17.93	1.0	20	0	89.6	66 - 130	17.9	0.159	20	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Bromomethane	20.76	1.0	20	0	104	53 - 141	21.73	4.57	20	
Carbon disulfide	39.03	2.0	40	0	97.6	64 - 133	40.33	3.3	20	
Carbon tetrachloride	26.24	1.0	20	0	131	72 - 136	26.39	0.575	20	
Chlorobenzene	22.49	1.0	20	0	112	82 - 118	22.36	0.561	20	
Chloroethane	20.62	1.0	20	0	103	60 - 138	20.64	0.0959	20	
Chloroform	19.64	1.0	20	0	98.2	79 - 124	19.87	1.19	20	
Chloromethane	19.7	1.0	20	0	98.5	50 - 139	20.58	4.41	20	
cis-1,2-Dichloroethene	19.14	1.0	20	0	95.7	78 - 123	20.01	4.44	20	
cis-1,3-Dichloropropene	17.22	1.0	20	0	86.1	75 - 124	17.25	0.144	20	
Dibromochloromethane	19.22	1.0	20	0	96.1	74 - 126	19.06	0.87	20	
Dibromomethane	19.99	1.0	20	0	100.0	79 - 123	20.89	4.38	20	
Dichlorodifluoromethane	22.95	1.0	20	0	115	32 - 152	23.85	3.85	20	
Ethylbenzene	24.01	1.0	20	0	120	79 - 121	24.12	0.458	20	
Hexachlorobutadiene	25.75	1.0	20	0	129	66 - 134	25.48	1.08	20	
Isopropylbenzene	26.02	1.0	20	0	130	72 - 131	25.86	0.583	20	
m,p-Xylene	48.64	2.0	40	0	122	80 - 121	47.78	1.79	20	S
Methylene chloride	19.44	2.0	20	0	97.2	74 - 124	19.96	2.61	20	
Naphthalene	20.3	1.0	20	0	102	61 - 128	17.59	14.3	20	
n-Butylbenzene	23.93	1.0	20	0	120	75 - 128	23.57	1.54	20	
n-Propylbenzene	24.29	1.0	20	0	121	76 - 126	24.76	1.91	20	
o-Xylene	23.54	1.0	20	0	118	78 - 122	23.71	0.716	20	
sec-Butylbenzene	23.97	1.0	20	0	120	77 - 126	24.19	0.912	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.46	1.47	20	
tert-Butylbenzene	24.99	1.0	20	0	125	78 - 124	25.68	2.73	20	S
Tetrachloroethene	29.89	1.0	20	5.324	123	74 - 129	29.57	1.07	20	
Toluene	24.13	1.0	20	0	121	80 - 121	24.32	0.792	20	
trans-1,2-Dichloroethene	20.11	1.0	20	0	101	75 - 124	20.7	2.86	20	
trans-1,3-Dichloropropene	16.41	1.0	20	0	82.0	73 - 127	16.19	1.32	20	
Trichloroethene	23.46	1.0	20	0	117	79 - 123	24.22	3.19	20	
Trichlorofluoromethane	22.95	1.0	20	0	115	65 - 141	23.76	3.46	20	
Vinyl chloride	20.94	1.0	20	0	105	58 - 137	21.47	2.5	20	
Surr: 1,2-Dichloroethane-d4	*45.4*	*1.0*	*50*	*0*	*90.8*	*81 - 118*	*45.47*	*0.159*	*20*	
Surr: 4-Bromofluorobenzene	*52.46*	*1.0*	*50*	*0*	*105*	*85 - 114*	*51.38*	*2.09*	*20*	
Surr: Dibromofluoromethane	*46.14*	*1.0*	*50*	*0*	*92.3*	*80 - 119*	*46.78*	*1.38*	*20*	

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421679 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110281-01MSD** Units: **ug/L** Analysis Date: **12-Nov-2022 03:31**
Client ID: **35BWW04-221103** Run ID: **VOA9_421679** SeqNo: **6978287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*55.27*	*1.0*	*50*	*0*	*111*	*89 - 112*	*54.45*	*1.5*	*20*	

The following samples were analyzed in this batch:

HS22110281-01	HS22110281-02	HS22110281-03	HS22110281-04
HS22110281-05	HS22110281-06	HS22110281-07	HS22110281-08

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R421072 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **04-Nov-2022 13:22**
Client ID: Run ID: **ICS-Integrion_421072** SeqNo: **6962840** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Nitrogen, Nitrate (As N)	0.0500	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **04-Nov-2022 13:27**
Client ID: Run ID: **ICS-Integrion_421072** SeqNo: **6962841** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.6	0.500	20	0	103	80 - 120				
Nitrogen, Nitrate (As N)	4.201	0.100	4	0	105	80 - 120				
Sulfate	21.14	0.500	20	0	106	80 - 120				

MS Sample ID: **HS22110281-01MS** Units: **mg/L** Analysis Date: **04-Nov-2022 15:07**
Client ID: **35BWW04-221103** Run ID: **ICS-Integrion_421072** SeqNo: **6962857** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.25	0.500	10	3.208	100	80 - 120				
Nitrogen, Nitrate (As N)	2.006	0.100	2	0.0327	98.7	80 - 120				
Sulfate	36.01	0.500	10	26.65	93.6	80 - 120				

MSD Sample ID: **HS22110281-01MSD** Units: **mg/L** Analysis Date: **04-Nov-2022 15:13**
Client ID: **35BWW04-221103** Run ID: **ICS-Integrion_421072** SeqNo: **6962858** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	13.26	0.500	10	3.208	100	80 - 120	13.25	0.0453	20	
Nitrogen, Nitrate (As N)	2.012	0.100	2	0.0327	99.0	80 - 120	2.006	0.299	20	
Sulfate	36.07	0.500	10	26.65	94.2	80 - 120	36.01	0.171	20	

The following samples were analyzed in this batch: HS22110281-01 HS22110281-02 HS22110281-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R422135 (0) **Instrument:** TOC_05 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 02:44**
Client ID: Run ID: **TOC_05_422135** SeqNo: **6988799** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 02:58**
Client ID: Run ID: **TOC_05_422135** SeqNo: **6988800** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.676	1.00	10	0	96.8	85 - 115				

LCSD Sample ID: **LCSD-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 03:12**
Client ID: Run ID: **TOC_05_422135** SeqNo: **6988801** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.889	1.00	10	0	98.9	85 - 115	9.676	2.18	20	

MS Sample ID: **HS22110281-01MS** Units: **mg/L** Analysis Date: **18-Nov-2022 06:18**
Client ID: **35BWW04-221103** Run ID: **TOC_05_422135** SeqNo: **6988814** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.67	1.00	10	1.049	96.2	80 - 120				

The following samples were analyzed in this batch: HS22110281-01

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: HS22110281

QC BATCH REPORT

Batch ID: R422136 (0) **Instrument:** TOC_05 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 06:59**
Client ID: Run ID: **TOC_05_422136** SeqNo: **6988827** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 07:13**
Client ID: Run ID: **TOC_05_422136** SeqNo: **6988828** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.554	1.00	10	0	95.5	85 - 115				

LCSD Sample ID: **LCSD-11172022** Units: **mg/L** Analysis Date: **18-Nov-2022 07:27**
Client ID: Run ID: **TOC_05_422136** SeqNo: **6988829** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.789	1.00	10	0	97.9	85 - 115	9.554	2.43	20	

MS Sample ID: **HS22110281-02MS** Units: **mg/L** Analysis Date: **18-Nov-2022 07:54**
Client ID: **35BWW14-221103** Run ID: **TOC_05_422136** SeqNo: **6988831** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.7	1.00	10	0.7717	99.3	80 - 120				

The following samples were analyzed in this batch: HS22110281-02 HS22110281-04

Revision: 1

ALS Houston, US Date: 07-Feb-23

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 37 November 2022
WorkOrder: **HS22110281**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Feb-23

Sample Receipt Checklist

Work Order ID: HS22110281 **Date/Time Received:** 04-Nov-2022 09:00

Client Name: CBI-Houston **Received by:** Corey Grandits

Completed By: /S/ Paresh M. Giga (eSignature) 04-Nov-2022 12:30 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 18-Nov-2022 15:22 (Date/Time)

Matrices: W Carrier name: FedEx Priority Overnight

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.0UC/3.5C	IR31	
Cooler(s)/Kit(s):	Lg Blue		
Date/Time sample(s) sent to storage:	11/4/22		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

HS22110281

Aptim Environmental & Infrastucture, Inc.

LHAAP 37 November 2022

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175						Remarks (Preservatives, etc.)	Lab I.D.#
35Bww04-221103	wG	11/3/22 0750		12	X	X	X	X	X							
35Bww04-221103-MS	wG	11/3/22 0750		12	X	X	X	X	X							
35Bww04-221103-MSD	wG	11/3/22 0750		12	X	X	X	X	X							
35Bww14-221103	wG	11/3/22 0850		12	X	X	X	X	X							
35Bww15-221103	wG	11/3/22 0935		3	X											
35Bww23-221103	wG	11/3/22 1015		12	X	X	X	X	X	X						
35Bww24-221103	wG	11/3/22 1100		3	X											
35Bww24-221103-FD	wG	11/3/22 1100		3	X											

Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	11/3/22	1330									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 575-2190 ATTN: Dane Wacasey

Project: APTIM LONGHORN
ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 37 November 2022**

Prepared By: Scott Beesinger

P.O. Number

HS22110281
Aptim Environmental & Infrastucture, Inc.
LHAAP 37 November 2022

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (chloride sulfate, nitrate) by SW9056	CO2 by RSK 175	Remarks (Preservatives, etc.)	Lab I.D.#
35BWW25-221103	WG	11/3/22 1145		3	X						
35BWW25-221103-MS	WG	11/3/22 1145		3	X						
35BWW25-221103-MSD	WG	11/3/22 1145		3	X						
TRIP BLANK-221103	W	11/3/22		2	X						

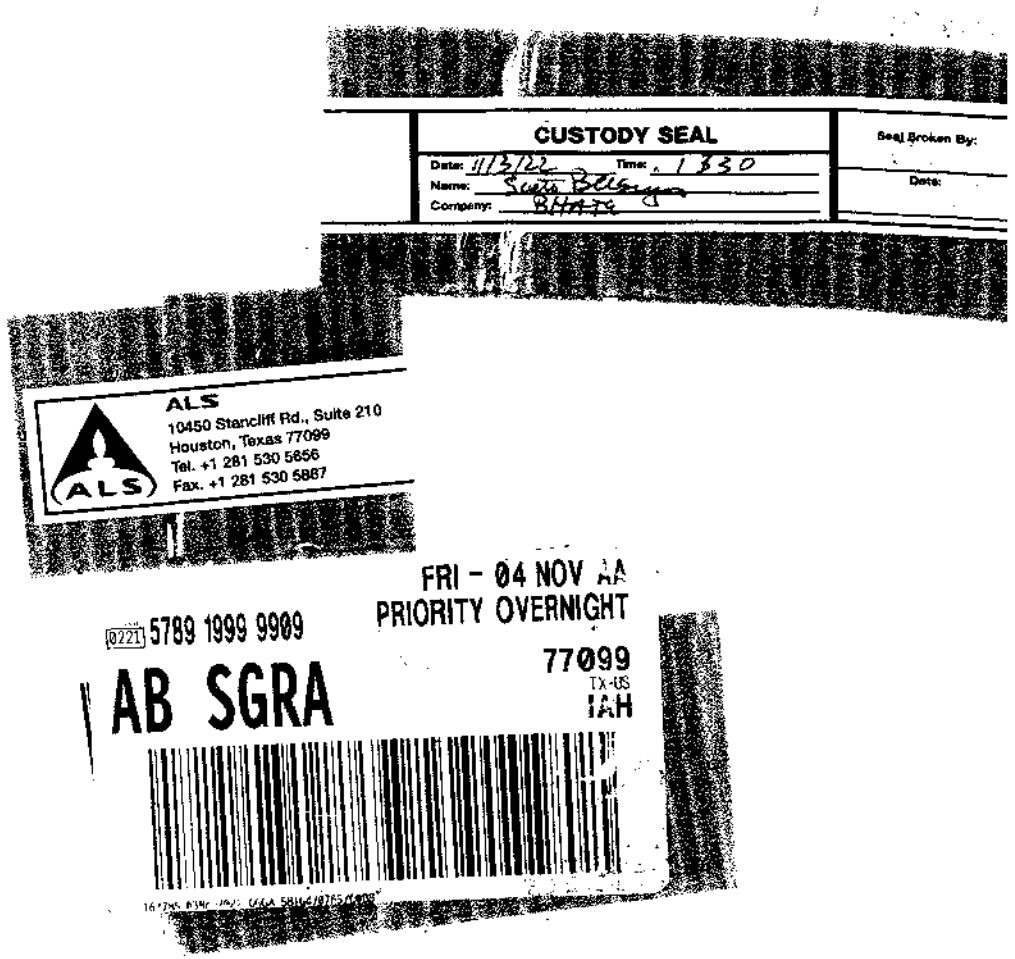
Additional Remarks: **Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/3/22	1330									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:


