100011220

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January 9, 2019

Tony Howes
Project Manager
Utah Department of Environmental Quality
Division of Environmental Response and Remediation
195 North 1950 West
P.O. Box 144840
Salt Lake City, Utah 84114-4840

Re: Final Second Quarter (May 16, 2018) Sampling and Results Summary
Five Points PCE Plume Site
Davis County, Utah
Work Assignment No. 06 under Contract No. 146237

Dear Mr. Howes:

This letter report summarizes and presents the results of the quarterly sampling conducted at the Five Points PCE Plume Site in May 2018, which constitutes the second quarter of quarterly sampling to be conducted under this work assignment.

Samples were collected from 16 of the 19 site monitoring wells, as shown on Figure 1 and summarized in Table 1. MW-102 was not sampled due to its initial non-detect result and because MW-103 provides bounding of the PCE plume in that area. MW-106S and MW 107S were not sampled also due to their initial non-detect results and because they are completed above the tetrachloroethene (PCE) plume.

Samples for this quarter were collected in accordance with the project Sampling and Analysis Plan using HydraSleeves, which were deployed in the wells on May 14, 2018. Water levels were recorded at each well prior to deploying the HydraSleeves (refer to Figure 1 for water table elevations and Attachment 4 for water level information over time). The HydraSleeves were set at the depths where the highest concentrations of PCE were previously detected, which for MW-103 and MW-105 is at the water table; for all other wells (except MW-101) it is the middle of the screened interval, which was set based on the highest detected PCE concentrations observed during drilling of the well. For MW-101, the highest concentration observed during drilling was at the water table, which is where the top of the 30 foot screen was set, the idea being that the long screen would allow for mining of the water table, which is what was happening at the time. However, water levels in the vicinity of MW-101 have actually increased, flooding the screen. Therefore, the HydraSleeve at MW-101 was set to collect water from the top of the screened interval, which was approximately ten feet below the water table. The associated field forms are included in Attachment 1.

The HydraSleeves were pulled and samples collected from them on May 16, 2018. Field water quality parameters (pH, temperature, conductivity, ORP, and DO) were measured at each sample location using a

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756 East Winchester Street
Suite 400
Salt Lake City, Utah 84107
Tel: 801.904.4000
Fax: 801.904.4100
www.urscorp.com

YSI Pro Plus multi-probe meter and recorded on the HydraSleeve Sampling form. Samples were submitted to ALS Laboratories in Salt Lake City for volatile organic compound (VOC) analysis by EPA Method SOM02.4. The associated field forms are included in Attachment 1. The analytical data package and Excel file electronic data deliverable from ALS, including all of the analytical results, are included in Attachment 2. The data was validated by an AECOM chemist in accordance with the Quality Assurance Project Plan (QAPP). The data was found to be useable as qualified, with the majority of the qualifications being estimated (J), based on data that was reported between the method detection limit (MDL) and the reporting limit (RL). Several tentatively identified compound (TIC) results were also qualified as estimated (J) and tentatively identified and estimated (NJ). See Attachment 3 for the data validation report.

Table 1 summarizes the PCE and daughter product results for this quarter of sampling; and for comparison purposes, Table 2 summarizes the PCE concentrations at each monitoring well and sampled municipal well over time. Attachment 4 includes a summary of well information, current and historic water levels, and PCE information, as well as Hydrographs depicting this data for each monitoring well.

Figure 1 presents the contoured PCE plume based on the May 2018 results, as well as the footprint of the PCE plumes for the previous sampling events conducted at the site on the full set of site wells. The May 2018 groundwater elevations at each well are also shown, along with the associated groundwater contours. PCE and groundwater contours were prepared using the Surfer Version 15 Contouring Package, followed by manual interpretive editing and smoothing. The contouring package takes the point data (in this case water level elevations or PCE concentrations and piezometer locations) and interpolates them to a regular grid using the kriging interpolators available in Surfer; contours are then generated from the interpolated grid. These computer generated contours were manually smoothed and edited to honor known data points and to reflect professional judgment in areas of sparse data. In generating the groundwater contours, where nested wells exist, the deep wells were used to produce the contours.

Figure 1 also includes PCE concentrations for municipal wells (Woods Cross #4, Honeywell, 1100 N Well, and New Well) that were sampled by the respective municipality during the same time frame as the sampling conducted with Hydrasleeves. However, it should be noted that these samples are not collected from discrete depth intervals like the Hydrasleeve samples. They are collected across large screened intervals that would likely collect water from unimpacted intervals as well as impacted intervals, as such, they are not directly comparable to the Hydrasleeve samples and are, therefore, not used in the PCE contouring effort.

Pumping rates for the municipal supply wells were verified with the Weber Basin Water Conservancy District (WBWCD), City of North Salt Lake (NSL), and City of Woods Cross and updated in Figure 1 as appropriate. All wells are operating within the historical range reported in previous quarters.

The WBWCD wells include:

- Bountiful Well: 2,250 gpm
- Mills Park Well: 1,000 gpm

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The NSL wells include:

- New Well: 1,000 gpm (fluctuates within 50 gpm of this number)
- 1100 North Well: 1,400 gpm
- Honey Well: 1,000 gpm
- Freda Well: 500 gpm (used for secondary water only)

The Woods Cross wells include:

- WC1: 500 gpm (no longer in use)
- WC2: 280 gpm (no longer in use)
- WC3: 1,000 gpm
- WC4: 1,300 gpm (capacity of 1,700 gpm)
- WC5: 1,000 gpm

Because these pumping rates are consistent with historical trends, the Five Points PCE plume is not expected to migrate counter to the current conceptual site model. Reports from the municipalities indicate that PCE was not detected in the Bountiful Well (last sampled in March 2017), New Well, or the 1100 North Well. PCE was detected in WC#4 at 1.5 µg/L in May 2018 and the Honey Well at 1.8 µg/L in April 2018.

We appreciate the continued opportunity to provide professional services to your agency. If you have any questions regarding this deliverable, please do not hesitate to contact me at (801) 904-4073.

Sincerely,

AECOM

Tammi Messersmith

Tammi Messersmith, PE
Project Manager

cc: Sam Garcia, EPA

Attachments:

Tables:

Table 1 – Five Points PCE and Daughter Product Quarterly Data, May 16, 2018
Table 2 – Five Points PCE Concentrations Over Time

Figures:

Figure 1 – Comprehensive Site Map Showing PCE Plume (August 2012 to May 2018)

Attachments:

Attachment 1 – Field Forms
Attachment 2 – ALS Analytical Data Package and Electronic Data Deliverable for May 16, 2018
Attachment 3 – Data Validation Report
Attachment 4 – Monitoring Well and Water Level/PCE Information and Hydrographs

Tables

Table 1
Five Points PCE and Daughter Product Quarterly Data
May 16, 2018

Sample ID	Sample Depth (ft bgs)	Analyte	Result[1]	(µg/L)
MW-101	158	Tetrachloroethene	**27**	D
		Trichloroethene	0.24	J
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-101[2]	158	Tetrachloroethene	**27**	D
		Trichloroethene	0.23	J
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-103	109	Tetrachloroethene	0.17	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-104	120	Tetrachloroethene	**8.4**	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-105	139	Tetrachloroethene	2.2	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-106D	195	Tetrachloroethene	1.2	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-106I	145	Tetrachloroethene	0.9	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-107D	200	Tetrachloroethene	0.13	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-107I	145	Tetrachloroethene	0.3	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-108D	214	Tetrachloroethene	1.7	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-108I	149	Tetrachloroethene	0.33	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-109D	230	Tetrachloroethene	0.64	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-109I	169	Tetrachloroethene	0.46	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-110D	301	Tetrachloroethene	0.43	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW-110I	208	Tetrachloroethene	<0.50	U
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW1-2004	106	Tetrachloroethene	1.4	
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
MW2-2004	109	Tetrachloroethene	0.17	J
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U
Trip Blank	NA	Tetrachloroethene	<0.50	U
		Trichloroethene	<0.50	U
		cis-1,2-Dichloroethene	<0.50	U
		Vinyl chloride	<0.50	U

Notes:
(1) - Bold values indicate PCE concentrations exceed 5 µg/L
(2) - Field duplicate collected at MW-101
µg/L - Micrograms per liter
bgs - Below ground surface
ft - Feet
PCE - Tetrachloroethene
D - Laboratory diluted sample
U - Below laboratory dectection limit

Table 2
Five Points PCE Concentrations Over Time

Collection Date		09/20/10	01/27/11	11/16/11	11/17/11	02/02/12	04/06/12	05/15/12	08/30/12	09/05/12	11/28/12	02/26/13	01/28/14	05/14/14	08/14/14	11/13/14	02/11/15	02/16/18	05/16/18
Location	**Sample depth (ft bgs) [1]**	**PCE µg/L[2]**																	
MW-101	158 (153-160)	**32**	**30**			**12**		**8.1**	1.4		2.3	2.1	**14**	**9.4**	**24 D**	**18**	**52 DB**	**13 D**	**27 DB**
MW-101	170	**14**																	
MW-101	180	**7.1**																	
MW-102	123	<0.5																	
MW-103	109 (108-116)	0.13	<0.5 U			0.19 U		0.19 J	0.35 J		0.15 J	<0.5	0.14 J	0.16 J	<0.5 U	<0.5 U	0.17 J	0.17 J	0.17 J
MW-104	120 (119-120)		**19**			**26**		**14**	**18**		**14**	**21**	**18**	**17**	**14**	**12**	**10**	**5.0**	**8.4**
MW-105	139 (135-146)		0.9			0.76		0.26 J	0.18 J		0.18 J	0.16 J	0.36 J	0.54	1.1	1.3	0.97	2.6	2.2
MW-106S	66		<0.5			<0.5													
MW-106I	145 (145-146)					**9.6**		**7.8**		**8.4**	4.6	**6.7**	**7.3**	4.9	**5.2**	**6.1**	1.8 B	2.0	0.9
MW-106D	195 (192-197)					1		1.2 J	2.2		2.1	2.7	2.2	2.7	2	2.2	0.64 B	0.38 J	1.2
MW-107S	66		<0.5			<0.5													
MW-107I	145 (145)					1.2		1	1.1		1.2	1.2	1.3	0.36 J	0.87	1.1	0.94 B	0.5	0.3 J
MW-107D	200 (200-203)					1.4		1.3	1.7		1.5	2.3	1.7	1.3	1.5	2	0.89 B	2.0	0.13 J
MW-108I	149 (149)								1		0.71	0.88	0.93	0.78	1.1	1.1	0.98 B	0.35 J	0.33 J
MW-108D	214 (214)								**7.2 J**		4.7	**6.5**	**5.9**	**6.6**	**5.5**	**5.5**	4.9 B	3.0	1.7
MW-109I	169 (167-169)								0.59		1.2	1.5	1	1.2	0.38 J	1.7	0.36 JB	0.73	0.46 J
MW-109D	218 (215-230)								0.26 J		0.21 J	0.6	0.66	0.83	0.84	0.69	0.58 B	0.98	0.64
MW-110I	207 (206-208)								0.3 J		<0.5	0.12 J	<0.5	0.12 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
MW-110D	300 (298-301)								2.2		2.2	2.6	2	0.78	1.2	1.5	0.53 B	0.67	0.43 J
MW-1-2004	108 (101-112)	**9.3**	3.6			**39**		**13**	**46**		**22**	**21**	**9.5**	**15**	Dry	Dry	4.7 B	3.7	1.4
MW-2-2004	110 (104-114)	0.73	<0.5 U			0.92		1.5	1.4		1	2.2	0.25 J	0.26 J	Dry	0.34	0.24 JB	0.19 J	0.17 J
WC#2	110				<0.5														
WC#2	128				<0.5														
WC#2	148			<0.5															
WC#2	158			<0.5															
WC#2	180			<0.5															
Freda Well	196						2.8	2.5	3.6		2.5	2.7							
Freda Well	221						2.6 J	**5.4**	3.5		2.8	**5.6**							
Freda Well	336						3.9	3.8	2.8		3	**5.6**							
Freda Well	366						1.6	2.2											
Freda Well	421						2	2.2											

Notes:

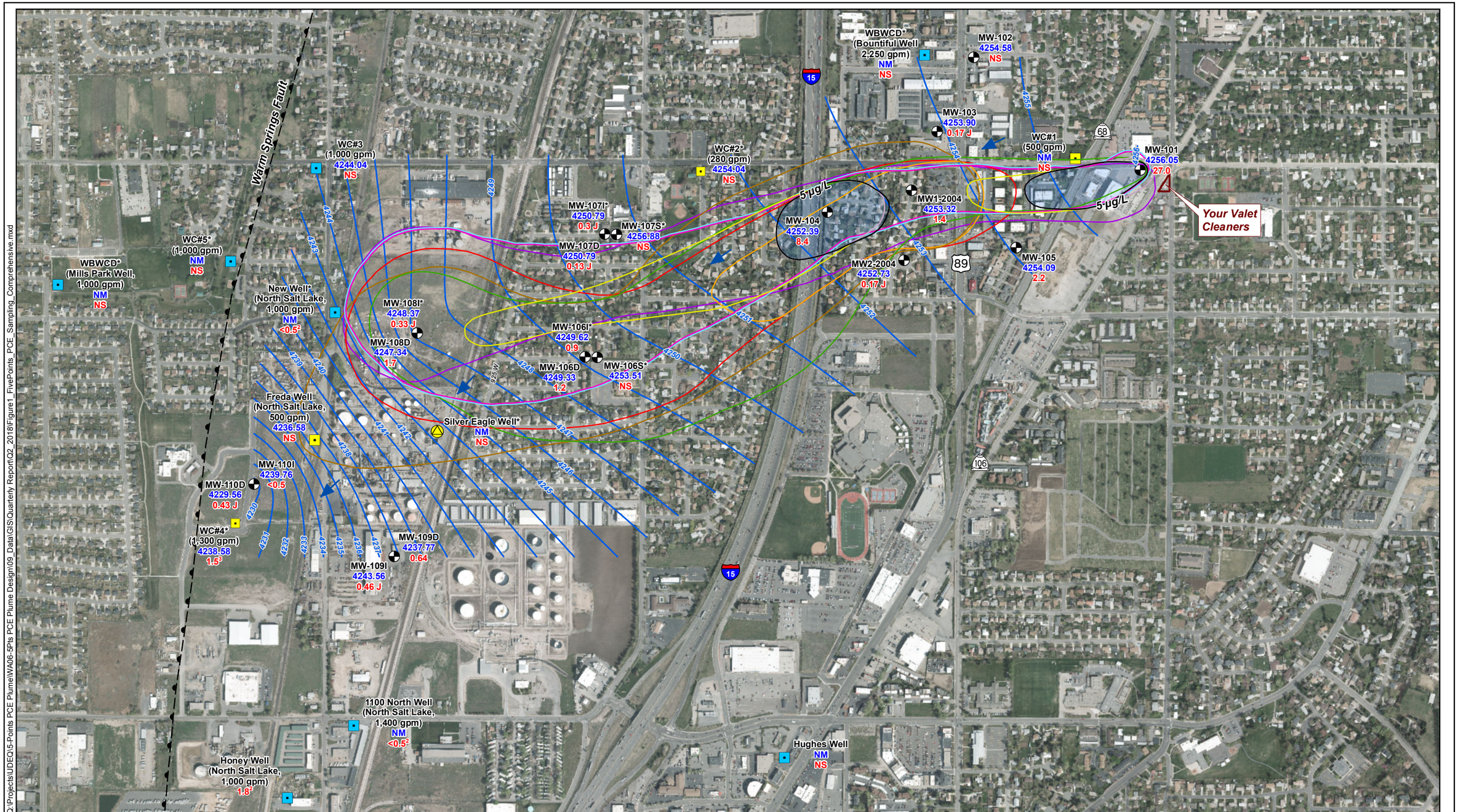
[1] - Most recent depth (historical range in parentheses, excluding most recent depth)

[2] - Bold values indicate PCE concentrations exceed 5 µg/L. Shaded cells indicate the well was not sampled on that date.

PCE - Tetrachloroethene
ft - feet
bgs - below ground surface
µg/L - micrograms per liter

J - Estimated value based on results of the data validation
U - Below laboratory detection limit based on results of the data validation
D - Laboratory diluted samples
B - Analyte was found in the associated method blank
JB - Estimated quantity. Analyte was found in the associated method blank.

Figures



Source Aerial Photograph : ImageService://image.agrc.utah.gov/AerialPhotography_Color/HRO2012_Color6Inch_4Band

Q:\Projects\UDEQ\5-Points PCE Plume\WA06-5Pts PCE Plume Design\09_Data\GIS\Quarterly Report\Q2_2018\Figure1_FivePoints_PCE_Sampling_Comprehensive.mxd

MW-108D
4247.34
1.7

- Monitoring Well
- Groundwater elevation (feet above mean sea level)
- PCE Concentration (µg/L)
- Drinking Water Well
- Drinking Water Well No Longer in Use
- Production Well
- Groundwater Elevation Contour (feet above mean sea level) (May 14, 2018) — 4259
- * - not used in contouring
- Groundwater Flow Direction (Approximate)

PCE Concentrations (May 16, 2018)

Based on HydraSleeve Results

- 5 µg/L
- Approx. PCE Contour May, 2018
- Approx. PCE Contour February 16, 2018
- Approx. PCE Contour February 11, 2015
- Approx. PCE Contour November 13, 2014
- Approx. PCE Contour August 14, 2014
- Approx. PCE Contour May 14, 2014
- Approx. PCE Contour Jan., 2014
- Approx. PCE Contour Feb 26, 2013
- Approx. PCE Contour Nov. 28, 2012
- Approx. PCE Contour Aug. 28, 2012

Notes:
Most recent PCE data shown;
see Table 2 for historical PCE data
[1]Sampled 2-8-18
[2]Sampled 4-20-18
[3]Sampled 5-1-18

Notes:
gpm - gallons per minute
µg/L - micrograms per liter
PCE - tetrachloroethene
NM - not measured
NS - not sampled
ND - non-detect
J - estimated result

N

0 400 800 1,200 Feet

Scale 1:9,600 1 inch = 800 feet

Comprehensive Site Map Showing PCE Plume (August 2012 to May 2018)

Five Points PCE Plume Davis County, Utah

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
ENVIRONMENTAL RESPONSE & REMEDIATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Figure 1

Attachment 1
Field Forms

5-POINTS GROUNDWATER SAMPLING FORM

Monitoring Well	QA/ QC	Sample Date	Sample Time	pH	Temp	Cond	ORP	DO	Comments
MW 1-2004	NA	5/16/18	1010	7.35	16.56	1.494	64.6	6.31	
MW 2-2004	NA	5/16/18	940	7.35	16.58	1.223	63.4	6.63	
MW-101	FD	5/16/18	830/840	7.40	15.78	1.214	56.7	7.98	flushmount damaged, needs repair
MW-103	NA	5/16/18	925	7.26	16.12	1.515	65.3	6.59	
MW 104	NA	5/16/18	1030	7.41	15.91	1.658	59.6	6.98	
MW 105	MS/MSD	5/16/18	900	7.53	15.54	1.584	60.8	7.69	
MW 106i	NA	5/16/18	1045	7.66	17.35	0.989	35.0	2.13	
MW 106d	NA	5/16/18	1100	7.53	16.30	1.196	33.1	6.19	
MW 107i	NA	5/16/18	1120	7.39	16.27	1.428	33.7	6.48	
MW 107d	NA	5/16/18	1140	7.72	15.14	0.955	2.1	2.36	
MW-108I	NA	5/16/18	1215	7.77	16.49	1.323	-38.7	1.15	
MW-108D	NA	5/16/18	1235	7.52	15.53	1.294	-3.4	3.01	
MW-109I	NA	5/16/18	1255	7.59	15.96	1.210	-23.9	4.44	
MW-109D	NA	5/16/18	1315	7.41	16.56	1.293	-5.0	4.30	
MW-110I	NA	5/16/18	1330	7.58	14.74	0.795	-3.3	5.74	
MW-110D	NA	5/16/18	1345	7.57	15.18	0.880	4.7	5.53	

Comments/Notes

LOCK #: 3210

Sampling Personal: [signature]

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NS = Not Sampled

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5-POINTS GROUNDWATER ELEVATION AND HYDRASLEEVE (HS) SET FORM

Monitoring Well	Sample (Yes/No)	Screen Interval (ft BGS)	Water Level Date	Depth to Water (DTW)	Total Depth	Proposed HS Set Depth (top of HS, ft BTOC)	Actual HS Set Depth (top of HS, ft BTOC)	Hydrosleeve Set Date	Hydrosleeve Set Time	QA/QC	Comments
MW 1-2004	Yes	82-112	5/14/18	102.88	110.82	3' Below DTW or at 85 ft if Screen is Flooded	106	5/14/18	822	FD	
MW 2-2004	Yes	90-116	5/14/18	105.93	114.25	3' Below DTW or at 93 ft if Screen is Flooded	109	5/14/18	810	NA	
MW-101	Yes	155-185	5/14/18	145.48	185.12	3' Below DTW or at 158 ft if Screen is Flooded	158	5/14/18	855	NA	
MW-102	No	115-135	5/14/18	109.32	134.10						
MW-103	Yes	105-125	5/14/18	106.07	124.80	3' Below DTW or at 108 ft if Screen is Flooded	109	5/14/18	7.49	NA	
MW 104	Yes	115-135	5/14/18	87.08	135.28	120	120	5/14/18	803	NA	
MW 105	Yes	136-156	5/14/18	130.60	153.09	3' Below DTW or at 139 ft if Screen is Flooded	139	5/14/18	915	MS/MSD	
MW 106s	No	60-70	5/14/18	51.67	62.29						
MW 106I	Yes	138-148	5/14/18	55.54	145.59	145	145	5/14/18	1020	NA	
MW 106d	Yes	188-198	5/14/18	55.84	198.10	195	195	5/14/18	1035	NA	
MW 107s	No	60-70	5/14/18	50.39	60.86						
MW 107i	Yes	138-148	5/14/18	56.10	148.18	145	145	5/14/18	1000	NA	
MW 107d	Yes	193-203	5/14/18	56.16	205.07	200	200	5/14/18	1010	NA	
MW-108I	Yes	140-150	5/14/18	36.09	157.62	149	149	5/14/18	1145	NA	
MW-108D	Yes	204-214	5/14/18	37.13	217.37	214	214	5/14/18	1200	NA	
MW-109I	Yes	160-170	5/14/18	40.83	172.24	169	169	5/14/18	1110	NA	
MW-109D	Yes	210-220	5/14/18	46.65	223.30	230	230	5/14/18	1120	NA	
MW-110I	Yes	198-208	5/14/18	29.70	211.09	208	208	5/14/18	1230	NA	
MW-110D	Yes	292-302	5/14/18	39.91	300+	301	301	5/14/18	1250	NA	
Freda 193-196	No	Multiple	5/14/18	* 38.74	NM						Measure distance from old measuring point
Freda 218-221	No	Multiple									* 0.1 S from pump on water
Freda 333-336	No.	Multiple									probe came up covered in oil
New Well	No										
WC-2	No	Multiple	5/14/18	68.32	NM						measured 5/14/18 by
WC-3	No	220-393	5/14/18	27.60	NM						JD Wahl
WC-4	No	260-380	5/14/18	29.0	NM						

Comments/Notes
TOS = Top of Screen
Update grey highlighted cells based on water level data for current round of sampling. Top of Hydrasleeve should be set at 3 feet below top of water or 3 ft below top of screen if water level indicates the screen is flooded.
LOCK #: 3210

Sampling Personnel: [signature]

Page 1 of 1

NS = Not Sampled

NM = Not Measured

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ALS Environmental
Field Chain-of-Custody Record

CoC #:

Page 1 of 2

Client Name & Address:	Project Name & No.:
AECOM 756 E Winchester St #400 SLC, UT 84107	5 Points PCE 60546131.4
	ALS Quote No: 34.19059
	Report to: Tammi Messersmith
Phone: 801 904 4000	Report to e-mail: tammi.messersmith@aecom.com
e-mail: chris.howell@aecom.com	Bill to: AECOM

Matrix Codes: W) Water B) Bulk L) Liquid F) Filter S) Soil G) Wipe C) Solid M) Media

Preservation Codes: 1) Cool to 4°C 2) HCl to pH<2, 4°C 3) H_2SO_4 to pH<2, 4°C 4) HNO_3 to pH<2, 4°C 5) NaOH to pH>12, 4°C 6) ZnOAc/NaOH to pH>9, 4°C

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: VOC's (SOM 01.2)	Analyses Requested: MS/MSD							Preservation Code	Sample Matrix Code	Remarks
TB-051618			lab prep	2		X								2	W	Trip Blank
5P-MW101-106			5/16/18 830	3		X								2	W	
5P-MW101-106-Y			5/16/18 840	3		X								2	W	
5P-MW105-139			5/16/18 900	9	X	X	X							2	W	MS/MSD
5P-MW103-109			5/16/18 925	3		X								2	W	
5P-MW2-2004-109			5/16/18 940	3		X								2	W	
5P-MW1-2004-106			5/16/18 1010	3		X								2	W	
5P-MW104-120			5/16/18 1030	3		X								2	W	
5P-MW106I-145			5/16/18 1045	3		X								2	W	
5P-MW106D-195			5/16/18 1100	3		X								2	W	

Possible Hazard Identification
- ☐ Non-Hazard ☐ Skin Irritant ☐ Rad
- ☐ Flammable ☐ Poison ☒ Unknown

Sample Disposal
- ☐ Return to Client ☐ Archive _____ Months
- ☒ Disposal by Lab

(fees assessed for samples retained > 3 months)

Data Deliverable:
- ☐ Level 1 ☐ Level 3
- ☐ Level 2 ☒ Level 4

EDD Type:

Requested Turn Around Time
- ☐ 2 Days (Rush) ☐ 7 Days (Rush)
- ☐ 3 Days (Rush) ☒ 14 Days

(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5/16/18	1414	[signature] 05.	16-18	14:17
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

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ALSCoC 4.25.17

4/25/2017

ALS Environmental
Field Chain-of-Custody Record

CoC #:

Client Name & Address: AECOM 756 E. Winchester St #400 SLC, UT 84107

Project Name & No.: 5 Points PCE 60546131.4

ALS Quote No: 34.19059

Report to: Tamri Messersmith

Phone: 801 904 4000

Report to e-mail: tamri.messersmith@aecom.com

e-mail: chris.howell@aecom.com

Bill to: AECOM

Matrix Codes: W) Water B) Bulk L) Liquid F) Filter S) Soil G) Wipe C) Solid M) Media

Preservation Codes: 1) Cool to 4°C 2) HCl to pH<2, 4°C 3) H_2SO_4 to pH<2, 4°C 4) HNO_3 to pH<2, 4°C 5) NaOH to pH>12, 4°C 6) ZnOAc/NaOH to pH>9, 4°C

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: VOC's (SOM 01.2)								Preservation Code	Sample Matrix Code	Remarks
SP-MW107I-145			5/16/18 1120	3		X								2	W	
SP-MW107D-200			5/16/18 1140	3		X								2	W	
SP-MW108I-149			5/16/18 1215	3		X								2	W	
SP-MW108D-214			5/16/18 1235	3		X								2	W	
SP-MW109I-169			5/16/18 1255	3		X								2	W	
SP-MW109D-230			5/16/18 1315	3		X								2	W	
SP-MW110I-205			5/16/18 1330	3		X								2	W	
SP-MW110D-301			5/16/18 1345	3		X								2	W	

Possible Hazard Identification
☐ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☒ Unknown

Sample Disposal
☐ Return to Client ☐ Archive _____ Months
☒ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☒ Level 4
EDD Type:

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☒ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5/16/18	1412	[signature]	05-16-18	14:17
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

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FAX: (801) 268-9992
WEB:www.alsglobal.com

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Attachment 2
ALS Analytical Data Package and Electronic Data Deliverable
For May 16, 2018 Data
(Excel File Included with emailed Deliverable)

Sample Delivery Group (SDG)
Cover Sheet

SDG Number: TV516

Laboratory Name: ALS Laboratory Group (SLC)

Laboratory Code: ALS

Contract No.: 60546131.4

Case No.: 5 Points

Analysis Price: N/A

SDG Turnaround: 21

Modified Analysis Requested: NO

Program: SOM02.4

Modification Reference No.: N/A

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) 5P-MW1-2004-106	7) 5P-MW106D-195	13) 5P-MW109D-230	19)
2) 5P-MW101-106	8) 5P-MW106I-145	14) 5P-MW109I-169	20)
3) 5P-MW101-106-Y	9) 5P-MW107D-200	15) 5P-MW110D-301	21)
4) 5P-MW103-109	10) 5P-MW107I-145	16) 5P-MW110I-208	22)
5) 5P-MW104-120	11) 5P-MW108D-214	17) 5P-MW2-2004-109	23)
6) 5P-MW105-139	12) 5P-MW108I-149	18) TB-051618	24)

5P-MW1-2004-106

First Sample in SDG

TB-051618

Last Sample in SDG

05/16/18

First Sample Receipt Date

05/16/18

Last Sample Receipt Date

Note: *There are a maximum of 20 field samples (excluding PE samples) in an SDG. Attach the TR/COC records to this form in alphanumeric order (the order listed above on this form).*

Signature: /S/ Roxanne Olson

Date: 5/16/2018 4:34:04 PM

(/S/ is an electronic signature that complies with 21 CFR Part 11)

EPA Sample Receipt

Client: AECOM **Contract:** 60546131.4 **Case:** 5 Points **SDG:** TV516 **MOD:** None

Due to Client: Wed, Jun 06, 2018 **TAT:** 21 **Date Reported:** Not Reported **Status:** CLOSED

Workorder Information **Program:** SOM02.4 **Region:** **EDD Level:** 3

Work Order	Received	PR	Fractions
1813654	05/16/18 2:17 PM	No	Volatiles Trace

Sample Information

Lab ID	Client ID	Type	Matrix	VT
1813654001	TB-051618	TRIPBK	Water	X
1813654002	5P-MW101-106	SAM	Water	X
1813654003	5P-MW101-106-Y	SAM	Water	X
1813654004	5P-MW105-139	SAM	Water	X
1813654005	5P-MW105-139MS	MS	Water	X
1813654006	5P-MW105-139MSD	MSD	Water	X
1813654007	5P-MW103-109	SAM	Water	X
1813654008	5P-MW2-2004-109	SAM	Water	X
1813654009	5P-MW1-2004-106	SAM	Water	X
1813654010	5P-MW104-120	SAM	Water	X
1813654011	5P-MW106I-145	SAM	Water	X
1813654012	5P-MW106D-195	SAM	Water	X
1813654013	5P-MW107I-145	SAM	Water	X
1813654014	5P-MW107D-200	SAM	Water	X
1813654015	5P-MW108I-149	SAM	Water	X
1813654016	5P-MW108D-214	SAM	Water	X
1813654017	5P-MW109I-169	SAM	Water	X
1813654018	5P-MW109D-230	SAM	Water	X
1813654019	5P-MW110I-208	SAM	Water	X

Report Parameters = SDG:TV516 Case:<NULL> Region:<NULL>
Mod:<NULL> Workorder:<NULL> BeginDate:<NULL> EndDate:<NULL>
OpenSummary:No SortBy:Case

EPA Sample Receipt

Client: AECOM **Contract:** 60546131.4 **Case: 5 Points** **SDG: TV516** **MOD:** None

Due to Client: Wed, Jun 06, 2018 **TAT:** 21 **Date Reported:** Not Reported **Status: CLOSED**

Sample Information

Lab ID	Client ID	Type	Matrix	VT
1813654020	5P-MW110D -301	SAM	Water	X

Field Samples: 18 **MS: 1** **MSD: 1** **MD:** 0 **PE:** 0

Report Parameters = SDG:TV516 Case:<NULL> Region:<NULL>
Mod:<NULL> Workorder:<NULL> BeginDate:<NULL> EndDate:<NULL>
OpenSummary:No SortBy:Case

2A

1813654

ALS Environmental Field Chain-of-Custody Record

TV516
EPW14027

CoC #:

Page 1 of 2

Client Name & Address:	Project Name & No.:
AECOM 756 E Winchester St #400 SLC, UT 84107	5 Points PCE 60546131.4
	ALS Quote No: 34.19059
	Report to: Tammi Messersmith
Phone: 801 904 4000	Report to e-mail: tammi.messersmith@aecom.com
e-mail: chris.howell@aecom.com	Bill to: AECOM

Matrix Codes: W) Water B) Bulk L) Liquid F) Filter S) Soil G) Wipe C) Solid M) Media

Preservation Codes: 1) Cool to 4°C 2) HCl to pH<2, 4°C 3) H_2SO_4 to pH<2, 4°C 4) HNO_3 to pH<2, 4°C 5) NaOH to pH>12, 4°C 6) ZnOAc/NaOH to pH>9, 4°C

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: VOC's (SOM 2.4 ~~01.2~~)	MS/MSD							Preservation Code	Sample Matrix Code	Remarks
TB-051618			lab prep	2		X								2	W	Trip Blank
5P-MW101-106			5/16/18 830	3		X								2	W	
5P-MW101-106-Y			5/16/18 840	3		X								2	W	
5P-MW105-139			5/16/18 900	9	X	X	X							2	W	MS/MSD
5P-MW103-109			5/16/18 925	3		X								2	W	
5P-MW2-2004-104			5/16/18 940	3		X								2	W	
5P-MW1-2004-106			5/16/18 1010	3		X								2	W	
5P-MW104-120			5/16/18 1030	3		X								2	W	
5P-MW106I-145			5/16/18 1045	3		X								2	W	
5P-MW106D-195			5/16/18 1100	3		X								2	W	

Possible Hazard Identification
☐ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☒ Unknown

Sample Disposal
☐ Return to Client ☐ Archive _____ Months
☒ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☒ Level 4
EDD Type:

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☒ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	5/16/18	1414	[signature] 05-	16-18	14:17
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
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Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

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ALSCoC 4.25.17

4/25/2017

ALS Environmental
Field Chain-of-Custody Record

TV516
EPW14027

CoC #:

Client Name & Address:
AECOM
756 E. Winchester St #400
SLC, UT 84107

Project Name & No.:
5 Points PCE
60546131.4

ALS Quote No:
34.19059

Report to:
Tami Messersmith

Phone:
801 904 4000

Report to e-mail:
tami.messersmith@aecom.com

e-mail:
chris.howell@aecom.com

Bill to:
AECOM

Matrix Codes:
W) Water B) Bulk
L) Liquid F) Filter
S) Soil G) Wipe
C) Solid M) Media

Preservation Codes:
1) Cool to 4°C
2) HCl to pH<2, 4°C
3) H_2SO_4 to pH<2, 4°C
4) HNO_3 to pH<2, 4°C
5) NaOH to pH>12, 4°C
6) ZnOAc/NaOH to pH>9, 4°C

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	VOC's (SOM 01.2)								Preservation Code	Sample Matrix Code	Remarks
5P-MW107I-145			5/16/18 1120	3		X								2	W	
5P-MW107D-200			5/16/18 1140	3		X								2	W	
5P-MW108I-149			5/16/18 1215	3		X								2	W	
5P-MW108D-214			5/16/18 1235	3		X								2	W	
5P-MW109I-169			5/16/18 1255	3		X								2	W	
5P-MW109D-230			5/16/18 1315	3		X								2	W	
5P-MW110I-205			5/16/18 1330	3		X								2	W	
5P-MW110D-301			5/16/18 1345	3		X								2	W	

Analyses Requested

Possible Hazard Identification
☐ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☒ Unknown

Sample Disposal
☐ Return to Client ☐ Archive _____ Months
☒ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☑ Level 4

EDD Type:

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☒ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	5/16/18	1414		05-16-18	14:17
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

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SAMPLE LOG-IN SHEET
FORM DC-1

Lab Name ALS Environmental	Page 1 of 1
Received By (Print Name) Tami Van Tassell	Log-In Date 05/16/2018
Received By (Signature) Tami Van Tassell	
Case Number 5 points / Sample Delivery Group No. TV516	Mod. Ref. No. N/A

Remarks:

1. Custody Seal (s) — Present/Absent* — Intact/Broken*
2. Custody Seal Nos. — N/A
3. Traffic Report/ Chain-of Custody Records or Packing Lists — Present/Absent*
4. Airbill — Airbill/Sticker Present/Absent*
5. Airbill No. — N/A
6. Sample Tags — Present/Absent* — Sample Tag Numbers — Listed/Not Listed on Chain-of-Custody
7. Sample Condition — Intact/Broken*/Leaking*
8. Cooler Temperature Indicator Bottle — Present/Absent*
9. Cooler Temperature — 6°
10. Does information on TR/COCs and sample tags agree? — Yes/No*
11. Date Received at Laboratory — 05/16/2018
12. Time Received — 14:17

	EPA Sample #	Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	TB-051618	1813654 001	VOC-Water
2	5P-MW101-106	002	
3	5P-MW101 106-V	003	
4	5P-MW105 439 AO 5/16/18	004 005 006	
5	5P-MW103-109 AO 5/16/18	007	
6	5P-MW2-2004-106	008	
7	5P-MW1-2004-106	009	
8	5P-MW104-120	010	
9	5P-MW106I-145	011	
10	5P-MW106D-195	012	
11	5P-MW107I-145	013	
12	5P MW107D-200	014	
13	5P-MW108I-149	015	
14	5P-MW108D-214	016	
15	5P-MW109I-169	017	
16	5P-MW109D-230	018	
17	5P-MW110I-208	019	
18	5P-MW110D-301	020	
19			
20			
21			
22			

TVA 05/16/2018

Sample Transfer	
Fraction AO 5/16/18	Fraction AO 5/16/18
Area #	Area #
By	By
On	On

* Contact SMO and attach record of resolution

Reviewed By Joanne Olsen	Logbook No. Not Applicable
Date 5/16/18	Logbook Page No. Not Applicable

SOM02.4
~~SOM02.3~~

FORM DC-2

FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

Lab Name	ALS Environmental		
Lab Code	ALS		
Contract No	EPW14027		
Case No	5Points	SDG No	TV5L6
MA No	N/A		
SOW No	SOM02.4		

All documents delivered in the Complete SDG File must be original documents where possible. (Reference - Exhibit B Section 2.4)

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
1	SDG Cover Page	N/A		✓	
2	Traffic Report/Chain of Custody Record(s)	1	4	✓	
3	Sample Log-In Sheet (DC-1)	5	5	✓	
4	CSF Inventory Sheet (DC-2)	6	10	✓	
5	SDG Narrative	11	13	✓	
Organic Analysis					
Trace Volatiles					
	Quality Control Summary				
6	Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	14	15	✓	
7	Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by the EPA Region)	16	16	✓	
8	Method Blank Summary (Form 4-OR)	17	18	✓	
9	GC/MS Instrument Performance Check (Form 5-OR)	19	21	✓	
10	Internal Standard Area and Retention Summary (Form 8A-OR)	22	23	✓	
	Sample Data	24	163	✓	
11	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)			✓	
12	Tentatively Identified Compounds (Form 1B-OR)			✓	
13	Raw Data for Each Sample:			✓	
	Reconstructed total ion chromatograms (RICs) for each sample			✓	
	Raw spectra and background-subtracted mass spectra of target analytes identified			✓	
	Quantitation reports			✓	
	Mass spectra of all reported TICs with three best library matches			✓	
	Standards Data (All Instruments)	164	205	✓	
14	GC-MS Initial Calibration Data (Form 6A-OR)			✓	
15	RICs and Quantitation Reports for all Standards			✓	
16	Continuing Calibration Verification for GC/MS (Form 7A-OR)			✓	
17	RICs and Quantitation Reports for all Standards			✓	
	Quality Control Data			✓	
18	Performance Check	206	211	✓	
19	Blank Data	212	233	✓	
20	Matrix Spike/Matrix Spike Duplicate Data Form 3A-OR) (if requested by the EPA Region)	234	243	✓	
21	Original Prep and Analysis forms (inc. screening records if applicable)	244	313	✓	

FORM DC-2

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
Low-Medium Volatiles					
	Quality Control Summary				
22	Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	N/A		✓	
23	Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by the EPA Region)			✓	
24	Method Blank Summary (Form 4-OR)			✓	
25	GC/MS Instrument Performance Check (Form 5-OR)			✓	
26	Internal Standard Area and Retention Summary (Form 8A-OR)			✓	
	Sample Data			✓	
27	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)			✓	
28	Tentatively Identified Compounds (Form 1B-OR)			✓	
29	Raw Data for Each Sample:			✓	
	Reconstructed total ion chromatograms (RICs) for each sample			✓	
	Raw spectra and background-subtracted mass spectra of target analytes identified			✓	
	Quantitation reports			✓	
	Mass spectra of all reported TICs with three best library matches			✓	
	Standards Data (All Instruments)			✓	
30	GC-MS Initial Calibration Data (Form 6A-OR)			✓	
31	RICs and Quantitation Reports for all Standards			✓	
32	Continuing Calibration Verification for GC/MS (Form 7A-OR)			✓	
33	RICs and Quantitation Reports for all Standards			✓	
	Quality Control Data			✓	
34	Performance Check			✓	
35	Blank Data			✓	
36	Matrix Spike/Matrix Spike Duplicate Data (if requested by the EPA Region)			✓	
37	Original Prep and Analysis forms or prep and analysis logbook pages (including TCLP/SPLP logs, percent solid determination logs, and screening records if applicable)			✓	
Semivolatiles					
	Quality Control Summary				
38	Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)			✓	
39	Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by the EPA Region)			✓	
40	Method Blank Summary (Form 4-OR)			✓	
41	GC/MS Instrument Performance Check (Form 5-OR)			✓	
42	Internal Standard Area and Retention Time Summary (Form 8A-OR)			✓	

05/31/2018 DH

FORM DC-2

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
	Sample Data				
43	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)	NA		✓	
44	Tentatively Identified Compounds (Form 1B-OR)			✓	
45	Raw Data for Each Sample:			✓	
	Reconstructed total ion chromatograms (RICs) for each sample			✓	
	Raw Spectra and background-subtracted mass spectra of target analytes identified			✓	
	Quantitation Reports			✓	
	Mass Spectra of all reported TICs with three best library matches			✓	
	GPC chromatograms (if GPC is required)			✓	
	Standards Data (All Instruments)			✓	
46	GC-MS Initial Calibration Data (Form 6A-OR)			✓	
47	RICs and Quantitation Reports for all Standards			✓	
48	Continuing Calibration Verification for GC/MS (Form 7A-OR)			✓	
49	RICs and Quantitation Reports for all Standards			✓	
	Quality Control Data			✓	
50	Performance Check			✓	
51	Blank Data			✓	
52	Matrix Spike/Matrix Spike Duplicate Data (if requested by the EPA Region)			✓	
53	Raw GPC Data			✓	
54	For SIM analysis (if requested), at the same sequence as listed above, except for that Form 1B-OR and TIC spectra data which are not required for SIM method.			✓	
55	Original Prep and Analysis forms or prep and analysis logbook pages (including TCLP/SPLP logs, percent solid determination logs, and screening records if applicable)	05/31/2018		✓	
Pesticides					
	Quality Control Summary				
56	Surrogate Recovery (Form 2C-OR)			✓	
57	Matrix Spike/Matrix Spike Duplicate Data (Form 3A-OR for each column			✓	
58	Laboratory Control Sample Recovery (Form 3B-OR for each column			✓	
59	Method Blank Summary (Form 4-OR)			✓	
	Sample Data			✓	
60	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)			✓	
61	Raw Data for Each Sample:			✓	
	Chromatograms (Primary Column)			✓	
	Chromatograms (SecondaryColumn)			✓	
	Quantitation Reports			✓	
	Manual Worksheets			✓	
62	For Pesticides by GC/MS Confirmation:			✓	
	Copies of raw spectra and copies of background-subtracted mass spectra of target analytes (samples & standards)			✓	

FORM DC-2

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
	Standards Data	N/A		✓	
63	Initial calibration of single component analytes (Form 6B-OR and 6C-OR)			✓	
64	Initial calibration of multicomponent analytes (Form 6D-OR and 6E-OR)			✓	
65	Analyte resolution summary (Form 6G-OR)			✓	
66	Pesticide performance evaluation mixture calibration verification summary (Form 7B-OR)			✓	
67	Continuing Calibration Verification Summary (Form 7C-OR)			✓	
68	Multicomponent Continuing Calibration Verification Summary (Form 7D-OR)			✓	
69	Analytical sequence (Form 8B-OR)			✓	
70	Florisil cartridge check (Form 9A-OR)			✓	
71	GPC calibration verification (Form 9B-OR)			✓	
72	Identification summary for single component analytes (Form 10A-OR)			✓	
73	Identification summary for multicomponent analytes (Form 10B-OR)			✓	
74	Chromatograms and Quantitation Reports:			✓	
	A printout of retention times and corresponding peak areas or peak heights			✓	
	Quality Control Data			✓	
75	Blank Data			✓	
76	Matrix Spike/Matrix Spike Duplicate Data			✓	
77	Laboratory control sample			✓	
78	Raw GPC Data			✓	
79	Raw florisil data			✓	
80	Original Prep and Analysis forms or prep and analysis logbook pages (including TCLP/SPLP logs, percent solid determination logs, and screening records if applicable)			✓	
Aroclors					
	Quality Control Summary	DC3/Pg 10			
81	Surrogate Recovery (Form 2C-OR)			✓	
82	Matrix Spike/Matrix Spike Duplicate Data (Form 3A-OR for each column			✓	
83	Laboratory Control Sample Recovery (Form 3B-OR for each column			✓	
84	Method Blank Summary (Form 4-OR)			✓	
	Sample Data			✓	
85	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)			✓	
86	Raw Data for Each Sample:			✓	
	Chromatograms (Primary Column)			✓	
	Chromatograms (SecondaryColumn)			✓	
	Quantitation Reports			✓	
	Manual Worksheets			✓	
87	For Aroclors by GC/MS Confirmation:			✓	
	Copies of raw spectra and copies of background-subtracted mass spectra of target analytes (samples & standards)			✓	

FORM DC-2

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
	Standards Data	NA		✓	
88	Initial calibration of multicomponent analytes (Form 6D-OR, 6E-OR and Form 6F-OR)			✓	
89	Multicomponent Continuing Calibration Verification Summary (Form 7D-OR)			✓	
90	Analytical sequence (Form 8B-OR)			✓	
91	Identification summary for single component analytes (Form 10B-OR)			✓	
92	Chromatograms and Quantitation Reports:			✓	
	A printout of retention times and corresponding peak areas or peak heights			✓	
	Quality Control Data			✓	
93	Blank Data			✓	
94	Matrix Spike/Matrix Spike Duplicate Data			✓	
95	Laboratory control sample			✓	
96	Raw GPC Data			✓	
97	Original Prep and Analysis forms or prep and analysis logbook pages (including TCLP/SPLP logs, percent solid determination logs, and screening records if applicable)			✓	
Additional					
98	EPA Shipping/Receiving Documents	05/31/2018			
	Airbill (no. of Shipments_____)			✓	
	Sample Tags	314	314	✓	
	Sample Log-in Sheet (Lab)			✓	
99	Misc. Shipping/Receiving Records (list all individual records)			✓	
100	Internal lab Sample Transfer Records & Tracking Sheets (describe or list)	315	319	✓	
101	PE/PT Instruction Forms			✓	
102	Other Records (describe or List)			✓	
	Communication logs				

NA

103 Comments:

NA

Completed by:

CLP Lab [signature] (Signature)

Desiree Hill/Doc Control (Print Name/Title) 05/31/2018 (Date)

Audited by:

EPA _____ (Signature)

_____ (Print Name/Title) _____ (Date)

960 W. LeVoy Drive
Salt Lake City, UT 84123
T: +1 801 266 7700
F: +1 801 268 9992
www.alsglobal.com

SDG Administrative Narrative

Contract: EPW14027

Case: 45 POINTS

SDG: TV5L6

WO No(s): 1813654

Cooler # and Temperatures of each (upon receipt)

Cooler Number	N/A	Arrival temperature was	6	°C
Cooler Number		Arrival temperature was		°C
Cooler Number		Arrival temperature was		°C
Cooler Number		Arrival temperature was		°C
Cooler Number		Arrival temperature was		°C
Cooler Number		Arrival temperature was		°C
Cooler Number		Arrival temperature was		°C
Cooler Number		Arrival temperature was		°C

05/31/2018
DH

Communications:

The sample receipt for this Case/SDG is compliant with EPA CLP SOW requirements.

Comments:

None

Signature: Desiree Hee
Document Control Officer

Date: 05/31/2018

SDG Narrative
Trace Volatiles

Contract: EPW14027
Laboratory: ALS Environmental
Modification Reference Number: N/A

Case: 5 Points
SDG: TV516

Client No.	ALS Sample	pH	Dilution	Client No.	ALS Sample	pH	Dilution
5P-MW101-106	1813654002	1	1:1	5P-MW107D-200	1813654014	1	1:1
5P-MW101-106DL	1813654002DL	1	1:2	5P-MW107I-145	1813654013	1	1:1
5P-MW101-106-Y	1813654003	1	1:1	5P-MW108D-214	1813654016	1	1:1
5P-MW101-106-YDL	1813654003DL	1	1:2	5P-MW108I-149	1813654015	1	1:1
5P-MW103-109	1813654007	1	1:1	5P-MW109D-230	1813654018	1	1:1
5P-MW104-120	1813654010	1	1:1	5P-MW109I-169	1813654017	1	1:1
5P-MW105-139	1813654004	1	1:1	5P-MW110D-301	1813654020	1	1:1
5P-MW105-139MS	1813654005	1	1:1	5P-MW110I-208	1813654019	1	1:1
5P-MW105-139MSD	1813654006	1	1:1	5P-MW1-2004-106	1813654009	1	1:1
5P-MW106D-195	1813654012	1	1:1	5P-MW2-2004-109	1813654008	1	1:1
5P-MW106I-145	1813654011	1	1:1	TB-051618	1813654001	1	1:1

General SDG Information: Samples were analyzed according to USEPA CLP Statement of Work SOM02.4. There were no modifications except those listed below.

Instrumentation: Agilent 5975-F GC/MSD with electron impact ionization and quadrupole detector scanning a mass range of 35 to 300 amu. Column: Restek Rtx-VMS (30 m, 0.25 mm id, 1.4 µm film). Purge & Trap: OI Analytical Eclipse 4660 Concentrator (#10 trap) with Varian Archon Autosampler. Carrier and Purge Gas: Helium. Purge Flow: ~50 mL/min. at ambient. Temperature Program: 45°C (5.0 min.) 15°/min. to 200° (0 min.) 30°/min to 230° (2.67 min.).

Sample Preparation: This method has no extraction procedure for the water matrix. A 25 mL aliquot of sample was spiked with internal standard/DMC solution and purged.

Instrument Calibration: The GC/MS was hardware tuned to meet the criteria for a 50 ng purging of 4-bromofluorobenzene as specified in the SOW. This tune is valid for 12 hours.

Initial Calibration and Calibration Verification: The five point initial calibration curve met the specified criteria in the SOW. Due to interfering ions, the secondary 130 ion was used in the quantitation of trichloroethene for 5975-F. Occasionally the system will fail to properly integrate a given compound. In these cases (including any listed below) a manual integration may be required. Any manual integration is noted by an "m" footnote on the quantitation report and a graphics page was included to show peak integration. Analytes which required a manual integration are summarized:

Sample	Initial Scan	Final Scan	Analyte

Blank Analysis: Method blanks were prepared using 25 mL of reagent water spiked with internal standard/DMC solution. All blanks were free of volatile organic contaminants within the specifications of the method.

Sample Analysis: All deuterated monitoring compounds and internal standard area responses were within the required acceptance criteria unless otherwise noted on forms II and VIII. All samples were analyzed within ten days of verified sample receipt.

MS/MSD Analysis: Samples 5P-MW105-139MS (1813654005) and 5P-MW105-139MSD (1813654006) were used for MS/MSD analysis.

Miscellaneous Comments: As per the SOW, alkanes were not reported separately but rather were reported as "total alkanes." With regard to the naming of tentatively identified compounds (TICs), spectral matches above 85 percent are reported as a specific isomer unless the analyst has reason to assign a different name. Reasons include but are not limited to previous experience with the compound or an instance where the retention time clearly indicates that a computer generated match is in fact not the compound in question. A specific compound name may be assigned to more than one peak. In any case, TIC naming is tentative and it cannot be assumed that reported compounds and specific isomers are correct. All samples that were analyzed at dilutions were done so in an effort to bring the target analytes in question within linear range of the instruments calibration and to preserve its integrity.

Sample Calculations:

Sample: 5P-MW101-106 Analyte: Tetrachloroethene

VSTD005TF RRF = $\{\frac{(Ax)(Cis)}{(Ais)(Cx)}\}$ e.g. $\{\frac{(294447)(5)}{(898749)(5)}\} = 0.328$

Average RRF = $\{\frac{\sum_{i=1}^{n} Xi}{n}\}$ e.g. $\{\frac{(0.400)+(0.342)+(0.328)+(0.323)+(0.320)}{5}\} = 0.342$

Concentration:

Water = $\{\frac{(Ax)(Iis)(DF)}{(Ais)(ARF)(Vo)}\}$ e.g. $\{\frac{(1899454)(125)(1)}{(846946)(0.342)(25)}\} = 33$ µg/L

Where,
Ax = Area of the characteristic ion of the compound to be measured.
Ais = Area of the characteristic ion of the internal standard.
Cis = Concentration of the internal standard.
Cx = Concentration of the compound to be measured.
Xi = Value.
n = Number of values.
Iis = Amount of internal standard in ng.
ARF = Mean relative response factor from the initial calibration.
Vo = Total volume of water purged in mL.
DF = Dilution factor.

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Matrix: WATER

EPA SAMPLE NO.	DMC1 (VCL)	DMC2 (CLA)	DMC3 (DCE)	DMC4 (BUT)	DMC5 (CLF)	DMC6 (DCA)	DMC7 (BEN)	DMC8 (DPA)	DMC9 (TOL)
5P-MW101-106	107	109	83	96	90	96	98	95	100
5P-MW101-106DL	107	108	85	93	89	99	97	97	99
5P-MW101-106-Y	114	113	84	95	91	97	97	92	98
5P-MW101-106-YDL	113	115	85	93	90	99	98	95	99
5P-MW103-109	108	109	84	108	91	100	98	94	101
5P-MW104-120	102	105	85	104	92	97	99	93	98
5P-MW105-139	108	112	83	92	88	97	99	97	99
5P-MW106D-195	108	107	83	104	89	97	97	95	99
5P-MW106I-145	110	113	84	94	92	96	98	95	99
5P-MW107D-200	110	109	86	100	91	98	99	94	98
5P-MW107I-145	105	104	82	105	90	100	99	96	100
5P-MW108D-214	109	110	86	105	92	100	99	95	100
5P-MW108I-149	103	103	82	99	89	97	97	95	99
5P-MW109D-230	106	104	83	94	90	100	98	95	98
5P-MW109I-169	112	113	84	73	91	95	98	94	99
5P-MW110D-301	106	106	84	100	93	99	100	95	100
5P-MW110I-208	104	110	84	103	92	99	97	98	99
5P-MW1-2004-106	111	110	83	98	91	101	97	95	100
5P-MW2-2004-109	108	111	84	99	90	95	98	95	99
TB-051618	112	111	87	96	94	99	100	97	100
5P-MW105-139MS	102	108	107	84	86	92	100	95	100
5P-MW105-139MSD	105	107	105	102	88	96	96	94	98
VBLKT1	112	110	87	92	91	97	100	96	102
VBLKT2	109	110	83	112	89	101	98	95	99
VHBLKT1	112	112	83	98	91	96	99	95	101

	QC LIMITS
DMC1 (VCL) = Vinyl chloride-d3	(40-130)
DMC2 (CLA) = Chloroethane-d5	(65-130)
DMC3 (DCE) = 1,1-Dichloroethene-d2	(60-125)
DMC4 (BUT) = 2-Butanone-d5	(40-130)
DMC5 (CLF) = Chloroform-d	(70-125)
DMC6 (DCA) = 1,2-Dichloroethane-d4	(70-130)
DMC7 (BEN) = Benzene-d6	(70-125)
DMC8 (DPA) = 1,2-Dichloropropane-d6	(60-140)
DMC9 (TOL) = Toluene-d8	(70-130)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D DMC diluted out

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Matrix: WATER

EPA SAMPLE NO.	DMC10 (TDP)	DMC11 (HEX)	DMC12 (TCA)	DMC13 (DCZ)	DMC14	DMC15	DMC16	DMC17	TOT OUT
5P-MW101-106	83	91	84	100					0
5P-MW101-106DL	84	92	87	100					0
5P-MW101-106-Y	80	87	84	98					0
5P-MW101-106-YDL	83	91	86	100					0
5P-MW103-109	78	94	87	100					0
5P-MW104-120	80	93	88	99					0
5P-MW105-139	82	91	88	99					0
5P-MW106D-195	82	94	86	102					0
5P-MW106I-145	83	90	89	100					0
5P-MW107D-200	76	89	84	99					0
5P-MW107I-145	81	95	87	96					0
5P-MW108D-214	76	92	88	99					0
5P-MW108I-149	74	91	85	99					0
5P-MW109D-230	77	91	86	100					0
5P-MW109I-169	69	79	82	97					0
5P-MW110D-301	76	88	83	101					0
5P-MW110I-208	76	91	87	101					0
5P-MW1-2004-106	79	89	86	99					0
5P-MW2-2004-109	77	88	87	100					0
TB-051618	84	90	87	99					0
5P-MW105-139MS	82	91	85	97					0
5P-MW105-139MSD	80	93	87	100					0
VBLKT1	86	90	87	98					0
VBLKT2	82	98	88	103					0
VHBLKT1	76	87	84	99					0

	QC LIMITS
DMC10 (TDP) = trans-1,3-Dichloropropene-d4	(55-130)
DMC11 (HEX) = 2-Hexanone-d5	(45-130)
DMC12 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(65-120)
DMC13 (DCZ) = 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D DMC diluted out

FORM 3A-OR
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Matrix: WATER

EPA Sample No. (Matrix Spike/Matrix Spike Duplicate): 5P-MW105-139

Instrument ID: 5975-F GC Column: RTX-VMS ID: 0.25 (mm)

Concentration Units (ug/L, mg/L, ug/kg): ug/L

ANALYTE	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %R #	QC LIMITS %R
1,1-Dichloroethene	5.0	0.0	5.6	112	61-145
Trichloroethene	5.0	0.0	5.1	103	71-120
Benzene	5.0	0.0	5.3	105	76-127
Toluene	5.0	0.0	5.4	107	76-125
Chlorobenzene	5.0	0.0	5.0	99	75-130

ANALYTE	SPIKE ADDED	MSD CONCENTRATION	MSD %R #	RPD #	QC LIMITS	
					RPD	%R
1,1-Dichloroethene	5.0	5.8	115	3	0-14	61-145
Trichloroethene	5.0	5.1	102	1	0-14	71-120
Benzene	5.0	5.3	105	0	0-11	76-127
Toluene	5.0	5.3	107	0	0-13	76-125
Chlorobenzene	5.0	5.0	100	0	0-13	75-130

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

FORM 4-OR
METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKT1

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method Trace VOA Level: TRACE

Matrix: WATER Lab Sample ID: 601596

Instrument ID: 5975-F Lab File ID: FQ34BLK

Extraction Type: PT Date Extracted:

GC Column (1): RTX-VMS ID: 0.25 (mm) Date Analyzed: 05/18/2018

GC Column (2): ID: (mm) Time Analyzed: 08:04

Heated Purge: (Y/N) Y Cleanup (Y/N): Cleanup Types:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
TB-051618	1813654001	FQ35F001	05/18/2018
5P-MW101-106DL	1813654002DL	FQ36F002	05/18/2018
5P-MW101-106-YDL	1813654003DL	FQ37F003	05/18/2018
5P-MW105-139	1813654004	FQ38F004	05/18/2018
5P-MW105-139MS	1813654005	FQ39F005	05/18/2018
5P-MW105-139MSD	1813654006	FQ40F006	05/18/2018
5P-MW103-109	1813654007	FQ41F007	05/18/2018
5P-MW2-2004-109	1813654008	FQ42F008	05/18/2018
5P-MW1-2004-106	1813654009	FQ43F009	05/18/2018
5P-MW104-120	1813654010	FQ44F010	05/18/2018
5P-MW101-106-Y	1813654003	FQ45F003	05/18/2018
5P-MW101-106	1813654002	FQ46F002	05/18/2018

FORM 4-OR
METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKT2

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method Trace VOA Level: TRACE

Matrix: WATER Lab Sample ID: 601597

Instrument ID: 5975-F Lab File ID: FQ51BLK

Extraction Type: PT Date Extracted:

GC Column (1): RTX-VMS ID: 0.25 (mm) Date Analyzed: 05/20/2018

GC Column (2): ID: (mm) Time Analyzed: 07:58

Heated Purge: (Y/N) Y Cleanup (Y/N): Cleanup Types:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
5P-MW106I-145	1813654011	FQ52F011	05/20/2018
5P-MW106D-195	1813654012	FQ53F012	05/20/2018
5P-MW107I-145	1813654013	FQ54F013	05/20/2018
5P-MW107D-200	1813654014	FQ55F014	05/20/2018
5P-MW108I-149	1813654015	FQ56F015	05/20/2018
5P-MW108D-214	1813654016	FQ57F016	05/20/2018
5P-MW109I-169	1813654017	FQ58F017	05/20/2018
5P-MW109D-230	1813654018	FQ59F018	05/20/2018
5P-MW110I-208	1813654019	FQ60F019	05/20/2018
5P-MW110D-301	1813654020	FQ61F020	05/20/2018
VHBLKT1	601598	FQ62HBLK	05/20/2018

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBTF

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Lab File ID: FQ23BFB

Instrument ID: 5975-F BFB/DFTPP BFB

GC Column: RTX-VMS ID: 0.25 (mm)

Injection Date: 05/17/2018 Injection Time: 09:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.8
75	30.0 - 80.0% of mass 95	48.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.3 (1.3)
174	50.0 - 120% of mass 95	101.7
175	5.0 - 9.0% of mass 174	8.0 (7.9)
176	95.0 - 101% of mass 174	100.5 (98.8)
177	5.0 - 9.0% of mass 176	6.2 (6.2)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD001TF	VSTD001TF	FQ25S01	05/17/2018	10:36
VSTD005TF	VSTD005TF	FQ26S05	05/17/2018	11:04
VSTD010TF	VSTD010TF	FQ27S10	05/17/2018	11:32
VSTD020TF	VSTD020TF	FQ28S20	05/17/2018	12:00
VSTD0.5TF	VSTD0.5TF	FQ30S005	05/17/2018	13:08
VICVTF	VICVTF	FQ31S05	05/17/2018	13:48

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBT1

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Lab File ID: FQ33S05

Instrument ID: 5975-F BFB/DFTPP BFB

GC Column: RTX-VMS ID: 0.25 (mm)

Injection Date: 05/18/2018 Injection Time: 07:27

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.2
75	30.0 - 80.0% of mass 95	46.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	1.8 (1.8)
174	50.0 - 120% of mass 95	101.0
175	5.0 - 9.0% of mass 174	7.8 (7.7)
176	95.0 - 101% of mass 174	98.8 (97.9)
177	5.0 - 9.0% of mass 176	6.5 (6.6)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD005T1	VSTD005T1	FQ33S05	05/18/2018	07:27
VBLKT1	601596	FQ34BLK	05/18/2018	08:04
TB-051618	1813654001	FQ35F001	05/18/2018	08:42
5P-MW101-106DL	1813654002DL	FQ36F002	05/18/2018	09:10
5P-MW101-106-YDL	1813654003DL	FQ37F003	05/18/2018	09:38
5P-MW105-139	1813654004	FQ38F004	05/18/2018	10:06
5P-MW105-139MS	1813654005	FQ39F005	05/18/2018	10:34
5P-MW105-139MSD	1813654006	FQ40F006	05/18/2018	11:02
5P-MW103-109	1813654007	FQ41F007	05/18/2018	11:30
5P-MW2-2004-109	1813654008	FQ42F008	05/18/2018	11:58
5P-MW1-2004-106	1813654009	FQ43F009	05/18/2018	12:26
5P-MW104-120	1813654010	FQ44F010	05/18/2018	12:53
5P-MW101-106-Y	1813654003	FQ45F003	05/18/2018	13:21
5P-MW101-106	1813654002	FQ46F002	05/18/2018	13:48
VSTD005T2	VSTD005T2	FQ47F05	05/18/2018	14:16

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBT2

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Lab File ID: FQ50S05

Instrument ID: 5975-F BFB/DFTPP BFB

GC Column: RTX-VMS ID: 0.25 (mm)

Injection Date: 05/20/2018 Injection Time: 07:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.9
75	30.0 - 80.0% of mass 95	50.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.9 (0.8)
174	50.0 - 120% of mass 95	104.9
175	5.0 - 9.0% of mass 174	8.5 (8.1)
176	95.0 - 101% of mass 174	101.2 (96.5)
177	5.0 - 9.0% of mass 176	7.4 (7.3)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD005T3	VSTD005T3	FQ50S05	05/20/2018	07:24
VBLKT2	601597	FQ51BLK	05/20/2018	07:58
5P-MW106I-145	1813654011	FQ52F011	05/20/2018	08:42
5P-MW106D-195	1813654012	FQ53F012	05/20/2018	09:10
5P-MW107I-145	1813654013	FQ54F013	05/20/2018	09:38
5P-MW107D-200	1813654014	FQ55F014	05/20/2018	10:05
5P-MW108I-149	1813654015	FQ56F015	05/20/2018	10:33
5P-MW108D-214	1813654016	FQ57F016	05/20/2018	11:00
5P-MW109I-169	1813654017	FQ58F017	05/20/2018	11:28
5P-MW109D-230	1813654018	FQ59F018	05/20/2018	11:56
5P-MW110I-208	1813654019	FQ60F019	05/20/2018	12:23
5P-MW110D-301	1813654020	FQ61F020	05/20/2018	12:51
VHBLKT1	601598	FQ62HBLK	05/20/2018	13:19
VSTD005T4	VSTD005T4	FQ63F05	05/20/2018	13:46

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

EPA Sample No.: VSTD005T1 Lab File ID (Standard): FQ33S05

Instrument ID: 5975-F Init. Calib Date(s): 05/17/2018 05/17/2018

GC Column: RTX-VMS ID: 0.25 (mm) Date Analyzed: 05/18/2018

Heated Purge: (Y/N) Y Time Analyzed: 07:27

	IS1 (CBZ) AREA	RT	IS2 (DFB) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	923362	10.41	1113921	7.17	428697	12.81
UPPER LIMIT	1846724	10.58	2227842	7.34	857394	12.98
LOWER LIMIT	461681	10.24	556961	7.00	214349	12.64
EPA SAMPLE NO.						
VBLKT1	869327	10.41	982165	7.17	369784	12.82
TB-051618	871632	10.41	963267	7.18	364161	12.82
5P-MW101-106DL	872092	10.41	975305	7.18	365078	12.82
5P-MW101-106-YDL	857406	10.41	944019	7.18	349213	12.82
5P-MW105-139	887774	10.41	983462	7.17	360626	12.82
5P-MW105-139MS	903171	10.41	1042202	7.18	372237	12.82
5P-MW105-139MSD	898896	10.41	1017658	7.17	351605	12.82
5P-MW103-109	905219	10.41	991543	7.17	362161	12.82
5P-MW2-2004-109	873215	10.41	963437	7.18	354351	12.82
5P-MW1-2004-106	867643	10.41	960537	7.18	357023	12.82
5P-MW104-120	877300	10.41	967463	7.18	358324	12.82
5P-MW101-106-Y	879511	10.41	951341	7.18	356151	12.82
5P-MW101-106	846946	10.41	940834	7.18	346929	12.82

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = + 0.17 minutes of internal standard RT
RT LOWER LIMIT = - 0.17 minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

EPA Sample No.: VSTD005T3 Lab File ID (Standard): FQ50S05

Instrument ID: 5975-F Init. Calib Date(s): 05/17/2018 05/17/2018

GC Column: RTX-VMS ID: 0.25 (mm) Date Analyzed: 05/20/2018

Heated Purge: (Y/N) Y Time Analyzed: 07:24

	IS1 (CBZ) AREA	RT	IS2 (DFB) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	932572	10.41	1109556	7.17	436950	12.82
UPPER LIMIT	1865144	10.58	2219112	7.34	873900	12.99
LOWER LIMIT	466286	10.24	554778	7.00	218475	12.65
EPA SAMPLE NO.						
VBLKT2	897035	10.41	987266	7.17	367628	12.82
5P-MW106I-145	867677	10.41	979609	7.17	362631	12.82
5P-MW106D-195	887017	10.41	980286	7.17	353276	12.82
5P-MW107I-145	858571	10.41	952093	7.17	360621	12.82
5P-MW107D-200	884319	10.41	970985	7.18	358688	12.82
5P-MW108I-149	862046	10.41	951484	7.17	352950	12.82
5P-MW108D-214	851509	10.41	936313	7.18	348810	12.82
5P-MW109I-169	844495	10.41	936930	7.17	350608	12.82
5P-MW109D-230	875883	10.41	957706	7.18	340293	12.82
5P-MW110I-208	856447	10.41	926494	7.18	340195	12.82
5P-MW110D-301	842262	10.41	925952	7.18	335887	12.82
VHBLKT1	844068	10.41	935029	7.18	342608	12.82

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = + 0.17 minutes of internal standard RT
RT LOWER LIMIT = - 0.17 minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ46F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.24	J
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ46F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	33.	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW101-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ46F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

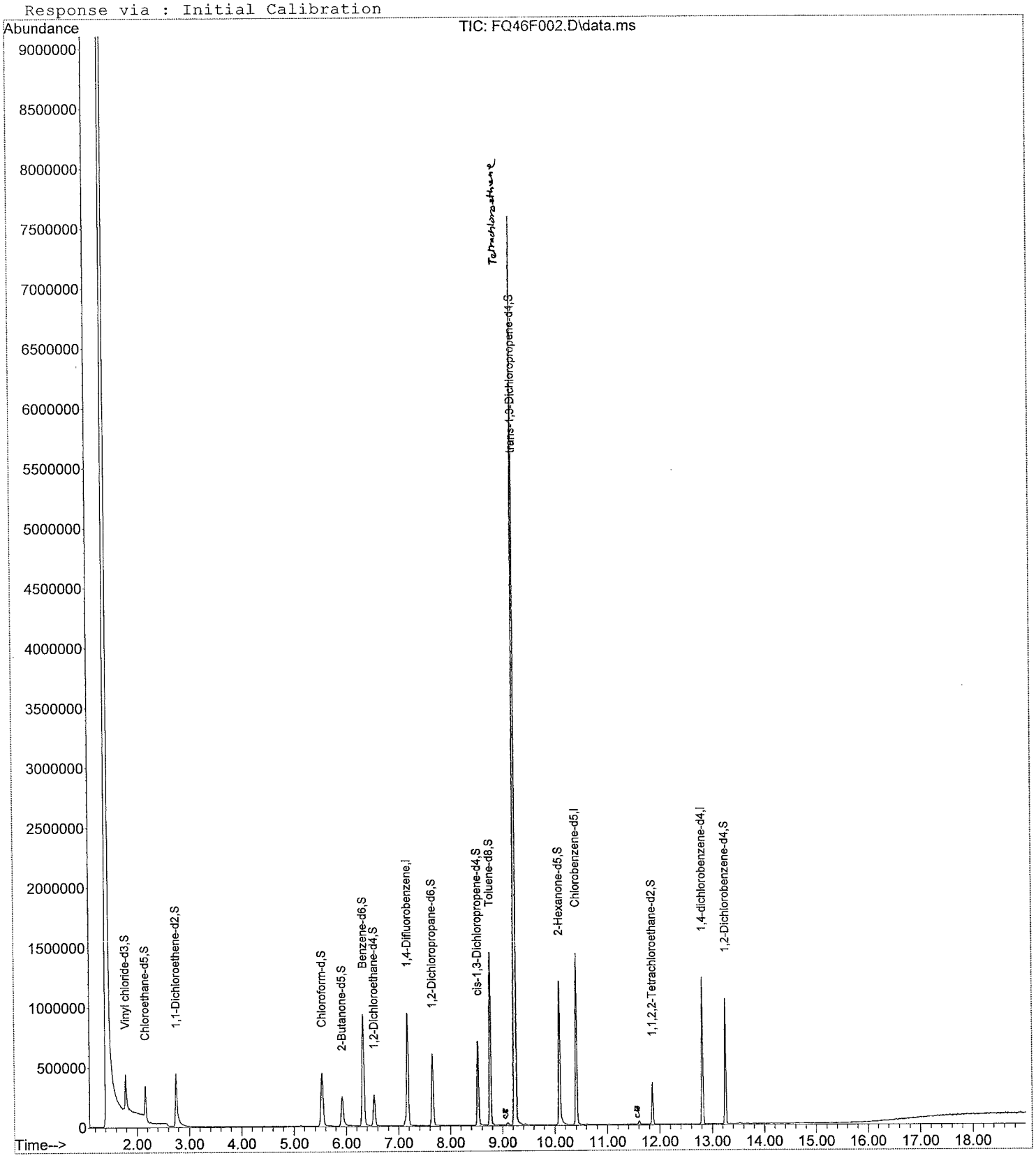
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ46F002.D Vial: 15
Acq Time : 05/18/2018 13:48 Operator: SLS
Sample : 1813654002 5P-MW101-106 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 10:49:46 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ46F002.D Vial: 15
Acq Time : 05/18/2018 13:48 Operator: SLS
Sample : 1813654002 5P-MW101-106 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 10:49:46 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	940834	5.0000 ug/L	88.19
28) Chlorobenzene-d5	10.41	117	846946	5.0000 ug/L	94.24
60) 1,4-dichlorobenzene-d4	12.82	152	346929	5.0000 ug/L	85.81
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	317415	5.3294 ug/L	106.59%
8) Chloroethane-d5	2.16	69	255417	5.4551 ug/L	109.10%
11) 1,1-Dichloroethene-d2	2.75	63	421914	4.1396 ug/L	82.79%
22) 2-Butanone-d5	5.92	46	490645	48.0821 ug/L	96.16%
25) Chloroform-d	5.54	84	535098	4.5067 ug/L	90.13%
27) 1,2-Dichloroethane-d4	6.54	65	225491	4.8207 ug/L	96.41%
33) Benzene-d6	6.33	84	1097676	4.8923 ug/L	97.85%
37) 1,2-Dichloropropane-d6	7.65	67	285760	4.7417 ug/L	94.83%
40) cis-1,3-Dichloropropene-d4	8.52	79	416891	4.3540 ug/L	87.08%
42) trans-1,3-Dichloropropene-	9.26	79	248765	4.1652 ug/L	83.30%
47) Toluene-d8	8.76	98	1019679	4.9995 ug/L	99.99%
50) 2-Hexanone-d5	10.08	63	378491	45.4089 ug/L	90.82%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	159225	4.1754 ug/L	83.51%
65) 1,2-Dichlorobenzene-d4	13.26	152	300302	4.9813 ug/L	99.63%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	7.13	130	16216	0.2377 ug/L #	37
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

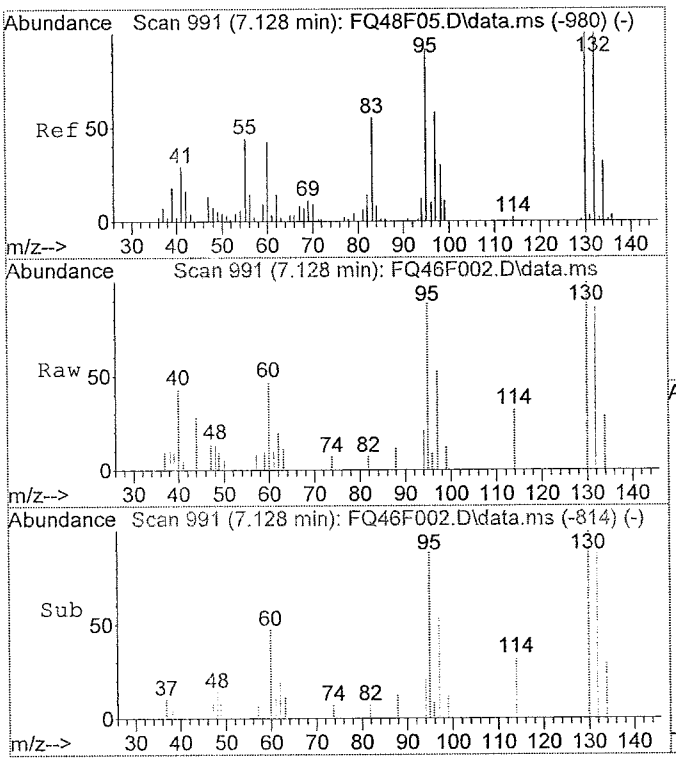
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ46F002.D Vial: 15
Acq Time : 05/18/2018 13:48 Operator: SLS
Sample : 1813654002 5P-MW101-106 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 10:49:46 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	1899454	32.7419 ug/L	91
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

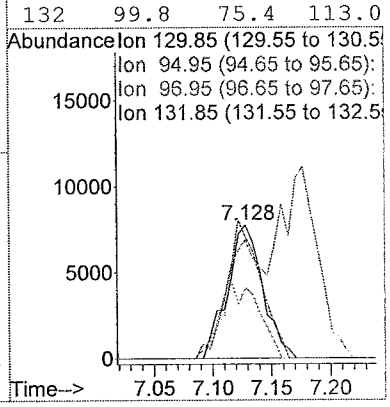
(#) = qualifier out of range (m) = manual integration

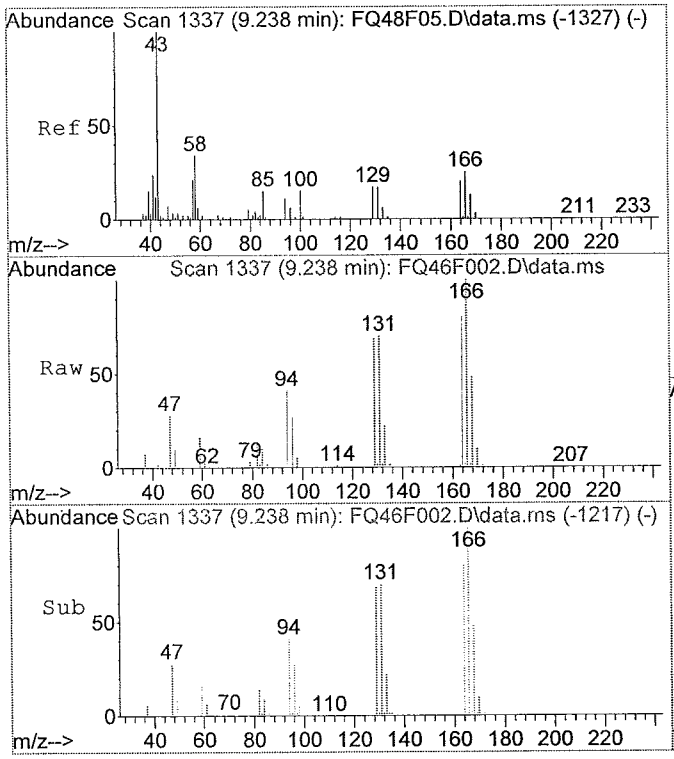


#34
Trichloroethene
Concen: 0.24 ug/L
RT: 7.13 min Scan# 991
Delta R.T. 0.00 min
Lab File: FQ46F002.D
Acq: 05/18/2018 13:48

Tgt Ion:129.85 Resp: 16216

Ion	Ratio	Lower	Upper
130	100		
95	244.9	74.6	112.0#
97	59.3	46.2	69.4
132	99.8	75.4	113.0

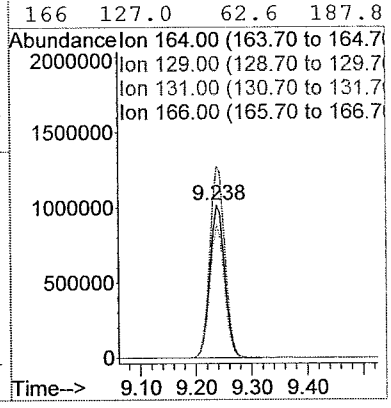




#48
Tetrachloroethene
Concen: 32.74 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FQ46F002.D
Acq: 05/18/2018 13:48

Tgt Ion:164 Resp: 1899454

Ion	Ratio	Lower	Upper
164	100		
129	86.5	49.9	149.6
131	84.6	48.9	146.7
166	127.0	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106DL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ36F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10.	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	10.	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	0.22	JD
108-87-2	Methylcyclohexane	1.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106DL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ36F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-Pentanone	10.	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	27.	D
591-78-6	2-Hexanone	10.	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
95-47-6	o-Xylene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW101-106DL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ36F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 2.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

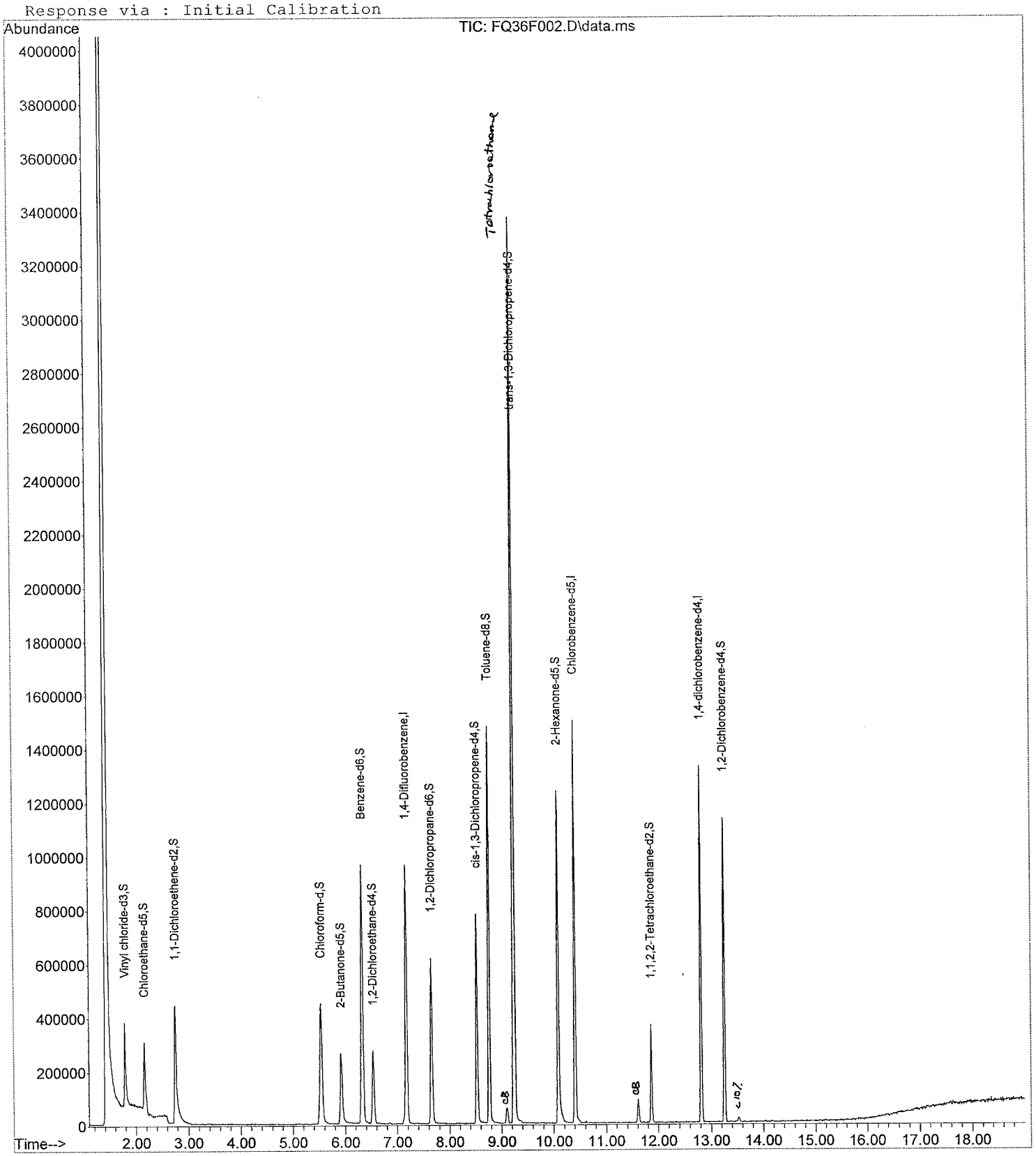
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ36F002.D Vial: 5
Acq Time : 05/18/2018 09:10 Operator: SLS
Sample : 1813654002DL 5P-MW101-106DL (2) Inst : 5975-F
Misc : 1813654 1:2 Dilution Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 10:16:51 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



00034

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ36F002.D Vial: 5
Acq Time : 05/18/2018 09:10 Operator: SLS
Sample : 1813654002DL 5P-MW101-106DL (2) Inst : 5975-F
Misc : 1813654 1:2 Dilution Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 10:16:51 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	975305	5.0000 ug/L	91.42
28) Chlorobenzene-d5	10.41	117	872092	5.0000 ug/L	97.03
60) 1,4-dichlorobenzene-d4	12.82	152	365078	5.0000 ug/L	90.30
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	331072	5.3622 ug/L	107.24%
8) Chloroethane-d5	2.16	69	262006	5.3981 ug/L	107.96%
11) 1,1-Dichloroethene-d2	2.75	63	450890	4.2676 ug/L	85.35%
22) 2-Butanone-d5	5.91	46	494497	46.7468 ug/L	93.49%
25) Chloroform-d	5.54	84	547932	4.4517 ug/L	89.03%
27) 1,2-Dichloroethane-d4	6.54	65	239533	4.9399 ug/L	98.80%
33) Benzene-d6	6.33	84	1126018	4.8739 ug/L	97.48%
37) 1,2-Dichloropropane-d6	7.65	67	300914	4.8492 ug/L	96.98%
40) cis-1,3-Dichloropropene-d4	8.53	79	454696	4.6119 ug/L	92.24%
42) trans-1,3-Dichloropropene-	9.26	79	258853	4.2092 ug/L	84.18%
47) Toluene-d8	8.76	98	1040856	4.9562 ug/L	99.12%
50) 2-Hexanone-d5	10.08	63	395960	46.1350 ug/L	92.27%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	170706	4.3474 ug/L	86.95%
65) 1,2-Dichlorobenzene-d4	13.25	152	318637	5.0227 ug/L	100.45%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	7.12	130	7836	0.1115 ug/L #	1
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

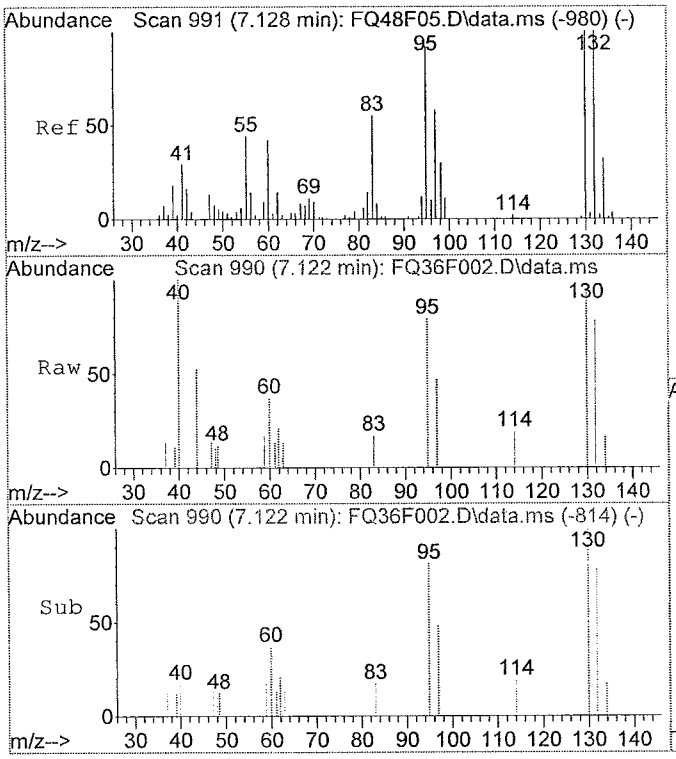
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ36F002.D Vial: 5
Acq Time : 05/18/2018 09:10 Operator: SLS
Sample : 1813654002DL 5P-MW101-106DL (2) Inst : 5975-F
Misc : 1813654 1:2 Dilution Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 10:16:51 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	802366	13.4320 ug/L	92
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

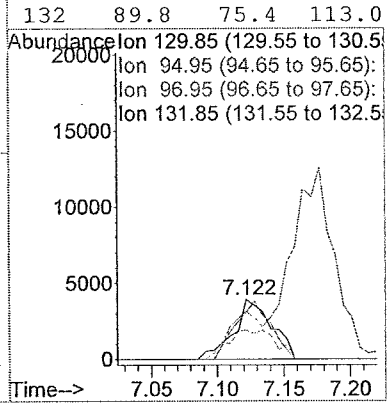
(#) = qualifier out of range (m) = manual integration

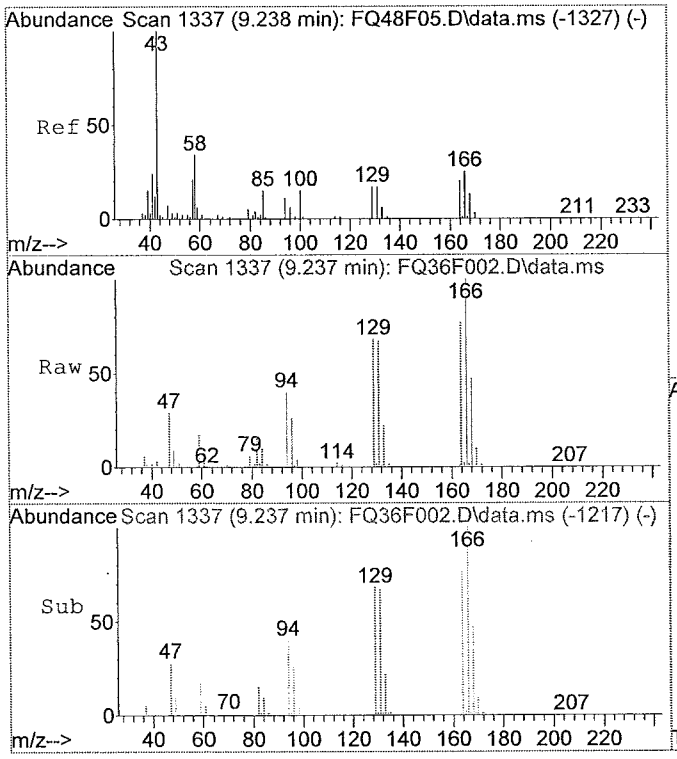


#34
Trichloroethene
Concen: 0.11 ug/L
RT: 7.12 min Scan# 990
Delta R.T. -0.01 min
Lab File: FQ36F002.D
Acq: 05/18/2018 09:10

Tgt Ion:129.85 Resp: 7836

Ion	Ratio	Lower	Upper
130	100		
95	429.7	74.6	112.0#
97	61.2	46.2	69.4
132	89.8	75.4	113.0

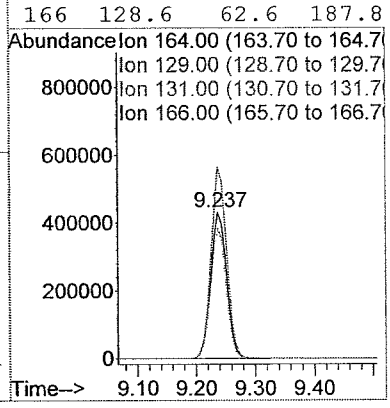




#48
Tetrachloroethene
Concen: 13.43 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FQ36F002.D
Acq: 05/18/2018 09:10

Tgt Ion:164 Resp: 802366

Ion	Ratio	Lower	Upper
164	100		
129	88.1	49.9	149.6
131	86.9	48.9	146.7
166	128.6	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW101-106-Y

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ45F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.23	J
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106-Y

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ45F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	33.	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW101-106-Y

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ45F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

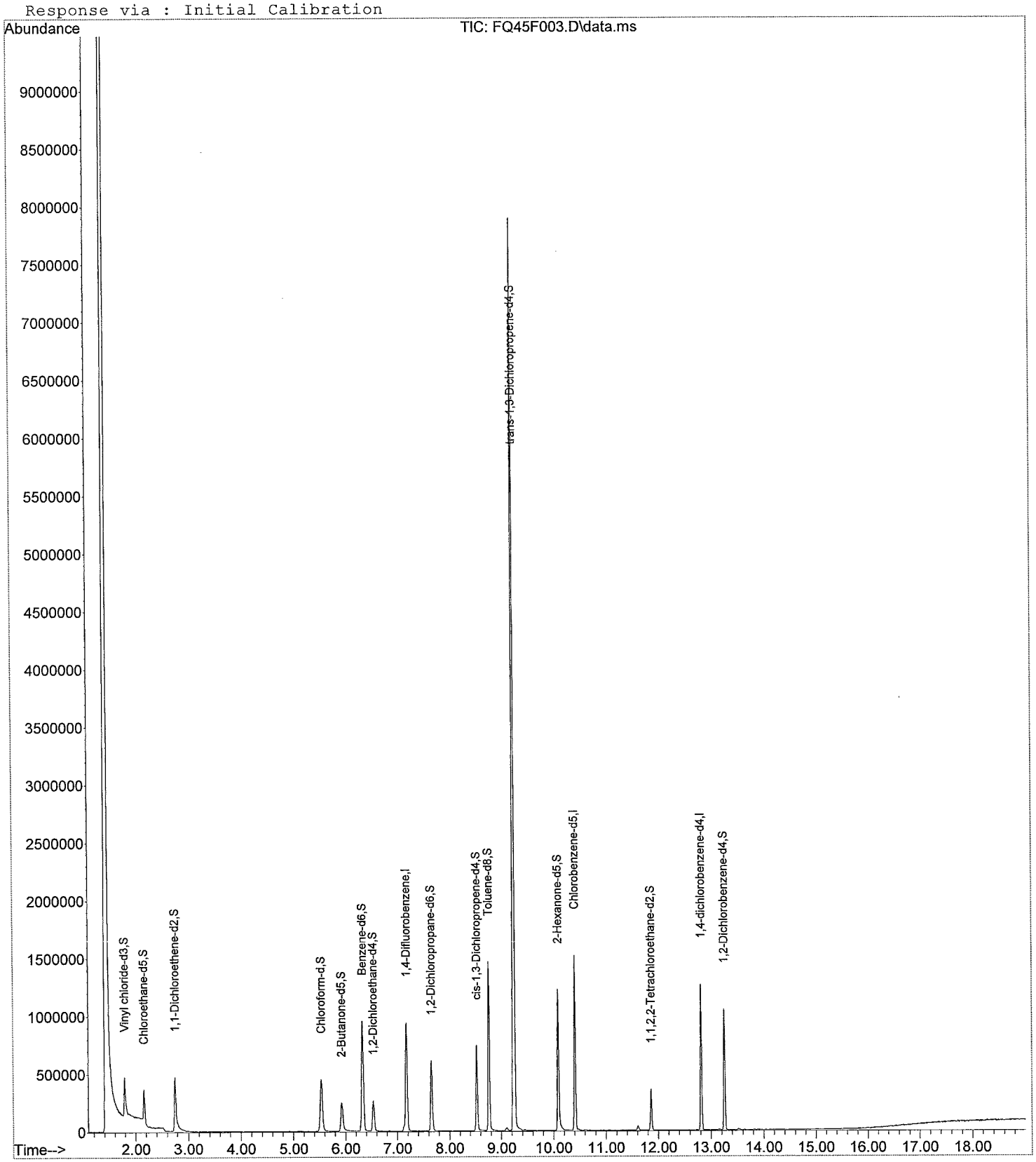
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ45F003.D Vial: 14
Acq Time : 05/18/2018 13:21 Operator: SLS
Sample : 1813654003 5P-MW101-106-Y Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 30 09:11:41 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 30 08:21:17 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ45F003.D Vial: 14
Acq Time : 05/18/2018 13:21 Operator: SLS
Sample : 1813654003 5P-MW101-106-Y Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 30 09:11:41 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	951341	5.0000 ug/L	89.17
28) Chlorobenzene-d5	10.41	117	879511	5.0000 ug/L	97.86
60) 1,4-dichlorobenzene-d4	12.82	152	356151	5.0000 ug/L	88.09
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	341904	5.6772 ug/L	113.54%
8) Chloroethane-d5	2.16	69	267168	5.6431 ug/L	112.86%
11) 1,1-Dichloroethene-d2	2.76	63	433024	4.2017 ug/L	84.03%
22) 2-Butanone-d5	5.92	46	492397	47.7209 ug/L	95.44%
25) Chloroform-d	5.54	84	546780	4.5543 ug/L	91.09%
27) 1,2-Dichloroethane-d4	6.54	65	230169	4.8663 ug/L	97.33%
33) Benzene-d6	6.33	84	1128016	4.8413 ug/L	96.83%
37) 1,2-Dichloropropane-d6	7.65	67	288129	4.6040 ug/L	92.08%
40) cis-1,3-Dichloropropene-d4	8.53	79	430847	4.3332 ug/L	86.66%
42) trans-1,3-Dichloropropene-	9.26	79	248245	4.0026 ug/L	80.05%
47) Toluene-d8	8.76	98	1032885	4.8767 ug/L	97.53%
50) 2-Hexanone-d5	10.09	63	376779	43.5298 ug/L	87.06%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	166019	4.1923 ug/L	83.85%
65) 1,2-Dichlorobenzene-d4	13.26	152	304575	4.9214 ug/L	98.43%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	7.13	130	16347	0.2307 ug/L #	34
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

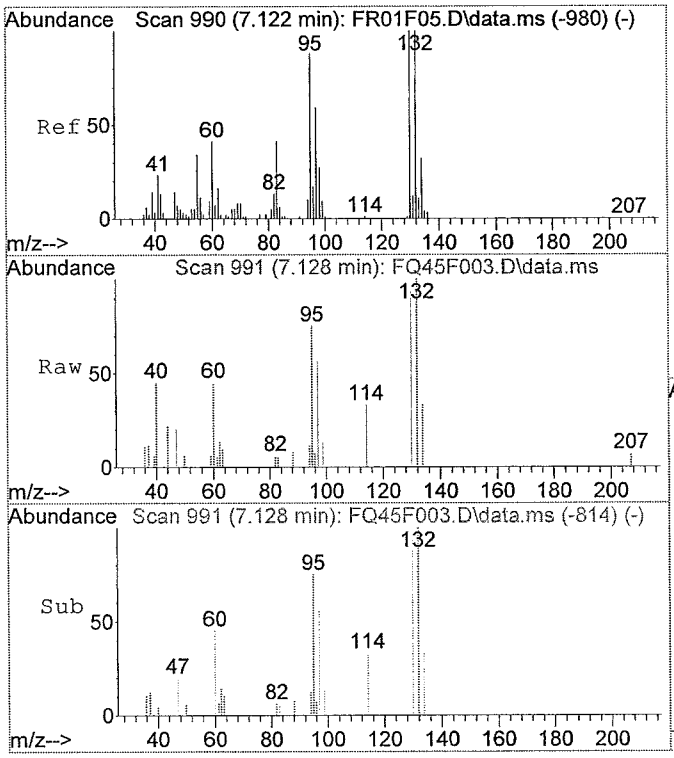
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ45F003.D Vial: 14
Acq Time : 05/18/2018 13:21 Operator: SLS
Sample : 1813654003 5P-MW101-106-Y Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 30 09:11:41 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	1988355	33.0053 ug/L	92
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

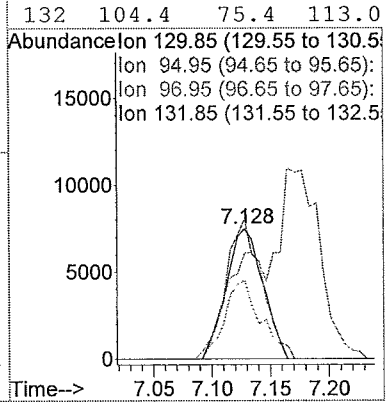
(#) = qualifier out of range (m) = manual integration

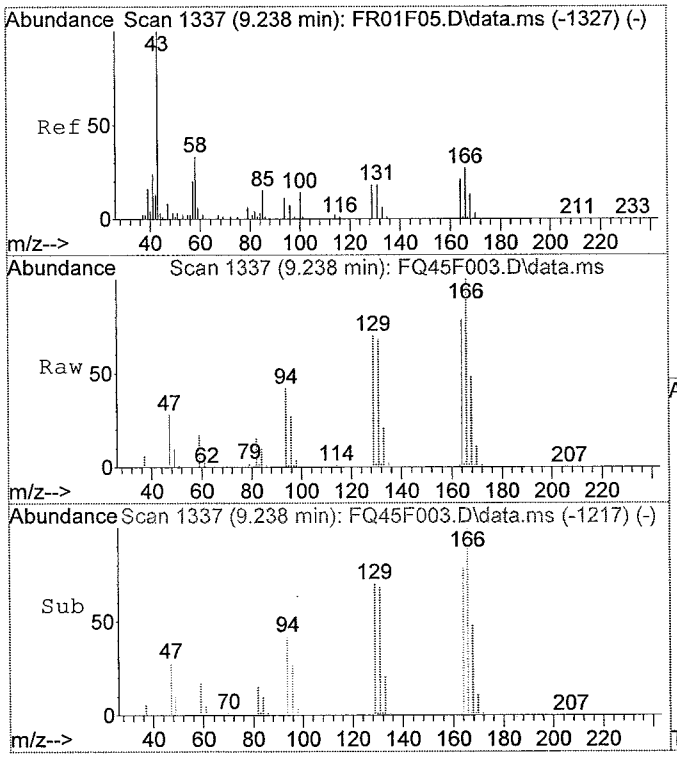


#34
Trichloroethene
Concen: 0.23 ug/L
RT: 7.13 min Scan# 991
Delta R.T. 0.00 min
Lab File: FQ45F003.D
Acq: 05/18/2018 13:21

Tgt Ion:129.85 Resp: 16347

Ion	Ratio	Lower	Upper
130	100		
95	249.8	74.6	112.0#
97	58.6	46.2	69.4
132	104.4	75.4	113.0

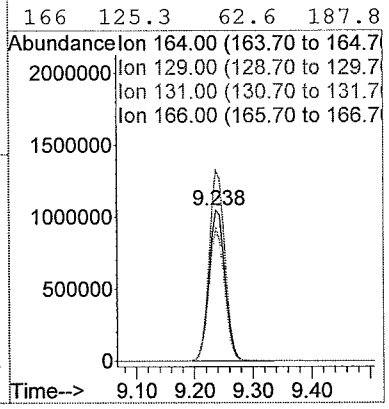




#48
Tetrachloroethene
Concen: 33.01 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ45F003.D
Acq: 05/18/2018 13:21

Tgt Ion:164 Resp: 1988355

Ion	Ratio	Lower	Upper
164	100		
129	86.7	49.9	149.6
131	84.9	48.9	146.7
166	125.3	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW101-106-YDL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ37F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10.	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	10.	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	0.22	JD
108-87-2	Methylcyclohexane	1.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106-YDL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ37F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-Pentanone	10.	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	27.	D
591-78-6	2-Hexanone	10.	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
95-47-6	o-Xylene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW101-106-YDL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ37F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 2.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

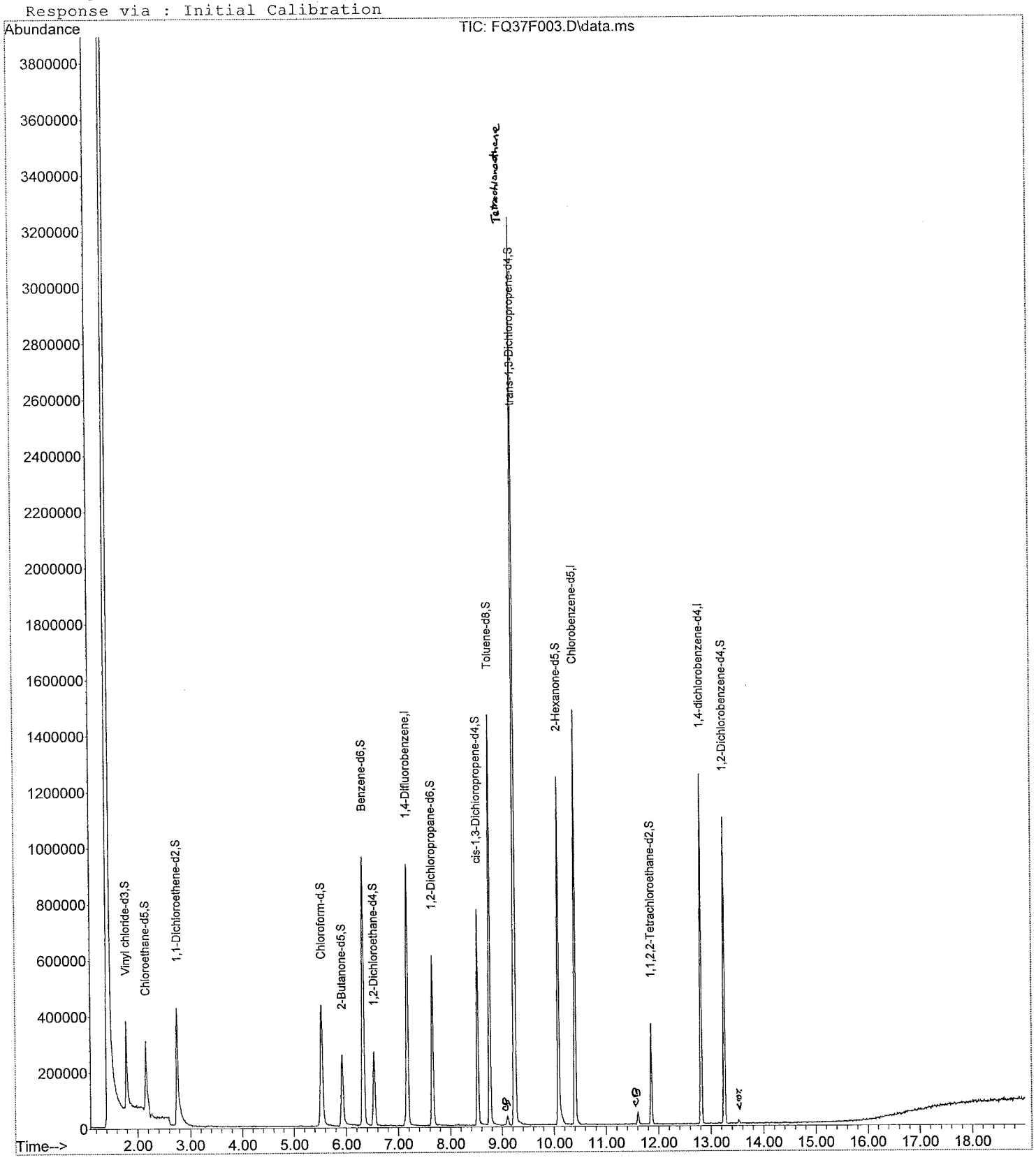
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ37F003.D Vial: 6
Acq Time : 05/18/2018 09:38 Operator: SLS
Sample : 1813654003DL 5P-MW101-106-YDL (2) Inst : 5975-F
Misc : 1813654 1:2 Dilution Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 10:17:28 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ37F003.D Vial: 6
Acq Time : 05/18/2018 09:38 Operator: SLS
Sample : 1813654003DL 5P-MW101-106-YDL (2) Inst : 5975-F
Misc : 1813654 1:2 Dilution Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 10:17:28 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	944019	5.0000 ug/L	88.48
28) Chlorobenzene-d5	10.41	117	857406	5.0000 ug/L	95.40
60) 1,4-dichlorobenzene-d4	12.82	152	349213	5.0000 ug/L	86.37
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	338812	5.6695 ug/L	113.39%
8) Chloroethane-d5	2.16	69	270286	5.7532 ug/L	115.06%
11) 1,1-Dichloroethene-d2	2.75	63	436339	4.2667 ug/L	85.33%
22) 2-Butanone-d5	5.92	46	475340	46.4251 ug/L	92.85%
25) Chloroform-d	5.54	84	536016	4.4992 ug/L	89.98%
27) 1,2-Dichloroethane-d4	6.54	65	231931	4.9416 ug/L	98.83%
33) Benzene-d6	6.33	84	1112007	4.8957 ug/L	97.91%
37) 1,2-Dichloropropane-d6	7.65	67	291169	4.7725 ug/L	95.45%
40) cis-1,3-Dichloropropene-d4	8.52	79	443866	4.5792 ug/L	91.58%
42) trans-1,3-Dichloropropene-	9.26	79	250669	4.1459 ug/L	82.92%
47) Toluene-d8	8.76	98	1025928	4.9687 ug/L	99.37%
50) 2-Hexanone-d5	10.09	63	383112	45.4026 ug/L	90.81%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	166079	4.3020 ug/L	86.04%
65) 1,2-Dichlorobenzene-d4	13.25	152	301981	4.9764 ug/L	99.53%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	7.13	130	7768	0.1125 ug/L #	1
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

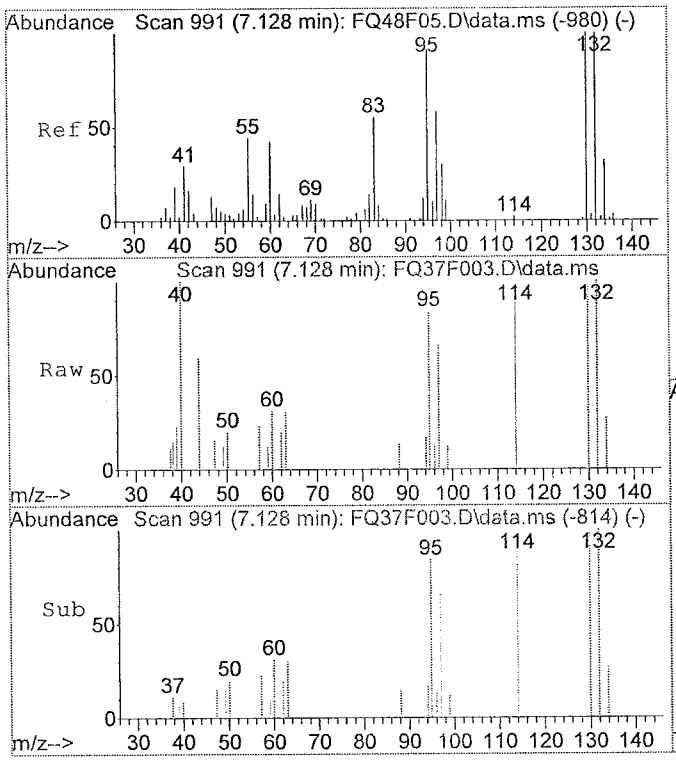
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ37F003.D Vial: 6
Acq Time : 05/18/2018 09:38 Operator: SLS
Sample : 1813654003DL 5P-MW101-106-YDL (2) Inst : 5975-F
Misc : 1813654 1:2 Dilution Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 10:17:28 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	793211	13.5062 ug/L	92
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

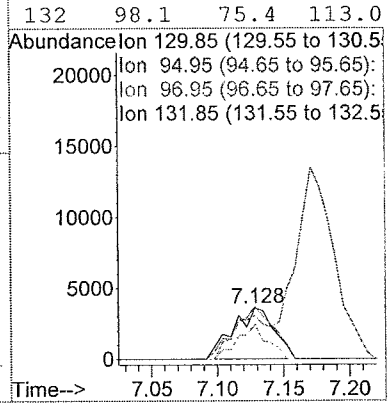
(#) = qualifier out of range (m) = manual integration

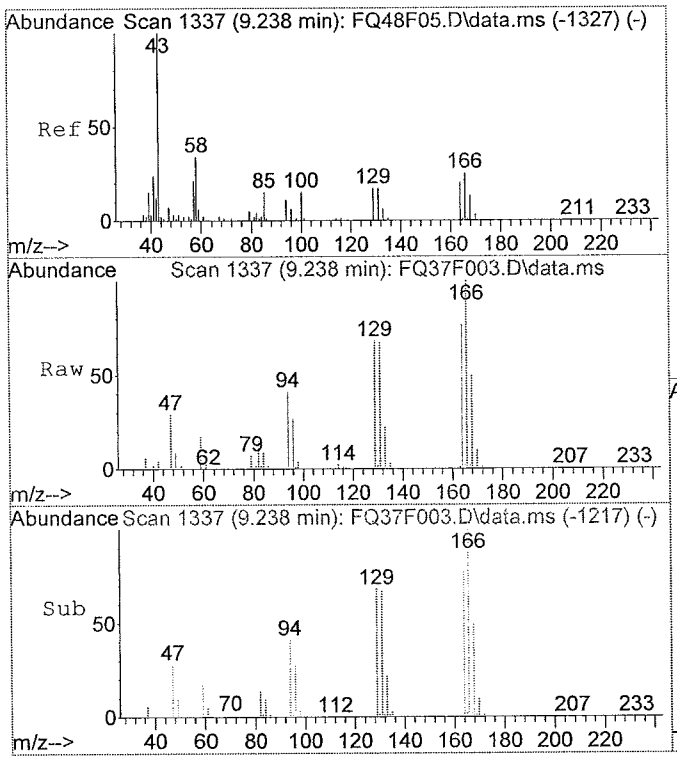


#34
Trichloroethene
Concen: 0.11 ug/L
RT: 7.13 min Scan# 991
Delta R.T. 0.00 min
Lab File: FQ37F003.D
Acq: 05/18/2018 09:38

Tgt Ion:129.85 Resp: 7768

Ion	Ratio	Lower	Upper
130	100		
95	429.7	74.6	112.0#
97	48.0	46.2	69.4
132	98.1	75.4	113.0

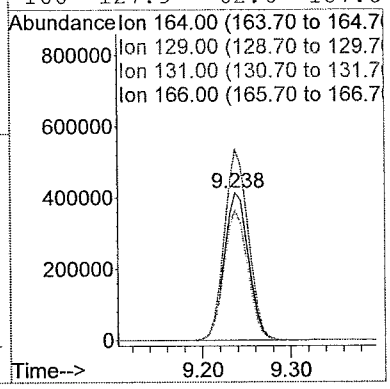




#48
Tetrachloroethene
Concen: 13.51 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ37F003.D
Acq: 05/18/2018 09:38

Tgt Ion:164 Resp: 793211

Ion	Ratio	Lower	Upper
164	100		
129	87.8	49.9	149.6
131	85.9	48.9	146.7
166	127.9	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW103-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ41F007
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW103-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ41F007
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.17	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW103-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ41F007
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

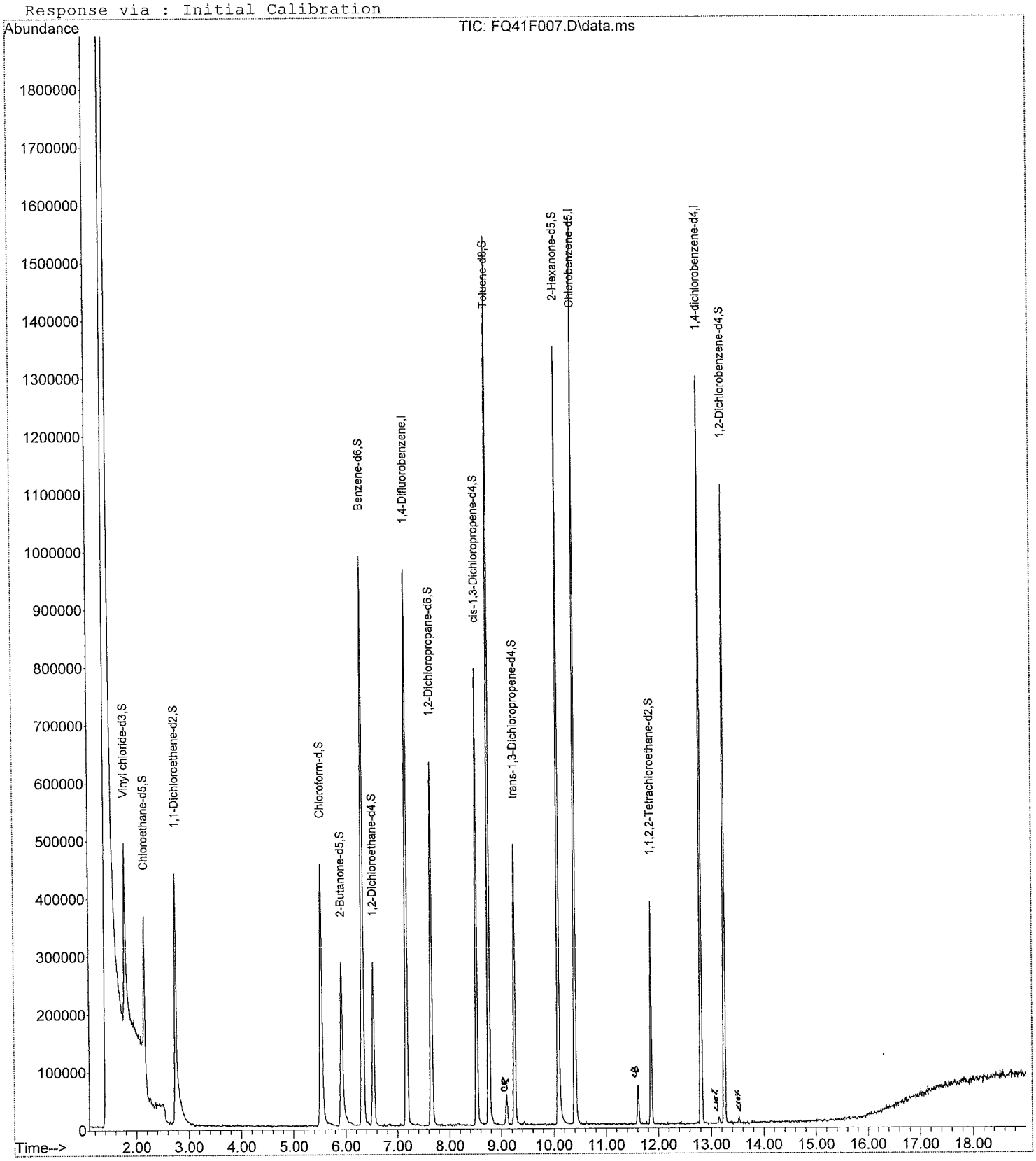
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ41F007.D Vial: 10
Acq Time : 05/18/2018 11:30 Operator: SLS
Sample : 1813654007 5P-MW103-109 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:29:33 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



00055

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ41F007.D Vial: 10
Acq Time : 05/18/2018 11:30 Operator: SLS
Sample : 1813654007 5P-MW103-109 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:29:33 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	991543	5.0000 ug/L	92.94
28) Chlorobenzene-d5	10.41	117	905219	5.0000 ug/L	100.72
60) 1,4-dichlorobenzene-d4	12.82	152	362161	5.0000 ug/L	89.58
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	337600	5.3784 ug/L	107.57%
8) Chloroethane-d5	2.16	69	269143	5.4543 ug/L	109.09%
11) 1,1-Dichloroethene-d2	2.76	63	449208	4.1820 ug/L	83.64%
22) 2-Butanone-d5	5.92	46	581941	54.1124 ug/L	108.22%
25) Chloroform-d	5.54	84	569390	4.5503 ug/L	91.01%
27) 1,2-Dichloroethane-d4	6.54	65	245536	4.9807 ug/L	99.61%
33) Benzene-d6	6.33	84	1174325	4.8969 ug/L	97.94%
37) 1,2-Dichloropropane-d6	7.65	67	303609	4.7136 ug/L	94.27%
40) cis-1,3-Dichloropropene-d4	8.53	79	453134	4.4279 ug/L	88.56%
42) trans-1,3-Dichloropropene-	9.26	79	247820	3.8823 ug/L	77.65%
47) Toluene-d8	8.76	98	1096243	5.0289 ug/L	100.58%
50) 2-Hexanone-d5	10.09	63	417771	46.8949 ug/L	93.79%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	178266	4.3737 ug/L	87.47%
65) 1,2-Dichlorobenzene-d4	13.26	152	315506	5.0134 ug/L	100.27%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

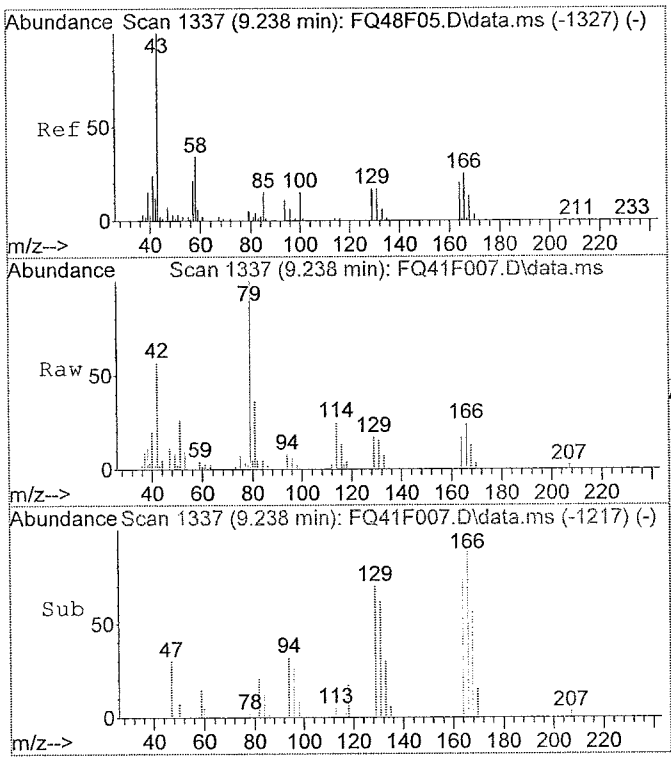
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ41F007.D Vial: 10
Acq Time : 05/18/2018 11:30 Operator: SLS
Sample : 1813654007 5P-MW103-109 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:29:33 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	10843	0.1749 ug/L	89
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

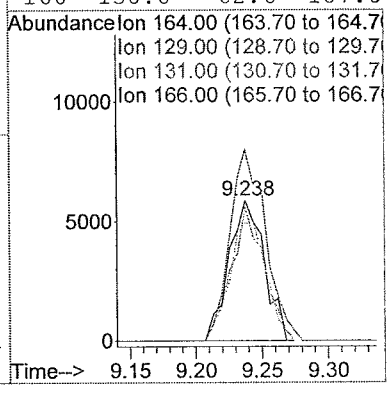
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 0.17 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ41F007.D
Acq: 05/18/2018 11:30

Tgt Ion:164 Resp: 10843

Ion	Ratio	Lower	Upper
164	100		
129	88.7	49.9	149.6
131	89.1	48.9	146.7
166	138.8	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ44F010
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.24	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ44F010
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	8.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ44F010
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

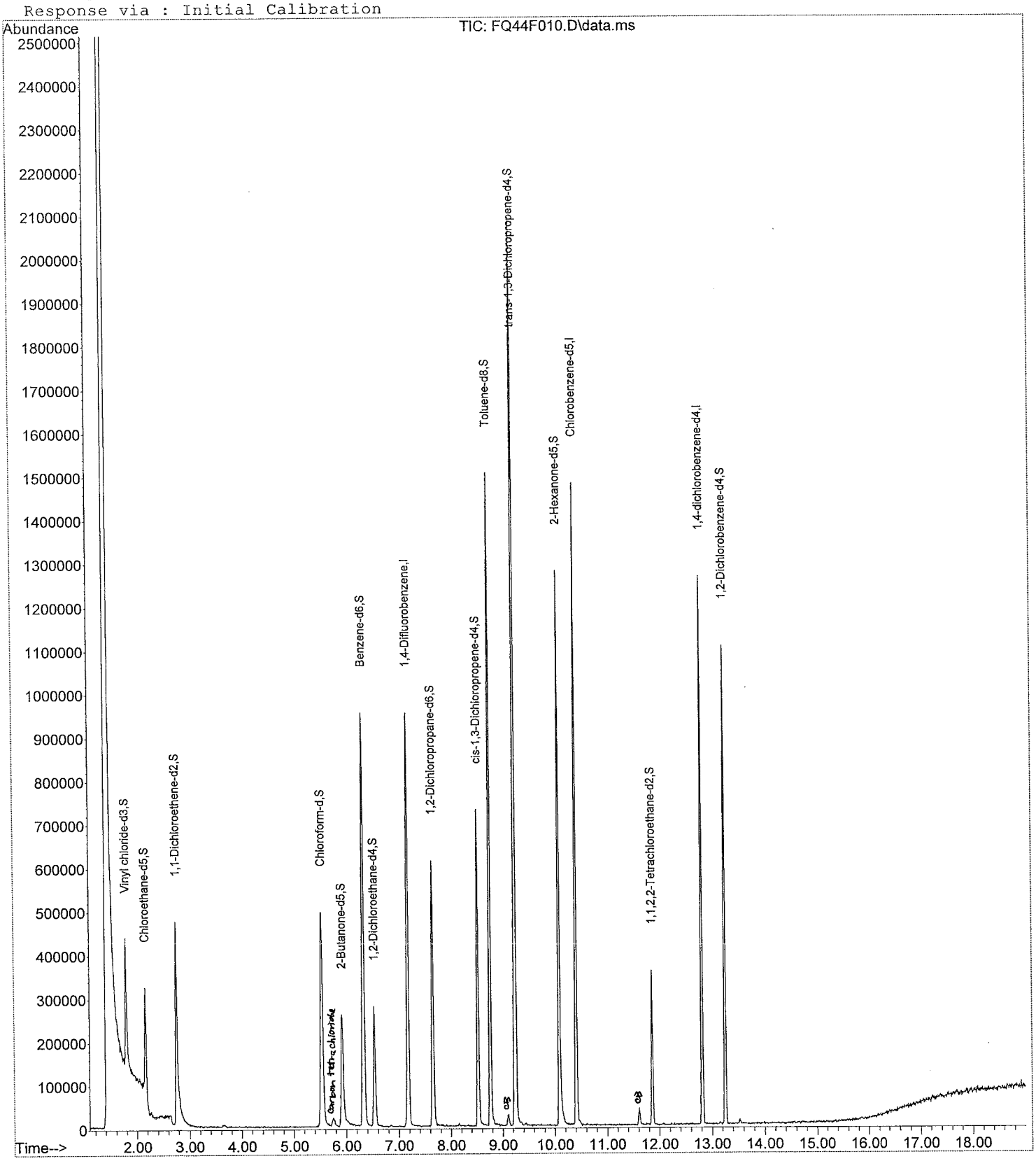
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ44F010.D Vial: 13
Acq Time : 05/18/2018 12:53 Operator: SLS
Sample : 1813654010 5P-MW104-120 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 13:26:05 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ44F010.D Vial: 13
Acq Time : 05/18/2018 12:53 Operator: SLS
Sample : 1813654010 5P-MW104-120 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 13:26:05 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	967463	5.0000 ug/L	90.68
28) Chlorobenzene-d5	10.41	117	877300	5.0000 ug/L	97.61
60) 1,4-dichlorobenzene-d4	12.82	152	358324	5.0000 ug/L	88.63
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	313786	5.1235 ug/L	102.47%
8) Chloroethane-d5	2.16	69	252312	5.2405 ug/L	104.81%
11) 1,1-Dichloroethene-d2	2.76	63	446517	4.2604 ug/L	85.21%
22) 2-Butanone-d5	5.92	46	543465	51.7924 ug/L	103.58%
25) Chloroform-d	5.54	84	562195	4.6046 ug/L	92.09%
27) 1,2-Dichloroethane-d4	6.54	65	233077	4.8457 ug/L	96.91%
33) Benzene-d6	6.33	84	1147901	4.9391 ug/L	98.78%
37) 1,2-Dichloropropane-d6	7.65	67	291005	4.6617 ug/L	93.23%
40) cis-1,3-Dichloropropene-d4	8.52	79	429372	4.3292 ug/L	86.58%
42) trans-1,3-Dichloropropene-	9.26	79	248478	4.0165 ug/L	80.33%
47) Toluene-d8	8.76	98	1039994	4.9227 ug/L	98.45%
50) 2-Hexanone-d5	10.08	63	402865	46.6608 ug/L	93.32%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	174082	4.4070 ug/L	88.14%
65) 1,2-Dichlorobenzene-d4	13.26	152	306825	4.9277 ug/L	98.55%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	5.76	117	18128	0.2445 ug/L #	90
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

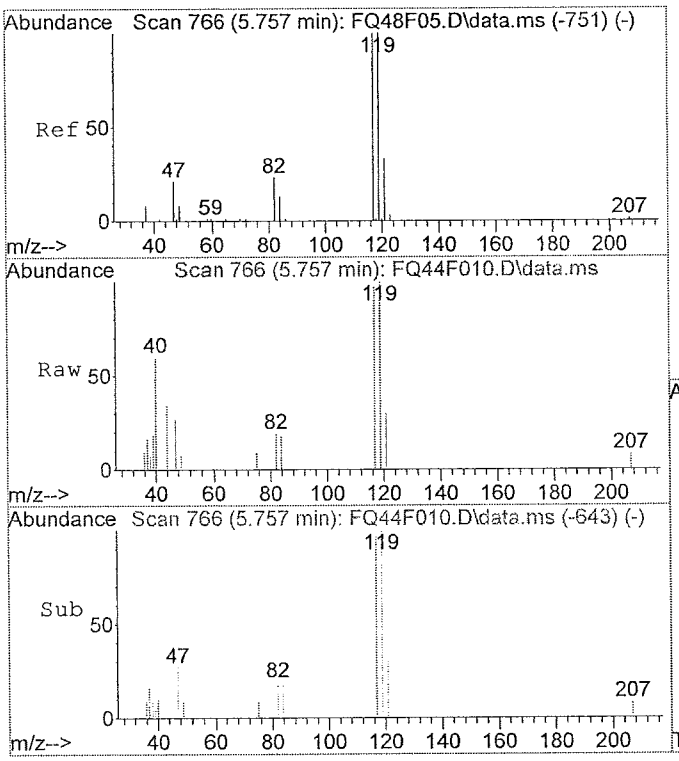
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ44F010.D Vial: 13
Acq Time : 05/18/2018 12:53 Operator: SLS
Sample : 1813654010 5P-MW104-120 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 13:26:05 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	502385	8.3603 ug/L	92
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

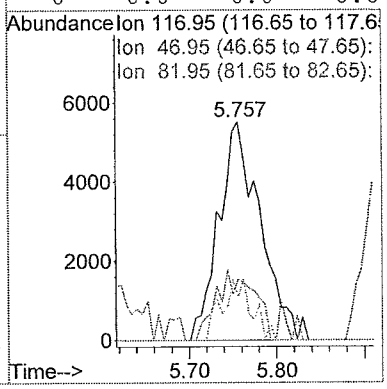
(#) = qualifier out of range (m) = manual integration

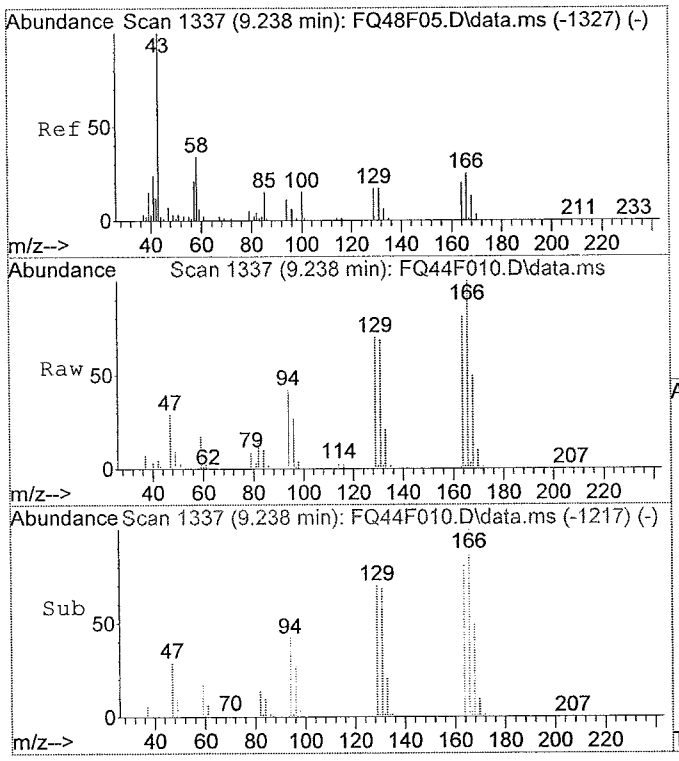


#31
Carbon tetrachloride
Concen: 0.24 ug/L
RT: 5.76 min Scan# 766
Delta R.T. -0.00 min
Lab File: FQ44F010.D
Acq: 05/18/2018 12:53

Tgt Ion:116.95 Resp: 18128

Ion	Ratio	Lower	Upper
117	100		
47	29.2	25.7	38.5
82	20.3	22.7	34.1#
0	0.0	0.0	0.0

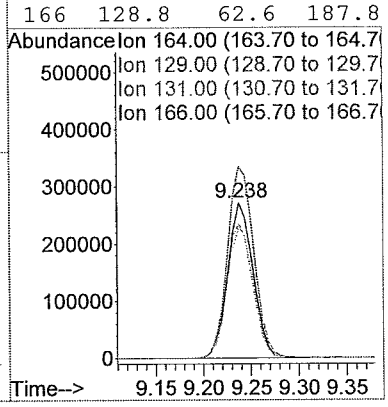




#48
Tetrachloroethene
Concen: 8.36 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FQ44F010.D
Acq: 05/18/2018 12:53

Tgt Ion:164 Resp: 502385

Ion	Ratio	Lower	Upper
164	100		
129	89.3	49.9	149.6
131	86.3	48.9	146.7
166	128.8	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ38F004
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ38F004
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.2	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW105-139

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ38F004
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

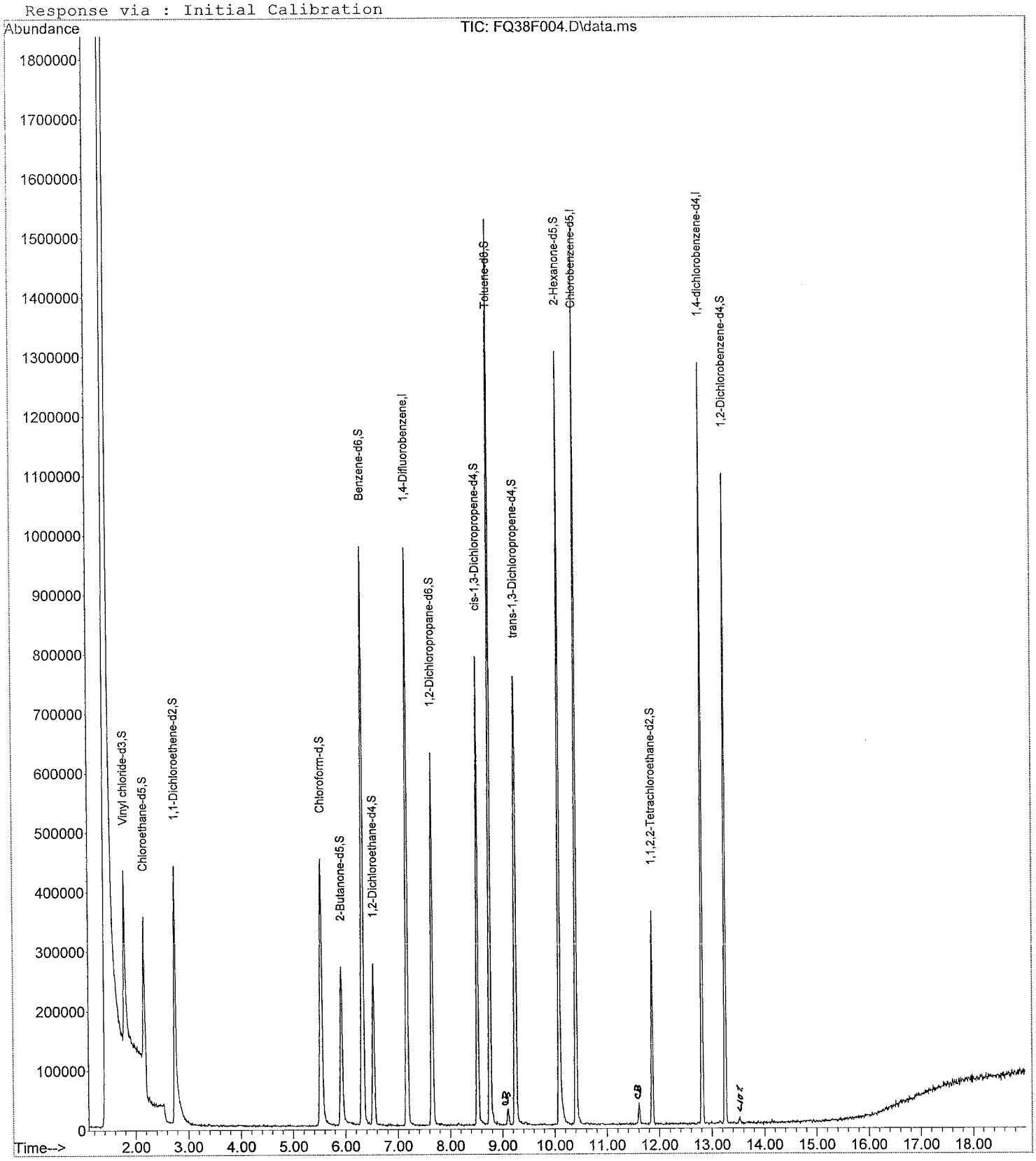
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ38F004.D Vial: 7
Acq Time : 05/18/2018 10:06 Operator: SLS
Sample : 1813654004 5P-MW105-139 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:27:02 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ38F004.D Vial: 7
Acq Time : 05/18/2018 10:06 Operator: SLS
Sample : 1813654004 5P-MW105-139 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:27:02 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	983462	5.0000 ug/L	92.18
28) Chlorobenzene-d5	10.41	117	887774	5.0000 ug/L	98.78
60) 1,4-dichlorobenzene-d4	12.82	152	360626	5.0000 ug/L	89.20
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	336314	5.4020 ug/L	108.04%
8) Chloroethane-d5	2.16	69	274051	5.5994 ug/L	111.99%
11) 1,1-Dichloroethene-d2	2.76	63	442026	4.1490 ug/L	82.98%
22) 2-Butanone-d5	5.92	46	490637	45.9972 ug/L	91.99%
25) Chloroform-d	5.54	84	548864	4.4223 ug/L	88.45%
27) 1,2-Dichloroethane-d4	6.54	65	238329	4.8743 ug/L	97.49%
33) Benzene-d6	6.32	84	1164876	4.9530 ug/L	99.06%
37) 1,2-Dichloropropane-d6	7.65	67	305907	4.8426 ug/L	96.85%
40) cis-1,3-Dichloropropene-d4	8.52	79	459718	4.5805 ug/L	91.61%
42) trans-1,3-Dichloropropene-	9.26	79	257441	4.1123 ug/L	82.25%
47) Toluene-d8	8.76	98	1063168	4.9730 ug/L	99.46%
50) 2-Hexanone-d5	10.09	63	396273	45.3558 ug/L	90.71%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	176304	4.4106 ug/L	88.21%
65) 1,2-Dichlorobenzene-d4	13.26	152	311255	4.9669 ug/L	99.34%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

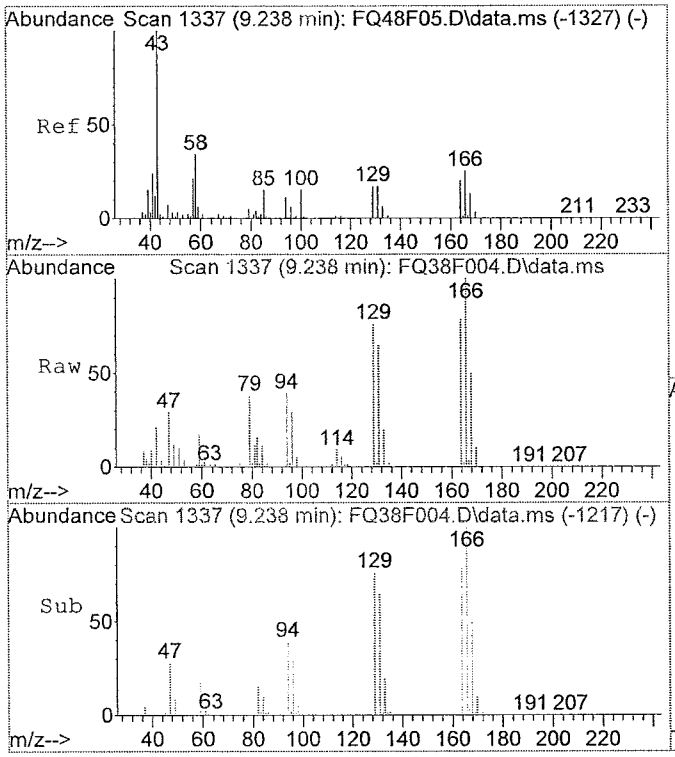
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ38F004.D Vial: 7
Acq Time : 05/18/2018 10:06 Operator: SLS
Sample : 1813654004 5P-MW105-139 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:27:02 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	134742	2.2158 ug/L	91
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

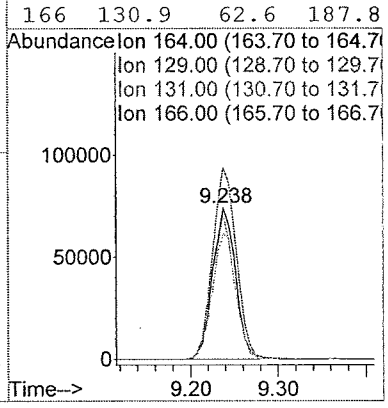
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 2.22 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ38F004.D
Acq: 05/18/2018 10:06

Tgt Ion:164 Resp: 134742

Ion	Ratio	Lower	Upper
164	100		
129	89.1	49.9	149.6
131	85.2	48.9	146.7
166	130.9	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106D-195

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ53F012
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.3	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106D-195

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ53F012
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.2	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW106D-195

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ53F012
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

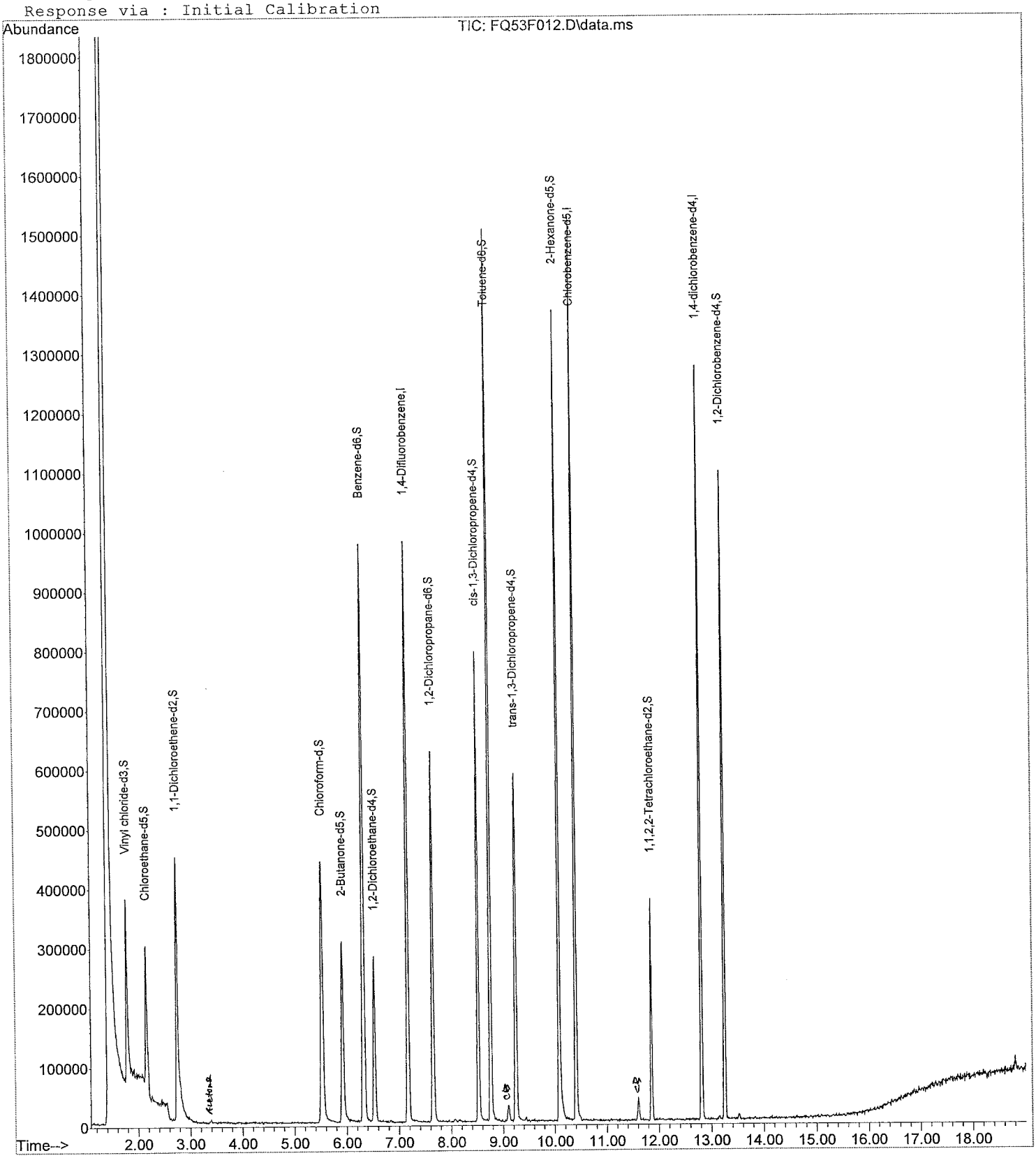
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ53F012.D Vial: 5
Acq Time : 05/20/2018 09:10 Operator: SLS
Sample : 1813654012 5P-MW106D-195 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:33:27 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



00076

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ53F012.D Vial: 5
Acq Time : 05/20/2018 09:10 Operator: SLS
Sample : 1813654012 5P-MW106D-195 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:33:27 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	980286	5.0000 ug/L	91.88
28) Chlorobenzene-d5	10.41	117	887017	5.0000 ug/L	98.69
60) 1,4-dichlorobenzene-d4	12.82	152	353276	5.0000 ug/L	87.38
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.78	65	333588	5.3755 ug/L	107.51%
8) Chloroethane-d5	2.16	69	261178	5.3537 ug/L	107.07%
11) 1,1-Dichloroethene-d2	2.75	63	441130	4.1540 ug/L	83.08%
22) 2-Butanone-d5	5.92	46	553922	52.0985 ug/L	104.20%
25) Chloroform-d	5.53	84	550680	4.4513 ug/L	89.03%
27) 1,2-Dichloroethane-d4	6.54	65	235733	4.8368 ug/L	96.74%
33) Benzene-d6	6.32	84	1141011	4.8557 ug/L	97.11%
37) 1,2-Dichloropropane-d6	7.65	67	300036	4.7537 ug/L	95.07%
40) cis-1,3-Dichloropropene-d4	8.52	79	454230	4.5297 ug/L	90.59%
42) trans-1,3-Dichloropropene-	9.26	79	257947	4.1239 ug/L	82.48%
47) Toluene-d8	8.76	98	1060081	4.9628 ug/L	99.26%
50) 2-Hexanone-d5	10.09	63	411473	47.1358 ug/L	94.27%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	172651	4.3229 ug/L	86.46%
65) 1,2-Dichlorobenzene-d4	13.25	152	313617	5.1087 ug/L	102.17%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	6143	1.2805 ug/L	90
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

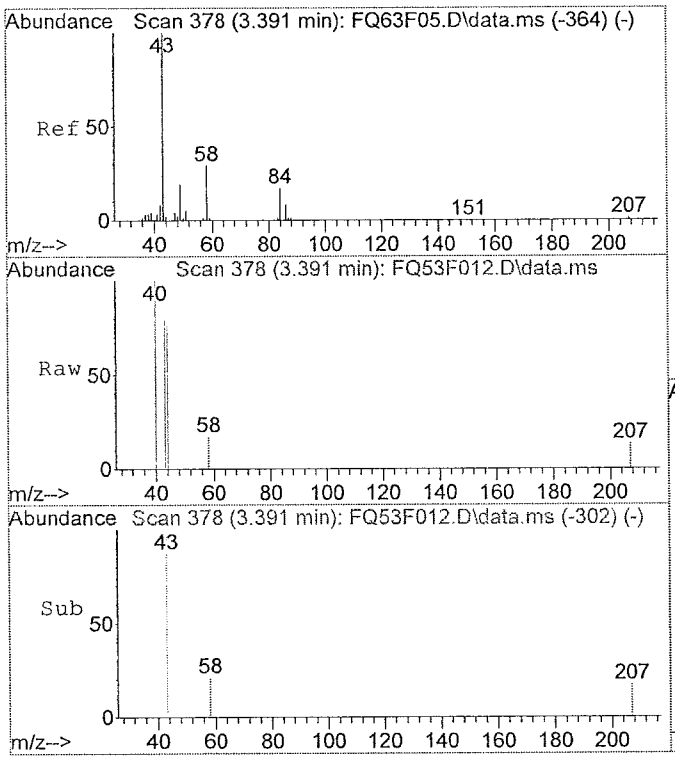
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ53F012.D Vial: 5
Acq Time : 05/20/2018 09:10 Operator: SLS
Sample : 1813654012 5P-MW106D-195 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:33:27 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	72310	1.1901 ug/L	93
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

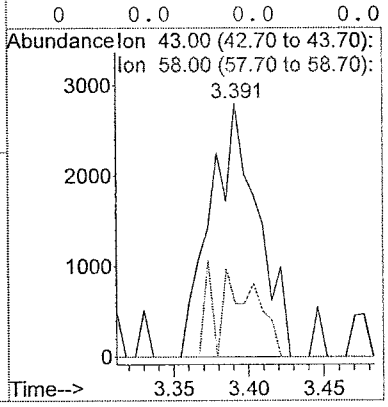
(#) = qualifier out of range (m) = manual integration

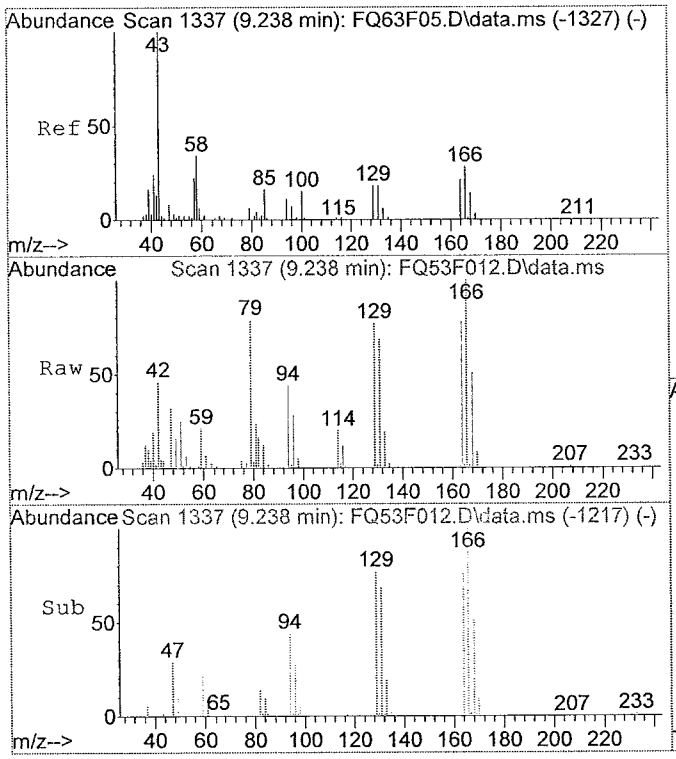


#13
Acetone
Concen: 1.28 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.00 min
Lab File: FQ53F012.D
Acq: 05/20/2018 09:10

Tgt Ion:43 Resp: 6143

Ion	Ratio	Lower	Upper
43	100		
58	29.4	17.8	53.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0

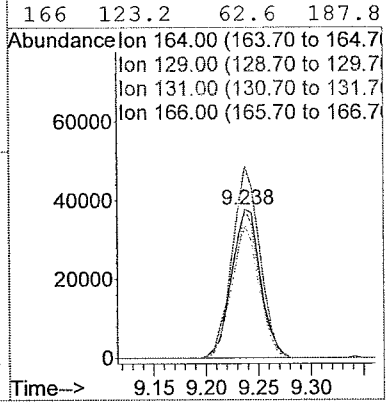




#48
Tetrachloroethene
Concen: 1.19 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ53F012.D
Acq: 05/20/2018 09:10

Tgt Ion:164 Resp: 72310

Ion	Ratio	Lower	Upper
164	100		
129	91.1	49.9	149.6
131	84.7	48.9	146.7
166	123.2	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ52F011
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.5	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ52F011
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.90	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ52F011
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

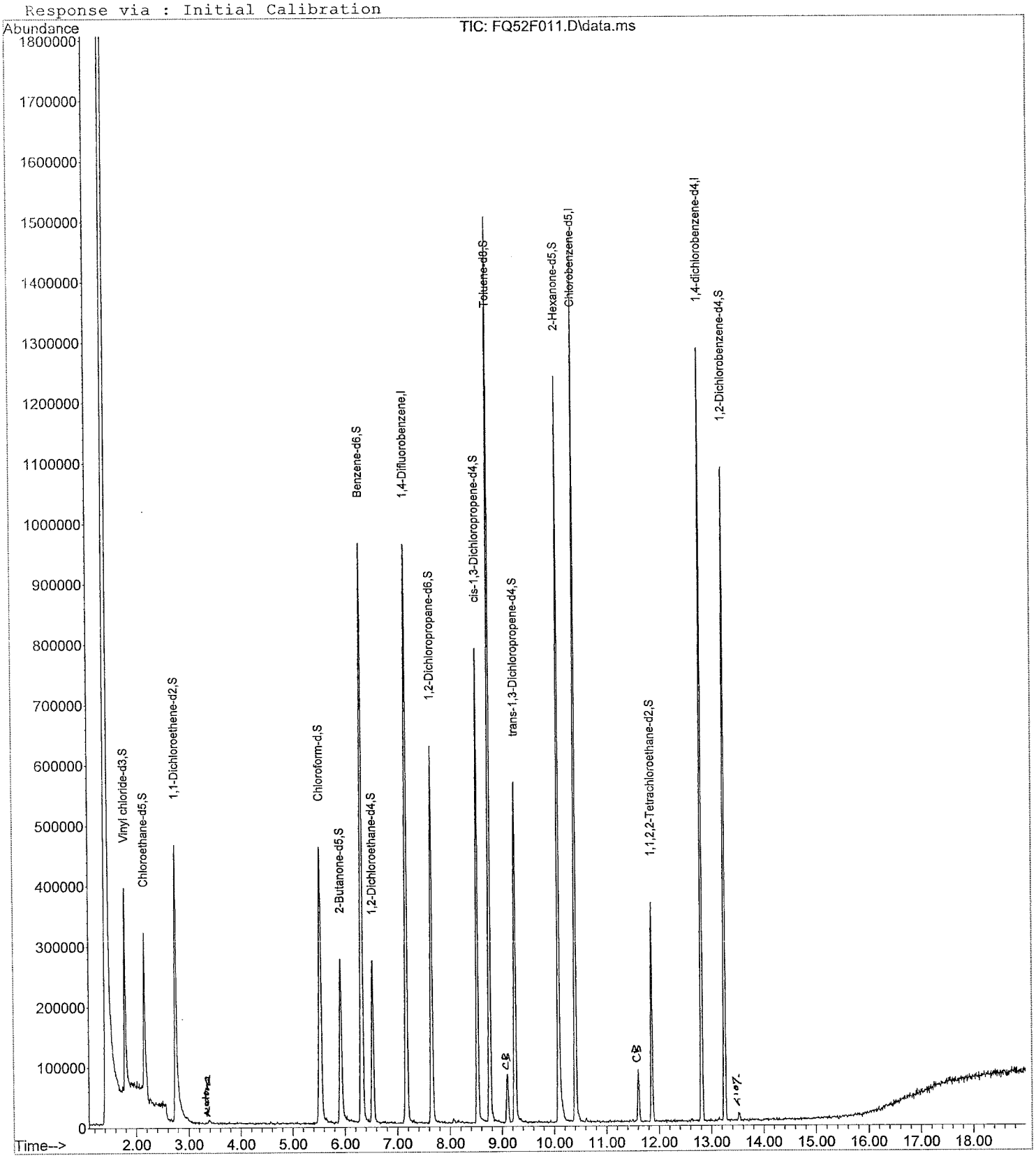
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ52F011.D Vial: 4
Acq Time : 05/20/2018 08:42 Operator: SLS
Sample : 1813654011 5P-MW106I-145 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:32:49 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ52F011.D Vial: 4
Acq Time : 05/20/2018 08:42 Operator: SLS
Sample : 1813654011 5P-MW106I-145 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:32:49 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	979609	5.0000 ug/L	91.82
28) Chlorobenzene-d5	10.41	117	867677	5.0000 ug/L	96.54
60) 1,4-dichlorobenzene-d4	12.82	152	362631	5.0000 ug/L	89.69
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	340065	5.4837 ug/L	109.67%
8) Chloroethane-d5	2.16	69	275999	5.6614 ug/L	113.23%
11) 1,1-Dichloroethene-d2	2.76	63	445657	4.1995 ug/L	83.99%
22) 2-Butanone-d5	5.92	46	500156	47.0741 ug/L	94.15%
25) Chloroform-d	5.53	84	569809	4.6091 ug/L	92.18%
27) 1,2-Dichloroethane-d4	6.53	65	233661	4.7976 ug/L	95.95%
33) Benzene-d6	6.32	84	1131861	4.9241 ug/L	98.48%
37) 1,2-Dichloropropane-d6	7.65	67	294782	4.7745 ug/L	95.49%
40) cis-1,3-Dichloropropene-d4	8.52	79	457653	4.6655 ug/L	93.31%
42) trans-1,3-Dichloropropene-	9.26	79	253468	4.1426 ug/L	82.85%
47) Toluene-d8	8.76	98	1035996	4.9581 ug/L	99.16%
50) 2-Hexanone-d5	10.09	63	382829	44.8320 ug/L	89.66%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	173589	4.4433 ug/L	88.87%
65) 1,2-Dichlorobenzene-d4	13.26	152	315762	5.0110 ug/L	100.22%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.40	43	11961	2.4950 ug/L	72
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

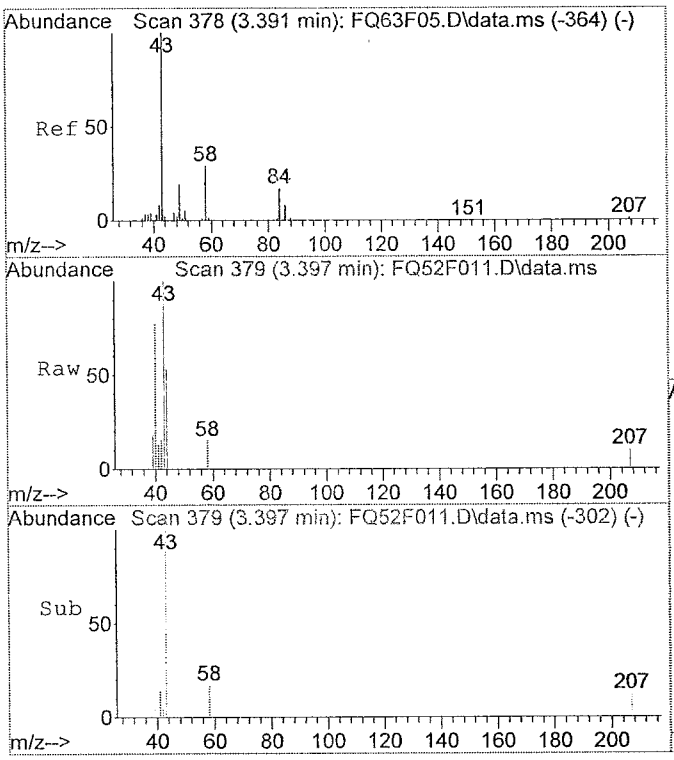
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ52F011.D Vial: 4
Acq Time : 05/20/2018 08:42 Operator: SLS
Sample : 1813654011 5P-MW106I-145 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:32:49 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	53759	0.9045 ug/L	90
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

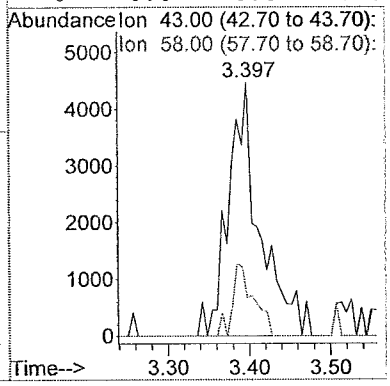
(#) = qualifier out of range (m) = manual integration

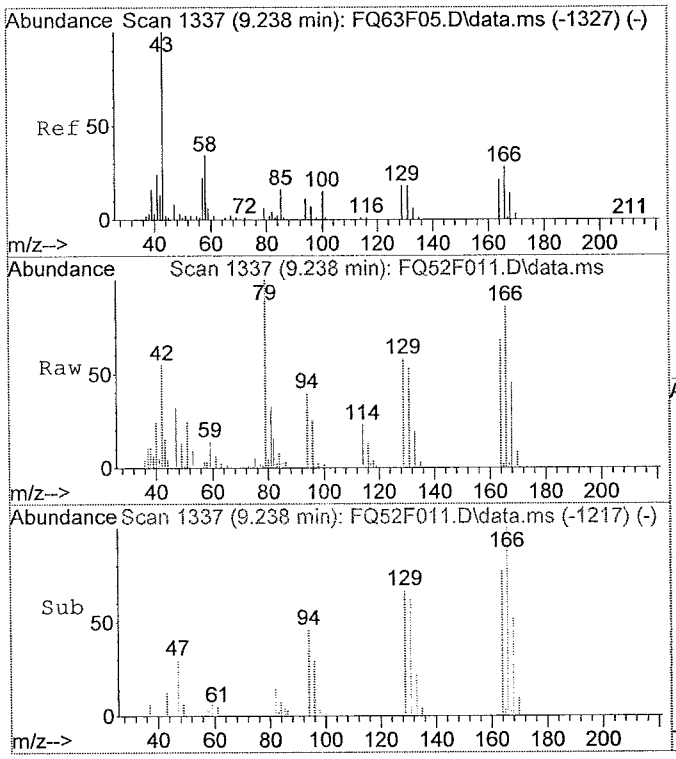


#13
Acetone
Concen: 2.50 ug/L
RT: 3.40 min Scan# 379
Delta R.T. 0.01 min
Lab File: FQ52F011.D
Acq: 05/20/2018 08:42

Tgt Ion:43 Resp: 11961

Ion	Ratio	Lower	Upper
43	100		
58	19.2	17.8	53.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0

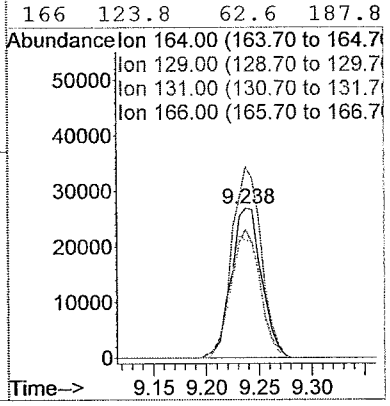




#48
Tetrachloroethene
Concen: 0.90 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ52F011.D
Acq: 05/20/2018 08:42

Tgt Ion:164 Resp: 53759

Ion	Ratio	Lower	Upper
164	100		
129	83.4	49.9	149.6
131	82.0	48.9	146.7
166	123.8	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107D-200

Lab Name: ALS Environmental (SLC) Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1813654014
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FQ55F014
% Solids: Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N) Extract Volume: (uL)
Soil Aliquot (VOA): (uL) Extraction Type: PT
Heated Purge:(Y/N) Y Injection Volume: (uL)
Purge Volume: 25.0 (mL) pH: 1.0 Dilution Factor: 1.0
Cleanup Types: Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.4	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ55F014
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.13	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ55F014
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

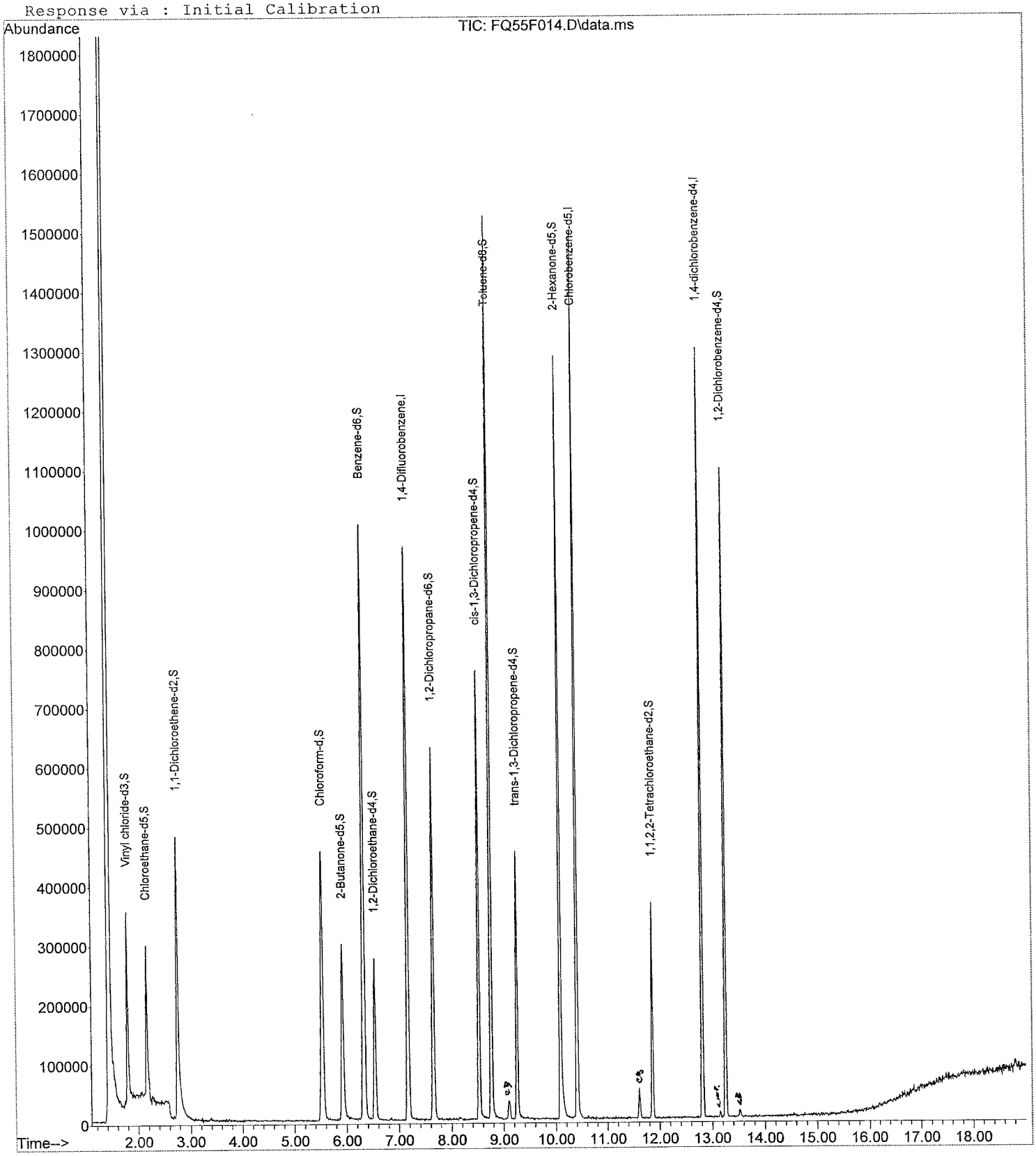
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ55F014.D Vial: 7
Acq Time : 05/20/2018 10:05 Operator: SLS
Sample : 1813654014 5P-MW107D-200 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:34:26 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ55F014.D Vial: 7
Acq Time : 05/20/2018 10:05 Operator: SLS
Sample : 1813654014 5P-MW107D-200 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:34:26 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	970985	5.0000 ug/L	91.01
28) Chlorobenzene-d5	10.41	117	884319	5.0000 ug/L	98.39
60) 1,4-dichlorobenzene-d4	12.82	152	358688	5.0000 ug/L	88.72
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	338862	5.5128 ug/L	110.26%
8) Chloroethane-d5	2.16	69	262425	5.4308 ug/L	108.62%
11) 1,1-Dichloroethene-d2	2.75	63	450944	4.2871 ug/L	85.74%
22) 2-Butanone-d5	5.92	46	528244	50.1593 ug/L	100.32%
25) Chloroform-d	5.53	84	557868	4.5526 ug/L	91.05%
27) 1,2-Dichloroethane-d4	6.54	65	236178	4.8923 ug/L	97.85%
33) Benzene-d6	6.33	84	1165468	4.9749 ug/L	99.50%
37) 1,2-Dichloropropane-d6	7.65	67	294939	4.6872 ug/L	93.74%
40) cis-1,3-Dichloropropene-d4	8.52	79	436771	4.3689 ug/L	87.38%
42) trans-1,3-Dichloropropene-	9.26	79	237695	3.8117 ug/L	76.23%
47) Toluene-d8	8.76	98	1042751	4.8965 ug/L	97.93%
50) 2-Hexanone-d5	10.09	63	386039	44.3571 ug/L	88.71%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	166948	4.1929 ug/L	83.86%
65) 1,2-Dichlorobenzene-d4	13.26	152	308129	4.9436 ug/L	98.87%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	6669	1.4035 ug/L #	53
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

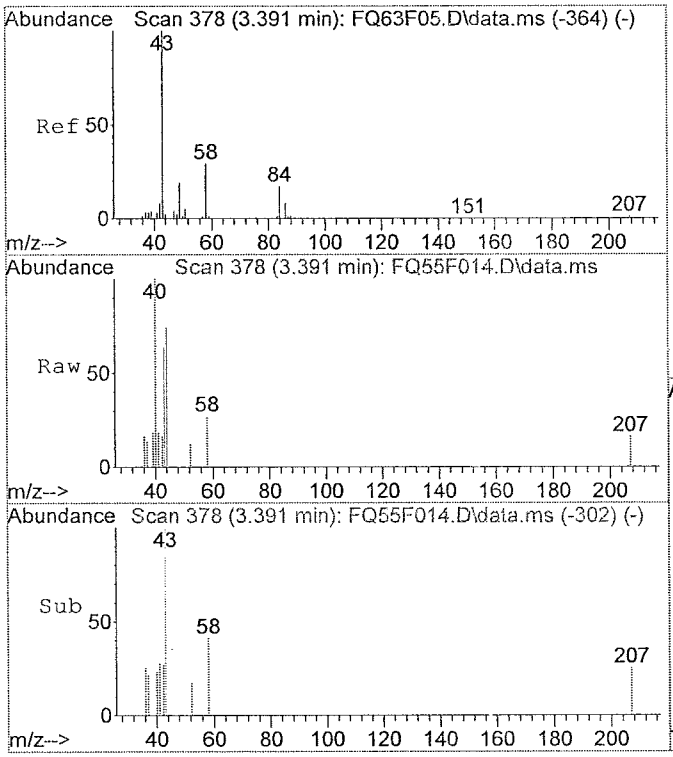
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ55F014.D Vial: 7
Acq Time : 05/20/2018 10:05 Operator: SLS
Sample : 1813654014 5P-MW107D-200 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:34:26 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	7885	0.1302 ug/L	86
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

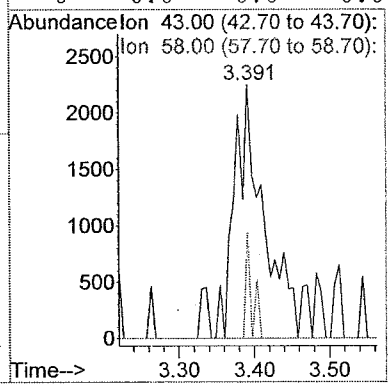
(#) = qualifier out of range (m) = manual integration

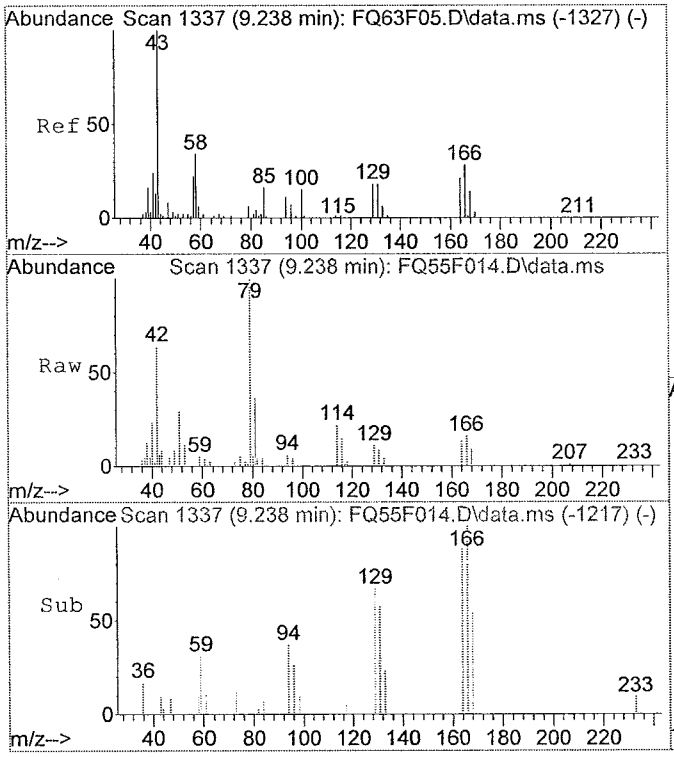


#13
Acetone
Concen: 1.40 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.00 min
Lab File: FQ55F014.D
Acq: 05/20/2018 10:05

Tgt Ion:43 Resp: 6669

Ion	Ratio	Lower	Upper
43	100		
58	8.0	17.8	53.3#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

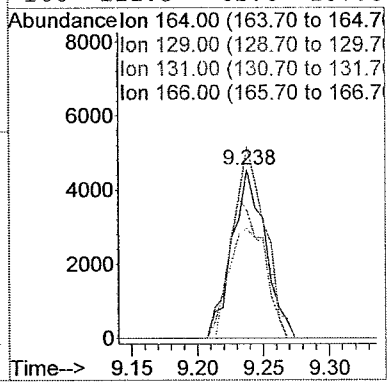




#48
Tetrachloroethene
Concen: 0.13 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ55F014.D
Acq: 05/20/2018 10:05

Tgt Ion:164 Resp: 7885

Ion	Ratio	Lower	Upper
164	100		
129	86.2	49.9	149.6
131	80.1	48.9	146.7
166	111.3	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ54F013
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ54F013
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.30	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ54F013
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

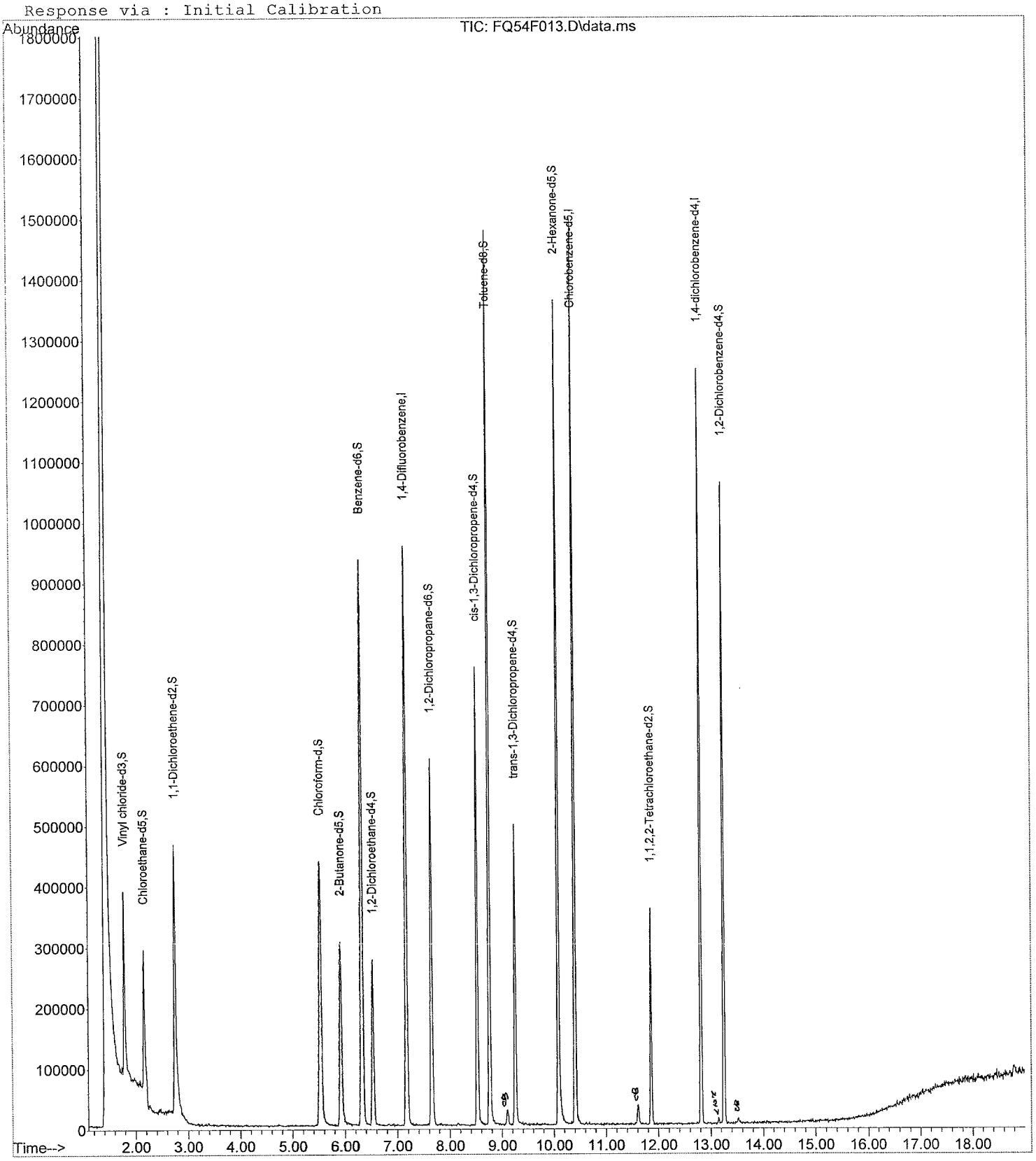
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ54F013.D Vial: 6
Acq Time : 05/20/2018 09:38 Operator: SLS
Sample : 1813654013 5P-MW107I-145 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:33:53 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ54F013.D Vial: 6
Acq Time : 05/20/2018 09:38 Operator: SLS
Sample : 1813654013 5P-MW107I-145 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:33:53 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	952093	5.0000 ug/L	89.24
28) Chlorobenzene-d5	10.41	117	858571	5.0000 ug/L	95.53
60) 1,4-dichlorobenzene-d4	12.82	152	360621	5.0000 ug/L	89.20
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	316163	5.2456 ug/L	104.91%
8) Chloroethane-d5	2.16	69	245815	5.1880 ug/L	103.76%
11) 1,1-Dichloroethene-d2	2.76	63	421413	4.0858 ug/L	81.72%
22) 2-Butanone-d5	5.92	46	544387	52.7178 ug/L	105.44%
25) Chloroform-d	5.53	84	540872	4.5015 ug/L	90.03%
27) 1,2-Dichloroethane-d4	6.54	65	236738	5.0013 ug/L	100.03%
33) Benzene-d6	6.32	84	1121908	4.9326 ug/L	98.65%
37) 1,2-Dichloropropane-d6	7.65	67	293474	4.8038 ug/L	96.08%
40) cis-1,3-Dichloropropene-d4	8.52	79	441592	4.5496 ug/L	90.99%
42) trans-1,3-Dichloropropene-	9.26	79	246004	4.0632 ug/L	81.26%
47) Toluene-d8	8.76	98	1029361	4.9786 ug/L	99.57%
50) 2-Hexanone-d5	10.08	63	399256	47.2516 ug/L	94.50%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	167277	4.3271 ug/L	86.54%
65) 1,2-Dichlorobenzene-d4	13.26	152	299426	4.7782 ug/L	95.56%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	5185	1.1128 ug/L	70
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

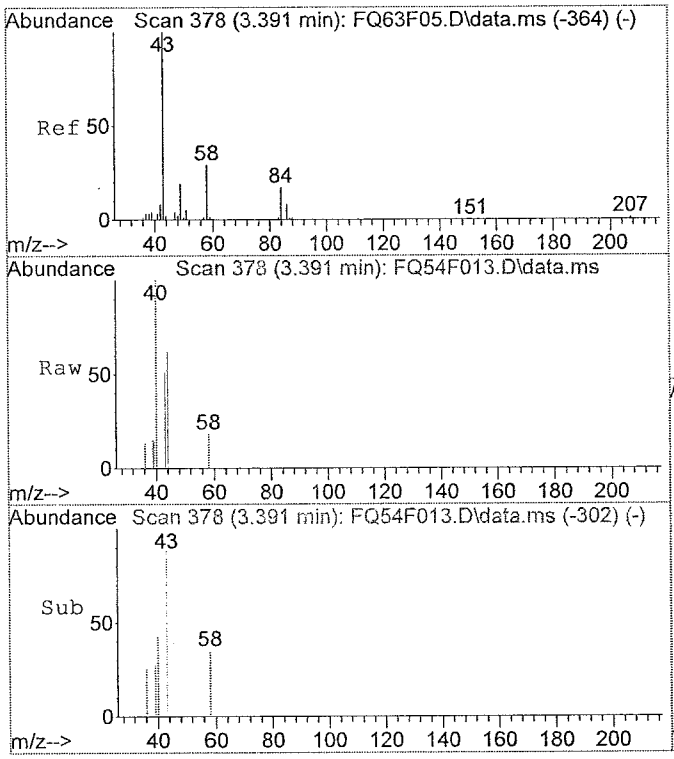
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ54F013.D Vial: 6
Acq Time : 05/20/2018 09:38 Operator: SLS
Sample : 1813654013 5P-MW107I-145 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:33:53 2018 Results File: FTRACEE9.RES

Quant Method : Q:\F-5975-F\Cur...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:25:25 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	17455	0.2968 ug/L	81
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

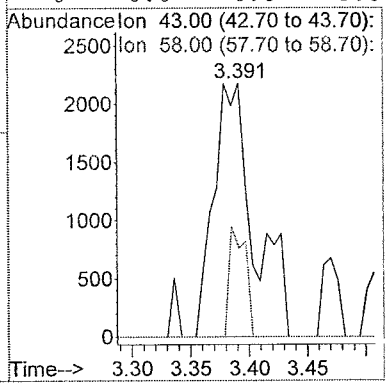
(#) = qualifier out of range (m) = manual integration

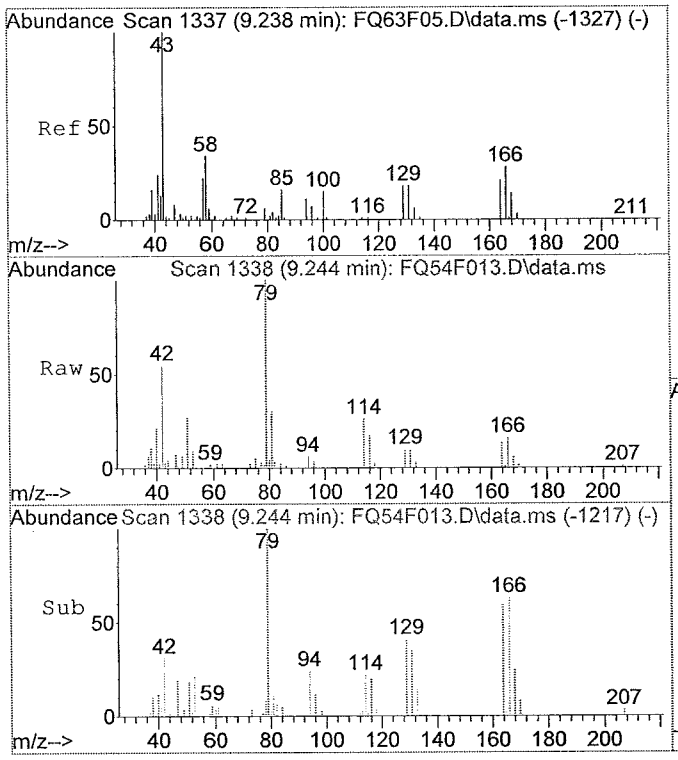


#13
Acetone
Concen: 1.11 ug/L
RT: 3.39 min Scan# 378
Delta R.T. -0.00 min
Lab File: FQ54F013.D
Acq: 05/20/2018 09:38