CUSTODY SEAL
Date: 11/3/22 Time: 1830
Name:
Company:
Seal Broken By:
Date:
ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
FRI - 04 NOV
PRIORITY OVERNIGHT
0221 5789 1999 9909
AB SGRA
77099
TX-US
IAH

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-104775-1
Client Project/Site: HS22110281

For:
ALS Group USA, Corp
10450 Stancliff Rd.
Suite 210
Houston, Texas 77099

Attn: Dane Wacasey

Authorized for release by:
11/11/2022 9:24:21 AM

Kelly Bauer, Project Manager
(717)556-7262
Kelly.Bauer@et.eurofinsus.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

LINKS

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Kelly Bauer
Project Manager
11/11/2022 9:24:21 AM

Client: ALS Group USA, Corp
Project/Site: HS22110281

Laboratory Job ID: 410-104775-1

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Definitions/Glossary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Job ID: 410-104775-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-104775-1

Receipt

The samples were received on 11/8/2022 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01 — Lab Sample ID: 410-104775-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	67000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110281-02 — Lab Sample ID: 410-104775-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	31000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110281-04 — Lab Sample ID: 410-104775-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	55000		12000	2600	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01

Lab Sample ID: 410-104775-1

Date Collected: 11/03/22 07:50
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	67000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:29	1

Client Sample ID: HS22110281-02

Lab Sample ID: 410-104775-2

Date Collected: 11/03/22 08:50
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	31000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:52	1

Client Sample ID: HS22110281-04

Lab Sample ID: 410-104775-3

Date Collected: 11/03/22 10:15
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	55000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:59	1

QC Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-316465/1-A
Matrix: Water
Analysis Batch: 316466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316465

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	2600	U M	12000	2600	ug/L		11/11/22 05:25	11/11/22 08:13	1

Lab Sample ID: LCS 410-316465/2-A
Matrix: Water
Analysis Batch: 316466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316465

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Carbon dioxide			35800	35300		ug/L		99	80 - 122		

QC Association Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

GC VOA

Prep Batch: 316465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104775-1	HS22110281-01	Total/NA	Water	RSK-175	
410-104775-2	HS22110281-02	Total/NA	Water	RSK-175	
410-104775-3	HS22110281-04	Total/NA	Water	RSK-175	
MB 410-316465/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-316465/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
410-104775-1 MS	HS22110281-01	Total/NA	Water	RSK-175	
410-104775-1 MSD	HS22110281-01	Total/NA	Water	RSK-175	

Analysis Batch: 316466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104775-1	HS22110281-01	Total/NA	Water	RSK-175	316465
410-104775-2	HS22110281-02	Total/NA	Water	RSK-175	316465
410-104775-3	HS22110281-04	Total/NA	Water	RSK-175	316465
MB 410-316465/1-A	Method Blank	Total/NA	Water	RSK-175	316465
LCS 410-316465/2-A	Lab Control Sample	Total/NA	Water	RSK-175	316465
410-104775-1 MS	HS22110281-01	Total/NA	Water	RSK-175	316465
410-104775-1 MSD	HS22110281-01	Total/NA	Water	RSK-175	316465

Lab Chronicle

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01

Lab Sample ID: 410-104775-1

Date Collected: 11/03/22 07:50
Matrix: Water
Date Received: 11/08/22 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:29

Client Sample ID: HS22110281-02

Lab Sample ID: 410-104775-2

Date Collected: 11/03/22 08:50
Matrix: Water
Date Received: 11/08/22 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:52

Client Sample ID: HS22110281-04

Lab Sample ID: 410-104775-3

Date Collected: 11/03/22 10:15
Matrix: Water
Date Received: 11/08/22 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:59

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22

Method Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-104775-1	HS22110281-01	Water	11/03/22 07:50	11/08/22 10:20
410-104775-2	HS22110281-02	Water	11/03/22 08:50	11/08/22 10:20
410-104775-3	HS22110281-04	Water	11/03/22 10:15	11/08/22 10:20

410-104775 Chain of Custody

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20270**

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601

Phone: +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS22110281
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110281-01**	**35BWW04-221103**	**Groundwater**	**03 Nov 2022 07:50**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022
2.	**HS22110281-02**	**35BWW14-221103**	**Groundwater**	**03 Nov 2022 08:50**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022
3.	**HS22110281-04**	**35BWW23-221103**	**Groundwater**	**03 Nov 2022 10:15**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022

Comments: HS22110281-01 designate as MS/MSD

Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: [signature] Date/Time: 11/7/22 1800

Received By: Date/Time:

Cooler ID(s): Temperature(s):

11-8-22 1020

4.2

Login Sample Receipt Checklist

Client: ALS Group USA, Corp

Job Number: 410-104775-1

Login Number: 104775
List Number: 1
Creator: Ballard, Megan

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

HS22110281-MSVOA-SW8260 REV01

ALS WO# HS22110281

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-01				Collected	Received	Matrix	Basis
35BWW04-221103				11/03/22 07:50	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-01	Collected	Received	Matrix	Basis
35BWW04-221103	11/03/22 07:50	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 23:48	VOA9_421679	V111119
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Tetrachloroethene	ug/L	5.3		0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 23:48	VOA9_421679	V111119

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-02	Collected	Received	Matrix	Basis
35BWW14-221103	11/03/22 08:50	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1,2-Trichlor-1,2,2-	ug/L	8.4		0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

HS22110281-02	Collected	Received	Matrix	Basis
35BWW14-221103	11/03/22 08:50	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 00:10	VOA9_421679	V111120
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Tetrachloroethene	ug/L	27		0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Trichloroethene	ug/L	6.0		0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:10	VOA9_421679	V111120

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-03				Collected		Received		Matrix		Basis	
35BWW15-221103				11/03/22 09:35		11/04/22 09:00		Groundwater		Wet	
Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121	
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121	
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121	
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121	
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121	

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

HS22110281-03

35BWW15-221103

Collected	Received	Matrix	Basis
11/03/22 09:35	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 00:33	VOA9_421679	V111121
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Tetrachloroethene	ug/L	11		0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Trichloroethene	ug/L	5.3		0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:33	VOA9_421679	V111121

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-04	Collected	Received	Matrix	Basis
35BWW23-221103	11/03/22 10:15	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

HS22110281-04	Collected	Received	Matrix	Basis
35BWW23-221103	11/03/22 10:15	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 00:55	VOA9_421679	V111122
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 00:55	VOA9_421679	V111122

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-05	Collected	Received	Matrix	Basis
35BWW24-221103	11/03/22 11:00	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1,2-Trichlor-1,2,2-	ug/L	9.9		0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

HS22110281-05	Collected	Received	Matrix	Basis
35BWW24-221103	11/03/22 11:00	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 01:17	VOA9_421679	V111123
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Trichloroethene	ug/L	4.7		0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:17	VOA9_421679	V111123

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-06	Collected	Received	Matrix	Basis
35BWW24-221103-FD	11/03/22 11:00	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1,2-Trichlor-1,2,2-	ug/L	9.6		0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-06	Collected	Received	Matrix	Basis
35BWW24-221103-FD	11/03/22 11:00	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 01:40	VOA9_421679	V111124
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Trichloroethene	ug/L	5.0		0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 01:40	VOA9_421679	V111124

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-07				Collected		Received		Matrix		Basis	
35BWW25-221103				11/03/22 11:45		11/04/22 09:00		Groundwater		Wet	
Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125	
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125	
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125	
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125	
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125	

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

HS22110281-07				Collected	Received	Matrix	Basis
35BWW25-221103				11/03/22 11:45	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/12/22 02:02	VOA9_421679	V111125
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Tetrachloroethene	ug/L	1.4		0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Trichloroethene	ug/L	14		0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/12/22 02:02	VOA9_421679	V111125

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

Volatiles by EPA 8260

HS22110281-08	Collected	Received	Matrix	Basis
Trip Blank-221103	11/03/22 00:00	11/04/22 09:00	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

HS22110281-08	Collected	Received	Matrix	Basis
Trip Blank-221103	11/03/22 00:00	11/04/22 09:00	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:05	VOA9_421679	V111109
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:05	VOA9_421679	V111109

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

VBLKW-221110	Collected	Received	Matrix	Basis
VBLKW-221110	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,2-Trichlor-1,2,2-	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

VBLKW-221110	Collected	Received	Matrix	Basis
VBLKW-221110	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 19:20	VOA9_421679	V111107
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 19:20	VOA9_421679	V111107

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Form 2

System Monitoring Compound Recovery

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

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Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RunID
VOA9_421679

Volatiles by by EPA 8260

CCV	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	51.28	50	103	80-120	
4-Bromofluorobenzene	52.42	50	105	80-120	
Dibromofluoromethane	51.74	50	103	80-120	
Toluene-d8	52.53	50	105	80-120	

CCB	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43.29	50	86.6	80-120	
4-Bromofluorobenzene	49.33	50	98.7	80-120	
Dibromofluoromethane	44.15	50	88.3	80-120	
Toluene-d8	54.25	50	108	80-120	

VLCSW-221110	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.74	50	99.5	81-118	
4-Bromofluorobenzene	50.58	50	101	85-114	
Dibromofluoromethane	50.69	50	101	80-119	
Toluene-d8	52.1	50	104	89-112	

VBLKW-221110	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.55	50	89.1	81-118	
4-Bromofluorobenzene	48.84	50	97.7	85-114	
Dibromofluoromethane	45.6	50	91.2	80-119	
Toluene-d8	53.49	50	107	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RunID
VOA9_421679

Volatiles by by EPA 8260

HS22110281-08	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	45	50	90.6	81-118	
4-Bromofluorobenzene	49	50	98.0	85-114	
Dibromofluoromethane	45	50	90.9	80-119	
Toluene-d8	54	50	107	89-112	

HS22110281-01	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	92.4	81-118	
4-Bromofluorobenzene	48	50	96.8	85-114	
Dibromofluoromethane	46	50	92.0	80-119	
Toluene-d8	54	50	107	89-112	

HS22110281-02	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	48	50	96.5	81-118	
4-Bromofluorobenzene	48	50	96.7	85-114	
Dibromofluoromethane	47	50	94.0	80-119	
Toluene-d8	54	50	108	89-112	

HS22110281-03	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	48	50	95.2	81-118	
4-Bromofluorobenzene	47	50	94.4	85-114	
Dibromofluoromethane	47	50	94.1	80-119	
Toluene-d8	54	50	108	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

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Volatiles by by EPA 8260

HS22110281-04	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	93.0	81-118	
4-Bromofluorobenzene	47	50	95.0	85-114	
Dibromofluoromethane	46	50	92.1	80-119	
Toluene-d8	54	50	108	89-112	

HS22110281-05	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	93.6	81-118	
4-Bromofluorobenzene	48	50	95.8	85-114	
Dibromofluoromethane	46	50	92.0	80-119	
Toluene-d8	54	50	108	89-112	

HS22110281-06	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	46	50	92.3	81-118	
4-Bromofluorobenzene	48	50	95.3	85-114	
Dibromofluoromethane	46	50	92.2	80-119	
Toluene-d8	54	50	108	89-112	

HS22110281-07	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47	50	94.1	81-118	
4-Bromofluorobenzene	48	50	95.7	85-114	
Dibromofluoromethane	47	50	94.2	80-119	
Toluene-d8	55	50	110	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RunID
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Volatiles by by EPA 8260

HS22110281-01MS	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	45.47	50	90.9	81-118	
4-Bromofluorobenzene	51.38	50	103	85-114	
Dibromofluoromethane	46.78	50	93.6	80-119	
Toluene-d8	54.45	50	109	89-112	

HS22110281-01MSD	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	45.4	50	90.8	81-118	
4-Bromofluorobenzene	52.46	50	105	85-114	
Dibromofluoromethane	46.14	50	92.3	80-119	
Toluene-d8	55.27	50	111	89-112	

HS22110281-07MS	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.28	50	88.6	81-118	
4-Bromofluorobenzene	51.1	50	102	85-114	
Dibromofluoromethane	45.97	50	91.9	80-119	
Toluene-d8	54.31	50	109	89-112	

HS22110281-07MSD	Analyzed 11/12/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.55	50	89.1	81-118	
4-Bromofluorobenzene	51.97	50	104	85-114	
Dibromofluoromethane	45.85	50	91.7	80-119	
Toluene-d8	54.93	50	110	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

02/07/2023

ALS Environmental–Houston Laboratory
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Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