Tgt Ion:43 Resp: 5185

Ion	Ratio	Lower	Upper
43	100		
58	17.8	17.8	53.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0

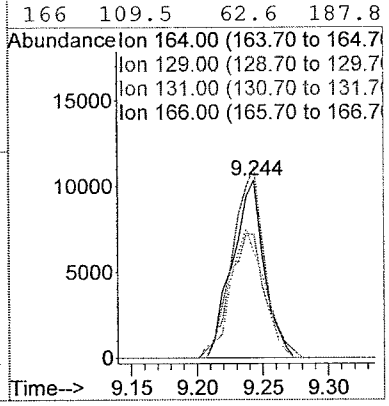




#48
Tetrachloroethene
Concen: 0.30 ug/L
RT: 9.24 min Scan# 1338
Delta R.T. 0.01 min
Lab File: FQ54F013.D
Acq: 05/20/2018 09:38

Tgt Ion:164 Resp: 17455

Ion	Ratio	Lower	Upper
164	100		
129	77.6	49.9	149.6
131	76.9	48.9	146.7
166	109.5	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ57F016
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ57F016
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.7	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ57F016
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

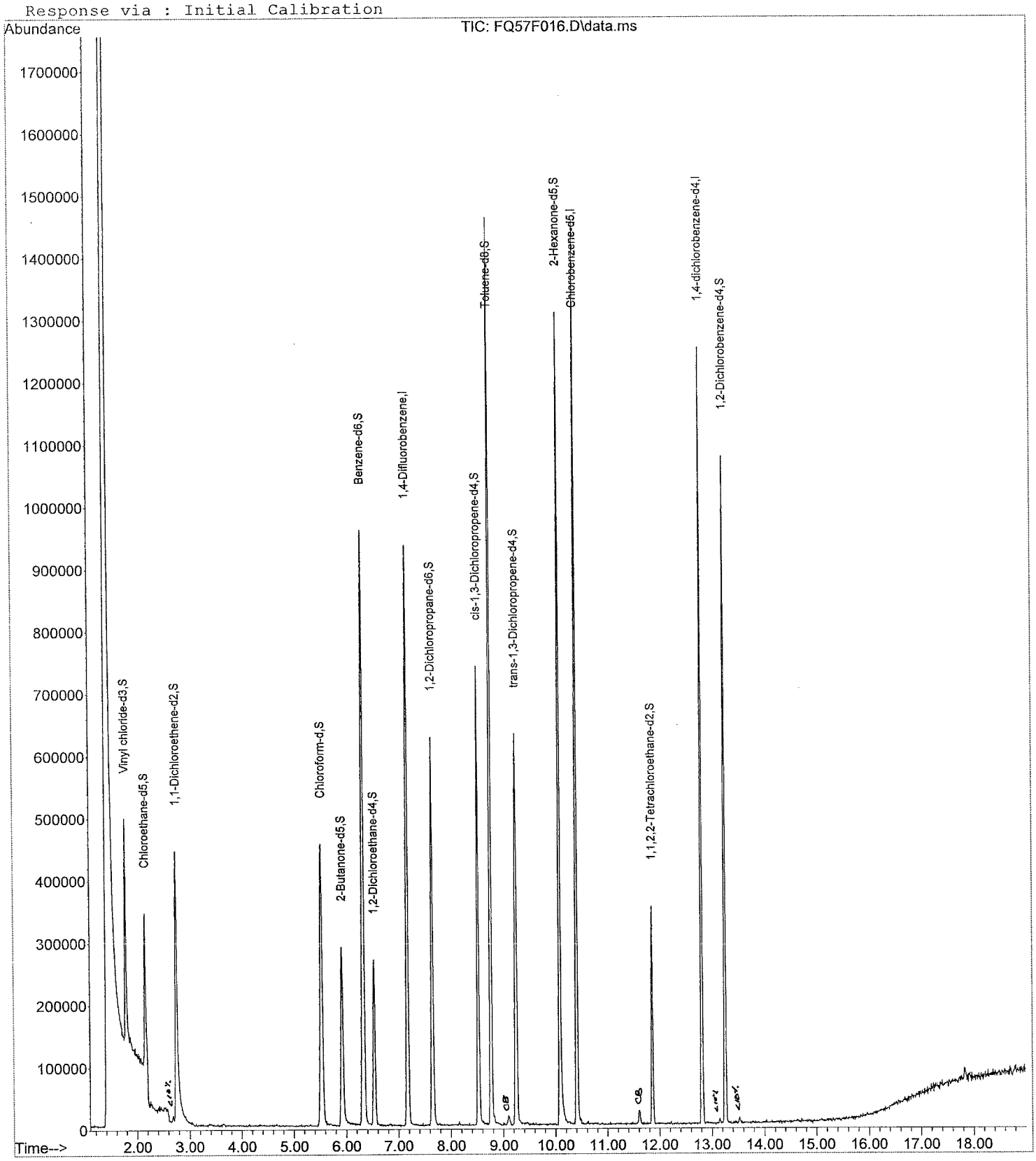
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ57F016.D Vial: 9
Acq Time : 05/20/2018 11:00 Operator: SLS
Sample : 1813654016 5P-MW108D-214 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:35:48 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



: 00104

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ57F016.D Vial: 9
Acq Time : 05/20/2018 11:00 Operator: SLS
Sample : 1813654016 5P-MW108D-214 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:35:48 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	936313	5.0000 ug/L	87.76
28) Chlorobenzene-d5	10.41	117	851509	5.0000 ug/L	94.74
60) 1,4-dichlorobenzene-d4	12.82	152	348810	5.0000 ug/L	86.27
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.78	65	323769	5.4623 ug/L	109.25%
8) Chloroethane-d5	2.16	69	257154	5.5187 ug/L	110.37%
11) 1,1-Dichloroethene-d2	2.75	63	436051	4.2990 ug/L	85.98%
22) 2-Butanone-d5	5.92	46	531614	52.3485 ug/L	104.70%
25) Chloroform-d	5.54	84	543402	4.5988 ug/L	91.98%
27) 1,2-Dichloroethane-d4	6.54	65	232722	4.9993 ug/L	99.99%
33) Benzene-d6	6.33	84	1121758	4.9728 ug/L	99.46%
37) 1,2-Dichloropropane-d6	7.65	67	287850	4.7508 ug/L	95.02%
40) cis-1,3-Dichloropropene-d4	8.52	79	417512	4.3371 ug/L	86.74%
42) trans-1,3-Dichloropropene-	9.26	79	228522	3.8058 ug/L	76.12%
47) Toluene-d8	8.76	98	1025117	4.9992 ug/L	99.98%
50) 2-Hexanone-d5	10.09	63	385528	46.0053 ug/L	92.01%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	168519	4.3954 ug/L	87.91%
65) 1,2-Dichlorobenzene-d4	13.26	152	300660	4.9604 ug/L	99.21%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

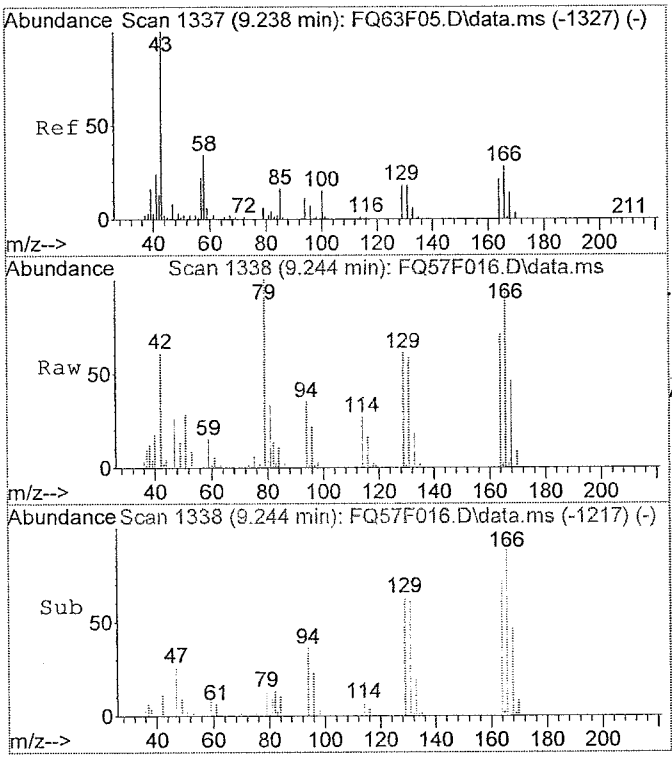
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ57F016.D Vial: 9
Acq Time : 05/20/2018 11:00 Operator: SLS
Sample : 1813654016 5P-MW108D-214 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:35:48 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	97985	1.6800 ug/L	91
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

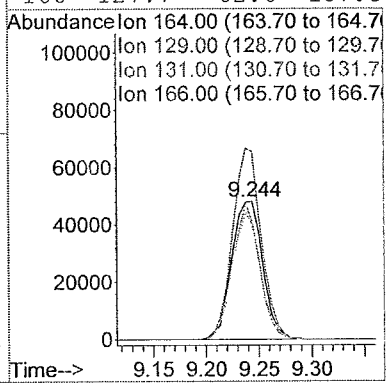
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 1.68 ug/L
RT: 9.24 min Scan# 1338
Delta R.T. 0.01 min
Lab File: FQ57F016.D
Acq: 05/20/2018 11:00

Tgt Ion:164 Resp: 97985

Ion	Ratio	Lower	Upper
164	100		
129	87.0	49.9	149.6
131	85.0	48.9	146.7
166	127.7	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ56F015
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.6	JB
75-15-0	Carbon disulfide	0.20	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ56F015
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.33	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ56F015
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

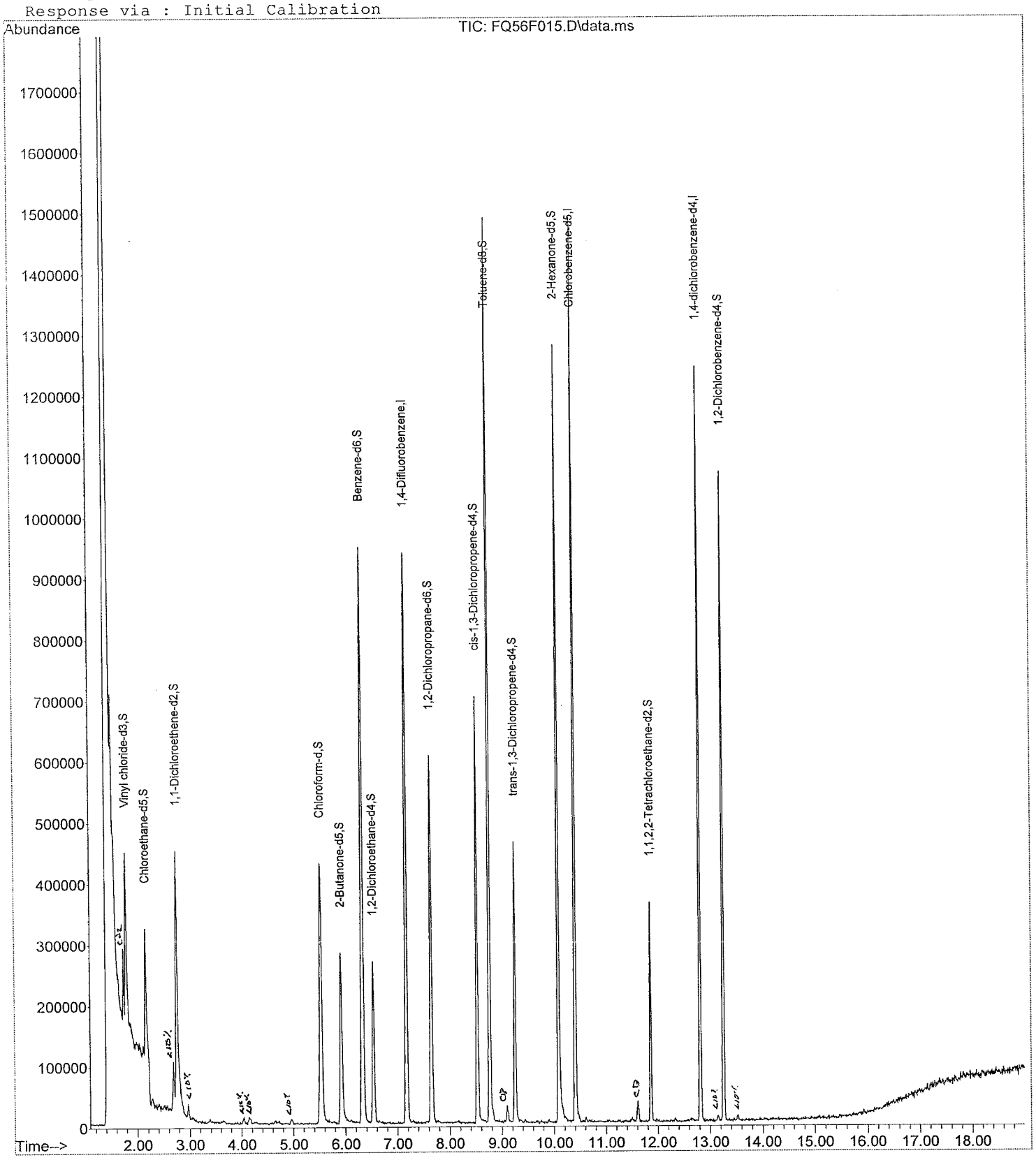
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ56F015.D Vial: 8
Acq Time : 05/20/2018 10:33 Operator: SLS
Sample : 1813654015 5P-MW108I-149 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:35:07 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ56F015.D Vial: 8
Acq Time : 05/20/2018 10:33 Operator: SLS
Sample : 1813654015 5P-MW108I-149 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:35:07 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	951484	5.0000 ug/L	89.18
28) Chlorobenzene-d5	10.41	117	862046	5.0000 ug/L	95.92
60) 1,4-dichlorobenzene-d4	12.82	152	352950	5.0000 ug/L	87.30
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	308983	5.1298 ug/L	102.60%
8) Chloroethane-d5	2.16	69	244399	5.1614 ug/L	103.23%
11) 1,1-Dichloroethene-d2	2.75	63	423116	4.1049 ug/L	82.10%
22) 2-Butanone-d5	5.92	46	512206	49.6332 ug/L	99.27%
25) Chloroform-d	5.54	84	531758	4.4285 ug/L	88.57%
27) 1,2-Dichloroethane-d4	6.53	65	229839	4.8586 ug/L	97.17%
33) Benzene-d6	6.33	84	1108029	4.8519 ug/L	97.04%
37) 1,2-Dichloropropane-d6	7.65	67	290002	4.7278 ug/L	94.56%
40) cis-1,3-Dichloropropene-d4	8.53	79	411106	4.2184 ug/L	84.37%
42) trans-1,3-Dichloropropene-	9.26	79	223688	3.6797 ug/L	73.59%
47) Toluene-d8	8.76	98	1028027	4.9521 ug/L	99.04%
50) 2-Hexanone-d5	10.09	63	388121	45.7486 ug/L	91.50%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	165786	4.2713 ug/L	85.43%
65) 1,2-Dichlorobenzene-d4	13.26	152	303067	4.9414 ug/L	98.83%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	7672	1.6477 ug/L	81
14) Carbon disulfide	2.81	76	30945	0.2019 ug/L #	66
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

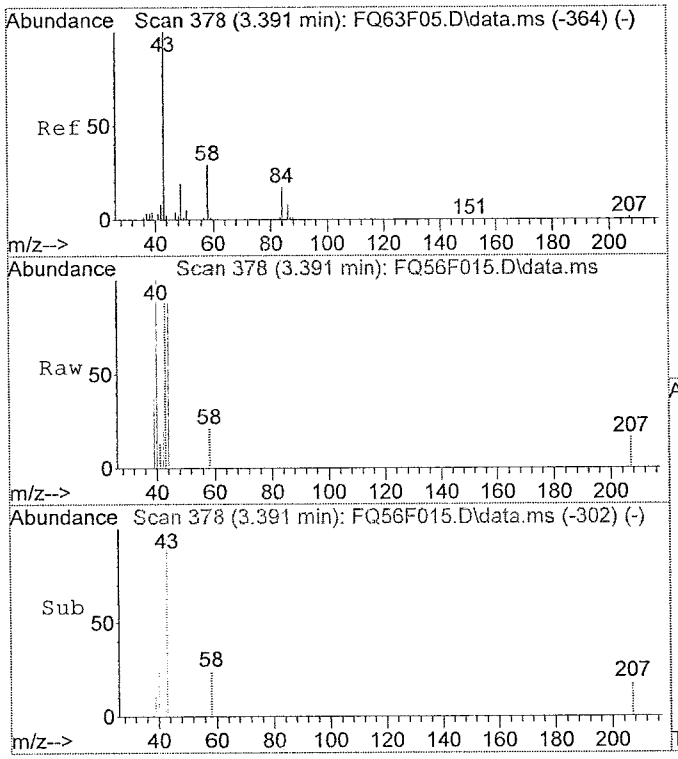
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ56F015.D Vial: 8
Acq Time : 05/20/2018 10:33 Operator: SLS
Sample : 1813654015 5P-MW108I-149 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:35:07 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	19768	0.3348 ug/L	83
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

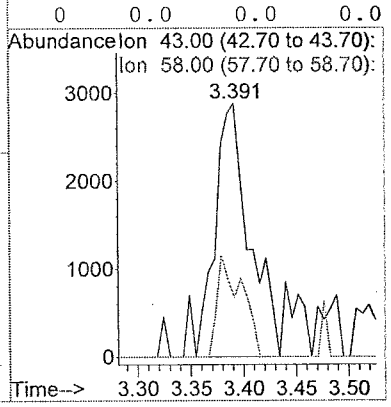
(#) = qualifier out of range (m) = manual integration

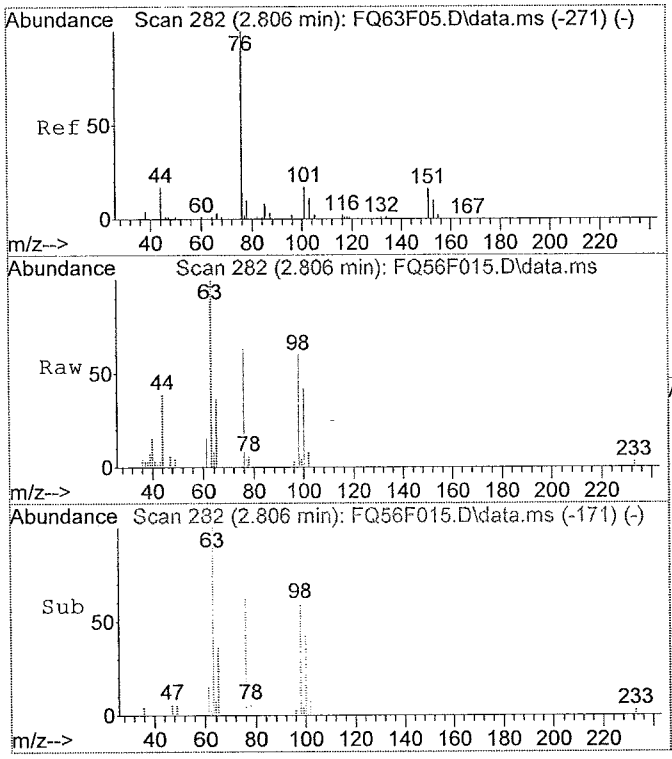


#13
Acetone
Concen: 1.65 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.00 min
Lab File: FQ56F015.D
Acq: 05/20/2018 10:33

Tgt Ion:43 Resp: 7672

Ion	Ratio	Lower	Upper
43	100		
58	24.6	17.8	53.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0

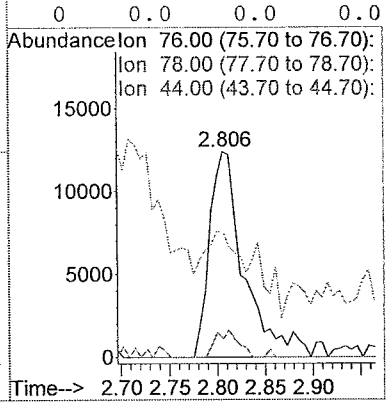


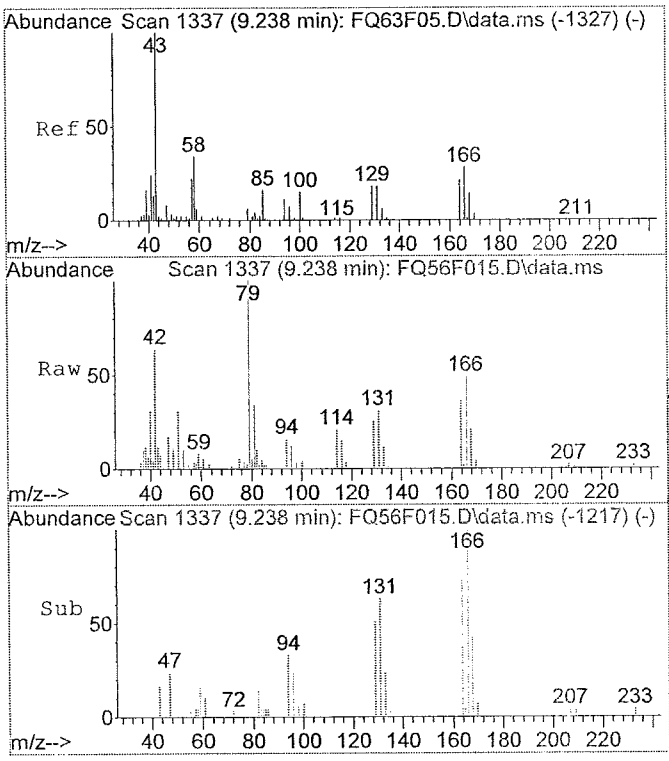


#14
Carbon disulfide
Concen: 0.20 ug/L
RT: 2.81 min Scan# 282
Delta R.T. 0.00 min
Lab File: FQ56F015.D
Acq: 05/20/2018 10:33

Tgt Ion:76 Resp: 30945

Ion	Ratio	Lower	Upper
76	100		
78	8.6	5.3	15.8
44	41.8	9.8	29.3#
0	0.0	0.0	0.0

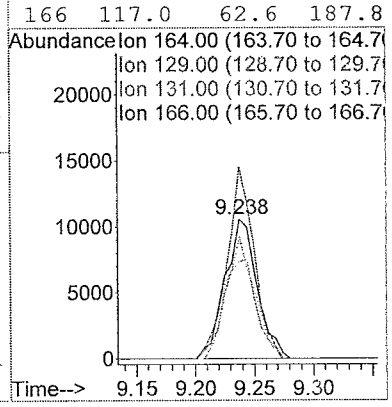




#48
Tetrachloroethene
Concen: 0.33 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ56F015.D
Acq: 05/20/2018 10:33

Tgt Ion:164 Resp: 19768

Ion	Ratio	Lower	Upper
164	100		
129	73.2	49.9	149.6
131	78.2	48.9	146.7
166	117.0	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ59F018
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ59F018
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.64	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ59F018
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

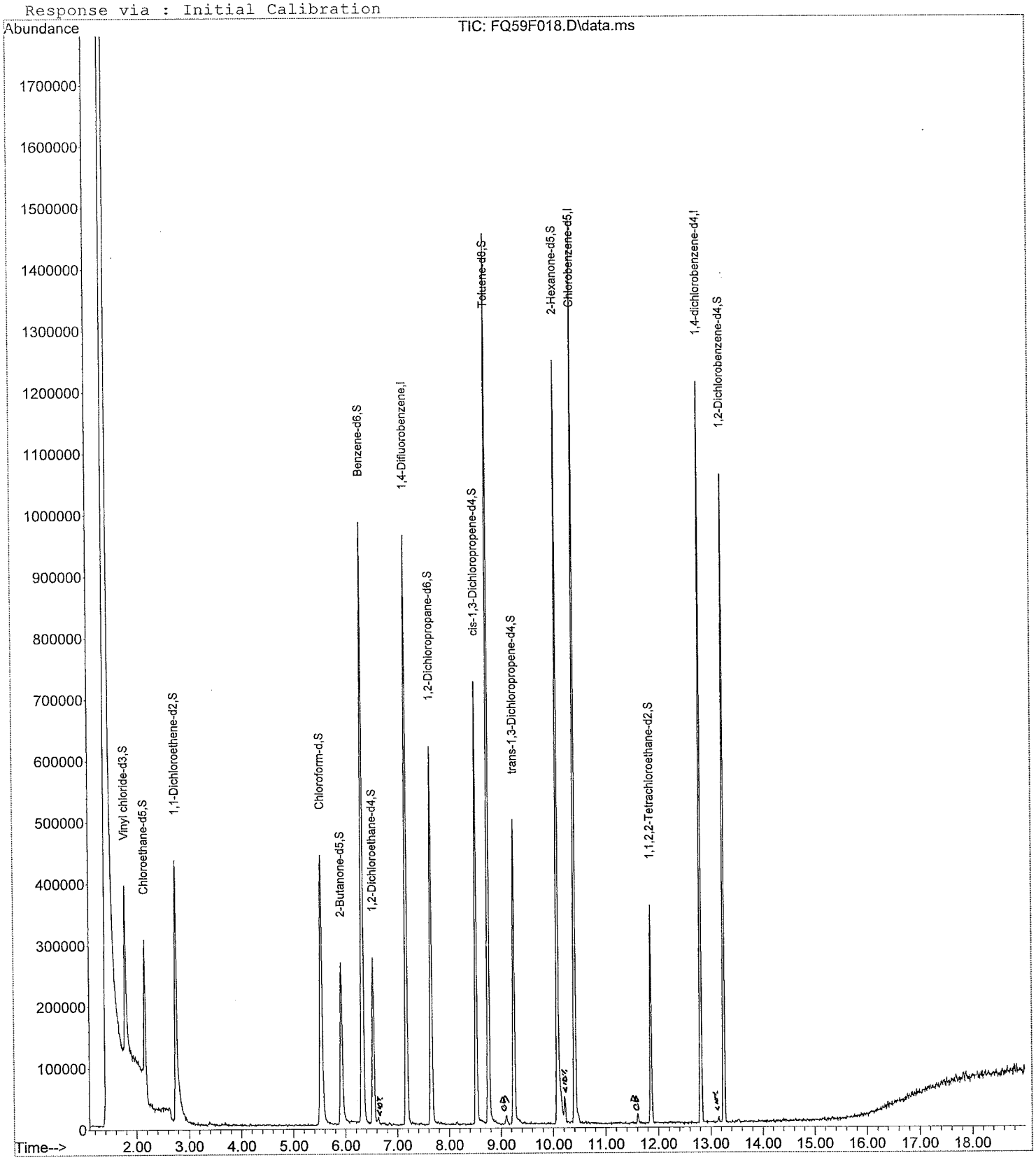
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ59F018.D Vial: 11
Acq Time : 05/20/2018 11:56 Operator: SLS
Sample : 1813654018 5P-MW109D-230 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:37:15 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ59F018.D Vial: 11
Acq Time : 05/20/2018 11:56 Operator: SLS
Sample : 1813654018 5P-MW109D-230 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:37:15 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	957706	5.0000 ug/L	89.77
28) Chlorobenzene-d5	10.41	117	875883	5.0000 ug/L	97.46
60) 1,4-dichlorobenzene-d4	12.82	152	340293	5.0000 ug/L	84.17
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	322267	5.3155 ug/L	106.31%
8) Chloroethane-d5	2.16	69	248331	5.2103 ug/L	104.21%
11) 1,1-Dichloroethene-d2	2.76	63	430371	4.1482 ug/L	82.96%
22) 2-Butanone-d5	5.93	46	486309	46.8176 ug/L	93.64%
25) Chloroform-d	5.54	84	545047	4.5096 ug/L	90.19%
27) 1,2-Dichloroethane-d4	6.54	65	238380	5.0064 ug/L	100.13%
33) Benzene-d6	6.33	84	1140643	4.9158 ug/L	98.32%
37) 1,2-Dichloropropane-d6	7.65	67	294967	4.7328 ug/L	94.66%
40) cis-1,3-Dichloropropene-d4	8.53	79	432453	4.3673 ug/L	87.35%
42) trans-1,3-Dichloropropene-	9.26	79	237551	3.8461 ug/L	76.92%
47) Toluene-d8	8.76	98	1033996	4.9022 ug/L	98.04%
50) 2-Hexanone-d5	10.08	63	390196	45.2666 ug/L	90.53%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	170126	4.3138 ug/L	86.28%
65) 1,2-Dichlorobenzene-d4	13.25	152	297092	5.0242 ug/L	100.48%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

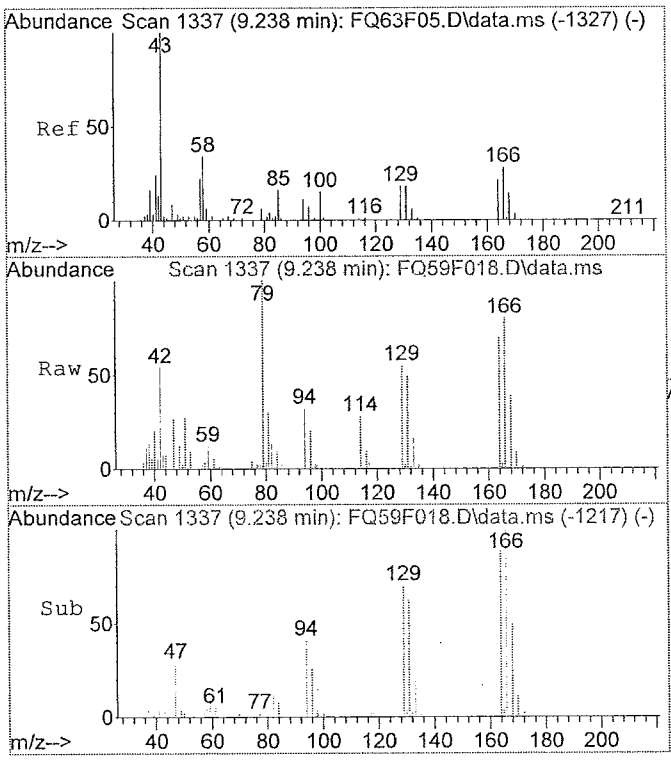
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ59F018.D Vial: 11
Acq Time : 05/20/2018 11:56 Operator: SLS
Sample : 1813654018 5P-MW109D-230 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:37:15 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	38604	0.6435 ug/L	86
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

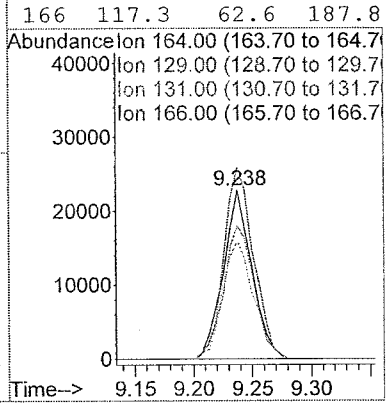
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 0.64 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FQ59F018.D
Acq: 05/20/2018 11:56

Tgt Ion:164 Resp: 38604

Ion	Ratio	Lower	Upper
164	100		
129	84.8	49.9	149.6
131	76.4	48.9	146.7
166	117.3	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW109I-169

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ58F017
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW109I-169

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ58F017
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.46	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW109I-169

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ58F017
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

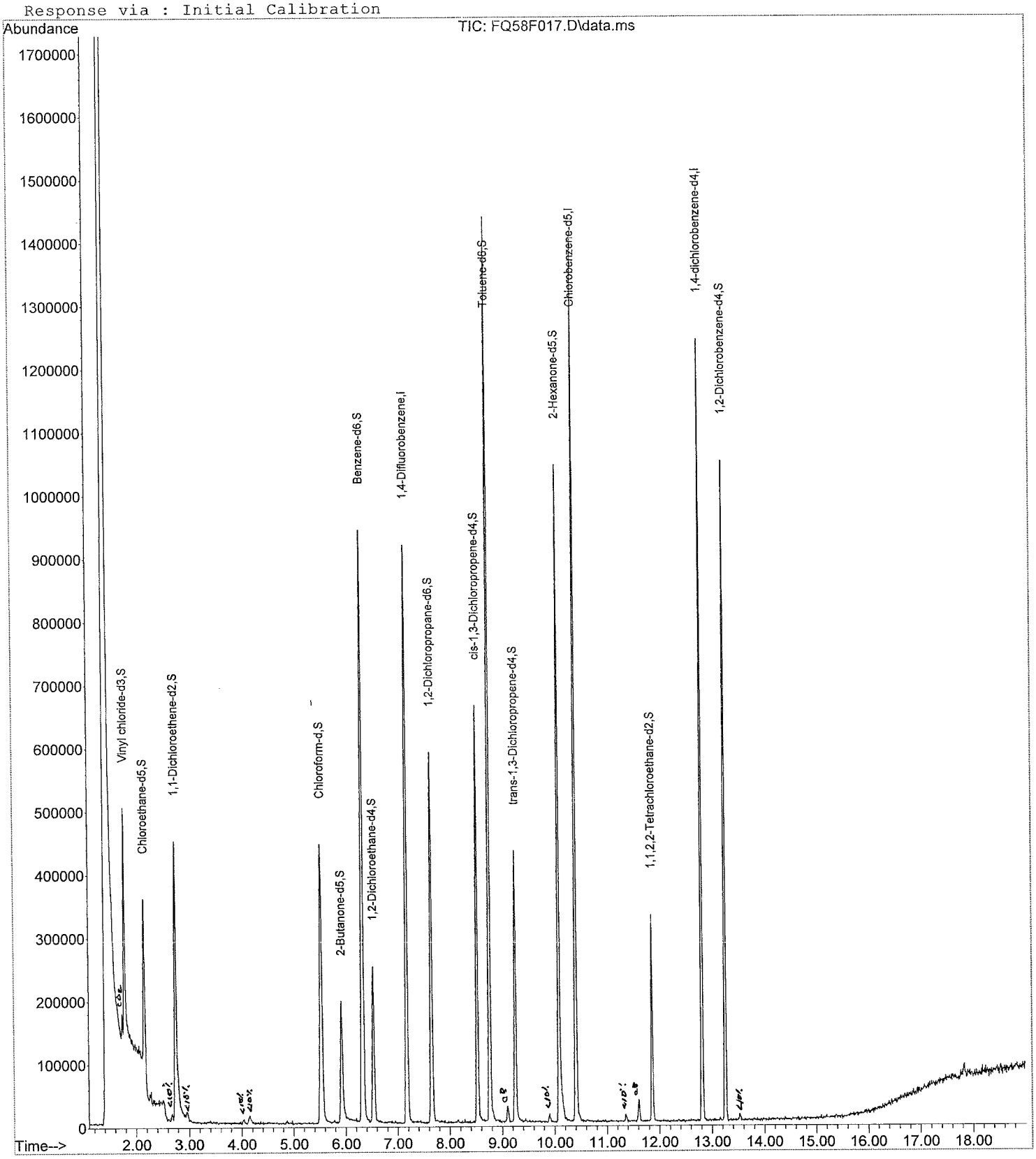
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ58F017.D Vial: 10
Acq Time : 05/20/2018 11:28 Operator: SLS
Sample : 1813654017 5P-MW109I-169 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:36:23 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ58F017.D Vial: 10
Acq Time : 05/20/2018 11:28 Operator: SLS
Sample : 1813654017 5P-MW109I-169 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:36:23 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	936930	5.0000 ug/L	87.82
28) Chlorobenzene-d5	10.41	117	844495	5.0000 ug/L	93.96
60) 1,4-dichlorobenzene-d4	12.82	152	350608	5.0000 ug/L	86.72
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.78	65	332177	5.6005 ug/L	112.01%
8) Chloroethane-d5	2.16	69	263280	5.6465 ug/L	112.93%
11) 1,1-Dichloroethene-d2	2.76	63	427239	4.2093 ug/L	84.19%
22) 2-Butanone-d5	5.92	46	372260	36.6326 ug/L	73.27%
25) Chloroform-d	5.53	84	535654	4.5302 ug/L	90.60%
27) 1,2-Dichloroethane-d4	6.54	65	220209	4.7274 ug/L	94.55%
33) Benzene-d6	6.33	84	1096126	4.8995 ug/L	97.99%
37) 1,2-Dichloropropane-d6	7.65	67	282684	4.7043 ug/L	94.09%
40) cis-1,3-Dichloropropene-d4	8.53	79	386756	4.0510 ug/L	81.02%
42) trans-1,3-Dichloropropene-	9.26	79	204761	3.4384 ug/L	68.77%
47) Toluene-d8	8.76	98	1010965	4.9711 ug/L	99.42%
50) 2-Hexanone-d5	10.08	63	326660	39.3043 ug/L	78.61%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	156154	4.1067 ug/L	82.13%
65) 1,2-Dichlorobenzene-d4	13.26	152	296467	4.8661 ug/L	97.32%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

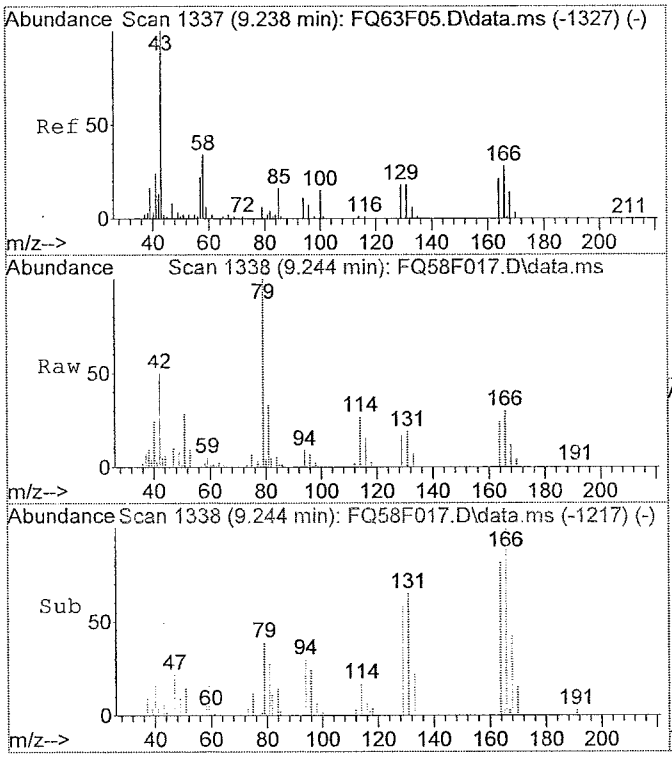
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ58F017.D Vial: 10
Acq Time : 05/20/2018 11:28 Operator: SLS
Sample : 1813654017 5P-MW109I-169 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:36:23 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	26835	0.4639 ug/L	90
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

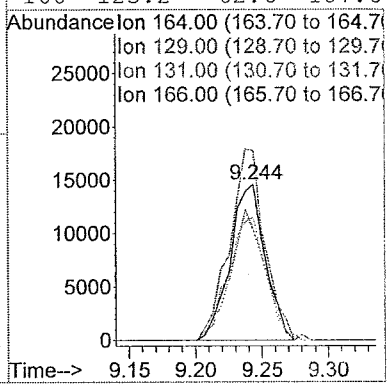
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 0.46 ug/L
RT: 9.24 min Scan# 1338
Delta R.T. 0.01 min
Lab File: FQ58F017.D
Acq: 05/20/2018 11:28

Tgt Ion:164 Resp: 26835

Ion	Ratio	Lower	Upper
164	100		
129	83.9	49.9	149.6
131	82.0	48.9	146.7
166	123.2	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654020
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ61F020
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.0	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654020
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ61F020
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.43	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654020
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ61F020
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

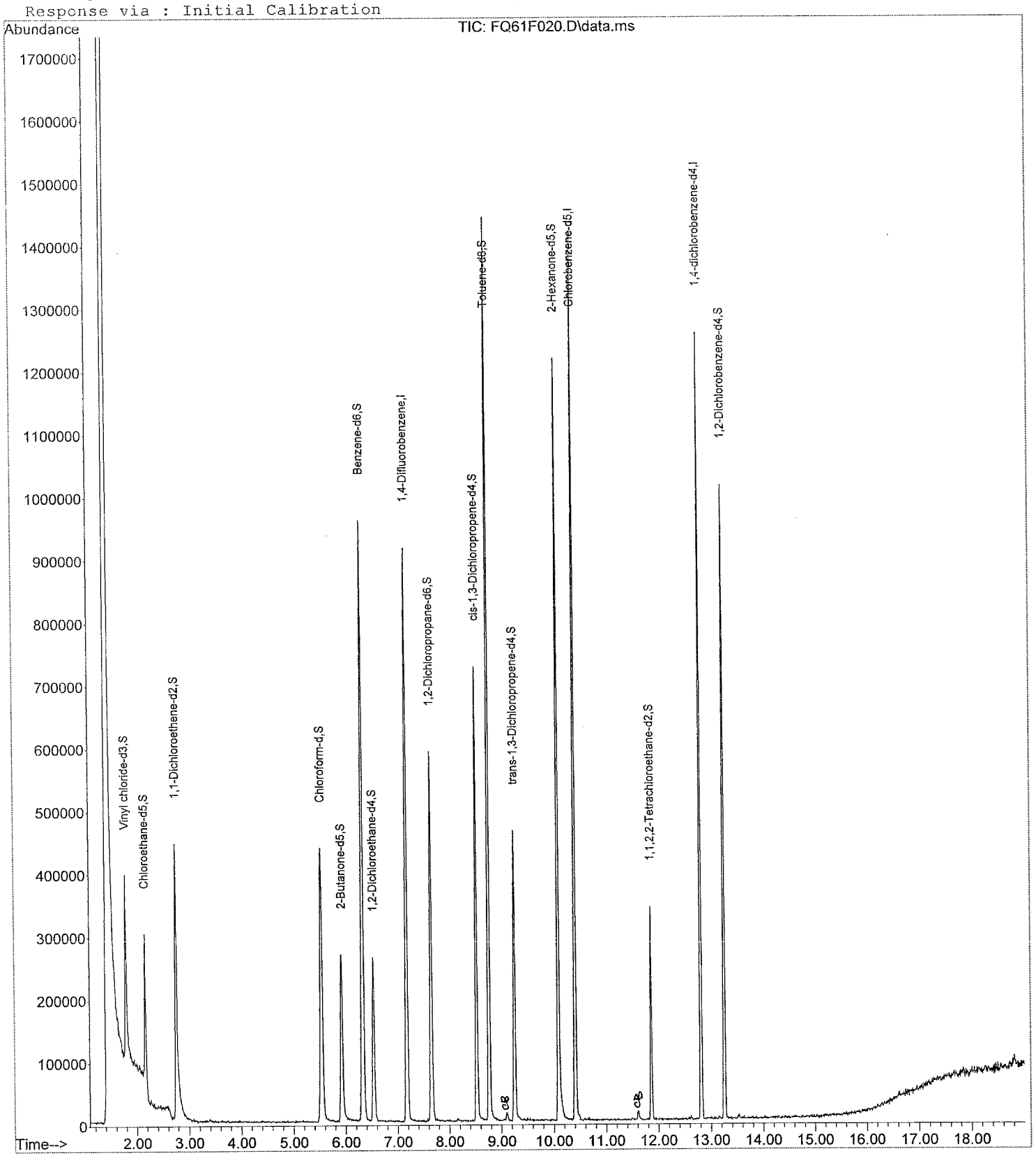
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ61F020.D Vial: 13
Acq Time : 05/20/2018 12:51 Operator: SLS
Sample : 1813654020 5P-MW110D-301 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:38:22 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ61F020.D Vial: 13
Acq Time : 05/20/2018 12:51 Operator: SLS
Sample : 1813654020 5P-MW110D-301 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:38:22 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	925952	5.0000 ug/L	86.79
28) Chlorobenzene-d5	10.41	117	842262	5.0000 ug/L	93.71
60) 1,4-dichlorobenzene-d4	12.82	152	335887	5.0000 ug/L	83.08
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	311208	5.3092 ug/L	106.18%
8) Chloroethane-d5	2.16	69	243180	5.2772 ug/L	105.54%
11) 1,1-Dichloroethene-d2	2.76	63	421465	4.2017 ug/L	84.03%
22) 2-Butanone-d5	5.93	46	500173	49.8036 ug/L	99.61%
25) Chloroform-d	5.54	84	540523	4.6256 ug/L	92.51%
27) 1,2-Dichloroethane-d4	6.54	65	228083	4.9544 ug/L	99.09%
33) Benzene-d6	6.33	84	1116253	5.0027 ug/L	100.05%
37) 1,2-Dichloropropane-d6	7.65	67	285890	4.7702 ug/L	95.40%
40) cis-1,3-Dichloropropene-d4	8.53	79	418077	4.3907 ug/L	87.81%
42) trans-1,3-Dichloropropene-	9.26	79	224709	3.7834 ug/L	75.67%
47) Toluene-d8	8.76	98	1015680	5.0076 ug/L	100.15%
50) 2-Hexanone-d5	10.08	63	362864	43.7762 ug/L	87.55%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	158175	4.1709 ug/L	83.42%
65) 1,2-Dichlorobenzene-d4	13.26	152	294586	5.0471 ug/L	100.94%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	8864	1.9562 ug/L #	63
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

: 00121

Quantitation Report

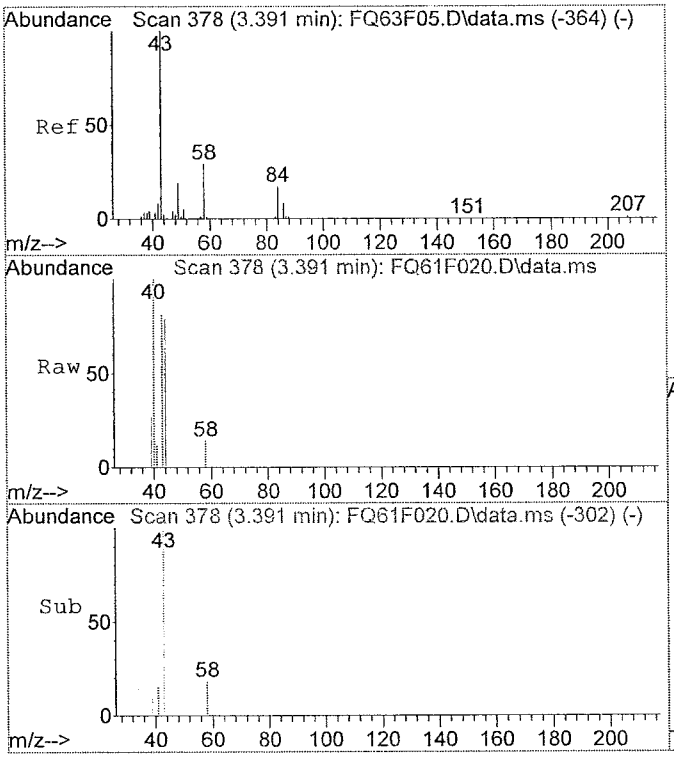
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ61F020.D Vial: 13
Acq Time : 05/20/2018 12:51 Operator: SLS
Sample : 1813654020 5P-MW110D-301 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:38:22 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	24751	0.4290 ug/L	87
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

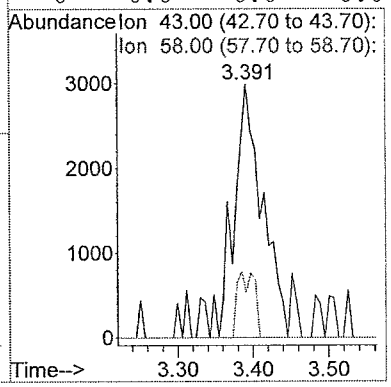
(#) = qualifier out of range (m) = manual integration

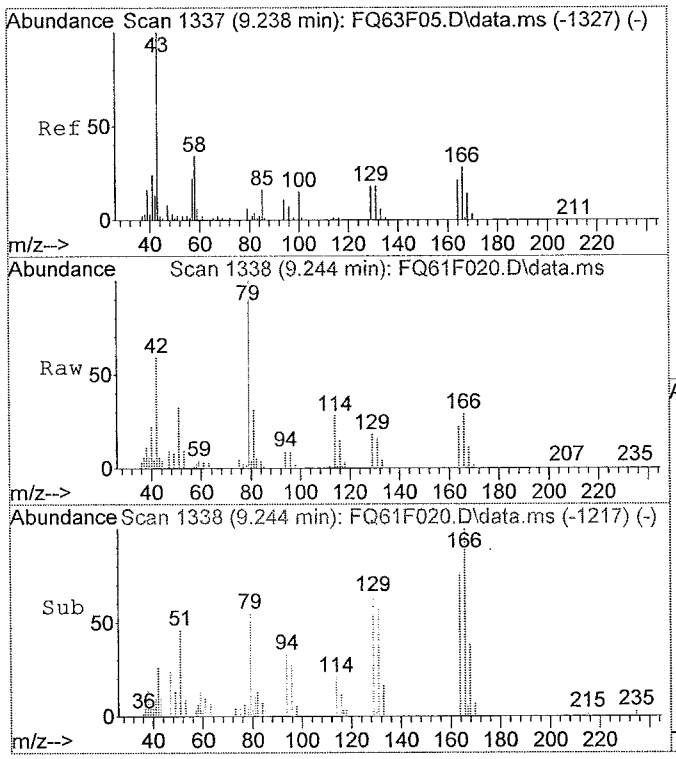


#13
Acetone
Concen: 1.96 ug/L
RT: 3.39 min Scan# 378
Delta R.T. -0.00 min
Lab File: FQ61F020.D
Acq: 05/20/2018 12:51

Tgt Ion:43 Resp: 8864

Ion	Ratio	Lower	Upper
43	100		
58	14.1	17.8	53.3#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

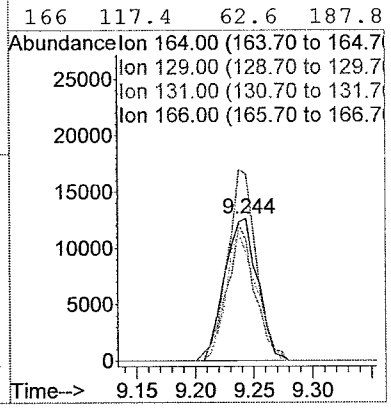




#48
Tetrachloroethene
Concen: 0.43 ug/L
RT: 9.24 min Scan# 1338
Delta R.T. 0.01 min
Lab File: FQ61F020.D
Acq: 05/20/2018 12:51

Tgt Ion:164 Resp: 24751

Ion	Ratio	Lower	Upper
164	100		
129	81.9	49.9	149.6
131	81.9	48.9	146.7
166	117.4	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654019
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ60F019
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.6	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654019
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ60F019
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654019
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ60F019
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

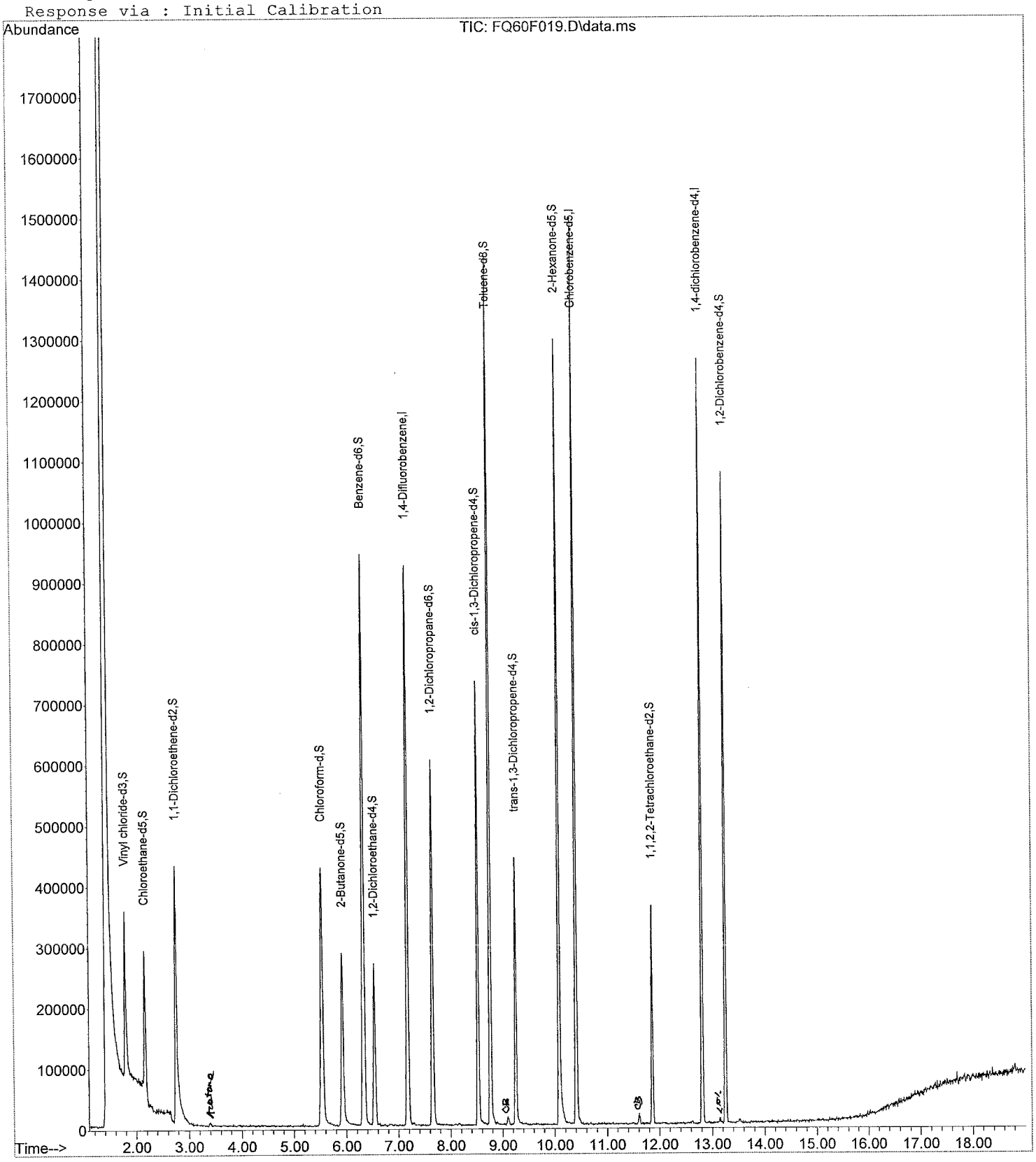
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ60F019.D Vial: 12
Acq Time : 05/20/2018 12:23 Operator: SLS
Sample : 1813654019 5P-MW110I-208 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:37:48 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ60F019.D Vial: 12
Acq Time : 05/20/2018 12:23 Operator: SLS
Sample : 1813654019 5P-MW110I-208 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:37:48 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	926494	5.0000 ug/L	86.84
28) Chlorobenzene-d5	10.41	117	856447	5.0000 ug/L	95.29
60) 1,4-dichlorobenzene-d4	12.82	152	340195	5.0000 ug/L	84.14
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	306234	5.2213 ug/L	104.43%
8) Chloroethane-d5	2.16	69	252471	5.4757 ug/L	109.51%
11) 1,1-Dichloroethene-d2	2.76	63	423329	4.2178 ug/L	84.36%
22) 2-Butanone-d5	5.92	46	517529	51.5016 ug/L	103.00%
25) Chloroform-d	5.54	84	535743	4.5820 ug/L	91.64%
27) 1,2-Dichloroethane-d4	6.54	65	227075	4.9297 ug/L	98.59%
33) Benzene-d6	6.33	84	1099880	4.8477 ug/L	96.95%
37) 1,2-Dichloropropane-d6	7.65	67	297230	4.8773 ug/L	97.55%
40) cis-1,3-Dichloropropene-d4	8.52	79	416593	4.3026 ug/L	86.05%
42) trans-1,3-Dichloropropene-	9.26	79	229312	3.7969 ug/L	75.94%
47) Toluene-d8	8.76	98	1023685	4.9634 ug/L	99.27%
50) 2-Hexanone-d5	10.09	63	381745	45.2912 ug/L	90.58%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	166826	4.3262 ug/L	86.52%
65) 1,2-Dichlorobenzene-d4	13.26	152	298339	5.0467 ug/L	100.93%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	7101	1.5662 ug/L	82
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

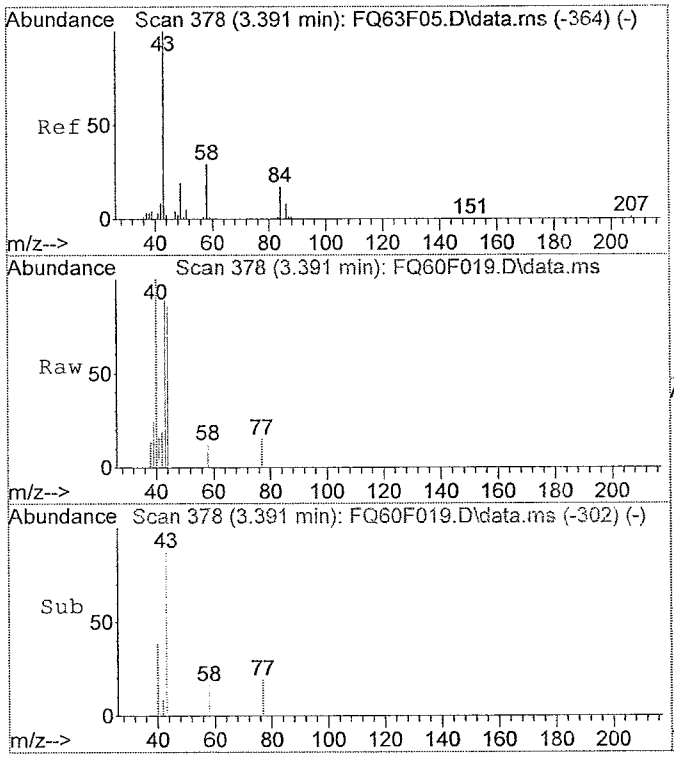
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ60F019.D Vial: 12
Acq Time : 05/20/2018 12:23 Operator: SLS
Sample : 1813654019 5P-MW110I-208 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 23 11:37:48 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	0.00	164		Not Detected	
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

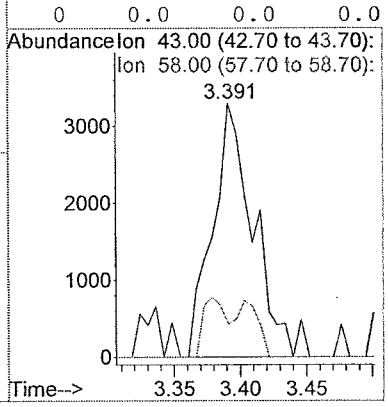
(#) = qualifier out of range (m) = manual integration



#13
Acetone
Concen: 1.57 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.00 min
Lab File: FQ60F019.D
Acq: 05/20/2018 12:23

Tgt Ion:43 Resp: 7101

Ion	Ratio	Lower	Upper
43	100		
58	25.0	17.8	53.3
0	0.0	0.0	0.0
0	0.0	0.0	0.0



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW1-2004-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ43F009
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0
Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW1-2004-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ43F009
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW1-2004-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ43F009
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

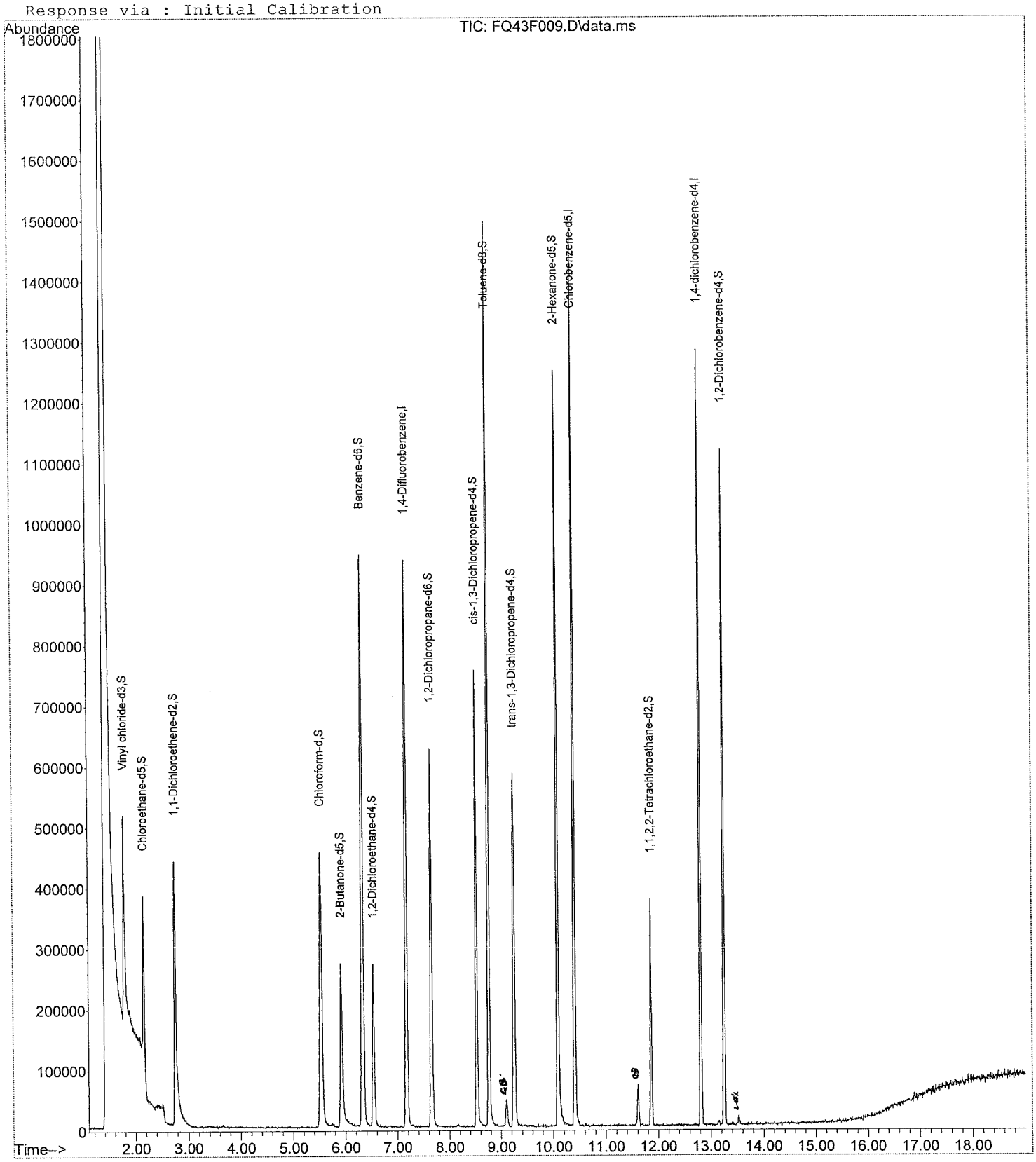
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ43F009.D Vial: 12
Acq Time : 05/18/2018 12:26 Operator: SLS
Sample : 1813654009 5P-MW1-2004-106 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 13:25:30 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ43F009.D Vial: 12
Acq Time : 05/18/2018 12:26 Operator: SLS
Sample : 1813654009 5P-MW1-2004-106 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 13:25:30 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	960537	5.0000 ug/L	90.03
28) Chlorobenzene-d5	10.41	117	867643	5.0000 ug/L	96.54
60) 1,4-dichlorobenzene-d4	12.82	152	357023	5.0000 ug/L	88.31
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	336512	5.5341 ug/L	110.68%
8) Chloroethane-d5	2.16	69	262094	5.4829 ug/L	109.66%
11) 1,1-Dichloroethene-d2	2.75	63	434228	4.1730 ug/L	83.46%
22) 2-Butanone-d5	5.92	46	511804	49.1268 ug/L	98.25%
25) Chloroform-d	5.54	84	549417	4.5324 ug/L	90.65%
27) 1,2-Dichloroethane-d4	6.54	65	240045	5.0265 ug/L	100.53%
33) Benzene-d6	6.33	84	1119714	4.8714 ug/L	97.43%
37) 1,2-Dichloropropane-d6	7.65	67	291823	4.7268 ug/L	94.54%
40) cis-1,3-Dichloropropene-d4	8.52	79	437392	4.4592 ug/L	89.18%
42) trans-1,3-Dichloropropene-	9.26	79	242718	3.9670 ug/L	79.34%
47) Toluene-d8	8.76	98	1040664	4.9807 ug/L	99.61%
50) 2-Hexanone-d5	10.09	63	379832	44.4827 ug/L	88.97%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	167831	4.2961 ug/L	85.92%
65) 1,2-Dichlorobenzene-d4	13.26	152	308563	4.9736 ug/L	99.47%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

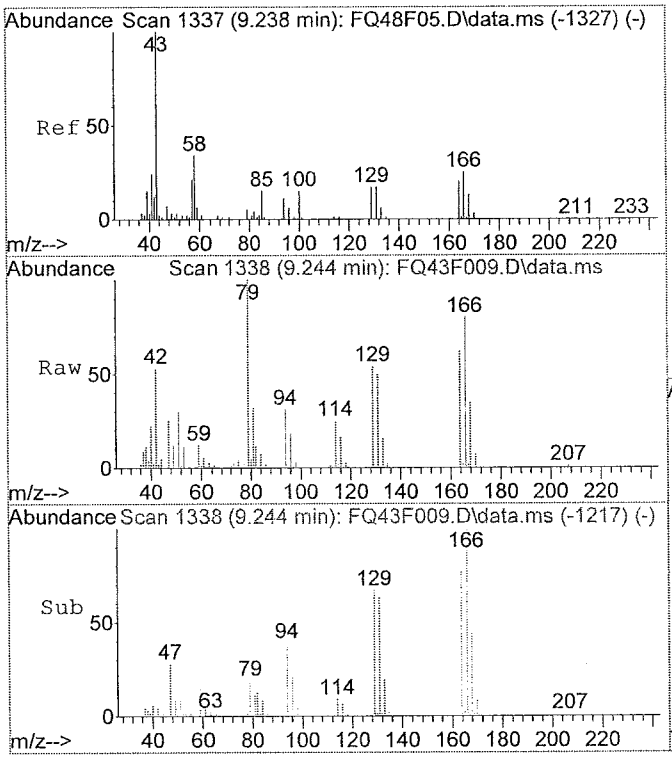
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ43F009.D Vial: 12
Acq Time : 05/18/2018 12:26 Operator: SLS
Sample : 1813654009 5P-MW1-2004-106 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 13:25:30 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.24	164	81786	1.3762 ug/L	91
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

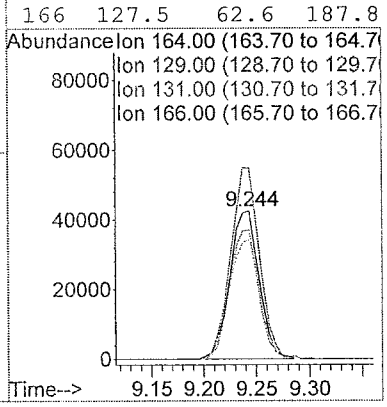
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 1.38 ug/L
RT: 9.24 min Scan# 1338
Delta R.T. 0.01 min
Lab File: FQ43F009.D
Acq: 05/18/2018 12:26

Tgt Ion:164 Resp: 81786

Ion	Ratio	Lower	Upper
164	100		
129	86.3	49.9	149.6
131	84.5	48.9	146.7
166	127.5	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW2-2004-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ42F008
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW2-2004-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ42F008
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.17	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW2-2004-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ42F008
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

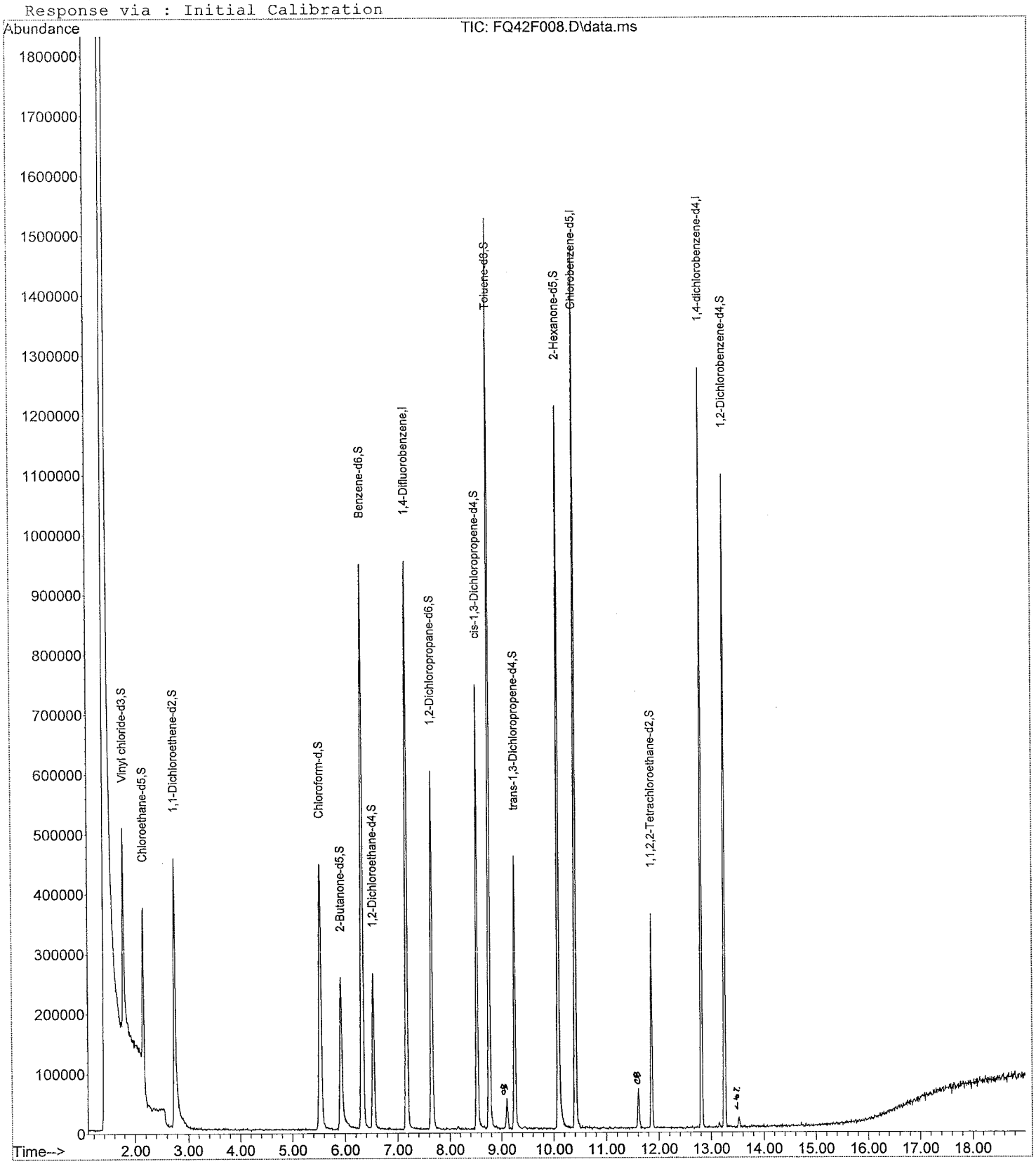
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ42F008.D Vial: 11
Acq Time : 05/18/2018 11:58 Operator: SLS
Sample : 1813654008 5P-MW2-2004-109 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:30:09 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ42F008.D Vial: 11
Acq Time : 05/18/2018 11:58 Operator: SLS
Sample : 1813654008 5P-MW2-2004-109 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:30:09 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	963437	5.0000 ug/L	90.31
28) Chlorobenzene-d5	10.41	117	873215	5.0000 ug/L	97.16
60) 1,4-dichlorobenzene-d4	12.82	152	354351	5.0000 ug/L	87.64
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.78	65	328983	5.3940 ug/L	107.88%
8) Chloroethane-d5	2.16	69	266100	5.5499 ug/L	111.00%
11) 1,1-Dichloroethene-d2	2.75	63	440115	4.2169 ug/L	84.34%
22) 2-Butanone-d5	5.92	46	519835	49.7475 ug/L	99.49%
25) Chloroform-d	5.54	84	545650	4.4878 ug/L	89.76%
27) 1,2-Dichloroethane-d4	6.53	65	228595	4.7724 ug/L	95.45%
33) Benzene-d6	6.33	84	1131480	4.8912 ug/L	97.82%
37) 1,2-Dichloropropane-d6	7.65	67	295653	4.7583 ug/L	95.17%
40) cis-1,3-Dichloropropene-d4	8.53	79	432323	4.3794 ug/L	87.59%
42) trans-1,3-Dichloropropene-	9.26	79	237427	3.8558 ug/L	77.12%
47) Toluene-d8	8.76	98	1041729	4.9539 ug/L	99.08%
50) 2-Hexanone-d5	10.09	63	377059	43.8762 ug/L	87.75%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	171349	4.3581 ug/L	87.16%
65) 1,2-Dichlorobenzene-d4	13.26	152	309339	5.0237 ug/L	100.47%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

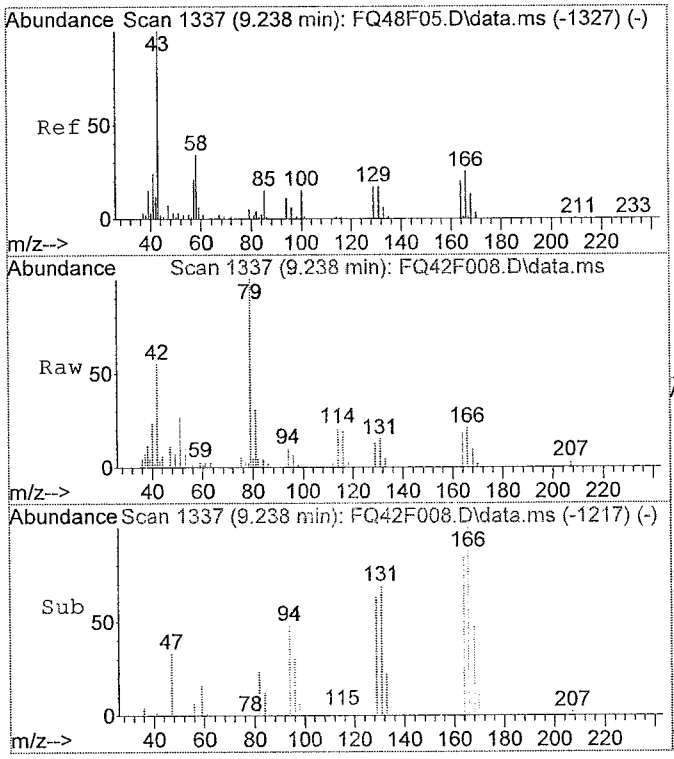
Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ42F008.D Vial: 11
Acq Time : 05/18/2018 11:58 Operator: SLS
Sample : 1813654008 5P-MW2-2004-109 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:30:09 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	10354	0.1731 ug/L	87
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

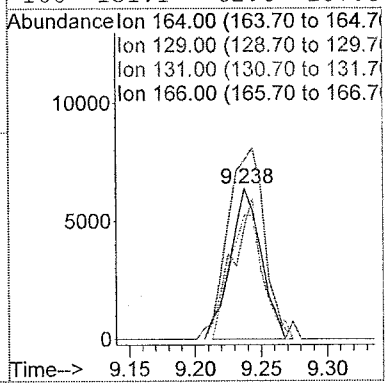
(#) = qualifier out of range (m) = manual integration



#48
Tetrachloroethene
Concen: 0.17 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. 0.00 min
Lab File: FQ42F008.D
Acq: 05/18/2018 11:58

Tgt Ion:164 Resp: 10354

Ion	Ratio	Lower	Upper
164	100		
129	92.2	49.9	149.6
131	90.1	48.9	146.7
166	151.1	62.6	187.8



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
TB-051618

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ35F001
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

TB-051618

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ35F001
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-051618

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ35F001
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

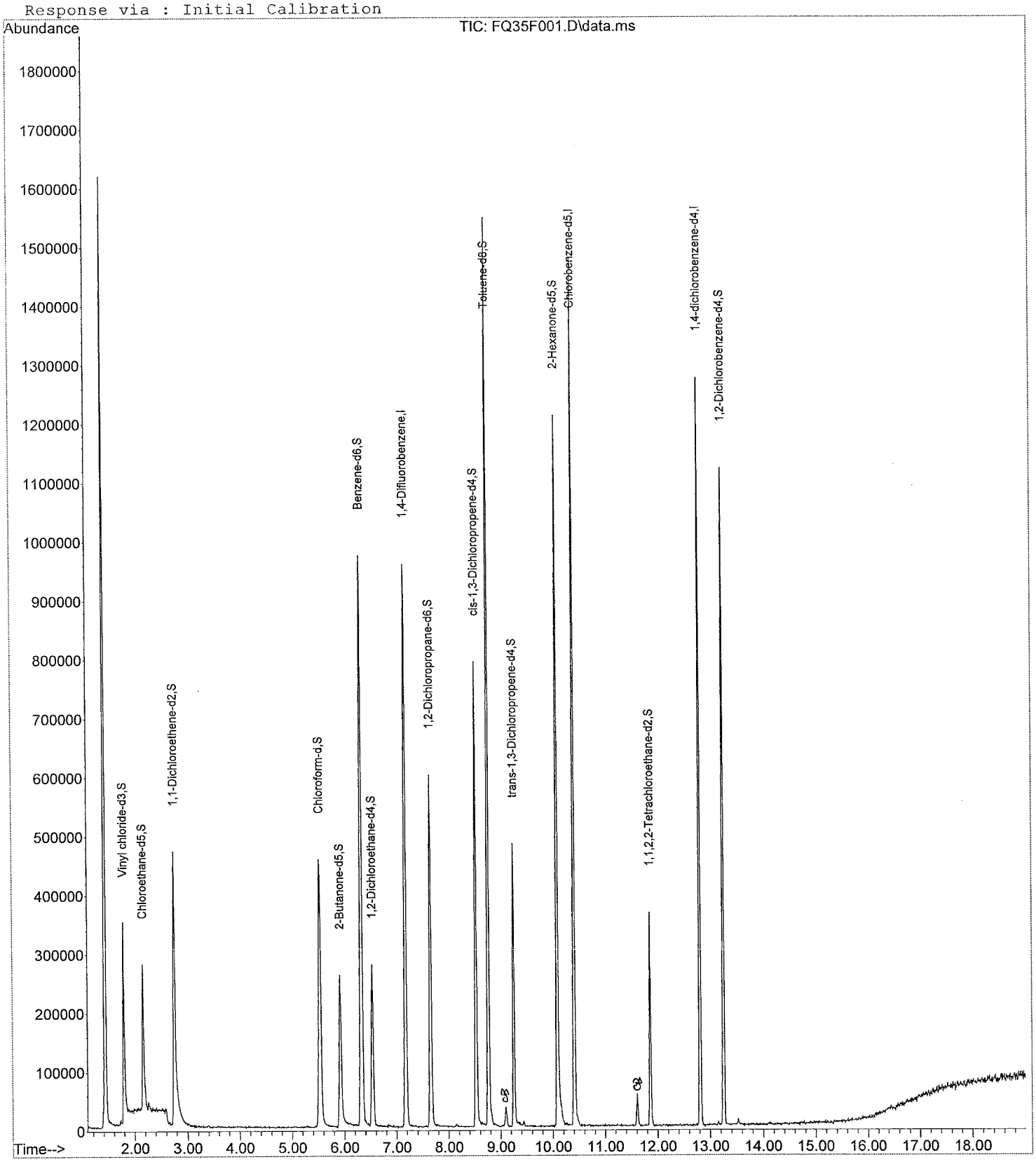
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ35F001.D Vial: 4
Acq Time : 05/18/2018 08:42 Operator: SLS
Sample : 1813654001 TB-051618 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 09:13:47 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



00161

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ35F001.D Vial: 4
Acq Time : 05/18/2018 08:42 Operator: SLS
Sample : 1813654001 TB-051618 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 09:13:47 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	963267	5.0000 ug/L	90.29
28) Chlorobenzene-d5	10.41	117	871632	5.0000 ug/L	96.98
60) 1,4-dichlorobenzene-d4	12.82	152	364161	5.0000 ug/L	90.07
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	341611	5.6021 ug/L	112.04%
8) Chloroethane-d5	2.16	69	266142	5.5518 ug/L	111.04%
11) 1,1-Dichloroethene-d2	2.76	63	451663	4.3283 ug/L	86.57%
22) 2-Butanone-d5	5.92	46	499866	47.8449 ug/L	95.69%
25) Chloroform-d	5.53	84	568432	4.6760 ug/L	93.52%
27) 1,2-Dichloroethane-d4	6.54	65	237082	4.9504 ug/L	99.01%
33) Benzene-d6	6.33	84	1151862	4.9884 ug/L	99.77%
37) 1,2-Dichloropropane-d6	7.65	67	300350	4.8427 ug/L	96.85%
40) cis-1,3-Dichloropropene-d4	8.52	79	468952	4.7590 ug/L	95.18%
42) trans-1,3-Dichloropropene-	9.26	79	259438	4.2209 ug/L	84.42%
47) Toluene-d8	8.76	98	1050479	5.0046 ug/L	100.09%
50) 2-Hexanone-d5	10.09	63	387689	45.1951 ug/L	90.39%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	171390	4.3671 ug/L	87.34%
65) 1,2-Dichlorobenzene-d4	13.26	152	313621	4.9561 ug/L	99.12%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ35F001.D Vial: 4
Acq Time : 05/18/2018 08:42 Operator: SLS
Sample : 1813654001 TB-051618 Inst : 5975-F
Misc : 1813654 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 09:13:47 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	0.00	164		Not Detected	
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

(#) = qualifier out of range (m) = manual integration

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Calibration Date(s): 05/17/2018 05/17/2018

GC Column: RTX-VMS ID: 0.25 (mm) Calibration Time(s): 10:36 13:08

Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

LAB FILE ID: FQ30S005 RRF 0.5 = FQ30S005 RRF 1 = FQ25S01
RRF 5 = FQ26S05 RRF 10 = FQ27S10 RRF 20 = FQ28S20

ANALYTE	RRF 0.5	RRF 1	RRF 5	RRF 10	RRF 20	$\overline{RRF}$	%RSD
Dichlorodifluoromethane	0.239	0.219	0.203	0.175	0.174	0.202	13.9
Chloromethane	0.404	0.350	0.291	0.270	0.261	0.315	19.2
Vinyl chloride	0.374	0.307	0.289	0.272	0.268	0.302	14.2
Bromomethane	0.279	0.236	0.212	0.201	0.195	0.225	15.2
Chloroethane	0.253	0.192	0.177	0.169	0.166	0.191	18.7
Trichlorofluoromethane	0.520	0.471	0.446	0.413	0.405	0.451	10.4
1,1-Dichloroethene	0.301	0.255	0.246	0.228	0.226	0.251	12.2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.286	0.257	0.220	0.199	0.202	0.233	16.2
Acetone	0.027	0.027	0.022	0.022	0.024	0.024	10.0
Carbon disulfide	0.997	0.859	0.766	0.716	0.689	0.805	15.6
Methyl acetate	0.089	0.085	0.080	0.076	0.082	0.082	5.9
Methylene chloride	0.305	0.265	0.228	0.218	0.213	0.246	15.8
trans-1,2-Dichloroethene	0.338	0.284	0.254	0.242	0.237	0.271	15.4
Methyl tert-butyl ether	0.555	0.487	0.464	0.482	0.502	0.498	7.0
1,1-Dichloroethane	0.574	0.506	0.425	0.417	0.394	0.463	16.2
cis-1,2-Dichloroethene	0.343	0.289	0.269	0.264	0.259	0.285	12.1
2-Butanone	0.055	0.056	0.051	0.052	0.055	0.054	4.3
Bromochloromethane	0.164	0.148	0.124	0.122	0.124	0.137	13.8
Chloroform	0.647	0.550	0.480	0.454	0.448	0.516	16.2
1,1,1-Trichloroethane	0.519	0.462	0.417	0.410	0.402	0.442	11.0
Cyclohexane	0.440	0.368	0.406	0.396	0.403	0.403	6.4
Carbon tetrachloride	0.536	0.431	0.401	0.386	0.358	0.423	16.3
Benzene	1.430	1.276	1.189	1.169	1.151	1.243	9.2
1,2-Dichloroethane	0.338	0.305	0.275	0.267	0.268	0.290	10.5
Trichloroethene	0.456	0.402	0.385	0.387	0.383	0.403	7.7
Methylcyclohexane	0.341	0.302	0.406	0.384	0.402	0.367	12.2
1,2-Dichloropropane	0.339	0.286	0.278	0.274	0.272	0.290	9.7
Bromodichloromethane	0.494	0.449	0.405	0.399	0.396	0.428	9.9
cis-1,3-Dichloropropene	0.465	0.417	0.423	0.449	0.459	0.443	4.8
4-Methyl-2-Pentanone	0.161	0.161	0.167	0.179	0.190	0.172	7.3
Toluene	1.409	1.314	1.301	1.327	1.330	1.336	3.2
trans-1,3-Dichloropropene	0.379	0.345	0.357	0.372	0.373	0.365	3.8
1,1,2-Trichloroethane	0.231	0.212	0.207	0.200	0.204	0.211	5.7
Tetrachloroethene	0.400	0.342	0.328	0.323	0.320	0.342	9.7

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Calibration Date(s): 05/17/2018 05/17/2018

GC Column: RTX-VMS ID: 0.25 (mm) Calibration Time(s): 10:36 13:08

Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

LAB FILE ID: FQ30S005 RRF 0.5 = FQ30S005 RRF 1 = FQ25S01
RRF 5 = FQ26S05 RRF 10 = FQ27S10 RRF 20 = FQ28S20

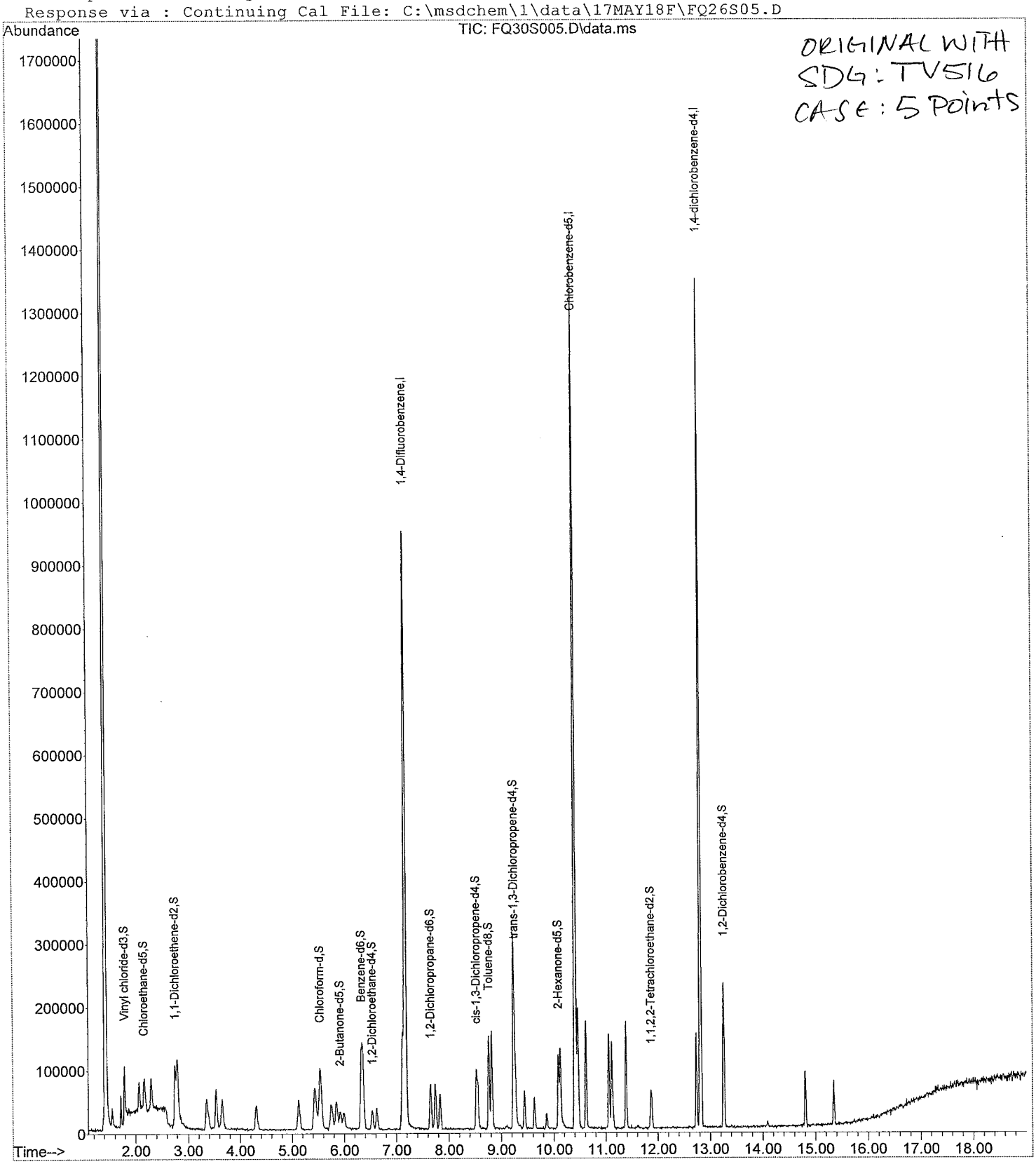
ANALYTE	RRF 0.5	RRF 1	RRF 5	RRF 10	RRF 20	$\overline{RRF}$	%RSD
2-Hexanone	0.126	0.123	0.130	0.137	0.142	0.132	5.9
Dibromochloromethane	0.339	0.300	0.279	0.284	0.285	0.297	8.3
1,2-Dibromoethane	0.209	0.198	0.175	0.181	0.186	0.190	7.1
Chlorobenzene	1.110	0.966	0.909	0.900	0.898	0.957	9.4
Ethylbenzene	1.556	1.428	1.428	1.453	1.455	1.464	3.6
o-Xylene	0.553	0.475	0.519	0.552	0.546	0.529	6.3
m,p-Xylene	0.598	0.532	0.571	0.589	0.585	0.575	4.5
Styrene	0.815	0.729	0.855	0.908	0.916	0.845	9.1
Bromoform	0.405	0.393	0.362	0.360	0.387	0.382	5.2
Isopropylbenzene	1.332	1.216	1.347	1.440	1.412	1.349	6.4
1,1,2,2-Tetrachloroethane	0.227	0.221	0.199	0.201	0.197	0.209	6.8
1,3-Dichlorobenzene	1.791	1.610	1.483	1.469	1.472	1.565	8.9
1,4-Dichlorobenzene	1.817	1.638	1.543	1.515	1.520	1.606	7.9
1,2-Dichlorobenzene	1.485	1.376	1.286	1.301	1.213	1.332	7.7
1,2-Dibromo-3-chloropropane	0.051	0.065	0.048	0.046	0.043	0.051	17.3
1,2,4-Trichlorobenzene	0.821	0.728	0.681	0.674	0.578	0.696	12.7
1,2,3-Trichlorobenzene	0.608	0.552	0.496	0.500	0.410	0.513	14.3
Vinyl chloride-d3	0.412	0.319	0.293	0.284	0.274	0.317	17.7
Chloroethane-d5	0.312	0.265	0.236	0.221	0.210	0.249	16.4
1,1-Dichloroethene-d2	0.649	0.585	0.519	0.487	0.469	0.542	13.7
2-Butanone-d5	0.058	0.054	0.051	0.052	0.057	0.054	5.5
Chloroform-d	0.762	0.668	0.591	0.577	0.557	0.631	13.4
1,2-Dichloroethane-d4	0.296	0.268	0.229	0.226	0.224	0.249	12.9
Benzene-d6	1.531	1.364	1.267	1.246	1.215	1.325	9.7
1,2-Dichloropropane-d6	0.407	0.377	0.332	0.336	0.327	0.356	9.8
Toluene-d8	1.302	1.165	1.159	1.210	1.184	1.204	4.8
trans-1,3-Dichloropropene-d4	0.366	0.334	0.346	0.353	0.363	0.353	3.7
2-Hexanone-d5	0.044	0.044	0.048	0.053	0.058	0.049	12.3
1,1,2,2-Tetrachloroethane-d2	0.253	0.244	0.211	0.212	0.206	0.225	9.6
1,2-Dichlorobenzene-d4	0.993	0.901	0.839	0.833	0.778	0.869	9.4

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ30S005.D Vial: 8
Acq Time : 05/17/2018 13:08 Operator: SLS
Sample : VSTD0.5TF VSTD0.5TF 0.5 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 0.5 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 13:27:32 2018 Results File: FTRACEE9.RES

Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal File: C:\msdchem\1\data\17MAY18F\FQ26S05.D



Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ30S005.D Vial: 8
Acq Time : 05/17/2018 13:08 Operator: SLS
Sample : VSTD0.5TF VSTD0.5TF 0.5 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 0.5 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 13:27:32 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	951486	5.0000 ug/L	89.18
28) Chlorobenzene-d5	10.41	117	823069	5.0000 ug/L	91.58
60) 1,4-dichlorobenzene-d4	12.82	152	365009	5.0000 ug/L	90.28
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	39233	0.7043 ug/L	14.09%#
8) Chloroethane-d5	2.16	69	29670	0.6616 ug/L	13.23%#
11) 1,1-Dichloroethene-d2	2.76	63	61726	0.6254 ug/L	12.51%#
22) 2-Butanone-d5	5.92	46	55002	5.6702 ug/L	11.34%#
25) Chloroform-d	5.54	84	72508	0.6447 ug/L	12.89%#
27) 1,2-Dichloroethane-d4	6.54	65	28142	0.6450 ug/L	12.90%#
33) Benzene-d6	6.32	84	126018	0.6040 ug/L	12.08%#
37) 1,2-Dichloropropane-d6	7.65	67	33499	0.6132 ug/L	12.26%#
40) cis-1,3-Dichloropropene-d4	8.53	79	50181	0.5741 ug/L	11.48%
42) trans-1,3-Dichloropropene-	9.26	79	30149	0.5286 ug/L	10.57%#
47) Toluene-d8	8.76	98	107144	0.5614 ug/L	11.23%#
50) 2-Hexanone-d5	10.09	63	35915	4.5753 ug/L	9.15%#
59) 1,1,2,2-Tetrachloroethane-	11.86	84	20812	0.5997 ug/L	11.99%#
65) 1,2-Dichlorobenzene-d4	13.26	152	36261	0.5918 ug/L	11.84%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.55	85	22729	0.5879 ug/L #	93
3) Chloromethane	1.71	50	38435	0.6944 ug/L	97
4) Vinyl chloride	1.79	62	35593	0.6470 ug/L	97
6) Bromomethane	2.07	94	26525	0.6583 ug/L	93
7) Chloroethane	2.18	64	24033	0.7151 ug/L	90
9) Trichlorofluoromethane	2.30	101	49502	0.5828 ug/L	92
10) 1,1-Dichloroethene	2.76	96	28674	0.6126 ug/L	90
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	27175	0.6504 ug/L	92
13) Acetone	3.39	43	25644	6.0398 ug/L	82
14) Carbon disulfide	2.81	76	94881	0.6506 ug/L	97
15) Methyl acetate	3.53	43	8451	0.5540 ug/L #	89
16) Methylene chloride	3.35	84	29015	0.6678 ug/L	87
17) trans-1,2-Dichloroethene	3.53	96	32182	0.6657 ug/L	89
18) Methyl tert-butyl ether	3.65	73	52815	0.5980 ug/L	86
19) 1,1-Dichloroethane	4.31	63	54639	0.6748 ug/L	98
20) cis-1,2-Dichloroethene	5.13	96	32616	0.6366 ug/L	90
21) 2-Butanone	5.99	43	52366	5.4292 ug/L	96
23) Bromochloromethane	5.43	128	15648	0.6607 ug/L	97
24) Chloroform	5.55	83	61516	0.6739 ug/L	95
26) 1,2-Dichloroethane	6.62	62	32117	0.6134 ug/L	98
29) 1,1,1-Trichloroethane	5.85	97	42696	0.6225 ug/L #	100
30) Cyclohexane	5.45	56	36245	0.5428 ug/L #	81
31) Carbon tetrachloride	5.76	117	44143	0.6684 ug/L #	89
32) Benzene	6.37	78	117685	0.6013 ug/L	92
34) Trichloroethene	7.13	130	37554	0.5922 ug/L	97
35) Methylcyclohexane	7.12	83	28060	0.4194 ug/L #	71
36) 1,2-Dichloropropane	7.74	63	27885	0.6099 ug/L	88
38) Bromodichloromethane	7.83	83	40637	0.6097 ug/L	93
39) cis-1,3-Dichloropropene	8.56	75	38243	0.5486 ug/L	95
41) trans-1,3-Dichloropropene	9.27	75	31203	0.5316 ug/L	93
43) 1,1,2-Trichloroethane	9.45	97	19035	0.5579 ug/L	96
44) Dibromochloromethane	9.63	129	27887	0.6072 ug/L	98
45) 4-Methyl-2-pentanone	9.24	43	132370	4.8152 ug/L	91
46) Toluene	8.82	91	115974	0.5417 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ30S005.D Vial: 8
Acq Time : 05/17/2018 13:08 Operator: SLS
Sample : VSTD0.5TF VSTD0.5TF 0.5 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 0.5 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 13:27:32 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
48)	Tetrachloroethene	9.24	164	32928	0.6106 ug/L		90
49)	2-Hexanone	10.13	43	103803	4.8547 ug/L		87
51)	1,2-Dibromoethane	9.86	107	17184	0.5954 ug/L	#	98
52)	Chlorobenzene	10.43	112	91348	0.6101 ug/L		95
53)	Ethylbenzene	10.46	91	128068	0.5450 ug/L		99
54)	m,p-Xylene	10.62	106	49248	0.5237 ug/L		94
55)	o-Xylene	11.05	106	45513	0.5327 ug/L		95
56)	Styrene	11.11	104	67091	0.4765 ug/L		97
57)	Isopropylbenzene	11.38	105	109619	0.4943 ug/L		98
58)	1,1,2,2-Tetrachloroethane	11.88	83	18698	0.5721 ug/L		96
61)	Bromoform	11.13	173	14787	0.5589 ug/L	#	95
62)	1,3-Dichlorobenzene	12.74	146	65365	0.6039 ug/L	#	98
63)	1,4-Dichlorobenzene	12.83	146	66315	0.5886 ug/L	#	76
64)	1,2-Dichlorobenzene	13.26	146	54191	0.5771 ug/L		97
66)	1,2-Dibromo-3-chloropropan	14.08	75	1851	0.5229 ug/L		70
67)	1,2,4-Trichlorobenzene	14.81	180	29972	0.6032 ug/L	#	94
68)	1,2,3-Trichlorobenzene	15.35	180	22186	0.6127 ug/L	#	91

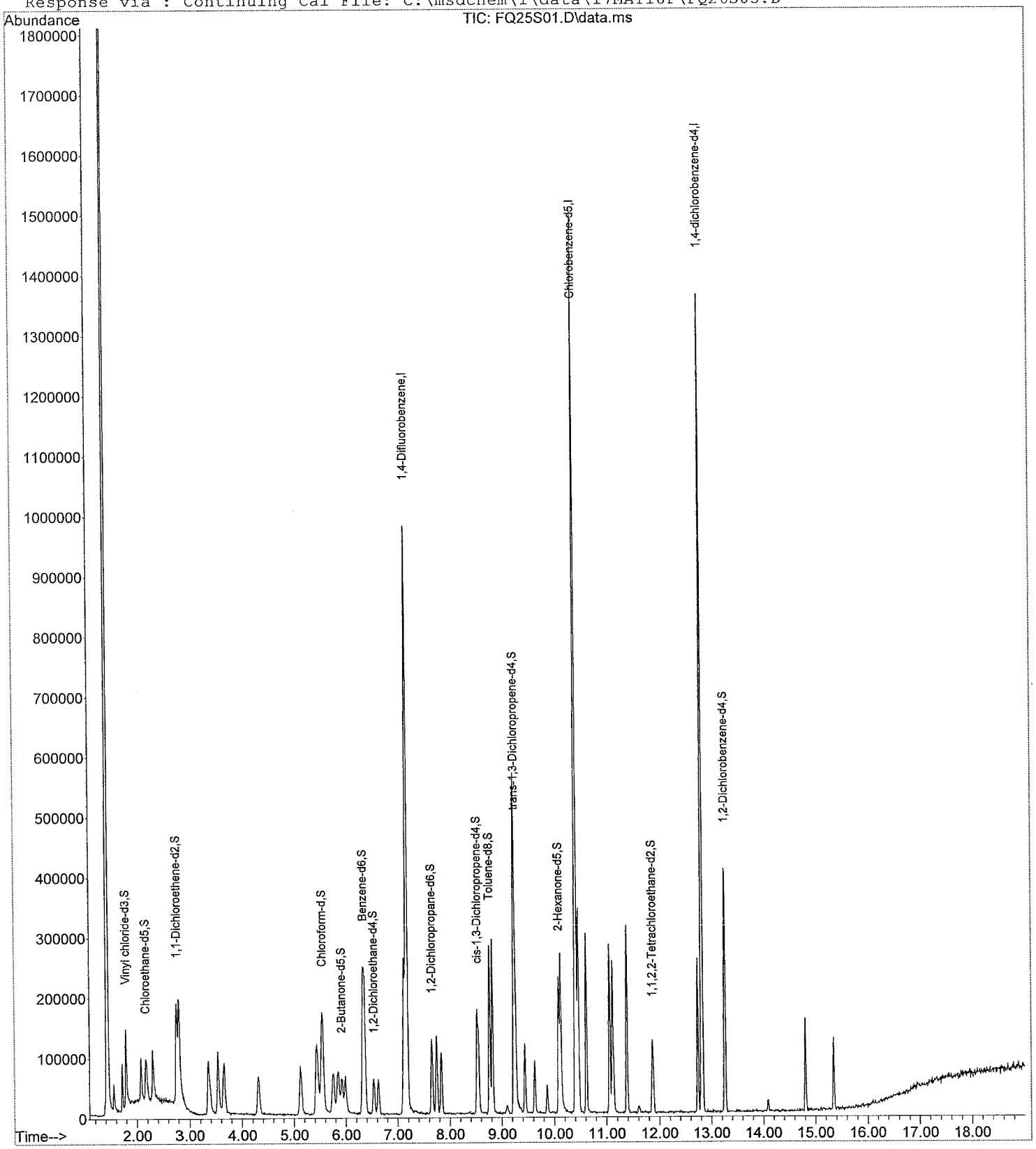
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ25S01.D Vial: 3
Acq Time : 05/17/2018 10:36 Operator: SLS
Sample : VSTD001TF VSTD001TF 1.0 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 1.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 11:31:25 2018 Results File: FTRACEE9.RES

Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal File: C:\msdchem\1\data\17MAY18F\FQ26S05.D



Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ25S01.D Vial: 3
Acq Time : 05/17/2018 10:36 Operator: SLS
Sample : VSTD001TF VSTD001TF 1.0 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 1.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 11:31:25 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 11:31:15 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	961218	5.0000 ug/L	90.10
28) Chlorobenzene-d5	10.41	117	821885	5.0000 ug/L	91.45
60) 1,4-dichlorobenzene-d4	12.82	152	355532	5.0000 ug/L	87.94
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	61378	1.0907 ug/L	21.81%#
8) Chloroethane-d5	2.16	69	50982	1.1253 ug/L	22.51%#
11) 1,1-Dichloroethene-d2	2.76	63	112453	1.1279 ug/L	22.56%#
22) 2-Butanone-d5	5.92	46	104266	10.6400 ug/L	21.28%#
25) Chloroform-d	5.54	84	128496	1.1309 ug/L	22.62%#
27) 1,2-Dichloroethane-d4	6.53	65	51592	1.1705 ug/L	23.41%#
33) Benzene-d6	6.33	84	224214	1.0763 ug/L	21.53%#
37) 1,2-Dichloropropane-d6	7.65	67	61998	1.1366 ug/L	22.73%#
40) cis-1,3-Dichloropropene-d4	8.52	79	90803	1.0403 ug/L	20.81%
42) trans-1,3-Dichloropropene-	9.26	79	54894	0.9638 ug/L	19.28%#
47) Toluene-d8	8.76	98	191461	1.0046 ug/L	20.09%#
50) 2-Hexanone-d5	10.09	63	72294	9.2229 ug/L	18.45%#
59) 1,1,2,2-Tetrachloroethane-	11.86	84	40105	1.1573 ug/L	23.15%#
65) 1,2-Dichlorobenzene-d4	13.26	152	64039	1.0730 ug/L	21.46%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	42086	1.0775 ug/L #	95
3) Chloromethane	1.71	50	67198	1.2017 ug/L	96
4) Vinyl chloride	1.79	62	59003	1.0616 ug/L	99
6) Bromomethane	2.07	94	45428	1.1160 ug/L	98
7) Chloroethane	2.18	64	36959	1.0885 ug/L	95
9) Trichlorofluoromethane	2.30	101	90596	1.0558 ug/L	98
10) 1,1-Dichloroethene	2.76	96	49019	1.0367 ug/L	93
12) 1,1,2-Trichloro-1,2,2-trif	2.81	101	49376	1.1698 ug/L	94
13) Acetone	3.39	43	52303	12.1939 ug/L	86
14) Carbon disulfide	2.81	76	165131	1.1208 ug/L	98
15) Methyl acetate	3.54	43	16357	1.0614 ug/L	94
16) Methylene chloride	3.35	84	50922	1.1601 ug/L	93
17) trans-1,2-Dichloroethene	3.54	96	54518	1.1163 ug/L	91
18) Methyl tert-butyl ether	3.66	73	93553	1.0485 ug/L	83
19) 1,1-Dichloroethane	4.31	63	97213	1.1884 ug/L	95
20) cis-1,2-Dichloroethene	5.12	96	55577	1.0738 ug/L	93
21) 2-Butanone	5.99	43	108013	11.0853 ug/L	97
23) Bromochloromethane	5.43	128	28434	1.1884 ug/L	93
24) Chloroform	5.56	83	105663	1.1458 ug/L	98
26) 1,2-Dichloroethane	6.62	62	58567	1.1072 ug/L	100
29) 1,1,1-Trichloroethane	5.85	97	76023	1.1100 ug/L #	99
30) Cyclohexane	5.44	56	60564	0.9083 ug/L #	82
31) Carbon tetrachloride	5.74	117	70893	1.0750 ug/L	93
32) Benzene	6.36	78	209734	1.0732 ug/L	94
34) Trichloroethene	7.12	130	66142	1.0446 ug/L #	82
35) Methylcyclohexane	7.12	83	49584	0.7421 ug/L #	84
36) 1,2-Dichloropropane	7.74	63	46951	1.0285 ug/L	85
38) Bromodichloromethane	7.83	83	73754	1.1081 ug/L	91
39) cis-1,3-Dichloropropene	8.55	75	68511	0.9843 ug/L	95
41) trans-1,3-Dichloropropene	9.27	75	56787	0.9688 ug/L	92
43) 1,1,2-Trichloroethane	9.44	97	34853	1.0229 ug/L	93
44) Dibromochloromethane	9.63	129	49349	1.0761 ug/L	96
45) 4-Methyl-2-pentanone	9.23	43	264697	9.6428 ug/L	90
46) Toluene	8.82	91	215998	1.0103 ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ25S01.D Vial: 3
Acq Time : 05/17/2018 10:36 Operator: SLS
Sample : VSTD001TF VSTD001TF 1.0 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 1.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 11:31:25 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 11:31:15 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	56176	1.0431 ug/L	92
49) 2-Hexanone	10.12	43	202706	9.4938 ug/L	90
51) 1,2-Dibromoethane	9.87	107	32506	1.1280 ug/L	96
52) Chlorobenzene	10.43	112	158822	1.0624 ug/L	96
53) Ethylbenzene	10.46	91	234745	1.0004 ug/L	99
54) m,p-Xylene	10.62	106	87428	0.9311 ug/L	99
55) o-Xylene	11.05	106	78076	0.9152 ug/L	99
56) Styrene	11.11	104	119844	0.8524 ug/L	97
57) Isopropylbenzene	11.38	105	199873	0.9026 ug/L	98
58) 1,1,2,2-Tetrachloroethane	11.88	83	36388	1.1150 ug/L	97
61) Bromoform	11.13	173	27974	1.0856 ug/L #	96
62) 1,3-Dichlorobenzene	12.74	146	114454	1.0855 ug/L #	96
63) 1,4-Dichlorobenzene	12.83	146	116457	1.0613 ug/L #	89
64) 1,2-Dichlorobenzene	13.26	146	97825	1.0695 ug/L	96
66) 1,2-Dibromo-3-chloropropan	14.09	75	4650	1.3485 ug/L	98
67) 1,2,4-Trichlorobenzene	14.80	180	51748	1.0692 ug/L	96
68) 1,2,3-Trichlorobenzene	15.35	180	39229	1.1122 ug/L #	95

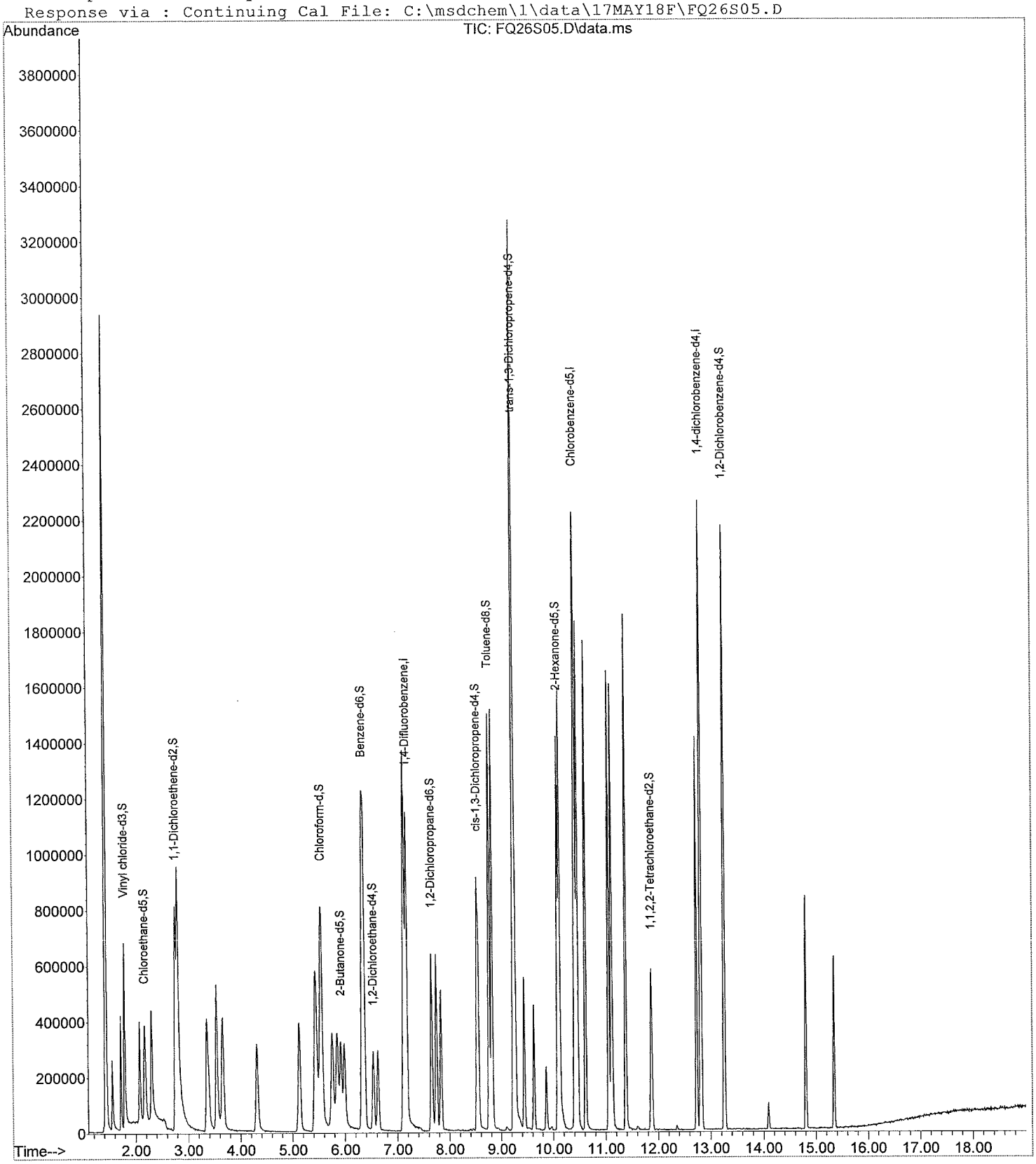
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ26S05.D Vial: 4
Acq Time : 05/17/2018 11:04 Operator: SLS
Sample : VSTD005TF VSTD005TF 5.0 ug/L CCV Inst : 5975-F
Misc : 2.5 uL 41863; 5.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 11:30:33 2018 Results File: FTRACEE9.RES

Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal File: C:\msdchem\1\data\17MAY18F\FQ26S05.D



Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ26S05.D Vial: 4
Acq Time : 05/17/2018 11:04 Operator: SLS
Sample : VSTD005TF VSTD005TF 5.0 ug/L CCV Inst : 5975-F
Misc : 2.5 uL 41863; 5.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 11:30:33 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 11:30:25 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1066869	5.0000 ug/L	100.00
28) Chlorobenzene-d5	10.41	117	898749	5.0000 ug/L	100.00
60) 1,4-dichlorobenzene-d4	12.82	152	404306	5.0000 ug/L	100.00
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	312301	5.0000 ug/L	100.00%
8) Chloroethane-d5	2.16	69	251423	5.0000 ug/L	100.00%
11) 1,1-Dichloroethene-d2	2.76	63	553310	5.0000 ug/L	100.00%
22) 2-Butanone-d5	5.92	46	543826	50.0000 ug/L	100.00%
25) Chloroform-d	5.54	84	630561	5.0000 ug/L	100.00%
27) 1,2-Dichloroethane-d4	6.54	65	244613	5.0000 ug/L	100.00%
33) Benzene-d6	6.33	84	1139046	5.0000 ug/L	100.00%
37) 1,2-Dichloropropane-d6	7.65	67	298254	5.0000 ug/L	100.00%
40) cis-1,3-Dichloropropene-d4	8.53	79	477226	5.0000 ug/L	100.00%
42) trans-1,3-Dichloropropene-	9.26	79	311407	5.0000 ug/L	100.00%
47) Toluene-d8	8.76	98	1042049	5.0000 ug/L	100.00%
50) 2-Hexanone-d5	10.09	63	428581	50.0000 ug/L	100.00%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	189469	5.0000 ug/L	100.00%
65) 1,2-Dichlorobenzene-d4	13.26	152	339357	5.0000 ug/L	100.00%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	216758	5.0000 ug/L #	98
3) Chloromethane	1.72	50	310319	5.0000 ug/L	100
4) Vinyl chloride	1.79	62	308429	5.0000 ug/L	100
6) Bromomethane	2.07	94	225899	5.0000 ug/L	97
7) Chloroethane	2.18	64	188427	5.0000 ug/L	94
9) Trichlorofluoromethane	2.30	101	476213	5.0000 ug/L	98
10) 1,1-Dichloroethene	2.77	96	262414	5.0000 ug/L	92
12) 1,1,2-Trichloro-1,2,2-trif	2.81	101	234241	5.0000 ug/L	95
13) Acetone	3.39	43	238037	50.0000 ug/L	86
14) Carbon disulfide	2.81	76	817648	5.0000 ug/L	99
15) Methyl acetate	3.54	43	85525	5.0000 ug/L	96
16) Methylene chloride	3.35	84	243589	5.0000 ug/L	91
17) trans-1,2-Dichloroethene	3.54	96	271031	5.0000 ug/L	92
18) Methyl tert-butyl ether	3.66	73	495179	5.0000 ug/L	91
19) 1,1-Dichloroethane	4.31	63	453949	5.0000 ug/L	97
20) cis-1,2-Dichloroethene	5.13	96	287227	5.0000 ug/L	93
21) 2-Butanone	5.99	43	540740	50.0000 ug/L	99
23) Bromochloromethane	5.43	128	132779	5.0000 ug/L	98
24) Chloroform	5.56	83	511769	5.0000 ug/L	99
26) 1,2-Dichloroethane	6.63	62	293551	5.0000 ug/L	99
29) 1,1,1-Trichloroethane	5.85	97	374470	5.0000 ug/L #	100
30) Cyclohexane	5.45	56	364583	5.0000 ug/L #	88
31) Carbon tetrachloride	5.76	117	360588	5.0000 ug/L #	91
32) Benzene	6.36	78	1068570	5.0000 ug/L	93
34) Trichloroethene	7.13	130	346204	5.0000 ug/L	95
35) Methylcyclohexane	7.12	83	365309	5.0000 ug/L	87
36) 1,2-Dichloropropane	7.74	63	249607	5.0000 ug/L	94
38) Bromodichloromethane	7.84	83	363911	5.0000 ug/L	94
39) cis-1,3-Dichloropropene	8.55	75	380574	5.0000 ug/L	97
41) trans-1,3-Dichloropropene	9.27	75	320490	5.0000 ug/L	91
43) 1,1,2-Trichloroethane	9.44	97	186294	5.0000 ug/L	94
44) Dibromochloromethane	9.63	129	250741	5.0000 ug/L	98
45) 4-Methyl-2-pentanone	9.24	43	1500878	50.0000 ug/L	93
46) Toluene	8.82	91	1168911	5.0000 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ26S05.D Vial: 4
Acq Time : 05/17/2018 11:04 Operator: SLS
Sample : VSTD005TF VSTD005TF 5.0 ug/L CCV Inst : 5975-F
Misc : 2.5 uL 41863; 5.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 11:30:33 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 11:30:25 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	294447	5.0000 ug/L	92
49) 2-Hexanone	10.12	43	1167409	50.0000 ug/L	93
51) 1,2-Dibromoethane	9.87	107	157564	5.0000 ug/L	99
52) Chlorobenzene	10.43	112	817402	5.0000 ug/L	100
53) Ethylbenzene	10.46	91	1283032	5.0000 ug/L	99
54) m,p-Xylene	10.62	106	513393	5.0000 ug/L	97
55) o-Xylene	11.05	106	466458	5.0000 ug/L	95
56) Styrene	11.11	104	768702	5.0000 ug/L	98
57) Isopropylbenzene	11.38	105	1210766	5.0000 ug/L	98
58) 1,1,2,2-Tetrachloroethane	11.88	83	178431	5.0000 ug/L	98
61) Bromoform	11.13	173	146520	5.0000 ug/L	98
62) 1,3-Dichlorobenzene	12.74	146	599497	5.0000 ug/L #	98
63) 1,4-Dichlorobenzene	12.83	146	623929	5.0000 ug/L	99
64) 1,2-Dichlorobenzene	13.26	146	520098	5.0000 ug/L	97
66) 1,2-Dibromo-3-chloropropan	14.09	75	19606	5.0000 ug/L	88
67) 1,2,4-Trichlorobenzene	14.81	180	275205	5.0000 ug/L	95
68) 1,2,3-Trichlorobenzene	15.35	180	200557	5.0000 ug/L #	94

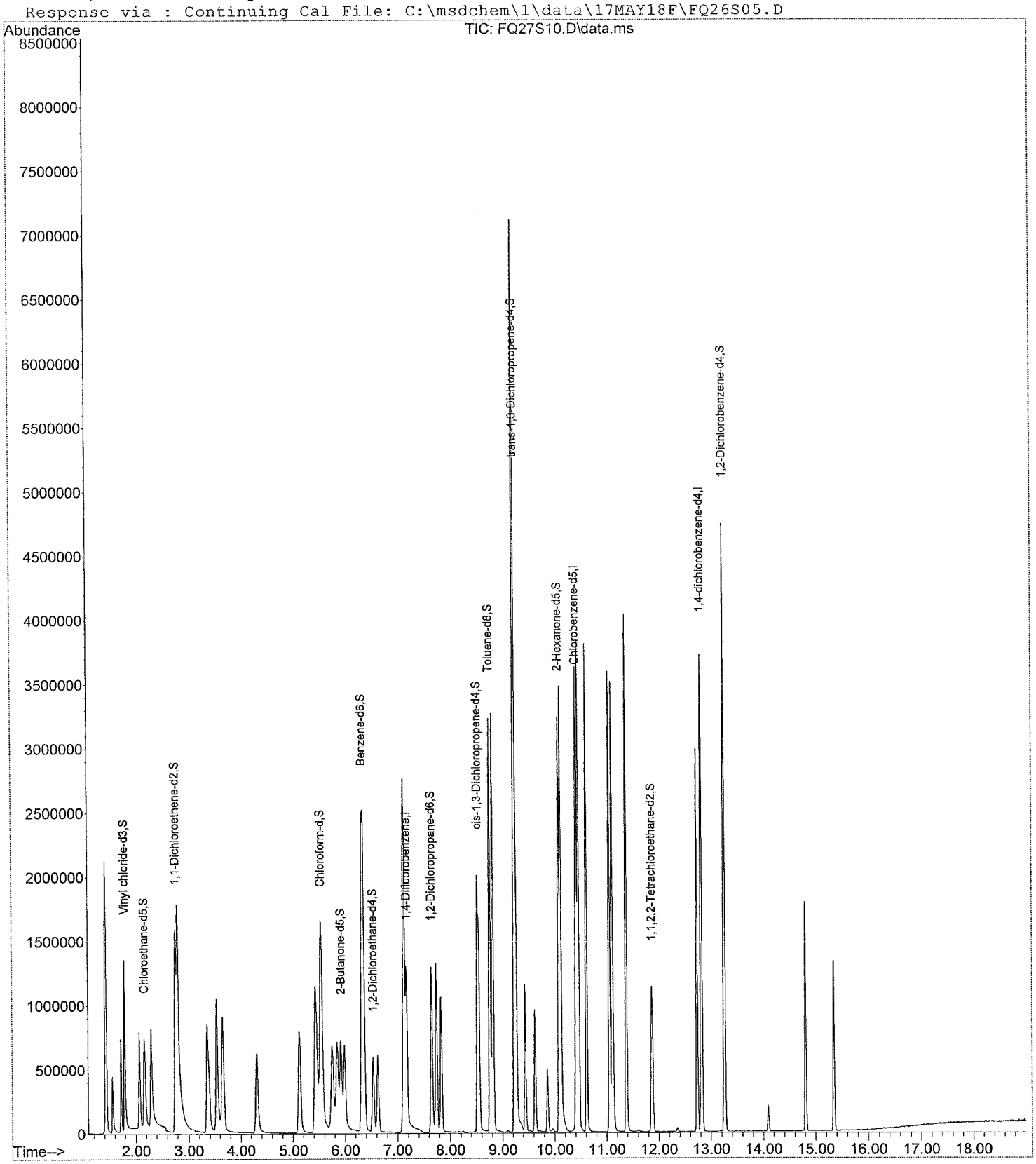
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ27S10.D Vial: 5
Acq Time : 05/17/2018 11:32 Operator: SLS
Sample : VSTD010TF VSTD010TF 10 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 10.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 12:14:35 2018 Results File: FTRACEE9.RES

Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal File: C:\msdchem\1\data\17MAY18F\FQ26S05.D



Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ27S10.D Vial: 5
Acq Time : 05/17/2018 11:32 Operator: SLS
Sample : VSTD010TF VSTD010TF 10 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 10.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 12:14:35 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 11:31:34 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1134223	5.0000	ug/L	106.31
28) Chlorobenzene-d5	10.41	117	939744	5.0000	ug/L	104.56
60) 1,4-dichlorobenzene-d4	12.82	152	441848	5.0000	ug/L	109.29
System Monitoring Compounds						%Recovery
5) Vinyl chloride-d3	1.78	65	644781	9.7101	ug/L	194.20%#
8) Chloroethane-d5	2.16	69	501395	9.3790	ug/L	187.58%#
11) 1,1-Dichloroethene-d2	2.76	63	1105752	9.3988	ug/L	187.98%#
22) 2-Butanone-d5	5.92	46	1170825	101.2546	ug/L	202.51%#
25) Chloroform-d	5.53	84	1308426	9.7590	ug/L	195.18%#
27) 1,2-Dichloroethane-d4	6.53	65	512147	9.8469	ug/L	196.94%#
33) Benzene-d6	6.33	84	2341040	9.8280	ug/L	196.56%#
37) 1,2-Dichloropropane-d6	7.65	67	632171	10.1355	ug/L	202.71%#
40) cis-1,3-Dichloropropene-d4	8.53	79	1040727	10.4283	ug/L	208.57%
42) trans-1,3-Dichloropropene-	9.26	79	664045	10.1969	ug/L	203.94%#
47) Toluene-d8	8.76	98	2274676	10.4383	ug/L	208.77%#
50) 2-Hexanone-d5	10.09	63	997021	111.2424	ug/L	222.48%#
59) 1,1,2,2-Tetrachloroethane-	11.86	84	397736	10.0382	ug/L	200.76%#
65) 1,2-Dichlorobenzene-d4	13.25	152	736049	9.9233	ug/L	198.47%#
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.56	85	397698	8.6290	ug/L #	99
3) Chloromethane	1.71	50	612493	9.2827	ug/L	99
4) Vinyl chloride	1.79	62	618069	9.4246	ug/L	99
6) Bromomethane	2.07	94	456236	9.4986	ug/L	98
7) Chloroethane	2.18	64	383115	9.5624	ug/L	95
9) Trichlorofluoromethane	2.30	101	937773	9.2615	ug/L	98
10) 1,1-Dichloroethene	2.76	96	516139	9.2504	ug/L	95
12) 1,1,2-Trichloro-1,2,2-trif	2.80	101	450709	9.0493	ug/L	94
13) Acetone	3.39	43	503359	99.4526	ug/L	86
14) Carbon disulfide	2.81	76	1623850	9.3403	ug/L	98
15) Methyl acetate	3.53	43	172145	9.4664	ug/L	99
16) Methylene chloride	3.35	84	494393	9.5455	ug/L	92
17) trans-1,2-Dichloroethene	3.54	96	548275	9.5140	ug/L	93
18) Methyl tert-butyl ether	3.65	73	1093773	10.3884	ug/L	94
19) 1,1-Dichloroethane	4.31	63	945403	9.7947	ug/L	98
20) cis-1,2-Dichloroethene	5.13	96	598697	9.8031	ug/L	92
21) 2-Butanone	5.99	43	1186647	103.2086	ug/L	99
23) Bromochloromethane	5.43	128	276106	9.7798	ug/L	97
24) Chloroform	5.56	83	1029389	9.4599	ug/L	97
26) 1,2-Dichloroethane	6.62	62	606642	9.7192	ug/L	98
29) 1,1,1-Trichloroethane	5.85	97	771243	9.8486	ug/L #	97
30) Cyclohexane	5.45	56	744161	9.7604	ug/L #	87
31) Carbon tetrachloride	5.75	117	725832	9.6255	ug/L #	88
32) Benzene	6.36	78	2197852	9.8355	ug/L	92
34) Trichloroethene	7.12	130	728042	10.0560	ug/L	98
35) Methylcyclohexane	7.12	83	722104	9.4523	ug/L	88
36) 1,2-Dichloropropane	7.74	63	514474	9.8561	ug/L	93
38) Bromodichloromethane	7.83	83	749343	9.8466	ug/L	94
39) cis-1,3-Dichloropropene	8.55	75	844339	10.6091	ug/L	95
41) trans-1,3-Dichloropropene	9.27	75	699935	10.4434	ug/L	91
43) 1,1,2-Trichloroethane	9.44	97	376112	9.6542	ug/L	94
44) Dibromochloromethane	9.63	129	533445	10.1733	ug/L	98
45) 4-Methyl-2-pentanone	9.23	43	3372293	107.4432	ug/L	94
46) Toluene	8.82	91	2493312	10.1999	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ27S10.D Vial: 5
Acq Time : 05/17/2018 11:32 Operator: SLS
Sample : VSTD010TF VSTD010TF 10 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 10.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 12:14:35 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 11:31:34 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
48)	Tetrachloroethene	9.24	164	606398	9.8480	ug/L		92
49)	2-Hexanone	10.12	43	2567178	105.1555	ug/L		94
51)	1,2-Dibromoethane	9.87	107	340696	10.3397	ug/L		99
52)	Chlorobenzene	10.43	112	1691743	9.8969	ug/L		98
53)	Ethylbenzene	10.46	91	2729983	10.1747	ug/L		99
54)	m,p-Xylene	10.62	106	1106543	10.3066	ug/L		97
55)	o-Xylene	11.05	106	1036609	10.6268	ug/L		96
56)	Styrene	11.11	104	1706571	10.6161	ug/L		97
57)	Isopropylbenzene	11.38	105	2706412	10.6889	ug/L		99
58)	1,1,2,2-Tetrachloroethane	11.88	83	377746	10.1234	ug/L		97
61)	Bromoform	11.13	173	317996	9.9296	ug/L		95
62)	1,3-Dichlorobenzene	12.74	146	1297823	9.9046	ug/L	#	96
63)	1,4-Dichlorobenzene	12.83	146	1338645	9.8161	ug/L		97
64)	1,2-Dichlorobenzene	13.26	146	1149592	10.1127	ug/L		95
66)	1,2-Dibromo-3-chloropropan	14.09	75	40890	9.5419	ug/L		84
67)	1,2,4-Trichlorobenzene	14.81	180	595708	9.9034	ug/L		95
68)	1,2,3-Trichlorobenzene	15.35	180	442150	10.0865	ug/L	#	94

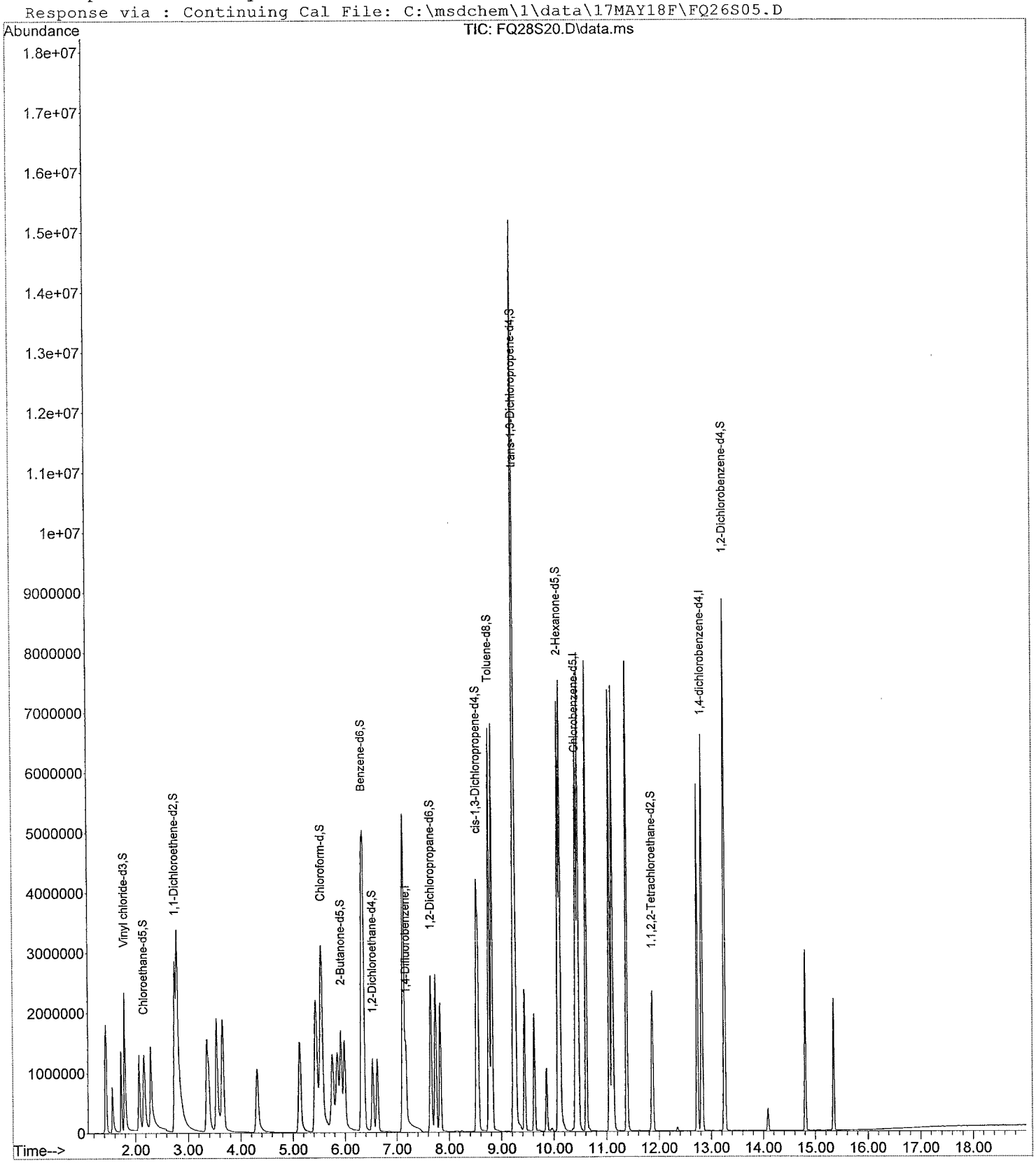
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ28S20.D Vial: 6
Acq Time : 05/17/2018 12:00 Operator: SLS
Sample : VSTD020TF VSTD020TF 20 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 20.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 12:19:10 2018 Results File: FTRACEE9.RES

Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 13:24:33 2018
Response via : Continuing Cal File: C:\msdchem\1\data\17MAY18F\FQ26S05.D



Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ28S20.D Vial: 6
Acq Time : 05/17/2018 12:00 Operator: SLS
Sample : VSTD020TF VSTD020TF 20 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 20.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 12:19:10 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 12:17:09 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1162167	5.0000	ug/L	108.93
28) Chlorobenzene-d5	10.41	117	963560	5.0000	ug/L	107.21
60) 1,4-dichlorobenzene-d4	12.82	152	437421	5.0000	ug/L	108.19

System Monitoring Compounds						%Recovery
5) Vinyl chloride-d3	1.79	65	1273950	18.7237	ug/L	374.47%#
8) Chloroethane-d5	2.16	69	978231	17.8587	ug/L	357.17%#
11) 1,1-Dichloroethene-d2	2.76	63	2177920	18.0670	ug/L	361.34%#
22) 2-Butanone-d5	5.92	46	2627451	221.7620	ug/L	443.52%#
25) Chloroform-d	5.54	84	2587969	18.8384	ug/L	376.77%#
27) 1,2-Dichloroethane-d4	6.54	65	1040139	19.5175	ug/L	390.35%#
33) Benzene-d6	6.33	84	4682434	19.1717	ug/L	383.43%#
37) 1,2-Dichloropropane-d6	7.65	67	1258488	19.6785	ug/L	393.57%#
40) cis-1,3-Dichloropropene-d4	8.53	79	2233443	21.8263	ug/L	436.53%#
42) trans-1,3-Dichloropropene-	9.26	79	1398620	20.9460	ug/L	418.92%#
47) Toluene-d8	8.76	98	4563938	20.4259	ug/L	408.52%#
50) 2-Hexanone-d5	10.09	63	2223365	241.9399	ug/L	483.88%#
59) 1,1,2,2-Tetrachloroethane-	11.86	84	795404	19.5785	ug/L	391.57%#
65) 1,2-Dichlorobenzene-d4	13.26	152	1361117	18.5361	ug/L	370.72%#

Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.56	85	807421	17.0977	ug/L	#	99
3) Chloromethane	1.72	50	1211328	17.9170	ug/L		98
4) Vinyl chloride	1.79	62	1246108	18.5444	ug/L		99
6) Bromomethane	2.07	94	907318	18.4356	ug/L		97
7) Chloroethane	2.18	64	770247	18.7629	ug/L		96
9) Trichlorofluoromethane	2.30	101	1881957	18.1393	ug/L		99
10) 1,1-Dichloroethene	2.77	96	1051858	18.3985	ug/L		93
12) 1,1,2-Trichloro-1,2,2-trif	2.81	101	939114	18.4021	ug/L		89
13) Acetone	3.39	43	1100926	212.2884	ug/L		88
14) Carbon disulfide	2.81	76	3202755	17.9792	ug/L		98
15) Methyl acetate	3.54	43	381383	20.4683	ug/L		98
16) Methylene chloride	3.35	84	991449	18.6821	ug/L		92
17) trans-1,2-Dichloroethene	3.54	96	1101329	18.6514	ug/L		92
18) Methyl tert-butyl ether	3.65	73	2331589	21.6124	ug/L		95
19) 1,1-Dichloroethane	4.31	63	1830557	18.5092	ug/L		97
20) cis-1,2-Dichloroethene	5.13	96	1203521	19.2327	ug/L		92
21) 2-Butanone	5.99	43	2565204	217.7439	ug/L		99
23) Bromochloromethane	5.43	128	576758	19.9378	ug/L		97
24) Chloroform	5.56	83	2082464	18.6774	ug/L		95
26) 1,2-Dichloroethane	6.63	62	1244313	19.4562	ug/L		97
29) 1,1,1-Trichloroethane	5.85	97	1550070	19.3047	ug/L	#	94
30) Cyclohexane	5.46	56	1554751	19.8881	ug/L		94
31) Carbon tetrachloride	5.76	117	1380397	17.8535	ug/L	#	86
32) Benzene	6.36	78	4435809	19.3597	ug/L		92
34) Trichloroethene	7.13	130	1475416	19.8752	ug/L		96
35) Methylcyclohexane	7.12	83	1549884	19.7865	ug/L	#	85
36) 1,2-Dichloropropane	7.74	63	1049624	19.6113	ug/L		94
38) Bromodichloromethane	7.84	83	1525551	19.5507	ug/L		94
39) cis-1,3-Dichloropropene	8.55	75	1767985	21.6655	ug/L		97
41) trans-1,3-Dichloropropene	9.27	75	1439476	20.9469	ug/L		93
43) 1,1,2-Trichloroethane	9.44	97	787926	19.7250	ug/L		94
44) Dibromochloromethane	9.63	129	1096679	20.3978	ug/L		98
45) 4-Methyl-2-pentanone	9.23	43	7305202	226.9951	ug/L		94
46) Toluene	8.82	91	5125475	20.4495	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ28S20.D Vial: 6
Acq Time : 05/17/2018 12:00 Operator: SLS
Sample : VSTD020TF VSTD020TF 20 ug/L ICV Inst : 5975-F
Misc : 2.5 uL 41863; 20.0 uL 41864, 66/50 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 12:19:10 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 12:17:09 2018
Response via : Continuing Cal C:\msdchem\1\data\17MAY18F\FQ26S05.D
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	1234667	19.5557 ug/L	92
49) 2-Hexanone	10.12	43	5481409	218.9772 ug/L	94
51) 1,2-Dibromoethane	9.87	107	716625	21.2112 ug/L #	98
52) Chlorobenzene	10.43	112	3461897	19.7519 ug/L	98
53) Ethylbenzene	10.46	91	5606441	20.3788 ug/L	99
54) m,p-Xylene	10.62	106	2253810	20.4737 ug/L	98
55) o-Xylene	11.05	106	2103239	21.0284 ug/L	97
56) Styrene	11.11	104	3530551	21.4197 ug/L	97
57) Isopropylbenzene	11.38	105	5440581	20.9563 ug/L	99
58) 1,1,2,2-Tetrachloroethane	11.88	83	757444	19.7975 ug/L	97
61) Bromoform	11.13	173	677736	21.3769 ug/L #	98
62) 1,3-Dichlorobenzene	12.74	146	2576333	19.8607 ug/L #	96
63) 1,4-Dichlorobenzene	12.83	146	2658883	19.6945 ug/L	95
64) 1,2-Dichlorobenzene	13.26	146	2122550	18.8605 ug/L	96
66) 1,2-Dibromo-3-chloropropan	14.09	75	74430	17.5444 ug/L	84
67) 1,2,4-Trichlorobenzene	14.81	180	1011199	16.9809 ug/L	96
68) 1,2,3-Trichlorobenzene	15.35	180	717468	16.5328 ug/L #	95

(#) = qualifier out of range (m) = manual integration

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/17/2018 Time: 13:48

Lab File ID: FQ31S05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VICVTF Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.202	0.247	0.010	22.3	40.0
Chloromethane	0.315	0.327	0.010	3.7	30.0
Vinyl chloride	0.302	0.297	0.010	-1.8	30.0
Bromomethane	0.225	0.211	0.010	-5.9	30.0
Chloroethane	0.191	0.179	0.010	-6.4	30.0
Trichlorofluoromethane	0.451	0.443	0.010	-1.8	30.0
1,1-Dichloroethene	0.251	0.220	0.020	-12.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.233	0.196	0.010	-15.9	30.0
Acetone	0.024	0.030	0.010	20.6	40.0
Carbon disulfide	0.805	0.697	0.010	-13.4	25.0
Methyl acetate	0.082	0.085	0.010	3.4	40.0
Methylene chloride	0.246	0.226	0.010	-7.9	30.0
trans-1,2-Dichloroethene	0.271	0.236	0.070	-13.0	20.0
Methyl tert-butyl ether	0.498	0.476	0.010	-4.4	30.0
1,1-Dichloroethane	0.463	0.401	0.100	-13.5	20.0
cis-1,2-Dichloroethene	0.285	0.258	0.100	-9.3	20.0
2-Butanone	0.054	0.063	0.010	16.5	40.0
Bromochloromethane	0.137	0.125	0.020	-8.2	20.0
Chloroform	0.516	0.466	0.040	-9.6	20.0
1,1,1-Trichloroethane	0.442	0.389	0.050	-12.0	20.0
Cyclohexane	0.403	0.306	0.100	-24.0	25.0
Carbon tetrachloride	0.423	0.363	0.020	-14.2	25.0
Benzene	1.243	1.130	0.300	-9.1	20.0
1,2-Dichloroethane	0.290	0.271	0.010	-6.6	25.0
Trichloroethene	0.403	0.365	0.100	-9.4	20.0
Methylcyclohexane	0.367	0.358	0.200	-2.4	25.0
1,2-Dichloropropane	0.290	0.268	0.100	-7.6	20.0
Bromodichloromethane	0.428	0.384	0.090	-10.4	20.0
cis-1,3-Dichloropropene	0.443	0.413	0.100	-6.6	20.0
4-Methyl-2-Pentanone	0.172	0.181	0.010	5.6	30.0
Toluene	1.336	1.240	0.400	-7.2	20.0
trans-1,3-Dichloropropene	0.365	0.345	0.010	-5.7	20.0
1,1,2-Trichloroethane	0.211	0.195	0.040	-7.6	20.0
Tetrachloroethene	0.342	0.310	0.100	-9.4	20.0

FORM 7A-OR
INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/17/2018 Time: 13:48

Lab File ID: FQ31S05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VICVTF Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

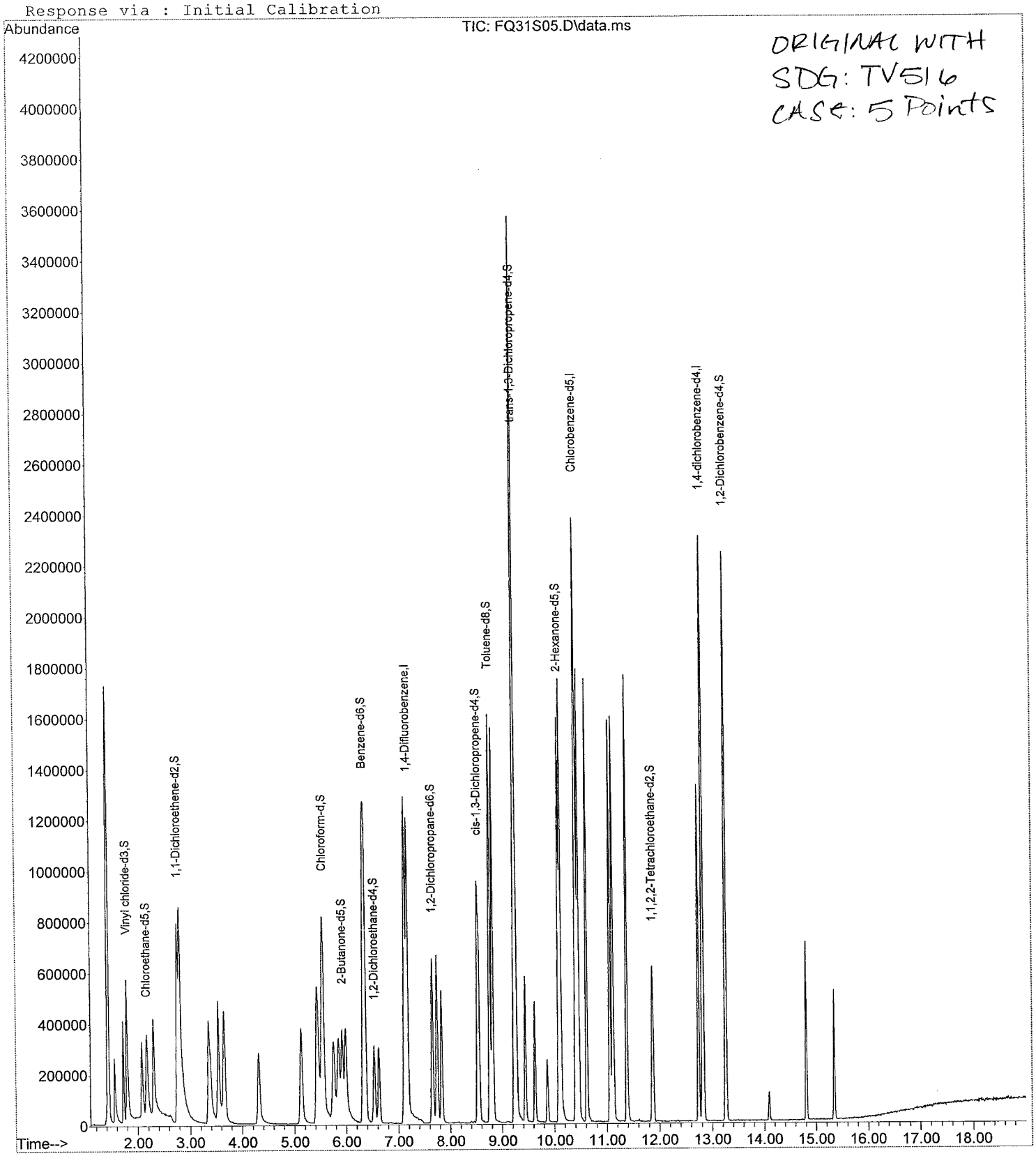
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.132	0.139	0.010	5.2	40.0
Dibromochloromethane	0.297	0.282	0.050	-5.2	20.0
1,2-Dibromoethane	0.190	0.177	0.010	-6.5	20.0
Chlorobenzene	0.957	0.878	0.400	-8.2	20.0
Ethylbenzene	1.464	1.353	0.500	-7.6	20.0
o-Xylene	0.529	0.485	0.300	-8.2	20.0
m,p-Xylene	0.575	0.536	0.200	-6.8	20.0
Styrene	0.845	0.822	0.200	-2.7	20.0
Bromoform	0.382	0.363	0.010	-4.9	30.0
Isopropylbenzene	1.349	1.241	0.700	-8.0	25.0
1,1,2,2-Tetrachloroethane	0.209	0.207	0.050	-0.8	25.0
1,3-Dichlorobenzene	1.565	1.351	0.500	-13.6	20.0
1,4-Dichlorobenzene	1.606	1.414	0.700	-12.0	20.0
1,2-Dichlorobenzene	1.332	1.237	0.400	-7.1	20.0
1,2-Dibromo-3-chloropropane	0.051	0.056	0.010	9.5	40.0
1,2,4-Trichlorobenzene	0.696	0.510	0.300	-26.8	30.0
1,2,3-Trichlorobenzene	0.513	0.382	0.200	-25.6	40.0
Vinyl chloride-d3	0.317	0.307	0.010	-3.0	30.0
Chloroethane-d5	0.249	0.232	0.010	-6.8	30.0
1,1-Dichloroethene-d2	0.542	0.527	0.010	-2.6	25.0
2-Butanone-d5	0.054	0.060	0.010	9.9	40.0
Chloroform-d	0.631	0.576	0.010	-8.8	20.0
1,2-Dichloroethane-d4	0.249	0.236	0.010	-5.0	25.0
Benzene-d6	1.325	1.282	0.030	-3.2	20.0
1,2-Dichloropropane-d6	0.356	0.333	0.100	-6.4	20.0
Toluene-d8	1.204	1.192	0.200	-1.0	20.0
trans-1,3-Dichloropropene-d4	0.353	0.350	0.010	-0.8	25.0
2-Hexanone-d5	0.049	0.052	0.010	4.7	40.0
1,1,2,2-Tetrachloroethane-d2	0.225	0.215	0.010	-4.7	25.0
1,2-Dichlorobenzene-d4	0.869	0.817	0.060	-6.0	20.0

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ31S05.D Vial: 9
Acq Time : 05/17/2018 13:48 Operator: SLS
Sample : VICVTF VICVTF 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL 41865, 41868 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 14:08:49 2018 Results File: FTRACEE9.RES

Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:56 2018
Response via : Initial Calibration



Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ31S05.D Vial: 9
Acq Time : 05/17/2018 13:48 Operator: SLS
Sample : VICVTF VICVTF 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL 41865, 41868 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 14:08:49 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1126506	5.0000	ug/L	105.59
28) Chlorobenzene-d5	10.41	117	955573	5.0000	ug/L	106.32
60) 1,4-dichlorobenzene-d4	12.82	152	445005	5.0000	ug/L	110.07
System Monitoring Compounds						%Recovery
5) Vinyl chloride-d3	1.79	65	345762	4.8485	ug/L	96.97%
8) Chloroethane-d5	2.16	69	261329	4.6615	ug/L	93.23%
11) 1,1-Dichloroethene-d2	2.76	63	594158	4.8687	ug/L	97.37%
22) 2-Butanone-d5	5.92	46	671218	54.9363	ug/L	109.87%
25) Chloroform-d	5.54	84	648445	4.5612	ug/L	91.22%
27) 1,2-Dichloroethane-d4	6.54	65	266067	4.7506	ug/L	95.01%
33) Benzene-d6	6.32	84	1225190	4.8398	ug/L	96.80%
37) 1,2-Dichloropropane-d6	7.65	67	318170	4.6793	ug/L	93.59%
40) cis-1,3-Dichloropropene-d4	8.52	79	516196	4.7783	ug/L	95.57%
42) trans-1,3-Dichloropropene-	9.26	79	334311	4.9613	ug/L	99.23%
47) Toluene-d8	8.76	98	1139407	4.9514	ug/L	99.03%
50) 2-Hexanone-d5	10.09	63	492546	52.3750	ug/L	104.75%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	205094	4.7668	ug/L	95.34%
65) 1,2-Dichlorobenzene-d4	13.26	152	363349	4.6988	ug/L	93.98%
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.56	85	278375	6.1168	ug/L #	99
3) Chloromethane	1.72	50	367930	5.1845	ug/L	97
4) Vinyl chloride	1.79	62	334185	4.9095	ug/L	99
6) Bromomethane	2.07	94	238073	4.7043	ug/L	98
7) Chloroethane	2.18	64	201667	4.6813	ug/L	96
9) Trichlorofluoromethane	2.30	101	499108	4.9095	ug/L	97
10) 1,1-Dichloroethene	2.77	96	247980	4.3812	ug/L	92
12) 1,1,2-Trichloro-1,2,2-trif	2.80	101	220301	4.2049	ug/L	97
13) Acetone	3.39	43	332369	60.2908	ug/L	92
14) Carbon disulfide	2.81	76	785437	4.3281	ug/L	99
15) Methyl acetate	3.53	43	95955	5.1687	ug/L	94
16) Methylene chloride	3.35	84	255116	4.6053	ug/L	90
17) trans-1,2-Dichloroethene	3.54	96	265432	4.3490	ug/L	92
18) Methyl tert-butyl ether	3.65	73	536221	4.7799	ug/L	92
19) 1,1-Dichloroethane	4.31	63	451214	4.3237	ug/L	97
20) cis-1,2-Dichloroethene	5.13	96	291069	4.5364	ug/L	91
21) 2-Butanone	5.99	43	706870	58.2305	ug/L	98
23) Bromochloromethane	5.42	128	141217	4.5912	ug/L	96
24) Chloroform	5.56	83	524767	4.5181	ug/L	96
26) 1,2-Dichloroethane	6.62	62	305734	4.6714	ug/L	98
29) 1,1,1-Trichloroethane	5.85	97	371600	4.3982	ug/L #	96
30) Cyclohexane	5.45	56	292557	3.8008	ug/L #	80
31) Carbon tetrachloride	5.76	117	346657	4.2919	ug/L	98
32) Benzene	6.36	78	1080102	4.5467	ug/L	94
34) Trichloroethene	7.13	130	348851	4.5316	ug/L	97
35) Methylcyclohexane	7.12	83	342277	4.8790	ug/L	88
36) 1,2-Dichloropropane	7.74	63	255797	4.6210	ug/L	94
38) Bromodichloromethane	7.83	83	366597	4.4780	ug/L	95
39) cis-1,3-Dichloropropene	8.55	75	395105	4.6713	ug/L	98
41) trans-1,3-Dichloropropene	9.27	75	329257	4.7148	ug/L	99
43) 1,1,2-Trichloroethane	9.44	97	186263	4.6185	ug/L	95
44) Dibromochloromethane	9.63	129	269344	4.7408	ug/L	98
45) 4-Methyl-2-pentanone	9.24	43	1730530	52.7791	ug/L	93
46) Toluene	8.82	91	1185076	4.6413	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\17MAY18F\FQ31S05.D Vial: 9
Acq Time : 05/17/2018 13:48 Operator: SLS
Sample : VICVTF VICVTF 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL 41865, 41868 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 17 14:08:49 2018 Results File: FTRACEE9.RES

Quant Method : C:\msdchem\1\methods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	296365	4.5279 ug/L	93
49) 2-Hexanone	10.12	43	1323538	52.6136 ug/L	94
51) 1,2-Dibromoethane	9.87	107	169560	4.6742 ug/L #	99
52) Chlorobenzene	10.43	112	839008	4.5884 ug/L	98
53) Ethylbenzene	10.46	91	1292776	4.6213 ug/L	99
54) m,p-Xylene	10.62	106	512109	4.6602 ug/L	97
55) o-Xylene	11.05	106	463879	4.5897 ug/L	95
56) Styrene	11.11	104	785045	4.8629 ug/L	98
57) Isopropylbenzene	11.38	105	1185994	4.5992 ug/L	99
58) 1,1,2,2-Tetrachloroethane	11.88	83	198027	4.9597 ug/L	98
61) Bromoform	11.13	173	161554	4.7565 ug/L #	99
62) 1,3-Dichlorobenzene	12.74	146	601375	4.3179 ug/L #	98
63) 1,4-Dichlorobenzene	12.83	146	629043	4.3996 ug/L	99
64) 1,2-Dichlorobenzene	13.26	146	550646	4.6443 ug/L	96
66) 1,2-Dibromo-3-chloropropan	14.10	75	24707	5.4774 ug/L	96
67) 1,2,4-Trichlorobenzene	14.81	180	226872	3.6608 ug/L	96
68) 1,2,3-Trichlorobenzene	15.35	180	169952	3.7209 ug/L #	94

(#) = qualifier out of range (m) = manual integration

FORM 7A-OR
INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/18/2018 Time: 07:27

Lab File ID: FQ33S05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T1 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.202	0.196	0.010	-2.7	40.0
Chloromethane	0.315	0.284	0.010	-9.7	30.0
Vinyl chloride	0.302	0.268	0.010	-11.4	30.0
Bromomethane	0.225	0.201	0.010	-10.5	30.0
Chloroethane	0.191	0.168	0.010	-11.9	30.0
Trichlorofluoromethane	0.451	0.437	0.010	-3.2	30.0
1,1-Dichloroethene	0.251	0.243	0.020	-3.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.233	0.221	0.010	-4.9	30.0
Acetone	0.024	0.022	0.010	-9.4	40.0
Carbon disulfide	0.805	0.740	0.010	-8.2	25.0
Methyl acetate	0.082	0.075	0.010	-9.5	40.0
Methylene chloride	0.246	0.222	0.010	-9.9	30.0
trans-1,2-Dichloroethene	0.271	0.252	0.070	-7.0	20.0
Methyl tert-butyl ether	0.498	0.459	0.010	-7.8	30.0
1,1-Dichloroethane	0.463	0.413	0.100	-10.8	20.0
cis-1,2-Dichloroethene	0.285	0.257	0.100	-9.6	20.0
2-Butanone	0.054	0.051	0.010	-4.9	40.0
Bromochloromethane	0.137	0.125	0.020	-8.3	20.0
Chloroform	0.516	0.460	0.040	-10.7	20.0
1,1,1-Trichloroethane	0.442	0.424	0.050	-4.0	20.0
Cyclohexane	0.403	0.400	0.100	-0.6	25.0
Carbon tetrachloride	0.423	0.402	0.020	-4.8	25.0
Benzene	1.243	1.174	0.300	-5.6	20.0
1,2-Dichloroethane	0.290	0.266	0.010	-8.3	25.0
Trichloroethene	0.403	0.387	0.100	-3.8	20.0
Methylcyclohexane	0.367	0.388	0.200	5.7	25.0
1,2-Dichloropropane	0.290	0.270	0.100	-6.7	20.0
Bromodichloromethane	0.428	0.394	0.090	-8.1	20.0
cis-1,3-Dichloropropene	0.443	0.422	0.100	-4.7	20.0
4-Methyl-2-Pentanone	0.172	0.167	0.010	-2.6	30.0
Toluene	1.336	1.296	0.400	-3.0	20.0
trans-1,3-Dichloropropene	0.365	0.352	0.010	-3.7	20.0
1,1,2-Trichloroethane	0.211	0.193	0.040	-8.4	20.0
Tetrachloroethene	0.342	0.334	0.100	-2.4	20.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/18/2018 Time: 07:27

Lab File ID: FQ33S05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T1 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

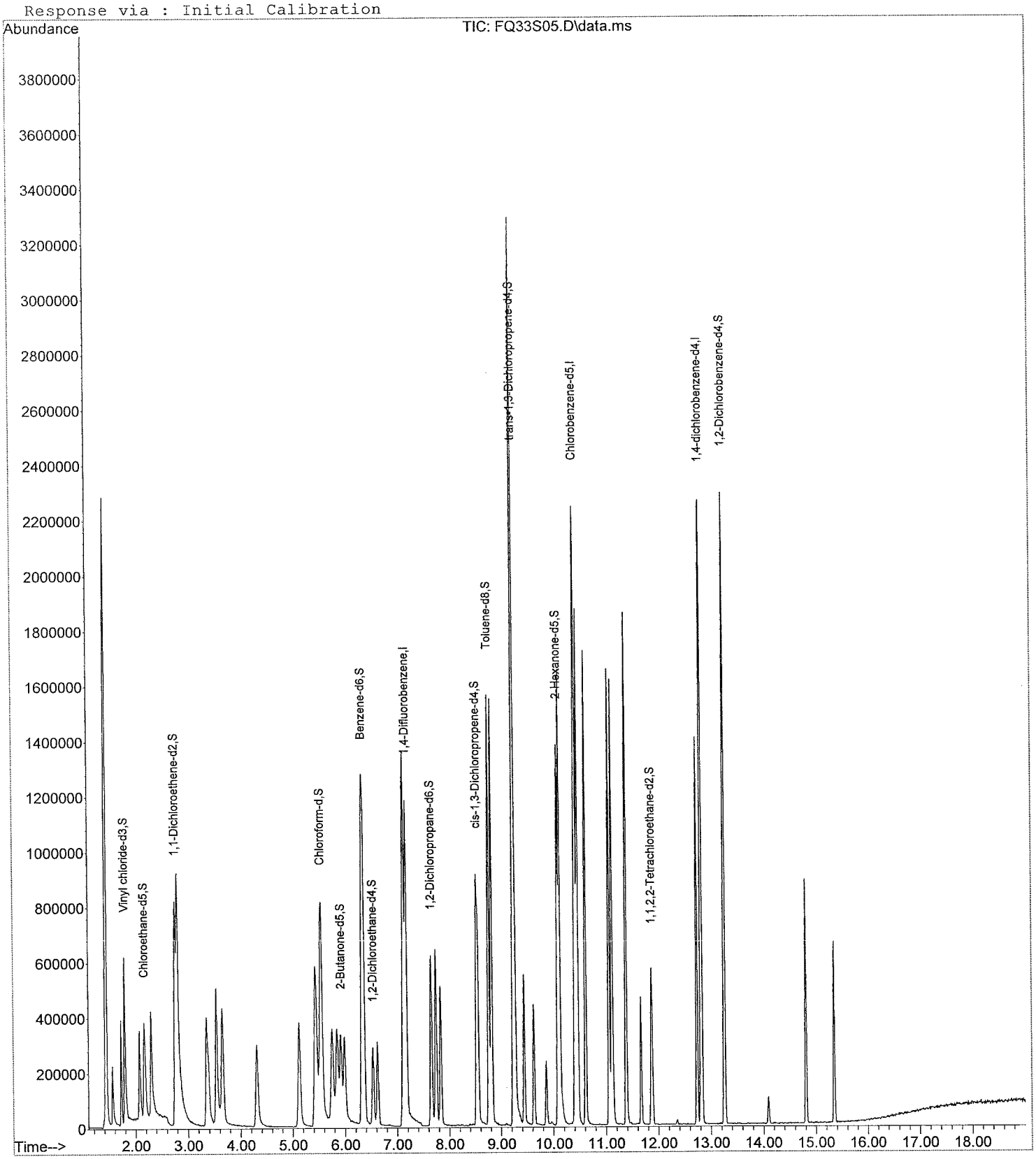
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.132	0.130	0.010	-0.9	40.0
Dibromochloromethane	0.297	0.273	0.050	-8.1	20.0
1,2-Dibromoethane	0.190	0.180	0.010	-5.4	20.0
Chlorobenzene	0.957	0.883	0.400	-7.7	20.0
Ethylbenzene	1.464	1.417	0.500	-3.2	20.0
o-Xylene	0.529	0.508	0.300	-4.0	20.0
m,p-Xylene	0.575	0.551	0.200	-4.2	20.0
Styrene	0.845	0.832	0.200	-1.4	20.0
Bromoform	0.382	0.357	0.010	-6.5	30.0
Isopropylbenzene	1.349	1.359	0.700	0.7	25.0
1,1,2,2-Tetrachloroethane	0.209	0.198	0.050	-5.4	25.0
1,3-Dichlorobenzene	1.565	1.424	0.500	-9.0	20.0
1,4-Dichlorobenzene	1.606	1.502	0.700	-6.5	20.0
1,2-Dichlorobenzene	1.332	1.275	0.400	-4.3	20.0
1,2-Dibromo-3-chloropropane	0.051	0.048	0.010	-4.7	40.0
1,2,4-Trichlorobenzene	0.696	0.686	0.300	-1.4	30.0
1,2,3-Trichlorobenzene	0.513	0.521	0.200	1.6	40.0
Vinyl chloride-d3	0.317	0.310	0.010	-2.0	30.0
Chloroethane-d5	0.249	0.252	0.010	1.1	30.0
1,1-Dichloroethene-d2	0.542	0.536	0.010	-1.0	25.0
2-Butanone-d5	0.054	0.049	0.010	-8.9	40.0
Chloroform-d	0.631	0.582	0.010	-7.8	20.0
1,2-Dichloroethane-d4	0.249	0.221	0.010	-11.2	25.0
Benzene-d6	1.325	1.270	0.030	-4.1	20.0
1,2-Dichloropropane-d6	0.356	0.338	0.100	-5.0	20.0
Toluene-d8	1.204	1.205	0.200	0.0	20.0
trans-1,3-Dichloropropene-d4	0.353	0.337	0.010	-4.5	25.0
2-Hexanone-d5	0.049	0.048	0.010	-3.4	40.0
1,1,2,2-Tetrachloroethane-d2	0.225	0.209	0.010	-7.0	25.0
1,2-Dichlorobenzene-d4	0.869	0.811	0.060	-6.7	20.0

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ33S05.D Vial: 2
Acq Time : 05/18/2018 07:27 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 07:47:03 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ33S05.D Vial: 2
Acq Time : 05/18/2018 07:27 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 07:47:03 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1113921	5.0000 ug/L	104.41
28) Chlorobenzene-d5	10.41	117	923362	5.0000 ug/L	102.74
60) 1,4-dichlorobenzene-d4	12.81	152	428697	5.0000 ug/L	106.03
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	345572	4.9006 ug/L	98.01%
8) Chloroethane-d5	2.16	69	280228	5.0550 ug/L	101.10%
11) 1,1-Dichloroethene-d2	2.76	63	597593	4.9522 ug/L	99.04%
22) 2-Butanone-d5	5.92	46	550599	45.5733 ug/L	91.15%
25) Chloroform-d	5.53	84	648363	4.6122 ug/L	92.24%
27) 1,2-Dichloroethane-d4	6.53	65	245977	4.4415 ug/L	88.83%
33) Benzene-d6	6.33	84	1172371	4.7927 ug/L	95.85%
37) 1,2-Dichloropropane-d6	7.65	67	311961	4.7481 ug/L	94.96%
40) cis-1,3-Dichloropropene-d4	8.52	79	492231	4.7154 ug/L	94.31%
42) trans-1,3-Dichloropropene-	9.26	79	310849	4.7740 ug/L	95.48%
47) Toluene-d8	8.76	98	1112347	5.0025 ug/L	100.05%
50) 2-Hexanone-d5	10.09	63	439106	48.3213 ug/L	96.64%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	193421	4.6523 ug/L	93.05%
65) 1,2-Dichlorobenzene-d4	13.25	152	347612	4.6663 ug/L	93.33%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	218884	4.8639 ug/L #	96
3) Chloromethane	1.72	50	316906	4.5160 ug/L	99
4) Vinyl chloride	1.79	62	298125	4.4293 ug/L	98
6) Bromomethane	2.07	94	224020	4.4766 ug/L	98
7) Chloroethane	2.18	64	187670	4.4056 ug/L	96
9) Trichlorofluoromethane	2.30	101	486442	4.8390 ug/L	99
10) 1,1-Dichloroethene	2.76	96	271117	4.8441 ug/L	93
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	246369	4.7555 ug/L	98
13) Acetone	3.39	43	247025	45.3159 ug/L	87
14) Carbon disulfide	2.81	76	823794	4.5908 ug/L	98
15) Methyl acetate	3.54	43	83083	4.5259 ug/L	97
16) Methylene chloride	3.35	84	246862	4.5067 ug/L	91
17) trans-1,2-Dichloroethene	3.54	96	280619	4.6498 ug/L	89
18) Methyl tert-butyl ether	3.65	73	511634	4.6123 ug/L	93
19) 1,1-Dichloroethane	4.31	63	460237	4.4600 ug/L	98
20) cis-1,2-Dichloroethene	5.13	96	286704	4.5189 ug/L	92
21) 2-Butanone	5.98	43	570973	47.5670 ug/L	99
23) Bromochloromethane	5.43	128	139489	4.5862 ug/L	96
24) Chloroform	5.56	83	512676	4.4639 ug/L	99
26) 1,2-Dichloroethane	6.62	62	296635	4.5836 ug/L	98
29) 1,1,1-Trichloroethane	5.85	97	391791	4.7990 ug/L #	97
30) Cyclohexane	5.45	56	369688	4.9704 ug/L #	89
31) Carbon tetrachloride	5.76	117	371537	4.7604 ug/L	95
32) Benzene	6.36	78	1083767	4.7213 ug/L	93
34) Trichloroethene	7.13	130	357800	4.8100 ug/L	98
35) Methylcyclohexane	7.12	83	358215	5.2843 ug/L	93
36) 1,2-Dichloropropane	7.74	63	249490	4.6643 ug/L	93
38) Bromodichloromethane	7.83	83	363442	4.5943 ug/L	95
39) cis-1,3-Dichloropropene	8.55	75	389295	4.7632 ug/L	97
41) trans-1,3-Dichloropropene	9.27	75	324804	4.8132 ug/L	93
43) 1,1,2-Trichloroethane	9.44	97	178509	4.5806 ug/L	95
44) Dibromochloromethane	9.63	129	252149	4.5930 ug/L	97
45) 4-Methyl-2-pentanone	9.24	43	1542734	48.6929 ug/L	94
46) Toluene	8.82	91	1196449	4.8493 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ33S05.D Vial: 2
Acq Time : 05/18/2018 07:27 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 07:47:03 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	308602	4.8793 ug/L	92
49) 2-Hexanone	10.12	43	1204167	49.5382 ug/L	94
51) 1,2-Dibromoethane	9.87	107	165870	4.7320 ug/L	97
52) Chlorobenzene	10.43	112	815770	4.6170 ug/L	99
53) Ethylbenzene	10.46	91	1308003	4.8388 ug/L	99
54) m,p-Xylene	10.62	106	508758	4.7912 ug/L	99
55) o-Xylene	11.05	106	468795	4.8002 ug/L	97
56) Styrene	11.11	104	768679	4.9276 ug/L	98
57) Isopropylbenzene	11.38	105	1254511	5.0346 ug/L	99
58) 1,1,2,2-Tetrachloroethane	11.88	83	182503	4.7304 ug/L	97
61) Bromoform	11.13	173	152920	4.6736 ug/L	97
62) 1,3-Dichlorobenzene	12.74	146	610349	4.5491 ug/L #	97
63) 1,4-Dichlorobenzene	12.83	146	643929	4.6751 ug/L	97
64) 1,2-Dichlorobenzene	13.26	146	546393	4.7838 ug/L	96
66) 1,2-Dibromo-3-chloropropan	14.08	75	20700	4.7636 ug/L	83
67) 1,2,4-Trichlorobenzene	14.81	180	294274	4.9290 ug/L #	96
68) 1,2,3-Trichlorobenzene	15.35	180	223437	5.0780 ug/L #	92

(#) = qualifier out of range (m) = manual integration

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/18/2018 Time: 14:16

Lab File ID: FQ47F05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T2 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.202	0.184	0.010	-9.0	50.0
Chloromethane	0.315	0.272	0.010	-13.6	50.0
Vinyl chloride	0.302	0.287	0.010	-4.9	50.0
Bromomethane	0.225	0.201	0.010	-10.4	50.0
Chloroethane	0.191	0.177	0.010	-7.4	50.0
Trichlorofluoromethane	0.451	0.426	0.010	-5.6	50.0
1,1-Dichloroethene	0.251	0.236	0.020	-6.2	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.233	0.222	0.010	-4.6	50.0
Acetone	0.024	0.027	0.010	10.4	50.0
Carbon disulfide	0.805	0.704	0.010	-12.5	25.0
Methyl acetate	0.082	0.084	0.010	1.8	50.0
Methylene chloride	0.246	0.220	0.010	-10.6	50.0
trans-1,2-Dichloroethene	0.271	0.247	0.070	-8.8	25.0
Methyl tert-butyl ether	0.498	0.441	0.010	-11.4	50.0
1,1-Dichloroethane	0.463	0.413	0.100	-10.8	25.0
cis-1,2-Dichloroethene	0.285	0.263	0.100	-7.8	25.0
2-Butanone	0.054	0.053	0.010	-1.0	50.0
Bromochloromethane	0.137	0.120	0.020	-12.1	25.0
Chloroform	0.516	0.448	0.040	-13.2	25.0
1,1,1-Trichloroethane	0.442	0.416	0.050	-5.9	25.0
Cyclohexane	0.403	0.362	0.100	-10.0	50.0
Carbon tetrachloride	0.423	0.372	0.020	-11.9	50.0
Benzene	1.243	1.156	0.300	-7.0	25.0
1,2-Dichloroethane	0.290	0.260	0.010	-10.4	50.0
Trichloroethene	0.403	0.377	0.100	-6.4	25.0
Methylcyclohexane	0.367	0.350	0.200	-4.6	50.0
1,2-Dichloropropane	0.290	0.272	0.100	-6.3	25.0
Bromodichloromethane	0.428	0.364	0.090	-15.1	25.0
cis-1,3-Dichloropropene	0.443	0.378	0.100	-14.6	25.0
4-Methyl-2-Pentanone	0.172	0.161	0.010	-6.3	50.0
Toluene	1.336	1.295	0.400	-3.1	25.0
trans-1,3-Dichloropropene	0.365	0.326	0.010	-10.8	25.0
1,1,2-Trichloroethane	0.211	0.190	0.040	-9.8	25.0
Tetrachloroethene	0.342	0.332	0.100	-3.2	25.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/18/2018 Time: 14:16

Lab File ID: FQ47F05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T2 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

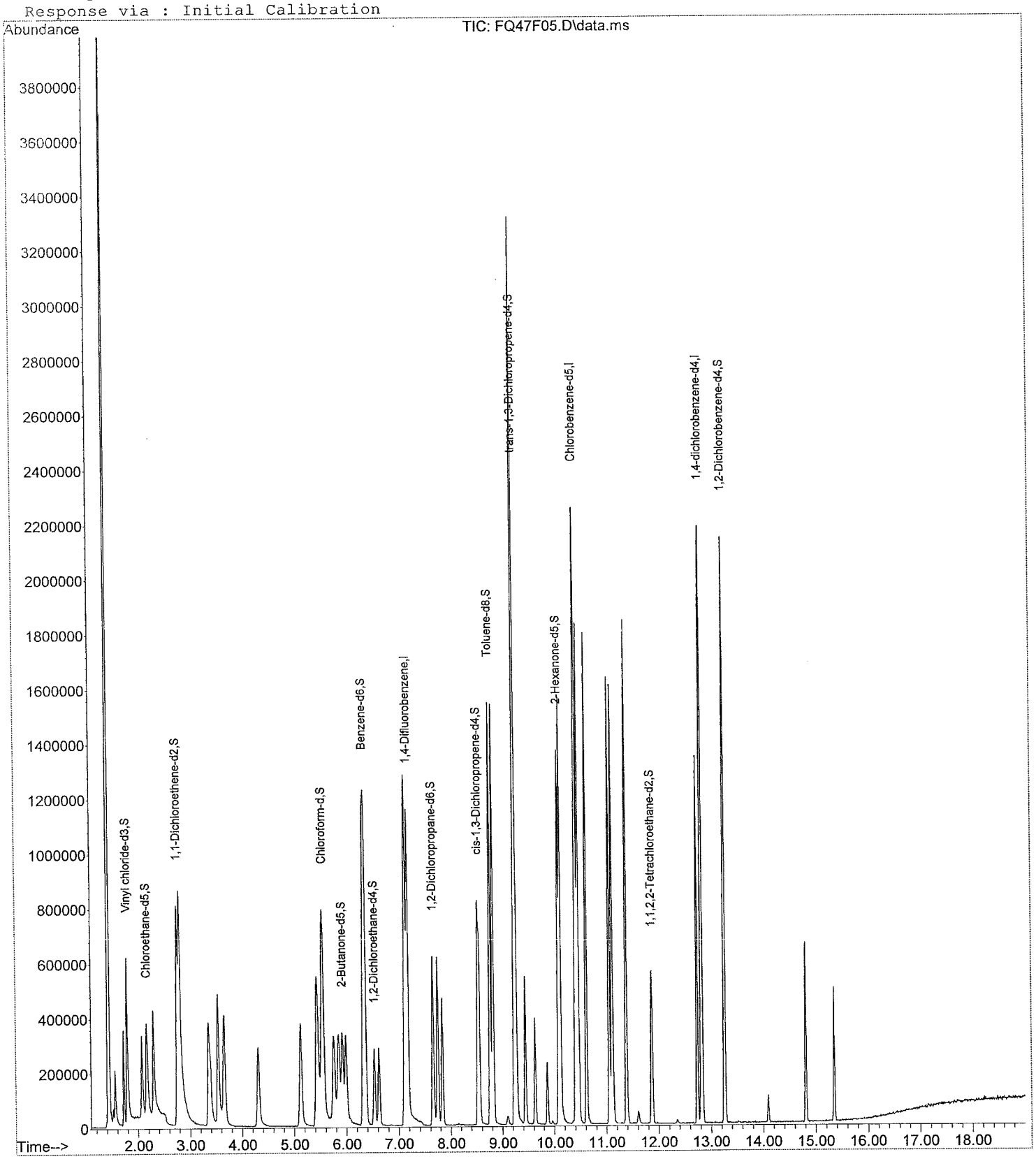
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.132	0.124	0.010	-5.6	50.0
Dibromochloromethane	0.297	0.238	0.050	-20.0	25.0
1,2-Dibromoethane	0.190	0.172	0.010	-9.1	25.0
Chlorobenzene	0.957	0.897	0.400	-6.2	25.0
Ethylbenzene	1.464	1.414	0.500	-3.4	25.0
o-Xylene	0.529	0.507	0.300	-4.2	25.0
m,p-Xylene	0.575	0.562	0.200	-2.3	25.0
Styrene	0.845	0.859	0.200	1.7	25.0
Bromoform	0.382	0.303	0.010	-20.6	50.0
Isopropylbenzene	1.349	1.345	0.700	-0.3	25.0
1,1,2,2-Tetrachloroethane	0.209	0.197	0.050	-5.9	25.0
1,3-Dichlorobenzene	1.565	1.420	0.500	-9.3	25.0
1,4-Dichlorobenzene	1.606	1.504	0.700	-6.4	25.0
1,2-Dichlorobenzene	1.332	1.255	0.400	-5.8	25.0
1,2-Dibromo-3-chloropropane	0.051	0.049	0.010	-3.3	50.0
1,2,4-Trichlorobenzene	0.696	0.533	0.300	-23.5	50.0
1,2,3-Trichlorobenzene	0.513	0.376	0.200	-26.7	50.0
Vinyl chloride-d3	0.317	0.318	0.010	0.4	50.0
Chloroethane-d5	0.249	0.249	0.010	0.1	50.0
1,1-Dichloroethene-d2	0.542	0.519	0.010	-4.1	25.0
2-Butanone-d5	0.054	0.053	0.010	-1.8	50.0
Chloroform-d	0.631	0.590	0.010	-6.6	25.0
1,2-Dichloroethane-d4	0.249	0.215	0.010	-13.5	25.0
Benzene-d6	1.325	1.273	0.030	-3.9	25.0
1,2-Dichloropropane-d6	0.356	0.327	0.100	-8.1	25.0
Toluene-d8	1.204	1.187	0.200	-1.4	25.0
trans-1,3-Dichloropropene-d4	0.353	0.314	0.010	-10.9	25.0
2-Hexanone-d5	0.049	0.046	0.010	-5.8	50.0
1,1,2,2-Tetrachloroethane-d2	0.225	0.202	0.010	-10.1	25.0
1,2-Dichlorobenzene-d4	0.869	0.814	0.060	-6.3	25.0

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ47F05.D Vial: 16
Acq Time : 05/18/2018 14:16 Operator: SLS
Sample : VSTD005T2 VSTD005T2 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 14:35:17 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



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Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ47F05.D Vial: 16
Acq Time : 05/18/2018 14:16 Operator: SLS
Sample : VSTD005T2 VSTD005T2 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 14:35:17 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	1089527	5.0000 ug/L	102.12
28) Chlorobenzene-d5	10.41	117	910458	5.0000 ug/L	101.30
60) 1,4-dichlorobenzene-d4	12.82	152	414941	5.0000 ug/L	102.63
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	346191	5.0193 ug/L	100.39%
8) Chloroethane-d5	2.16	69	271394	5.0053 ug/L	100.11%
11) 1,1-Dichloroethene-d2	2.76	63	565806	4.7938 ug/L	95.88%
22) 2-Butanone-d5	5.92	46	580247	49.1025 ug/L	98.21%
25) Chloroform-d	5.54	84	642348	4.6717 ug/L	93.43%
27) 1,2-Dichloroethane-d4	6.54	65	234395	4.3271 ug/L	86.54%
33) Benzene-d6	6.33	84	1158917	4.8049 ug/L	96.10%
37) 1,2-Dichloropropane-d6	7.65	67	297612	4.5939 ug/L	91.88%
40) cis-1,3-Dichloropropene-d4	8.52	79	446821	4.3411 ug/L	86.82%
42) trans-1,3-Dichloropropene-	9.26	79	285980	4.4543 ug/L	89.09%
47) Toluene-d8	8.76	98	1080442	4.9279 ug/L	98.56%
50) 2-Hexanone-d5	10.09	63	422071	47.1050 ug/L	94.21%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	184181	4.4929 ug/L	89.86%
65) 1,2-Dichlorobenzene-d4	13.26	152	337732	4.6840 ug/L	93.68%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	200191	4.5482 ug/L #	98
3) Chloromethane	1.72	50	296656	4.3221 ug/L	99
4) Vinyl chloride	1.79	62	313069	4.7554 ug/L	99
6) Bromomethane	2.07	94	219347	4.4813 ug/L	98
7) Chloroethane	2.17	64	192892	4.6296 ug/L	94
9) Trichlorofluoromethane	2.29	101	464042	4.7195 ug/L	99
10) 1,1-Dichloroethene	2.76	96	256719	4.6896 ug/L	93
12) 1,1,2-Trichloro-1,2,2-trif	2.80	101	241673	4.7693 ug/L	92
13) Acetone	3.39	43	294346	55.2057 ug/L	91
14) Carbon disulfide	2.81	76	767522	4.3729 ug/L	99
15) Methyl acetate	3.54	43	91402	5.0905 ug/L	97
16) Methylene chloride	3.35	84	239523	4.4706 ug/L	92
17) trans-1,2-Dichloroethene	3.54	96	269221	4.5608 ug/L	91
18) Methyl tert-butyl ether	3.66	73	480833	4.4317 ug/L	91
19) 1,1-Dichloroethane	4.31	63	450193	4.4603 ug/L	99
20) cis-1,2-Dichloroethene	5.13	96	286216	4.6122 ug/L	90
21) 2-Butanone	5.99	43	581290	49.5107 ug/L	99
23) Bromochloromethane	5.43	128	130678	4.3927 ug/L	98
24) Chloroform	5.56	83	487661	4.3411 ug/L	98
26) 1,2-Dichloroethane	6.62	62	283676	4.4815 ug/L	97
29) 1,1,1-Trichloroethane	5.84	97	378646	4.7037 ug/L #	95
30) Cyclohexane	5.45	56	329943	4.4989 ug/L #	86
31) Carbon tetrachloride	5.76	117	339113	4.4065 ug/L #	88
32) Benzene	6.36	78	1052866	4.6517 ug/L	94
34) Trichloroethene	7.12	130	343276	4.6802 ug/L	97
35) Methylcyclohexane	7.12	83	318826	4.7699 ug/L	93
36) 1,2-Dichloropropane	7.74	63	247191	4.6868 ug/L	96
38) Bromodichloromethane	7.84	83	330978	4.2432 ug/L	95
39) cis-1,3-Dichloropropene	8.55	75	344092	4.2698 ug/L	98
41) trans-1,3-Dichloropropene	9.27	75	296834	4.4611 ug/L	94
43) 1,1,2-Trichloroethane	9.44	97	173246	4.5086 ug/L	94
44) Dibromochloromethane	9.63	129	216438	3.9984 ug/L	98
45) 4-Methyl-2-pentanone	9.24	43	1463190	46.8368 ug/L	93
46) Toluene	8.82	91	1179123	4.8468 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ47F05.D Vial: 16
Acq Time : 05/18/2018 14:16 Operator: SLS
Sample : VSTD005T2 VSTD005T2 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 14:35:17 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	301882	4.8407 ug/L	92
49) 2-Hexanone	10.12	43	1131814	47.2216 ug/L	93
51) 1,2-Dibromoethane	9.87	107	157040	4.5436 ug/L	97
52) Chlorobenzene	10.43	112	816739	4.6880 ug/L	99
53) Ethylbenzene	10.46	91	1287042	4.8287 ug/L	99
54) m,p-Xylene	10.62	106	511698	4.8872 ug/L	97
55) o-Xylene	11.05	106	461263	4.7900 ug/L	97
56) Styrene	11.11	104	782377	5.0865 ug/L	97
57) Isopropylbenzene	11.38	105	1224187	4.9825 ug/L	99
58) 1,1,2,2-Tetrachloroethane	11.88	83	178957	4.7042 ug/L	95
61) Bromoform	11.13	173	125738	3.9702 ug/L #	98
62) 1,3-Dichlorobenzene	12.74	146	589067	4.5360 ug/L #	96
63) 1,4-Dichlorobenzene	12.83	146	624028	4.6808 ug/L	98
64) 1,2-Dichlorobenzene	13.26	146	520836	4.7112 ug/L	95
66) 1,2-Dibromo-3-chloropropan	14.09	75	20341	4.8362 ug/L	84
67) 1,2,4-Trichlorobenzene	14.81	180	221018	3.8247 ug/L	96
68) 1,2,3-Trichlorobenzene	15.35	180	156154	3.6665 ug/L #	95