35BWW04-221103		HS22110281-01		HS22110281-01MS				HS22110281-01MSD						
Sample Matrix	Aqueous	Run Date	11/11/22	11/12/22				11/12/22						
Units	µg/L	Run Time	23:48	03:09				03:31						
		Data File	V111119.D	V111128.D				V111129.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	22.26	20.00	111		22.24	20.00	111		20	0.100	
1,1,1-Trichloroethane	74-131	1	0	22.69	20.00	113		22.44	20.00	112		20	1.10	
1,1,2,2-Tetrachloroethane	71-121	1	0	21.14	20.00	106		20.92	20.00	105		20	1.00	
1,1,2-Trichlor-1,2,2-	70-136	1	0	29.45	20.00	147	*	28.65	20.00	143	*	20	2.70	
1,1,2-Trichloroethane	80-119	1	0	21.19	20.00	106		21.55	20.00	108		20	1.70	
1,1-Dichloroethane	77-125	1	0	20.15	20.00	101		18.83	20.00	94		20	6.70	
1,1-Dichloroethene	71-131	1	0	21.59	20.00	108		20.86	20.00	104		20	3.40	
1,1-Dichloropropene	78-125	1	0	24.96	20.00	125		24.92	20.00	125		20	0.200	
1,2,3-Trichlorobenzene	69-129	1	0	19.53	20.00	98		21	20.00	105		20	7.30	
1,2,3-Trichloropropane	73-122	1	0	19.80	20.00	99		19.09	20.00	96		20	3.60	
1,2,4-Trichlorobenzene	69-130	1	0	19.31	20.00	97		20.79	20.00	104		20	7.40	
1,2,4-Trimethylbenzene	76-124	1	0	23.70	20.00	119		23.34	20.00	117		20	1.50	
1,2-Dibromo-3-	62-128	1	0	17.66	20.00	88		17.45	20.00	87		20	1.20	
1,2-Dibromoethane	77-121	1	0	21.66	20.00	108		22.31	20.00	112		20	3.00	
1,2-Dichlorobenzene	80-119	1	0	21.23	20.00	106		21.2	20.00	106		20	0.100	
1,2-Dichloroethane	73-128	1	0	20.75	20.00	104		21.61	20.00	108		20	4.10	
1,2-Dichloropropane	78-122	1	0	21.62	20.00	108		21.32	20.00	107		20	1.40	
1,3,5-Trimethylbenzene	75-124	1	0	24.67	20.00	123		23.98	20.00	120		20	2.80	
1,3-Dichlorobenzene	80-119	1	0	22.11	20.00	111		22.27	20.00	111		20	0.700	
1,3-Dichloropropane	80-119	1	0	21.79	20.00	109		21.88	20.00	109		20	0.400	
1,4-Dichlorobenzene	79-118	1	0	20.94	20.00	105		20.73	20.00	104		20	1.00	
2,2-Dichloropropane	60-139	1	0	15.59	20.00	78		15.09	20.00	75		20	3.30	
2-Butanone	56-143	1	0	35.85	40.00	90		34.86	40.00	87		20	2.80	
2-Chlorotoluene	79-122	1	0	23.43	20.00	117		23.09	20.00	115		20	1.50	
2-Hexanone	57-139	1	0	38.08	40.00	95		39.49	40.00	99		20	3.70	
4-Chlorotoluene	78-122	1	0	23.46	20.00	117		22.82	20.00	114		20	2.80	
4-Isopropyltoluene	77-127	1	0	24.23	20.00	121		24.05	20.00	120		20	0.800	
4-Methyl-2-pentanone	67-130	1	0	42.80	40.00	107		42.56	40.00	106		20	0.600	
Acetone	39-160	1	0	27.47	40.00	69		25.91	40.00	65		20	5.80	
Benzene	79-120	1	0	22.18	20.00	111		21.88	20.00	109		20	1.40	
Bromobenzene	80-120	1	0	21.81	20.00	109		22.15	20.00	111		20	1.50	
Bromochloromethane	78-123	1	0	18.77	20.00	94		18.57	20.00	93		20	1.10	
Bromodichloromethane	79-125	1	0	20.68	20.00	103		20.61	20.00	103		20	0.300	
Bromoform	66-130	1	0	17.90	20.00	90		17.93	20.00	90		20	0.200	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

35BWW04-221103		HS22110281-01		HS22110281-01MS				HS22110281-01MSD						
Sample Matrix Aqueous		**Run Date**	11/11/22	11/12/22				11/12/22						
Units µg/L		**Run Time**	23:48	03:09				03:31						
		Data File	V111119.D	V111128.D				V111129.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Bromomethane	53-141	1	0	21.73	20.00	109		20.76	20.00	104		20	4.60	
Carbon disulfide	64-133	1	0	40.33	40.00	101		39.03	40.00	98		20	3.30	
Carbon tetrachloride	72-136	1	0	26.39	20.00	132		26.24	20.00	131		20	0.600	
Chlorobenzene	82-118	1	0	22.36	20.00	112		22.49	20.00	112		20	0.600	
Chloroethane	60-138	1	0	20.64	20.00	103		20.62	20.00	103		20	0.100	
Chloroform	79-124	1	0	19.87	20.00	99		19.64	20.00	98		20	1.20	
Chloromethane	50-139	1	0	20.58	20.00	103		19.7	20.00	99		20	4.40	
cis-1,2-Dichloroethene	78-123	1	0	20.01	20.00	100		19.14	20.00	96		20	4.40	
cis-1,3-Dichloropropene	75-124	1	0	17.25	20.00	86		17.22	20.00	86		20	0.100	
Dibromochloromethane	74-126	1	0	19.06	20.00	95		19.22	20.00	96		20	0.900	
Dibromomethane	79-123	1	0	20.89	20.00	104		19.99	20.00	100		20	4.40	
Dichlorodifluoromethane	32-152	1	0	23.85	20.00	119		22.95	20.00	115		20	3.90	
Ethylbenzene	79-121	1	0	24.12	20.00	121		24.01	20.00	120		20	0.500	
Hexachlorobutadiene	66-134	1	0	25.48	20.00	127		25.75	20.00	129		20	1.10	
Isopropylbenzene	72-131	1	0	25.86	20.00	129		26.02	20.00	130		20	0.600	
m,p-Xylene	80-121	1	0	47.78	40.00	119		48.64	40.00	122	*	20	1.80	
Methylene chloride	74-124	1	0	19.96	20.00	100		19.44	20.00	97		20	2.60	
n-Butylbenzene	75-128	1	0	23.57	20.00	118		23.93	20.00	120		20	1.50	
n-Propylbenzene	76-126	1	0	24.76	20.00	124		24.29	20.00	121		20	1.90	
Naphthalene	61-128	1	0	17.59	20.00	88		20.3	20.00	102		20	14.3	
o-Xylene	78-122	1	0	23.71	20.00	119		23.54	20.00	118		20	0.700	
sec-Butylbenzene	77-126	1	0	24.19	20.00	121		23.97	20.00	120		20	0.900	
Styrene	78-123	1	0	20.46	20.00	102		20.76	20.00	104		20	1.50	
tert-Butylbenzene	78-124	1	0	25.68	20.00	128	*	24.99	20.00	125	*	20	2.70	
Tetrachloroethene	74-129	1	5.324	29.57	20.00	121		29.89	20.00	123		20	1.10	
Toluene	80-121	1	0	24.32	20.00	122	*	24.13	20.00	121		20	0.800	
trans-1,2-Dichloroethene	75-124	1	0	20.70	20.00	103		20.11	20.00	101		20	2.90	
trans-1,3-Dichloropropene	73-127	1	0	16.19	20.00	81		16.41	20.00	82		20	1.30	
Trichloroethene	79-123	1	0	24.22	20.00	121		23.46	20.00	117		20	3.20	
Trichlorofluoromethane	65-141	1	0	23.76	20.00	119		22.95	20.00	115		20	3.50	
Vinyl chloride	58-137	1	0	21.47	20.00	107		20.94	20.00	105		20	2.50	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

35BWW25-221103		HS22110281-07		HS22110281-07MS				HS22110281-07MSD						
Sample Matrix	Aqueous	Run Date	11/12/22	11/12/22				11/12/22						
Units	µg/L	Run Time	02:02	03:54				04:16						
		Data File	V111125.D	V111130.D				V111131.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	21.96	20.00	110		21.46	20.00	107		20	2.30	
1,1,1-Trichloroethane	74-131	1	0	22.50	20.00	113		21.76	20.00	109		20	3.40	
1,1,2,2-Tetrachloroethane	71-121	1	0	20.81	20.00	104		20.79	20.00	104		20	0.100	
1,1,2-Trichlor-1,2,2-	70-136	1	0	28.23	20.00	141	*	27.43	20.00	137	*	20	2.90	
1,1,2-Trichloroethane	80-119	1	0	20.43	20.00	102		20.89	20.00	104		20	2.20	
1,1-Dichloroethane	77-125	1	0	19.53	20.00	98		18.66	20.00	93		20	4.50	
1,1-Dichloroethene	71-131	1	0	21.15	20.00	106		20.5	20.00	102		20	3.10	
1,1-Dichloropropene	78-125	1	0	23.81	20.00	119		23.98	20.00	120		20	0.700	
1,2,3-Trichlorobenzene	69-129	1	0	21.67	20.00	108		21.78	20.00	109		20	0.500	
1,2,3-Trichloropropane	73-122	1	0	19.13	20.00	96		19.42	20.00	97		20	1.50	
1,2,4-Trichlorobenzene	69-130	1	0	21.37	20.00	107		21.31	20.00	107		20	0.300	
1,2,4-Trimethylbenzene	76-124	1	0	23.64	20.00	118		23.98	20.00	120		20	1.50	
1,2-Dibromo-3-	62-128	1	0	18.31	20.00	92		17.85	20.00	89		20	2.60	
1,2-Dibromoethane	77-121	1	0	21.64	20.00	108		21.7	20.00	108		20	0.300	
1,2-Dichlorobenzene	80-119	1	0	21.50	20.00	108		21.02	20.00	105		20	2.30	
1,2-Dichloroethane	73-128	1	0	20.62	20.00	103		21.09	20.00	105		20	2.30	
1,2-Dichloropropane	78-122	1	0	20.78	20.00	104		21.68	20.00	108		20	4.20	
1,3,5-Trimethylbenzene	75-124	1	0	25.04	20.00	125	*	24.61	20.00	123		20	1.70	
1,3-Dichlorobenzene	80-119	1	0	22.47	20.00	112		22.19	20.00	111		20	1.20	
1,3-Dichloropropane	80-119	1	0	21.81	20.00	109		21.48	20.00	107		20	1.50	
1,4-Dichlorobenzene	79-118	1	0	21.15	20.00	106		20.76	20.00	104		20	1.90	
2,2-Dichloropropane	60-139	1	0	15.18	20.00	76		14.61	20.00	73		20	3.80	
2-Butanone	56-143	1	0	34.26	40.00	86		34.24	40.00	86		20	0.100	
2-Chlorotoluene	79-122	1	0	23.89	20.00	119		23.55	20.00	118		20	1.40	
2-Hexanone	57-139	1	0	37.29	40.00	93		40.04	40.00	100		20	7.10	
4-Chlorotoluene	78-122	1	0	24.01	20.00	120		23.13	20.00	116		20	3.70	
4-Isopropyltoluene	77-127	1	0	24.72	20.00	124		24.55	20.00	123		20	0.700	
4-Methyl-2-pentanone	67-130	1	0	40.65	40.00	102		43.64	40.00	109		20	7.10	
Acetone	39-160	1	0	26.25	40.00	66		26.26	40.00	66		20	0.100	
Benzene	79-120	1	0	21.46	20.00	107		21.75	20.00	109		20	1.30	
Bromobenzene	80-120	1	0	22.30	20.00	112		22.1	20.00	110		20	0.900	
Bromochloromethane	78-123	1	0	18.37	20.00	92		18.43	20.00	92		20	0.300	
Bromodichloromethane	79-125	1	0	20.45	20.00	102		20.39	20.00	102		20	0.300	
Bromoform	66-130	1	0	17.56	20.00	88		17.69	20.00	88		20	0.700	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

35BWW25-221103		HS22110281-07		HS22110281-07MS				HS22110281-07MSD						
Sample Matrix Aqueous		**Run Date**	11/12/22	11/12/22				11/12/22						
Units µg/L		**Run Time**	02:02	03:54				04:16						
		Data File	V111125.D	V111130.D				V111131.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Bromomethane	53-141	1	0	20.36	20.00	102		19.2	20.00	96		20	5.90	
Carbon disulfide	64-133	1	0	39.29	40.00	98		37.68	40.00	94		20	4.20	
Carbon tetrachloride	72-136	1	0	25.94	20.00	130		25.79	20.00	129		20	0.600	
Chlorobenzene	82-118	1	0	22.18	20.00	111		21.88	20.00	109		20	1.40	
Chloroethane	60-138	1	0	21.25	20.00	106		19.88	20.00	99		20	6.70	
Chloroform	79-124	1	0	19.62	20.00	98		19.05	20.00	95		20	2.90	
Chloromethane	50-139	1	0	19.95	20.00	100		18.96	20.00	95		20	5.10	
cis-1,2-Dichloroethene	78-123	1	0	19.25	20.00	96		18.55	20.00	93		20	3.70	
cis-1,3-Dichloropropene	75-124	1	0	17.20	20.00	86		17.54	20.00	88		20	2.00	
Dibromochloromethane	74-126	1	0	19.04	20.00	95		18.83	20.00	94		20	1.10	
Dibromomethane	79-123	1	0	19.84	20.00	99		20.88	20.00	104		20	5.10	
Dichlorodifluoromethane	32-152	1	0	22.92	20.00	115		22.12	20.00	111		20	3.60	
Ethylbenzene	79-121	1	0	24.02	20.00	120		23.77	20.00	119		20	1.00	
Hexachlorobutadiene	66-134	1	0	27.49	20.00	137	*	25.62	20.00	128		20	7.10	
Isopropylbenzene	72-131	1	0	25.87	20.00	129		25.35	20.00	127		20	2.00	
m,p-Xylene	80-121	1	0	47.54	40.00	119		46.87	40.00	117		20	1.40	
Methylene chloride	74-124	1	0	19.29	20.00	97		18.96	20.00	95		20	1.70	
n-Butylbenzene	75-128	1	0	24.25	20.00	121		24.11	20.00	121		20	0.600	
n-Propylbenzene	76-126	1	0	24.86	20.00	124		24.84	20.00	124		20	0.100	
Naphthalene	61-128	1	0	21.00	20.00	105		21.8	20.00	109		20	3.70	
o-Xylene	78-122	1	0	23.84	20.00	119		22.96	20.00	115		20	3.70	
sec-Butylbenzene	77-126	1	0	24.47	20.00	122		23.92	20.00	120		20	2.20	
Styrene	78-123	1	0	20.40	20.00	102		20.27	20.00	101		20	0.600	
tert-Butylbenzene	78-124	1	0	25.74	20.00	129	*	25.02	20.00	125	*	20	2.80	
Tetrachloroethene	74-129	1	1.371	25.46	20.00	120		24.96	20.00	118		20	2.00	
Toluene	80-121	1	0	23.83	20.00	119		23.42	20.00	117		20	1.70	
trans-1,2-Dichloroethene	75-124	1	0	20.36	20.00	102		19.46	20.00	97		20	4.50	
trans-1,3-Dichloropropene	73-127	1	0	16.21	20.00	81		16.25	20.00	81		20	0.300	
Trichloroethene	79-123	1	13.95	36.74	20.00	114		35.68	20.00	109		20	2.90	
Trichlorofluoromethane	65-141	1	0	22.97	20.00	115		21.65	20.00	108		20	5.90	
Vinyl chloride	58-137	1	0	20.94	20.00	105		19.8	20.00	99		20	5.60	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

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Form 3B

Laboratory Control Sample Recovery

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

02/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

VOA9_421679		QC ID	VLCSW-221110			
QC Matrix Aqueous	Units ug/L	Run Date Run Time	11/11/22 18:36			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	19.76	99		
1,1,1-Trichloroethane	74-131	20	20	100		
1,1,2,2-Tetrachloroethane	71-121	20	19.48	97		
1,1,2-Trichlor-1,2,2-trifluoroethane	70-136	20	23.64	118		
1,1,2-Trichloroethane	80-119	20	19.59	98		
1,1-Dichloroethane	77-125	20	18.56	93		
1,1-Dichloroethene	71-131	20	18.55	93		
1,1-Dichloropropene	78-125	20	19.43	97		
1,2,3-Trichlorobenzene	69-129	20	20.6	103		
1,2,3-Trichloropropane	73-122	20	19.12	96		
1,2,4-Trichlorobenzene	69-130	20	20.67	103		
1,2,4-Trimethylbenzene	76-124	20	21.75	109		
1,2-Dibromo-3-chloropropane	62-128	20	17.7	88		
1,2-Dibromoethane	77-121	20	20.64	103		
1,2-Dichlorobenzene	80-119	20	19.34	97		
1,2-Dichloroethane	73-128	20	19.35	97		
1,2-Dichloroethane-d4	81-118	50	49.74	100		
1,2-Dichloropropane	78-122	20	19.19	96		
1,3,5-Trimethylbenzene	75-124	20	21.56	108		
1,3-Dichlorobenzene	80-119	20	20.24	101		
1,3-Dichloropropane	80-119	20	20.17	101		
1,4-Dichlorobenzene	79-118	20	19.23	96		
2,2-Dichloropropane	60-139	20	17.76	89		
2-Butanone	56-143	40	39.58	99		
2-Chlorotoluene	79-122	20	20.57	103		
2-Hexanone	57-139	40	38.74	97		
4-Bromofluorobenzene	85-114	50	50.58	101		
4-Chlorotoluene	78-122	20	20.7	104		
4-Isopropyltoluene	77-127	20	20.89	104		
4-Methyl-2-pentanone	67-130	40	39.67	99		
Acetone	39-160	40	43.31	108		
Benzene	79-120	20	19.25	96		
Bromobenzene	80-120	20	20.48	102		
Bromochloromethane	78-123	20	18.31	92		
Bromodichloromethane	79-125	20	18.79	94		
Bromoform	66-130	20	17.25	86		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by EPA 8260

VOA9_421679		QC ID	VLCSW-221110			
QC Matrix Aqueous	Units	Run Date	11/11/22			
	ug/L	Run Time	18:36			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Bromomethane	53-141	20	19.91	100		
Carbon disulfide	64-133	40	36.73	92		
Carbon tetrachloride	72-136	20	18.95	95		
Chlorobenzene	82-118	20	19.44	97		
Chloroethane	60-138	20	18.47	92		
Chloroform	79-124	20	19.19	96		
Chloromethane	50-139	20	18.64	93		
cis-1,2-Dichloroethene	78-123	20	19.38	97		
cis-1,3-Dichloropropene	75-124	20	17.21	86		
Dibromochloromethane	74-126	20	17.79	89		
Dibromofluoromethane	80-119	50	50.69	101		
Dibromomethane	79-123	20	19.44	97		
Dichlorodifluoromethane	32-152	20	21.07	105		
Ethylbenzene	79-121	20	20.18	101		
Hexachlorobutadiene	66-134	20	23.47	117		
Isopropylbenzene	72-131	20	21	105		
m,p-Xylene	80-121	40	40.86	102		
Methylene chloride	74-124	20	21.12	106		
Naphthalene	61-128	20	20.83	104		
n-Butylbenzene	75-128	20	20.76	104		
n-Propylbenzene	76-126	20	20.94	105		
o-Xylene	78-122	20	20.56	103		
sec-Butylbenzene	77-126	20	20.21	101		
Styrene	78-123	20	19.21	96		
tert-Butylbenzene	78-124	20	20.4	102		
Tetrachloroethene	74-129	20	19.86	99		
Toluene	80-121	20	20.44	102		
Toluene-d8	89-112	50	52.1	104		
trans-1,2-Dichloroethene	75-124	20	18.65	93		
trans-1,3-Dichloropropene	73-127	20	16.59	83		
Trichloroethene	79-123	20	19.52	98		
Trichlorofluoromethane	65-141	20	19.64	98		
Vinyl chloride	58-137	20	17.64	88		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
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Form 4 - Method Blank Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Volatiles by by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-221110	V111107.D	11/11/22 19:20	VOA9_421679
VLCSW-221110	LCS	VLCSW-221110	V111105.D	11/11/22 18:36	VOA9_421679
Trip Blank-221103	SAMP	HS22110281-08	V111109.D	11/11/22 20:05	VOA9_421679
35BWW04-221103	SAMP	HS22110281-01	V111119.D	11/11/22 23:48	VOA9_421679
35BWW14-221103	SAMP	HS22110281-02	V111120.D	11/12/22 00:10	VOA9_421679
35BWW15-221103	SAMP	HS22110281-03	V111121.D	11/12/22 00:33	VOA9_421679
35BWW23-221103	SAMP	HS22110281-04	V111122.D	11/12/22 00:55	VOA9_421679
35BWW24-221103	SAMP	HS22110281-05	V111123.D	11/12/22 01:17	VOA9_421679
35BWW24-221103-FD	SAMP	HS22110281-06	V111124.D	11/12/22 01:40	VOA9_421679
35BWW25-221103	SAMP	HS22110281-07	V111125.D	11/12/22 02:02	VOA9_421679
35BWW04-221103	MS	HS22110281-01MS	V111128.D	11/12/22 03:09	VOA9_421679
35BWW04-221103	MSD	HS22110281-01MSD	V111129.D	11/12/22 03:31	VOA9_421679
35BWW25-221103	MS	HS22110281-07MS	V111130.D	11/12/22 03:54	VOA9_421679
35BWW25-221103	MSD	HS22110281-07MSD	V111131.D	11/12/22 04:16	VOA9_421679

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Form 5

Instrument Performance Check

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 5 - Instrument Performance Check

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RunID
VOA9_421678

Tune File U111101.D 11/11/22 11:34

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	18.5 (18.5)
75	30.0 - 60.0% of mass 95	50.1 (50.1)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.1 (7.12)
173	Less than 2.0% of mass 174	0 (0) 1
174	50.0 - 120.0% of mass 95	91.9 (91.9)
175	4.0 - 9.0% of mass 174	8.1 (8.83) 1
176	93.0 - 101.0% of mass 174	89.1 (97) 1
177	5.0 - 9.0% of mass 176	5.8 (6.51) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	ICAL1	11/11/22 11:56	U111102	VSTD000.25
2	ICAL2	11/11/22 12:18	U111103	VSTD000.5
3	ICAL3	11/11/22 13:03	U111104	VSTD001
4	ICAL4	11/11/22 13:25	U111105	VSTD002
5	ICAL5	11/11/22 13:47	U111106	VSTD005
6	ICAL6	11/11/22 14:09	U111107	VSTD020
7	ICAL7	11/11/22 14:31	U111108	VSTD050
8	ICAL8	11/11/22 14:53	U111109	VSTD100
9	ICAL9	11/11/22 15:16	U111110	VSTD150
10	ICAL	11/11/22 15:38	U111111	VSTD200
11	ICV	11/11/22 16:44	U111114	CCV

Form 5 - Instrument Performance Check

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RunID
VOA9_421679

Tune File V111101.D 11/11/22 17:07

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	17 (17)
75	30.0 - 60.0% of mass 95	49.5 (49.5)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7 (7.05)
173	Less than 2.0% of mass 174	0 (0) 1
174	50.0 - 120.0% of mass 95	95.2 (95.2)
175	4.0 - 9.0% of mass 174	7.5 (7.92) 1
176	93.0 - 101.0% of mass 174	91.2 (95.8) 1
177	5.0 - 9.0% of mass 176	5.7 (6.3) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	11/11/22 17:51	V111103	CCV
2	CCB	11/11/22 18:13	V111104	CCB
3	LCS	11/11/22 18:36	V111105	VLCSW-221110
4	MBLK	11/11/22 19:20	V111107	VBLKW-221110
5	SAMP	11/11/22 20:05	V111109	Trip Blank-221103
6	SAMP	11/11/22 23:48	V111119	35BWW04-221103
7	SAMP	11/12/22 00:10	V111120	35BWW14-221103
8	SAMP	11/12/22 00:33	V111121	35BWW15-221103
9	SAMP	11/12/22 00:55	V111122	35BWW23-221103
10	SAMP	11/12/22 01:17	V111123	35BWW24-221103
11	SAMP	11/12/22 01:40	V111124	35BWW24-221103-FD
12	SAMP	11/12/22 02:02	V111125	35BWW25-221103
13	MS	11/12/22 03:09	V111128	HS22110281-01MS
14	MSD	11/12/22 03:31	V111129	HS22110281-01MSD
15	MS	11/12/22 03:54	V111130	HS22110281-07MS
16	MSD	11/12/22 04:16	V111131	HS22110281-07MSD
17	CCV_EN	11/12/22 04:38	V111132	CCV-END

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Form 6

Initial Calibration Data

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156
ICAL End Date 11-NOV-2022 1538

Calibration Files

Level 1 ..voa9.i\U221111.b\U111102.D
Level 2 ..voa9.i\U221111.b\U111103.D
Level 3 ..voa9.i\U221111.b\U111104.D
Level 4 ..voa9.i\U221111.b\U111105.D
Level 5 ..voa9.i\U221111.b\U111106.D
Level 6 ..voa9.i\U221111.b\U111107.D
Level 7 ..voa9.i\U221111.b\U111108.D
Level 8 ..voa9.i\U221111.b\U111109.D
Level 9 ..voa9.i\U221111.b\U111110.D
Level 10 ..voa9.i\U221111.b\U111111.D