(#) = qualifier out of range (m) = manual integration

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/20/2018 Time: 07:24

Lab File ID: FQ50S05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T3 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.202	0.189	0.010	-6.5	40.0
Chloromethane	0.315	0.277	0.010	-12.1	30.0
Vinyl chloride	0.302	0.260	0.010	-13.9	30.0
Bromomethane	0.225	0.197	0.010	-12.5	30.0
Chloroethane	0.191	0.171	0.010	-10.7	30.0
Trichlorofluoromethane	0.451	0.417	0.010	-7.6	30.0
1,1-Dichloroethene	0.251	0.233	0.020	-7.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.233	0.223	0.010	-4.3	30.0
Acetone	0.024	0.029	0.010	18.2	40.0
Carbon disulfide	0.805	0.723	0.010	-10.2	25.0
Methyl acetate	0.082	0.086	0.010	4.0	40.0
Methylene chloride	0.246	0.218	0.010	-11.3	30.0
trans-1,2-Dichloroethene	0.271	0.250	0.070	-7.8	20.0
Methyl tert-butyl ether	0.498	0.459	0.010	-7.9	30.0
1,1-Dichloroethane	0.463	0.408	0.100	-11.9	20.0
cis-1,2-Dichloroethene	0.285	0.260	0.100	-8.6	20.0
2-Butanone	0.054	0.057	0.010	5.8	40.0
Bromochloromethane	0.137	0.123	0.020	-9.6	20.0
Chloroform	0.516	0.456	0.040	-11.6	20.0
1,1,1-Trichloroethane	0.442	0.418	0.050	-5.4	20.0
Cyclohexane	0.403	0.348	0.100	-13.5	25.0
Carbon tetrachloride	0.423	0.401	0.020	-5.2	25.0
Benzene	1.243	1.129	0.300	-9.1	20.0
1,2-Dichloroethane	0.290	0.261	0.010	-10.2	25.0
Trichloroethene	0.403	0.373	0.100	-7.5	20.0
Methylcyclohexane	0.367	0.378	0.200	3.1	25.0
1,2-Dichloropropane	0.290	0.262	0.100	-9.7	20.0
Bromodichloromethane	0.428	0.382	0.090	-10.8	20.0
cis-1,3-Dichloropropene	0.443	0.413	0.100	-6.6	20.0
4-Methyl-2-Pentanone	0.172	0.167	0.010	-2.8	30.0
Toluene	1.336	1.250	0.400	-6.5	20.0
trans-1,3-Dichloropropene	0.365	0.342	0.010	-6.3	20.0
1,1,2-Trichloroethane	0.211	0.189	0.040	-10.5	20.0
Tetrachloroethene	0.342	0.326	0.100	-4.7	20.0

FORM 7A-OR
INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/20/2018 Time: 07:24

Lab File ID: FQ50S05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T3 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

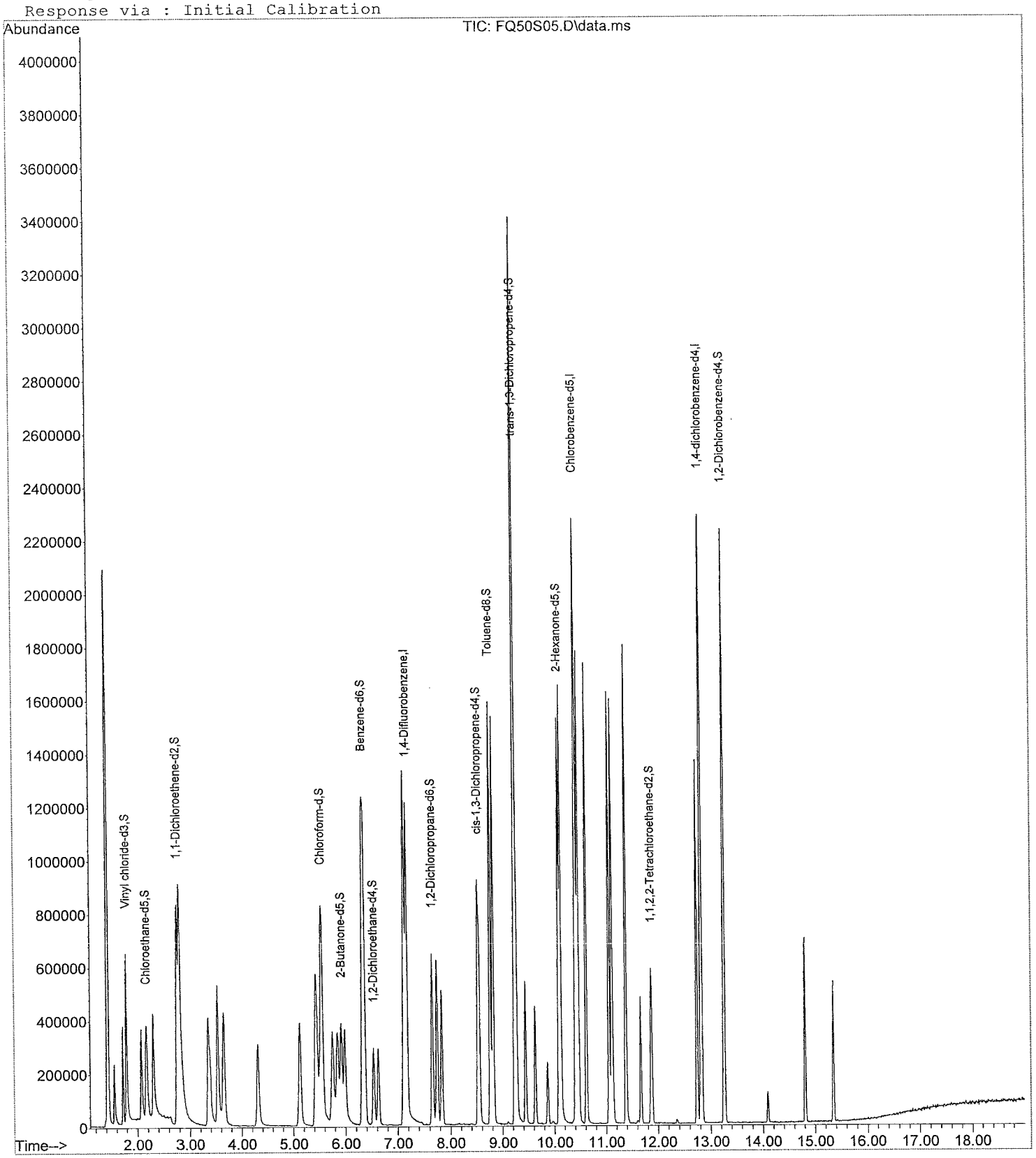
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.132	0.128	0.010	-2.5	40.0
Dibromochloromethane	0.297	0.268	0.050	-9.9	20.0
1,2-Dibromoethane	0.190	0.174	0.010	-8.5	20.0
Chlorobenzene	0.957	0.864	0.400	-9.7	20.0
Ethylbenzene	1.464	1.372	0.500	-6.3	20.0
o-Xylene	0.529	0.503	0.300	-4.9	20.0
m,p-Xylene	0.575	0.541	0.200	-5.8	20.0
Styrene	0.845	0.822	0.200	-2.7	20.0
Bromoform	0.382	0.355	0.010	-7.1	30.0
Isopropylbenzene	1.349	1.304	0.700	-3.4	25.0
1,1,2,2-Tetrachloroethane	0.209	0.195	0.050	-6.8	25.0
1,3-Dichlorobenzene	1.565	1.399	0.500	-10.6	20.0
1,4-Dichlorobenzene	1.606	1.468	0.700	-8.6	20.0
1,2-Dichlorobenzene	1.332	1.240	0.400	-6.9	20.0
1,2-Dibromo-3-chloropropane	0.051	0.056	0.010	9.8	40.0
1,2,4-Trichlorobenzene	0.696	0.535	0.300	-23.1	30.0
1,2,3-Trichlorobenzene	0.513	0.391	0.200	-23.9	40.0
Vinyl chloride-d3	0.317	0.295	0.010	-6.8	30.0
Chloroethane-d5	0.249	0.242	0.010	-2.7	30.0
1,1-Dichloroethene-d2	0.542	0.529	0.010	-2.4	25.0
2-Butanone-d5	0.054	0.059	0.010	9.1	40.0
Chloroform-d	0.631	0.582	0.010	-7.8	20.0
1,2-Dichloroethane-d4	0.249	0.220	0.010	-11.6	25.0
Benzene-d6	1.325	1.284	0.030	-3.1	20.0
1,2-Dichloropropane-d6	0.356	0.329	0.100	-7.5	20.0
Toluene-d8	1.204	1.185	0.200	-1.6	20.0
trans-1,3-Dichloropropene-d4	0.353	0.331	0.010	-6.2	25.0
2-Hexanone-d5	0.049	0.049	0.010	-1.2	40.0
1,1,2,2-Tetrachloroethane-d2	0.225	0.208	0.010	-7.7	25.0
1,2-Dichlorobenzene-d4	0.869	0.825	0.060	-5.1	20.0

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ50S05.D Vial: 2
Acq Time : 05/20/2018 07:24 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 07:43:23 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



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Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ50S05.D Vial: 2
Acq Time : 05/20/2018 07:24 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 07:43:23 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1109556	5.0000 ug/L	104.00
28) Chlorobenzene-d5	10.41	117	932572	5.0000 ug/L	103.76
60) 1,4-dichlorobenzene-d4	12.82	152	436950	5.0000 ug/L	108.07
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	327286	4.6595 ug/L	93.19%
8) Chloroethane-d5	2.16	69	268723	4.8666 ug/L	97.33%
11) 1,1-Dichloroethene-d2	2.76	63	586489	4.8793 ug/L	97.59%
22) 2-Butanone-d5	5.92	46	656191	54.5268 ug/L	109.05%
25) Chloroform-d	5.53	84	645551	4.6102 ug/L	92.20%
27) 1,2-Dichloroethane-d4	6.54	65	243768	4.4189 ug/L	88.38%
33) Benzene-d6	6.33	84	1197420	4.8468 ug/L	96.94%
37) 1,2-Dichloropropane-d6	7.65	67	306919	4.6252 ug/L	92.50%
40) cis-1,3-Dichloropropene-d4	8.53	79	487558	4.6245 ug/L	92.49%
42) trans-1,3-Dichloropropene-	9.26	79	308355	4.6889 ug/L	93.78%
47) Toluene-d8	8.76	98	1105110	4.9208 ug/L	98.42%
50) 2-Hexanone-d5	10.09	63	453548	49.4176 ug/L	98.84%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	193707	4.6132 ug/L	92.26%
65) 1,2-Dichlorobenzene-d4	13.25	152	360330	4.7456 ug/L	94.91%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	209668	4.6775 ug/L #	95
3) Chloromethane	1.72	50	307338	4.3969 ug/L	98
4) Vinyl chloride	1.79	62	288743	4.3067 ug/L	97
6) Bromomethane	2.07	94	218031	4.3740 ug/L	98
7) Chloroethane	2.18	64	189402	4.4638 ug/L	96
9) Trichlorofluoromethane	2.30	101	462587	4.6198 ug/L	98
10) 1,1-Dichloroethene	2.76	96	258974	4.6454 ug/L	91
12) 1,1,2-Trichloro-1,2,2-trif	2.81	101	246962	4.7857 ug/L	91
13) Acetone	3.39	43	320992	59.1165 ug/L	89
14) Carbon disulfide	2.81	76	802736	4.4910 ug/L	97
15) Methyl acetate	3.53	43	95113	5.2016 ug/L	96
16) Methylene chloride	3.35	84	241864	4.4328 ug/L	92
17) trans-1,2-Dichloroethene	3.54	96	277113	4.6098 ug/L	89
18) Methyl tert-butyl ether	3.65	73	508951	4.6062 ug/L	93
19) 1,1-Dichloroethane	4.31	63	452903	4.4062 ug/L	97
20) cis-1,2-Dichloroethene	5.13	96	288790	4.5697 ug/L	90
21) 2-Butanone	5.99	43	632688	52.9157 ug/L	99
23) Bromochloromethane	5.43	128	136891	4.5185 ug/L	96
24) Chloroform	5.56	83	505753	4.4209 ug/L	98
26) 1,2-Dichloroethane	6.62	62	289501	4.4910 ug/L	97
29) 1,1,1-Trichloroethane	5.85	97	389956	4.7293 ug/L #	96
30) Cyclohexane	5.45	56	324801	4.3237 ug/L #	79
31) Carbon tetrachloride	5.75	117	373583	4.7393 ug/L #	86
32) Benzene	6.36	78	1053315	4.5433 ug/L	94
34) Trichloroethene	7.12	130	347464	4.6249 ug/L	96
35) Methylcyclohexane	7.12	83	352848	5.1538 ug/L #	86
36) 1,2-Dichloropropane	7.74	63	244028	4.5172 ug/L	93
38) Bromodichloromethane	7.83	83	356436	4.4612 ug/L	95
39) cis-1,3-Dichloropropene	8.55	75	385377	4.6687 ug/L	95
41) trans-1,3-Dichloropropene	9.27	75	319278	4.6846 ug/L	96
43) 1,1,2-Trichloroethane	9.44	97	176218	4.4772 ug/L	95
44) Dibromochloromethane	9.63	129	249845	4.5061 ug/L	97
45) 4-Methyl-2-pentanone	9.24	43	1554874	48.5914 ug/L	93
46) Toluene	8.82	91	1165374	4.6767 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ50S05.D Vial: 2
Acq Time : 05/20/2018 07:24 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 07:43:23 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	304324	4.7641 ug/L	92
49) 2-Hexanone	10.12	43	1196714	48.7454 ug/L	93
51) 1,2-Dibromoethane	9.86	107	161998	4.5759 ug/L	97
52) Chlorobenzene	10.43	112	805551	4.5141 ug/L	99
53) Ethylbenzene	10.46	91	1279411	4.6863 ug/L	99
54) m,p-Xylene	10.62	106	504884	4.7078 ug/L	97
55) o-Xylene	11.05	106	468794	4.7528 ug/L	97
56) Styrene	11.11	104	766562	4.8655 ug/L	97
57) Isopropylbenzene	11.38	105	1215889	4.8314 ug/L	100
58) 1,1,2,2-Tetrachloroethane	11.88	83	181509	4.6581 ug/L	98
61) Bromoform	11.13	173	154937	4.6458 ug/L	99
62) 1,3-Dichlorobenzene	12.74	146	611120	4.4688 ug/L #	96
63) 1,4-Dichlorobenzene	12.83	146	641563	4.5699 ug/L	97
64) 1,2-Dichlorobenzene	13.26	146	541877	4.6546 ug/L	97
66) 1,2-Dibromo-3-chloropropan	14.09	75	24324	5.4919 ug/L	98
67) 1,2,4-Trichlorobenzene	14.81	180	233980	3.8451 ug/L #	96
68) 1,2,3-Trichlorobenzene	15.35	180	170736	3.8070 ug/L #	95

(#) = qualifier out of range (m) = manual integration

FORM 7A-OR
INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/20/2018 Time: 13:46

Lab File ID: FQ63F05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T4 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.202	0.173	0.010	-14.5	50.0
Chloromethane	0.315	0.274	0.010	-13.1	50.0
Vinyl chloride	0.302	0.280	0.010	-7.3	50.0
Bromomethane	0.225	0.198	0.010	-11.7	50.0
Chloroethane	0.191	0.174	0.010	-9.0	50.0
Trichlorofluoromethane	0.451	0.434	0.010	-3.8	50.0
1,1-Dichloroethene	0.251	0.225	0.020	-10.3	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.233	0.216	0.010	-7.0	50.0
Acetone	0.024	0.026	0.010	4.6	50.0
Carbon disulfide	0.805	0.707	0.010	-12.3	25.0
Methyl acetate	0.082	0.076	0.010	-8.0	50.0
Methylene chloride	0.246	0.213	0.010	-13.2	50.0
trans-1,2-Dichloroethene	0.271	0.245	0.070	-9.6	25.0
Methyl tert-butyl ether	0.498	0.435	0.010	-12.6	50.0
1,1-Dichloroethane	0.463	0.403	0.100	-12.9	25.0
cis-1,2-Dichloroethene	0.285	0.255	0.100	-10.4	25.0
2-Butanone	0.054	0.052	0.010	-2.8	50.0
Bromochloromethane	0.137	0.124	0.020	-9.0	25.0
Chloroform	0.516	0.459	0.040	-10.9	25.0
1,1,1-Trichloroethane	0.442	0.393	0.050	-11.0	25.0
Cyclohexane	0.403	0.366	0.100	-9.2	50.0
Carbon tetrachloride	0.423	0.390	0.020	-7.7	50.0
Benzene	1.243	1.153	0.300	-7.2	25.0
1,2-Dichloroethane	0.290	0.255	0.010	-12.3	50.0
Trichloroethene	0.403	0.388	0.100	-3.7	25.0
Methylcyclohexane	0.367	0.387	0.200	5.3	50.0
1,2-Dichloropropane	0.290	0.258	0.100	-11.0	25.0
Bromodichloromethane	0.428	0.382	0.090	-10.9	25.0
cis-1,3-Dichloropropene	0.443	0.393	0.100	-11.1	25.0
4-Methyl-2-Pentanone	0.172	0.162	0.010	-5.4	50.0
Toluene	1.336	1.270	0.400	-4.9	25.0
trans-1,3-Dichloropropene	0.365	0.333	0.010	-9.0	25.0
1,1,2-Trichloroethane	0.211	0.190	0.040	-10.0	25.0
Tetrachloroethene	0.342	0.320	0.100	-6.5	25.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 60546131.4

Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 05/20/2018 Time: 13:46

Lab File ID: FQ63F05 Init. Calib Date(s): 05/17/2018 05/17/2018

EPA Sample No.: VSTD005T4 Init. Calib Time(s): 10:36 13:08

GC Column: RTX-VMS ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

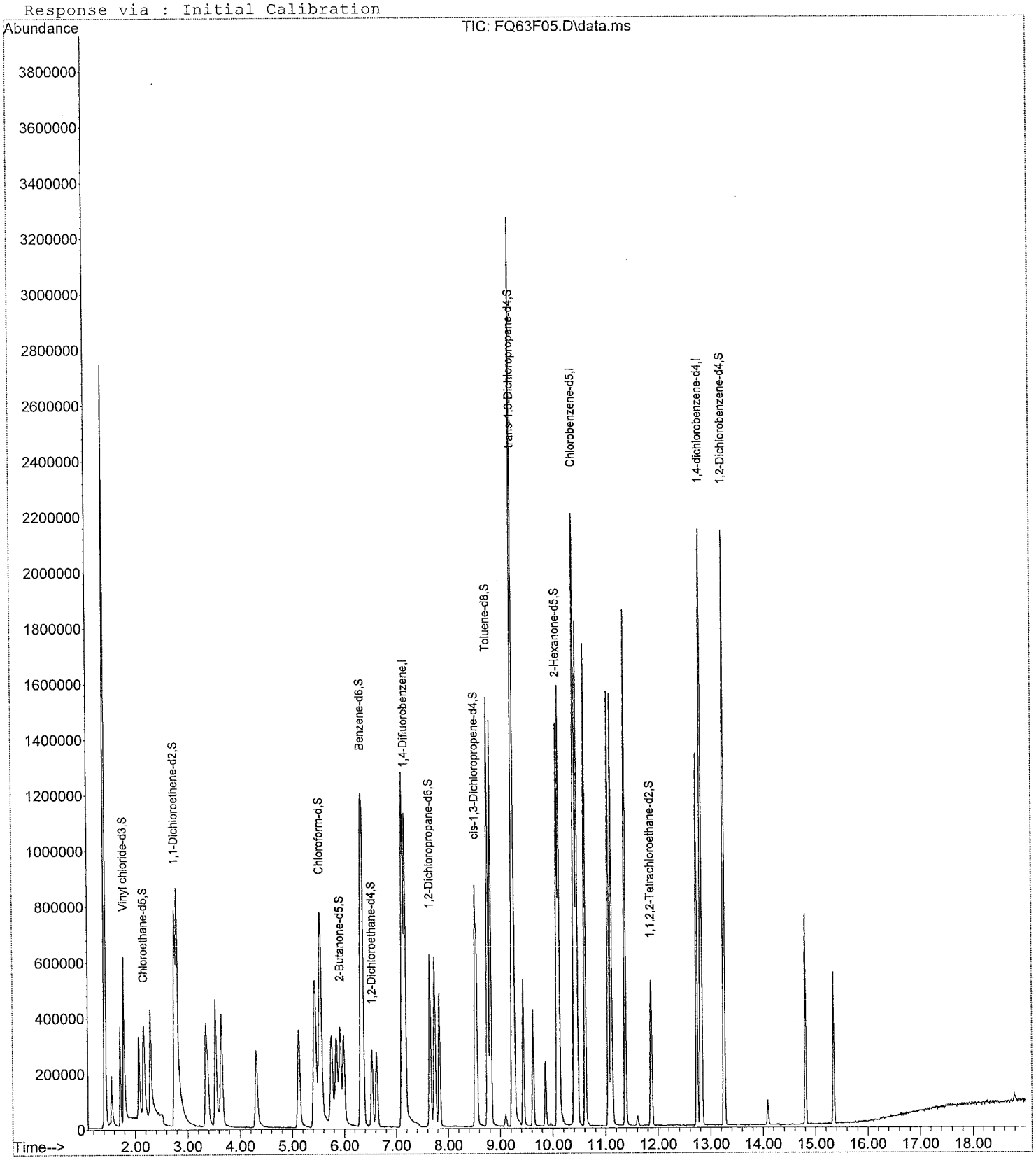
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.132	0.125	0.010	-5.4	50.0
Dibromochloromethane	0.297	0.257	0.050	-13.4	25.0
1,2-Dibromoethane	0.190	0.170	0.010	-10.3	25.0
Chlorobenzene	0.957	0.883	0.400	-7.7	25.0
Ethylbenzene	1.464	1.374	0.500	-6.1	25.0
o-Xylene	0.529	0.499	0.300	-5.6	25.0
m,p-Xylene	0.575	0.543	0.200	-5.5	25.0
Styrene	0.845	0.835	0.200	-1.2	25.0
Bromoform	0.382	0.327	0.010	-14.3	50.0
Isopropylbenzene	1.349	1.312	0.700	-2.8	25.0
1,1,2,2-Tetrachloroethane	0.209	0.183	0.050	-12.2	25.0
1,3-Dichlorobenzene	1.565	1.414	0.500	-9.6	25.0
1,4-Dichlorobenzene	1.606	1.478	0.700	-8.0	25.0
1,2-Dichlorobenzene	1.332	1.229	0.400	-7.8	25.0
1,2-Dibromo-3-chloropropane	0.051	0.045	0.010	-10.4	50.0
1,2,4-Trichlorobenzene	0.696	0.624	0.300	-10.4	50.0
1,2,3-Trichlorobenzene	0.513	0.454	0.200	-11.6	50.0
Vinyl chloride-d3	0.317	0.306	0.010	-3.3	50.0
Chloroethane-d5	0.249	0.247	0.010	-0.7	50.0
1,1-Dichloroethene-d2	0.542	0.517	0.010	-4.5	25.0
2-Butanone-d5	0.054	0.052	0.010	-3.6	50.0
Chloroform-d	0.631	0.564	0.010	-10.7	25.0
1,2-Dichloroethane-d4	0.249	0.221	0.010	-11.2	25.0
Benzene-d6	1.325	1.277	0.030	-3.6	25.0
1,2-Dichloropropane-d6	0.356	0.337	0.100	-5.4	25.0
Toluene-d8	1.204	1.179	0.200	-2.1	25.0
trans-1,3-Dichloropropene-d4	0.353	0.320	0.010	-9.3	25.0
2-Hexanone-d5	0.049	0.048	0.010	-3.3	50.0
1,1,2,2-Tetrachloroethane-d2	0.225	0.197	0.010	-12.7	25.0
1,2-Dichlorobenzene-d4	0.869	0.817	0.060	-6.0	25.0

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ63F05.D Vial: 15
Acq Time : 05/20/2018 13:46 Operator: SLS
Sample : VSTD005T4 VSTD005T4 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 14:05:58 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ63F05.D Vial: 15
Acq Time : 05/20/2018 13:46 Operator: SLS
Sample : VSTD005T4 VSTD005T4 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 14:05:58 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	1080728	5.0000 ug/L	101.30
28) Chlorobenzene-d5	10.41	117	903047	5.0000 ug/L	100.48
60) 1,4-dichlorobenzene-d4	12.82	152	412059	5.0000 ug/L	101.92
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	330696	4.8337 ug/L	96.67%
8) Chloroethane-d5	2.16	69	267081	4.9659 ug/L	99.32%
11) 1,1-Dichloroethene-d2	2.76	63	559192	4.7763 ug/L	95.53%
22) 2-Butanone-d5	5.92	46	564724	48.1780 ug/L	96.36%
25) Chloroform-d	5.53	84	609075	4.4658 ug/L	89.32%
27) 1,2-Dichloroethane-d4	6.54	65	238624	4.4411 ug/L	88.82%
33) Benzene-d6	6.33	84	1152976	4.8195 ug/L	96.39%
37) 1,2-Dichloropropane-d6	7.65	67	304088	4.7324 ug/L	94.65%
40) cis-1,3-Dichloropropene-d4	8.53	79	440880	4.3185 ug/L	86.37%
42) trans-1,3-Dichloropropene-	9.26	79	288744	4.5343 ug/L	90.69%
47) Toluene-d8	8.76	98	1064935	4.8970 ug/L	97.94%
50) 2-Hexanone-d5	10.09	63	429911	48.3737 ug/L	96.75%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	177500	4.3654 ug/L	87.31%
65) 1,2-Dichlorobenzene-d4	13.26	152	336709	4.7024 ug/L	94.05%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	186728	4.2768 ug/L #	97
3) Chloromethane	1.72	50	295743	4.3438 ug/L	96
4) Vinyl chloride	1.79	62	302598	4.6338 ug/L	99
6) Bromomethane	2.07	94	214421	4.4164 ug/L	98
7) Chloroethane	2.18	64	188111	4.5516 ug/L	96
9) Trichlorofluoromethane	2.29	101	468928	4.8080 ug/L	100
10) 1,1-Dichloroethene	2.76	96	243518	4.4846 ug/L	93
12) 1,1,2-Trichloro-1,2,2-trif	2.80	101	233792	4.6514 ug/L	96
13) Acetone	3.39	43	276472	52.2756 ug/L	86
14) Carbon disulfide	2.81	76	763626	4.3862 ug/L	99
15) Methyl acetate	3.53	43	81967	4.6022 ug/L	99
16) Methylene chloride	3.35	84	230603	4.3392 ug/L	91
17) trans-1,2-Dichloroethene	3.54	96	264661	4.5201 ug/L	91
18) Methyl tert-butyl ether	3.65	73	470340	4.3703 ug/L	91
19) 1,1-Dichloroethane	4.31	63	435941	4.3543 ug/L	98
20) cis-1,2-Dichloroethene	5.13	96	275888	4.4820 ug/L	90
21) 2-Butanone	5.99	43	565848	48.5879 ug/L	99
23) Bromochloromethane	5.43	128	134200	4.5478 ug/L	97
24) Chloroform	5.56	83	496175	4.4529 ug/L	97
26) 1,2-Dichloroethane	6.63	62	275215	4.3832 ug/L	98
29) 1,1,1-Trichloroethane	5.85	97	355257	4.4494 ug/L #	98
30) Cyclohexane	5.45	56	330096	4.5379 ug/L #	88
31) Carbon tetrachloride	5.75	117	352148	4.6134 ug/L #	88
32) Benzene	6.36	78	1041601	4.6397 ug/L	93
34) Trichloroethene	7.13	130	350185	4.8135 ug/L	99
35) Methylcyclohexane	7.12	83	349164	5.2667 ug/L #	80
36) 1,2-Dichloropropane	7.74	63	232728	4.4488 ug/L	91
38) Bromodichloromethane	7.84	83	344827	4.4570 ug/L	92
39) cis-1,3-Dichloropropene	8.55	75	355177	4.4435 ug/L	96
41) trans-1,3-Dichloropropene	9.27	75	300428	4.5522 ug/L	94
43) 1,1,2-Trichloroethane	9.44	97	171465	4.4988 ug/L	94
44) Dibromochloromethane	9.63	129	232445	4.3293 ug/L	98
45) 4-Methyl-2-pentanone	9.23	43	1465676	47.3014 ug/L	93
46) Toluene	8.82	91	1147319	4.7548 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ63F05.D Vial: 15
Acq Time : 05/20/2018 13:46 Operator: SLS
Sample : VSTD005T4 VSTD005T4 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 14:05:58 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

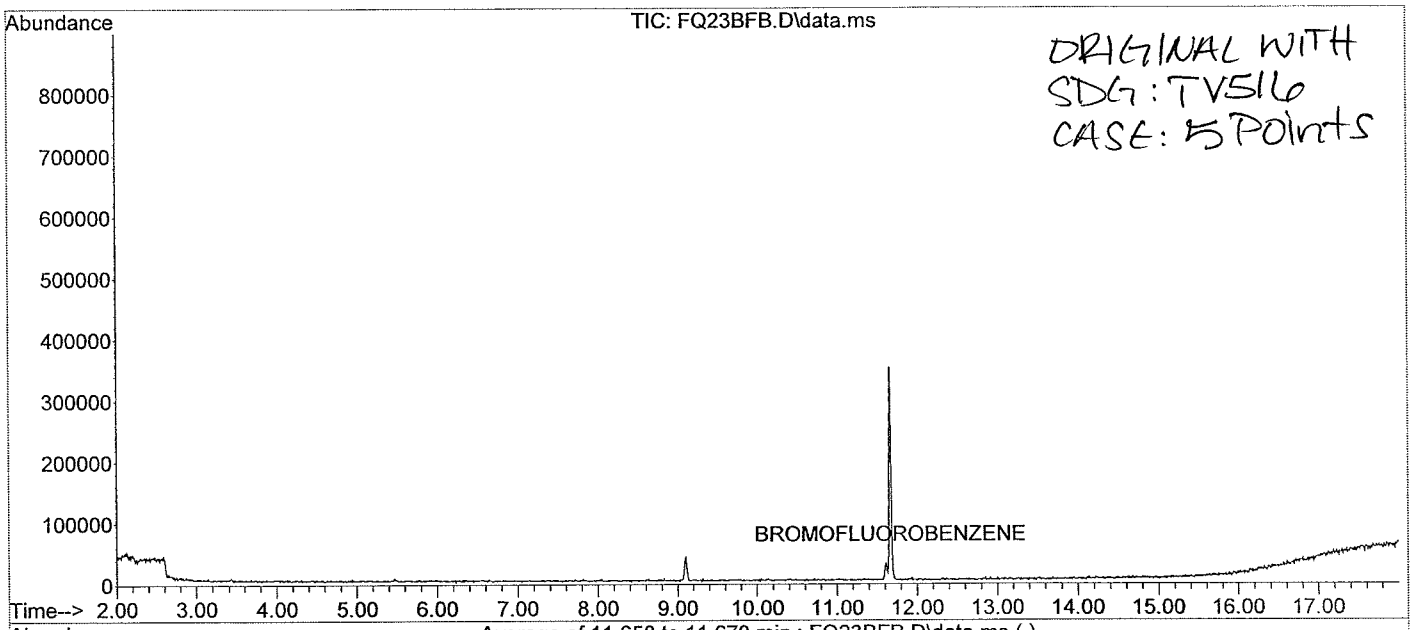
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	289089	4.6736 ug/L	90
49) 2-Hexanone	10.12	43	1124554	47.3037 ug/L	94
51) 1,2-Dibromoethane	9.87	107	153797	4.4863 ug/L #	99
52) Chlorobenzene	10.43	112	797147	4.6131 ug/L	98
53) Ethylbenzene	10.46	91	1241184	4.6949 ug/L	98
54) m,p-Xylene	10.62	106	490569	4.7239 ug/L	98
55) o-Xylene	11.05	106	450737	4.7191 ug/L	96
56) Styrene	11.11	104	753611	4.9397 ug/L	97
57) Isopropylbenzene	11.38	105	1184734	4.8615 ug/L	99
58) 1,1,2,2-Tetrachloroethane	11.88	83	165664	4.3905 ug/L	97
61) Bromoform	11.13	173	134811	4.2865 ug/L	98
62) 1,3-Dichlorobenzene	12.74	146	582680	4.5182 ug/L #	95
63) 1,4-Dichlorobenzene	12.83	146	609085	4.6007 ug/L	97
64) 1,2-Dichlorobenzene	13.26	146	506369	4.6123 ug/L	97
66) 1,2-Dibromo-3-chloropropan	14.09	75	18717	4.4812 ug/L	85
67) 1,2,4-Trichlorobenzene	14.81	180	257213	4.4822 ug/L	96
68) 1,2,3-Trichlorobenzene	15.35	180	186903	4.4192 ug/L #	94

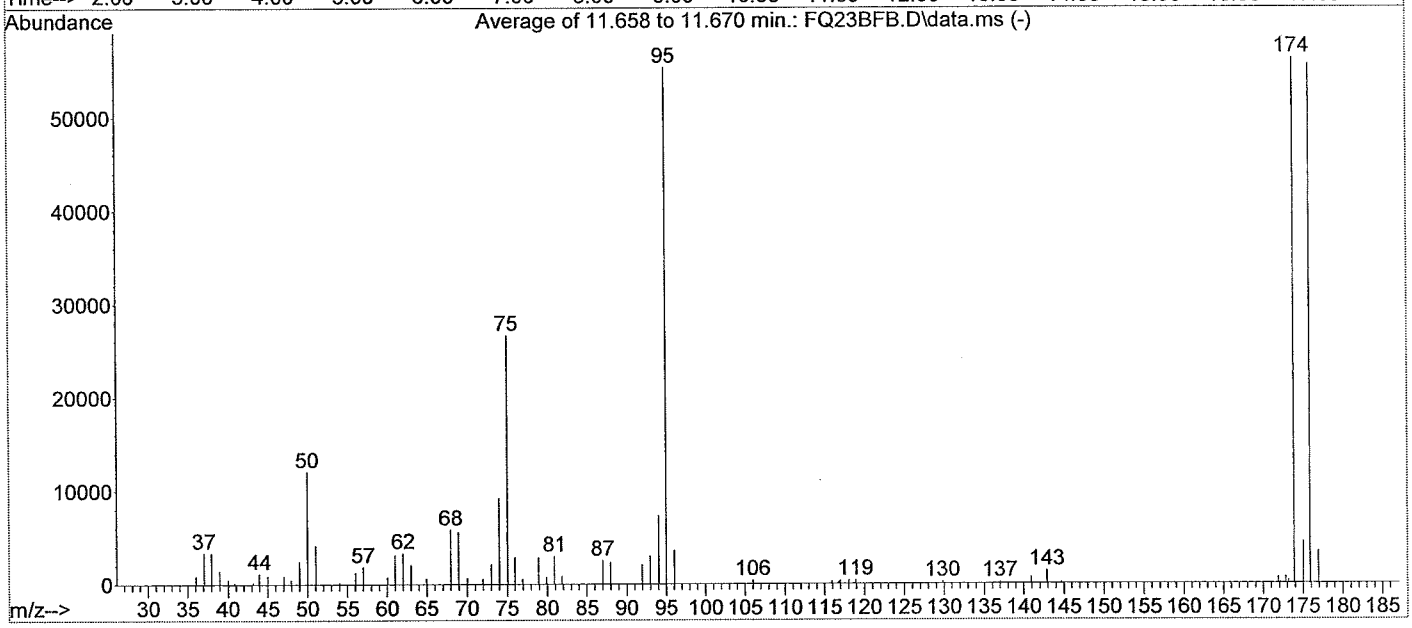
(#) = qualifier out of range (m) = manual integration

SOM01.2 BFB

Data File : C:\msdchem\1\data\17MAY18F\FQ23BFB.D Vial: 1
Acq Time : 05/17/2018 09:29 Operator: SLS
Sample : BFBTF 50 ng BFB Inst : 5975-F
Misc : 2.0 uL 41421 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : C:\msdchem\1\methods\BFB_SOM.M (RTE Integrator)
Title : VOA COMPOUND LIST





Peak Apex is scan: 1735
Average of 3 Scans: 1734,1735,1736 minus Background scan: 1728

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.78	12049	PASS
75	95	30	80	48.15	26635	PASS
95	95	100	100	100.00	55317	PASS
96	95	5	9	6.48	3583	PASS
173	174	0.00	2	1.31	736	PASS
174	95	50	120	101.70	56256	PASS
175	174	5	9	7.91	4448	PASS
176	174	95	101	98.83	55597	PASS
177	176	5	9	6.16	3425	PASS

Data File : C:\msdchem\1\data\17MAY18F\FQ23BFB.D
Inject Time: 05/17/2018 09:29 Operator:SLS
Sample : BFBTF 50 Inst :5975-F
Misc : 2.0 uL 41421

verage of 11.658 to 11.670 min.: FQ23BFB.D\data.ms
FBTF 50 ng BFB
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	875	49.00	2427	68.00	5835	80.90	2972
37.05	3355	50.00	12049	68.95	5572	81.85	814
38.00	3335	51.05	4153	70.05	644	87.00	2511
39.00	1443	54.00	169	71.95	561	87.95	2275
40.00	533	56.05	1248	73.00	2126	91.95	2061
40.80	152	57.00	1849	74.00	9220	92.95	3005
43.20	165	60.05	762	75.05	26635	94.05	7326
43.95	1145	61.00	3130	76.00	2881	95.00	55317
45.00	882	62.00	3308	76.95	563	96.05	3583
47.05	879	63.00	2050	78.90	2865	106.00	363
47.95	455	64.95	586	79.90	716	115.90	229

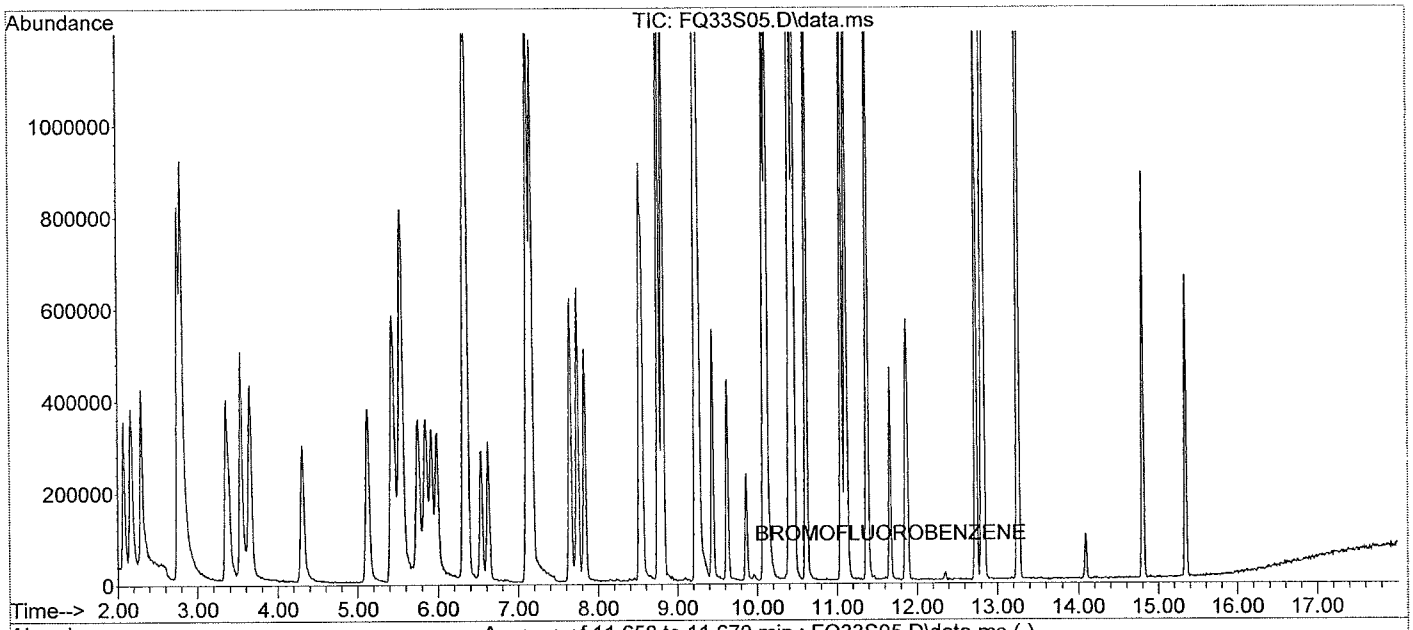
verage of 11.658 to 11.670 min.: FQ23BFB.D\data.ms
FBTF 50 ng BFB
odified:subtracted

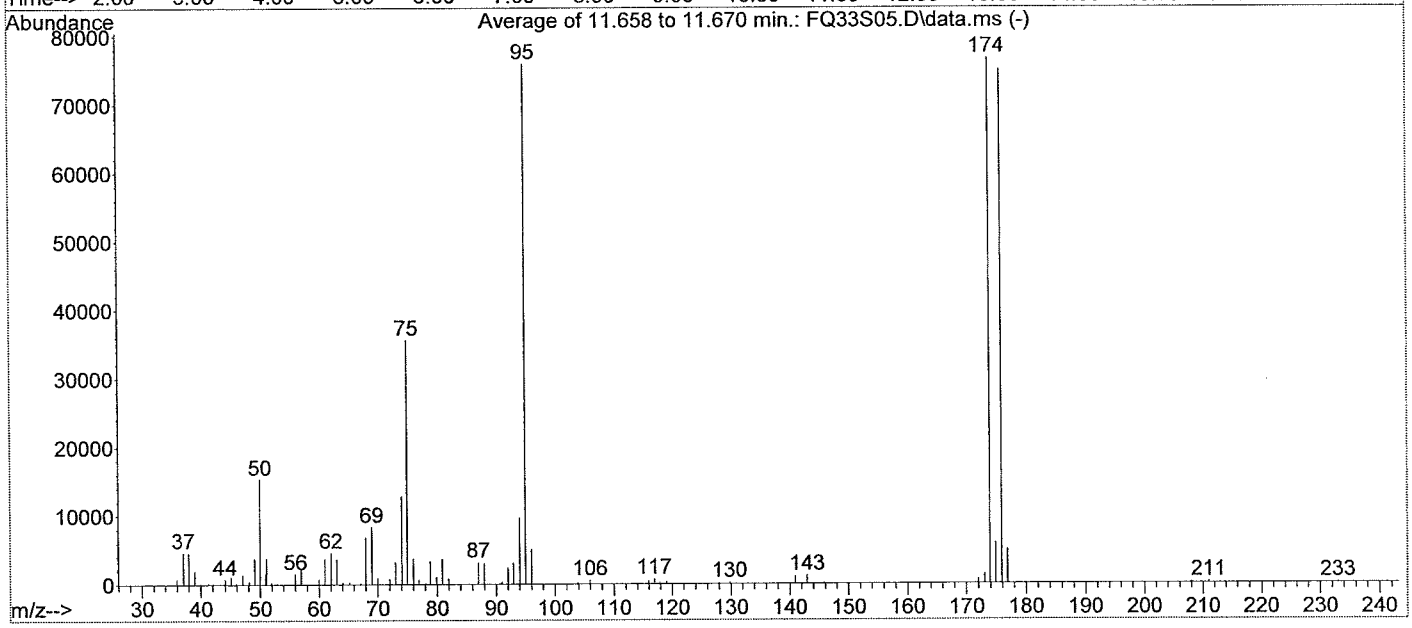
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
116.80	249	172.80	736				
116.95	294	173.10	315				
118.05	355	173.90	56256				
118.90	369	175.00	4448				
129.80	197	175.90	55597				
137.00	159	176.95	3425				
140.90	670						
142.90	1373						
144.70	137						
171.85	663						
172.10	152						

SOM01.2 BFB

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ33S05.D Vial: 2
Acq Time : 05/18/2018 07:27 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p BFBT1 Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...ethods\BFB_SOM.M (RTE Integrator)
Title : VOA COMPOUND LIST





Peak Apex is scan: 1735
Average of 3 Scans: 1734,1735,1736 minus Background scan: 1728

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.22	15348	PASS
75	95	30	80	46.94	35627	PASS
95	95	100	100	100.00	75899	PASS
96	95	5	9	6.74	5113	PASS
173	174	0.00	2	1.80	1382	PASS
174	95	50	120	100.97	76632	PASS
175	174	5	9	7.73	5920	PASS
176	174	95	101	97.87	75000	PASS
177	176	5	9	6.57	4931	PASS

Data File : Q:\F-5975-F\2018\DATA\MAY18F\18MAY18F\FQ33S05.D
Inject Time: 05/18/2018 07:27 Operator:SLS
Sample : VSTD005T1 Inst :5975-F
Misc : 2.0 uL of 41421; 2.5

verage of 11.658 to 11.670 min.: FQ33S05.D\data.ms
STD005T1 VSTD005T1 5.0 ug/L CVS
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	694	48.15	392	62.05	4611	75.00	35627
37.05	4657	49.05	3733	63.05	3605	76.00	3691
38.00	4526	50.00	15348	64.05	287	76.95	594
39.00	1916	50.90	1580	65.20	238	78.10	138
40.00	114	51.05	3773	67.10	155	78.90	3334
41.30	144	51.90	301	68.00	6835	79.90	1042
42.10	152	53.00	135	69.00	8373	80.90	3653
44.00	752	56.00	1537	70.00	855	81.95	811
45.00	1101	56.95	2163	72.00	770	86.95	3191
45.90	211	59.95	712	72.95	3244	87.95	2982
47.00	1428	61.00	3681	74.05	12889	90.80	171

verage of 11.658 to 11.670 min.: FQ33S05.D\data.ms
'STD005T1 VSTD005T1 5.0 ug/L CVS
lodified:subtracted

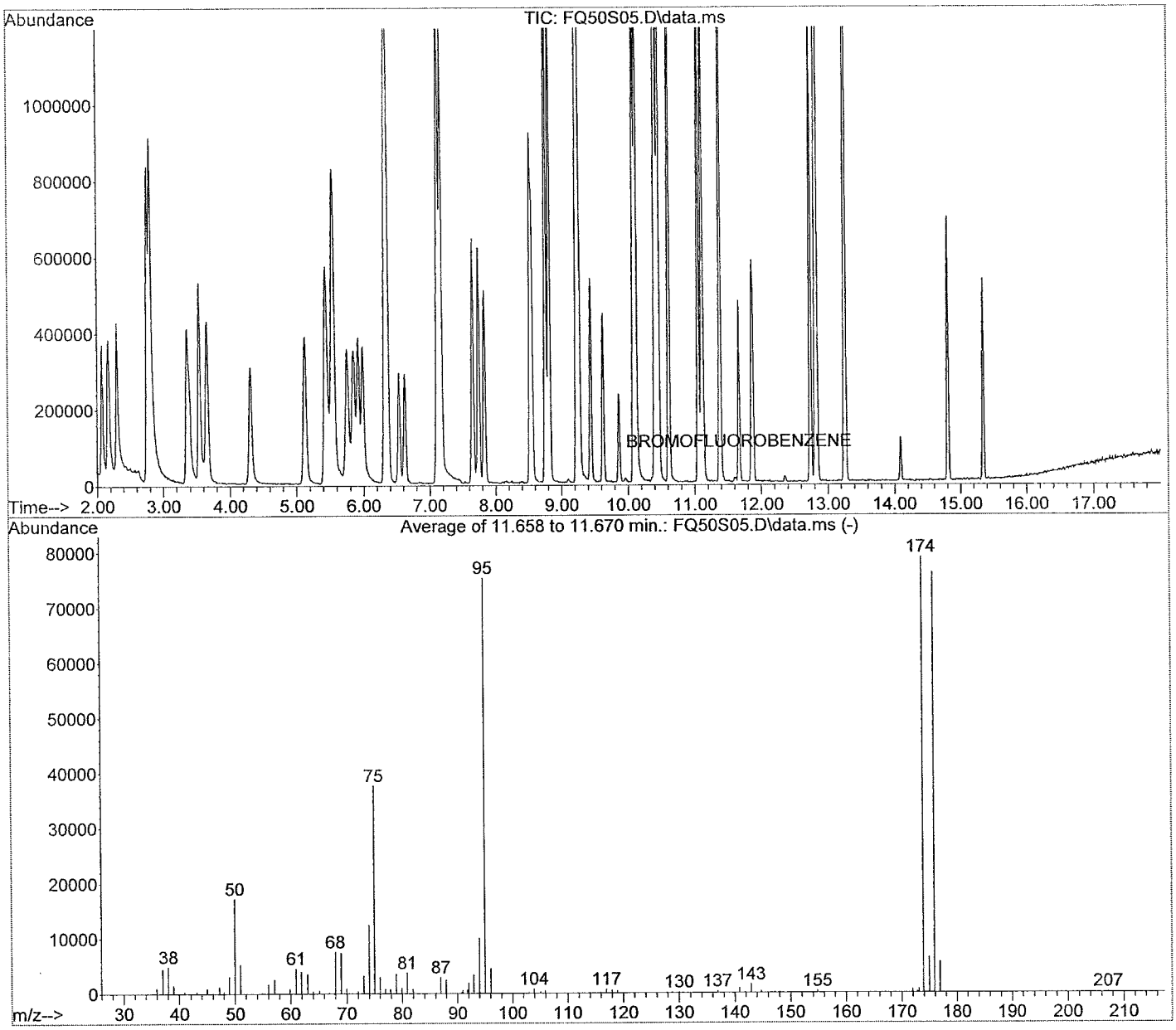
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
90.95	322	118.95	352	176.90	4931		
92.00	2405	128.00	160	208.00	136		
92.95	3107	129.80	194	211.00	223		
94.00	9640	140.95	1091	233.00	142		
95.00	75899	142.95	1217				
96.00	5113	145.80	133				
103.90	143	171.95	649				
105.95	519	173.00	1382				
115.90	431	173.90	76632				
116.95	705	174.90	5920				
117.90	182	175.90	75000				

SOM01.2 BFB

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ50S05.D Vial: 2
Acq Time : 05/20/2018 07:24 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-F
Misc : 2.0 uL of 41421; 2.5 uL of 41865, 41866 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

BFB12

Method : Q:\E-5975-E\Curr...ethods\BFB_SOM.M (RTE Integrator)
Title : VOA COMPOUND LIST



Peak Apex is scan: 1735
Average of 3 Scans: 1734,1735,1736 minus Background scan: 1727

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.86	17227	PASS
75	95	30	80	50.07	37733	PASS
95	95	100	100	100.00	75355	PASS
96	95	5	9	6.05	4560	PASS
173	174	0.00	2	0.84	660	PASS
174	95	50	120	104.85	79013	PASS
175	174	5	9	8.06	6372	PASS
176	174	95	101	96.53	76275	PASS
177	176	5	9	7.27	5546	PASS

Data File : Q:\F-5975-F\2018\DATA\MAY18F\20MAY18F\FQ50S05.D
Inject Time: 05/20/2018 07:24 Operator:SLS
Sample : VSTD005T3 Inst :5975-F
Misc : 2.0 uL of 41421; 2.5

verage of 11.658 to 11.670 min.: FQ50S05.D\data.ms
STD005T3 VSTD005T3 5.0 ug/L CVS
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	970	48.95	3023	65.10	521	77.85	736
37.05	4427	50.00	17227	66.90	137	78.90	3539
38.05	4859	51.00	5252	68.00	7576	79.90	1038
39.00	1500	54.90	160	69.00	7385	80.90	3766
40.05	100	56.00	1639	69.95	870	81.95	743
40.95	293	57.10	2577	72.00	410	86.10	170
43.05	333	59.90	866	73.00	3220	86.95	2916
44.95	884	61.00	4545	74.00	12459	87.95	2484
46.00	142	61.95	3960	75.00	37733	90.80	197
47.15	1190	63.05	3544	76.00	2931	90.95	534
48.00	339	64.00	405	76.95	760	91.80	663

verage of 11.658 to 11.670 min.: FQ50S05.D\data.ms
STD005T3 VSTD005T3 5.0 ug/L CVS
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
92.05	1828	117.95	503	148.00	144		
92.95	3405	118.90	371	154.80	316		
94.00	10066	127.90	138	171.90	603		
95.00	75355	128.80	150	172.80	254		
96.05	4560	130.00	162	173.10	660		
103.00	152	136.90	318	173.90	79013		
103.90	798	140.85	872	174.95	6372		
105.10	228	141.90	143	175.90	76275		
105.90	394	142.95	1535	176.90	5546		
115.90	149	144.75	284	207.20	155		
116.95	681	147.20	145				

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601596
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ34BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601596
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ34BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601596
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ34BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

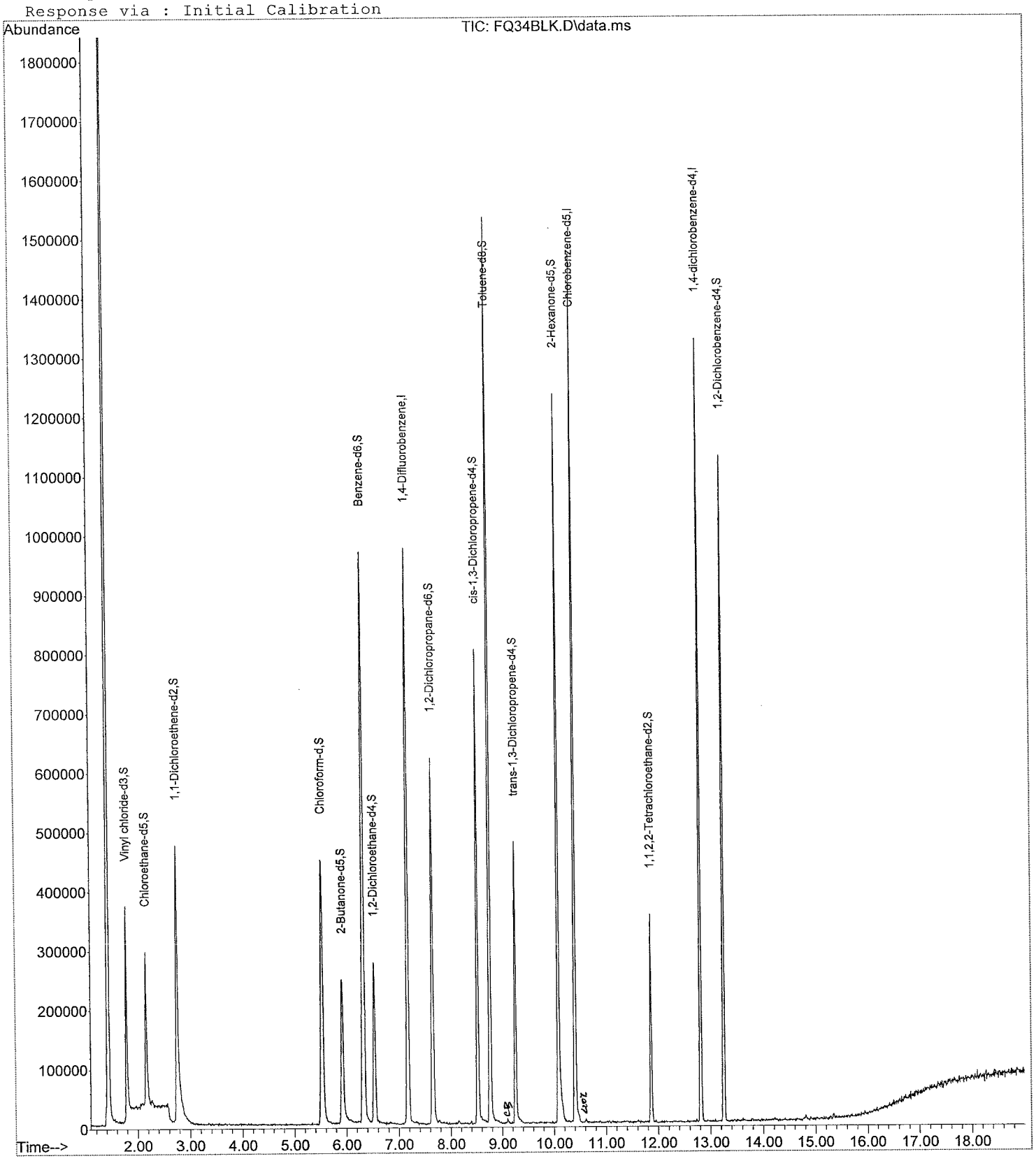
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ34BLK.D Vial: 3
Acq Time : 05/18/2018 08:04 Operator: SLS
Sample : 601596 VBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 08:24:17 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



00215

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ34BLK.D Vial: 3
Acq Time : 05/18/2018 08:04 Operator: SLS
Sample : 601596 VBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 08:24:17 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	982165	5.0000 ug/L	92.06
28) Chlorobenzene-d5	10.41	117	869327	5.0000 ug/L	96.73
60) 1,4-dichlorobenzene-d4	12.82	152	369784	5.0000 ug/L	91.46
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	348116	5.5989 ug/L	111.98%
8) Chloroethane-d5	2.16	69	269665	5.5171 ug/L	110.34%
11) 1,1-Dichloroethene-d2	2.76	63	462419	4.3461 ug/L	86.92%
22) 2-Butanone-d5	5.92	46	488935	45.8982 ug/L	91.80%
25) Chloroform-d	5.53	84	562421	4.5375 ug/L	90.75%
27) 1,2-Dichloroethane-d4	6.53	65	236528	4.8438 ug/L	96.88%
33) Benzene-d6	6.33	84	1152451	5.0041 ug/L	100.08%
37) 1,2-Dichloropropane-d6	7.65	67	298349	4.8231 ug/L	96.46%
40) cis-1,3-Dichloropropene-d4	8.52	79	464633	4.7277 ug/L	94.55%
42) trans-1,3-Dichloropropene-	9.26	79	262284	4.2785 ug/L	85.57%
47) Toluene-d8	8.76	98	1068193	5.1025 ug/L	102.05%
50) 2-Hexanone-d5	10.09	63	385084	45.0105 ug/L	90.02%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	170765	4.3627 ug/L	87.25%
65) 1,2-Dichlorobenzene-d4	13.26	152	315873	4.9158 ug/L	98.32%

Target Compounds				Qvalue
2) Dichlorodifluoromethane	0.00	85	Not Detected	
3) Chloromethane	0.00	50	Not Detected	
4) Vinyl chloride	0.00	62	Not Detected	
6) Bromomethane	0.00	94	Not Detected	
7) Chloroethane	0.00	64	Not Detected	
9) Trichlorofluoromethane	0.00	101	Not Detected	
10) 1,1-Dichloroethene	0.00	96	Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101	Not Detected	
13) Acetone	0.00	43	Not Detected	
14) Carbon disulfide	0.00	76	Not Detected	
15) Methyl acetate	0.00	43	Not Detected	
16) Methylene chloride	0.00	84	Not Detected	
17) trans-1,2-Dichloroethene	0.00	96	Not Detected	
18) Methyl tert-butyl ether	0.00	73	Not Detected	
19) 1,1-Dichloroethane	0.00	63	Not Detected	
20) cis-1,2-Dichloroethene	0.00	96	Not Detected	
21) 2-Butanone	0.00	43	Not Detected	
23) Bromochloromethane	0.00	128	Not Detected	
24) Chloroform	0.00	83	Not Detected	
26) 1,2-Dichloroethane	0.00	62	Not Detected	
29) 1,1,1-Trichloroethane	0.00	97	Not Detected	
30) Cyclohexane	0.00	56	Not Detected	
31) Carbon tetrachloride	0.00	117	Not Detected	
32) Benzene	0.00	78	Not Detected	
34) Trichloroethene	0.00	130	Not Detected	
35) Methylcyclohexane	0.00	83	Not Detected	
36) 1,2-Dichloropropane	0.00	63	Not Detected	
38) Bromodichloromethane	0.00	83	Not Detected	
39) cis-1,3-Dichloropropene	0.00	75	Not Detected	
41) trans-1,3-Dichloropropene	0.00	75	Not Detected	
43) 1,1,2-Trichloroethane	0.00	97	Not Detected	
44) Dibromochloromethane	0.00	129	Not Detected	
45) 4-Methyl-2-pentanone	0.00	43	Not Detected	
46) Toluene	0.00	91	Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\18MAY18F\FQ34BLK.D Vial: 3
Acq Time : 05/18/2018 08:04 Operator: SLS
Sample : 601596 VBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 08:24:17 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	0.00	164		Not Detected	
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

(#) = qualifier out of range (m) = manual integration

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLKT2

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601597
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ51BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLKT2

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601597
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ51BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKT2

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601597
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ51BLK
% Solids:
Date Received:
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH:
Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

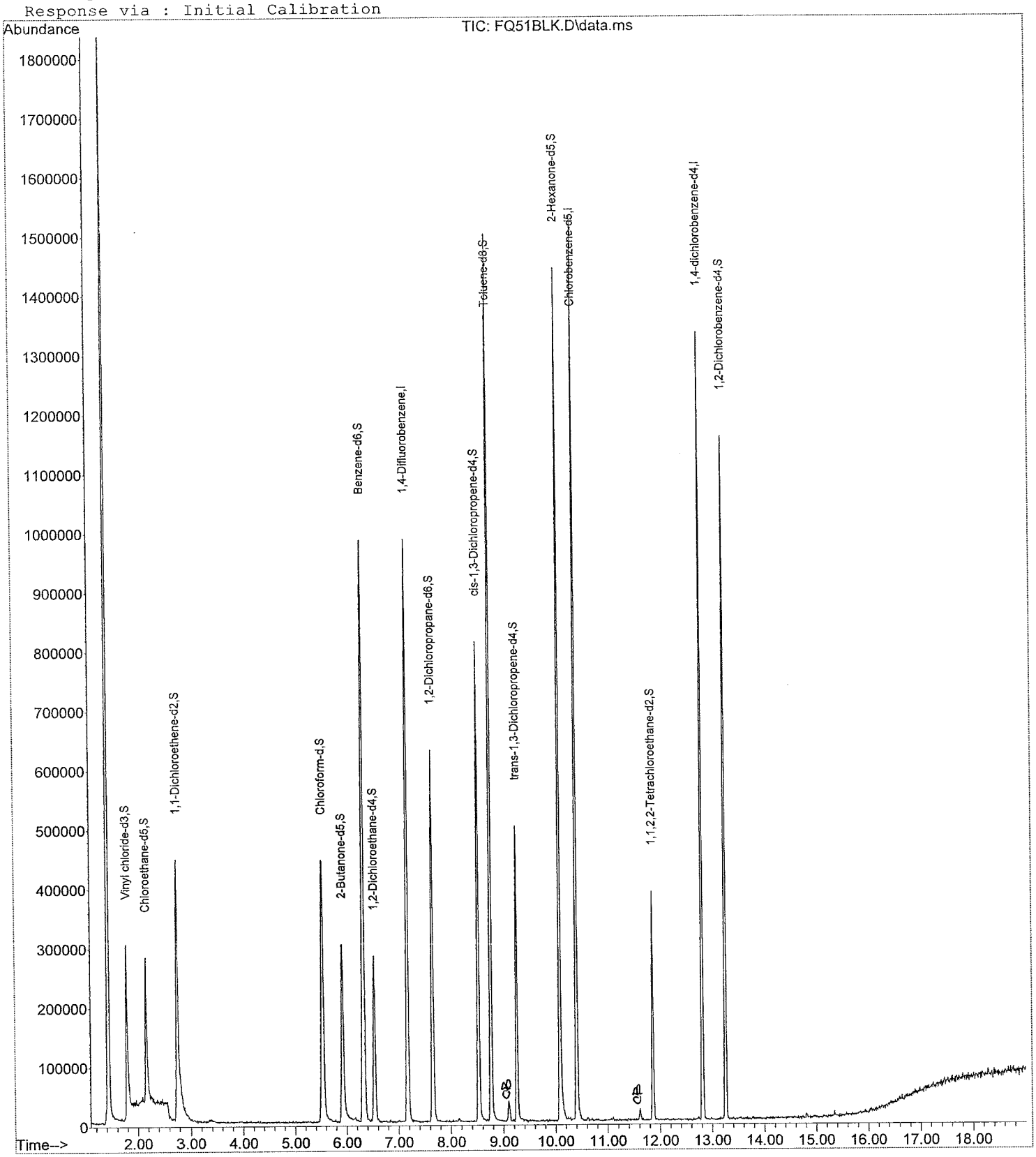
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ51BLK.D Vial: 3
Acq Time : 05/20/2018 07:58 Operator: SLS
Sample : 601597 VBLKT2 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 08:23:49 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



: 000221

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ51BLK.D Vial: 3
Acq Time : 05/20/2018 07:58 Operator: SLS
Sample : 601597 VBLKT2 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 08:23:49 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	987266	5.0000 ug/L	92.54
28) Chlorobenzene-d5	10.41	117	897035	5.0000 ug/L	99.81
60) 1,4-dichlorobenzene-d4	12.82	152	367628	5.0000 ug/L	90.93
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.79	65	339939	5.4391 ug/L	108.78%
8) Chloroethane-d5	2.16	69	270869	5.5131 ug/L	110.26%
11) 1,1-Dichloroethene-d2	2.76	63	443476	4.1465 ug/L	82.93%
22) 2-Butanone-d5	5.92	46	598634	55.9057 ug/L	111.81%
25) Chloroform-d	5.53	84	553345	4.4412 ug/L	88.82%
27) 1,2-Dichloroethane-d4	6.54	65	248258	5.0578 ug/L	101.16%
33) Benzene-d6	6.32	84	1159801	4.8805 ug/L	97.61%
37) 1,2-Dichloropropane-d6	7.65	67	303962	4.7621 ug/L	95.24%
40) cis-1,3-Dichloropropene-d4	8.52	79	475776	4.6916 ug/L	93.83%
42) trans-1,3-Dichloropropene-	9.26	79	260900	4.1245 ug/L	82.49%
47) Toluene-d8	8.76	98	1071163	4.9586 ug/L	99.17%
50) 2-Hexanone-d5	10.09	63	433894	49.1491 ug/L	98.30%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	177442	4.3932 ug/L	87.86%
65) 1,2-Dichlorobenzene-d4	13.26	152	328497	5.1422 ug/L	102.84%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.39	43	8554	1.7705 ug/L #	64
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

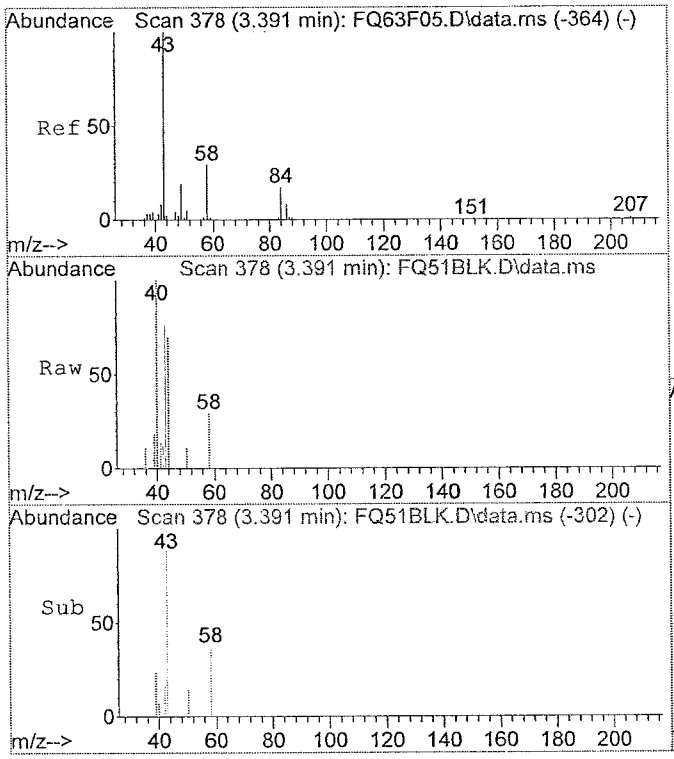
Data File : Q:\F-5975-F\2018\DAT...8F\20MAY18F\FQ51BLK.D Vial: 3
Acq Time : 05/20/2018 07:58 Operator: SLS
Sample : 601597 VBLKT2 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 20 08:23:49 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	0.00	164		Not Detected	
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

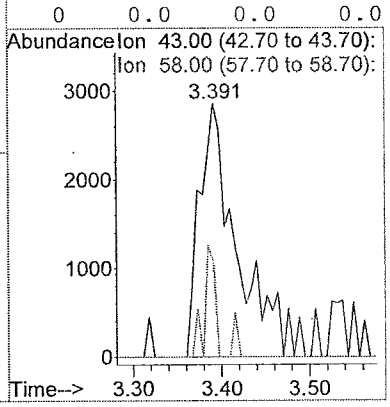
(#) = qualifier out of range (m) = manual integration



#13
Acetone
Concen: 1.77 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.00 min
Lab File: FQ51BLK.D
Acq: 05/20/2018 07:58

Tgt Ion:43 Resp: 8554

Ion	Ratio	Lower	Upper
43	100		
58	14.3	17.8	53.3#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601598
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ62HBLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.3	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601598
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ62HBLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 601598
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ62HBLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

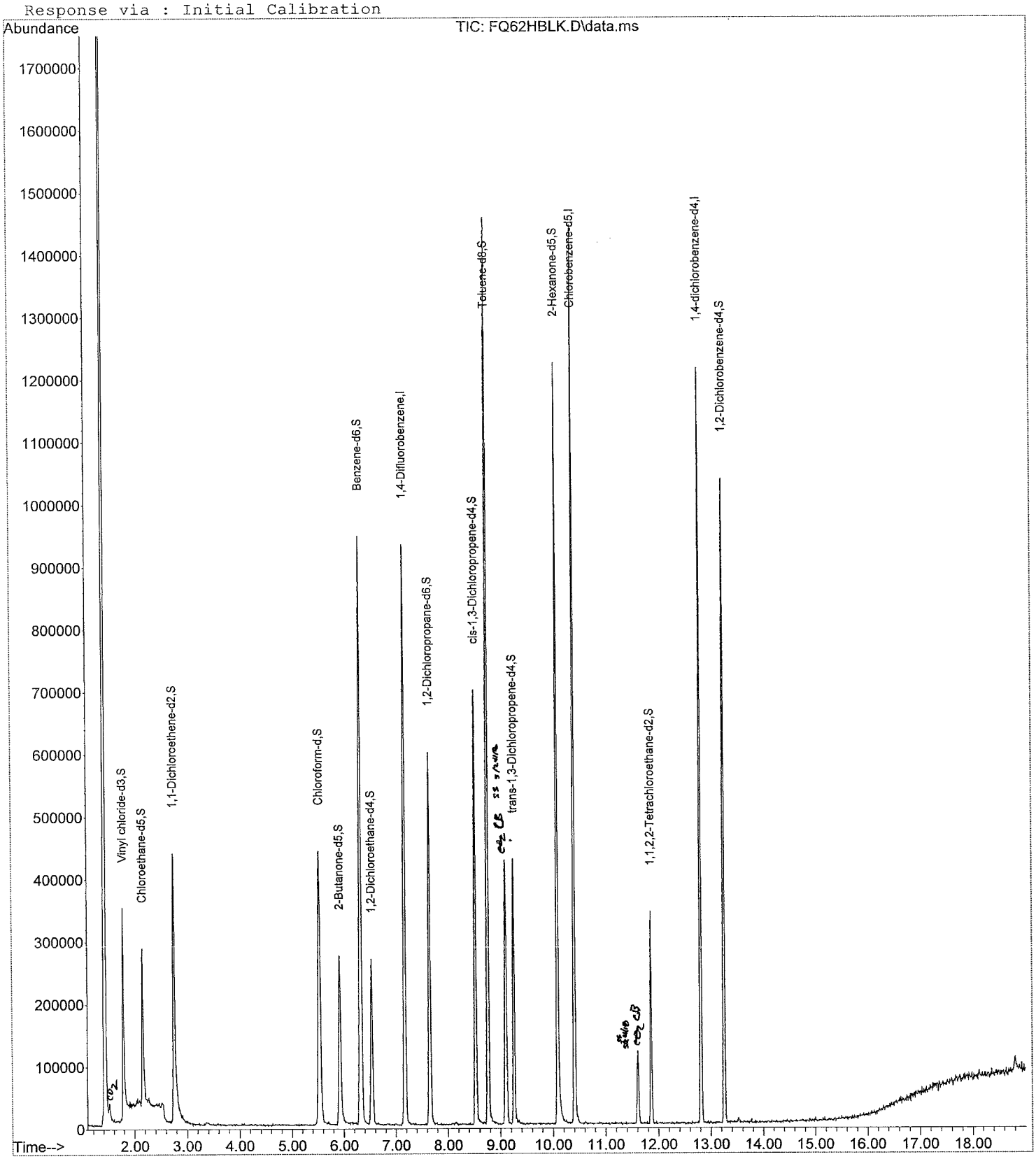
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ62HBLK.D Vial: 14
Acq Time : 05/20/2018 13:19 Operator: SLS
Sample : 601598 VHBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 21 07:05:50 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 11:38:41 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ62HBLK.D Vial: 14
Acq Time : 05/20/2018 13:19 Operator: SLS
Sample : 601598 VHBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 21 07:05:50 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	935029	5.0000 ug/L	87.64
28) Chlorobenzene-d5	10.41	117	844068	5.0000 ug/L	93.92
60) 1,4-dichlorobenzene-d4	12.82	152	342608	5.0000 ug/L	84.74
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.78	65	332205	5.6124 ug/L	112.25%
8) Chloroethane-d5	2.16	69	261697	5.6239 ug/L	112.48%
11) 1,1-Dichloroethene-d2	2.75	63	419339	4.1399 ug/L	82.80%
22) 2-Butanone-d5	5.92	46	497253	49.0322 ug/L	98.06%
25) Chloroform-d	5.54	84	534680	4.5312 ug/L	90.62%
27) 1,2-Dichloroethane-d4	6.54	65	222349	4.7830 ug/L	95.66%
33) Benzene-d6	6.33	84	1101281	4.9251 ug/L	98.50%
37) 1,2-Dichloropropane-d6	7.65	67	284351	4.7344 ug/L	94.69%
40) cis-1,3-Dichloropropene-d4	8.53	79	406523	4.2602 ug/L	85.20%
42) trans-1,3-Dichloropropene-	9.26	79	225247	3.7843 ug/L	75.69%
47) Toluene-d8	8.76	98	1026514	5.0501 ug/L	101.00%
50) 2-Hexanone-d5	10.09	63	361681	43.5401 ug/L	87.08%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	160247	4.2165 ug/L	84.33%
65) 1,2-Dichlorobenzene-d4	13.26	152	296034	4.9725 ug/L	99.45%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.40	43	5957	1.3019 ug/L #	69
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	0.00	78		Not Detected	
34) Trichloroethene	0.00	130		Not Detected	
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	0.00	91		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

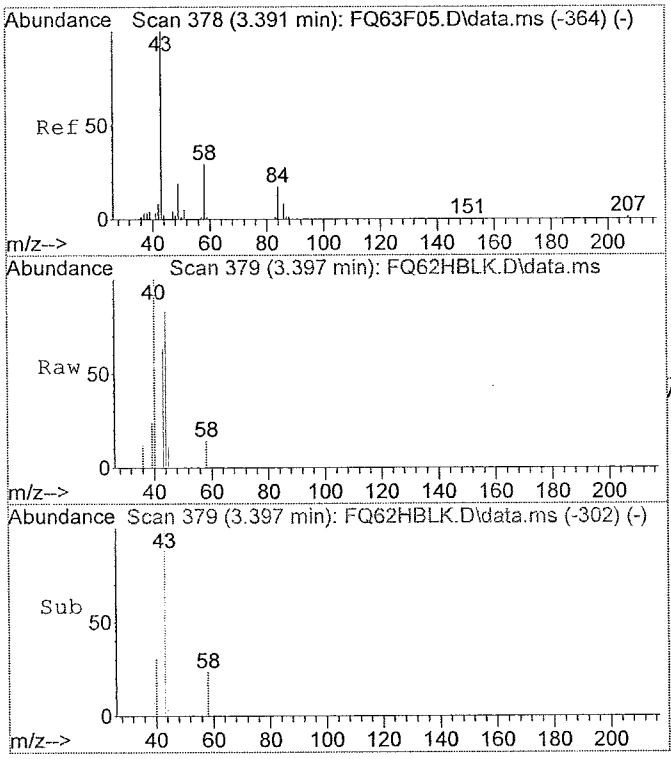
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ62HBLK.D Vial: 14
Acq Time : 05/20/2018 13:19 Operator: SLS
Sample : 601598 VHBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 21 07:05:50 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	0.00	164		Not Detected	
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	0.00	112		Not Detected	
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

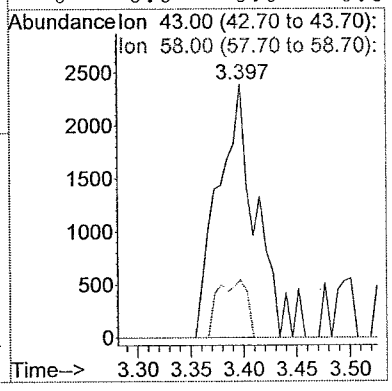
(#) = qualifier out of range (m) = manual integration



#13
Acetone
Concen: 1.30 ug/L
RT: 3.40 min Scan# 379
Delta R.T. 0.01 min
Lab File: FQ62HBLK.D
Acq: 05/20/2018 13:19

Tgt Ion:43 Resp: 5957

Ion	Ratio	Lower	Upper
43	100		
58	17.2	17.8	53.3#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

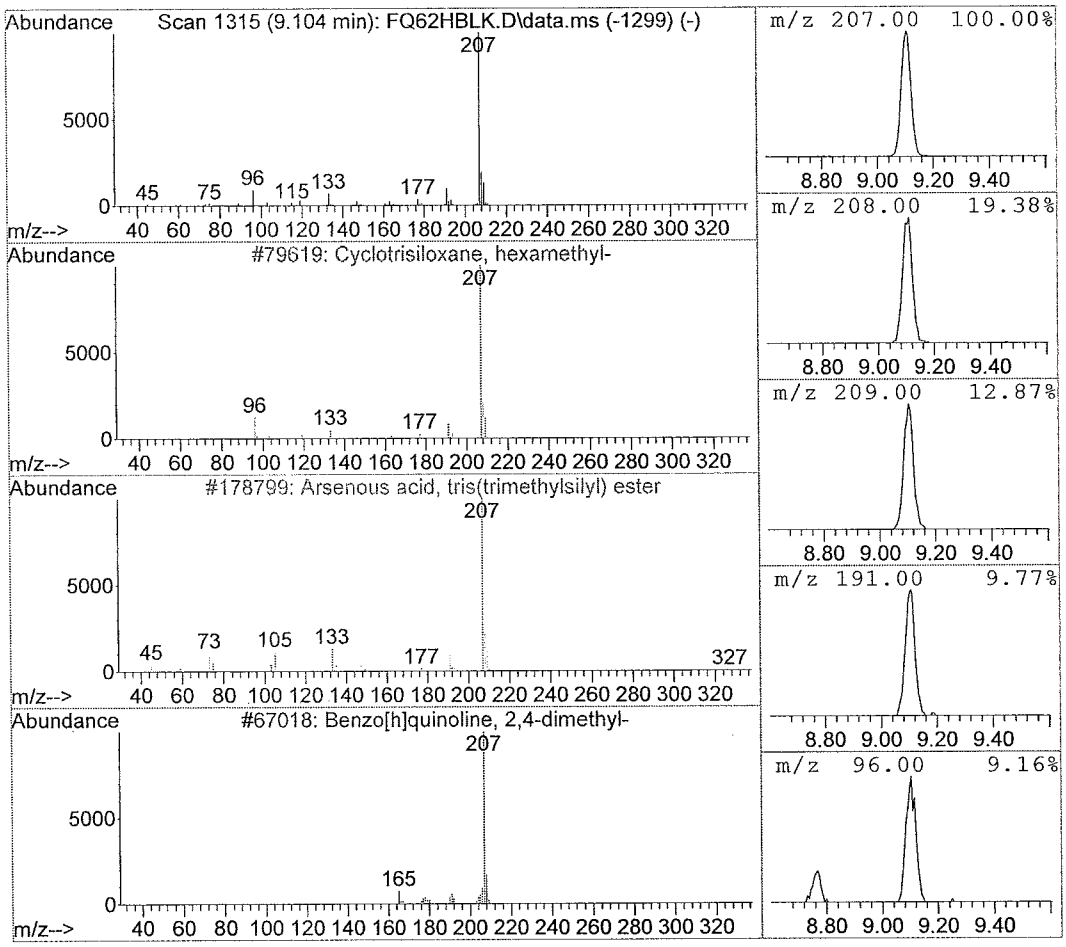
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ62HBLK.D Vial: 14
Acq Time : 05/20/2018 13:19 Operator: SLS
Sample : 601598 VHBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
9.10	2.06 ug/L	1039497	Chlorobenzene-d5	2522528

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	79619	000541-05-9	86.00
2	Arsenous acid, tris(trimethylsilyl)	178799	055429-29-3	56.00
3	Benzo[h]quinoline, 2,4-dimethyl-	67018	000605-67-4	39.00
4	1H-Indole, 1-methyl-2-phenyl-	67013	003558-24-5	38.00
5	Cyclopentene-1-carboxylic acid, 4-[	171148	1000159-40-6	38.00

CB



Library Search Compound Report

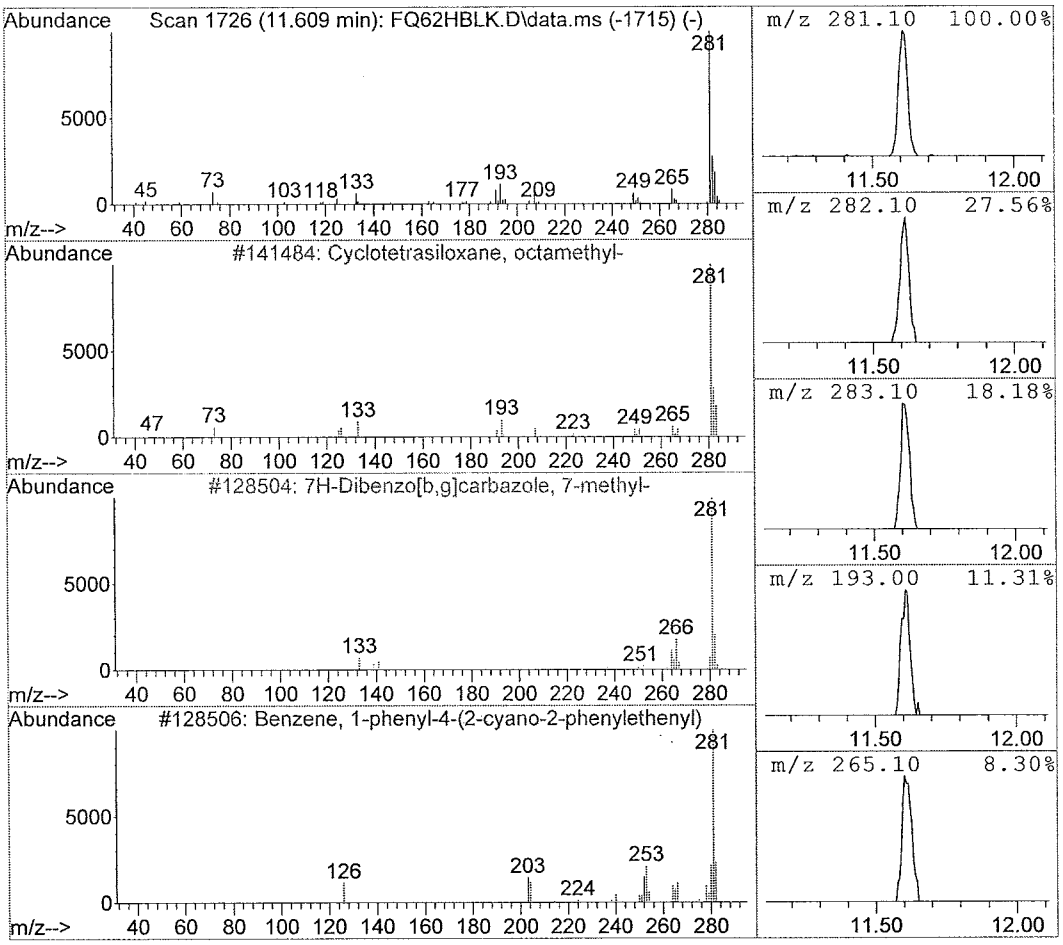
Data File : Q:\F-5975-F\2018\DAT...F\20MAY18F\FQ62HBLK.D Vial: 14
Acq Time : 05/20/2018 13:19 Operator: SLS
Sample : 601598 VHBLKT1 Inst : 5975-F
Misc : 2.5 uL of 41865 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
11.61	0.53 ug/L	267196	Chlorobenzene-d5	2522528

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	141484	000556-67-2	90.00
2	7H-Dibenzo[b,g]carbazole, 7-methyl-	128504	003557-49-1	59.00
3	Benzene, 1-phenyl-4-(2-cyano-2-phen	128506	027869-56-3	59.00
4	trans-4-Dimethylamino-4'-methoxycha	128405	052119-37-6	53.00
5	Benzoic acid, 4-methyl-2-trimethyls	140717	1000153-59-3	45.00

OB



FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139MS

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ39F005
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	5.6	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	5.3	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	5.1	
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139MS

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ39F005
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

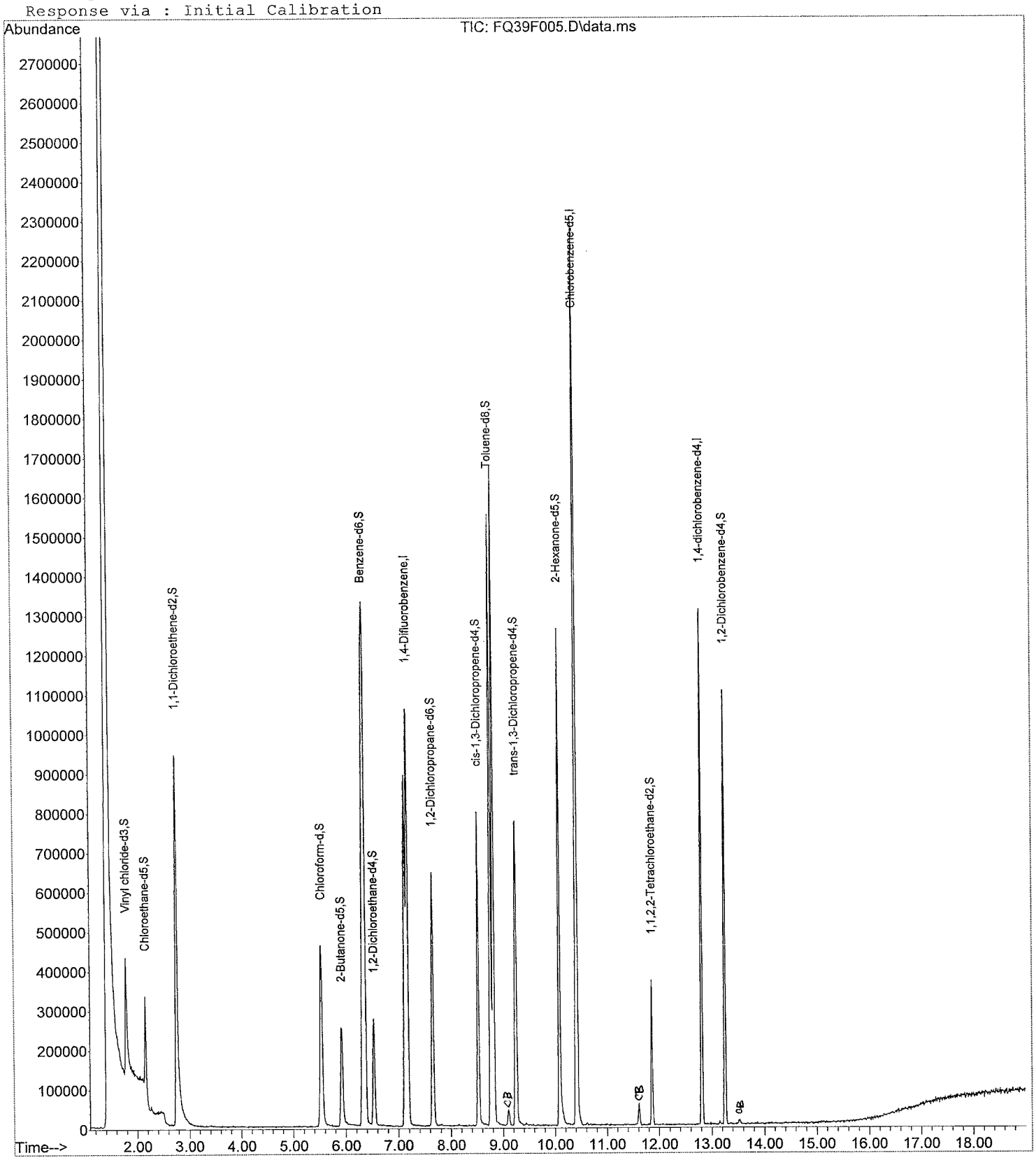
CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	5.4	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	5.0	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ39F005.D Vial: 8
Acq Time : 05/18/2018 10:34 Operator: SLS
Sample : 1813654005 5P-MW105-139MS Inst : 5975-F
Misc : 2.5 uL of 41865, 41867 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:27:53 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ39F005.D Vial: 8
Acq Time : 05/18/2018 10:34 Operator: SLS
Sample : 1813654005 5P-MW105-139MS Inst : 5975-F
Misc : 2.5 uL of 41865, 41867 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:27:53 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.18	114	1042202	5.0000 ug/L	97.69
28) Chlorobenzene-d5	10.41	117	903171	5.0000 ug/L	100.49
60) 1,4-dichlorobenzene-d4	12.82	152	372237	5.0000 ug/L	92.07
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	336966	5.1074 ug/L	102.15%
8) Chloroethane-d5	2.16	69	279212	5.3833 ug/L	107.67%
11) 1,1-Dichloroethene-d2	2.76	63	604994	5.3586 ug/L	107.17%
22) 2-Butanone-d5	5.92	46	477234	42.2191 ug/L	84.44%
25) Chloroform-d	5.53	84	562417	4.2761 ug/L	85.52%
27) 1,2-Dichloroethane-d4	6.54	65	239235	4.6170 ug/L	92.34%
33) Benzene-d6	6.33	84	1192925	4.9858 ug/L	99.72%
37) 1,2-Dichloropropane-d6	7.65	67	304702	4.7413 ug/L	94.83%
40) cis-1,3-Dichloropropene-d4	8.53	79	467146	4.5752 ug/L	91.50%
42) trans-1,3-Dichloropropene-	9.26	79	259536	4.0750 ug/L	81.50%
47) Toluene-d8	8.76	98	1091150	5.0169 ug/L	100.34%
50) 2-Hexanone-d5	10.08	63	404822	45.5444 ug/L	91.09%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	171908	4.2273 ug/L	84.55%
65) 1,2-Dichlorobenzene-d4	13.26	152	312631	4.8332 ug/L	96.66%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	2.76	96	292752	5.5906 ug/L	92
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	6.36	78	1183206	5.2697 ug/L	92
34) Trichloroethene	7.13	130	374355	5.1451 ug/L	96
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	8.82	91	1294368	5.3635 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ39F005.D Vial: 8
Acq Time : 05/18/2018 10:34 Operator: SLS
Sample : 1813654005 5P-MW105-139MS Inst : 5975-F
Misc : 2.5 uL of 41865, 41867 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:27:53 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	147207	2.3795 ug/L	90
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	10.43	112	857373	4.9609 ug/L	87
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

(#) = qualifier out of range (m) = manual integration

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139MSD

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ40F006
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	5.8	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	5.3	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	5.1	
108-87-2	Methylcyclohexane	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139MSD

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ40F006
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

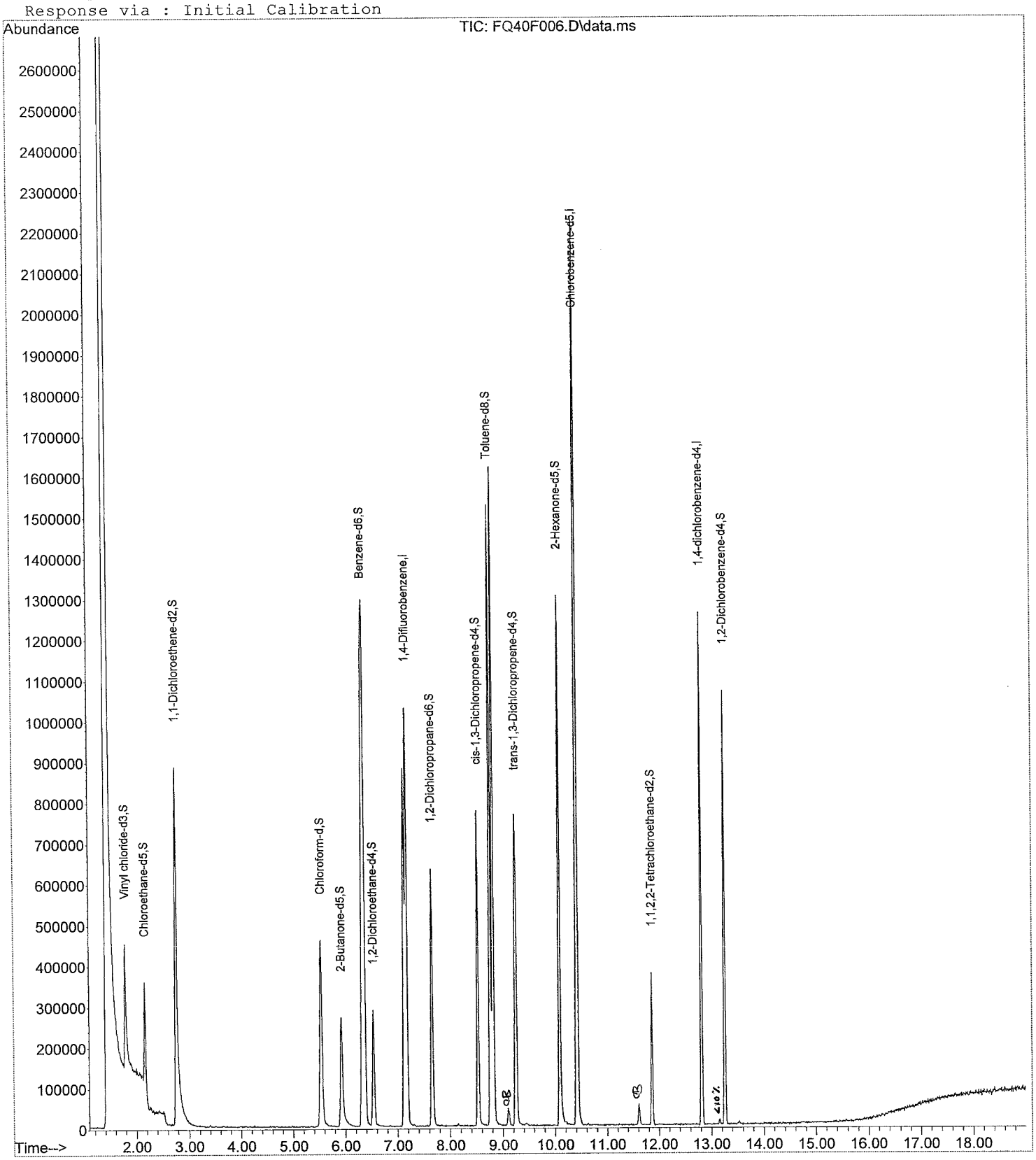
CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	5.3	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	5.0	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ40F006.D Vial: 9
Acq Time : 05/18/2018 11:02 Operator: SLS
Sample : 1813654006 5P-MW105-139MSD Inst : 5975-F
Misc : 2.5 uL of 41865, 41867 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:28:52 2018 Results File: FTRACEE9.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed May 23 10:50:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ40F006.D Vial: 9
Acq Time : 05/18/2018 11:02 Operator: SLS
Sample : 1813654006 5P-MW105-139MSD Inst : 5975-F
Misc : 2.5 uL of 41865, 41867 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:28:52 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1017658	5.0000 ug/L	95.39
28) Chlorobenzene-d5	10.41	117	898896	5.0000 ug/L	100.02
60) 1,4-dichlorobenzene-d4	12.82	152	351605	5.0000 ug/L	86.97
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.79	65	337680	5.2416 ug/L	104.83%
8) Chloroethane-d5	2.16	69	271838	5.3675 ug/L	107.35%
11) 1,1-Dichloroethene-d2	2.76	63	578483	5.2473 ug/L	104.95%
22) 2-Butanone-d5	5.93	46	561586	50.8796 ug/L	101.76%
25) Chloroform-d	5.54	84	562328	4.3785 ug/L	87.57%
27) 1,2-Dichloroethane-d4	6.54	65	243117	4.8051 ug/L	96.10%
33) Benzene-d6	6.33	84	1145833	4.8117 ug/L	96.23%
37) 1,2-Dichloropropane-d6	7.65	67	300114	4.6921 ug/L	93.84%
40) cis-1,3-Dichloropropene-d4	8.52	79	455425	4.4816 ug/L	89.63%
42) trans-1,3-Dichloropropene-	9.26	79	254292	4.0117 ug/L	80.23%
47) Toluene-d8	8.76	98	1065286	4.9212 ug/L	98.42%
50) 2-Hexanone-d5	10.09	63	410286	46.3787 ug/L	92.76%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	175270	4.3305 ug/L	86.61%
65) 1,2-Dichlorobenzene-d4	13.26	152	305652	5.0026 ug/L	100.05%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	2.77	96	294429	5.7583 ug/L	89
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	0.00	43		Not Detected	
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	0.00	83		Not Detected	
26) 1,2-Dichloroethane	0.00	62		Not Detected	
29) 1,1,1-Trichloroethane	0.00	97		Not Detected	
30) Cyclohexane	0.00	56		Not Detected	
31) Carbon tetrachloride	0.00	117		Not Detected	
32) Benzene	6.36	78	1176451	5.2646 ug/L	91
34) Trichloroethene	7.13	130	367512	5.0750 ug/L	97
35) Methylcyclohexane	0.00	83		Not Detected	
36) 1,2-Dichloropropane	0.00	63		Not Detected	
38) Bromodichloromethane	0.00	83		Not Detected	
39) cis-1,3-Dichloropropene	0.00	75		Not Detected	
41) trans-1,3-Dichloropropene	0.00	75		Not Detected	
43) 1,1,2-Trichloroethane	0.00	97		Not Detected	
44) Dibromochloromethane	0.00	129		Not Detected	
45) 4-Methyl-2-pentanone	0.00	43		Not Detected	
46) Toluene	8.82	91	1282837	5.3410 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\18MAY18F\FQ40F006.D Vial: 9
Acq Time : 05/18/2018 11:02 Operator: SLS
Sample : 1813654006 5P-MW105-139MSD Inst : 5975-F
Misc : 2.5 uL of 41865, 41867 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: May 18 12:28:52 2018 Results File: FTRACEE9.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEE9.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu May 17 14:08:35 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEE9.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	144784	2.3515 ug/L	92
49) 2-Hexanone	0.00	43		Not Detected	
51) 1,2-Dibromoethane	0.00	107		Not Detected	
52) Chlorobenzene	10.43	112	855883	4.9758 ug/L	86
53) Ethylbenzene	0.00	91		Not Detected	
54) m,p-Xylene	0.00	106		Not Detected	
55) o-Xylene	0.00	106		Not Detected	
56) Styrene	0.00	104		Not Detected	
57) Isopropylbenzene	0.00	105		Not Detected	
58) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61) Bromoform	0.00	173		Not Detected	
62) 1,3-Dichlorobenzene	0.00	146		Not Detected	
63) 1,4-Dichlorobenzene	0.00	146		Not Detected	
64) 1,2-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

(#) = qualifier out of range (m) = manual integration

ALS Laboratory Group GC/MS Volatile Organic Analysis

ALS Ref ID:	Samples:	HBN:	Case/SDG:	Date Received:	Date Analyzed:
1813654001	20	215069	5 POINTS/TV516	5/16/18	5/18/18, 5/20/18

Sample Matrix: Water

Method: EPA CLP SOM02.4 Trace Water

Instrument: 5975-F

Column: Rtx-VMS 30 m 0.250 mm

Temp. Program: 45° C (5.0 min) 15°C /min ramp to 200°C (0 min) 30°C /min ramp to 230°C (2.67 min). Run Time = 19.0 min.