Compound	Level 1 0.250 / Level 7 50.0	Level 2 0.500 / Level 8 100.0	Level 3 1.00 / Level 9 150.0	Level 4 2.00 / Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dichlorodifluoromethane	NE 341105	4110 811364	5077 NE	13794 NE	27052	102320	QUAD	0.00497	2.70999	-0.68802	0.99907	
Chloromethane	NE 443180	5083 920649	9584 1404641	18483 1980029	42615	151074	LINR	0.00497	0.55484		0.99958	
Propionitrile	NE 0.07816	0.07866 0.07852	0.09016 0.07944	0.07629 0.07571	0.08264	0.08029	AVRG		0.07998		5.41628	
Vinyl Chloride	NE 0.50798	0.59832 0.54722	0.48678 0.56417	0.49108 0.52557	0.45681	0.41192	AVRG		0.50998		11.11666	
Bromomethane	NE 297603	3746 575509	7086 870933	14046 1235875	31789	112053	LINR	-0.02231	0.34356		0.99971	
Chloroethane	NE 0.37854	0.44333 0.40669	0.31694 0.39504	0.37296 0.36341	0.35911	0.31712	AVRG		0.37257		10.88063	
Trichlorofluoromethane	NE 0.64539	0.77114 0.75423	0.55006 0.73088	0.70734 0.64030	0.62146	0.54678	AVRG		0.66307		12.55101	
Acrolein	NE 55154	810 117779	1204 185978	2628 257093	6241	19477	LINR	0.01996	0.03620		0.99877	
Acetone	NE 354366	13138 675630	16101 999241	24043 1345589	50255	138833	LINR	-0.15051	0.18958		0.99740	
1,1-Dichloroethene	NE 0.42370	0.50391 0.47515	0.37561 0.46979	0.40906 0.43067	0.38649	0.36338	AVRG		0.42642		11.34935	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isobutyl Alcohol	NE 913025	6241 2020674	13495 3236082	27238 4941650	71424	309205	LINR	1.29985	0.06758		0.99681	
Acetonitrile	NE 0.04844	0.04581 0.05248	0.06086 0.05282	0.05273 0.04923	0.04707	0.04784	AVRG		0.05081		9.00444	
Allyl Chloride	NE 1.11129	1.23887 1.16441	1.21521 1.17726	1.18831 1.09891	1.16648	1.10377	AVRG		1.16272		4.26014	
Iodomethane	NE 724437	7282 1610926	11703 2556299	22375 3486199	51771	213421	QUAD	0.08012	1.99245	0.00469	0.99773	
Acrylonitrile	NE 0.22209	0.24684 0.22727	0.25533 0.22443	0.22927 0.21393	0.24716	0.22369	AVRG		0.23222		6.04166	
Methylene Chloride	NE 474209	5802 927668	9340 1389833	17193 1881972	39927	187449	LINR	-0.03078	0.53493		0.99779	
Methyl tert-butyl ether	NE 1.39016	1.41916 1.42962	1.58859 1.46934	1.47221 1.40500	1.39375	1.36506	AVRG		1.43699		4.66185	
Carbon Disulfide	NE 1.21908	1.57212 1.29393	1.24621 1.28724	1.23712 1.17251	1.12709	1.00908	AVRG		1.24049		12.31026	
trans-1,2-Dichloroethene	NE 0.48088	0.48201 0.50036	0.48895 0.49928	0.47112 0.46553	0.44661	0.41184	AVRG		0.47184		5.95719	
Vinyl Acetate	NE 1.25411	1.16950 1.25690	1.23854 1.27898	1.24209 1.17945	1.24238	1.22126	AVRG		1.23147		2.92064	
1,1-Dichloroethane	NE 0.85043	0.94882 0.83499	0.90695 0.83538	0.84670 0.76646	0.81320	0.74642	AVRG		0.83882		7.46823	
Chloroprene	NE 128333	1388 326899	1731 NE	4354 NE	10066	36907	QUAD	0.00855	7.33525	-5.80581	0.99887	

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Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421678

Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
2-Butanone	NE 0.20501	0.19701 0.20493	0.19886 0.20482	0.19591 0.19351	0.21233	0.20732	AVRG		0.20219		3.04965	
Methacrylonitrile	NE 0.30796	0.31496 0.30603	0.32332 0.29230	0.25346 0.28675	0.29001	0.28602	AVRG		0.29565		6.96547	
2,2-Dichloropropane	NE 341067	3730 779680	5237 1201871	11193 1601634	26695	103832	LINR	0.02661	0.46277		0.99656	
cis-1,2-Dichloroethene	NE 0.55243	0.58259 0.55001	0.61117 0.56642	0.55000 0.53053	0.53949	0.50921	AVRG		0.55465		5.34752	
Chloroform	NE 0.90623	0.94436 0.90665	0.93930 0.91738	0.87644 0.85919	0.88323	0.82810	AVRG		0.89565		4.21446	
Bromochloromethane	NE 0.29375	0.33175 0.28585	0.29863 0.29175	0.31073 0.27551	0.29595	0.28049	AVRG		0.29605		5.71264	
1,1,1-Trichloroethane	NE 0.62162	0.60396 0.70738	0.47776 0.71829	0.57682 0.65969	0.53453	0.52160	AVRG		0.60241		13.81773	
1,1-Dichloropropene	NE 0.34497	0.37548 0.39211	0.32208 0.38053	0.33968 0.35979	0.31118	0.29311	AVRG		0.34655		9.67762	
1,2-Dichloroethane	NE 0.45028	0.45519 0.44762	0.42282 0.43949	0.44932 0.42925	0.43063	0.42893	AVRG		0.43928		2.66727	
Carbon Tetrachloride	NE 320902	3171 877292	5716 NE	12588 NE	26439	99378	QUAD	0.00358	4.77119	-2.62219	0.99939	
Benzene	NE 1.21893	1.33494 1.23107	1.10653 1.19955	1.16917 1.16297	1.10567	1.07155	AVRG		1.17782		6.81618	
Trichloroethene	NE 0.33123	0.34200 0.34997	0.27358 0.35020	0.31968 0.33798	0.31138	0.28438	AVRG		0.32227		8.63536	

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Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Bromodichloromethane	NE 0.40361	0.27950 0.41013	0.32541 0.41914	0.32516 0.41711	0.31974	0.34062	AVRG		0.36005		14.58454	
Methyl Methacrylate	NE 0.45087	0.44818 0.47304	0.43204 0.48592	0.39972 0.46208	0.42042	0.42927	AVRG		0.44462		6.09024	
1,2-Dichloropropane	NE 0.31163	0.31581 0.31737	0.27021 0.31210	0.27890 0.30747	0.29677	0.28567	AVRG		0.29955		5.82511	
Dibromomethane	NE 0.22460	0.21118 0.22126	0.22010 0.22004	0.20775 0.21798	0.21258	0.20735	AVRG		0.21587		2.91287	
4-Methyl-2-Pentanone	NE 0.31356	0.25125 0.32274	0.28167 0.31860	0.26962 0.30750	0.28711	0.29181	AVRG		0.29376		8.18151	
cis-1,3-Dichloropropene	NE 589702	3916 1314625	6701 2111427	12126 2990718	36717	175436	LINR	0.05627	0.51492		0.99885	
Ethyl Methacrylate	NE 0.50593	0.40733 0.53928	0.37773 0.54458	0.38355 0.53641	0.42977	0.45912	AVRG		0.46486		14.72354	
Toluene	NE 1.38778	1.39982 1.44134	1.21104 1.39966	1.26334 1.31011	1.27326	1.25824	AVRG		1.32718		6.11848	
trans-1,3-Dichloropropene	NE 478316	3354 1103954	5135 1776839	10490 2555944	28169	139963	LINR	0.06841	0.43838		0.99809	
2-Hexanone	NE 526402	3253 1147474	6997 1804472	15502 2481566	43345	182995	LINR	0.02689	0.22152		0.99938	
1,1,2-Trichloroethane	NE 0.28535	0.30394 0.28144	0.29168 0.27840	0.31088 0.26792	0.27515	0.27827	AVRG		0.28589		4.87877	
1,3-Dichloropropane	NE 0.59985	0.54458 0.59322	0.62025 0.57919	0.58244 0.55925	0.61540	0.56459	AVRG		0.58431		4.36498	

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Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dibromochloromethane	NE 445683	2776 982012	5711 1554115	10463 2175278	32648	144312	LINR	0.02904	0.38650		0.99954	
Tetrachloroethene	NE 0.26518	0.36052 0.31293	0.25500 0.30103	0.29775 0.28004	0.28276	0.24046	AVRG		0.28841		12.32266	
1,2-Dibromoethane	NE 0.37580	0.32247 0.37689	0.32027 0.36983	0.34309 0.36138	0.33265	0.35104	AVRG		0.35038		6.30276	
1-Chlorohexane	NE 266333	2433 699070	5434 1079275	10304 NE	25743	88434	QUAD	0.02799	4.47506	-0.90746	0.99670	
Chlorobenzene	NE 0.94880	1.03214 0.97595	0.93103 0.95172	0.96579 0.92152	0.93300	0.88690	AVRG		0.94965		4.26342	
1,1,1,2-Tetrachloroethane	NE 0.33048	0.28764 0.34052	0.28110 0.34297	0.30809 0.33306	0.28325	0.28886	AVRG		0.31066		8.41408	
Ethylbenzene	NE 0.43502	0.44772 0.48275	0.38987 0.47917	0.43387 0.45165	0.42415	0.39460	AVRG		0.43764		7.40184	
m,p-Xylenes	NE 0.55781	0.57229 0.61822	0.47739 0.60746	0.53188 0.56602	0.49962	0.47828	AVRG		0.54544		9.58491	
o-Xylene	NE 0.56239	0.52301 0.59976	0.46265 0.60311	0.51870 0.57783	0.50564	0.49517	AVRG		0.53870		9.13822	
Styrene	NE 1123787	7484 2515807	14453 3972522	30964 5467718	87295	369850	LINR	0.02452	0.97782		0.99917	
Bromoform	NE 291068	1530 649870	3479 1062982	7647 1509527	20007	94499	LINR	0.04610	0.26650		0.99912	
Isopropylbenzene	NE 1.27176	1.20161 1.46187	1.06148 1.44003	1.16431 1.33602	1.14251	1.09706	AVRG		1.24185		11.68451	

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Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,1,2,2-Tetrachloroethane	NE 0.99917	0.94673 0.95886	1.10764 0.94009	1.04906 0.90656	1.04746	0.99080	AVRG		0.99404		6.44767	
1,2,3-Trichloropropane	NE 0.85277	0.87208 0.88461	0.83161 0.89266	0.79724 0.87574	0.88013	0.83477	AVRG		0.85796		3.65500	
trans-1,4-Dichloro-2-butene	NE 79394	658 194985	1264 330142	1922 492359	5548	24229	LINR	0.08945	0.08580		0.99526	*
n-Propylbenzene	NE 2.68988	3.02452 3.06948	2.19495 3.07408	2.71517 2.72855	2.41093	2.33363	AVRG		2.69346		12.14017	
Bromobenzene	NE 0.79863	0.78833 0.81550	0.70948 0.81442	0.82995 0.79814	0.80492	0.77153	AVRG		0.79232		4.45882	
1,3,5-Trimethylbenzene	NE 2.02112	2.12091 2.19775	1.72906 2.19016	1.87690 2.05903	1.91318	1.83867	AVRG		1.99409		8.23324	
2-Chlorotoluene	NE 1.90646	2.09036 1.97591	1.76709 1.94903	1.86614 1.83707	1.86391	1.79383	AVRG		1.89442		5.26252	
4-Chlorotoluene	NE 2.16972	2.13619 2.28339	1.96215 2.28292	2.02866 2.13560	2.05117	2.01738	AVRG		2.11858		5.40062	
tert-Butylbenzene	NE 1.68444	2.03427 1.97251	1.49786 1.95203	1.75865 1.81522	1.52886	1.49250	AVRG		1.74848		12.10742	
1,2,4-Trimethylbenzene	NE 2.07216	2.04703 2.17967	2.02846 2.19921	2.27850 2.06798	2.05257	1.94598	AVRG		2.09684		4.87694	
sec-Butylbenzene	NE 1297343	13271 3454225	17948 5412058	48003 7122212	104963	417125	LINR	0.03516	2.50925		0.99562	
p-Isopropyltoluene	NE 1.78818	2.23058 2.15416	1.52520 2.21396	1.93165 2.07475	1.70907	1.59412	AVRG		1.91352		14.13606	

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Project LHAAP 37 November 2022

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Volatiles Organics by Method 8260C

ICAL Start Date 11-NOV-2022 1156 **ICAL End Date** 11-NOV-2022 1538

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,3-Dichlorobenzene	NE 1.35248	1.40202 1.40005	1.35559 1.41127	1.36137 1.34585	1.32950	1.26312	AVRG		1.35792		3.34986	
1,4-Dichlorobenzene	NE 1.38818	1.83660 1.46138	1.57392 1.47515	1.56102 1.40968	1.42880	1.31535	AVRG		1.49445		10.15208	
Benzyl Chloride	NE 247883	2195 744928	2872 1485347	5046 2305969	12456	67066	QUAD	0.09029	3.65220	-0.79083	0.99371	
n-Butylbenzene	NE 902009	9581 2374641	13013 3785172	30228 5128466	69831	294780	LINR	0.04452	1.78149		0.99722	
1,2-Dichlorobenzene	NE 1.37878	1.77704 1.42178	1.43070 1.43714	1.39596 1.36755	1.39990	1.32522	AVRG		1.43712		9.19399	
1,2-Dibromo-3-Chloropropane	NE 84642	243 194924	881 327600	2331 455426	6526	27340	LINR	0.04588	0.15555		0.99863	*
1,2,4-Trichlorobenzene	NE 0.76535	0.94693 0.87347	0.69416 0.90702	0.70447 0.86757	0.64171	0.67334	AVRG		0.78600		14.49685	
Hexachlorobutadiene	NE 169934	2560 483913	3339 776762	7172 NE	13306	60901	QUAD	0.02461	3.29929	-0.60146	0.99631	
Naphthalene	NE 1.94294	2.34585 2.18241	1.81609 2.25421	1.65121 2.18948	1.56626	1.70385	AVRG		1.96137		14.80479	
1,2,3-Trichlorobenzene	NE 0.74741	0.87691 0.83974	0.77069 0.87025	0.72599 0.83224	0.65950	0.69086	AVRG		0.77929		10.18147	
Methyl Acrylate	NE 0.63788	0.58114 0.65496	0.66638 0.66799	0.60901 0.64003	0.62369	0.64549	AVRG		0.63629		4.41179	
1,4-Dioxane	0.00764 0.00783	0.00572 0.00775	0.00896 0.00761	0.00814 0.00725	0.00720	0.00786	AVRG		0.00759		10.84165	

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Volatiles Organics by Method 8260C

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Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
n-Hexane	NE 264054	3006 763254	5169 NE	10877 NE	22793	83693	QUAD	-0.00349	3.63906	-1.58945	0.99969	
Freon TF	NE 265554	3044 692856	4273 NE	11940 NE	24730	87464	QUAD	-0.00579	3.55380	-1.38042	0.99977	
Methyl Acetate	NE 0.39255	0.44241 0.38801	0.47450 0.38581	0.41241 0.36342	0.41981	0.40337	AVRG		0.40914		8.14900	
Methylcyclohexane	NE 0.65687	0.75984 0.79486	0.61212 0.81168	0.69781 0.80420	0.57963	0.62796	AVRG		0.70500		12.78092	
Isopropyl alcohol	NE 0.03092	0.03841 0.03087	0.03319 0.03130	0.02908 0.02921	0.03288	0.03100	AVRG		0.03187		8.82721	
Allyl alcohol	NE 264054	3292 763254	5169 NE	12118 NE	22793	83693	QUAD	-0.10577	72.95973	-31.94131	0.99965	
4-Methyl-2-pentanol	NE 1277106	6499 3162203	13051 5345216	24117 7390620	72617	382624	LINR	1.67222	0.06433		0.99650	
Tert-butyl alcohol	NE 0.04819	0.04338 0.04888	0.05078 0.04984	0.04730 0.04794	0.05106	0.04792	AVRG		0.04836		4.73312	
Diethyl ether	NE 0.41981	0.48018 0.43079	0.51716 0.43952	0.48104 0.42304	0.43173	0.41683	AVRG		0.44890		7.84645	
1,3-Butadiene	NE 295655	2660 689246	3837 1073997	9824 1414871	21652	86035	LINR	0.03494	0.41146		0.99555	
Cyclohexane	NE 367931	3722 998644	7250 NE	14256 NE	30806	124554	QUAD	-0.00372	2.56518	-0.74833	0.99996	
Tetrahydrofuran	NE 0.08795	0.09847 0.08816	0.09007 0.08756	0.09190 0.08448	0.07422	0.08471	AVRG		0.08750		7.45264	

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alpha-Methylstyrene	NE 534002	4251 1279645	6442 2085929	15380 2924639	43560	174380	LINR	0.04335	0.99763		0.99882	
Diisopropyl ether	NE 1.46114	1.65230 1.50876	1.79423 1.53589	1.56505 1.46125	1.50440	1.43002	AVRG		1.54589		7.38749	
Butyl acrylate	NE 721684	5755 1660715	9969 2725039	16558 3845538	49075	235491	LINR	0.05054	0.68108		0.99881	
Dicyclopentadiene	NE 2.12006	2.13445 2.53482	2.04605 2.56976	2.26511 2.53580	1.75914	1.94049	AVRG		2.21174		12.99323	
1,2,3-Trimethylbenzene	NE 2.11362	2.43907 2.17979	2.22797 2.18399	2.26544 2.12200	2.12491	2.05537	AVRG		2.19024		5.15864	
Ethanol	NE 0.00644	0.00540 0.00654	0.00792 0.00669	0.00753 0.00634	0.00765	0.00650	AVRG		0.00678		11.61431	
Acetaldehyde	NE 190123	NE 411315	NE 699663	5590 992749	22603	68834	LINR	0.29225	0.06981		0.99646	
Dimethyl Disulfide	NE 293810	631 943799	1885 1785183	3997 NE	12751	73144	QUAD	0.07444	3.48254	-0.98353	0.99316	
1,2-Dichloroethylene (total)	NE 0.51666	0.53230 0.52519	0.55006 0.53285	0.51056 0.49803	0.49305	0.46053	AVRG		0.51325		5.19276	
Xylenes (total)	NE 0.52916	0.50201 0.58032	0.43393 0.58386	0.47444 0.55660	0.45487	0.45013	AVRG		0.50726		11.36948	
Dibromofluoromethane	NE 387990	5430 851798	7603 1264289	15872 1763288	36389	161737	LINR	-0.00697	0.49651		0.99912	
1,2-Dichloroethane-d4	NE 449979	5818 940738	10111 1438278	19160 1994105	47752	187085	LINR	-0.01276	0.56011		0.99925	

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Toluene-d8	NE 1.09663	1.45550 1.22885	1.16619 1.12378	1.17555 1.12762	1.10766	1.22325	AVRG		1.18945		9.28870	
4-Bromofluorobenzene	NE 515213	7000 1154383	11689 1769020	19298 2511444	50749	205602	LINR	0.00366	0.44191		0.99969	

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Form 6I

Initial Calibration Verification (ICV)

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
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Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

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Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421678

Volatiles Organics by Method 8260C

Instrument ID VOA9.i ICAL Date 11-NOV-2022
Lab File ID U111114.D ICAL Time 1431
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachlor	50.00	50.48	100.98	80-120	
1,1,1-Trichloroeth	50.00	46.48	92.97	80-120	
1,1,2,2-Tetrachlor	50.00	46.60	93.21	80-120	
Freon TF	50.00	45.63	91.28	80-120	
Methyl Acetate	50.00	43.57	87.15	80-120	
Cyclohexane	50.00	45.53	91.08	80-120	
Methylcyclohexane	50.00	44.99	89.98	80-120	
Carbon Disulfide	100.00	86.80	86.81	80-120	
2-Hexanone	100.00	94.33	94.33	80-120	
1,1,2-Trichloroeth	50.00	45.64	91.29	80-120	
1,1-Dichloroethane	50.00	43.38	86.77	80-120	
1,1-Dichloroethene	50.00	43.53	87.06	80-120	
1,1-Dichloropropen	50.00	44.98	89.98	80-120	
1,2,3-Trichloroben	50.00	53.41	106.84	80-120	
1,2,3-Trichloropro	50.00	48.22	96.44	80-120	
1,2,4-Trichloroben	50.00	52.78	105.56	80-120	
1,2,4-Trimethylben	50.00	50.49	100.99	80-120	
1,2-Dibromo-3-Chlo	50.00	44.35	88.70	80-120	
1,2-Dibromoethane	50.00	50.17	100.34	80-120	
Acrolein	100.00	96.32	96.32	80-120	
Acrylonitrile	100.00	87.24	87.24	80-120	
1,2-Dichlorobenzen	50.00	48.01	96.03	80-120	
1,2-Dichloroethane	50.00	46.06	92.13	80-120	
1,2-Dichloropropan	50.00	47.01	94.02	80-120	
1,3,5-Trimethylben	50.00	49.83	99.67	80-120	
1,3-Dichlorobenzen	50.00	49.69	99.39	80-120	
1,3-Dichloropropan	50.00	47.38	94.78	80-120	
1,4-Dichlorobenzen	50.00	47.47	94.95	80-120	
1-Chlorohexane	50.00	42.12	84.26	80-120	
2,2-Dichloropropan	50.00	43.93	87.88	80-120	
2-Butanone	100.00	93.33	93.33	80-120	
2-Chlorotoluene	50.00	48.62	97.25	80-120	
4-Chlorotoluene	50.00	50.10	100.21	80-120	
p-Isopropyltoluene	50.00	47.96	95.92	80-120	

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

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Instrument ID VOA9.i ICAL Date 11-NOV-2022
Lab File ID U111114.D ICAL Time 1431
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
4-Methyl-2-Pentano	100.00	102.72	102.73	80-120	
Acetone	100.00	92.23	92.23	80-120	
Benzene	50.00	45.44	90.89	80-120	
Bromobenzene	50.00	49.40	98.82	80-120	
Bromochloromethane	50.00	44.77	89.56	80-120	
Bromodichlorometha	50.00	50.74	101.49	80-120	
Bromoform	50.00	44.72	89.45	80-120	
Bromomethane	50.00	48.21	96.42	80-120	
Carbon Tetrachlori	50.00	47.09	94.19	80-120	
Chlorobenzene	50.00	46.83	93.66	80-120	
Chloroethane	50.00	44.83	89.68	80-120	
Chloroform	50.00	45.09	90.18	80-120	
Chloromethane	50.00	44.04	88.09	80-120	
cis-1,2-Dichloroet	50.00	44.51	89.04	80-120	
cis-1,3-Dichloropr	50.00	43.54	87.10	80-120	
Dibromochlorometha	50.00	45.64	91.28	80-120	
Dibromomethane	50.00	46.84	93.70	80-120	
Dichlorodifluorome	50.00	46.35	92.70	80-120	
Ethylbenzene	50.00	48.48	96.96	80-120	
Hexachlorobutadien	50.00	45.55	91.10	80-120	
Isopropylbenzene	50.00	49.14	98.29	80-120	
m,p-Xylenes	100.00	99.20	99.21	80-120	
Methyl tert-butyl	50.00	45.47	90.96	80-120	
Methylene Chloride	50.00	48.02	96.04	80-120	
n-Butylbenzene	50.00	44.12	88.25	80-120	
n-Propylbenzene	50.00	48.81	97.63	80-120	
Naphthalene	50.00	56.60	113.20	80-120	
o-Xylene	50.00	49.93	99.88	80-120	
sec-Butylbenzene	50.00	42.95	85.91	80-120	
Styrene	50.00	46.28	92.57	80-120	
tert-Butylbenzene	50.00	46.75	93.51	80-120	
Tetrachloroethene	50.00	44.40	88.81	80-120	
Toluene	50.00	48.57	97.14	80-120	
trans-1,2-Dichloro	50.00	46.03	92.06	80-120	