Carrier Gas: Helium

Purge/Trap: OI Analytical Eclipse 4660/#10 Trap; Varian Archon Autosampler.

Purge/Trap Conditions: Purge Time: 11 min. (1 min. dry purge); Desorb Time: 0.8 min. @ 190° C.

Purge Gas: Helium

Purge Flow: ~50 mL/min. Sample heated to 40° C.

Trap Temp: < 35° C

Initial Calibration Curve: The calibration curve is FTRACEE9 analyzed on 5-17-18.

Initial Calibration Standards: VSTD0.5TF, 001TF, 005TF, 010TF, 020TF (Trace Water Curve) - 41421, 41863, 41864, 41866

Initial Calibration Verification Standards: VICVTF - 41865, 41868

Calibration Verification/MS Standards: VSTD005TX - 41865, 41866, 41867

Balance I.D.: 40090067

All analyses meet established QC acceptance criteria.

Results reported in units of ug/L. Data processed by: SLS Notebook generated by: SLS

ALS ENVIROMENTAL - GC\MS VOLATILE ANALYSIS
INJECTION LOGBOOK
INSTRUMENT 5975-F

FILE NAME	DATE & TIME INJECTED	OP	METHOD	SPAR GER#	RUN LENGTH	DIL FAC	MATRIX	SAMPLE	(STANDARD) (SOLUTION)	ISTD #1 AREA
FQ21BFB	05/17/2018 07:59	SLS	FTRACEE9	1	19.00	1	WATER	BFBTx	50 ng BFB	0
	COMMENTS: 2.0 uL 41421									
FQ22BFB	05/17/2018 08:38	SLS	FTRACEE9	1	19.00	1	WATER	BFBTx	50 ng BFB	0
	COMMENTS: 2.0 uL 41421									
FQ23BFB	05/17/2018 09:29	SLS	FTRACEE9	1	19.00	1	WATER	BFBTF	50 ng BFB	0
	COMMENTS: 2.0 uL 41421									
FQ24S005	05/17/2018 10:09	SLS	FTRACEE9	2	19.00	1	WATER	VSTD0.5Tx	VSTD0.5Tx 0.5	939722
	COMMENTS: 2.5 uL 41863; 0.5 uL 41864, 66/50 mL									
FQ25S01	05/17/2018 10:36	SLS	FTRACEE9	3	19.00	1	WATER	VSTD001TF	VSTD001TF 1.0	963051
	COMMENTS: 2.5 uL 41863; 1.0 uL 41864, 66/50 mL									
FQ26S05	05/17/2018 11:04	SLS	FTRACEE9	4	19.00	1	WATER	VSTD005TF	VSTD005TF 5.0	1066869
	COMMENTS: 2.5 uL 41863; 5.0 uL 41864, 66/50 mL									
FQ27S10	05/17/2018 11:32	SLS	FTRACEE9	5	19.00	1	WATER	VSTD010TF	VSTD010TF 10 u	1134223
	COMMENTS: 2.5 uL 41863; 10.0 uL 41864, 66/50 mL									
FQ28S20	05/17/2018 12:00	SLS	FTRACEE9	6	19.00	1	WATER	VSTD020TF	VSTD020TF 20 u	1162167
	COMMENTS: 2.5 uL 41863; 20.0 uL 41864, 66/50 mL									
FQ29BLK	05/17/2018 12:41	SLS	FTRACEE9	7	19.00	1	WATER	SYSTEM BLANK		1024217
	COMMENTS: 2.5 uL 41465									
FQ30S005	05/17/2018 13:08	SLS	FTRACEE9	8	19.00	1	WATER	VSTD0.5TF	VSTD0.5TF 0.5	951486
	COMMENTS: 2.5 uL 41863; 0.5 uL 41864, 66/50 mL									
FQ31S05	05/17/2018 13:48	SLS	FTRACEE9	9	19.00	1	WATER	VICVTF	VICVTF 5.0 ug/L I	1126506
	COMMENTS: 2.5 uL 41865, 41868									

ALS ENVIROMENTAL - GC\MS VOLATILE ANALYSIS
INJECTION LOGBOOK
INSTRUMENT 5975-F

FILE NAME	DATE & TIME INJECTED	OP	METHOD	SPAR GER#	RUN LENGTH	DIL FAC	MATRIX	SAMPLE	(STANDARD) (SOLUTION)	ISTD #1 AREA
FQ32BFB	05/18/2018 07:00	SLS	FTRACEE9	1	19.00	1	WATER	BFBTx	50 ng BFB	0
	COMMENTS: 2.0 uL of 41421									
FQ33S05	05/18/2018 07:27	SLS	FTRACEE9	2	19.00	1	WATER	VSTD005T1	VSTD005T1 5.0	1113921
	COMMENTS: BFBT1 2.0 uL of 41421; 2.5 uL of 41865, 41866									
FQ34BLK	05/18/2018 08:04	SLS	FTRACEE9	3	19.00	1	WATER	601596	VBLKT1	982165
	COMMENTS: 2.5 uL of 41865									
FQ35F001	05/18/2018 08:42	SLS	FTRACEE9	4	19.00	1	WATER	1813654001	TB-051618	963267
	COMMENTS: 1813654									
FQ36F002	05/18/2018 09:10	SLS	FTRACEE9	5	19.00	2	WATER	1813654002DL	5P-MW101-106	975305
	COMMENTS: 1813654 1:2 Dilution									
FQ37F003	05/18/2018 09:38	SLS	FTRACEE9	6	19.00	2	WATER	1813654003DL	5P-MW101-106	944019
	COMMENTS: 1813654 1:2 Dilution									
FQ38F004	05/18/2018 10:06	SLS	FTRACEE9	7	19.00	1	WATER	1813654004	5P-MW105-139	983462
	COMMENTS: 1813654									
FQ39F005	05/18/2018 10:34	SLS	FTRACEE9	8	19.00	1	WATER	1813654005	5P-MW105-139MS	1042202
	COMMENTS: 2.5 uL of 41865, 41867									
FQ40F006	05/18/2018 11:02	SLS	FTRACEE9	9	19.00	1	WATER	1813654006	5P-MW105-139MS	1017658
	COMMENTS: 2.5 uL of 41865, 41867									
FQ41F007	05/18/2018 11:30	SLS	FTRACEE9	10	19.00	1	WATER	1813654007	5P-MW103-109	991543
	COMMENTS: 1813654									
FQ42F008	05/18/2018 11:58	SLS	FTRACEE9	11	19.00	1	WATER	1813654008	5P-MW2-2004-10	963437
	COMMENTS: 1813654									
FQ43F009	05/18/2018 12:26	SLS	FTRACEE9	12	19.00	1	WATER	1813654009	5P-MW1-2004-10	960537
	COMMENTS: 1813654									
FQ44F010	05/18/2018 12:53	SLS	FTRACEE9	13	19.00	1	WATER	1813654010	5P-MW104-120	967463
	COMMENTS: 1813654									
FQ45F003	05/18/2018 13:21	SLS	FTRACEE9	14	19.00	1	WATER	1813654003	5P-MW101-106-Y	951341
	COMMENTS: 1813654									
FQ46F002	05/18/2018 13:48	SLS	FTRACEE9	15	19.00	1	WATER	1813654002	5P-MW101-106	940834
	COMMENTS: 1813654									
FQ47F05	05/18/2018 14:16	SLS	FTRACEE9	16	19.00	1	WATER	VSTD005T2	VSTD005T2 5.0	1089527
	COMMENTS: 2.5 uL of 41865, 41866									
FQ48F05	05/18/2018 14:43	SLS	FTRACEE9	17	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1085745
	COMMENTS: 2.5 uL of 41865, 41866									

ALS ENVIROMENTAL - GC\MS VOLATILE ANALYSIS
INJECTION LOGBOOK
INSTRUMENT 5975-F

FILE NAME	DATE & TIME INJECTED	OP	METHOD	SPAR GER#	RUN LENGTH	DIL FAC	MATRIX	SAMPLE	(STANDARD) (SOLUTION)	ISTD #1 AREA
FQ49BFB	05/20/2018 06:56	SLS	FTRACEE9	1	19.00	1	WATER	BFBTX	50 ng BFB	137999
	COMMENTS: 2.0 uL of 41421									
FQ50S05	05/20/2018 07:24	SLS	FTRACEE9	2	19.00	1	WATER	VSTD005T3	VSTD005T3 5.0	1109556
	COMMENTS: BFBT2 2.0 uL of 41421; 2.5 uL of 41865, 41866									
FQ51BLK	05/20/2018 07:58	SLS	FTRACEE9	3	19.00	1	WATER	601597	VBLKT2	987266
	COMMENTS: 2.5 uL of 41865									
FQ52F011	05/20/2018 08:42	SLS	FTRACEE9	4	19.00	1	WATER	1813654011	5P-MW106I-145	979609
	COMMENTS: 1813654									
FQ53F012	05/20/2018 09:10	SLS	FTRACEE9	5	19.00	1	WATER	1813654012	5P-MW106D-195	980286
	COMMENTS: 1813654									
FQ54F013	05/20/2018 09:38	SLS	FTRACEE9	6	19.00	1	WATER	1813654013	5P-MW107I-145	952093
	COMMENTS: 1813654									
FQ55F014	05/20/2018 10:05	SLS	FTRACEE9	7	19.00	1	WATER	1813654014	5P-MW107D-200	970985
	COMMENTS: 1813654									
FQ56F015	05/20/2018 10:33	SLS	FTRACEE9	8	19.00	1	WATER	1813654015	5P-MW108I-149	951484
	COMMENTS: 1813654									
FQ57F016	05/20/2018 11:00	SLS	FTRACEE9	9	19.00	1	WATER	1813654016	5P-MW108D-214	936313
	COMMENTS: 1813654									
FQ58F017	05/20/2018 11:28	SLS	FTRACEE9	10	19.00	1	WATER	1813654017	5P-MW109I-169	936930
	COMMENTS: 1813654									
FQ59F018	05/20/2018 11:56	SLS	FTRACEE9	11	19.00	1	WATER	1813654018	5P-MW109D-230	957706
	COMMENTS: 1813654									
FQ60F019	05/20/2018 12:23	SLS	FTRACEE9	12	19.00	1	WATER	1813654019	5P-MW110I-208	926494
	COMMENTS: 1813654									
FQ61F020	05/20/2018 12:51	SLS	FTRACEE9	13	19.00	1	WATER	1813654020	5P-MW110D-301	925952
	COMMENTS: 1813654									
FQ62HBLK	05/20/2018 13:19	SLS	FTRACEE9	14	19.00	1	WATER	601598	VHBLKT1	935029
	COMMENTS: 2.5 uL of 41865									
FQ63F05	05/20/2018 13:46	SLS	FTRACEE9	15	19.00	1	WATER	VSTD005T4	VSTD005T4 5.0	1080728
	COMMENTS: 2.5 uL of 41865, 41866									
FQ64F05	05/20/2018 14:14	SLS	FTRACEE9	16	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1055819
	COMMENTS: 2.5 uL of 41865, 41866									

STANDARD REPORT

Working Standard - 4-BFB

4-BFB — Description - 4-Bromofluorobenzene

Standard: 41421
MFG: NA
MFG Lot: CH-3248Z
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 04/17/2018 06:04AM

Amount: 5 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: 4-BFB CH-3248Z

Pos.	Analyte	Name	Concentration
1	460-00-4	4-Bromofluorobenzene	25 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	4.9375 mL	08/10/2025
34352	BFB	Bromofluorobenzene Stock	BFB CH-3248Z	62.5 uL	10/31/2019

STANDARD REPORT

Constituent

Solvent Standard - Methanol

Methanol — Description - Purge & Trap Methanol Solvent

Standard: 33018
MFG: B&J
MFG Lot: DN-615
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 08/10/2016 08:08PM

Amount: 235 mL
Expires: 08/10/2025
Usable: Yes
Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - BFB

BFB — Description - Bromofluorobenzene Stock

Standard: 34352
MFG: Ultra Scientific
MFG Lot: CH-3248Z
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 11/15/2016 06:11PM

Amount: Not Provided
Expires: 10/31/2019
Usable: Yes
Lab Lot: BFB CH-3248Z

Pos.	Analyte	Name	Concentration
1	460-00-4	4-Bromofluorobenzene	2000 ug/mL

STANDARD REPORT

Working Standard - Trace Istd

Trace Istd — Description - Trace Istd Only

Standard: 41863
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 08:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: Trace Istd Only

Pos.	Analyte	Name	Concentration
1	540-36-3	1,4-Difluorobenzene	50 ug/mL
2	3114-55-4	Chlorobenzene-d5	50 ug/mL
3	3855-82-1	1,4-Dichlorobenzene-d4	50 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1960 uL	08/10/2025
36944	CLP Istd	EPA CLP Istd Stock	CLP Istd 011917	40 uL	01/19/2022

STANDARD REPORT

Constituent

Solvent Standard - Methanol

Methanol — Description - Purge & Trap Methanol Solvent

Standard: 33018
MFG: B&J
MFG Lot: DN-615
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 08/10/2016 08:08PM

Amount: 235 mL
Expires: 08/10/2025
Usable: Yes
Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLP Istd

CLP Istd — Description - EPA CLP Istd Stock

Standard: 36944
MFG: Absolute Standards, Inc.
MFG Lot: 011917
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 05/23/2017 07:05PM

Amount: Not Provided
Expires: 01/19/2022
Usable: Yes
Lab Lot: CLP Istd 011917

Pos.	Analyte	Name	Concentration
1	540-36-3	1,4-Difluorobenzene	2500 ug/mL
2	3114-55-4	Chlorobenzene-d5	2500 ug/mL
3	3855-82-1	1,4-Dichlorobenzene-d4	2500 ug/mL

STANDARD REPORT

Working Standard - Trace DMC

Trace DMC — Description - Trace DMC Only

Standard: 41854
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 05:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: Trace DMC Only

Pos.	Analyte	Name	Concentration
1	19199-91-8	Chloroethane-d5	50 ug/mL
2	6745-35-3	Vinyl Chloride-d3	50 ug/mL
3	1076-43-3	Benzene-d6	50 ug/mL
4	865-49-6	Chloroform-d	50 ug/mL
5	2199-69-1	1,2-Dichlorobenzene-d4	50 ug/mL
6	17060-07-0	1,2-Dichloroethane-d4	50 ug/mL
7	22280-73-5	1,1-Dichloroethene-d2	50 ug/mL
8	78-87-5(d6)	1,2-Dichloropropane-d6	50 ug/mL
9	93951-66-1	trans-1,3-Dichloropropene-d4	50 ug/mL
10	33685-54-0	1,1,2,2-Tetrachloroethane-d2	50 ug/mL
11	2037-26-5	Toluene-d8	50 ug/mL
12	24313-50-6	2-Butanone-d5	500 ug/mL
13	4840-82-8	2-Hexanone-d5	500 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
31457	CLP DMC	EPA CLP DMC Liquids Stock	CLP DMC 032416	50 uL	03/24/2019
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1500 uL	08/10/2025
35505	CLPDMCGases	EPA CLP DMC Gases Stock	CLPDMCGases110216	50 uL	11/02/2019
36130	CLP DMC KET	EPA CLP DMC Ketones Stock	CLP DMC Ket 101816	400 uL	10/18/2019

STANDARD REPORT

Constituent

Solvent Standard - Methanol

Methanol — Description - Purge & Trap Methanol Solvent

Standard: 33018
MFG: B&J
MFG Lot: DN-615
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 08/10/2016 08:08PM

Amount: 235 mL
Expires: 08/10/2025
Usable: Yes
Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLP DMC KET

CLP DMC KET	Description - EPA CLP DMC Ketones Stock

Standard: 36130
MFG: Absolute Standards, Inc.
MFG Lot: 101816
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 03/27/2017 07:03PM

Amount: Not Provided
Expires: 10/18/2019
Usable: Yes
Lab Lot: CLP DMC Ket 101816

Pos.	Analyte	Name	Concentration
1	24313-50-6	2-Butanone-d5	2500 ug/mL
2	4840-82-8	2-Hexanone-d5	2500 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLP DMC

CLP DMC	Description - EPA CLP DMC Liquids Stock

Standard: 31457
MFG: Absolute Standards, Inc.
MFG Lot: 032416
Part ID: 94155

Created By: Christopher Q. Coleman
Create Date: 04/13/2016 12:04AM

Amount: Not Provided
Expires: 03/24/2019
Usable: Yes
Lab Lot: CLP DMC 032416

Pos.	Analyte	Name	Concentration
1	1076-43-3	Benzene-d6	2000 ug/mL
2	865-49-6	Chloroform-d	2000 ug/mL
3	2199-69-1	1,2-Dichlorobenzene-d4	2000 ug/mL
4	17060-07-0	1,2-Dichloroethane-d4	2000 ug/mL
5	22280-73-5	1,1-Dichloroethene-d2	2000 ug/mL
6	78-87-5(d6)	1,2-Dichloropropane-d6	2000 ug/mL
7	93951-86-1	trans-1,3-Dichloropropene-d4	2000 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	2000 ug/mL
9	2037-26-5	Toluene-d8	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLPDMCGases

CLPDMCGases	Description - EPA CLP DMC Gases Stock

Standard: 35505
MFG: Absolute Standards, Inc.
MFG Lot: 110216
Part ID: 94156

Created By: Christopher Q. Coleman
Create Date: 02/08/2017 03:02PM

Amount: Not Provided
Expires: 11/02/2019
Usable: Yes
Lab Lot: CLPDMCGases110216

Pos.	Analyte	Name	Concentration
1	19199-91-8	Chloroethane-d5	2000 ug/mL
2	6745-35-3	Vinyl Chloride-d3	2000 ug/mL

STANDARD REPORT

Working Standard - TracelstdDMC

TracelstdDMC	Description - Trace Istd/DMC

Standard: 41865
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 06:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: Trace Istd/DMC

Pos.	Analyte	Name	Concentration
1	540-36-3	1,4-Difluorobenzene	50 ug/mL
2	3114-55-4	Chlorobenzene-d5	50 ug/mL
3	3855-82-1	1,4-Dichlorobenzene-d4	50 ug/mL
4	1076-43-3	Benzene-d6	50 ug/mL
5	865-49-6	Chloroform-d	50 ug/mL
6	2199-69-1	1,2-Dichlorobenzene-d4	50 ug/mL
7	17060-07-0	1,2-Dichloroethane-d4	50 ug/mL
8	22280-73-5	1,1-Dichloroethene-d2	50 ug/mL
9	78-87-5(d6)	1,2-Dichloropropane-d6	50 ug/mL
10	93951-86-1	trans-1,3-Dichloropropene-d4	50 ug/mL
11	33685-54-0	1,1,2,2-Tetrachloroethane-d2	50 ug/mL
12	2037-26-5	Toluene-d8	50 ug/mL
13	19199-91-8	Chloroethane-d5	50 ug/mL
14	6745-35-3	Vinyl Chloride-d3	50 ug/mL
15	24313-50-6	2-Butanone-d5	500 ug/mL
16	4840-82-8	2-Hexanone-d5	500 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
31457	CLP DMC	EPA CLP DMC Liquids Stock	CLP DMC 032416	50 uL	03/24/2019
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1460 uL	08/10/2025
35505	CLPDMCGases	EPA CLP DMC Gases Stock	CLPDMCGases110216	50 uL	11/02/2019
36130	CLP DMC KET	EPA CLP DMC Ketones Stock	CLP DMC Ket 101816	400 uL	10/18/2019
36944	CLP Istd	EPA CLP Istd Stock	CLP Istd 011917	40 uL	01/19/2022

STANDARD REPORT

Constituent

Solvent Standard - Methanol

Methanol	Description - Purge & Trap Methanol Solvent
Standard: 33018 MFG: B&J MFG Lot: DN-615 Part ID: Not Provided	Created By: Christopher Q. Coleman Create Date: 08/10/2016 08:08PM
	Amount: 235 mL Expires: 08/10/2025 Usable: Yes Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLP DMC KET

CLP DMC KET	Description - EPA CLP DMC Ketones Stock
Standard: 36130 MFG: Absolute Standards, Inc. MFG Lot: 101816 Part ID: Not Provided	Created By: Christopher Q. Coleman Create Date: 03/27/2017 07:03PM
	Amount: Not Provided Expires: 10/18/2019 Usable: Yes Lab Lot: CLP DMC Ket 101816

Pos.	Analyte	Name	Concentration
1	24313-50-6	2-Butanone-d5	2500 ug/mL
2	4840-82-8	2-Hexanone-d5	2500 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLP lstd

CLP lstd	Description - EPA CLP lstd Stock
Standard: 36944 MFG: Absolute Standards, Inc. MFG Lot: 011917 Part ID: Not Provided	Created By: Christopher Q. Coleman Create Date: 05/23/2017 07:05PM
	Amount: Not Provided Expires: 01/19/2022 Usable: Yes Lab Lot: CLP lstd 011917

Pos.	Analyte	Name	Concentration
1	540-36-3	1,4-Difluorobenzene	2500 ug/mL
2	3114-55-4	Chlorobenzene-d5	2500 ug/mL
3	3855-82-1	1,4-Dichlorobenzene-d4	2500 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLP DMC

CLP DMC	Description - EPA CLP DMC Liquids Stock
Standard: 31457 MFG: Absolute Standards, Inc. MFG Lot: 032416 Part ID: 94155	Created By: Christopher Q. Coleman Create Date: 04/13/2016 12:04AM
	Amount: Not Provided Expires: 03/24/2019 Usable: Yes Lab Lot: CLP DMC 032416

Pos.	Analyte	Name	Concentration
1	1076-43-3	Benzene-d6	2000 ug/mL
2	865-49-6	Chloroform-d	2000 ug/mL
3	2199-69-1	1,2-Dichlorobenzene-d4	2000 ug/mL
4	17060-07-0	1,2-Dichloroethane-d4	2000 ug/mL
5	22280-73-5	1,1-Dichloroethene-d2	2000 ug/mL
6	78-87-5(d5)	1,2-Dichloropropane-d6	2000 ug/mL
7	93951-86-1	trans-1,3-Dichloropropene-d4	2000 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	2000 ug/mL
9	2037-26-5	Toluene-d8	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLPDMCGases

CLPDMCGases — Description - EPA CLP DMC Gases Stock

Standard: 35595
MFG: Absolute Standards, Inc.
MFG Lot: 110216
Part ID: 94156

Created By: Christopher Q. Coleman
Create Date: 02/08/2017 03:02PM

Amount: Not Provided
Expires: 11/02/2019
Usable: Yes
Lab Lot: CLPDMCGases110216

Pos.	Analyte	Name	Concentration
1	19199-91-8	Chloroethane-d5	2000 ug/mL
2	6745-35-3	Vinyl Chloride-d3	2000 ug/mL

STANDARD REPORT

Working Standard - Trace VOA

Trace VOA — Description - Trace VOA

Standard: 41866
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 06:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: Trace VOA

Pos.	Analyte	Name	Concentration
1	71-43-2	Benzene	50 ug/mL
2	108-88-3	Toluene	50 ug/mL
3	100-41-4	Ethyl benzene	50 ug/mL
4	95-47-6	o-Xylene	50 ug/mL
5	108-38-3	m-Xylene	25 ug/mL
6	106-42-3	p-Xylene	25 ug/mL
7	75-27-4	Bromodichloromethane	50 ug/mL
8	124-48-1	Dibromochloromethane	50 ug/mL
9	75-35-4	1,1-Dichloroethene	50 ug/mL
10	156-59-2	cis-1,2-Dichloroethene	50 ug/mL
11	156-60-5	trans-1,2-Dichloroethene	50 ug/mL
12	75-09-2	Methylene chloride	50 ug/mL
13	74-97-5	Bromochloromethane	50 ug/mL
14	75-25-2	Bromoform	50 ug/mL
15	56-23-5	Carbon tetrachloride	50 ug/mL
16	67-66-3	Chloroform	50 ug/mL
17	75-34-3	1,1-Dichloroethane	50 ug/mL
18	127-18-4	Tetrachloroethene	50 ug/mL
19	71-55-6	1,1,1-Trichloroethane	50 ug/mL
20	96-12-8	1,2-Dibromo-3-Chloropropane	50 ug/mL
21	106-93-4	1,2-Dibromoethane	50 ug/mL
22	107-06-2	1,2-Dichloroethane	50 ug/mL
23	78-87-5	1,2-Dichloropropane	50 ug/mL
24	10061-01-5	cis-1,3-Dichloropropene	50 ug/mL
25	10061-02-6	trans-1,3-Dichloropropene	50 ug/mL
26	79-34-5	1,1,2,2-Tetrachloroethane	50 ug/mL
27	79-00-5	1,1,2-Trichloroethane	50 ug/mL
28	79-01-6	Trichloroethene	50 ug/mL
29	108-90-7	Chlorobenzene	50 ug/mL
30	95-50-1	1,2-Dichlorobenzene	50 ug/mL
31	541-73-1	1,3-Dichlorobenzene	50 ug/mL
32	106-46-7	1,4-Dichlorobenzene	50 ug/mL
33	98-82-8	Cumene	50 ug/mL
34	100-42-5	Styrene	50 ug/mL
35	87-61-6	1,2,3-Trichlorobenzene	50 ug/mL
36	120-82-1	1,2,4-Trichlorobenzene	50 ug/mL
37	75-15-0	Carbon disulfide	50 ug/mL
38	110-82-7	Cyclohexane	50 ug/mL
39	79-20-9	Methyl Acetate	50 ug/mL

STANDARD REPORT

Working Standard - Trace VOA

Trace VOA — Description - Trace VOA

Standard: 41866
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 06:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: Trace VOA

Pos.	Analyte	Name	Concentration
40	108-87-2	Methylcyclohexane	50 ug/mL
41	1634-04-4	Methyl t-butyl ether	50 ug/mL
42	76-13-1	Freon 113	50 ug/mL
43	75-71-8	Dichlorodifluoromethane	50 ug/mL
44	74-87-3	Methyl chloride	50 ug/mL
45	75-01-4	Vinyl chloride	50 ug/mL
46	74-83-9	Bromomethane	50 ug/mL
47	75-00-3	Ethyl chloride	50 ug/mL
48	75-69-4	Freon 11	50 ug/mL
49	67-64-1	Acetone	500 ug/mL
50	78-93-3	Methyl ethyl ketone	500 ug/mL
51	108-10-1	Methyl isobutyl ketone	500 ug/mL
52	591-78-6	2-Hexanone	500 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
30593	CLP VOA	EPA CLP VOA Stock	CLP VOA 010816	50 uL	01/18/2019
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1850 uL	08/10/2025
33525	CLP Ketones	EPA CLP Ketones Stock	CLP Ketones 010616	50 uL	01/06/2019
36945	CLP Gases	EPA CLP Gases Stock	CLP Gases 050917	50 uL	05/09/2020

STANDARD REPORT

Constituent

Stock Standard - CLP VOA

CLP VOA — Description - EPA CLP VOA Stock

Standard: 30593
MFG: Absolute Standards, Inc.
MFG Lot: 010816
Part ID: 94159

Created By: Christopher Q. Coleman
Create Date: 01/19/2016 10:01PM

Amount: 1
Expires: 01/18/2019
Usable: Yes
Lab Lot: CLP VOA 010816

Pos.	Analyte	Name	Concentration
1	71-43-2	Benzene	2000 ug/mL
2	108-88-3	Toluene	2000 ug/mL
3	100-41-4	Ethyl benzene	2000 ug/mL
4	95-47-6	o-Xylene	2000 ug/mL
5	108-38-3	m-Xylene	1000 ug/mL
6	106-42-3	p-Xylene	1000 ug/mL
7	75-27-4	Bromodichloromethane	2000 ug/mL
8	124-48-1	Dibromochloromethane	2000 ug/mL
9	75-35-4	1,1-Dichloroethene	2000 ug/mL
10	156-59-2	cis-1,2-Dichloroethene	2000 ug/mL
11	156-60-5	trans-1,2-Dichloroethene	2000 ug/mL
12	75-09-2	Methylene chloride	2000 ug/mL
13	74-97-5	Bromochloromethane	2000 ug/mL
14	75-25-2	Bromoform	2000 ug/mL
15	56-23-5	Carbon tetrachloride	2000 ug/mL
16	67-66-3	Chloroform	2000 ug/mL
17	75-34-3	1,1-Dichloroethane	2000 ug/mL
18	127-18-4	Tetrachloroethene	2000 ug/mL
19	71-55-6	1,1,1-Trichloroethane	2000 ug/mL
20	96-12-8	1,2-Dibromo-3-Chloropropane	2000 ug/mL
21	106-93-4	1,2-Dibromoethane	2000 ug/mL
22	107-06-2	1,2-Dichloroethane	2000 ug/mL
23	78-87-5	1,2-Dichloropropane	2000 ug/mL
24	10061-01-5	cis-1,3-Dichloropropene	2000 ug/mL
25	10061-02-6	trans-1,3-Dichloropropene	2000 ug/mL
26	79-34-5	1,1,2,2-Tetrachloroethane	2000 ug/mL
27	79-00-5	1,1,2-Trichloroethane	2000 ug/mL
28	79-01-6	Trichloroethene	2000 ug/mL
29	108-90-7	Chlorobenzene	2000 ug/mL
30	95-50-1	1,2-Dichlorobenzene	2000 ug/mL
31	541-73-1	1,3-Dichlorobenzene	2000 ug/mL
32	106-46-7	1,4-Dichlorobenzene	2000 ug/mL
33	98-82-8	Cumene	2000 ug/mL
34	100-42-5	Styrene	2000 ug/mL
35	87-61-6	1,2,3-Trichlorobenzene	2000 ug/mL
36	120-82-1	1,2,4-Trichlorobenzene	2000 ug/mL
37	75-15-0	Carbon disulfide	2000 ug/mL
38	110-82-7	Cyclohexane	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLP VOA

CLP VOA — Description - EPA CLP VOA Stock

Standard: 36593
MFG: Absolute Standards, Inc.
MFG Lot: 010816
Part ID: 94159

Created By: Christopher Q. Coleman
Create Date: 01/19/2016 10:01PM

Amount: 1
Expires: 01/18/2019
Usable: Yes
Lab Lot: CLP VOA 010816

Pos.	Analyte	Name	Concentration
39	79-20-9	Methyl Acetate	2000 ug/mL
40	108-87-2	Methylcyclohexane	2000 ug/mL
41	1634-04-4	Methyl t-butyl ether	2000 ug/mL
42	76-13-1	Freon 113	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLP Gases

CLP Gases — Description - EPA CLP Gases Stock

Standard: 36945
MFG: Absolute Standards, Inc.
MFG Lot: 050917
Part ID: 30058

Created By: Christopher Q. Coleman
Create Date: 05/23/2017 07:05PM

Amount: Not Provided
Expires: 05/09/2020
Usable: Yes
Lab Lot: CLP Gases 050917

Pos.	Analyte	Name	Concentration
1	75-71-8	Dichlorodifluoromethane	2000 ug/mL
2	74-87-3	Methyl chloride	2000 ug/mL
3	75-01-4	Vinyl chloride	2000 ug/mL
4	74-83-9	Bromomethane	2000 ug/mL
5	75-00-3	Ethyl chloride	2000 ug/mL
6	75-69-4	Freon 11	2000 ug/mL

STANDARD REPORT

Constituent

Solvent Standard - Methanol

Methanol — Description - Purge & Trap Methanol Solvent

Standard: 33013
MFG: B&J
MFG Lot: DN-615
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 08/10/2016 08:08PM

Amount: 235 mL
Expires: 08/10/2025
Usable: Yes
Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLP Ketones

CLP Ketones — Description - EPA CLP Ketones Stock

Standard: 33525
MFG: ABSOLUTE STANDARDS,
MFG Lot: 010616
Part ID: 82492

Created By: Christopher Q. Coleman
Create Date: 09/19/2016 03:09PM

Amount: Not Provided
Expires: 01/06/2019
Usable: Yes
Lab Lot: CLP Ketones 010616

Pos.	Analyte	Name	Concentration
1	67-64-1	Acetone	20000 ug/mL
2	78-93-3	Methyl ethyl ketone	20000 ug/mL
3	108-10-1	Methyl isobutyl ketone	20000 ug/mL
4	591-78-6	2-Hexanone	20000 ug/mL

STANDARD REPORT

Working Standard - Trace MS

Trace MS — Description - Trace Matrix Spike

Standard: 41867
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 06:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: Trace Matrix Spike

Pos.	Analyte	Name	Concentration
1	75-35-4	1,1-Dichloroethene	50 ug/mL
2	71-43-2	Benzene	50 ug/mL
3	79-01-6	Trichloroethene	50 ug/mL
4	108-88-3	Toluene	50 ug/mL
5	108-90-7	Chlorobenzene	50 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1900 uL	08/10/2025
40254	CLP M.S.	CLP Matrix Spike Stock	CLP MS CP-4257	100 uL	09/30/2019

STANDARD REPORT
Constituent

Solvent Standard - Methanol

Methanol — Description - Purge & Trap Methanol Solvent

Standard: 33018
MFG: B&J
MFG Lot: DN-615
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 08/10/2016 08:08PM

Amount: 235 mL
Expires: 08/10/2025
Usable: Yes
Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT
Constituent

Stock Standard - CLP M.S.

CLP M.S. — Description - CLP Matrix Spike Stock

Standard: 40254
MFG: Ultra Scientific
MFG Lot: CP-4257
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 01/22/2018 07:01AM

Amount: Not Provided
Expires: 09/30/2019
Usable: Yes
Lab Lot: CLP MS CP-4257

Pos.	Analyte	Name	Concentration
1	75-35-4	1,1-Dichloroethene	1000 ug/mL
2	71-43-2	Benzene	1000 ug/mL
3	79-01-6	Trichloroethene	1000 ug/mL
4	108-88-3	Toluene	1000 ug/mL
5	108-90-7	Chlorobenzene	1000 ug/mL

STANDARD REPORT

Working Standard - CLP TraceICV

CLP TraceICV — Description - CLP Trace ICV

Standard: 41868
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 06:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: CLP Trace ICV

Pos.	Analyte	Name	Concentration
1	71-43-2	Benzene	50 ug/mL
2	108-88-3	Toluene	50 ug/mL
3	100-41-4	Ethyl benzene	50 ug/mL
4	95-47-6	o-Xylene	50 ug/mL
5	108-38-3	m-Xylene	25 ug/mL
6	106-42-3	p-Xylene	25 ug/mL
7	75-27-4	Bromodichloromethane	50 ug/mL
8	124-48-1	Dibromochloromethane	50 ug/mL
9	75-35-4	1,1-Dichloroethene	50 ug/mL
10	156-59-2	cis-1,2-Dichloroethene	50 ug/mL
11	156-60-5	trans-1,2-Dichloroethene	50 ug/mL
12	75-09-2	Methylene chloride	50 ug/mL
13	74-97-5	Bromochloromethane	50 ug/mL
14	75-25-2	Bromoform	50 ug/mL
15	56-23-5	Carbon tetrachloride	50 ug/mL
16	67-66-3	Chloroform	50 ug/mL
17	75-34-3	1,1-Dichloroethane	50 ug/mL
18	127-18-4	Tetrachloroethene	50 ug/mL
19	71-55-6	1,1,1-Trichloroethane	50 ug/mL
20	96-12-8	1,2-Dibromo-3-Chloropropane	50 ug/mL
21	106-93-4	1,2-Dibromoethane	50 ug/mL
22	107-06-2	1,2-Dichloroethane	50 ug/mL
23	78-87-5	1,2-Dichloropropane	50 ug/mL
24	10061-01-5	cis-1,3-Dichloropropene	50 ug/mL
25	10061-02-6	trans-1,3-Dichloropropene	50 ug/mL
26	79-34-5	1,1,2,2-Tetrachloroethane	50 ug/mL
27	79-00-5	1,1,2-Trichloroethane	50 ug/mL
28	79-01-6	Trichloroethene	50 ug/mL
29	108-90-7	Chlorobenzene	50 ug/mL
30	95-50-1	1,2-Dichlorobenzene	50 ug/mL
31	541-73-1	1,3-Dichlorobenzene	50 ug/mL
32	106-46-7	1,4-Dichlorobenzene	50 ug/mL
33	98-82-8	Cumene	50 ug/mL
34	100-42-5	Styrene	50 ug/mL
35	87-61-6	1,2,3-Trichlorobenzene	50 ug/mL
36	120-82-1	1,2,4-Trichlorobenzene	50 ug/mL
37	75-15-0	Carbon disulfide	50 ug/mL
38	110-82-7	Cyclohexane	50 ug/mL
39	79-20-9	Methyl Acetate	50 ug/mL

STANDARD REPORT

Working Standard - CLP TraceICV

CLP TraceICV — Description - CLP Trace ICV

Standard: 41868
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 05/17/2018 06:05AM

Amount: 2 mL
Expires: 06/17/2018
Usable: Yes
Lab Lot: CLP Trace ICV

Pos.	Analyte	Name	Concentration
40	108-87-2	Methylcyclohexane	50 ug/mL
41	1634-04-4	Methyl t-butyl ether	50 ug/mL
42	76-13-1	Freon 113	50 ug/mL
43	67-64-1	Acetone	500 ug/mL
44	78-93-3	Methyl ethyl ketone	500 ug/mL
45	108-10-1	Methyl isobutyl ketone	500 ug/mL
46	591-78-6	2-Hexanone	500 ug/mL
47	75-71-8	Dichlorodifluoromethane	50 ug/mL
48	74-87-3	Methyl chloride	50 ug/mL
49	75-01-4	Vinyl chloride	50 ug/mL
50	74-83-9	Bromomethane	50 ug/mL
51	75-00-3	Ethyl chloride	50 ug/mL
52	75-69-4	Freon 11	50 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
32772	CLP VOA ICV	EPA CLP VOA ICV Stock	CLP VOA ICV	50 uL	03/31/2019
32773	CLPKetoneICV	EPA CLP Ketones ICV Stock	CLP Ketones ICV	200 uL	11/30/2018
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1.25 mL	08/10/2025
35504	8260 Gases	VOAL Gases Stock	Ab Gases 011317	0.5 mL	01/13/2020

STANDARD REPORT

Constituent

Stock Standard - CLPKetoneICV

CLPKetoneICV — Description - EPA CLP Ketones ICV Stock

Standard: 32773
MFG: Restek
MFG Lot: A0113616
Part ID: 30006

Created By: Christopher Q. Coleman
Create Date: 07/20/2016 12:07AM

Amount: Not Provided
Expires: 11/30/2018
Usable: Yes
Lab Lot: CLP Ketones ICV

Pos.	Analyte	Name	Concentration
1	67-64-1	Acetone	5000 ug/mL
2	78-93-3	Methyl ethyl ketone	5000 ug/mL
3	108-10-1	Methyl isobutyl ketone	5000 ug/mL
4	591-78-6	2-Hexanone	5000 ug/mL

STANDARD REPORT

Constituent

Solvent Standard - Methanol

Methanol — Description - Purge & Trap Methanol Solvent

Standard: 33018
MFG: B&J
MFG Lot: DN-615
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 08/10/2016 08:08PM

Amount: 235 mL
Expires: 08/10/2025
Usable: Yes
Lab Lot: P&T MeOH DN-615

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLP VOA ICV

CLP VOA ICV — Description - EPA CLP VOA ICV Stock

Standard: 32772
MFG: Restek
MFG Lot: A0117727
Part ID: 30492

Created By: Christopher Q. Coleman
Create Date: 07/20/2016 12:07AM

Amount: 1
Expires: 03/31/2019
Usable: Yes
Lab Lot: CLP VOA ICV A0117727

Pos.	Analyte	Name	Concentration
1	71-43-2	Benzene	2000 ug/mL
2	108-88-3	Toluene	2000 ug/mL
3	100-41-4	Ethyl benzene	2000 ug/mL
4	95-47-6	o-Xylene	2000 ug/mL
5	108-38-3	m-Xylene	1000 ug/mL
6	106-42-3	p-Xylene	1000 ug/mL
7	75-27-4	Bromodichloromethane	2000 ug/mL
8	124-48-1	Dibromochloromethane	2000 ug/mL
9	75-35-4	1,1-Dichloroethene	2000 ug/mL
10	156-59-2	cis-1,2-Dichloroethene	2000 ug/mL
11	156-60-5	trans-1,2-Dichloroethene	2000 ug/mL
12	75-09-2	Methylene chloride	2000 ug/mL
13	74-97-5	Bromochloromethane	2000 ug/mL
14	75-25-2	Bromoform	2000 ug/mL
15	56-23-5	Carbon tetrachloride	2000 ug/mL
16	67-66-3	Chloroform	2000 ug/mL
17	75-34-3	1,1-Dichloroethane	2000 ug/mL
18	127-18-4	Tetrachloroethene	2000 ug/mL
19	71-55-6	1,1,1-Trichloroethane	2000 ug/mL
20	96-12-8	1,2-Dibromo-3-Chloropropane	2000 ug/mL
21	106-93-4	1,2-Dibromoethane	2000 ug/mL
22	107-06-2	1,2-Dichloroethane	2000 ug/mL
23	78-87-5	1,2-Dichloropropane	2000 ug/mL
24	10061-01-5	cis-1,3-Dichloropropene	2000 ug/mL
25	10061-02-6	trans-1,3-Dichloropropene	2000 ug/mL
26	79-34-5	1,1,2,2-Tetrachloroethane	2000 ug/mL
27	79-00-5	1,1,2-Trichloroethane	2000 ug/mL
28	79-01-6	Trichloroethene	2000 ug/mL
29	108-90-7	Chlorobenzene	2000 ug/mL
30	95-50-1	1,2-Dichlorobenzene	2000 ug/mL
31	541-73-1	1,3-Dichlorobenzene	2000 ug/mL
32	106-46-7	1,4-Dichlorobenzene	2000 ug/mL
33	98-82-8	Cumene	2000 ug/mL
34	100-42-5	Styrene	2000 ug/mL
35	87-61-6	1,2,3-Trichlorobenzene	2000 ug/mL
36	120-82-1	1,2,4-Trichlorobenzene	2000 ug/mL
37	75-15-0	Carbon disulfide	2000 ug/mL
38	110-82-7	Cyclohexane	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLP VOA ICV

CLP VOA ICV	Description : EPA CLP VOA ICV Stock

Standard: 32772
MFG: Restek
MFG Lot: A0117727
Part ID: 30492

Created By: Christopher Q. Coleman
Create Date: 07/20/2016 12:07AM

Amount: 1
Expires: 03/31/2019
Usable: Yes
Lab Lot: CLP VOA ICV A0117727

Pos.	Analyte	Name	Concentration
39	79-20-9	Methyl Acetate	2000 ug/mL
40	108-87-2	Methylcyclohexane	2000 ug/mL
41	1634-04-4	Methyl t-butyl ether	2000 ug/mL
42	76-13-1	Freon 113	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - 8260 Gases

8260 Gases	Description : VOAL Gases Stock

Standard: 35504
MFG: Absolute Standards, Inc.
MFG Lot: 011317
Part ID: 30002

Created By: Christopher Q. Coleman
Create Date: 02/08/2017 03:02PM

Amount: Not Provided
Expires: 01/13/2020
Usable: Yes
Lab Lot: Ab Gases 011317

Pos.	Analyte	Name	Concentration
1	75-71-8	Dichlorodifluoromethane	200 ug/mL
2	74-87-3	Methyl chloride	200 ug/mL
3	75-01-4	Vinyl chloride	200 ug/mL
4	74-83-9	Bromomethane	200 ug/mL
5	75-00-3	Ethyl chloride	200 ug/mL
6	75-69-4	Freon 11	200 ug/mL

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

4-Bromofluorobenzene Solution

Product Number:	STS-110N	Page:	1 of 1
Lot Number:	CH-3248Z	Lot Issue Date: 31-Aug-2016	Expiration Date: 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
4-bromofluorobenzene	000460-00-4	RM03365	2005 ± 10 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

S 34352

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John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

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CERTIFIED WEIGHT REPORT

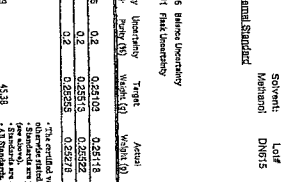
Part Number: 20049
Lot Number: 011917
Description: CLP Volatiles - Low Concentration Internal Standard

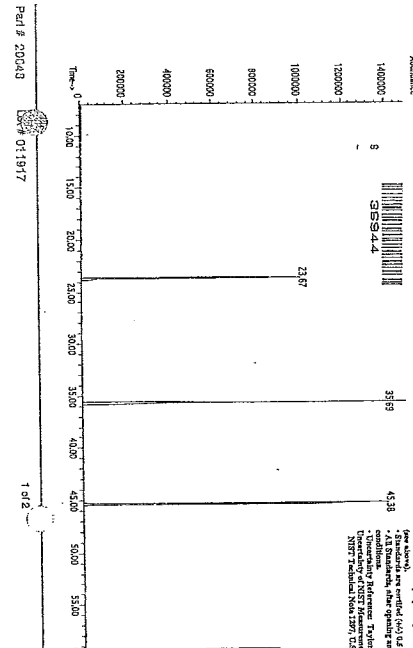
Solvent: Methanol
Lot# DN615

Expiration Date: 011922
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (g/mL): 2500
NIST Test ID#: 828-275872-11
Weight(s) shown below were combined and diluted to (mL): 100.0

Balance Uncertainty 5E-05
Flask Uncertainty 0.001

Compound	Lot Number	Nominal Conc. (g/mL)	Purity (%)	Purity Uncertainty (%)	Target Weight (g)	Actual Weight (g)	Actual Conc.(g/mL) (+/-)	Actual Uncertainty (+/-)	Expanded Uncertainty (95%)	CAS#	MSDS Information (Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50
1. Chlorobenzene-d5	C443AP12	2500	99.6	0.2	0.25103	0.25118	2501.6	10.1	3114-55-4	N/A		orl-rat 1110mg/kg
2. 1,4-Dichlorobenzene-d4	PR-R495072/CRS	2500	99	0.2	0.25515	0.25522	2600.9	10.3	3855-82-1	N/A		orl-rat 500mg/kg
3. 1,4-Difluorobenzene	1310SAO	2500	99	0.2	0.25285	0.25278	2502.0	10.2	540-36-3	N/A		N/A





Part # 20049
Lot# 011917
1 of 2

Method: GC/MS/D-1, Detector: MSD, Column: Vocol (60m X 0.25mm ID, 1.5µm film thickness), Carrier: Helium, Flow: 1.2 mL/min, Oven: Temp. = 35°C (hold 10 min.) to 200°C (Time 2 min.) Rate = 4°C/min, Injector Temp. = 200°C, Detector Temp. = 220°C. Analyst: Candice Warren.

Name	MSD RT (min.)
1,4-Difluorobenzene	23.67
Chlorobenzene-d5	35.69
1,4-Dichlorobenzene-d4	45.38

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST.
- Standards are certified (+/-) 0.4% of the stated value, unless otherwise stated.
- All Standards, after opening ampoule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty References: Taylor, B.N. and Kuyatt, C.E. "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results", Gaithersburg, MD, 1994, NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

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CERTIFIED WEIGHT REPORT

Part Number: 94155
Lot Number: 032416
Description: CLP SOM 01.1 DMC Volatiles
9 components
Expiration Date: 032419
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 822-275872-11 — 5E-05 Balance Uncertainty

Solvent(s): Methanol — Lot# DM417

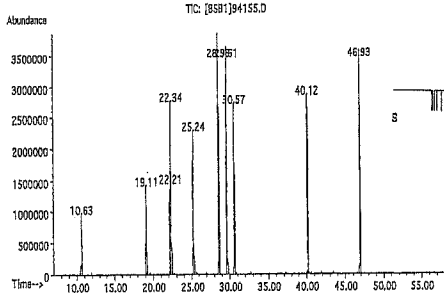
Formulated By: Paul Barron — 032416 — DATE
Reviewed By: Pedro L. Rentas — 032416 — DATE

Weight(s) shown below were combined and diluted to (mL): 100.0 — 0.006 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzene-d6	26	4805DKDK	2000	99	0.2	0.20203	0.20235	2003.1	8.2	1076-43-3	1 ppm (8H)	N/A
2. Chloroform-d	2558	V210P1	2000	99.8	0.2	0.20041	0.20060	2001.9	8.1	865-49-6	N/A	orl-hmn 140mg/kg
3. 1,2-Dichlorobenzene-d4	128	PR-18553/12207DB2	2000	99	0.2	0.20203	0.20210	2000.7	8.1	2199-69-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
4. 1,2-Dichloroethane-d4	137	V288P25	2000	99.8	0.2	0.20082	0.20095	2001.3	8.1	17060-07-0	N/A	orl-mus 825mg/kg
5. 1,1-Dichloroethene-d2	2047	W151P10	2000	99	0.2	0.20203	0.20230	2002.6	8.2	22260-73-5	N/A	orl-rat 200mg/kg
6. 1,2-Dichloropropane-d6	2051	Z322P1	2000	99.4	0.2	0.20122	0.20155	2003.3	8.1	93952-08-0	N/A	orl-rat 1947mg/kg
7. cis,trans-1,3-Dichloropropene-d4	2052	Z-181	2000	42.0	0.2	0.47822	0.47650	2001.2	19.1	202656-29-8	N/A	orl-rat 470mg/kg
8. 1,1,2,2-Tetrachloroethane-d2	2053	F465P1	2000	99.5	0.2	0.20082	0.20100	2001.5	8.1	33685-54-0	N/A	orl-rat 800mg/kg
9. Toluene-d8	282	6D-549	2000	99.5	0.2	0.20102	0.20124	2002.2	8.1	2037-26-5	200 ppm	orl-rat 5000mg/kg

Method: GC6MSD-1. Detector: Mass Selective Detector. Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Oven Profile: Temp. 1 = 35°C (Time 1=10min.), Temp. 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector Temp.= 200°C, Detector Temp. = 220°C. Analyst: Candice Warren.

TIC: [8591]94155.D



S 31457

Name	MSD RT (min.)
1,1-Dichloroethene-d2	10.61
Chloroform-d	19.13
1,2-Dichloroethane-d4	22.20
Benzene-d6	22.36
1,2-Dichloropropane-d6	25.23
cis-1,3-Dichloropropene-d4	28.33
Toluene-d8	29.62
trans-1,3-Dichloropropene-d4	30.59
1,1,2,2-Tetrachloroethane-d2	40.09
1,2-Dichlorobenzene-d4	46.93

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

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CERTIFIED WEIGHT REPORT

Part Number: 94157
Lot Number: 101816
Description: CLP SOM 01.1 DMC Ketones
2 components
Expiration Date: 101819
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2500
NIST Test ID#: 822-275872-11 — 5E-05 Balance Uncertainty

Solvent(s): Methanol — Lot# DP303 (90%); Water — 091316 (10%)

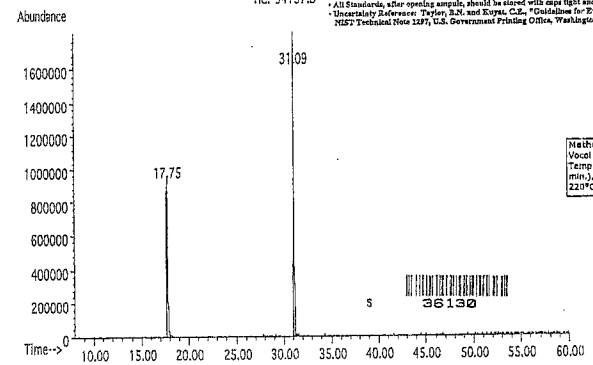
Formulated By: Jason Criscio — 101816 — DATE
Reviewed By: Pedro L. Rentas — 101816 — DATE

Weight(s) shown below were combined and diluted to (mL): 100.0 — 0.001 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/m..)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Butanone-1,1,1,3,3-d5	2557	M275P23	2500	99	0.2	0.25255	0.25260	2500.5	10.2	24313-50-6	N/A	orl-rat 2737mg/kg
2. 2-Hexanone-1,1,1,3,3-d5	2558	S166P26	2500	98.5	0.2	0.25383	0.25394	2501.0	10.2	4840-82-8	N/A	orl-rat 2590mg/kg

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

TIC: 94157.D



Method: GC6MSD-1. Detector: Mass Selective Detector. Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Oven Profile: Temp. 1 = 35°C (Time 1=10min.), Temp. 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector Temp.= 200°C, Detector Temp. = 220°C. Analyst: Candice Warren.

S 36130

Name	MSD RT (min.)
2-Butanone-1,1,1,3,3-d5	17.75
2-Hexanone-1,1,1,3,3-d5	31.12

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CERTIFIED WEIGHT REPORT

Part Number: 94157
Lot Number: 101816
Description: CLP SOM 01.1 DMC Ketones
2 components
Expiration Date: 101819
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2500
NIST Test ID#: 822-275872-11 — 5E-05 Balance Uncertainty

Solvent(s): Methanol — Lot# DP303 (90%); Water — 091316 (10%)

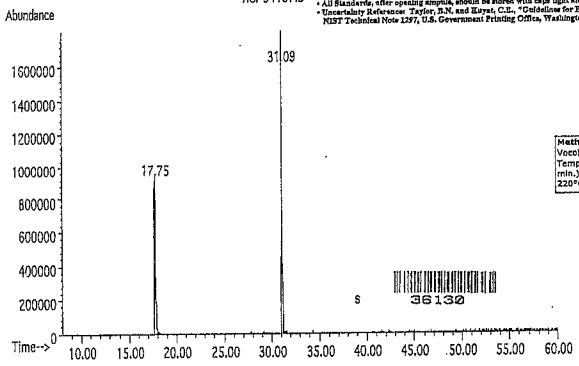
Formulated By: Jason Criscio — 101816 — DATE
Reviewed By: Pedro L. Rentas — 101816 — DATE

Weight(s) shown below were combined and diluted to (mL): 100.0 — 0.001 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Butanone-1,1,1,3,3-d5	2557	M275P23	2500	99	0.2	0.25255	0.25260	2500.5	10.2	24313-50-6	N/A	orl-rat 2737mg/kg
2. 2-Hexanone-1,1,1,3,3-d5	2558	S166P26	2500	98.5	0.2	0.25383	0.25394	2501.0	10.2	4840-82-8	N/A	orl-rat 2590mg/kg

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

TIC: 94157.D



Method: GC6MSD-1. Detector: Mass Selective Detector. Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Oven Profile: Temp. 1 = 35°C (Time 1=10min.), Temp. 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector Temp.= 200°C, Detector Temp. = 220°C. Analyst: Candice Warren.

S 36130

Name	MSD RT (min.)
2-Butanone-1,1,1,3,3-d5	17.75
2-Hexanone-1,1,1,3,3-d5	31.12

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CERTIFIED WEIGHT REPORT

Part Number: 94156
Lot Number: 110216
Description: CLP SOM 01.1 VOC DMC Gases
2 components
Expiration Date: 110219
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 822-275872-11 — 5E-05 Balance Uncertainty

Solvent(s): Methanol — Lot# DP303

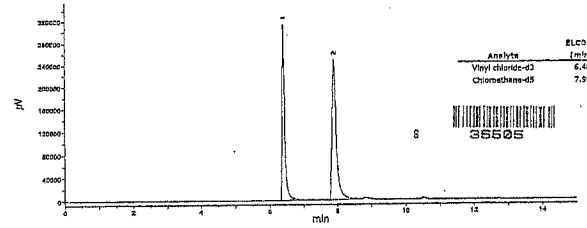
Formulated By: Bryan Njoba — 110216 — DATE
Reviewed By: Pedro L. Rentas — 110216 — DATE

Volume(s) shown below were combined and diluted to (mL): 25.0 — 0.002 Flask Uncertainty

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Chloroethane-d5	94176	072214	0.20	5.00	0.025	10034.4	2006.6	21.7	19199-91-8	N/A	N/A
2. Vinyl chloride-d3	94177	072214	0.20	5.00	0.025	10053.6	2010.4	8.2	6745-35-3	N/A	orl-rat 500mg/kg

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Comments
GC15-Vg Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flow = 150mL/min., Helium (carrier) = 10mL/min.,
Helium (make-up) = 40mL/min., Hydrogen (make-up) = 100mL/min.,
Oven Profile: Temp. 1 = 35°C (Time 1 = 9 min.), Temp 2 = 200°C (Time 2 = 1 min.),
Rate = 33°C/min., Total run time = 15 min. Injector temp. = 200°C, FID Temp. = 200°C.
ELCD Signal = Edeq Channel 2 FID Signal = Edeq Channel 2
Standard Injection = 0.5µL, Range=4 Purge Valve = 0 min



Analyte	ELCD RT (min.)
Vinyl chloride-d3	6.40
Chloroethane-d5	7.50

S 35505

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CERTIFIED WEIGHT REPORT

Part Number: 94155
Lot Number: 032416
Description: CLP SOM 01.1 DMC Volatiles
9 components
Expiration Date: 032419
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 822-275872-11
Weight(s) shown below were combined and diluted to (mL): 100.0
5E-05 Balance Uncertainty
0.008 Flask Uncertainty

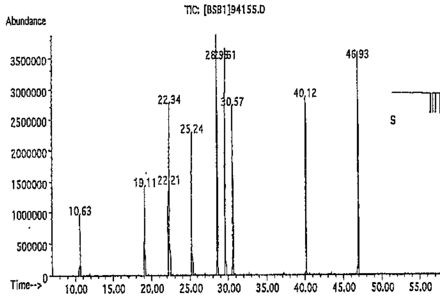
Solvent(s): Methanol
Lot# DM417

Formulated By:	Paul Barron	032416 DATE
Reviewed By:	Pedro L. Rentas	032416 DATE

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Benzene-d6	26	4605DKDK	2000	99	0.2	0.20203	0.20235	2003.1	8.2	1076-43-3	1 ppm (8H)	N/A
2. Chloroform-d	2556	V210P1	2000	99.6	0.2	0.20041	0.20060	2001.9	8.1	865-49-6	N/A	orl-hmn 140mg/kg
3. 1,2-Dichlorobenzene-d4	128	PR-18653/12207DB2	2000	99	0.2	0.20203	0.20210	2000.7	8.1	2199-69-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
4. 1,2-Dichloroethane-d4	137	V288P25	2000	99.6	0.2	0.20082	0.20095	2001.3	8.1	17060-07-0	N/A	orl-mus 625mg/kg
5. 1,1-Dichloroethene-d2	2047	W151P10	2000	99	0.2	0.20203	0.20230	2002.6	8.2	22280-73-5	N/A	orl-rat 200mg/kg
6. 1,2-Dichloropropane-d6	2051	Z322P1	2000	99.4	0.2	0.20122	0.20155	2003.3	8.1	93952-08-0	N/A	orl-rat 1947mg/kg
7. cis,trans-1,3-Dichloropropene-d4	2052	Z-181	2000	42.0	0.2	0.47822	0.47850	2001.2	19.1	202656-23-3	N/A	orl-rat 470mg/kg
8. 1,1,2,2-Tetrachloroethane-d2	2053	F465P1	2000	99.6	0.2	0.20082	0.20100	2001.6	8.1	33685-54-0	N/A	orl-rat 800mg/kg
9. Toluene-d8	282	6D-549	2000	99.5	0.2	0.20102	0.20124	2002.2	8.1	2037-26-5	200 ppm	orl-rat 5000mg/kg

Method: GC6MSD-1. Detector: Mass Selective Detector. Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Oven Profile: Temp. 1 = 35°C (Time 1=10min.), Temp. 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector Temp.= 200°C, Detector Temp. = 220°C. Analyst: Candice Warren.



S 31457

Name	MSD RT (min.)
1,1-Dichloroethene-d2	10.61
Chloroform-d	19.13
1,2-Dichloroethane-d4	22.20
Benzene-d6	22.36
1,2-Dichloropropane-d6	25.23
cis-1,3-Dichloropropene-d4	28.53
Toluene-d8	29.62
trans-1,3-Dichloropropene-d4	30.59
1,1,2,2-Tetrachloroethane-d2	40.08
1,2-Dichlorobenzene-d4	46.93

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC (1994).

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CERTIFIED WEIGHT REPORT

Part Number: 94159
Lot Number: 010816
Description: CLP SOM 01.1 Volatiles
42 components
Expiration Date: 010819
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): Varied
Volume(s) shown below were combined and diluted to (mL): 100.0
5E-05 Balance Uncertainty
0.008 Flask Uncertainty

Solvent(s): Methanol
Lot# DI-I417Q14

Formulated By:	Gabriel Helland	010816 DATE
Reviewed By:	Pedro L. Rentas	010816 DATE

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Benzene	93831	080515	0.10	10.00	0.006	20017.5	2001.6	8.4	00071-43-2	1 ppm	orl-rat 4894mg/kg
2. Toluene	93831	080515	0.10	10.00	0.006	20010.6	2000.9	8.0	00108-88-3	200 ppm	orl-rat 5000mg/kg
3. Ethyl benzene	93831	080515	0.10	10.00	0.006	20007.4	2000.6	8.0	00100-41-4	100 ppm (435mg/m3/8H)	orl-rat >2000mg/kg
4. o-Xylene	93831	080515	0.10	10.00	0.006	20010.0	2000.9	8.1	00095-47-6	100 ppm (435mg/m3/8H)	ipr-mus 1364mg/kg
5. m-Xylene	93831	080515	0.10	10.00	0.006	10007.2	1000.7	4.0	00108-38-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
6. p-Xylene	93831	080515	0.10	10.00	0.006	10008.3	1000.6	4.0	00106-42-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
7. Bromodichloromethane	35171	101815	0.05	5.00	0.025	40012.7	2000.5	8.2	00075-27-4	N/A	orl-rat 916mg/kg
8. Dibromochloromethane	35171	101815	0.05	5.00	0.025	40005.8	2000.2	8.2	00124-48-1	N/A	orl-rat 848mg/kg
9. cis-1,2-Dichloroethene	35171	101815	0.05	5.00	0.025	40006.7	2000.2	8.1	00156-59-2	N/A	N/A
10. trans-1,2-Dichloroethene	35171	101815	0.05	5.00	0.025	40004.9	2000.1	8.2	00156-60-5	N/A	orl-rat 1235mg/kg
11. Methylene chloride	35171	101815	0.05	5.00	0.025	40002.2	2000.0	8.0	00075-09-2	500 ppm	orl-rat 2136mg/kg
12. 1,1-Dichloroethene	32251	101515	0.10	10.00	0.006	20002.1	2000.1	8.1	00075-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
13. Bromochloromethane	94170	010816	0.10	10.00	0.006	20017.5	2001.8	8.1	00074-97-5	200 ppm (1050mg/m3/8H)	orl-rat 5000mg/kg
14. Bromoform	94170	010816	0.10	10.00	0.006	20010.4	2000.9	8.1	00075-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
15. Carbon tetrachloride	94170	010816	0.10	10.00	0.006	20008.0	2000.5	8.0	00056-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
16. Chloroform	94170	010816	0.10	10.00	0.006	20019.5	2001.8	8.0	00067-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
17. 1,1-Dichloroethane	94170	010816	0.10	10.00	0.006	20007.8	2000.8	8.1	00075-34-3	100 ppm	orl-rat 725mg/kg
18. Tetrachloroethene	94170	010816	0.10	10.00	0.006	20015.7	2001.4	8.1	00127-18-4	25 ppm (170mg/m3/8H)(Skin)	orl-rat 2629mg/kg
19. 1,1,1-Trichloroethane	94170	010816	0.10	10.00	0.006	20007.4	2000.6	8.1	00071-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10300mg/kg
20. 1,2-Dibromo-3-chloropropane	94171	010816	0.10	10.00	0.006	20015.3	2001.4	8.1	00096-12-8	0.001 ppm	orl-rat 170mg/kg
21. 1,2-Dibromoethane	94171	010816	0.10	10.00	0.006	20017.3	2001.8	8.1	00106-93-4	20 ppm (8H)	orl-rat 108mg/kg
22. 1,2-Dichloroethane	94171	010816	0.10	10.00	0.006	20005.4	2000.4	8.0	00107-06-2	50 ppm (8H)	orl-rat 670mg/kg
23. 1,2-Dichloropropane	94171	010816	0.10	10.00	0.006	20006.4	2000.5	8.1	00078-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
24. cis-1,3-Dichloropropene	94171	010816	0.10	10.00	0.006	20018.0	2001.5	8.2	10061-01-5	N/A	N/A
25. trans-1,3-Dichloropropene	94171	010816	0.10	10.00	0.006	20011.4	2001.0	8.1	10061-02-6	N/A	N/A
26. 1,1,2,2-Tetrachloroethane	94171	010816	0.10	10.00	0.006	20014.3	2001.3	8.1	00079-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
27. 1,1,2-Trichloroethane	94171	010816	0.10	10.00	0.006	20024.9	2002.4	8.2	00079-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
28. Trichloroethene	94171	010816	0.10	10.00	0.006	20012.9	2001.2	8.1	00079-01-6	50 ppm (270mg/m3/8H)	orl-mus 2402mg/kg
29. Chlorobenzene	94172	010716	0.10	10.00	0.006	20003.1	2000.2	8.1	00108-90-7	75 ppm (350mg/m3/8H)	orl-rat 2290mg/kg
30. 1,2-Dichlorobenzene	94172	010716	0.10	10.00	0.006	20017.3	2001.8	8.1	00095-50-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
31. 1,3-Dichlorobenzene	94172	010716	0.10	10.00	0.006	20004.5	2000.3	8.2	00541-73-1	N/A	ipr-mus 1062mg/kg
32. 1,4-Dichlorobenzene	94172	010716	0.10	10.00	0.006	20013.9	2001.3	8.1	00106-46-7	75 ppm (450mg/m3/8H)	orl-rat 500mg/kg
33. Isopropylbenzene	94172	010716	0.10	10.00	0.006	20008.0	2000.7	8.2	00098-82-8	50 ppm (245mg/m3/8H)	orl-rat 1400mg/kg
34. Styrene	94172	010716	0.10	10.00	0.006	20004.6	2000.3	8.1	00100-42-5	100 ppm	orl-rat 5000mg/kg
35. 1,2,3-Trichlorobenzene	94172	010716	0.10	10.00	0.006	20018.5	2001.5	8.1	00087-61-6	N/A	ipr-mus 1390mg/kg
36. 1,2,4-Trichlorobenzene	94172	010716	0.10	10.00	0.006	20017.3	2001.8	8.1	00120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
37. Carbon disulphide	94173	010716	0.10	10.00	0.006	20001.9	2000.1	8.1	00075-15-0	4 ppm (12mg/m3) (skin)	orl-rat 1200mg/kg
38. Cyclohexane	94173	010716	0.10	10.00	0.006	20002.0	2000.1	8.0	00110-82-7	300 ppm (1050mg/m3/8H)	orl-rat 12705mg/kg
39. Methyl acetate	94173	010716	0.10	10.00	0.006	20002.4	2000.1	8.0	00079-20-9	200 ppm (610mg/m3/8H)	orl-rbt 3705mg/kg
40. Methylcyclohexane	94173	010716	0.10	10.00	0.006	20001.7	2000.0	8.1	00108-87-2	N/A	orl-mus 2250mg/kg
41. Methyl tert-butyl ether (MTBE)	94173	010716	0.10	10.00	0.006	20001.2	2000.0	8.0	01634-04-4	N/A	orl-rat 4g/kg
42. 1,1,2-Trichloro-1,2,2-trifluoroethane	94173	010716	0.10	10.00	0.006	20001.9	2000.1	8.1	00076-13-1	1000 ppm (7600mg/m3/8H)	orl-rat 43g/kg

S 30593

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CERTIFIED WEIGHT REPORT

Part Number: 20048
Lot Number: 011917
Description: CLP Volatiles - Low Concentration Internal Standard
3 components
Expiration Date: 011922
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2500
NIST Test ID#: 822-275872-11
Weight(s) shown below were combined and diluted to (mL): 100.0
5E-05 Balance Uncertainty
0.001 Flask Uncertainty

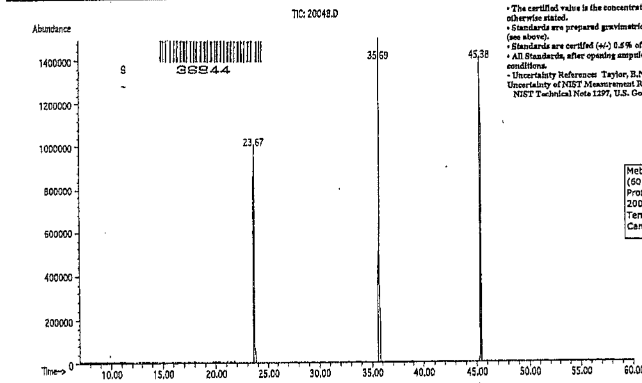
Solvent: Methanol
Lot# DN615

Formulated By:	Gabriel Helland	011917 DATE
Reviewed By:	Pedro L. Rentas	011917 DATE

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Chlorobenzene-d5	69	C443AP12	2500	99.6	0.2	0.25103	0.25118	2501.5	10.1	3114-55-4	N/A	orl-rat 1110mg/kg
2. 1,4-Dichlorobenzene-d4	118	PR-18488/07287CB1	2500	98	0.2	0.25513	0.25522	2500.9	10.3	3855-82-1	N/A	orl-rat 500mg/kg
3. 1,4-Difluorobenzene	155	13105AO	2500	99	0.2	0.25255	0.25276	2502.0	10.2	540-36-3	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC (1994).



S 36944

Method: GC6MSD-1. Detector: MSD. Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Oven Profile: Temp. 1 = 35°C (Time 1=10min.), Temp. 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. Analyst: Candice Warren.

Name	MSD RT (min.)
1,4-Difluorobenzene	23.67
Chlorobenzene-d5	35.69
1,4-Dichlorobenzene-d4	45.38

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CERTIFIED WEIGHT REPORT

Part Number: 94156
Lot Number: 110216
Description: CLP SOM 01.1 VOC DMC Gases
2 components
Expiration Date: 110219
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 822-275872-11
Volume(s) shown below were combined and diluted to (mL): 25.0
5E-05 Balance Uncertainty
0.002 Flask Uncertainty

Solvent(s): Methanol
Lot# DP303

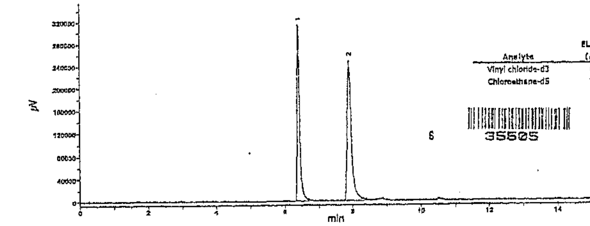
Formulated By:	Bryan Njeba	110216 DATE
Reviewed By:	Pedro L. Rentas	110216 DATE

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Chloroethane-d5	94176	072214	0.20	5.00	0.025	10034.4	2006.8	21.7	19199-91-8	N/A	N/A
2. Vinyl chloride-d3	94177	072214	0.20	5.00	0.025	10053.6	2010.4	8.2	6745-35-3	N/A	orl-rat 500mg/kg

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC (1994).

Comments
GC15-MS Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flow = 150mL/min., Helium (carrier) = 10mL/min.,
Helium (make-up) = 40mL/min., Hydrogen (make-up) = 100mL/min.,
Oven Profile: Temp. 1 = 35°C (Time 1 = 9 min.), Temp 2 = 200°C (Time 2 = 1 min.),
Rate = 33°C/min., Total run time = 15 min. Injector temp. = 200°C, FID Temp. = 200°C.
ELCD Signal = Edaq Channel 2 PID Signal = Edaq Channel 2
Standard Injection = 0.5µL. Range=4 Purge Valve = 0 min



Analyte	ELCD RT (min.)
Vinyl chloride-d3	6.40
Chloroethane-d5	7.30

S 35505

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TIFIED WEIGHT REPORT

Part Number: 94159
Lot Number: 010816
Description: CLP SOM 01.1 Volatiles
42 components
Expiration Date: 010819
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): Varied

Solvent(s): Methanol Lot# DM417Q14

Formulated By: Gabriel Helland DATE 010816
Reviewed By: Pedro L. Rentas DATE 010816

5E-05 Balance Uncertainty
Volume(s) shown below were combined and diluted to (mL): 100.0 0.006 Flask Uncertainty

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc. (ug/mL)	Final Conc. (ug/mL)	Expanded Uncertainty (+/-) (ug/mL)	CAS#	OSHA PEL (TWA)	LD50
. Benzene	93831	080515	0.10	10.00	0.006	20017.5	2001.6	8.4	00071-43-2	1 ppm	orl-rat 4894mg/kg
. Toluene	93831	080515	0.10	10.00	0.006	20010.6	2000.9	8.0	00108-88-3	200 ppm	orl-rat 5000mg/kg
. Ethyl benzene	93831	080515	0.10	10.00	0.006	20007.4	2000.8	8.0	00100-41-4	100 ppm (435mg/m3/8H)	orl-rat >2000mg/kg
. o-Xylene	93831	080515	0.10	10.00	0.006	20010.0	2000.9	8.1	00095-47-6	100 ppm (435mg/m3/8H)	ipr-mus 1364mg/kg
. m-Xylene	93831	080515	0.10	10.00	0.006	10007.2	1000.7	4.0	00108-38-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
. p-Xylene	93831	080515	0.10	10.00	0.006	10008.3	1000.8	4.0	00106-42-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
. Bromodichloromethane	35171	101615	0.05	5.00	0.025	40012.7	2000.5	8.2	00075-27-4	N/A	orl-rat 916mg/kg
. Dibromochloromethane	35171	101615	0.05	5.00	0.025	40005.8	2000.2	8.2	00124-48-1	N/A	orl-rat 848mg/kg
. cis-1,2-Dichloroethene	35171	101615	0.05	5.00	0.025	40003.7	2000.2	8.1	00156-59-2	N/A	N/A
. trans-1,2-Dichloroethene	35171	101615	0.05	5.00	0.025	40004.9	2000.1	8.2	00156-60-5	N/A	orl-rat 1235mg/kg
. Methylene chloride	35171	101615	0.05	5.00	0.025	40002.2	2000.0	8.0	00075-09-2	500 ppm	orl-rat 2136mg/kg
. 1,1-Dichloroethene	32251	101515	0.10	10.00	0.006	20002.1	2000.1	8.1	00075-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
. Bromochloromethane	94170	010816	0.10	10.00	0.006	20017.5	2001.6	8.1	00074-97-5	200 ppm (1050mg/m3/8H)	orl-rat 5000mg/kg
. Bromoform	94170	010816	0.10	10.00	0.006	20010.4	2000.9	8.1	00075-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
. Carbon tetrachloride	94170	010816	0.10	10.00	0.006	20006.0	2000.5	8.0	00056-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
. Chloroform	94170	010816	0.10	10.00	0.006	20019.5	2001.8	8.0	00067-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
. 1,1-Dichloroethane	94170	010816	0.10	10.00	0.006	20007.6	2000.8	8.1	00075-34-3	100 ppm	orl-rat 725mg/kg
. Tetrachloroethene	94170	010816	0.10	10.00	0.006	20015.7	2001.4	8.1	00127-18-4	25 ppm (170mg/m3/8H)(final	orl-rat 2629mg/kg
. 1,1,1-Trichloroethane	94170	010816	0.10	10.00	0.006	20007.4	2000.6	8.1	00071-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10300mg/kg
. 1,2-Dibromo-3-chloropropane	94171	010816	0.10	10.00	0.006	20015.3	2001.4	8.1	00096-12-8	0.001 ppm	orl-rat 170mg/kg
. 1,2-Dibromoethane	94171	010816	0.10	10.00	0.006	20017.3	2001.6	8.1	00106-93-4	20 ppm (8H)	orl-rat 108mg/kg
. 1,2-Dichloroethane	94171	010816	0.10	10.00	0.006	20005.4	2000.4	8.0	00107-06-2	50 ppm (8H)	orl-rat 670mg/kg
. 1,2-Dichloropropane	94171	010816	0.10	10.00	0.006	20006.4	2000.5	8.1	00078-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
. cis-1,3-Dichloropropene	94171	010816	0.10	10.00	0.006	20016.0	2001.5	8.2	10061-01-5	N/A	N/A
. trans-1,3-Dichloropropene	94171	010816	0.10	10.00	0.006	20011.4	2001.0	8.1	10061-02-6	N/A	N/A
. 1,1,2,2-Tetrachloroethane	94171	010816	0.10	10.00	0.006	20014.3	2001.3	8.1	00079-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
. 1,1,2-Trichloroethane	94171	010816	0.10	10.00	0.006	20024.9	2002.4	8.2	00079-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
. Trichloroethene	94171	010816	0.10	10.00	0.006	20012.9	2001.2	8.1	00079-01-6	50 ppm (270mg/m3/8H)	orl-mus 2402mg/kg
. Chlorobenzene	94172	010716	0.10	10.00	0.006	20003.1	2000.2	8.1	00108-90-7	75 ppm (350mg/m3/8H)	orl-rat 2290mg/kg
. 1,2-Dichlorobenzene	94172	010716	0.10	10.00	0.006	20017.3	2001.6	8.1	00095-50-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
. 1,3-Dichlorobenzene	94172	010716	0.10	10.00	0.006	20004.5	2000.3	8.2	00541-73-1	N/A	ipr-mus 1062mg/kg
. 1,4-Dichlorobenzene	94172	010716	0.10	10.00	0.006	20013.9	2001.3	8.1	00106-46-7	75 ppm (450mg/m3/8H)	orl-rat 500mg/kg
. Isopropylbenzene	94172	010716	0.10	10.00	0.006	20008.0	2000.7	8.2	00098-82-8	50 ppm (245mg/m3/8H)	orl-rat 1400mg/kg
. Styrene	94172	010716	0.10	10.00	0.006	20004.6	2000.3	8.1	00100-42-5	100 ppm	orl-rat 5000mg/kg
. 1,2,3-Trichlorobenzene	94172	010716	0.10	10.00	0.006	20016.5	2001.5	8.1	00087-61-6	N/A	ipr-mus 1390mg/kg
. 1,2,4-Trichlorobenzene	94172	010716	0.10	10.00	0.006	20017.3	2001.6	8.1	00120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
. Carbon disulphide	94173	010716	0.10	10.00	0.006	20001.9	2000.1	8.1	00075-15-0	4 ppm (12mg/m3) (skin)	orl-rat 1200mg/kg
. Cyclohexane	94173	010716	0.10	10.00	0.006	20002.0	2000.1	8.0	00110-82-7	300 ppm (1050mg/m3/8H)	orl-rat 12705mg/kg
. Methyl acetate	94173	010716	0.10	10.00	0.006	20002.4	2000.1	8.0	00079-20-9	200 ppm (610mg/m3/8H)	orl-rbt 3705mg/kg
. Methylcyclohexane	94173	010716	0.10	10.00	0.006	20001.7	2000.0	8.1	00108-87-2	N/A	orl-mus 2250mg/kg
. Methyl tert-butyl ether (MTBE)	94173	010716	0.10	10.00	0.006	20001.2	2000.0	8.0	01634-04-4	N/A	orl-rat 4g/kg
. 1,1,2-Trichloro-1,2,2-trifluoroethane	94173	010716	0.10	10.00	0.006	20001.9	2000.1	8.1	00076-13-1	1000 ppm (7600mg/m3/8H)	orl-rat 43g/kg

S 30593

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CERTIFIED WEIGHT REPORT

Part Number: 30058
Lot Number: 050917
Description: EPA Method 502/524 - Volatile Gases Mix #1
6 components
Expiration Date: 050920
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 2506734D

Solvent(s): Methanol Lot# DC538

Formulated By: Vincent K. Criscio, Jr. DATE 050917
Reviewed By: Pedro L. Rentas DATE 050917

Weight(s) shown below were combined and diluted to (mL): 500.0 5E-05 Balance Uncertainty 0.058 Flask Uncertainty

MSDS Information (Solvent Safety Info. On Attached pg.)

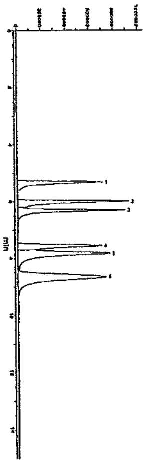
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Bromomethane	50	01611JX	2000	99.5	0.2	1.00508	1.0078	2005.0	8.1	74-83-9	5 ppm (20mg/m3/8H) (skin)	orl-rat 214mg/kg
2. Chloroethane	72	00727KX	2000	99	0.2	1.01016	1.0125	2004.6	8.1	75-00-3	1000 ppm (2600mg/m3/8H)	N/A
3. Chloromethane	79	06908MS	2000	99.5	0.2	1.00508	1.0075	2004.8	8.1	74-87-3	100 ppm	orl-rat 1800mg/kg
4. Dichlorodifluoromethane	134	92-0487	2000	99	0.2	1.01016	1.0140	2007.6	8.1	75-71-8	1000 ppm (4950mg/m3/8H)	N/A
5. Trichlorofluoromethane	294	01823MW	2000	99	0.2	1.01016	1.0150	2009.6	8.1	75-69-4	1000 ppm (5600mg/m3/8H)	ipr-mus 1743mg/kg
6. Vinyl chloride	305	04854EA	2000	99.5	0.2	1.00508	1.0080	2005.8	8.1	75-01-4	N/A	N/A

Run 3, "P30058 L050917 [2000µg/mL in MeOH]"

Run Length: 15.00 min, 8998 points at 10 points/second.
Created: Tue, May 9, 2017 at 10:13:21 AM.
Sampled: Sequence "050917-GC15", Method "GC15-M9".
Analyzed using Method "GC15-M9".

Comments
GC15-M9 Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flow=150mL/min., Helium (carrier)=10mL/min.,
Helium(make-up)=40mL/min., Hydogen(make-up)=100mL/min.
Oven Profile: Temp. 1=35°C (Time 1=9 min.), Temp 2=200°C (Time 2=1 min.),
Rate = 33°C/min., Total run time=15 min. Injector temp.=200°C, PID Temp.=200°C.
ELCD Signal = Edaq Channel 1 PID Signal = Edaq Channel 2
Standard injection = 0.5µL, Range=3 Purge Valve = 0 min.