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

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Instrument ID VOA9.i ICAL Date 11-NOV-2022
Lab File ID U111114.D ICAL Time 1431
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
trans-1,3-Dichloro	50.00	42.90	85.80	80-120	
Trichloroethene	50.00	46.96	93.93	80-120	
Trichlorofluoromet	50.00	43.09	86.19	80-120	
Vinyl Chloride	50.00	42.99	85.98	80-120	
1,2-Dichloroethyle	50.00	90.55	181.10*	80-120	
Xylenes (total)	150.00	149.14	99.43	80-120	
1,4-Dioxane	1000.00	929.11	92.91	80-120	
Dibromofluorometha	50.00	49.14	98.28	71-125	
1,2-Dichloroethane	50.00	48.13	96.27	70-125	
Toluene-d8	50.00	51.43	102.86	75-125	
4-Bromofluorobenze	50.00	50.93	101.88	72-125	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
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www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	45.30184	0.36662	0.100	9.39631	20.0	Quadratic	
Chloromethane	50.0	44.40835	0.49003	0.100	11.18331	20.0	Linear	
Vinyl Chloride	0.50998	0.44205	0.44205	0.100	13.32057	20.0	Averaged	
Bromomethane	50.0	46.64746	0.32819	0.100	6.70508	20.0	Linear	
Chloroethane	0.37257	0.32996	0.32996	0.100	11.43800	20.0	Averaged	
Trichlorofluoromethane	0.66307	0.55355	0.55355	0.100	16.51575	20.0	Averaged	
Acrolein	100	99	0.03549	0.020	0.95266	20.0	Linear	
Acetone	100	99	0.20253	0.100	0.69440	20.0	Linear	
1,1-Dichloroethene	0.42642	0.36802	0.36802	0.100	13.69497	20.0	Averaged	
Iodomethane	100	87.37585	0.41761	0.100	12.62415	20.0	Quadratic	
Acrylonitrile	0.23222	0.21358	0.21358	0.050	8.02627	20.0	Averaged	
Methylene Chloride	50.0	47.49832	0.52463	0.100	5.00335	20.0	Linear	
Methyl tert-butyl ether	1.43699	1.37664	1.37664	0.100	4.19936	20.0	Averaged	
Carbon Disulfide	1.24049	1.07235	1.07235	0.100	13.55374	20.0	Averaged	
trans-1,2-Dichloroethene	0.47184	0.42214	0.42214	0.100	10.53383	20.0	Averaged	
Vinyl Acetate	1.23147	1.22075	1.22075	0.010	0.87043	20.0	Averaged	
1,1-Dichloroethane	0.83882	0.73076	0.73076	0.200	12.88205	20.0	Averaged	
2-Butanone	0.20219	0.19228	0.19228	0.100	4.90292	20.0	Averaged	
2,2-Dichloropropane	50.0	43.73418	0.39246	0.100	12.53163	20.0	Linear	
cis-1,2-Dichloroethene	0.55465	0.50379	0.50379	0.100	9.16993	20.0	Averaged	
Chloroform	0.89565	0.81386	0.81386	0.200	9.13223	20.0	Averaged	
Bromochloromethane	0.29605	0.26826	0.26826	0.100	9.38401	20.0	Averaged	
Dibromofluoromethane	50.0	51.74215	0.51727	0.100	-3.48430	20.0	Linear	
1,1,1-Trichloroethane	0.60241	0.55961	0.55961	0.100	7.10415	20.0	Averaged	
1,1-Dichloropropene	0.34655	0.30357	0.30357	0.100	12.40183	20.0	Averaged	
1,2-Dichloroethane	0.43928	0.41313	0.41313	0.100	5.95338	20.0	Averaged	
Carbon Tetrachloride	50.0	44.86239	0.21201	0.100	10.27522	20.0	Quadratic	
1,2-Dichloroethane-d4	50.0	51.27821	0.58157	0.100	-2.55642	20.0	Linear	
Benzene	1.17782	1.07399	1.07399	0.500	8.81530	20.0	Averaged	
Trichloroethene	0.32227	0.29801	0.29801	0.200	7.52661	20.0	Averaged	
Bromodichloromethane	0.36005	0.35996	0.35996	0.200	0.02545	20.0	Averaged	
2-Chloroethylvinyl ether	++++	++++	1.301e+65	0.001	++++	20.0	Averaged	<-
1,2-Dichloropropane	0.29955	0.28220	0.28220	0.100	5.79129	20.0	Averaged	
Dibromomethane	0.21587	0.20449	0.20449	0.100	5.27145	20.0	Averaged	

Continuing Calibration Verification (CCV)

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Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.29376	0.29929	0.29929	0.100	-1.88201	20.0	Averaged	
cis-1,3-Dichloropropene	50.0	43.82036	0.42230	0.200	12.35928	20.0	Linear	
Toluene-d8	1.18945	1.24952	1.24952	0.100	-5.05065	20.0	Averaged	
Toluene	1.32718	1.26685	1.26685	0.400	4.54552	20.0	Averaged	
trans-1,3-Dichloropropene	50.0	43.59843	0.35226	0.100	12.80315	20.0	Linear	
2-Hexanone	100	97.07002	0.21205	0.100	2.92998	20.0	Linear	
1,1,2-Trichloroethane	0.28589	0.26880	0.26880	0.100	5.97764	20.0	Averaged	
1,3-Dichloropropane	0.58431	0.55765	0.55765	0.100	4.56197	20.0	Averaged	
Dibromochloromethane	50.0	45.26644	0.33869	0.100	9.46712	20.0	Linear	
Tetrachloroethene	0.28841	0.24520	0.24520	0.200	14.98174	20.0	Averaged	
1,2-Dibromoethane	0.35038	0.35180	0.35180	0.100	-0.40463	20.0	Averaged	
1-Chlorohexane	50.0	40.63460	0.18207	0.100	18.73080	20.0	Quadratic	
Chlorobenzene	0.94965	0.88440	0.88440	0.500	6.87055	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.31066	0.30941	0.30941	0.100	0.40404	20.0	Averaged	
Ethylbenzene	0.43764	0.41532	0.41532	0.100	5.10035	20.0	Averaged	
m,p-Xylenes	0.54544	0.53138	0.53138	0.100	2.57839	20.0	Averaged	
o-Xylene	0.53870	0.53583	0.53583	0.300	0.53217	20.0	Averaged	
Styrene	50.0	47.10274	0.89718	0.300	5.79452	20.0	Linear	
Bromoform	50.0	44.05018	0.22250	0.100	11.89963	20.0	Linear	
Isopropylbenzene	1.24185	1.19114	1.19114	0.100	4.08373	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.99404	0.92840	0.92840	0.300	6.60316	20.0	Averaged	
4-Bromofluorobenzene	50.0	52.41981	0.46168	0.100	-4.83962	20.0	Linear	
1,2,3-Trichloropropane	0.85796	0.81310	0.81310	0.100	5.22808	20.0	Averaged	
n-Propylbenzene	2.69346	2.54556	2.54556	0.100	5.49120	20.0	Averaged	
Bromobenzene	0.79232	0.77613	0.77613	0.100	2.04367	20.0	Averaged	
1,3,5-Trimethylbenzene	1.99409	1.93564	1.93564	0.100	2.93081	20.0	Averaged	
2-Chlorotoluene	1.89442	1.79981	1.79981	0.100	4.99422	20.0	Averaged	
4-Chlorotoluene	2.11858	2.06676	2.06676	0.100	2.44581	20.0	Averaged	
tert-Butylbenzene	1.74848	1.56297	1.56297	0.100	10.60966	20.0	Averaged	
1,2,4-Trimethylbenzene	2.09684	2.07730	2.07730	0.100	0.93209	20.0	Averaged	
sec-Butylbenzene	50.0	41.10067	1.97442	0.100	17.79866	20.0	Linear	
p-Isopropyltoluene	1.91352	1.74070	1.74070	0.100	9.03134	20.0	Averaged	
1,3-Dichlorobenzene	1.35792	1.28925	1.28925	0.600	5.05650	20.0	Averaged	
1,4-Dichlorobenzene	1.49445	1.36247	1.36247	0.400	8.83156	20.0	Averaged	

Continuing Calibration Verification (CCV)

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Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
n-Butylbenzene	50.0	41.70674	1.40669	0.500	16.58653	20.0	Linear	
1,2-Dichlorobenzene	1.43712	1.34078	1.34078	0.400	6.70335	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	44.81103	0.13228	0.050	10.37794	20.0	Linear	
1,2,4-Trichlorobenzene	0.78600	0.81853	0.81853	0.200	-4.13820	20.0	Averaged	
Hexachlorobutadiene	50.0	42.27359	0.26124	0.100	15.45283	20.0	Quadratic	
Naphthalene	1.96137	2.11799	2.11799	0.200	-7.98556	20.0	Averaged	
1,2,3-Trichlorobenzene	0.77929	0.77639	0.77639	0.100	0.37183	20.0	Averaged	
1,2-Dichloroethylene (total	0.51325	0.46296	0.46296	0.200	9.79687	20.0	Averaged	
Xylenes (total)	0.50726	0.49998	0.49998	0.100	1.43551	20.0	Averaged	
1,4-Dioxane	0.00759	0.00695	0.00695	0.001	8.45372	20.0	Averaged	
Cyclohexane	50.0	43.53627	0.38388	0.100	12.92746	20.0	Quadratic	
Freon TF	50.0	44.03509	0.27988	0.100	11.92983	20.0	Quadratic	
1,3-Butadiene	50.0	40.84909	0.32178	0.100	18.30182	20.0	Linear	
Methylcyclohexane	0.70500	0.71558	0.71558	0.100	-1.50165	20.0	Averaged	
Methyl Acetate	0.40914	0.36957	0.36957	0.100	9.67136	20.0	Averaged	
Tert-butyl alcohol	0.04836	0.04669	0.04669	0.005	3.46919	20.0	Averaged	
Isopropyl alcohol	0.03187	0.02904	0.02904	0.005	8.88845	20.0	Averaged	
trans-1,4-Dichloro-2-butene	50.0	43.31474	0.06665	0.050	13.37052	20.0	Linear	
Isobutyl Alcohol	1000	878	0.05493	0.005	12.21710	20.0	Linear	
Acetonitrile	0.05081	0.04934	0.04934	0.005	2.89458	20.0	Averaged	
Allyl Chloride	1.16272	1.08937	1.08937	0.100	6.30846	20.0	Averaged	
Methacrylonitrile	0.29565	0.27483	0.27483	0.100	7.03951	20.0	Averaged	
Methyl Methacrylate	0.44462	0.44678	0.44678	0.100	-0.48720	20.0	Averaged	
Propionitrile	0.07998	0.07519	0.07519	0.010	5.98896	20.0	Averaged	
n-Hexane	50.0	42.58924	0.26591	0.100	14.82153	20.0	Quadratic	
Acetaldehyde	++++	++++	1.301e+65	0.001	++++	20.0	Linear	<-
Methyl Acrylate	0.63629	0.62414	0.62414	0.100	1.90914	20.0	Averaged	
Dimethyl Disulfide	50.0	44.85014	0.25449	0.020	10.29972	20.0	Quadratic	
Chloroprene	50.0	45.65845	0.13851	0.100	8.68310	20.0	Quadratic	
Ethyl Methacrylate	0.46486	0.50587	0.50587	0.100	-8.82224	20.0	Averaged	
1,2,3-Trimethylbenzene	2.19024	2.13888	2.13888	0.100	2.34499	20.0	Averaged	
Ethanol	0.00678	0.00588	0.00588	0.001	13.31151	20.0	Averaged	
Dicyclopentadiene	2.21174	2.26606	2.26606	0.100	-2.45594	20.0	Averaged	
alpha-Methylstyrene	50.0	45.55246	0.86564	0.100	8.89508	20.0	Linear	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

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Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 11-NOV-2022 1751
Lab File ID V111103.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Tetrahydrofuran	0.08750	0.08004	0.08004	0.001	8.52801	20.0	Averaged	
Diisopropyl ether	1.54589	1.42389	1.42389	0.100	7.89188	20.0	Averaged	
4-Methyl-2-pentanol	1000	855	0.04964	0.005	14.46688	20.0	Linear	
Allyl alcohol	1000	852	0.01330	0.004	14.81772	20.0	Quadratic	
Benzyl Chloride	50.0	46.69258	0.24385	0.010	6.61483	20.0	Quadratic	
Butyl acrylate	50.0	46.19878	0.59488	0.100	7.60245	20.0	Linear	
Diethyl ether	0.44890	0.41116	0.41116	0.100	8.40808	20.0	Averaged	

Continuing Calibration Verification (CCV)