Analyte	ELCD RT (min.)
Dichlorodifluoromethane	5.32
Chloromethane	6.00
Vinyl chloride	6.31
Bromomethane	7.56
Chloroethane	7.83
Trichlorofluoromethane	8.65



S 36945

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty References: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

Volatiles Matrix Spiking Solution

Product Number: CLP-100N Page: 1 of 1

Lot Number: CP-4257 Lot Issue Date: 22-Aug-2016 Expiration Date: 30-Sep-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
benzene	000071-43-2	RM03830	1005 ± 5 µg/mL
chlorobenzene	000108-90-7	RM01874	1002 ± 5 µg/mL
1,1-dichloroethene	000075-35-4	RM09189	1003 ± 5 µg/mL
toluene	000108-88-3	RM10201	1005 ± 5 µg/mL
trichloroethene	000079-01-6	RM06644	1004 ± 5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

S 40254

John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

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ACCREDITED ISO Guide 34 Accredited Reference Material Producer
ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No.: 30006 Lot No.: A0113616
Description: VOA Calibration Mix #1
VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul
Container Size: 2 mL Pkg Amt: > 1 mL
Expiration Date: November 30, 2018 Storage: 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone CAS # 67-64-1 Purity 99%	(Lot 07196AK)	5,006.4 µg/mL	+/- 29.1076 +/- 266.4296 +/- 266.7234	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) CAS # 78-93-3 Purity 99%	(Lot BCBK4358V)	5,001.5 µg/mL	+/- 29.0792 +/- 266.1688 +/- 266.4623	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) CAS # 108-10-1 Purity 99%	(Lot SHBF9556V)	5,008.3 µg/mL	+/- 29.1187 +/- 266.5307 +/- 266.8246	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone CAS # 591-78-6 Purity 99%	(Lot MKBN7380V)	5,007.1 µg/mL	+/- 29.1117 +/- 266.4668 +/- 266.7607	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

S 32773

00259

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No.: 30492 Lot No.: A0117727

Description: OLC 03.2 VOA Mega Mix

OLC 03.2 VOA Mega Mix 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size: 2 mL Pkg Amt: > 1 mL

Expiration Date: March 31, 2019 Storage: 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 Purity 99%	(Lot 00004562)	2,014.0 µg/mL	+/- 11.8193 +/- 121.5242 +/- 121.8126	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	1,1-dichloroethane CAS # 75-35-4 Purity 99%	(Lot SHBD6170V)	2,014.8 µg/mL	+/- 15.5336 +/- 121.9891 +/- 122.2767	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Methyl acetate CAS # 79-20-9 Purity 98%	(Lot SHBD7134V)	2,000.2 µg/mL	+/- 11.7382 +/- 120.6903 +/- 120.9768	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Methylene chloride (dichloromethane) CAS # 75-09-2 Purity 99%	(Lot SHBF9870V)	2,016.7 µg/mL	+/- 15.5482 +/- 122.1041 +/- 122.3920	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Carbon disulfide CAS # 75-15-0 Purity 99%	(Lot S20A856)	2,015.0 µg/mL	+/- 11.8251 +/- 121.5845 +/- 121.8731	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Methyl-tert-butyl ether (MTBE) CAS # 1634-04-4 Purity 99%	(Lot SHBF6575V)	2,004.0 µg/mL	+/- 11.7606 +/- 120.9208 +/- 121.2078	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	trans-1,2-Dichloroethene CAS # 156-60-5 Purity 99%	(Lot MKBE9850V)	2,017.9 µg/mL	+/- 15.5575 +/- 122.1768 +/- 122.4648	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
8	1,1-Dichloroethane CAS # 75-34-3 Purity 99%	(Lot Q179-33)	2,016.5 µg/mL	+/- 15.5465 +/- 122.0908 +/- 122.3787	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	cis-1,2-Dichloroethene CAS # 156-59-2 Purity 98%	(Lot MKBV2831V)	2,001.7 µg/mL	+/- 11.7468 +/- 120.7790 +/- 121.0657	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	chloroform CAS # 67-66-3 Purity 99%	(Lot MKBV2089V)	2,017.8 µg/mL	+/- 15.5567 +/- 122.1708 +/- 122.4588	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Bromochloromethane CAS # 74-97-5 Purity 99%	(Lot 00004559)	2,005.0 µg/mL	+/- 11.7665 +/- 120.9811 +/- 121.2683	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	1,1,1-trichloroethane CAS # 71-55-6 Purity 99%	(Lot B15MW0705)	2,016.3 µg/mL	+/- 15.5450 +/- 122.0787 +/- 122.3665	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	Cyclohexane CAS # 110-82-7 Purity 99%	(Lot MKBV3194V)	2,014.0 µg/mL	+/- 11.8193 +/- 121.5242 +/- 121.8126	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	carbon tetrachloride CAS # 56-23-5 Purity 99%	(Lot SHBG1763V)	2,016.6 µg/mL	+/- 15.5476 +/- 122.0993 +/- 122.3872	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	1,2-Dichloroethane CAS # 107-06-2 Purity 99%	(Lot MKBV4565V)	2,016.4 µg/mL	+/- 15.5459 +/- 122.0860 +/- 122.3738	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Benzene CAS # 71-43-2 Purity 99%	(Lot SHBG1169V)	2,008.5 µg/mL	+/- 11.7870 +/- 121.1923 +/- 121.4800	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Trichloroethene CAS # 79-01-6 Purity 99%	(Lot SHBF0943V)	2,014.8 µg/mL	+/- 15.5334 +/- 121.9879 +/- 122.2755	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Methylcyclohexane CAS # 108-87-2 Purity 98%	(Lot SHBG0634V)	2,014.4 µg/mL	+/- 11.8216 +/- 121.5477 +/- 121.8362	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	1,2-Dichloropropane CAS # 78-87-5 Purity 99%	(Lot 01113D0V)	2,016.3 µg/mL	+/- 15.5455 +/- 122.0824 +/- 122.3702	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	bromodichloromethane CAS # 75-27-4 Purity 98%	(Lot MKBL1617V)	2,006.0 µg/mL	+/- 15.4657 +/- 121.4564 +/- 121.7427	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	cis-1,3-Dichloropropene CAS # 10061-01-5 Purity 99%	(Lot 22238)	2,016.7 µg/mL	+/- 15.5484 +/- 122.1054 +/- 122.3932	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Toluene CAS # 108-88-3 Purity 99%	(Lot MKBV5601V)	2,007.5 µg/mL	+/- 11.7811 +/- 121.1320 +/- 121.4195	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	trans-1,3-Dichloropropene CAS # 10061-02-6 Purity 99%	(Lot C584177)	2,016.0 µg/mL	+/- 15.5431 +/- 122.0642 +/- 122.3520	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
24	1,1,2-Trichloroethane CAS # 79-00-5 Purity 99%	(Lot FGB01)	2,017.7 µg/mL	+/- 15.5558 +/- 122.1635 +/- 122.4515	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	Tetrachloroethene CAS # 127-18-4 Purity 99%	(Lot SHBD9374V)	2,017.3 µg/mL	+/- 15.5525 +/- 122.1381 +/- 122.4260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	dibromochloromethane CAS # 124-48-1 Purity 98%	(Lot MKBQ6577V)	2,005.0 µg/mL	+/- 15.4582 +/- 121.3970 +/- 121.6832	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,2-Dibromoethane (EDB) CAS # 106-93-4 Purity 99%	(Lot BCBH3877V)	2,004.5 µg/mL	+/- 11.7635 +/- 120.9509 +/- 121.2380	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Chlorobenzene CAS # 108-90-7 Purity 99%	(Lot SHBF0505V)	2,017.3 µg/mL	+/- 15.5529 +/- 122.1405 +/- 122.4284	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Ethylbenzene CAS # 100-41-4 Purity 99%	(Lot SHBF8969V)	2,007.0 µg/mL	+/- 11.7782 +/- 121.1018 +/- 121.3893	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	m-Xylene CAS # 108-38-3 Purity 99%	(Lot SHBF8095V)	1,003.0 µg/mL	+/- 5.8862 +/- 60.5207 +/- 60.6644	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	p-Xylene CAS # 106-42-3 Purity 99%	(Lot SHBF3427V)	1,008.0 µg/mL	+/- 5.9155 +/- 60.8224 +/- 60.9668	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	o-Xylene CAS # 95-47-6 Purity 99%	(Lot SHBF7003V)	2,001.5 µg/mL	+/- 11.7459 +/- 120.7699 +/- 121.0566	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Styrene CAS # 100-42-5 Purity 99%	(Lot MKBS7097V)	2,005.5 µg/mL	+/- 11.7694 +/- 121.0113 +/- 121.2985	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Isopropylbenzene (cumene) CAS # 98-82-8 Purity 99%	(Lot 10185056)	2,016.0 µg/mL	+/- 11.8319 +/- 121.6448 +/- 121.9336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	bromoform CAS # 75-25-2 Purity 99%	(Lot SHBD8459V)	2,018.3 µg/mL	+/- 15.5607 +/- 122.2022 +/- 122.4903	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,1,2,2-Tetrachloroethane CAS # 79-34-5 Purity 99%	(Lot CFA4D)	2,016.9 µg/mL	+/- 15.5498 +/- 122.1163 +/- 122.4042	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,3-Dichlorobenzene CAS # 541-73-1 Purity 99%	(Lot BCBM5751V)	2,016.5 µg/mL	+/- 15.5470 +/- 122.0945 +/- 122.3823	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS1350V)	2,017.5 µg/mL	+/- 15.5546 +/- 122.1538 +/- 122.4418	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot SHBD7331V)	2,017.4 µg/mL	+/- 15.5539 +/- 122.1490 +/- 122.4369	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
40	1,2-Dibromo-3-chloropropane CAS # 96-12-8 Purity 99%	(Lot FBL01-JM)	2,003.5 µg/mL	+/- 11.7577 +/- 120.8905 +/- 121.1776	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	1,2,4-Trichlorobenzene CAS # 120-82-1 Purity 99%	(Lot SHBC5541V)	2,008.0 µg/mL	+/- 11.7841 +/- 121.1621 +/- 121.4497	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,2,3-Trichlorobenzene CAS # 87-61-6 Purity 99%	(Lot MKBS4859V)	2,006.0 µg/mL	+/- 11.7723 +/- 121.0414 +/- 121.3288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

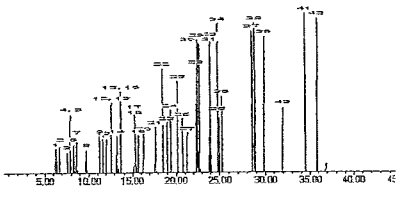
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lana Kline – Mix Technician Date Mixed: 02-Mar-2016 Balance: 1127510105

Jodi E. Breon - QA Analyst Date Passed: 09-Mar-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80357

S 32772

: 00260

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No.: 30492 Lot No.: A0117727

Description: OLC 03.2 VOA Mega Mix

OLC 03.2 VOA Mega Mix 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size: 2 mL Pkg Amt: > 1 mL

Expiration Date: March 31, 2019 Storage: 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; k=2)		
1	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 (Lot 00004562) Purity 99%	2,014.0 µg/mL	+/- 11.8193 µg/mL +/- 121.5242 µg/mL +/- 121.8126 µg/mL	Gravimetric Unstressed Stressed
2	1,1-dichloroethene CAS # 75-35-4 (Lot SHBD6170V) Purity 99%	2,014.8 µg/mL	+/- 15.5336 µg/mL +/- 121.9891 µg/mL +/- 122.2767 µg/mL	Gravimetric Unstressed Stressed
3	Methyl acetate CAS # 79-20-9 (Lot SHBD7134V) Purity 98%	2,000.2 µg/mL	+/- 11.7382 µg/mL +/- 120.6903 µg/mL +/- 120.9768 µg/mL	Gravimetric Unstressed Stressed
4	Methylene chloride (dichloromethane) CAS # 75-09-2 (Lot SHBF9870V) Purity 99%	2,016.7 µg/mL	+/- 15.5482 µg/mL +/- 122.1041 µg/mL +/- 122.3920 µg/mL	Gravimetric Unstressed Stressed
5	Carbon disulfide CAS # 75-15-0 (Lot S20A856) Purity 99%	2,015.0 µg/mL	+/- 11.8251 µg/mL +/- 121.5845 µg/mL +/- 121.8731 µg/mL	Gravimetric Unstressed Stressed
6	Methyl-tert-butyl ether (MTBE) CAS # 1634-04-4 (Lot SHBF6575V) Purity 99%	2,004.0 µg/mL	+/- 11.7606 µg/mL +/- 120.9208 µg/mL +/- 121.2078 µg/mL	Gravimetric Unstressed Stressed
7	trans-1,2-Dichloroethene CAS # 156-60-5 (Lot MKBH9850V) Purity 99%	2,017.9 µg/mL	+/- 15.5575 µg/mL +/- 122.1768 µg/mL +/- 122.4648 µg/mL	Gravimetric Unstressed Stressed
8	1,1-Dichloroethane CAS # 75-34-3 (Lot Q179-33) Purity 99%	2,016.5 µg/mL	+/- 15.5465 µg/mL +/- 122.0908 µg/mL +/- 122.3787 µg/mL	Gravimetric Unstressed Stressed
9	cis-1,2-Dichloroethene CAS # 156-59-2 (Lot MKBV2831V) Purity 98%	2,001.7 µg/mL	+/- 11.7468 µg/mL +/- 120.7790 µg/mL +/- 121.0657 µg/mL	Gravimetric Unstressed Stressed
10	chloroform CAS # 67-66-3 (Lot MKBV2089V) Purity 99%	2,017.3 µg/mL	+/- 15.5567 µg/mL +/- 122.1708 µg/mL +/- 122.4588 µg/mL	Gravimetric Unstressed Stressed
11	Bromochloromethane CAS # 74-97-5 (Lot 00004559) Purity 99%	2,005.0 µg/mL	+/- 11.7665 µg/mL +/- 120.9811 µg/mL +/- 121.2683 µg/mL	Gravimetric Unstressed Stressed
12	1,1,1-trichloroethane CAS # 71-55-6 (Lot B15MW0705) Purity 99%	2,016.3 µg/mL	+/- 15.5450 µg/mL +/- 122.0787 µg/mL +/- 122.3665 µg/mL	Gravimetric Unstressed Stressed
13	Cyclohexane CAS # 110-82-7 (Lot MKBV3194V) Purity 99%	2,014.0 µg/mL	+/- 11.8193 µg/mL +/- 121.5242 µg/mL +/- 121.8126 µg/mL	Gravimetric Unstressed Stressed
14	carbon tetrachloride CAS # 56-23-5 (Lot SHBG1763V) Purity 99%	2,016.6 µg/mL	+/- 15.5476 µg/mL +/- 122.0993 µg/mL +/- 122.3872 µg/mL	Gravimetric Unstressed Stressed
15	1,2-Dichloroethane CAS # 107-06-2 (Lot MKBV4565V) Purity 99%	2,016.4 µg/mL	+/- 15.5459 µg/mL +/- 122.0860 µg/mL +/- 122.3738 µg/mL	Gravimetric Unstressed Stressed
16	Benzene CAS # 71-43-2 (Lot SHBG1169V) Purity 99%	2,008.5 µg/mL	+/- 11.7870 µg/mL +/- 121.1923 µg/mL +/- 121.4800 µg/mL	Gravimetric Unstressed Stressed
17	Trichloroethene CAS # 79-01-6 (Lot SHBF0943V) Purity 99%	2,014.8 µg/mL	+/- 15.5334 µg/mL +/- 121.9879 µg/mL +/- 122.2755 µg/mL	Gravimetric Unstressed Stressed
18	Methylcyclohexane CAS # 108-87-2 (Lot SHBG0634V) Purity 98%	2,014.4 µg/mL	+/- 11.8216 µg/mL +/- 121.5477 µg/mL +/- 121.8362 µg/mL	Gravimetric Unstressed Stressed
19	1,2-Dichloropropane CAS # 78-87-5 (Lot 01113D0V) Purity 99%	2,016.3 µg/mL	+/- 15.5455 µg/mL +/- 122.0824 µg/mL +/- 122.3702 µg/mL	Gravimetric Unstressed Stressed
20	bromodichloromethane CAS # 75-27-4 (Lot MKBL1617V) Purity 98%	2,006.0 µg/mL	+/- 15.4657 µg/mL +/- 121.4564 µg/mL +/- 121.7427 µg/mL	Gravimetric Unstressed Stressed
21	cis-1,3-Dichloropropene CAS # 10061-01-5 (Lot 22238) Purity 99%	2,016.7 µg/mL	+/- 15.5484 µg/mL +/- 122.1054 µg/mL +/- 122.3932 µg/mL	Gravimetric Unstressed Stressed
22	Toluene CAS # 108-88-3 (Lot MKBV5601V) Purity 99%	2,007.5 µg/mL	+/- 11.7811 µg/mL +/- 121.1320 µg/mL +/- 121.4195 µg/mL	Gravimetric Unstressed Stressed
23	trans-1,3-Dichloropropene CAS # 10061-02-6 (Lot C584177) Purity 99%	2,016.0 µg/mL	+/- 15.5431 µg/mL +/- 122.0642 µg/mL +/- 122.3520 µg/mL	Gravimetric Unstressed Stressed
24	1,1,2-Trichloroethane CAS # 79-00-5 (Lot FGB01) Purity 99%	2,017.7 µg/mL	+/- 15.5558 µg/mL +/- 122.1635 µg/mL +/- 122.4515 µg/mL	Gravimetric Unstressed Stressed
25	Tetrachloroethene CAS # 127-18-4 (Lot SHBD9374V) Purity 99%	2,017.3 µg/mL	+/- 15.5525 µg/mL +/- 122.1381 µg/mL +/- 122.4260 µg/mL	Gravimetric Unstressed Stressed
26	dibromochloromethane CAS # 124-48-1 (Lot MKBQ6577V) Purity 98%	2,005.0 µg/mL	+/- 15.4582 µg/mL +/- 121.3970 µg/mL +/- 121.6832 µg/mL	Gravimetric Unstressed Stressed
27	1,2-Dibromoethane (EDB) CAS # 106-93-4 (Lot BCBH3877V) Purity 99%	2,004.5 µg/mL	+/- 11.7635 µg/mL +/- 120.9509 µg/mL +/- 121.2380 µg/mL	Gravimetric Unstressed Stressed
28	Chlorobenzene CAS # 108-90-7 (Lot SHBF0505V) Purity 99%	2,017.3 µg/mL	+/- 15.5529 µg/mL +/- 122.1405 µg/mL +/- 122.4284 µg/mL	Gravimetric Unstressed Stressed
29	Ethylbenzene CAS # 100-41-4 (Lot SHBF8969V) Purity 99%	2,007.0 µg/mL	+/- 11.7782 µg/mL +/- 121.1018 µg/mL +/- 121.3893 µg/mL	Gravimetric Unstressed Stressed
30	m-Xylene CAS # 108-38-3 (Lot SHBF8095V) Purity 99%	1,003.0 µg/mL	+/- 5.8862 µg/mL +/- 60.5207 µg/mL +/- 60.6644 µg/mL	Gravimetric Unstressed Stressed
31	p-Xylene CAS # 106-42-3 (Lot SHBF3427V) Purity 99%	1,008.0 µg/mL	+/- 5.9155 µg/mL +/- 60.8224 µg/mL +/- 60.9668 µg/mL	Gravimetric Unstressed Stressed
32	o-Xylene CAS # 95-47-6 (Lot SHBF7003V) Purity 99%	2,001.5 µg/mL	+/- 11.7459 µg/mL +/- 120.7699 µg/mL +/- 121.0566 µg/mL	Gravimetric Unstressed Stressed
33	Styrene CAS # 100-42-5 (Lot MKBS7097V) Purity 99%	2,005.5 µg/mL	+/- 11.7694 µg/mL +/- 121.0113 µg/mL +/- 121.2985 µg/mL	Gravimetric Unstressed Stressed
34	Isopropylbenzene (cumene) CAS # 98-82-8 (Lot 10185056) Purity 99%	2,016.0 µg/mL	+/- 11.8310 µg/mL +/- 121.6448 µg/mL +/- 121.9336 µg/mL	Gravimetric Unstressed Stressed
35	bromoform CAS # 75-25-2 (Lot SHBD8459V) Purity 99%	2,018.3 µg/mL	+/- 15.5607 µg/mL +/- 122.2022 µg/mL +/- 122.4903 µg/mL	Gravimetric Unstressed Stressed
36	1,1,2,2-Tetrachloroethane CAS # 79-34-5 (Lot CFA4D) Purity 99%	2,016.9 µg/mL	+/- 15.5493 µg/mL +/- 122.1163 µg/mL +/- 122.4042 µg/mL	Gravimetric Unstressed Stressed
37	1,3-Dichlorobenzene CAS # 541-73-1 (Lot BCBM5751V) Purity 99%	2,016.5 µg/mL	+/- 15.5470 µg/mL +/- 122.0945 µg/mL +/- 122.3823 µg/mL	Gravimetric Unstressed Stressed
38	1,4-Dichlorobenzene CAS # 106-46-7 (Lot MKBS1350V) Purity 99%	2,017.5 µg/mL	+/- 15.5546 µg/mL +/- 122.1538 µg/mL +/- 122.4418 µg/mL	Gravimetric Unstressed Stressed
39	1,2-Dichlorobenzene CAS # 95-50-1 (Lot SHBD7331V) Purity 99%	2,017.4 µg/mL	+/- 15.5539 µg/mL +/- 122.1490 µg/mL +/- 122.4369 µg/mL	Gravimetric Unstressed Stressed
40	1,2-Dibromo-3-chloropropane CAS # 96-12-8 (Lot FBL01-JM) Purity 99%	2,003.5 µg/mL	+/- 11.7577 µg/mL +/- 120.8906 µg/mL +/- 121.1776 µg/mL	Gravimetric Unstressed Stressed
41	1,2,4-Trichlorobenzene CAS # 120-82-1 (Lot SHBC5541V) Purity 99%	2,008.0 µg/mL	+/- 11.7841 µg/mL +/- 121.1621 µg/mL +/- 121.4497 µg/mL	Gravimetric Unstressed Stressed
42	1,2,3-Trichlorobenzene CAS # 87-61-6 (Lot MKBS4859V) Purity 99%	2,006.0 µg/mL	+/- 11.7723 µg/mL +/- 121.0414 µg/mL +/- 121.3288 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

S 32772

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10816)

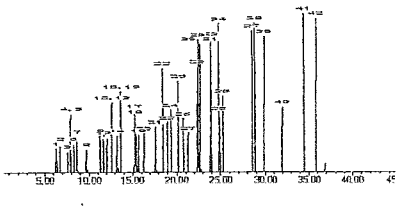
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
230°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kiss - Mix Technician Date Mixed: 02-Mar-2016 Balance: 1127510105

Joëll E. Breon - QA Analyst Date Passed: 09-Mar-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 81337

00251

Absolute Standards, Inc.
800-368-1181
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 30002
Lot Number: 011317
Description: EPA Method 502.2 - Volatile Gases Mix #1
6 components
Expiration Date: 011320
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 200
NIST Test ID#: 822-275872-11

Solvent(s):	Lot#
Methanol	DN815

Volume(s) shown below were combined and diluted to (mL): 200.0 Balance Uncertainty 0.058 Flask Uncertainty

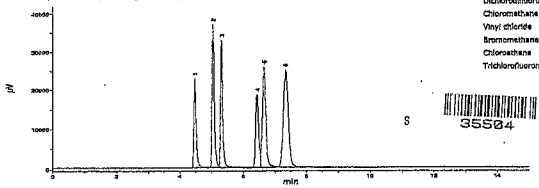
Formulated By:	Paul Barron	011317 DATE
Reviewed By:	Pedro L. Rentas	011317 DATE

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Bromomethane	30058	103116	0.10	20.0	0.011	2004.4	200.4	1.4	74-83-9	5 ppm (20mg/m3/8H) (skin)	ort-rat 214mg/kg
2. Chloromethane	30058	103116	0.10	20.0	0.011	2003.4	200.4	1.4	75-00-3	1000 ppm (2600mg/m3/8H)	N/A
3. Chloroethane	30058	103116	0.10	20.0	0.011	2003.4	200.3	1.4	74-87-3	100 ppm	ort-rat 1800mg/kg
4. Dichlorodifluoromethane	30058	103116	0.10	20.0	0.011	2000.7	200.1	1.4	75-71-8	1000 ppm (4950mg/m3/8H)	N/A
5. Trichlorofluoromethane	30058	103116	0.10	20.0	0.011	2001.7	200.2	1.4	75-69-4	1000 ppm (5600mg/m3/8H)	ipr-mus 1743mg/kg
6. Vinyl chloride	30058	103116	0.10	20.0	0.011	2010.4	201.0	1.4	75-01-4	N/A	N/A

Run 42, "P30002 L011317 [200µg/mL in MeOH]"

Run Length: 15.00 min, 8999 points at 10 points/second.
Created: Tue, Jan 17, 2017 at 12:34:55 PM.
Sampled: Sequence "011317-GC1", Method "GC1-M9".
Analyzed using Method "GC1-M9".

Comments
GC1-M9 Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flows1 80mL/min., Helium (carrier)=1.0mL/min.,
Helium(make-up)=40mL/min., Hydrogen(make-up)=100mL/min.
Oven Profile: Temp. 1=35°C (Time 1=9 min.), Temp 2=200°C (Time 2=1 min.),
Rate = 33°C/min., Total run time=15 min. Injector temp.=200°C, FID Temp.=200°C.
ELCD Signal = Edeq Channel 1 FID Signal = Edeq Channel 2
Standard Injection = 0.5µL, Range=5 Purge Valve = 0 min.



Analyte	ELCD RT (min.)
Dichlorodifluoromethane	4.46
Chloromethane	5.04
Vinyl chloride	5.30
Bromomethane	6.42
Chloroethane	6.64
Trichlorofluoromethane	7.33

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards, after opening sample, should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty References: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results,"
NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

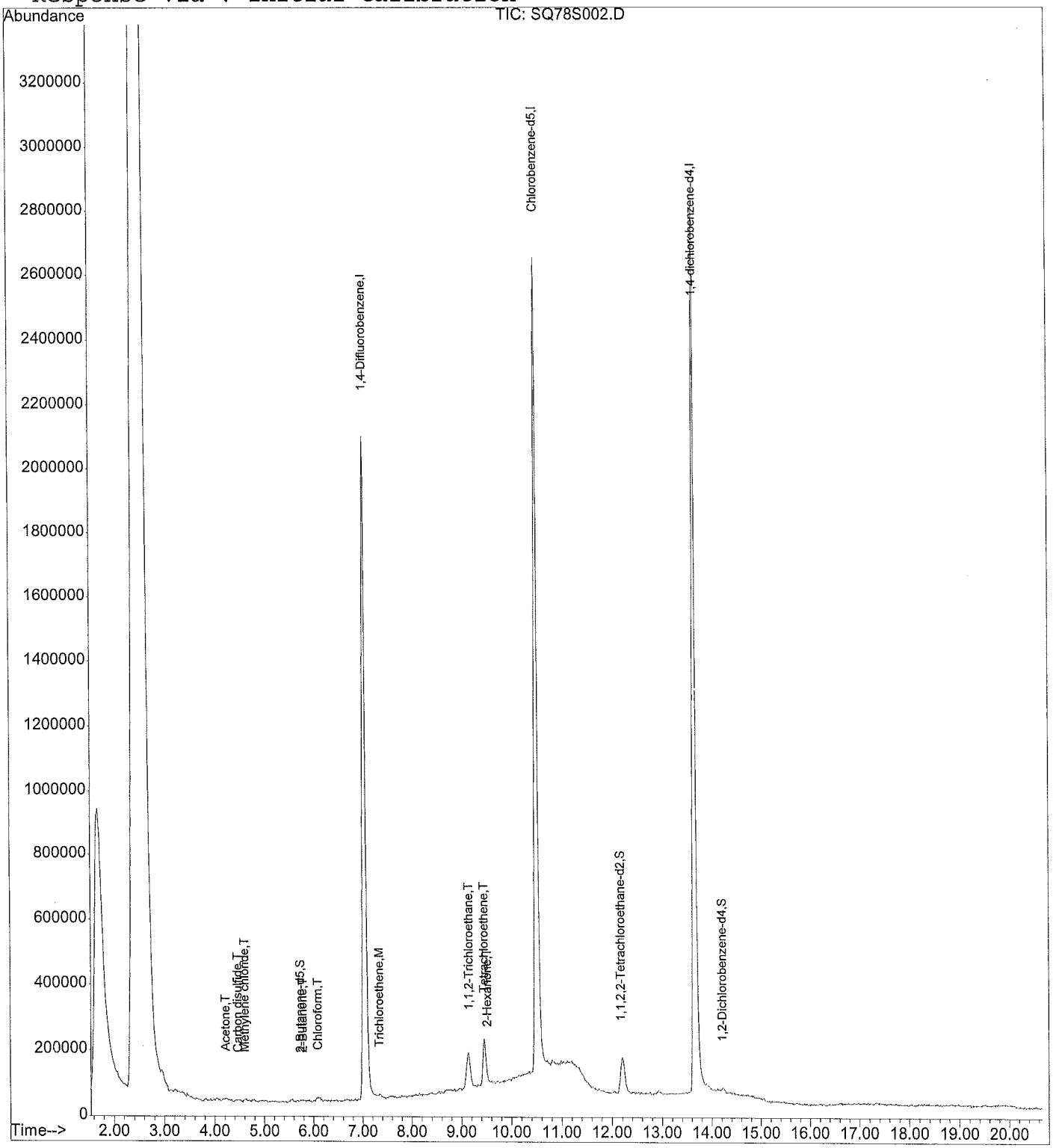
S 35584

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S002.D
Acq Time : 05/17/2018 11:20 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 11:41 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S002.D
Acq Time : 05/17/2018 11:20 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 11:41 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.03	114	3774580	50.00 ug/L	124.91
28) Chlorobenzene-d5	10.50	117	3320178	50.00 ug/L	132.35
60) 1,4-dichlorobenzene-d4	13.66	152	1830266	50.00 ug/L	129.19
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	0.00	65	0	0.00 ug/L	0.00%#
8) Chloroethane-d5	3.44	69	913	0.05 ug/L	0.10%#
11) 1,1-Dichloroethene-d2	4.15	63	915	0.02 ug/L	0.03%#
22) 2-Butanone-d5	5.73	46	1808	0.25 ug/L	0.25%#
25) Chloroform-d	6.09	84	2852	0.05 ug/L	0.09%#
27) 1,2-Dichloroethane-d4	6.62	65	1778	0.07 ug/L	0.15%#
33) Benzene-d6	6.67	84	4583	0.06 ug/L	0.12%#
37) 1,2-Dichloropropane-d6	7.52	67	592	0.02 ug/L	0.03%#
40) cis-1,3-Dichloropropene-d4	8.32	79	2104	0.03 ug/L	0.06%
42) trans-1,3-Dichloropropene-	8.96	79	3772	0.10 ug/L	0.21%#
47) Toluene-d8	8.71	98	4747	0.07 ug/L	0.14%#
50) 2-Hexanone-d5	9.50	63	424	0.06 ug/L	0.06%#
59) 1,1,2,2-Tetrachloroethane-	12.16	84	11333	0.25 ug/L	0.49%#
65) 1,2-Dichlorobenzene-d4	14.20	152	7264	0.23 ug/L	0.46%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	15289	2.53 ug/L	94
14) Carbon disulfide	4.46	76	13457	0.17 ug/L #	82
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.60	84	6277	0.24 ug/L #	66
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.79	43	2748	0.34 ug/L #	40
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	12973	0.23 ug/L	73
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S002.D
Acq Time : 05/17/2018 11:20 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 11:41 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	7.33	95	7950	0.22 ug/L #	68
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	9.16	97	8185	0.32 ug/L #	42
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	9.47	164	76242	2.50 ug/L	96
49)	2-Hexanone	9.53	43	7813	0.53 ug/L #	61
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

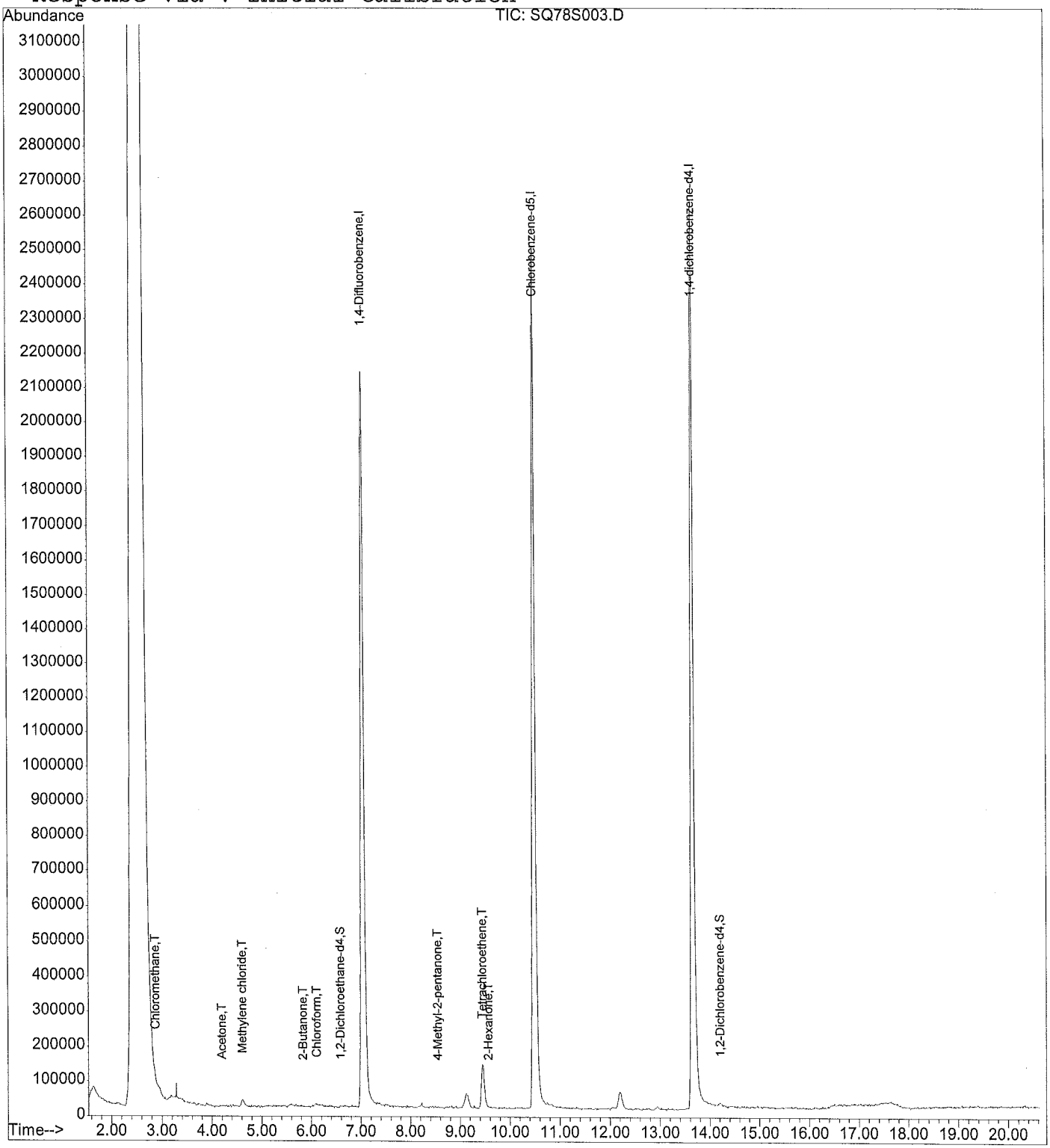
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S003.D
Acq Time : 05/17/2018 11:46 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 12:07 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S003.D
Acq Time : 05/17/2018 11:46 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 12:07 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3963420	50.00 ug/L	131.16
28) Chlorobenzene-d5	10.49	117	3309636	50.00 ug/L	131.93
60) 1,4-dichlorobenzene-d4	13.65	152	1752759	50.00 ug/L	123.71
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.03	65	593	0.03 ug/L	0.05%#
8) Chloroethane-d5	0.00	69	0	0.00 ug/L	0.00%#
11) 1,1-Dichloroethene-d2	4.25	63	274	0.00 ug/L	0.01%#
22) 2-Butanone-d5	5.76	46	1067	0.14 ug/L	0.14%#
25) Chloroform-d	6.07	84	810	0.01 ug/L	0.03%#
27) 1,2-Dichloroethane-d4	6.60	65	4265	0.17 ug/L	0.34%#
33) Benzene-d6	6.67	84	1437	0.02 ug/L	0.04%#
37) 1,2-Dichloropropane-d6	7.50	67	674	0.02 ug/L	0.04%#
40) cis-1,3-Dichloropropene-d4	8.32	79	466	0.01 ug/L	0.01%
42) trans-1,3-Dichloropropene-	8.99	79	822	0.02 ug/L	0.05%#
47) Toluene-d8	8.71	98	2642	0.04 ug/L	0.08%#
50) 2-Hexanone-d5	9.38	63	955	0.14 ug/L	0.14%#
59) 1,1,2,2-Tetrachloroethane-	12.19	84	1343	0.03 ug/L	0.06%#
65) 1,2-Dichlorobenzene-d4	14.22	152	7740	0.25 ug/L	0.51%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	2.88	50	5493	0.30 ug/L #	76
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	11508	1.81 ug/L	71
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.62	84	21236	0.76 ug/L #	85
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.83	43	5916	0.69 ug/L #	59
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.11	83	14021	0.23 ug/L	73
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S003.D
Acq Time : 05/17/2018 11:46
Sample : 1813654 1:10
Misc : 2.0 uL of 41421

Operator: SLS
Inst : 5972-S
Multiplr: 1.00

Quant Time: May 17 12:07 2018

Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.54	43	2771	0.17 ug/L #	1
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	9.46	164	67746	2.23 ug/L	96
49)	2-Hexanone	9.57	43	2857	0.19 ug/L #	47
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

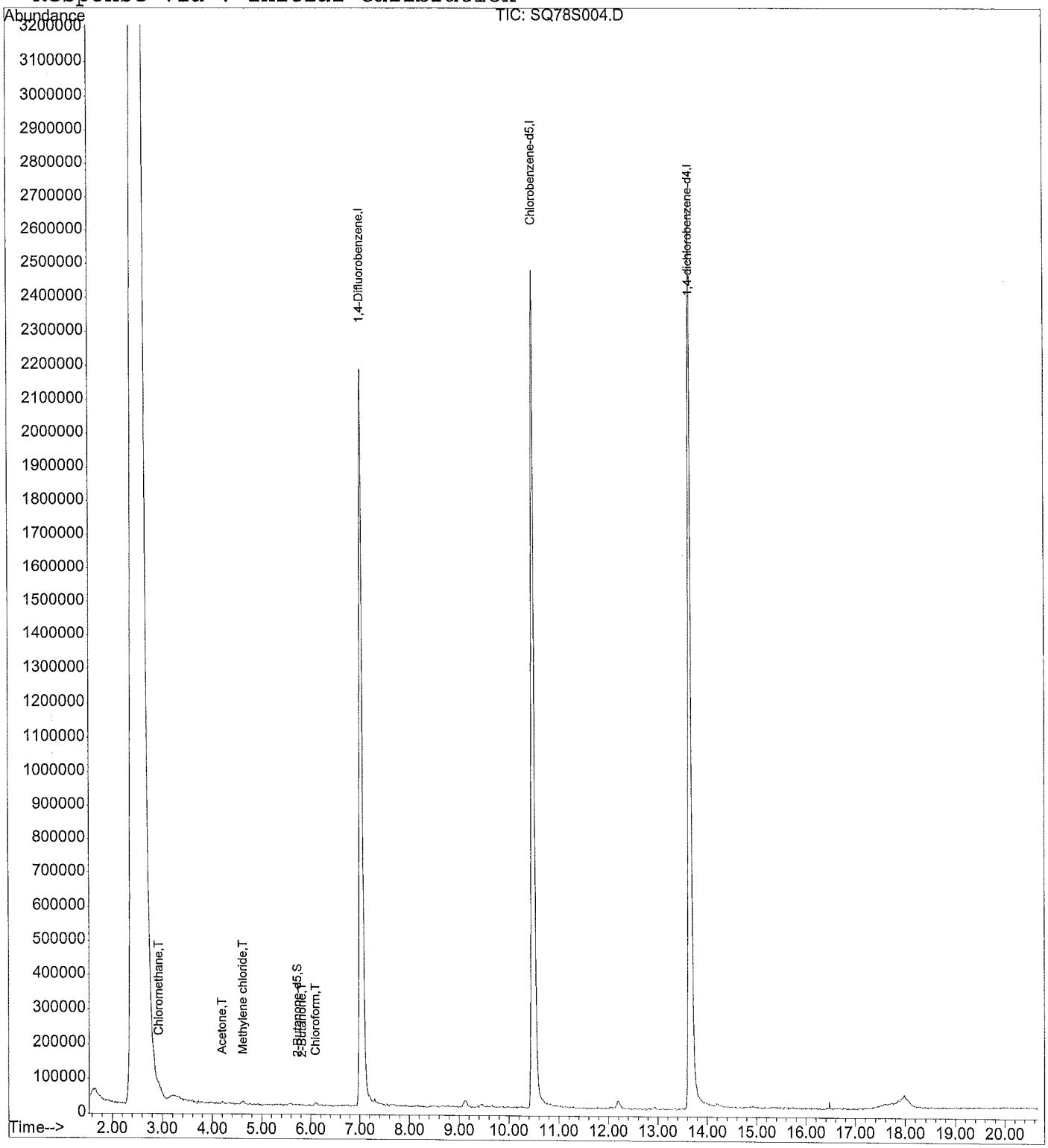
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S004.D
Acq Time : 05/17/2018 12:13 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 12:33 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S004.D
Acq Time : 05/17/2018 12:13 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 12:33 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.03	114	3987761	50.00 ug/L	131.97
28) Chlorobenzene-d5	10.49	117	3347243	50.00 ug/L	133.43
60) 1,4-dichlorobenzene-d4	13.65	152	1751359	50.00 ug/L	123.62
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	0.00	65	0	0.00 ug/L	0.00%#
8) Chloroethane-d5	3.44	69	832	0.04 ug/L	0.09%#
11) 1,1-Dichloroethene-d2	4.17	63	435	0.01 ug/L	0.01%#
22) 2-Butanone-d5	5.74	46	2288	0.30 ug/L	0.30%#
25) Chloroform-d	6.09	84	428	0.01 ug/L	0.01%#
27) 1,2-Dichloroethane-d4	6.67	65	1766	0.07 ug/L	0.14%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	8.96	79	577	0.02 ug/L	0.03%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	2.94	50	4021	0.22 ug/L #	87
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.20	43	11182	1.75 ug/L	75
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.61	84	11877	0.42 ug/L #	77
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.81	43	4625	0.53 ug/L #	61
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	12048	0.20 ug/L #	80
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S004.D
Acq Time : 05/17/2018 12:13 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 12:33 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

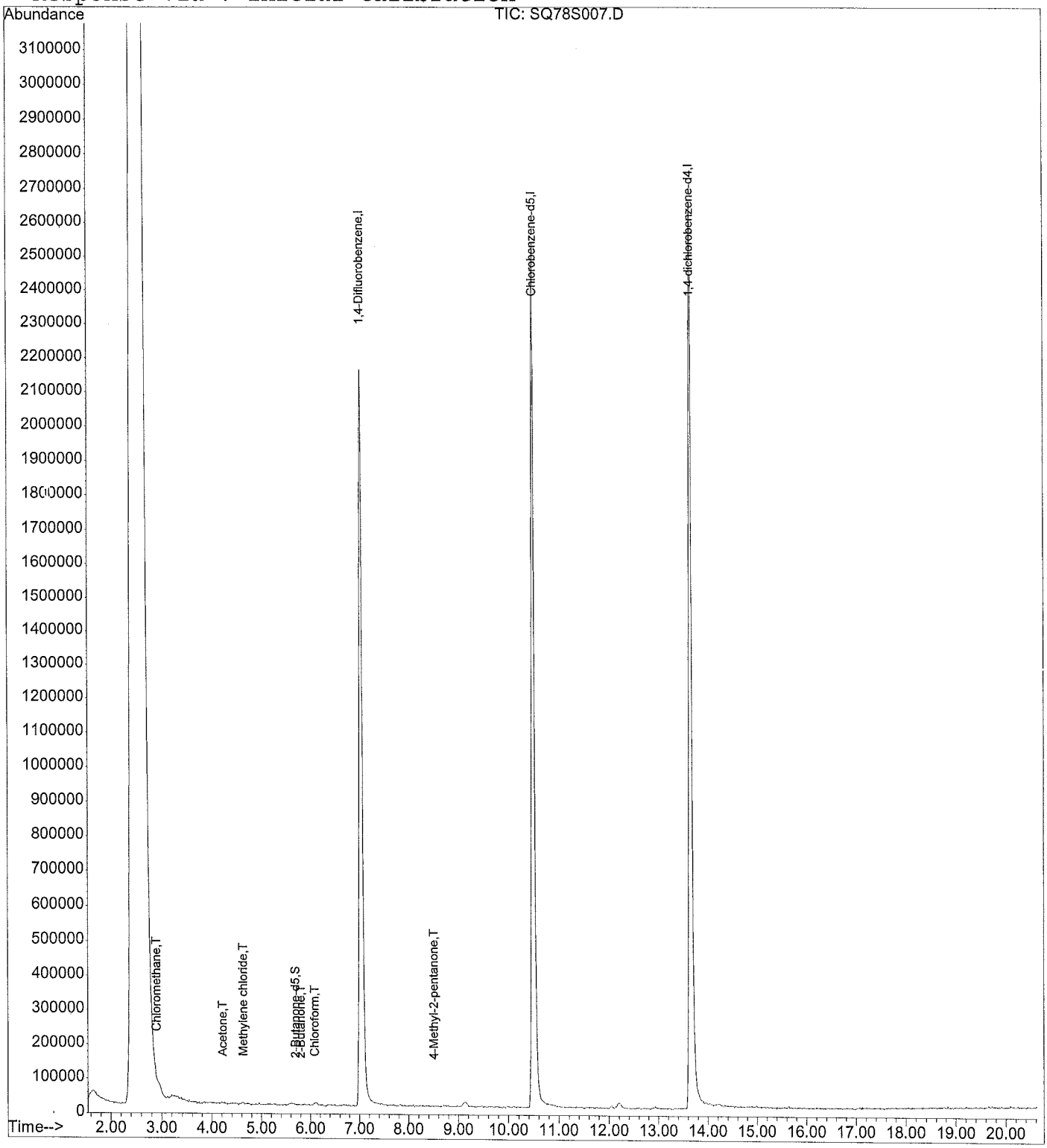
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S007.D
Acq Time : 05/17/2018 12:39 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:00 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S007.D
Acq Time : 05/17/2018 12:39 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:00 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.03	114	3941842	50.00 ug/L	130.45
28) Chlorobenzene-d5	10.50	117	3388131	50.00 ug/L	135.06
60) 1,4-dichlorobenzene-d4	13.66	152	1791936	50.00 ug/L	126.48
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.07	65	959	0.04 ug/L	0.08%#
8) Chloroethane-d5	3.50	69	1015	0.06 ug/L	0.11%#
11) 1,1-Dichloroethene-d2	4.15	63	458	0.01 ug/L	0.02%#
22) 2-Butanone-d5	5.70	46	2206	0.29 ug/L	0.29%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.61	65	3094	0.12 ug/L	0.25%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	8.70	98	1708	0.03 ug/L	0.05%#
50) 2-Hexanone-d5	9.45	63	737	0.10 ug/L	0.10%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.22	152	4309	0.14 ug/L	0.28%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	2.91	50	3346	0.18 ug/L #	47
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.22	43	7678	1.22 ug/L	84
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.62	84	6312	0.23 ug/L	91
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.79	43	3431	0.40 ug/L #	53
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.09	83	11779	0.20 ug/L #	76
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S007.D
Acq Time : 05/17/2018 12:39 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:00 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.52	43	3882	0.23 ug/L #	36
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

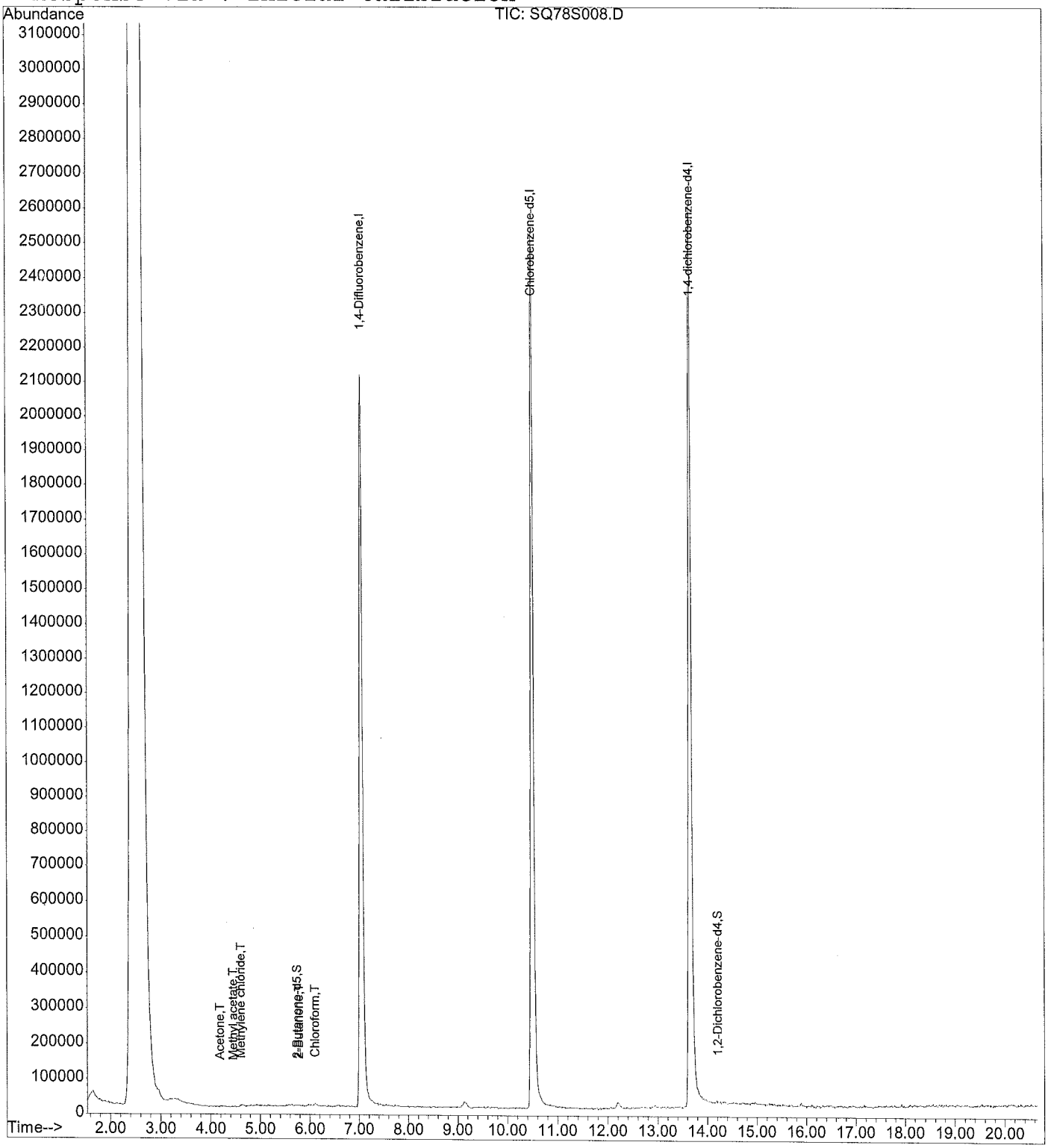
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S008.D
Acq Time : 05/17/2018 13:06 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:26 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S008.D
Acq Time : 05/17/2018 13:06 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:26 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3921858	50.00 ug/L	129.79
28) Chlorobenzene-d5	10.50	117	3379632	50.00 ug/L	134.72
60) 1,4-dichlorobenzene-d4	13.66	152	1737441	50.00 ug/L	122.63
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.04	65	2938	0.13 ug/L	0.26%#
8) Chloroethane-d5	3.48	69	1348	0.07 ug/L	0.15%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.74	46	1471	0.20 ug/L	0.20%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.62	65	1328	0.05 ug/L	0.11%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	8.72	98	1008	0.01 ug/L	0.03%#
50) 2-Hexanone-d5	9.28	63	255	0.04 ug/L	0.04%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.21	152	7397	0.25 ug/L	0.49%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.19	43	11086	1.76 ug/L #	57
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	4.46	43	1963	0.18 ug/L #	49
16) Methylene chloride	4.61	84	5102	0.18 ug/L #	70
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.78	43	7995	0.94 ug/L #	60
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	10969	0.18 ug/L #	76
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S008.D
Acq Time : 05/17/2018 13:06 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:26 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

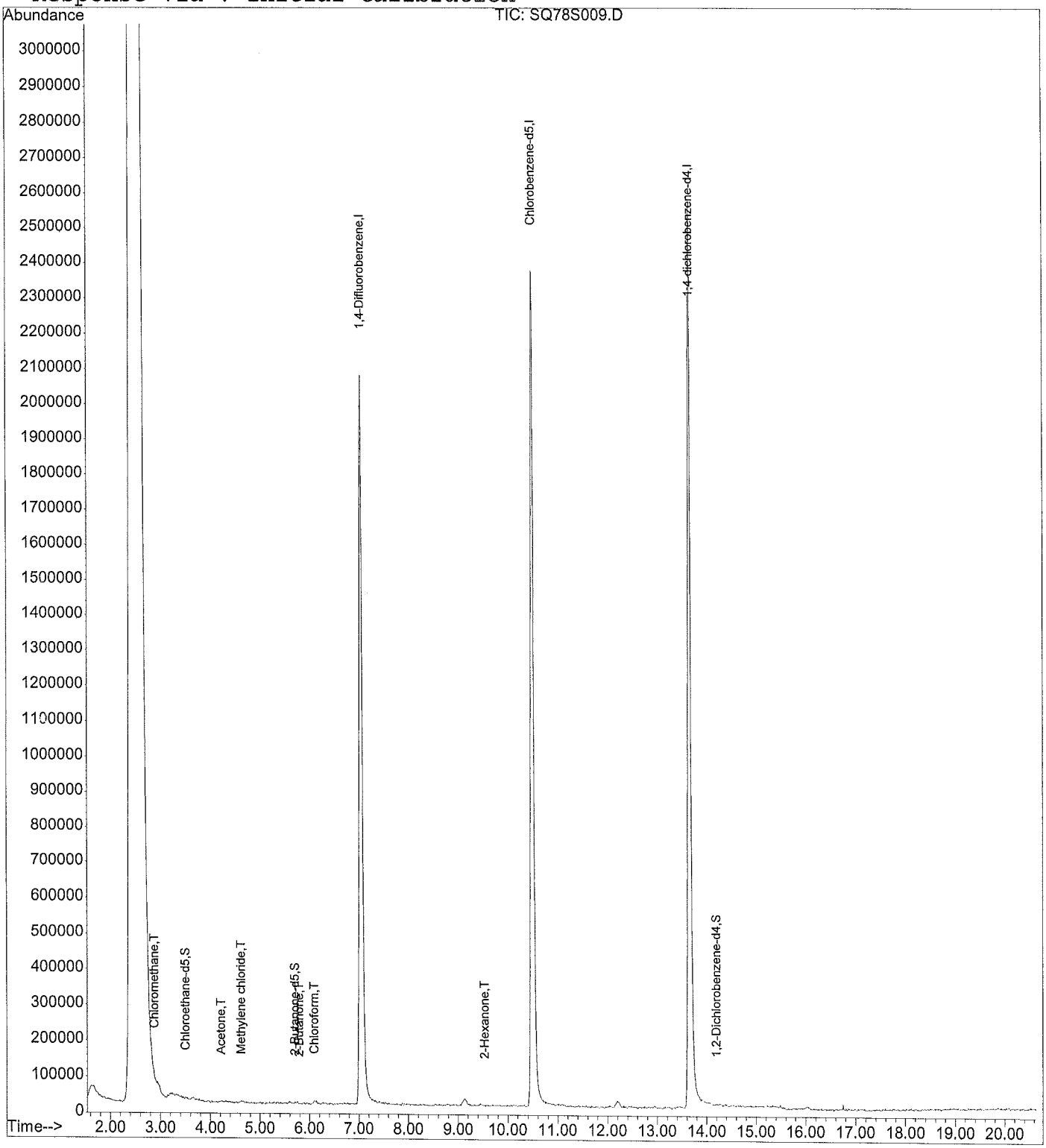
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S009.D
Acq Time : 05/17/2018 13:32 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:52 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S009.D
Acq Time : 05/17/2018 13:32 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:52 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3736242	50.00 ug/L	123.64
28) Chlorobenzene-d5	10.50	117	3212634	50.00 ug/L	128.06
60) 1,4-dichlorobenzene-d4	13.65	152	1690722	50.00 ug/L	119.34
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	2.98	65	1263	0.06 ug/L	0.12%#
8) Chloroethane-d5	3.50	69	2721	0.16 ug/L	0.31%#
11) 1,1-Dichloroethene-d2	4.26	63	442	0.01 ug/L	0.02%#
22) 2-Butanone-d5	5.70	46	2314	0.32 ug/L	0.32%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.70	65	515	0.02 ug/L	0.04%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	12.16	84	717	0.02 ug/L	0.03%#
65) 1,2-Dichlorobenzene-d4	14.19	152	8434	0.29 ug/L	0.58%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	2.89	50	5970	0.35 ug/L #	58
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	6221	1.04 ug/L	87
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.62	84	5234	0.20 ug/L	88
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.79	43	1477	0.18 ug/L #	55
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	13850	0.24 ug/L #	74
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S009.D
Acq Time : 05/17/2018 13:32 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 13:52 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	9.52	43	2799	0.19 ug/L #	16
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

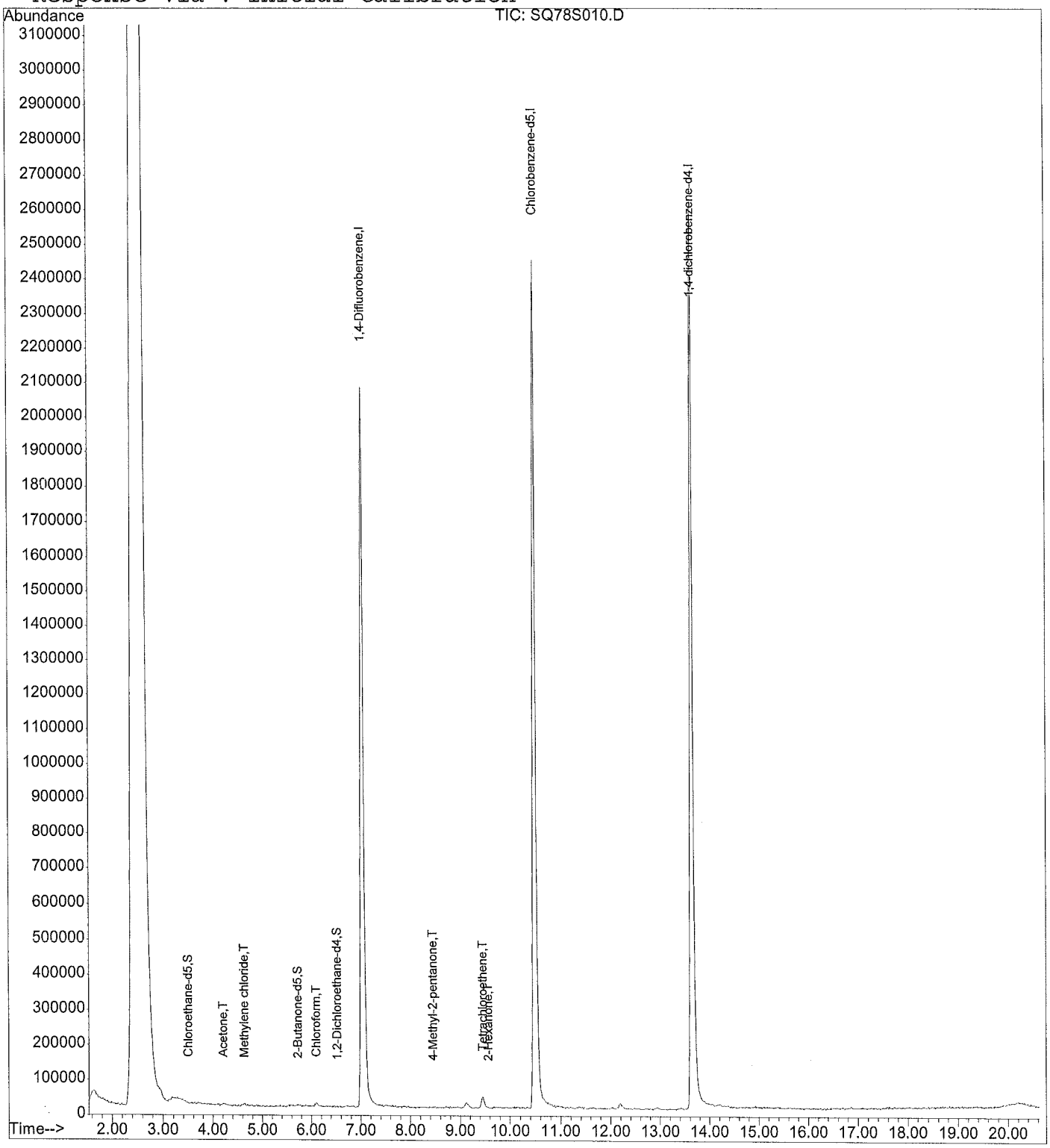
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S010.D
Acq Time : 05/17/2018 13:58 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 14:19 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S010.D
Acq Time : 05/17/2018 13:58 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 14:19 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3775339	50.00 ug/L	124.94
28) Chlorobenzene-d5	10.49	117	3253688	50.00 ug/L	129.70
60) 1,4-dichlorobenzene-d4	13.64	152	1723401	50.00 ug/L	121.64
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	2.99	65	1425	0.06 ug/L	0.13%#
8) Chloroethane-d5	3.50	69	2644	0.15 ug/L	0.30%#
11) 1,1-Dichloroethene-d2	4.15	63	562	0.01 ug/L	0.02%#
22) 2-Butanone-d5	5.73	46	1570	0.22 ug/L	0.22%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.53	65	3839	0.16 ug/L	0.32%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	9.58	63	457	0.07 ug/L	0.07%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.22	43	7284	1.20 ug/L	80
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.62	84	5253	0.20 ug/L #	67
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.09	83	15192	0.27 ug/L #	78
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S010.D
Acq Time : 05/17/2018 13:58 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 14:19 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.45	43	4597	0.29 ug/L #	47
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	9.46	164	17073	0.57 ug/L	94
49)	2-Hexanone	9.57	43	4763	0.33 ug/L #	42
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

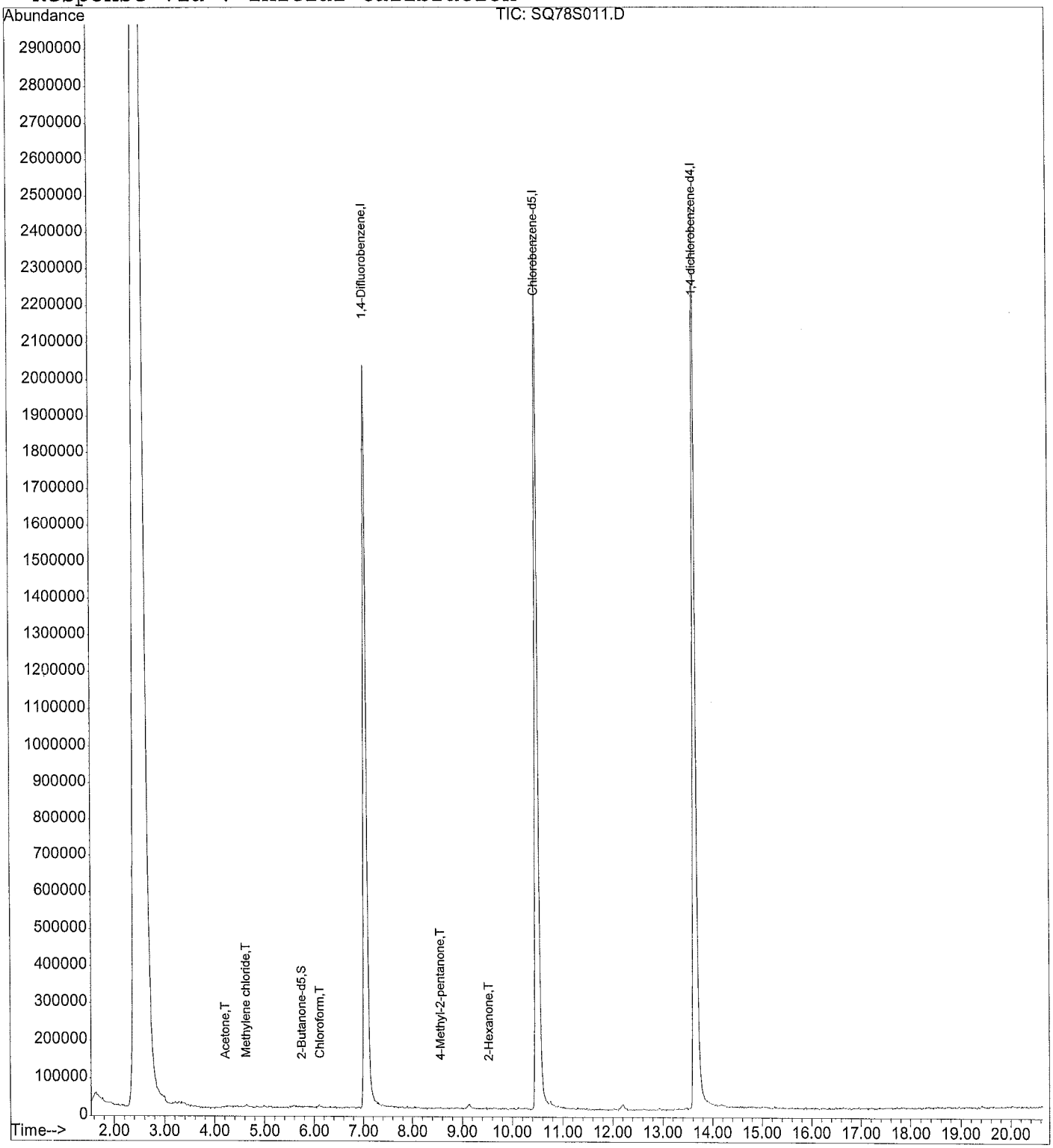
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S011.D
Acq Time : 05/17/2018 14:24 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 14:45 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S011.D
Acq Time : 05/17/2018 14:24 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 14:45 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3778402	50.00 ug/L	125.04
28) Chlorobenzene-d5	10.50	117	3164115	50.00 ug/L	126.13
60) 1,4-dichlorobenzene-d4	13.65	152	1645994	50.00 ug/L	116.18
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.03	65	1537	0.07 ug/L	0.14%#
8) Chloroethane-d5	3.47	69	460	0.03 ug/L	0.05%#
11) 1,1-Dichloroethene-d2	4.17	63	286	0.00 ug/L	0.01%#
22) 2-Butanone-d5	5.75	46	1676	0.23 ug/L	0.23%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.61	65	1726	0.07 ug/L	0.14%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	9155	1.51 ug/L	75
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.62	84	4467	0.17 ug/L #	57
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.13	83	10853	0.19 ug/L #	82
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S011.D
Acq Time : 05/17/2018 14:24 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 14:45 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.56	43	3967	0.26 ug/L #	45
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	9.53	43	2346	0.17 ug/L #	37
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

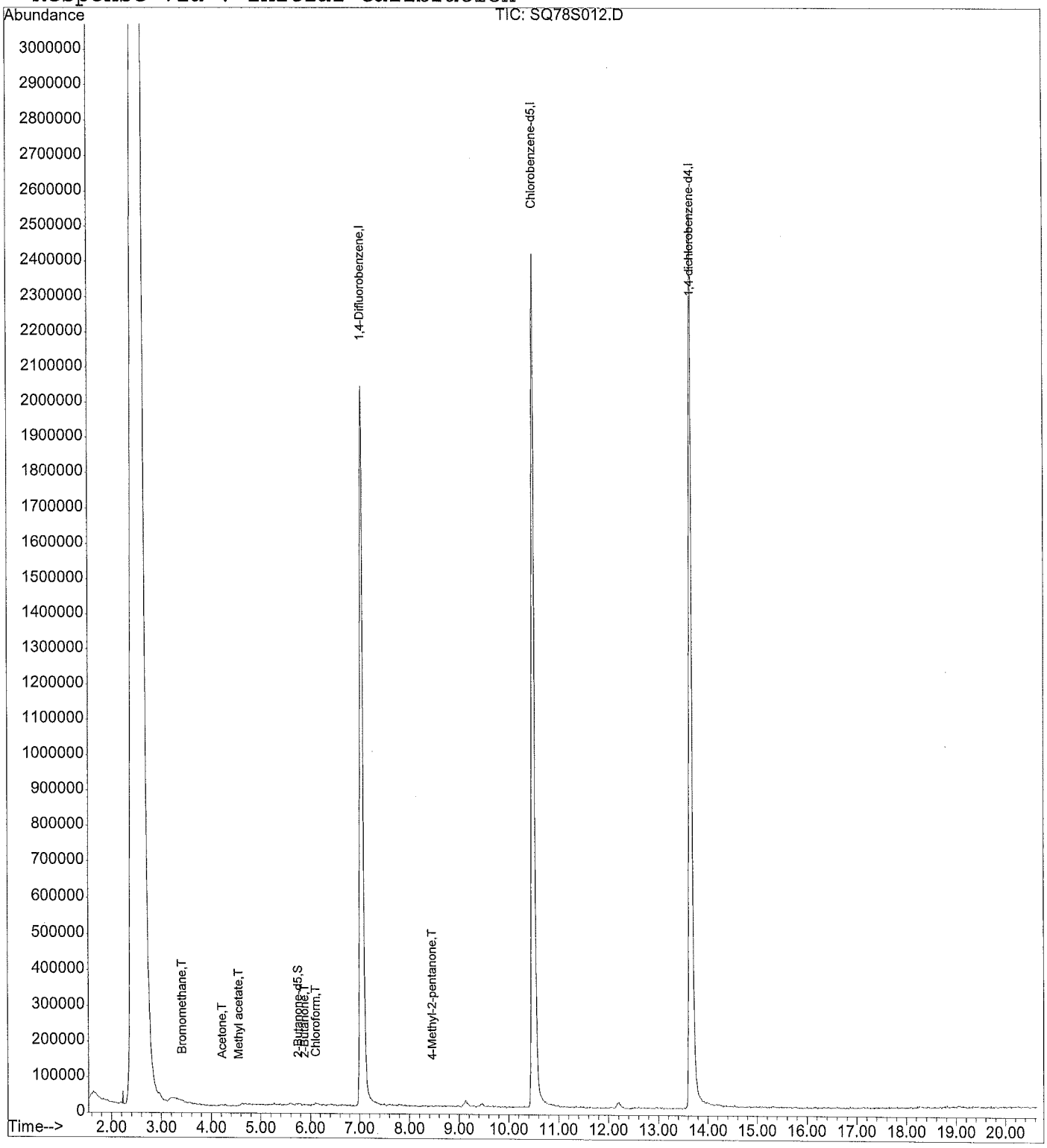
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S012.D
Acq Time : 05/17/2018 14:50 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 15:11 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S012.D
Acq Time : 05/17/2018 14:50 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 15:11 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.05	114	3775347	50.00 ug/L	124.94
28) Chlorobenzene-d5	10.50	117	3247958	50.00 ug/L	129.47
60) 1,4-dichlorobenzene-d4	13.66	152	1696326	50.00 ug/L	119.73
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	0.00	65	0	0.00 ug/L	0.00%#
8) Chloroethane-d5	3.48	69	1315	0.07 ug/L	0.15%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.74	46	1904	0.26 ug/L	0.26%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.64	65	2678	0.11 ug/L	0.22%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	9.47	63	441	0.06 ug/L	0.06%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	3.42	94	6145	0.23 ug/L #	19
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	14834	2.45 ug/L #	56
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	4.56	43	2230	0.21 ug/L #	49
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.89	43	1835	0.22 ug/L #	55
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	11358	0.20 ug/L #	77
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S012.D
Acq Time : 05/17/2018 14:50 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 15:11 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.46	43	3309	0.21 ug/L #	57
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

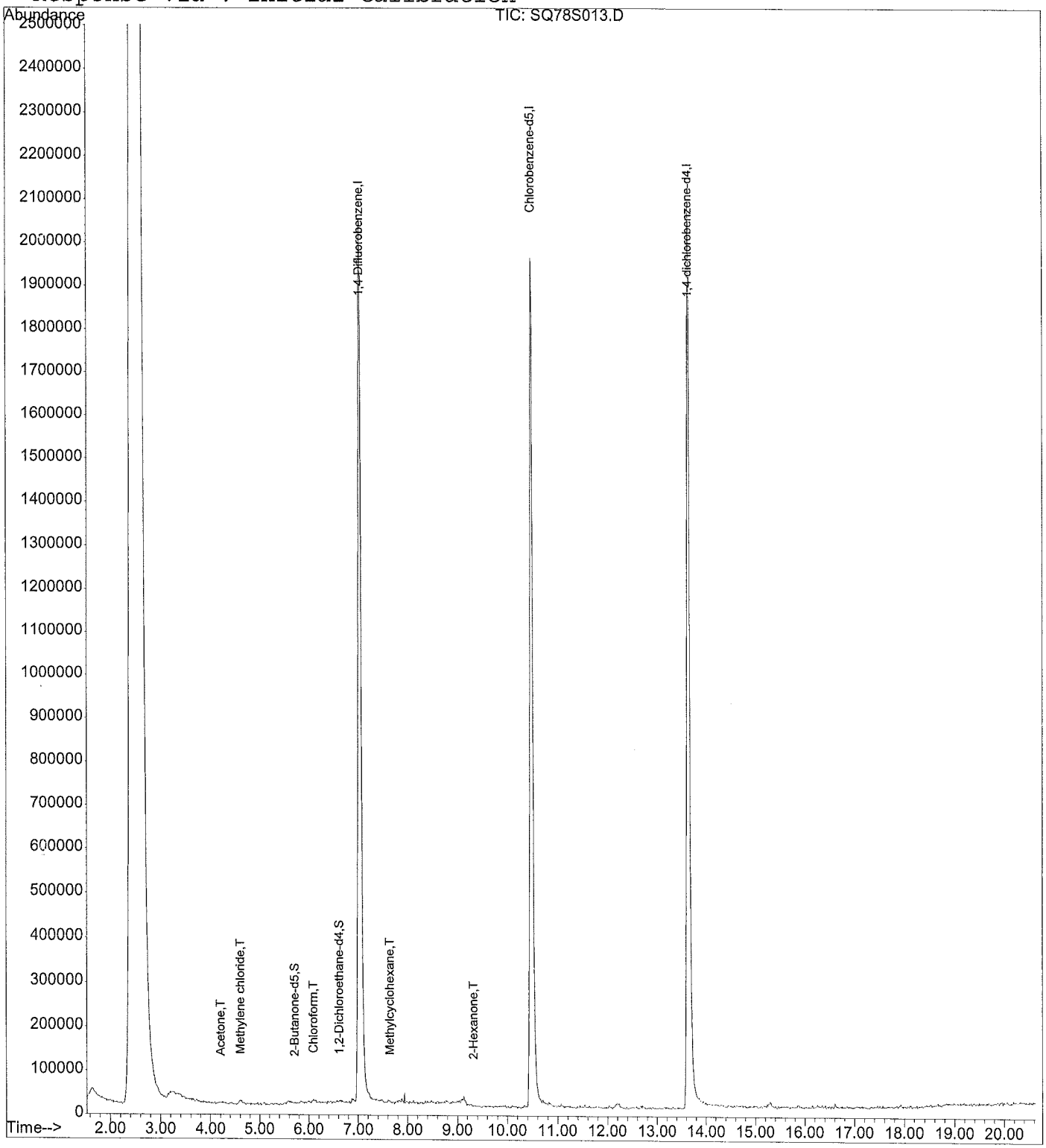
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S013.D
Acq Time : 05/17/2018 15:16 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 15:37 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S013.D
Acq Time : 05/17/2018 15:16 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 15:37 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.03	114	3714715	50.00 ug/L	122.93
28) Chlorobenzene-d5	10.49	117	2675682	50.00 ug/L	106.66
60) 1,4-dichlorobenzene-d4	13.64	152	1405307	50.00 ug/L	99.19
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.08	65	2014	0.09 ug/L	0.19%#
8) Chloroethane-d5	3.48	69	1262	0.07 ug/L	0.15%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.70	46	1499	0.21 ug/L	0.21%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.63	65	3696	0.16 ug/L	0.31%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	7.49	67	452	0.01 ug/L	0.03%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.51	152	1783	0.07 ug/L	0.15%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	5991	1.01 ug/L	79
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.61	84	9164	0.35 ug/L #	76
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	14227	0.25 ug/L #	65
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S013.D
Acq Time : 05/17/2018 15:16 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 15:37 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	7.64	55	3509	0.16 ug/L #	4
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	9.33	43	5809	0.49 ug/L #	43
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

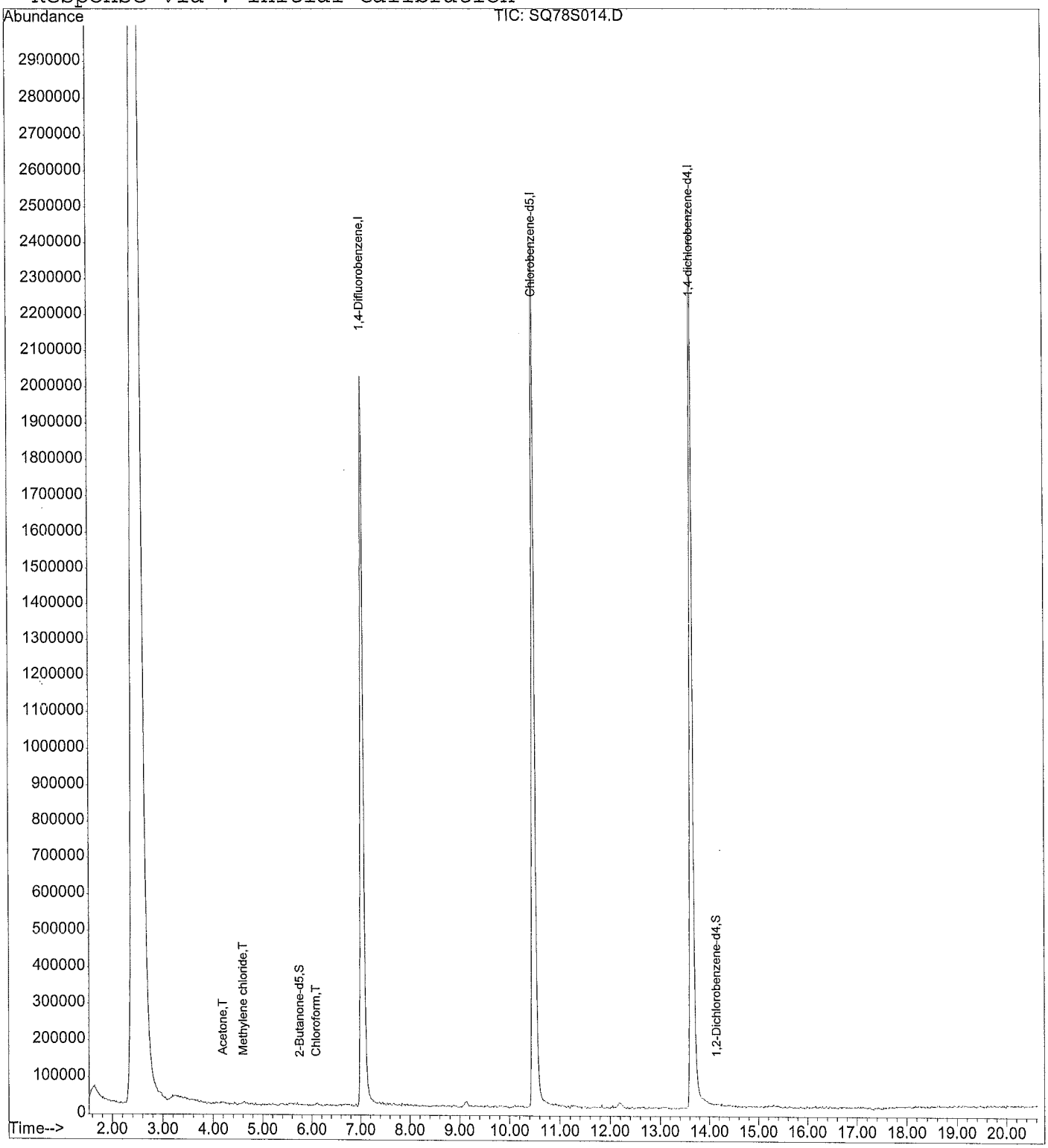
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S014.D
Acq Time : 05/17/2018 15:42 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:03 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S014.D
Acq Time : 05/17/2018 15:42 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:03 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.03	114	3730383	50.00 ug/L	123.45
28) Chlorobenzene-d5	10.49	117	3219286	50.00 ug/L	128.33
60) 1,4-dichlorobenzene-d4	13.64	152	1677318	50.00 ug/L	118.39
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.07	65	913	0.04 ug/L	0.08%#
8) Chloroethane-d5	3.36	69	1804	0.10 ug/L	0.21%#
11) 1,1-Dichloroethene-d2	4.17	63	256	0.00 ug/L	0.01%#
22) 2-Butanone-d5	5.75	46	1450	0.20 ug/L	0.20%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.68	65	3176	0.13 ug/L	0.27%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.15	152	7427	0.26 ug/L	0.51%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.21	43	16173	2.71 ug/L #	59
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	4.60	84	5829	0.22 ug/L	86
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	12449	0.22 ug/L #	71
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S014.D
Acq Time : 05/17/2018 15:42 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:03 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

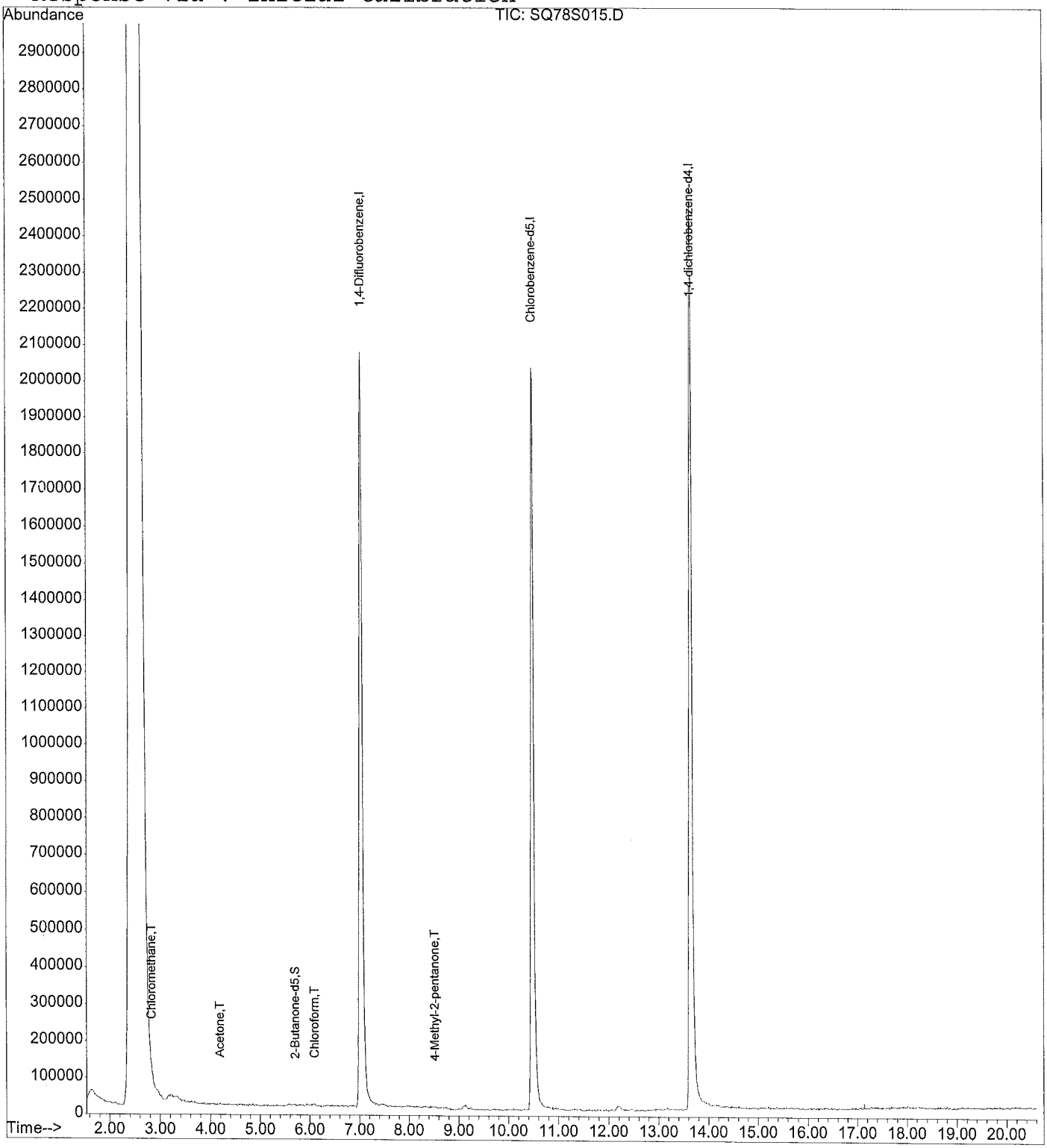
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S015.D
Acq Time : 05/17/2018 16:09 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:30 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S015.D
Acq Time : 05/17/2018 16:09 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:30 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.03	114	3775170	50.00 ug/L	124.93
28) Chlorobenzene-d5	10.48	117	2796824	50.00 ug/L	111.49
60) 1,4-dichlorobenzene-d4	13.65	152	1672797	50.00 ug/L	118.07
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	2.98	65	987	0.04 ug/L	0.09%#
8) Chloroethane-d5	3.48	69	1310	0.07 ug/L	0.15%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.71	46	2109	0.29 ug/L	0.29%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.64	65	2648	0.11 ug/L	0.22%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	2.84	50	3248	0.19 ug/L #	47
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.19	43	6505	1.08 ug/L	85
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	0.00	43		Not Detected	
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.11	83	9723	0.17 ug/L #	82
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S015.D
Acq Time : 05/17/2018 16:09 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:30 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.52	43	7661	0.56 ug/L #	51
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

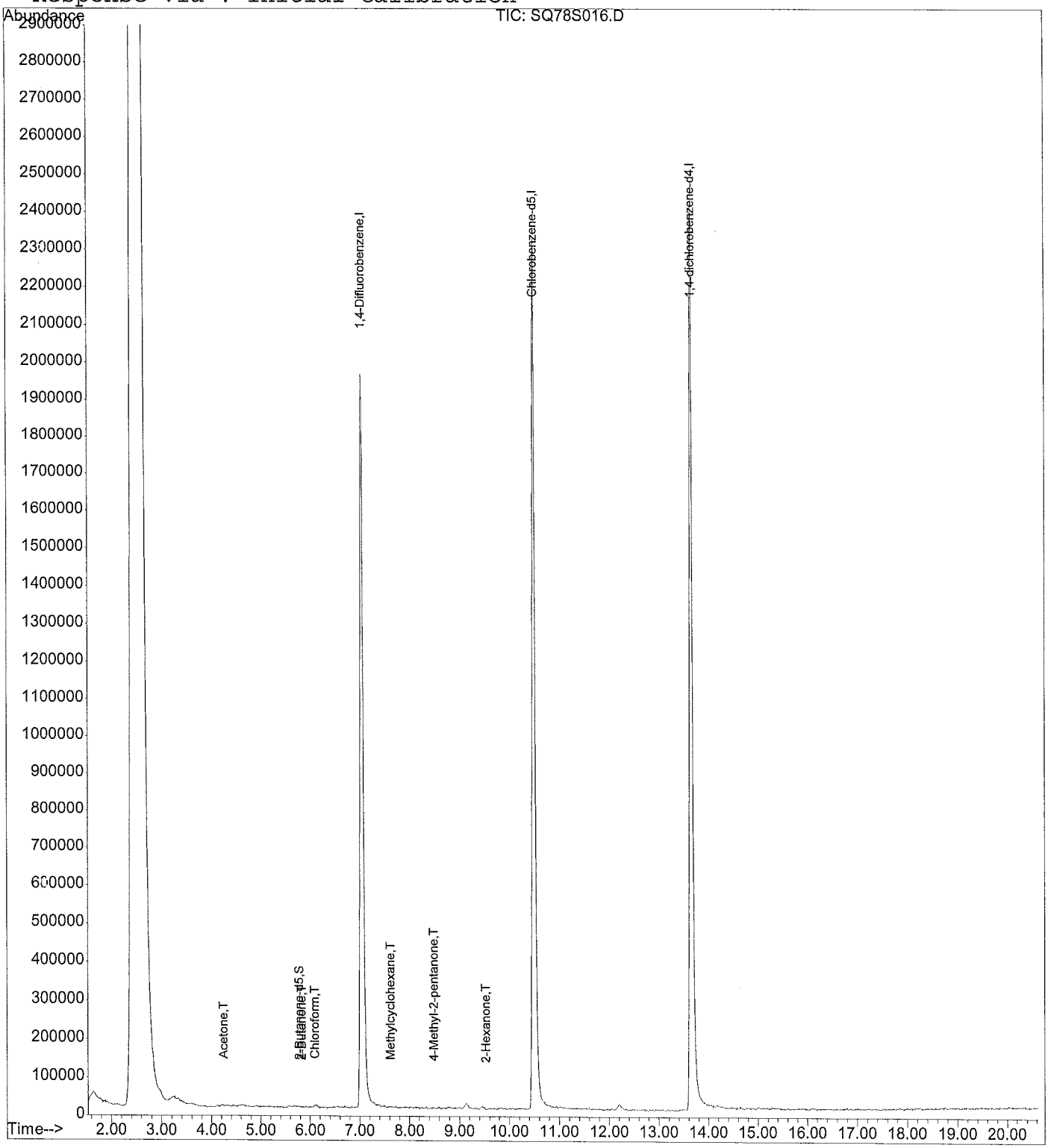
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S016.D
Acq Time : 05/17/2018 16:35 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:56 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S016.D
Acq Time : 05/17/2018 16:35 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:56 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.05	114	3583550	50.00 ug/L	118.59
28) Chlorobenzene-d5	10.50	117	3106454	50.00 ug/L	123.83
60) 1,4-dichlorobenzene-d4	13.66	152	1587666	50.00 ug/L	112.06
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	0.00	65	0	0.00 ug/L	0.00%#
8) Chloroethane-d5	3.50	69	825	0.05 ug/L	0.10%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.77	46	1181	0.17 ug/L	0.17%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.55	65	1346	0.06 ug/L	0.12%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.46	152	2068	0.08 ug/L	0.15%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.23	43	8058	1.40 ug/L	76
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.83	43	5591	0.72 ug/L #	60
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.10	83	10271	0.19 ug/L	81
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S016.D
Acq Time : 05/17/2018 16:35 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 16:56 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	7.63	55	4767	0.19 ug/L #	1
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.51	43	3841	0.25 ug/L #	45
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	9.54	43	3410	0.25 ug/L #	43
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