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Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	56.89895	0.47549	0.100	-13.79791	50.0	Quadratic	
Chloromethane	50.0	51.18531	0.56524	0.100	-2.37062	50.0	Linear	
Vinyl Chloride	0.50998	0.55265	0.55265	0.100	-8.36655	50.0	Averaged	
Bromomethane	50.0	49.22676	0.34592	0.100	1.54647	50.0	Linear	
Chloroethane	0.37257	0.38492	0.38492	0.100	-3.31558	50.0	Averaged	
Trichlorofluoromethane	0.66307	0.74328	0.74328	0.100	-12.09792	50.0	Averaged	
Acrolein	100	101	0.03637	0.020	-1.46448	50.0	Linear	
Acetone	100	88.94584	0.18289	0.100	11.05416	50.0	Linear	
1,1-Dichloroethene	0.42642	0.45248	0.45248	0.100	-6.11130	50.0	Averaged	
Iodomethane	100	98.97663	0.47559	0.100	1.02337	50.0	Quadratic	
Acrylonitrile	0.23222	0.22375	0.22375	0.050	3.64888	50.0	Averaged	
Methylene Chloride	50.0	54.32705	0.59769	0.100	-8.65410	50.0	Linear	
Methyl tert-butyl ether	1.43699	1.38733	1.38733	0.100	3.45586	50.0	Averaged	
Carbon Disulfide	1.24049	1.24201	1.24201	0.100	-0.12257	50.0	Averaged	
trans-1,2-Dichloroethene	0.47184	0.48988	0.48988	0.100	-3.82192	50.0	Averaged	
Vinyl Acetate	1.23147	0.83726	0.83726	0.010	32.01142	50.0	Averaged	
1,1-Dichloroethane	0.83882	0.82679	0.82679	0.200	1.43388	50.0	Averaged	
2-Butanone	0.20219	0.20048	0.20048	0.100	0.84625	50.0	Averaged	
2,2-Dichloropropane	50.0	36.93645	0.32955	0.100	26.12710	50.0	Linear	
cis-1,2-Dichloroethene	0.55465	0.56475	0.56475	0.100	-1.82062	50.0	Averaged	
Chloroform	0.89565	0.92577	0.92577	0.200	-3.36269	50.0	Averaged	
Bromochloromethane	0.29605	0.28906	0.28906	0.100	2.35891	50.0	Averaged	
Dibromofluoromethane	50.0	51.54549	0.51532	0.100	-3.09099	50.0	Linear	
1,1,1-Trichloroethane	0.60241	0.68553	0.68553	0.100	-13.79856	50.0	Averaged	
1,1-Dichloropropene	0.34655	0.37458	0.37458	0.100	-8.08933	50.0	Averaged	
1,2-Dichloroethane	0.43928	0.44189	0.44189	0.100	-0.59314	50.0	Averaged	
Carbon Tetrachloride	50.0	58.49872	0.29101	0.100	-16.99744	50.0	Quadratic	
1,2-Dichloroethane-d4	50.0	52.03160	0.59001	0.100	-4.06320	50.0	Linear	
Benzene	1.17782	1.18091	1.18091	0.500	-0.26205	50.0	Averaged	
Trichloroethene	0.32227	0.36523	0.36523	0.200	-13.33174	50.0	Averaged	
Bromodichloromethane	0.36005	0.37797	0.37797	0.200	-4.97870	50.0	Averaged	
2-Chloroethylvinyl ether	++++	++++	1.301e+65	0.001	++++	50.0	Averaged	<-
1,2-Dichloropropane	0.29955	0.29981	0.29981	0.100	-0.08856	50.0	Averaged	
Dibromomethane	0.21587	0.21012	0.21012	0.100	2.66223	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.29376	0.31296	0.31296	0.100	-6.53563	50.0	Averaged	
cis-1,3-Dichloropropene	50.0	42.38437	0.40751	0.200	15.23126	50.0	Linear	
Toluene-d8	1.18945	1.21769	1.21769	0.100	-2.37394	50.0	Averaged	
Toluene	1.32718	1.41559	1.41559	0.400	-6.66171	50.0	Averaged	
trans-1,3-Dichloropropene	50.0	41.18683	0.33112	0.100	17.62634	50.0	Linear	
2-Hexanone	100	94.94839	0.20735	0.100	5.05161	50.0	Linear	
1,1,2-Trichloroethane	0.28589	0.27933	0.27933	0.100	2.29470	50.0	Averaged	
1,3-Dichloropropane	0.58431	0.59075	0.59075	0.100	-1.10229	50.0	Averaged	
Dibromochloromethane	50.0	46.60904	0.34907	0.100	6.78191	50.0	Linear	
Tetrachloroethene	0.28841	0.29704	0.29704	0.200	-2.99157	50.0	Averaged	
1,2-Dibromoethane	0.35038	0.37274	0.37274	0.100	-6.38261	50.0	Averaged	
1-Chlorohexane	50.0	52.66818	0.24090	0.100	-5.33637	50.0	Quadratic	
Chlorobenzene	0.94965	0.95809	0.95809	0.500	-0.88836	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.31066	0.32789	0.32789	0.100	-5.54599	50.0	Averaged	
Ethylbenzene	0.43764	0.47133	0.47133	0.100	-7.69582	50.0	Averaged	
m,p-Xylenes	0.54544	0.59255	0.59255	0.100	-8.63624	50.0	Averaged	
o-Xylene	0.53870	0.58401	0.58401	0.300	-8.41180	50.0	Averaged	
Styrene	50.0	48.79053	0.93018	0.300	2.41894	50.0	Linear	
Bromoform	50.0	44.17203	0.22315	0.100	11.65594	50.0	Linear	
Isopropylbenzene	1.24185	1.43525	1.43525	0.100	-15.57315	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.99404	0.86919	0.86919	0.300	12.56053	50.0	Averaged	
4-Bromofluorobenzene	50.0	50.82004	0.44754	0.100	-1.64008	50.0	Linear	
1,2,3-Trichloropropane	0.85796	0.86330	0.86330	0.100	-0.62264	50.0	Averaged	
n-Propylbenzene	2.69346	3.04019	3.04019	0.100	-12.87275	50.0	Averaged	
Bromobenzene	0.79232	0.81992	0.81992	0.100	-3.48304	50.0	Averaged	
1,3,5-Trimethylbenzene	1.99409	2.21197	2.21197	0.100	-10.92652	50.0	Averaged	
2-Chlorotoluene	1.89442	1.99933	1.99933	0.100	-5.53804	50.0	Averaged	
4-Chlorotoluene	2.11858	2.26337	2.26337	0.100	-6.83465	50.0	Averaged	
tert-Butylbenzene	1.74848	1.98511	1.98511	0.100	-13.53312	50.0	Averaged	
1,2,4-Trimethylbenzene	2.09684	2.24120	2.24120	0.100	-6.88448	50.0	Averaged	
sec-Butylbenzene	50.0	52.77202	2.56015	0.100	-5.54404	50.0	Linear	
p-Isopropyltoluene	1.91352	2.09929	2.09929	0.100	-9.70824	50.0	Averaged	
1,3-Dichlorobenzene	1.35792	1.39630	1.39630	0.600	-2.82652	50.0	Averaged	
1,4-Dichlorobenzene	1.49445	1.44809	1.44809	0.400	3.10249	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
n-Butylbenzene	50.0	49.58806	1.68750	0.500	0.82388	50.0	Linear	
1,2-Dichlorobenzene	1.43712	1.41674	1.41674	0.400	1.41760	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	45.09610	0.13316	0.050	9.80780	50.0	Linear	
1,2,4-Trichlorobenzene	0.78600	0.81401	0.81401	0.200	-3.56384	50.0	Averaged	
Hexachlorobutadiene	50.0	53.17159	0.33536	0.100	-6.34318	50.0	Quadratic	
Naphthalene	1.96137	2.04423	2.04423	0.200	-4.22454	50.0	Averaged	
1,2,3-Trichlorobenzene	0.77929	0.79993	0.79993	0.100	-2.64889	50.0	Averaged	
1,2-Dichloroethylene (total	0.51325	0.52731	0.52731	0.200	-2.74055	50.0	Averaged	
Xylenes (total)	0.50726	0.54415	0.54415	0.100	-7.27268	50.0	Averaged	
1,4-Dioxane	0.00759	0.00706	0.00706	0.001	7.03511	50.0	Averaged	
Cyclohexane	50.0	64.98889	0.62045	0.100	-29.97778	50.0	Quadratic	
Freon TF	50.0	60.95001	0.40991	0.100	-21.90003	50.0	Quadratic	
1,3-Butadiene	50.0	51.04054	0.40564	0.100	-2.08108	50.0	Linear	
Methylcyclohexane	0.70500	0.70626	0.70626	0.100	-0.17844	50.0	Averaged	
Methyl Acetate	0.40914	0.39277	0.39277	0.100	4.00273	50.0	Averaged	
Tert-butyl alcohol	0.04836	0.04770	0.04770	0.005	1.38215	50.0	Averaged	
Isopropyl alcohol	0.03187	0.03068	0.03068	0.005	3.74708	50.0	Averaged	
trans-1,4-Dichloro-2-butene	50.0	37.95138	0.05745	0.050	24.09723	50.0	Linear	
Isobutyl Alcohol	1000	892	0.05586	0.005	10.84789	50.0	Linear	
Acetonitrile	0.05081	0.04920	0.04920	0.005	3.15608	50.0	Averaged	
Allyl Chloride	1.16272	1.12532	1.12532	0.100	3.21663	50.0	Averaged	
Methacrylonitrile	0.29565	0.30021	0.30021	0.100	-1.54418	50.0	Averaged	
Methyl Methacrylate	0.44462	0.45273	0.45273	0.100	-1.82578	50.0	Averaged	
Propionitrile	0.07998	0.08015	0.08015	0.010	-0.20923	50.0	Averaged	
n-Hexane	50.0	56.96166	0.37565	0.100	-13.92331	50.0	Quadratic	
Acetaldehyde	200	215	0.06982	0.001	-7.32049	50.0	Linear	
Methyl Acrylate	0.63629	0.64143	0.64143	0.100	-0.80876	50.0	Averaged	
Dimethyl Disulfide	50.0	40.60515	0.22628	0.020	18.78971	50.0	Quadratic	
Chloroprene	50.0	59.02783	0.18765	0.100	-18.05565	50.0	Quadratic	
Ethyl Methacrylate	0.46486	0.47626	0.47626	0.100	-2.45249	50.0	Averaged	
1,2,3-Trimethylbenzene	2.19024	2.17376	2.17376	0.100	0.75246	50.0	Averaged	
Ethanol	0.00678	0.00680	0.00680	0.001	-0.31514	50.0	Averaged	
Dicyclopentadiene	2.21174	2.28878	2.28878	0.100	-3.48312	50.0	Averaged	
alpha-Methylstyrene	50.0	48.00118	0.91450	0.100	3.99763	50.0	Linear	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID VOA9_421679

Volatiles Organics by Method 8260C

Instrument ID VOA9.i Injection Date 12-NOV-2022 0438
Lab File ID V111132.D ICAL Date(s) 11-NOV-2022 11-NOV-2022
Analysis Type WATER ICAL Times 1156 1538
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Tetrahydrofuran	0.08750	0.08855	0.08855	0.001	-1.20012	50.0	Averaged	
Diisopropyl ether	1.54589	1.46605	1.46605	0.100	5.16453	50.0	Averaged	
4-Methyl-2-pentanol	1000	838	0.04851	0.005	16.22800	50.0	Linear	
Allyl alcohol	1000	1140	0.01878	0.004	-13.97151	50.0	Quadratic	
Benzyl Chloride	50.0	26.44168	0.12337	0.010	47.11664	50.0	Quadratic	
Butyl acrylate	50.0	44.99797	0.57853	0.100	10.00406	50.0	Linear	
Diethyl ether	0.44890	0.42651	0.42651	0.100	4.98702	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
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Form 8 - Internal Standard Area and RT Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RunID
VOA9_421679

		IS1				IS2				IS3				IS4			
Sample ID	File ID	Area		RT		Area		RT		Area		RT		Area		RT	
12-HOUR STD (CCV)	V111103	878052	#	4.82	#	1433114	#	5.55	#	1344668	#	8.19	#	689775	#	10.17	#
CCB	V111104	1066844		4.82		1575798		5.55		1360971		8.19		642918		10.17	
VLCSW-221110	V111105	876868		4.82		1431204		5.56		1295894		8.19		644296		10.17	
VBLKW-221110	V111107	1027876		4.82		1547005		5.56		1339369		8.19		608012		10.17	
HS22110281-08	V111109	1008630		4.82		1524101		5.56		1320590		8.19		602850		10.17	
HS22110281-01	V111119	966919		4.82		1453474		5.56		1271281		8.19		572490		10.17	
HS22110281-02	V111120	947431		4.82		1418338		5.56		1255797		8.19		552545		10.17	
HS22110281-03	V111121	963087		4.82		1458619		5.56		1287249		8.19		582103		10.17	
HS22110281-04	V111122	961524		4.82		1450789		5.56		1266477		8.19		568251		10.17	
HS22110281-05	V111123	966615		4.82		1463869		5.56		1269090		8.19		580796		10.17	
HS22110281-06	V111124	969444		4.82		1440080		5.56		1259881		8.19		576677		10.17	
HS22110281-07	V111125	957187		4.82		1438815		5.56		1238982		8.19		548765		10.17	
HS22110281-01MS	V111128	980561		4.82		1479499		5.56		1314041		8.19		655744		10.17	
HS22110281-01MSD	V111129	986832		4.82		1470507		5.56		1289923		8.19		662708		10.17	
HS22110281-07MS	V111130	1004508		4.82		1516443		5.55		1336596		8.19		665150		10.17	
HS22110281-07MSD	V111131	1017481		4.82		1489684		5.56		1331355		8.19		667906		10.17	
CCV-END	V111132	828688		4.82		1396797		5.56		1288898		8.19		651380		10.17	

IS1 - Pentafluorobenzene IS2 - 1,4-Difluorobenzene IS3 - Chlorobenzene-d5 IS4 - 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention Time IS - Internal Standard

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

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Analysis Run Log

Volatiles by by EPA 8260

Workorder

HS22110281

Client

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Project

LHAAP 37 November 2022

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