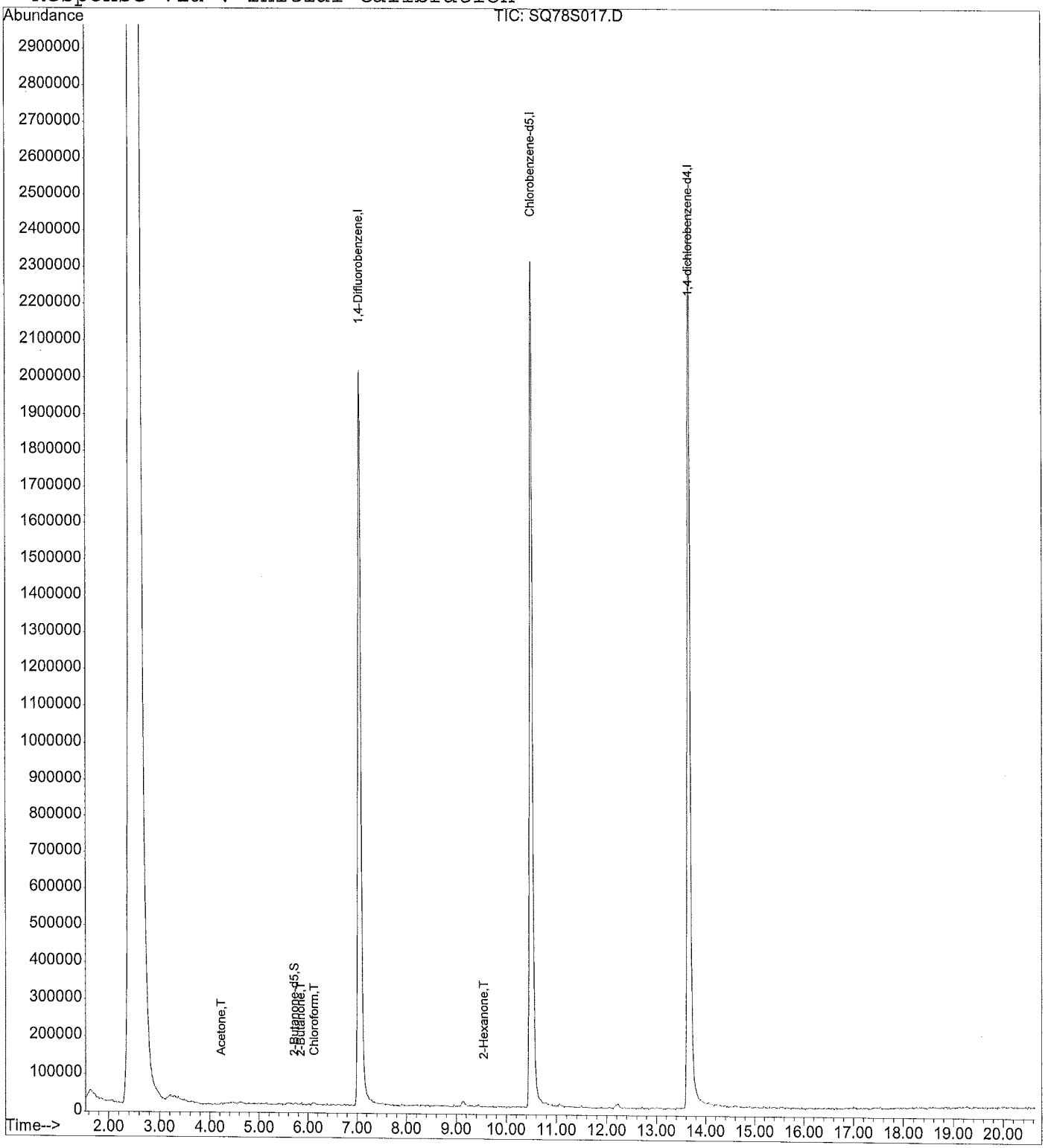
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S017.D
Acq Time : 05/17/2018 17:01 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 17:22 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S017.D
Acq Time : 05/17/2018 17:01 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 17:22 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.05	114	3640810	50.00 ug/L	120.49
28) Chlorobenzene-d5	10.50	117	3143335	50.00 ug/L	125.30
60) 1,4-dichlorobenzene-d4	13.65	152	1643207	50.00 ug/L	115.98
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	2.99	65	2224	0.10 ug/L	0.21%#
8) Chloroethane-d5	3.48	69	967	0.06 ug/L	0.11%#
11) 1,1-Dichloroethene-d2	4.09	63	544	0.01 ug/L	0.02%#
22) 2-Butanone-d5	5.71	46	1339	0.19 ug/L	0.19%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.68	65	483	0.02 ug/L	0.04%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.54	152	2685	0.09 ug/L	0.19%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.24	43	13371	2.29 ug/L #	46
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.84	43	1411	0.18 ug/L #	55
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.12	83	10639	0.19 ug/L #	81
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S017.D
Acq Time : 05/17/2018 17:01 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 17:22 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	9.56	43	2246	0.16 ug/L #	37
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

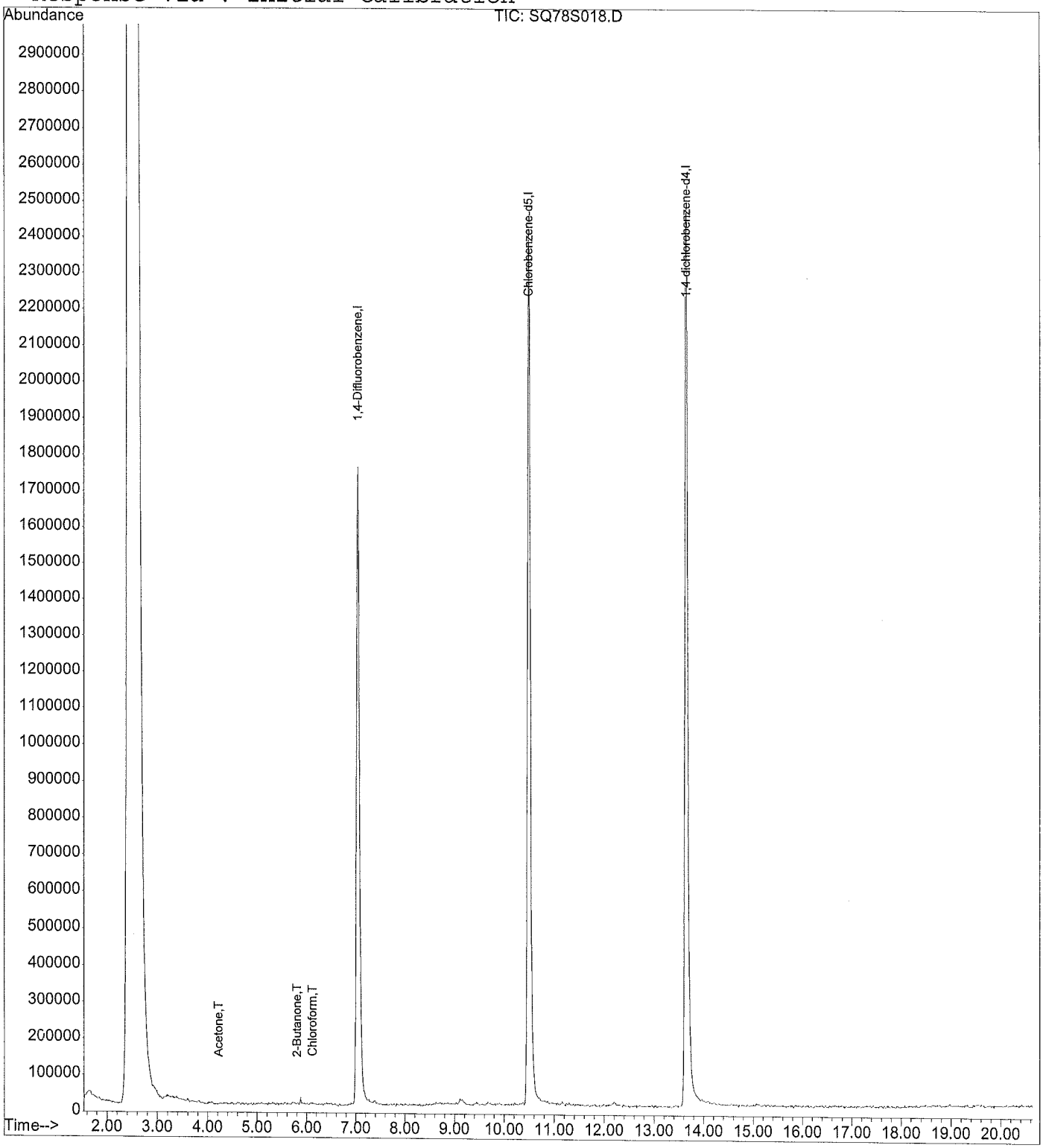
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S018.D
Acq Time : 05/17/2018 17:27 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 17:48 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S018.D
Acq Time : 05/17/2018 17:27 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 17:48 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3217249	50.00 ug/L	106.47
28) Chlorobenzene-d5	10.49	117	3216995	50.00 ug/L	128.24
60) 1,4-dichlorobenzene-d4	13.65	152	1637902	50.00 ug/L	115.61
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	0.00	65	0	0.00 ug/L	0.00%#
8) Chloroethane-d5	3.38	69	1536	0.10 ug/L	0.20%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.72	46	568	0.09 ug/L	0.09%#
25) Chloroform-d	6.10	84	705	0.01 ug/L	0.03%#
27) 1,2-Dichloroethane-d4	6.67	65	781	0.04 ug/L	0.08%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	9.59	63	505	0.07 ug/L	0.07%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	14.38	152	643	0.02 ug/L	0.05%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.22	43	7208	1.40 ug/L #	53
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	0.00	43		Not Detected	
16) Methylene chloride	0.00	84		Not Detected	
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.80	43	1410	0.20 ug/L #	55
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.12	83	13147	0.27 ug/L #	64
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S018.D
Acq Time : 05/17/2018 17:27 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 17:48 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

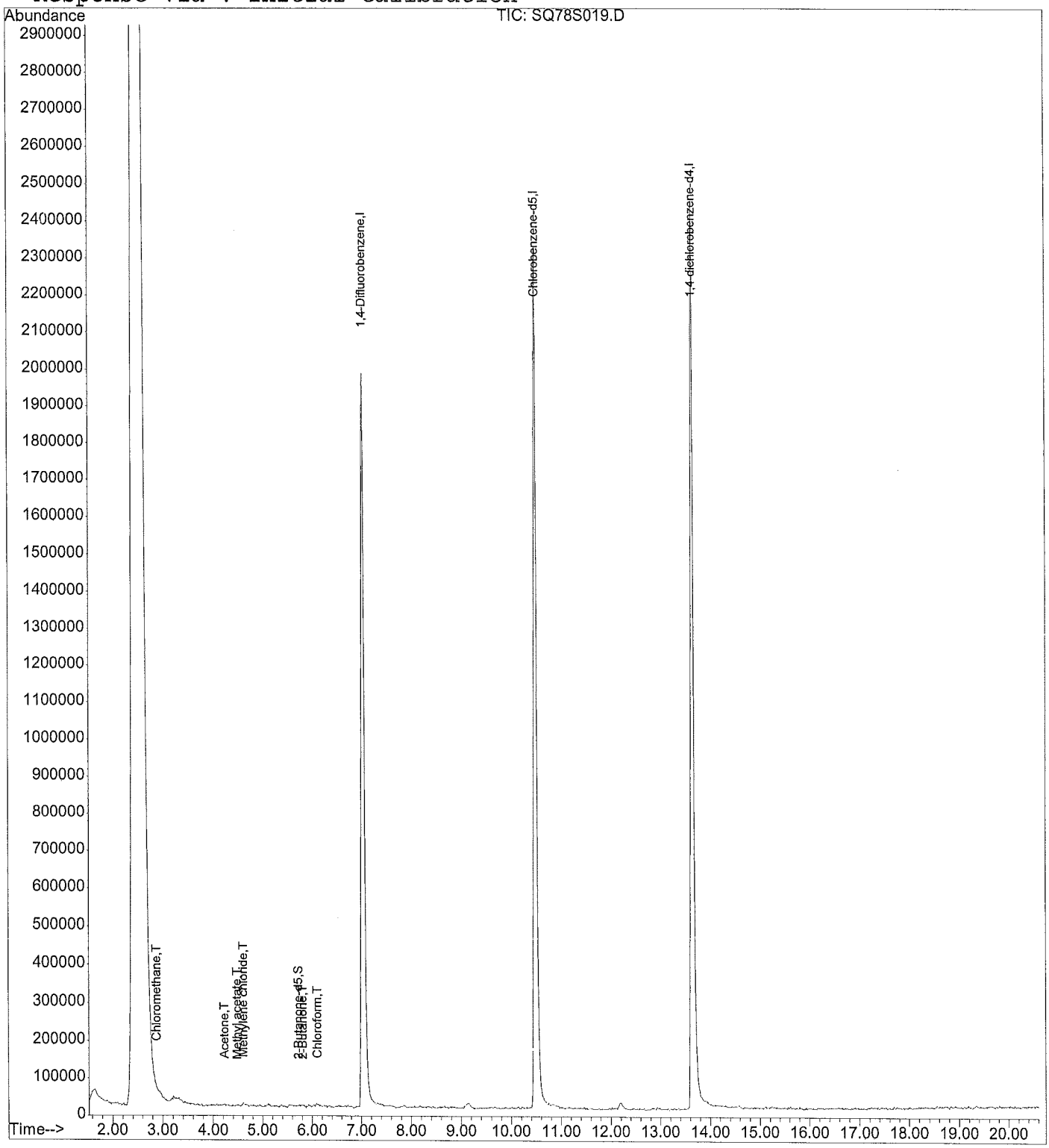
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S019.D
Acq Time : 05/17/2018 17:53 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 18:14 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S019.D
Acq Time : 05/17/2018 17:53 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 18:14 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3626932	50.00 ug/L	120.03
28) Chlorobenzene-d5	10.49	117	3116486	50.00 ug/L	124.23
60) 1,4-dichlorobenzene-d4	13.64	152	1598096	50.00 ug/L	112.80
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	2.96	65	920	0.04 ug/L	0.09%#
8) Chloroethane-d5	3.47	69	1221	0.07 ug/L	0.14%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.73	46	1439	0.21 ug/L	0.21%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.64	65	2552	0.11 ug/L	0.22%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	9.40	63	509	0.08 ug/L	0.08%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	2.89	50	3250	0.20 ug/L #	47
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.24	43	9080	1.56 ug/L #	66
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	4.48	43	1719	0.17 ug/L #	49
16) Methylene chloride	4.63	84	9161	0.36 ug/L #	78
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.82	43	1418	0.18 ug/L #	1
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.11	83	11969	0.22 ug/L #	71
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S019.D
Acq Time : 05/17/2018 17:53 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 18:14 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	0.00	43		Not Detected	
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

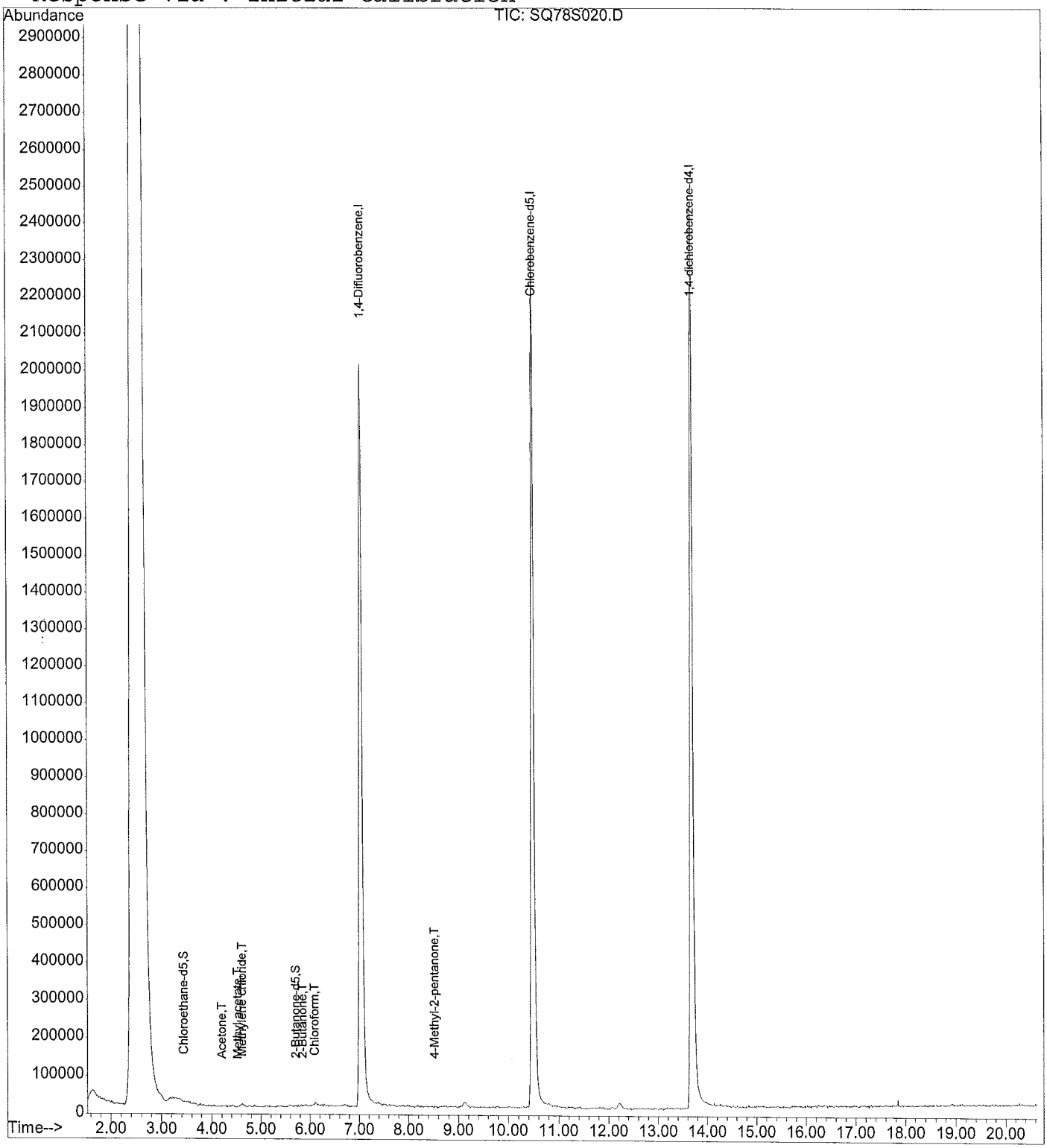
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S020.D
Acq Time : 05/17/2018 18:20 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 18:40 2018 Quant Results File: SM2717WA.RES

Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration



Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S020.D
Acq Time : 05/17/2018 18:20 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 18:40 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.04	114	3665583	50.00 ug/L	121.31
28) Chlorobenzene-d5	10.49	117	3109363	50.00 ug/L	123.95
60) 1,4-dichlorobenzene-d4	13.68	152	1614164	50.00 ug/L	113.93
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	3.02	65	1501	0.07 ug/L	0.14%#
8) Chloroethane-d5	3.43	69	2660	0.16 ug/L	0.31%#
11) 1,1-Dichloroethene-d2	0.00	63	0	0.00 ug/L	0.00%#
22) 2-Butanone-d5	5.70	46	1134	0.16 ug/L	0.16%#
25) Chloroform-d	0.00	84	0	0.00 ug/L	0.00%#
27) 1,2-Dichloroethane-d4	6.66	65	1881	0.08 ug/L	0.16%#
33) Benzene-d6	0.00	84	0	0.00 ug/L	0.00%#
37) 1,2-Dichloropropane-d6	0.00	67	0	0.00 ug/L	0.00%#
40) cis-1,3-Dichloropropene-d4	0.00	79	0	0.00 ug/L	0.00%
42) trans-1,3-Dichloropropene-	0.00	79	0	0.00 ug/L	0.00%#
47) Toluene-d8	0.00	98	0	0.00 ug/L	0.00%#
50) 2-Hexanone-d5	0.00	63	0	0.00 ug/L	0.00%#
59) 1,1,2,2-Tetrachloroethane-	0.00	84	0	0.00 ug/L	0.00%#
65) 1,2-Dichlorobenzene-d4	0.00	152	0	0.00 ug/L	0.00%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	0.00	50		Not Detected	
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	0.00	94		Not Detected	
7) Chloroethane	0.00	64		Not Detected	
9) Trichlorofluoromethane	0.00	101		Not Detected	
10) 1,1-Dichloroethene	0.00	96		Not Detected	
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	4.20	43	15293	2.60 ug/L #	59
14) Carbon disulfide	0.00	76		Not Detected	
15) Methyl acetate	4.53	43	2381	0.23 ug/L #	49
16) Methylene chloride	4.62	84	7955	0.31 ug/L #	86
17) trans-1,2-Dichloroethene	0.00	96		Not Detected	
18) Methyl tert-butyl ether	0.00	73		Not Detected	
19) 1,1-Dichloroethane	0.00	63		Not Detected	
20) cis-1,2-Dichloroethene	0.00	96		Not Detected	
21) 2-Butanone	5.86	43	3617	0.45 ug/L #	49
23) Bromochloromethane	0.00	128		Not Detected	
24) Chloroform	6.09	83	11297	0.20 ug/L #	75
26) 1,2-Dichloroethane	0.00	62		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\17MAY18S\SQ78S020.D
Acq Time : 05/17/2018 18:20 Operator: SLS
Sample : 1813654 1:10 Inst : 5972-S
Misc : 2.0 uL of 41421 Multiplr: 1.00

Quant Time: May 17 18:40 2018 Quant Results File: SM2717WA.RES

Quant Method : D:\HPCHEM\1\METHODS\SM2717WA.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Mar 14 06:56:09 2018
Response via : Initial Calibration
DataAcq Meth : SM2717WA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29)	1,1,1-Trichloroethane	0.00	97		Not Detected	
30)	Cyclohexane	0.00	56		Not Detected	
31)	Carbon tetrachloride	0.00	117		Not Detected	
32)	Benzene	0.00	78		Not Detected	
34)	Trichloroethene	0.00	95		Not Detected	
35)	Methylcyclohexane	0.00	55		Not Detected	
36)	1,2-Dichloropropane	0.00	63		Not Detected	
38)	Bromodichloromethane	0.00	83		Not Detected	
39)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
41)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
43)	1,1,2-Trichloroethane	0.00	97		Not Detected	
44)	Dibromochloromethane	0.00	129		Not Detected	
45)	4-Methyl-2-pentanone	8.52	43	4404	0.29 ug/L #	55
46)	Toluene	0.00	91		Not Detected	
48)	Tetrachloroethene	0.00	164		Not Detected	
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	0.00	112		Not Detected	
53)	Ethylbenzene	0.00	91		Not Detected	
54)	m,p-Xylene	0.00	106		Not Detected	
55)	o-Xylene	0.00	106		Not Detected	
56)	Styrene	0.00	104		Not Detected	
57)	Isopropylbenzene	0.00	105		Not Detected	
58)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
61)	Bromoform	0.00	173		Not Detected	
62)	1,3-Dichlorobenzene	0.00	146		Not Detected	
63)	1,4-Dichlorobenzene	0.00	146		Not Detected	
64)	1,2-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2-Dibromo-3-chloropropan	0.00	75		Not Detected	
67)	1,3,5-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
69)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

(#) = qualifier out of range (m) = manual integration

SAMPLE TAG INFORMATION SHEET

There are no Sample Tags included with this SDG

Notations concerning the location of the Sample Tags are included in Forms DC-1,. DC-2 and in the SDG Administrative Narrative (if it is required).

EPA-CLP CHECKING DOCUMENTATION FORM
FOR GC/MS ORGANICS ANALYSIS

Case 5 Points SDG TV516 Fraction VOA-TRACE

DELIVERABLE CHECK - All forms are present and have been checked for completeness and accuracy. All raw data such as quantitation reports, chromatograms, and spectra are included and are in the correct order.

Signature _____ Date 5/24/18

CHEMIST CHECK or PEER REVIEW - Target compounds reported have been verified against the reference spectra. For target compounds which have isomers, the relative retention time has been verified against the relative retention time of the continuing standard. All target compounds present are reported on the Form 1 and the reported values are correct.

Signature _____ Date 5.30.18

MANAGER CHECK - The data package for the fraction includes all samples submitted for the sample delivery group. All QC requirements of the contract were met with the exeption of items specifically mentioned in the narrative. All documents necessary for the case file are included.

Signature _____ Date 5.30.18

DOCUMENT CONTROL CHECK - All documents, forms, and data required for reporting are present and in the correct order. All required miscellaneous data (e.g. Traffic Reports, Sample Tags, Airbills, etc.) are also included.

Signature Delsue Hill Date 05/31/2018

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131.4	Split:	Workorder ID: 1813654	Level: EPACLP_PDF	Requested Analysis
Client: AECOM [5 Points/TV516]		Account: 8201	Type: 40AGVOA	
Comments:			Preservatives	
			HCL	
			Containers	

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	EPA-CLP VOA Trace, Water
1	05/16/2018 00:00	TB-051618	1813654001	TRIPBK	Water	A,B	2	A
2	05/16/2018 08:30	5P-MW101-106	1813654002		Water	A,B,C	3	A
3	05/16/2018 08:40	5P-MW101-106-Y	1813654003		Water	A,B,C	3	A
4	05/16/2018 09:00	5P-MW105-139	1813654004		Water	A,B,C	3	A
5	05/16/2018 09:00	5P-MW105-139MS	1813654005	MS	Water	A,B,C	3	A
6	05/16/2018 09:00	5P-MW105-139MSD	1813654006	MSD	Water	A,B,C	3	A
7	05/16/2018 09:25	5P-MW103-109	1813654007		Water	A,B,C	3	A
8	05/16/2018 09:40	5P-MW2-2004-109	1813654008		Water	A,B,C	3	A
9	05/16/2018 10:10	5P-MW1-2004-106	1813654009		Water	A,B,C	3	A
10	05/16/2018 10:30	5P-MW104-120	1813654010		Water	A,B,C	3	A

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Schmith, Marianne	05/16/2018 14:17	ALS Sample Receiving	Sample Login
[signature]	05/16/2018 16:39	Storage 2 [signature]	Storage
Storage 2	5/18/18 7:30	[signature]	VOA Analysis 8-61-4L

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131.4	Split:	Workorder ID: 1813654	Level: EPACLP_PDF	Requested Analysis
Client: AECOM [5 Points/TV516]		Account: 8201	Type: 40AGVOA	
Comments:			Preservatives	
			HCL	
			Containers	

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	ID(s)	Count	EPA-CLP VOA Trace, Water
11	05/16/2018 10:45	5P-MW106I-145	1813654011		Water	A,B,C	3	A
12	05/16/2018 11:00	5P-MW106D-195	1813654012		Water	A,B,C	3	A
13	05/16/2018 11:20	5P-MW107I-145	1813654013		Water	A,B,C	3	A
14	05/16/2018 11:40	5P-MW107D-200	1813654014		Water	A,B,C	3	A
15	05/16/2018 12:15	5P-MW108I-149	1813654015		Water	A,B,C	3	A
16	05/16/2018 12:35	5P-MW108D-214	1813654016		Water	A,B,C	3	A
17	05/16/2018 12:55	5P-MW109I-169	1813654017		Water	A,B,C	3	A
18	05/16/2018 13:15	5P-MW109D-230	1813654018		Water	A,B,C	3	A
19	05/16/2018 13:30	5P-MW110I-208	1813654019		Water	A,B,C	3	A
20	05/16/2018 13:45	5P-MW110D-301	1813654020		Water	A,B,C	3	A

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Schmith, Marianne	05/16/2018 14:17	ALS Sample Receiving	Sample Login
[illegible]	05/16/2018 16:39	Storage 2	Storage
Storage 2	5/18/18 7:30	[illegible]	VOA Analysis 2-6l-4C

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131.4	Split:	Workorder ID: 1813654	Level: EPACLP_PDF	Requested Analysis
Client: AECOM [5 Points/TV516]		Account: 8201	Type: 40AGVOA	
Comments:			Preservatives: HCL	

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix		Containers ID(s)	Containers Count	EPA-CLP VOA Trace, Water				Tetra							
1	05/16/2018 00:00	TB-051618	1813654001	TRIPBK	Water	1:1	A,B	2	A											
2	05/16/2018 08:30	5P-MW101-106	1813654002		Water	1:2 1:1	A,B,C	3	A				25							
3	05/16/2018 08:40	5P-MW101-106-Y	1813654003		Water	1:2 1:1	A,B,C	3	A				24							
4	05/16/2018 09:00	5P-MW105-139	1813654004		Water	1:1	A,B,C	3	A											
5	05/16/2018 09:00	5P-MW105-139MS	1813654005	MS	Water	1:1	A,B,C	3	A											
6	05/16/2018 09:00	5P-MW105-139MSD	1813654006	MSD	Water	1:1	A,B,C	3	A											
7	05/16/2018 09:25	5P-MW103-109	1813654007		Water	1:1	A,B,C	3	A											
8	05/16/2018 09:40	5P-MW2-2004-109	1813654008		Water	1:1	A,B,C	3	A											
9	05/16/2018 10:10	5P-MW1-2004-106	1813654009		Water	1:1	A,B,C	3	A											
10	05/16/2018 10:30	5P-MW104-120	1813654010		Water	1:1	A,B,C	3	A											

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Schmith, Marianne	05/16/2018 14:17	ALS Sample Receiving	Sample Login
[signature]	05/16/2018 16:39	[signature]	[signature]
Storage 2	5/18/18 7:30	[signature]	VOA Analysis 8-61-4L

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131.4	Split:	Workorder ID: 1813654	Level: EPACLP_PDF
Client: AECOM [5 Points/TV516]		Account: 8201	Type: 40AGVOA
Comments:			Preservatives: HCL

Requested Analysis

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix		Containers ID(s)	Containers Count	EPA-CLP VOA Trace, Water
11	05/16/2018 10:45	5P-MW106I-145	1813654011		Water	1:1	A,B,C	3	A
12	05/16/2018 11:00	5P-MW106D-195	1813654012		Water	1:1	A,B,C	3	A
13	05/16/2018 11:20	5P-MW107I-145	1813654013		Water	1:1	A,B,C	3	A
14	05/16/2018 11:40	5P-MW107D-200	1813654014		Water	1:1	A,B,C	3	A
15	05/16/2018 12:15	5P-MW108I-149	1813654015		Water	1:1	A,B,C	3	A
16	05/16/2018 12:35	5P-MW108D-214	1813654016		Water	1:1	A,B,C	3	A
17	05/16/2018 12:55	5P-MW109I-169	1813654017		Water	1:1	A,B,C	3	A
18	05/16/2018 13:15	5P-MW109D-230	1813654018		Water	1:1	A,B,C	3	A
19	05/16/2018 13:30	5P-MW110I-208	1813654019		Water	1:1	A,B,C	3	A
20	05/16/2018 13:45	5P-MW110D-301	1813654020		Water	1:1	A,B,C	3	A

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Schmith, Marianne	05/16/2018 14:17	ALS Sample Receiving	Sample Login
[signature]	05/16/2018 16:39	Storage 2	Storage
Storage 2	5/18/18 7:30	[signature]	VOA Analysis R-61-YL

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

Wed, 05/16/18 4:39 PM

ALSCOCV3.1

Attachment 3
Data Validation Report

FIVE POINTS PCE PLUME SITE
QC Sample Evaluation

Data Package Number: 1813654
Sampling Event Dates: May 16, 2018
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Brian Rothmeyer, URS Chemist
Date Completed: June 11, 2018
Peer Reviewer: Sheri Fling, URS Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	VOCs
TB-051618	TB	1813654001	Water	X
5P-MW101-106	SA	1813654002	Water	X
5P-MW101-106-Y	FD	1813654003	Water	X
5P-MW105-139	SA	1813654004	Water	X^m
5P-MW103-109	SA	1813654007	Water	X
5P-MW2-2004-109	SA	1813654008	Water	X
5P-MW1-2004-106	SA	1813654009	Water	X
5P-MW104-120	SA	1813654010	Water	X
5P-MW106I-145	SA	1813654011	Water	X
5P-MW106D-195	SA	1813654012	Water	X
5P-MW107I-145	SA	1813654013	Water	X
5P-MW107D-200	SA	1813654014	Water	X
5P-MW108I-149	SA	1813654015	Water	X
5P-MW108D-214	SA	1813654016	Water	X
5P-MW109I-169	SA	1813654017	Water	X
5P-MW109D-230	SA	1813654018	Water	X
5P-MW110I-208	SA	1813654019	Water	X
5P-MW110D-301	SA	1813654020	Water	X

Sample Type: FD – Field Duplicate
TB – Trip Blank
X^m – Matrix Spike/Matrix Spike Duplicate
SA – Sample
VOCs – Volatile Organic Compounds

Note: Samples 1813654005 and 1813654006 were the matrix spike/ matrix spike duplicate (MS/MSD) performed on sample 1813654004 and were not included in the sample table above. No further action was required.

Analysis: EPA – Environmental Protection Agency
Trace VOCs (EPA SOM02.4)

The data review was conducted in accordance with the Quality Assurance Project Plan for the Remedial Design at the Five Points PCE Plume Site, Davis County, Utah (AECOM, March 2018), method requirements, and with guidance from National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2017).

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (See Attachment 1: Qualified Data Sheets)
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (RL) have been qualified as estimated (J). The other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	No	With the exceptions noted below, the samples were received by ALS in Salt Lake City, Utah in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperature upon receipt was within the recommended ≤6 degrees Celsius (°C) temperature range. The laboratory noted that the cooler was received intact; however, custody seals were not present on the cooler. As the samples were hand-delivered to the laboratory on the same day as sample collection indicating custody was maintained, no further action was required and qualification was not considered necessary.
Holding Times	Yes	The samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Storage Blank	No	With the exceptions listed in Table 1, target analytes were not detected within the method blanks or storage blanks.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate 5P-MW105-139 (SOM02.4) • Laboratory Duplicate None in this data package	Yes	**Matrix Spike/ Matrix Spike Duplicate** The frequency of MS/MSDs met the Quality Assurance Project Plan (QAPP) requirement of one per twenty samples. The MS/MSD recoveries and relative percent differences (RPDs) were with method control limits. The MS/MSD spike solution used by the laboratory for VOC analysis contained the minimum analyte list contained in the respective method. Because a subset of target analytes for this analysis was included in the spike solution used by the laboratory, there is no direct measure of accuracy as it pertains to the samples matrix; however, an acceptable level of accuracy with respect to the analytical method can be inferred from the continuing calibration verification (CCV), MS/MSD results for spiked analytes, and from the surrogate recoveries.

Review Parameter	Criteria Met?	Comment
		Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. **Laboratory Duplicate** A laboratory duplicate was not performed on a sample from this data package.
Method Quality Control • Deuterated Surrogates	Yes	The deuterated surrogate recoveries were within the method acceptance criteria.
Field Quality Control • Trip Blank/Field Blank TB-051618 • Field Duplicate 5P-MW101-106/5P-MW101-106-Y • Equipment Blank NA	Yes	**Trip Blank (Volatile Organic Compounds (VOCs) Only)** Target analytes were not detected in the trip blank. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. The comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5xRL, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30%. • Where the result for one or both analytes of the field duplicate pair is <5xRL, satisfactory precision is indicated if the absolute difference between the field duplicate results is <2xRL. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary.
Reporting Limits Met?	Yes	Samples 5P-MW101-106 and 5P-MW101-106-Y required dilutions for tetrachloroethene results exceeding the calibration range. Only the results within the calibration range were selected for reporting from the dilution. Therefore, no results were reported as non-detect at elevated RL.
Tentatively Identified Compounds (TICs)	Yes	**Method SOM02.4 VOCs** A TIC search was conducted in association with the VOC analysis for the samples in this package. If the TIC library search resulted in a 85% or greater match to the reference spectrum and the TIC was reported as an identified compound, the TIC result was qualified as estimated (J ID-I). If the quality of the match was less than 85% or the analyte was reported as an "unknown", the TIC result was qualified as tentatively identified and estimated (NJ ID-I). As no TICs were reported as detected, no further action was required and qualification was not necessary.

Review Parameter	Criteria Met?	Comment
Laboratory Performance Review		
Initial Calibration	Yes	**Method SOM02.4 VOCs** The initial calibrations (ICALs) for target analytes and associated percent relative standard deviations (%RSD) were within the method control limits.
Tuning (as applicable to the method)	Yes	**Method SOM02.4 VOCs** A satisfactory tuning event was conducted at the beginning of every 12 hours of sample analysis. Data qualification on the basis of instrument tuning was not necessary.
Initial Calibration Verification (ICV)/Continuing Calibration Verification	Yes	**Method SOM02.4 VOCs** The percent difference (%D) for the target analytes in the ICV and opening and closing CCVs were within the method control limits.
Internal Standard	Yes	The recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	NA	Per the method, a laboratory control sample is not applicable to this method.
Target Compound Identification	Yes	**Method SOM02.4 VOCs** The quantitation sheets and total ion chromatograms were reviewed to assure that compounds reported as identified meet the criteria contained in the method. The mass spectra were reviewed for compounds reported as identified to check that the reported mass spectral data meet the mass spectral identification criteria contained in the analytical method. No errors in compound identification were found and data qualification was not necessary.
Transcription Errors	Yes	Transcription errors were not found in this data package. Data qualification was not necessary.
Package Completeness	Yes	The results are usable as qualified for the project objective, and are 100% complete.

> – Greater Than
< – Less Than
≤ – Less Than or Equal To
°C – Degrees Celsius
% – Percent
%D – Percent Difference
%RSD – Percent Relative Standard Deviation
CCV – Continuing Calibration Verification
COC – Chain of Custody
I – Indeterminate Bias
ICAL – Initial Calibration
ICV – Initial Calibration Verification
ID – Identification
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
NA – Not Applicable
NJ – Tentatively Identified
QAPP – Quality Assurance Project Plan
RL – Reporting Limit
RPDs – Relative Percent Differences
TIC – Tentatively Identified Compounds
UJ/J – Estimated
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
VOCs			
VBLKT2 5P-MW106I-145 5P-MW106D-195 5P-MW107I-145 5P-MW107D-200 5P-MW108I-149 5P-MW108D-214 5P-MW109I-169 5P-MW109D-230 5P-MW110I-208 5P-MW110D-301	Acetone	1.8 µg/L	The associated sample results reported at concentrations <10x the concentration of the blank contamination were qualified as non-detect (U MB-I).
VHBLK TB-051618 5P-MW101-106 5P-MW101-106-Y 5P-MW105-139 5P-MW103-109 5P-MW2-2004-109 5P-MW1-2004-106 5P-MW104-120 5P-MW106I-145 5P-MW106D-195 5P-MW107I-145 5P-MW107D-200 5P-MW108I-149 5P-MW108D-214 5P-MW109I-169 5P-MW109D-230 5P-MW110I-208 5P-MW110D-301		1.3 µg/L	As the associated sample results were either reported as non-detect or qualified as non-detect, qualification was not necessary.

< - Less Than
µg/L – Microgram per Liter
I – Indeterminate Bias
MB – Method Blank
U – Non-detect
VBLK – Volatile Method Blank
VHBLK – Volatile Storage Blank
VOCs – Volatile Organic Compounds

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
TB-051618

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ35F001
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

Be 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
TB-051618

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ35F001
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

Ba 6/11/18

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-051618

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ35F001
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ46F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene J SQL-I	0.24	J
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ46F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
~~127-18-4~~	~~Tetrachloroethene~~ DNR	~~33.~~	~~E~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

DNR - Do not report

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW101-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ46F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

BL 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106DL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ36F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane DNR	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10.	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	10.	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	0.22	JD
108-87-2	Methylcyclohexane	1.0	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106DL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ36F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane DNR	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-Pentanone	10.	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	27.	D
591-78-6	2-Hexanone DNR	10.	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
95-47-6	o-Xylene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW101-106DL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS
Case No.: 5 Points
MA No.:
SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654002DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ36F002
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0
Dilution Factor: 2.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106-Y

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ45F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene J SQL-I	0.23	J
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106-Y

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ45F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
~~127-18-4~~	~~Tetrachloroethene~~ DNR	~~33.~~	~~E~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW101-106-Y

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ45F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106-YDL

Lab Name: ALS Environmental (SLC) Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1813654003DL
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FQ37F003
% Solids: Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N) Extract Volume: (uL)
Soil Aliquot (VOA): (uL) Extraction Type: PT
Heated Purge:(Y/N) Y Injection Volume: (uL)
Purge Volume: 25.0 (mL) pH: 1.0 Dilution Factor: 2.0
Cleanup Types: Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane DNR	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10.	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	10.	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	0.22	JD
108-87-2	Methylcyclohexane	1.0	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW101-106-YDL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ37F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 2.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane DNR	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-Pentanone	10.	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	27.	D
591-78-6	2-Hexanone DNR	10.	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
95-47-6	o-Xylene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW101-106-YDL

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654003DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ37F003
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 2.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ38F004
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW105-139

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ38F004
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	2.2	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW105-139

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ38F004
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW103-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ41F007
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW103-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ41F007
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J SQL-I	0.17	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW103-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ41F007
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW2-2004-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ42F008
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW2-2004-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ42F008
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J SQL-I	0.17	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW2-2004-109

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ42F008
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW1-2004-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ43F009
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

Ba 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW1-2004-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ43F009
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW1-2004-106

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ43F009
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

BOR 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC) Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1813654010
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FQ44F010
% Solids: Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N) Extract Volume: (uL)
Soil Aliquot (VOA): (uL) Extraction Type: PT
Heated Purge:(Y/N) Y Injection Volume: (uL)
Purge Volume: 25.0 (mL) pH: 1.0 Dilution Factor: 1.0
Cleanup Types: Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride J SQL-I	0.24	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ44F010
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/18/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	8.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

BR 6/11/18

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ44F010
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/18/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

BL 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ52F011
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone U MB-I	5.0 ~~2.5~~	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

BA 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ52F011
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.90	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

BR 6/11/18

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ52F011
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106D-195

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ53F012
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone U MB-I	5.0 ~~1.3~~	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW106D-195

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ53F012
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.2	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW106D-195

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ53F012
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ54F013
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ54F013
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J SQL-I	0.30	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ54F013
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
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20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW107D-200

Lab Name: ALS Environmental (SLC) Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points MA No.: SDG No.: TV516
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1813654014
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FQ55F014
% Solids: Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N) Extract Volume: (uL)
Soil Aliquot (VOA): (uL) Extraction Type: PT
Heated Purge:(Y/N) Y Injection Volume: (uL)
Purge Volume: 25.0 (mL) pH: 1.0 Dilution Factor: 1.0
Cleanup Types: Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone U MB-I	5.0 ~~1.4~~	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ55F014
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J, SQL-I	0.13	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

for 6/11/18

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW107D-200

Lab Name: ALS Environmental (SLC)
Lab Code: ALS Case No.: 5 Points
Analytical Method: Trace VOA
Matrix: WATER
Sample wt/vol: 25.0 (g/mL) mL
% Solids:
GC Column: RTX-VMS ID: 0.25 (mm)
Extract Concentrated:(Y/N)
Soil Aliquot (VOA): (uL)
Heated Purge:(Y/N) Y
Purge Volume: 25.0 (mL)
Cleanup Types:
Concentration Units (ug/L, ug/kg): ug/L

Contract: 60546131.4
MA No.: SDG No.: TV516
Level: TRACE
Lab Sample ID: 1813654014
Lab File ID: FQ55F014
Date Received: 05/16/2018
Date Extracted:
Date Analyzed: 05/20/2018
Extract Volume: (uL)
Extraction Type: PT
Injection Volume: (uL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ56F015
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone 4 MB-I	5.0 ~~1.6~~	JB
75-15-0	Carbon disulfide J SQL-I	0.20	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ56F015
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J SQL-I	0.33	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ56F015
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
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22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ57F016
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ57F016
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.7	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ57F016
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW109I-169

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ58F017
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW109I-169

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ58F017
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J SQL-I	0.46	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW109I-169

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ58F017
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.

5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ59F018
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ59F018
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.64	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ59F018
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654019
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ60F019
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone U MB-I	5.0 ~~1.6~~	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654019
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ60F019
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654019
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ60F019
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

BR 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654020
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ61F020
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone U MB-I	5.0 ~~2.0~~	JB
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U

BR 6/11/18

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654020
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ61F020
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 05/20/2018
Extract Concentrated:(Y/N)
Extract Volume: (uL)
Soil Aliquot (VOA): (uL)
Extraction Type: PT
Heated Purge:(Y/N) Y
Injection Volume: (uL)
Purge Volume: 25.0 (mL)
pH: 1.0 Dilution Factor: 1.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene J SQL-I	0.43	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

BR 6/11/18

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 60546131.4
Lab Code: ALS Case No.: 5 Points
MA No.: SDG No.: TV516
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1813654020
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FQ61F020
% Solids:
Date Received: 05/16/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 05/20/2018
Soil Aliquot (VOA): (uL)
Extract Volume: (uL)
Heated Purge:(Y/N) Y
Extraction Type: PT
Purge Volume: 25.0 (mL)
Injection Volume: (uL)
Cleanup Types:
pH: 1.0 Dilution Factor: 1.0
Concentration Units (ug/L, ug/kg): ug/L
Cleanup Factor:

	CAS No.	ANALYTE	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
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25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

BR 6/11/18

Attachment 4
Monitoring Well and Water Level/PCE
Information and Hydrographs

Attachment 4 - Well Hydrographs
Five Points PCE Plume Site
PCE Concentrations and Water Table Elevations

DTW	Sample	MW 1-2004			MW 2-2004			MW-101			MW-102			MW-103		
Date	Date	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L
3/16/2010	NA	100.65	4255.55	NA	103.53	4255.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/6/2010	4/6/2010	100.17	4256.03	2.6	103.1	4255.56	0.31	143.32	4258.21	7	106.89	4257.01	0	103.5	4256.47	0
6/9/2010	NA	100.58	4255.62	NA	103.49	4255.17	NA	143.88	4257.65	NA	107.45	4256.45	NA	103.95	4256.02	NA
8/24/2010	NA	108.68	4247.52	NA	111.95	4246.71	NA	150.61	4250.92	NA	114.76	4249.14	NA	111.74	4248.23	NA
9/20/2010	9/20/2010	107.8	4248.40	9.3	111	4247.66	0.73	150.05	4251.48	37	113.96	4249.94	0	110.85	4249.12	0.13
11/18/2010	NA	102.1	4254.10	NA	104.91	4253.75	NA	145.36	4256.17	NA	108.95	4254.95	NA	105.5	4254.47	NA
12/21/2010	NA	99.68	4256.52	NA	102.56	4256.10	NA	142.97	4258.56	NA	106.49	4257.41	NA	103.08	4256.89	NA
1/17/2011	1/27/2011	99.04	4257.16	3.6	101.95	4256.71	0.32	142.17	4259.36	31	105.73	4258.17	NA	102.36	4257.61	0.18
3/3/2011	NA	97.98	4258.22	NA	100.92	4257.74	NA	140.89	4260.64	NA	104.66	4259.24	NA	101.28	4258.69	NA
3/16/2011	NA	97.65	4258.55	NA	100.63	4258.03	NA	140.3	4261.23	NA	104.25	4259.65	NA	100.91	4259.06	NA
4/4/2011	NA	97.2	4259.00	NA	100.05	4258.61	NA	139.82	4261.71	NA	103.75	4260.15	NA	100.46	4259.51	NA
1/31/2012	2/2/2012	87.52	4268.68	39	90.54	4268.12	0.92	129.18	4272.35	12	94.1	4269.80	NA	90.8	4269.17	0.19
5/10/2012	5/15/2012	88.64	4267.56	13	91.85	4266.81	1.5	131.38	4270.15	8	95.35	4268.55	NA	91.93	4268.04	0.19
8/30/2012	8/30/2012	102.04	4254.16	46	105.36	4253.30	1.4	143.28	4258.25	1.4	107.95	4255.95	NA	104.98	4254.99	0.35
11/28/2012	11/28/2012	99.91	4256.29	22	103.05	4255.61	1	142.51	4259.02	2.3	NA	NA	NA	103.12	4256.85	0.15
2/21/2013	2/26/2013	97.54	4258.66	21	100.56	4258.10	2.2	140.37	4261.16	2.1	104.11	4259.79	NA	100.81	4259.16	0
1/16/2014	1/28/2014	103.68	4252.52	9.5	106.7	4251.96	0.25	146.37	4255.16	14	110.17	4253.73	NA	106.84	4253.13	0.14
1/17/2018	2/16/2018	103.52	4252.68	3.7	106.61	4252.05	0.19	145.81	4255.72	13	109.84	4254.06	NA	106.68	4253.29	0.17
5/14/2018	5/16/2018	102.88	4253.32	1.4	105.93	4252.73	0.17	145.48	4256.05	27	109.32	4254.58	NA	106.07	4253.90	0.17

DTW	Sample	MW-107S			MW-107I			MW-107D			MW-108I			MW-108D		
Date	Date	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L
3/16/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/6/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/9/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/24/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/20/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/18/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/21/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/17/2011	1/27/2011	46.16	4261.11	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/3/2011	NA	47.38	4259.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/16/2011	NA	45.04	4262.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/4/2011	NA	44.86	4262.41	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/31/2012	2/2/2012	36.89	4270.38	0	40.70	4266.19	1.2	40.76	4266.19	1.4	NA	NA	NA	NA	NA	NA
5/10/2012	5/15/2012	NA	NA	NA	42.00	4264.89	1	41.94	4265.01	1.3	NA	NA	NA	NA	NA	NA
8/30/2012	8/30/2012	43.50	4263.77	NA	55.82	4251.07	1.1	56.04	4250.91	1.7	36.99	4247.469	1.00	40.74	4243.728	7.2
11/28/2012	11/28/2012	45.45	4261.82	NA	52.60	4254.29	1.2	52.81	4254.14	1.5	31.85	4252.609	0.71	34.08	4250.388	4.7
2/21/2013	2/26/2013	45.44	4261.83	NA	50.28	4256.61	1.2	50.34	4256.61	2.3	26.6	4257.859	0.88	31.19	4253.278	6.5
1/16/2014	1/28/2014	51.03	4256.24	NA	56.15	4250.74	1.3	56.17	4250.78	1.7	35.42	4249.039	0.93	36.31	4248.158	5.9
1/17/2018	2/16/2018	50.90	4256.37	NA	56.48	4250.41	0.5	56.54	4250.41	2	35.95	4248.509	0.35	36.76	4247.708	3
5/14/2018	5/16/2018	50.39	4256.88	NA	56.10	4250.79	0.3	56.16	4250.79	0.13	36.09	4248.369	0.33	37.13	4247.338	1.7

WTE=Water Table Elevation
DTW=Depth to Water

Attachment 4 - Well Hydrographs
Five Points PCE Plume Site
PCE Concentrations and Water Table Elevations

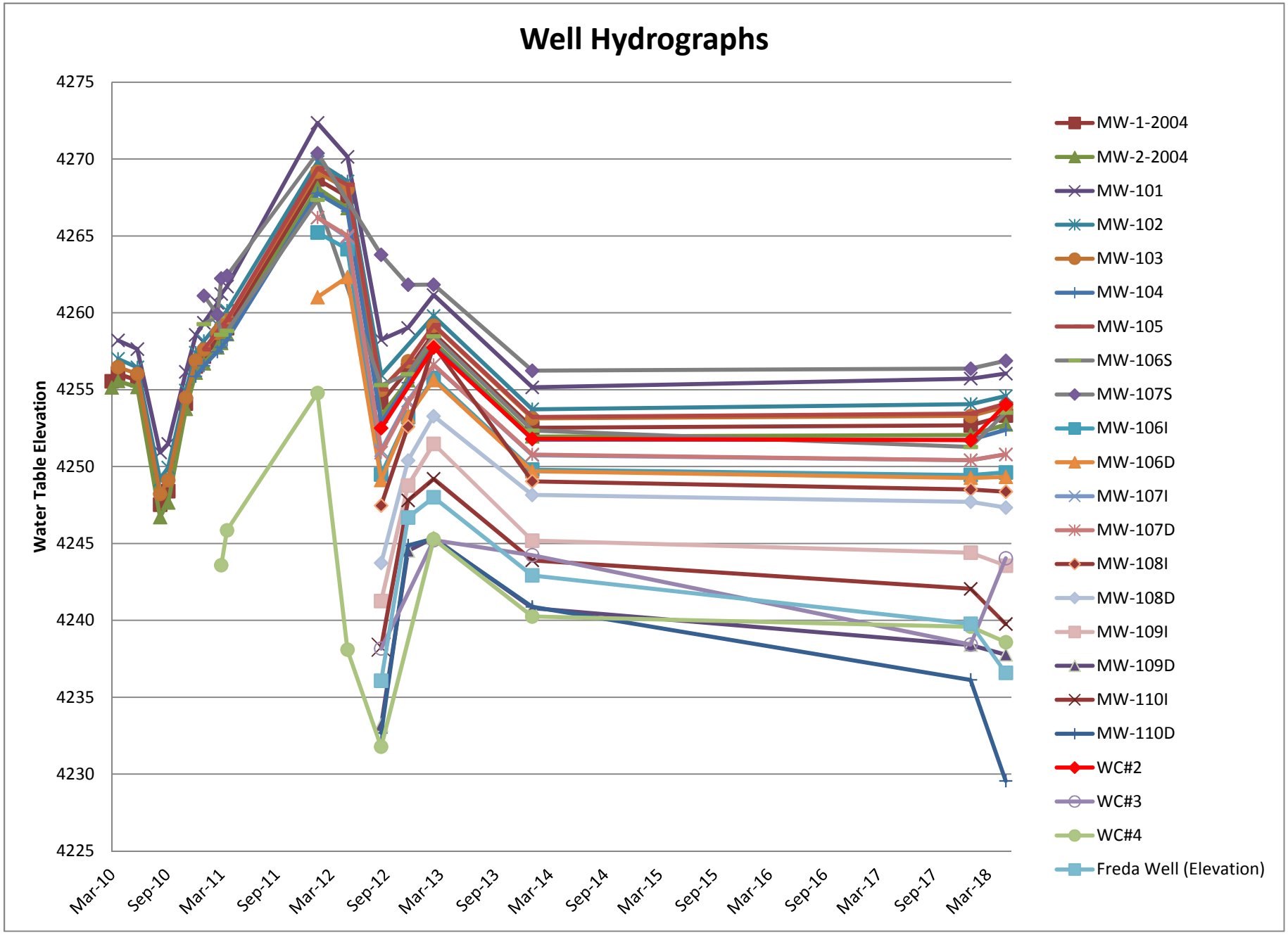
DTW	Sample	MW-104			MW-105			MW-106S			MW-106I			MW-106D		
Date	Date	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L
3/16/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/6/2010	4/6/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/9/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/24/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/20/2010	9/20/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/18/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/21/2010	NA	83.61	4255.86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/17/2011	1/27/2011	82.92	4256.55	19	127.06	4257.63	0.9	45.91	4259.27	0	NA	NA	NA	NA	NA	NA
3/3/2011	NA	82	4257.47	NA	125.92	4258.77	NA	45.41	4259.77	NA	NA	NA	NA	NA	NA	NA
3/16/2011	NA	81.72	4257.75	NA	125.56	4259.13	NA	46.6	4258.58	NA	NA	NA	NA	NA	NA	NA
4/4/2011	NA	81.23	4258.24	NA	125.15	4259.54	NA	46.36	4258.82	NA	NA	NA	NA	NA	NA	NA
1/31/2012	2/2/2012	71.7	4267.77	26	115.3	4269.39	0.76	37.84	4267.34	0	39.94	4265.22	9.6	44.16	4261.01	1
5/10/2012	5/15/2012	72.85	4266.62	14	116.37	4268.32	0.26	NA	NA	NA	41.02	4264.14	7.8	42.85	4262.32	1.2
8/30/2012	8/30/2012	86.59	4252.88	18	129.67	4255.02	0.18	49.89	4255.29	NA	55.67	4249.49	8.4	56.05	4249.12	2.2
11/28/2012	11/28/2012	84.02	4255.45	14	127.91	4256.78	0.18	49.16	4256.02	NA	51.94	4253.22	4.6	51.9	4253.27	2.1
2/21/2013	2/26/2013	81.6	4257.87	21	125.48	4259.21	0.16	46.7	4258.48	NA	49.39	4255.77	6.7	49.55	4255.62	2.7
1/16/2014	1/28/2014	87.73	4251.74	18	131.46	4253.23	0.36	52.84	4252.34	NA	55.36	4249.8	7.3	55.48	4249.69	2.2
1/17/2018	2/16/2018	87.72	4251.75	5	131.25	4253.44	2.6	53.91	4251.27	NA	55.71	4249.45	2	55.91	4249.26	0.38
5/14/2018	5/16/2018	87.08	4252.39	8.4	130.6	4254.09	2.2	51.67	4253.51	NA	55.54	4249.62	0.9	55.84	4249.33	1.2

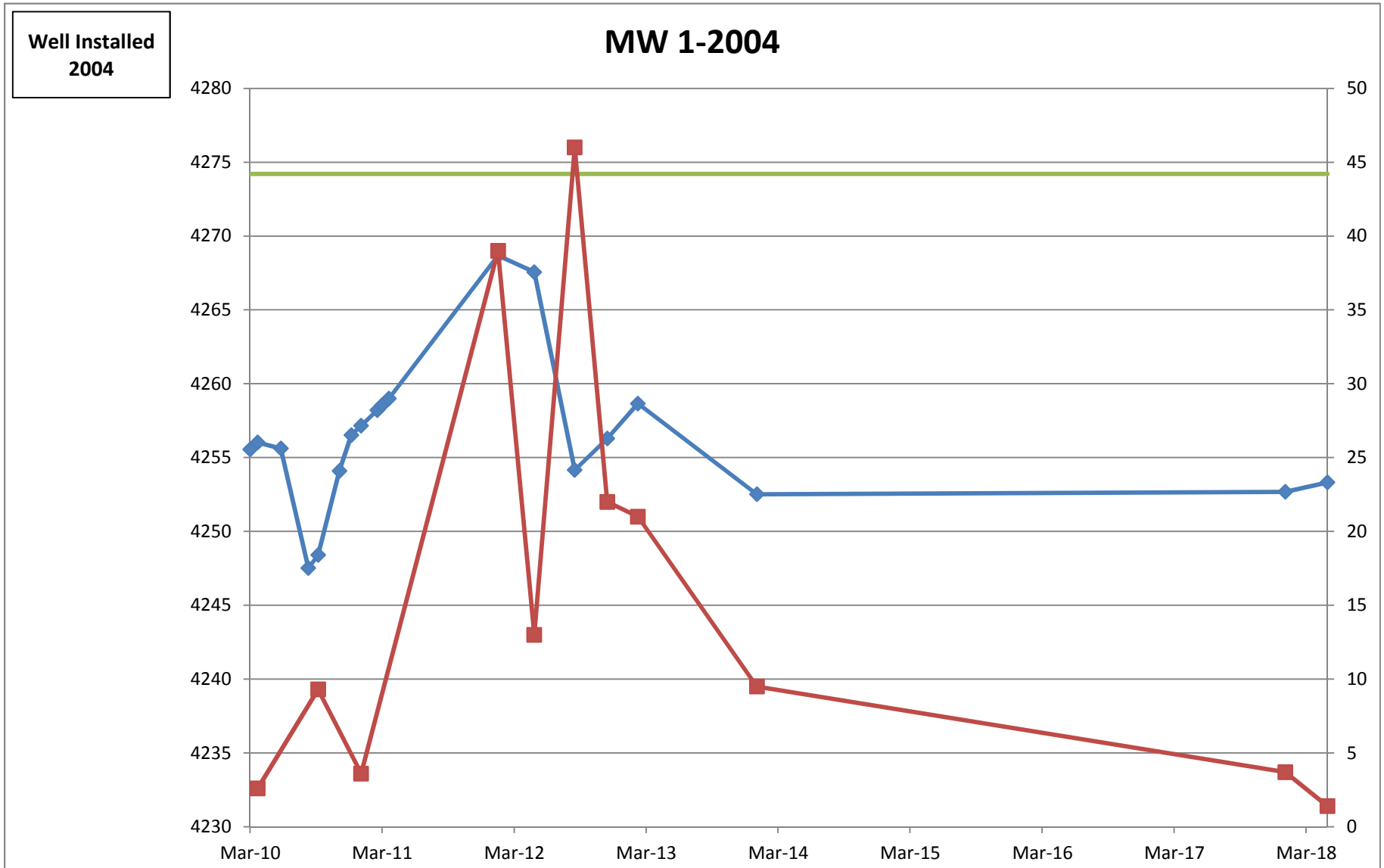
DTW	Sample	MW-109I			MW-109D			MW-110I			MW-110D		
Date	Date	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L
3/16/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/6/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/9/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/24/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/20/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/18/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/21/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/17/2011	1/27/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/3/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/16/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/4/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/31/2012	2/2/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/10/2012	5/15/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/30/2012	8/30/2012	43.13	4241.261	0.59	51.23	4233.19	0.26	31.2	4238.259	0.3	36.79	4232.681	2.2
11/28/2012	11/28/2012	35.62	4248.771	1.2	39.9	4244.52	0.21	21.66	4247.799	0	24.6	4244.871	2.2
2/21/2013	2/26/2013	32.91	4251.481	1.5	39.06	4245.36	0.6	20.26	4249.199	0.12	24.15	4245.321	2.6
1/16/2014	1/28/2014	39.21	4245.181	1	43.63	4240.79	0.66	25.56	4243.899	0	28.59	4240.881	2
1/17/2018	2/16/2018	39.99	4244.401	0.73	46.02	4238.4	0.98	27.41	4242.049	0	33.34	4236.131	0.67
5/14/2018	5/16/2018	40.83	4243.561	0.46	46.65	4237.77	0.64	29.7	4239.759	0	39.91	4229.561	0.43

WTE=Water Table Elevation
DTW=Depth to Water

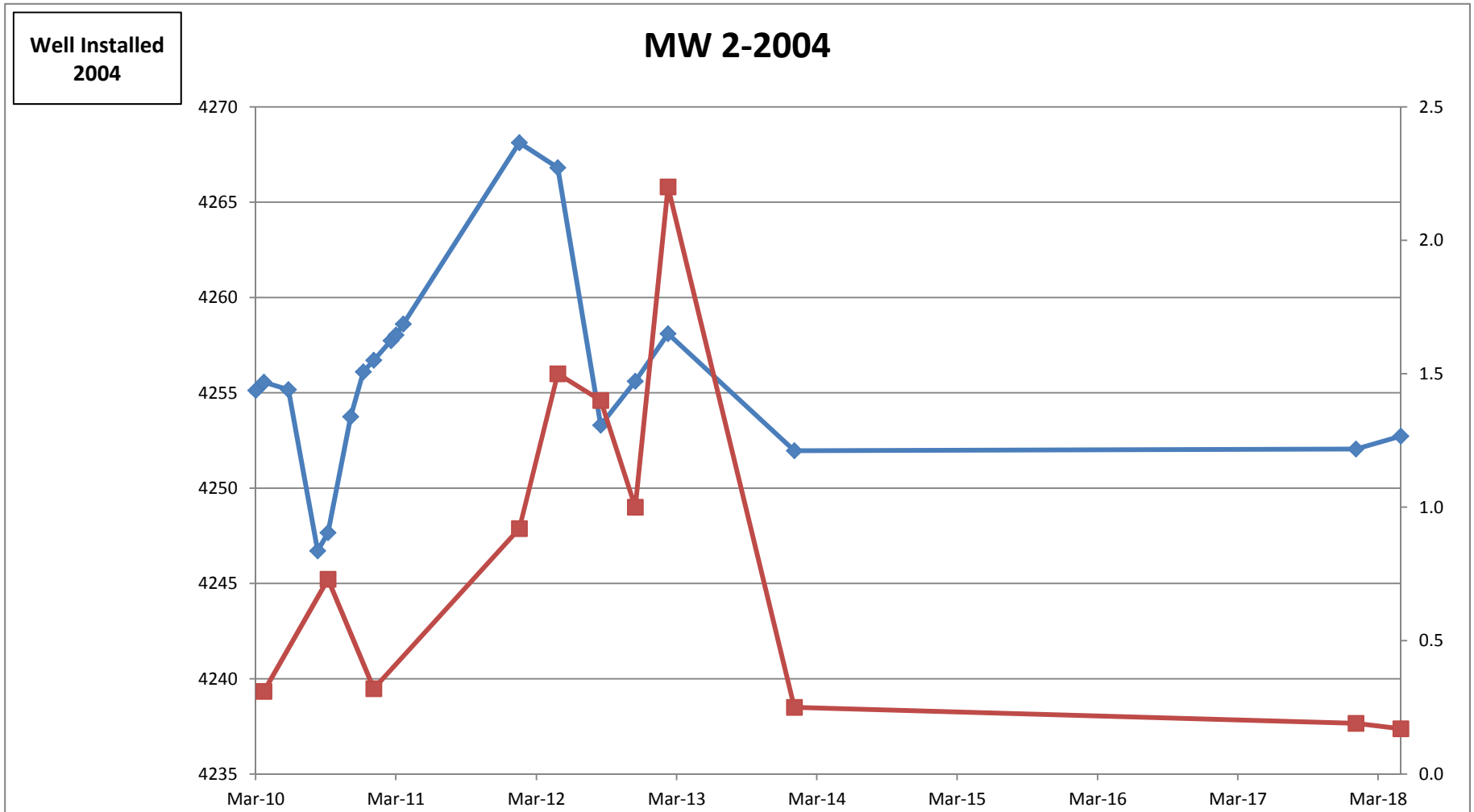
Attachment 4 - Well Hydrographs
Five Points PCE Plume Site
Survey Data

Monitoring Well	NORTHING	EASTING	TOC ELEVATION	Screen Interval	Depth to Top of Screen	Depth to Bottom of Screen	Top Screen Elevation	Bottom Screen Elevation	Date Installed
MW 1-2004	3478100.67	1531525.09	4356.20	82-112	82	112	4274.20	4244.20	-
MW 2-2004	3477499.07	1531461.70	4358.66	90-116	90	116	4268.66	4242.66	-
MW 101	3478274.49	1533488.94	4401.53	155-185	155	185	4246.53	4216.53	3/10/2010
MW 102	3479244.39	1532059.25	4363.90	115-135	115	135	4248.90	4228.90	3/18/2010
MW 103	3478607.01	1531745.01	4359.97	105-125	105	125	4254.97	4234.97	3/22/2010
MW 104	3477911.76	1530801.66	4339.47	115-135	115	135	4224.47	4204.47	12/6/2010
MW 105	3477610.09	1532424.62	4384.69	136-156	136	156	4248.69	4228.69	12/2/2010
MW 106S	3476667.11	1528829.61	4305.18	60-70	60	70	4245.18	4235.18	1/5/2011
MW 106I	3476667.11	1528823.61	4305.16	138-148	138	148	4167.16	4157.16	12/22/2011
MW 106D	3476667.11	1528823.61	4305.17	188-198	188	198	4117.17	4107.17	12/22/2011
MW 107S	3477723.25	1528994.49	4307.27	59-69	59	69	4248.27	4238.27	1/7/2011
MW 107I	3477729.44	1528984.41	4306.89	138-148	138	148	4168.89	4158.89	12/9/2011
MW 107D	3477729.44	1528984.41	4306.95	193-203	193	203	4113.95	4103.95	12/9/2011
MW- 108I	3476878.15	1527283.99	4284.46	140-150	140	150	4144.46	4134.46	7/31/2012
MW 108D	3476878.15	1527283.99	4284.47	204-214	204	214	4080.47	4070.47	7/31/2012
MW 109I	3474957.93	1527087.47	4284.39	160-170	160	170	4124.39	4114.39	8/9/2012
MW 109D	3474957.93	1527087.47	4284.42	210-220	210	220	4074.42	4064.42	8/9/2012
MW 110I	3475581.64	1525884.16	4269.46	198-208	198	208	4071.46	4061.46	7/25/2012
MW 110D	3475581.64	1525884.16	4269.47	292-302	292	302	3977.47	3967.47	7/25/2012
WC#2	3478263.00	1529717.00	4322.34	-	-	-	-	-	-
WC#3	-	-	4271.64	-	-	-	-	-	-
WC#4	-	-	4267.58	NA	NA	NA	NA	NA	-
Freda Well	-	-	4275.32	-	-	-	-	-	-

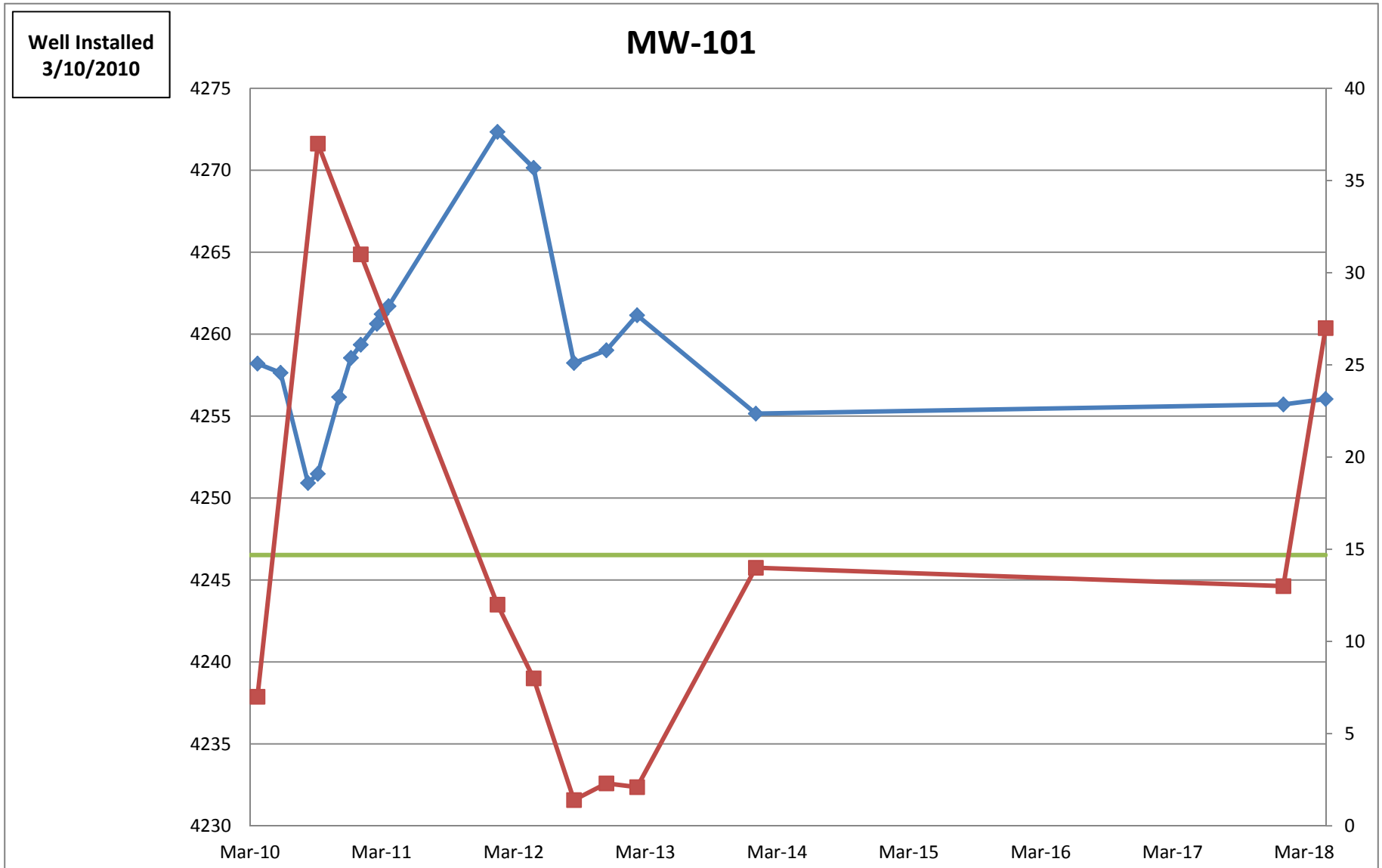

Well Hydrographs
Water Table Elevation
4275
4270
4265
4260
4255
4250
4245
4240
4235
4230
4225
Mar-10
Sep-10
Mar-11
Sep-11
Mar-12
Sep-12
Mar-13
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
Mar-16
Sep-16
Mar-17
Sep-17
Mar-18
MW-1-2004
MW-2-2004
MW-101
MW-102
MW-103
MW-104
MW-105
MW-106S
MW-107S
MW-106I
MW-106D
MW-107I
MW-107D
MW-108I
MW-108D
MW-109I
MW-109D
MW-110I
MW-110D
WC#2
WC#3
WC#4
Freda Well (Elevation)



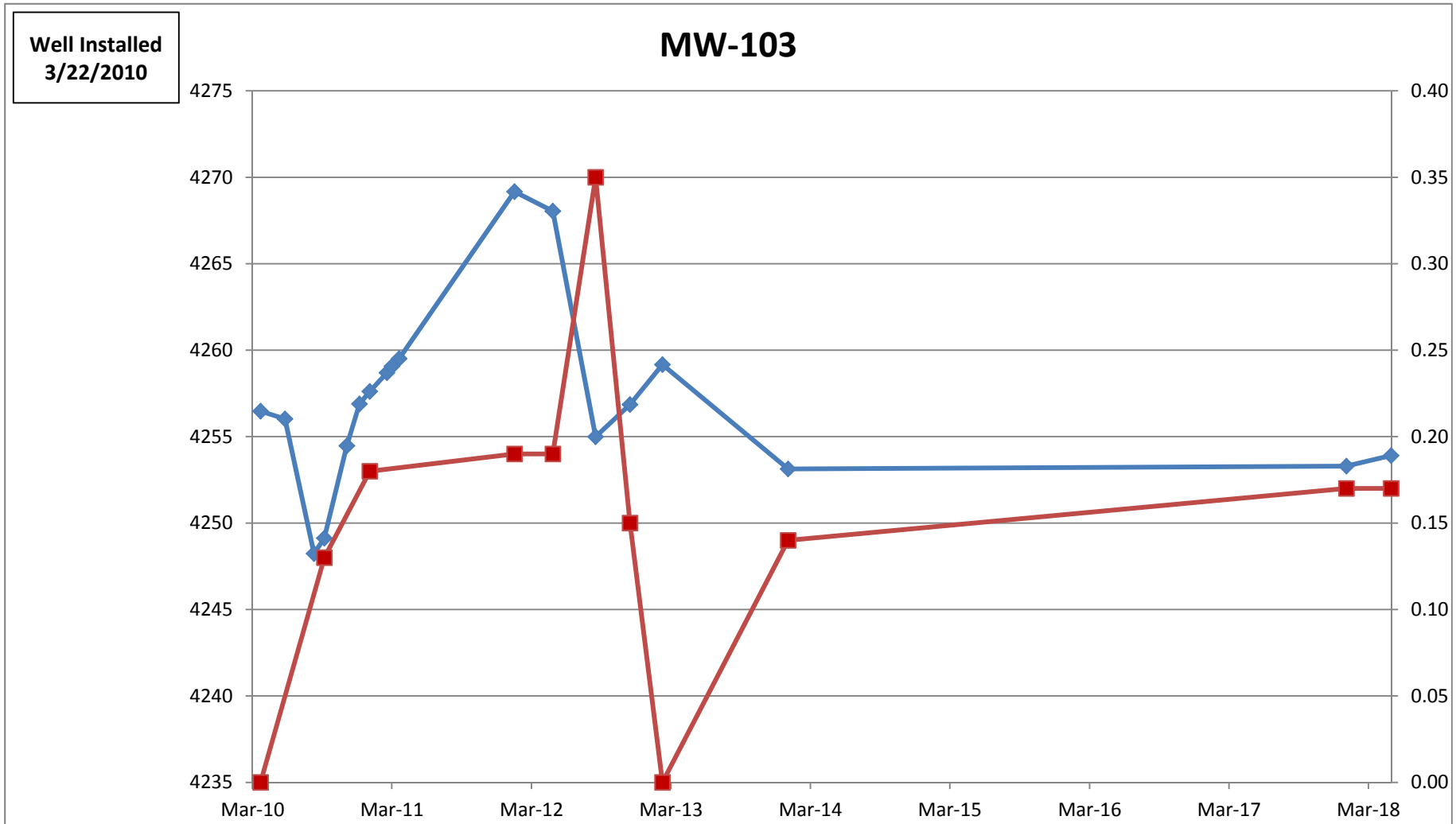
	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18
Water Table Elevation (ft)	4255.55	4256.03	4255.62	4247.52	4248.40	4254.10	4256.52	4257.16	4258.22	4258.55	4259.00	4268.68	4267.56	4254.16	4256.29	4258.66	4252.52	4252.68	4253.32
Top of Screen (Ft)	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2
PCE Conc. (ug/L)		2.60			9.30			3.60				39.00	13.00	46.00	22.00	21.00	9.50	3.70	1.40



	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18
Water Table Elevation (ft)	4255.13	4255.56	4255.17	4246.71	4247.66	4253.75	4256.10	4256.71	4257.74	4258.03	4258.61	4268.12	4266.81	4253.30	4255.61	4258.10	4251.96	4252.05	4252.73
PCE Conc. (ug/L)		0.31			0.73			0.32				0.92	1.50	1.40	1.00	2.20	0.25	0.19	0.17



	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18
Water Table Elevation (ft)		4258.21	4257.65	4250.92	4251.48	4256.17	4258.56	4259.36	4260.64	4261.23	4261.71	4272.35	4270.15	4258.25	4259.02	4261.16	4255.16	4255.72	4256.05
Top of Screen (Ft)	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5
PCE Conc. (ug/L)		7			37			31				12	8	1.4	2.3	2.1	14	13	27



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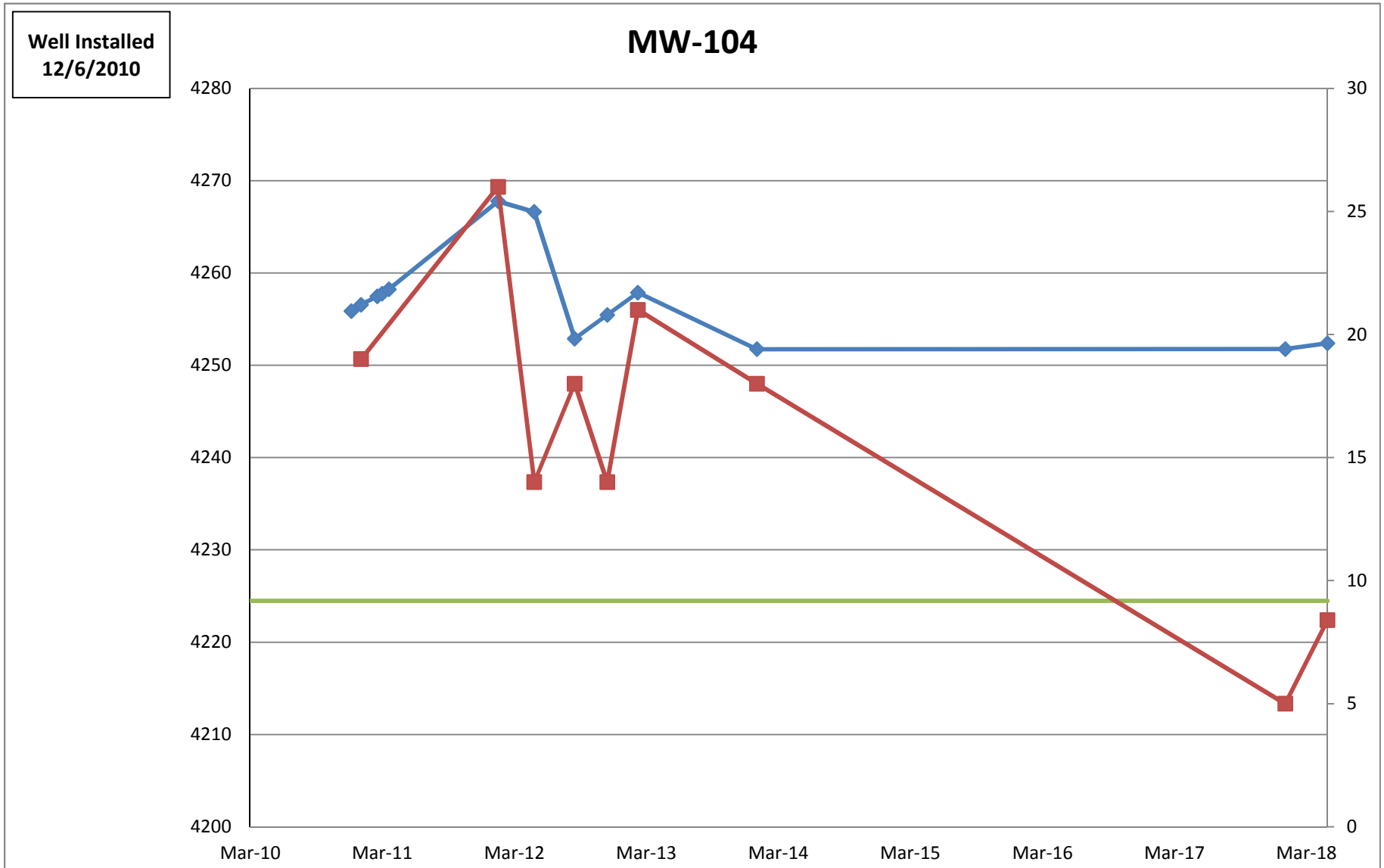
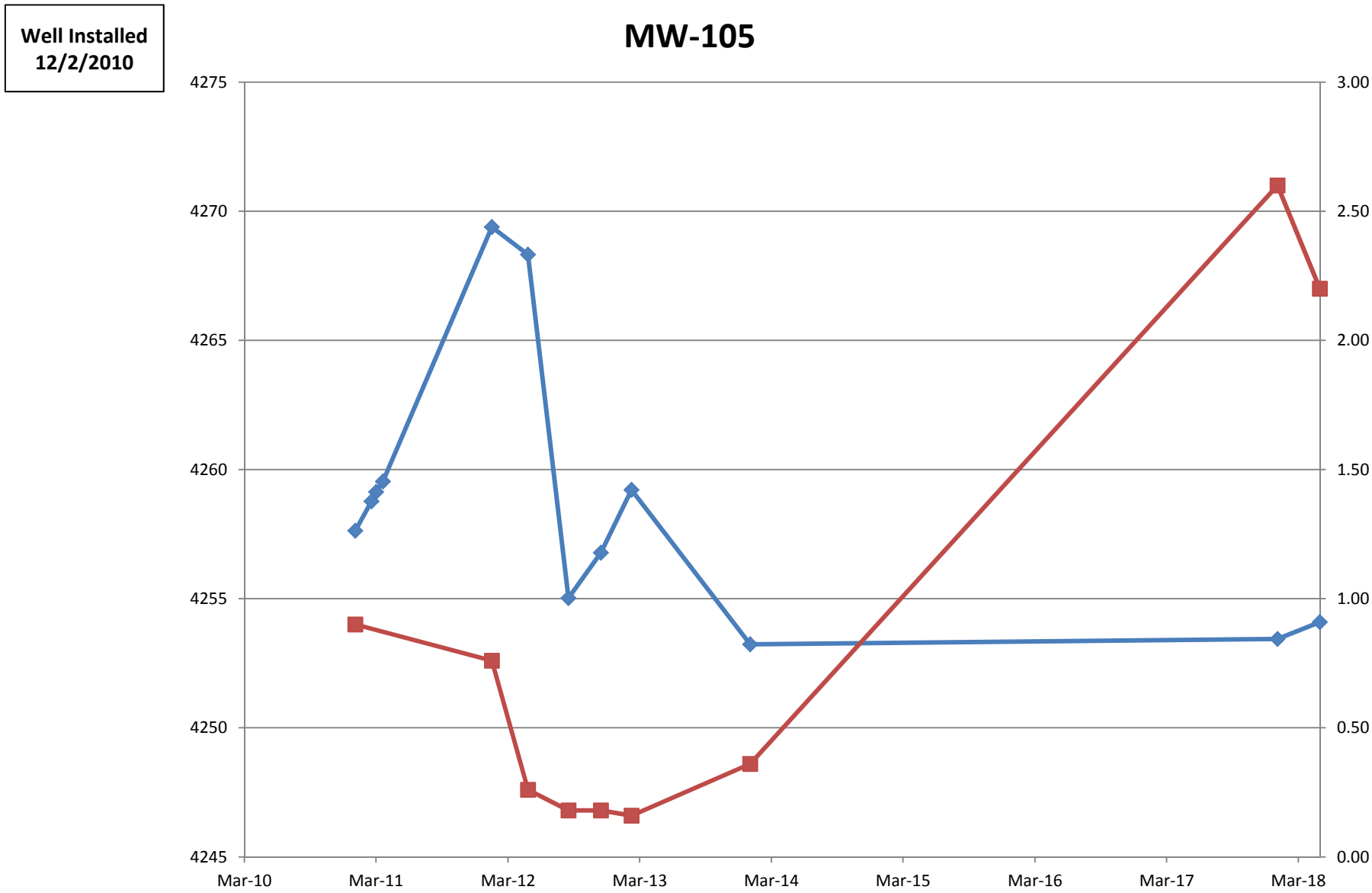
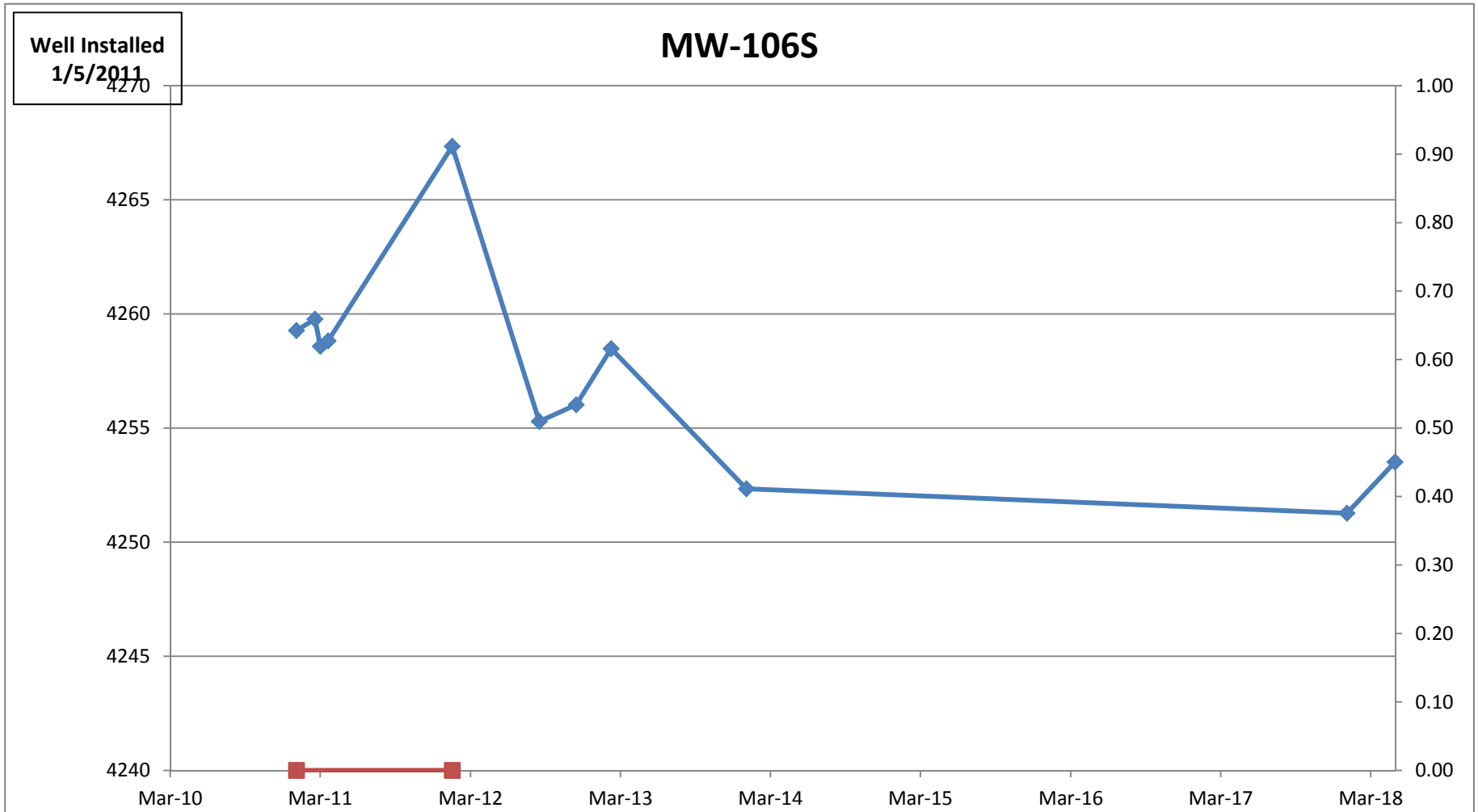
Water Table Elevation (ft)		4256.47	4256.02	4248.23	4249.12	4254.47	4256.89	4257.61	4258.69	4259.06	4259.51	4269.17	4268.04	4254.99	4256.85	4259.16	4253.13	4253.29	4253.90
PCE Conc. (ug/L)		0.00			0.13			0.18				0.19	0.19	0.35	0.15	0.00	0.14	0.17	0.17



	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18
Water Table Elevation (ft)							4255.86	4256.55	4257.47	4257.75	4258.24	4267.77	4266.62	4252.88	4255.45	4257.87	4251.74	4251.75	4252.39
Top of Screen (Ft)	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5	4224.5
PCE Conc. (ug/L)								19.00				26.00	14.00	18.00	14.00	21.00	18.00	5.00	8.40



	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18
Water Table Elevation (ft)								4257.63	4258.77	4259.13	4259.54	4269.39	4268.32	4255.02	4256.78	4259.21	4253.23	4253.44	4254.09
PCE Conc. (ug/L)								0.90				0.76	0.26	0.18	0.18	0.16	0.36	2.60	2.20



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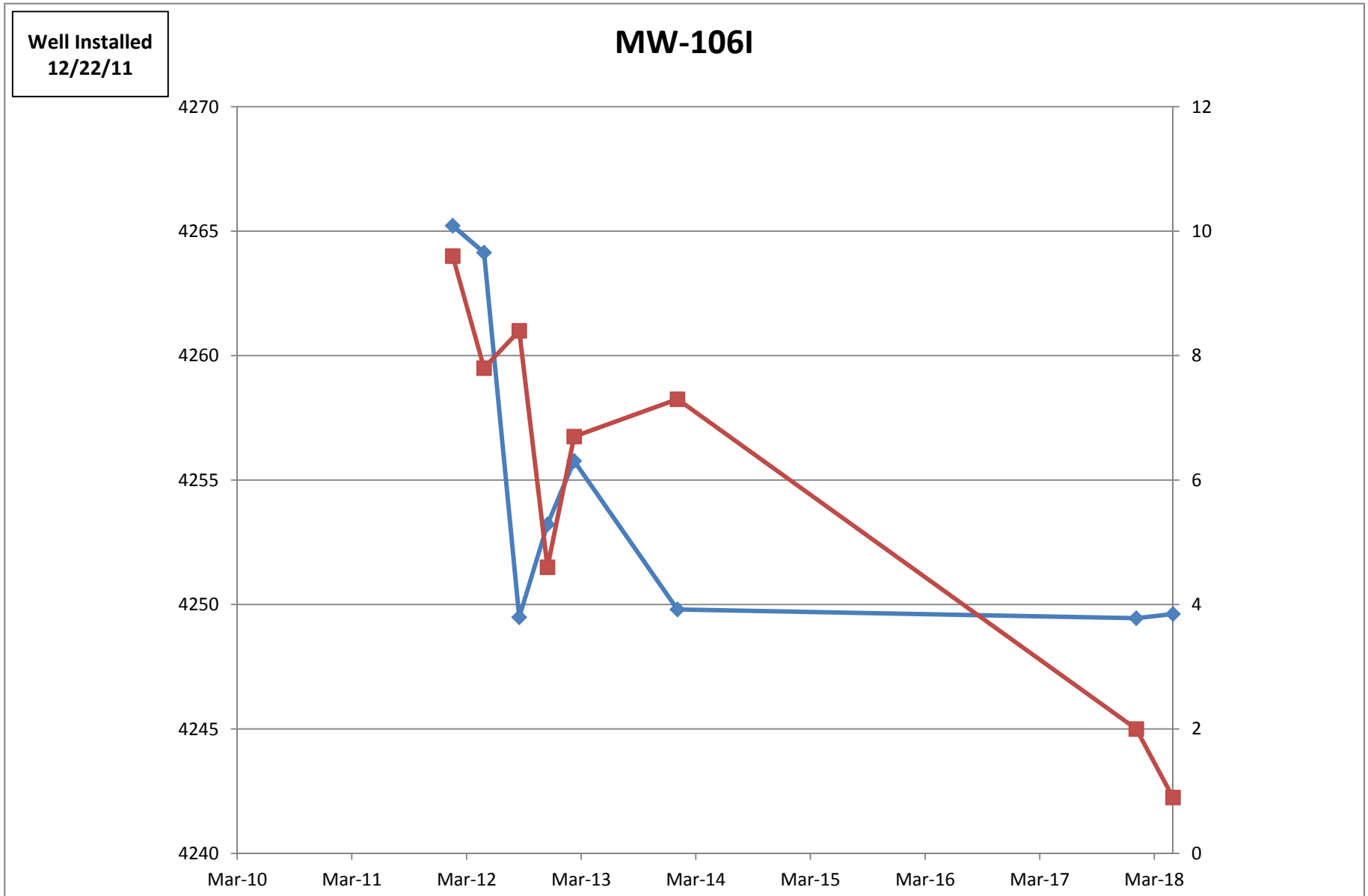
Water Table Elevation (ft)								4259.27	4259.77	4258.58	4258.82	4267.34		4255.29	4256.02	4258.48	4252.34	4251.27	4253.51
PCE Conc. (ug/L)								0.00				0.00							



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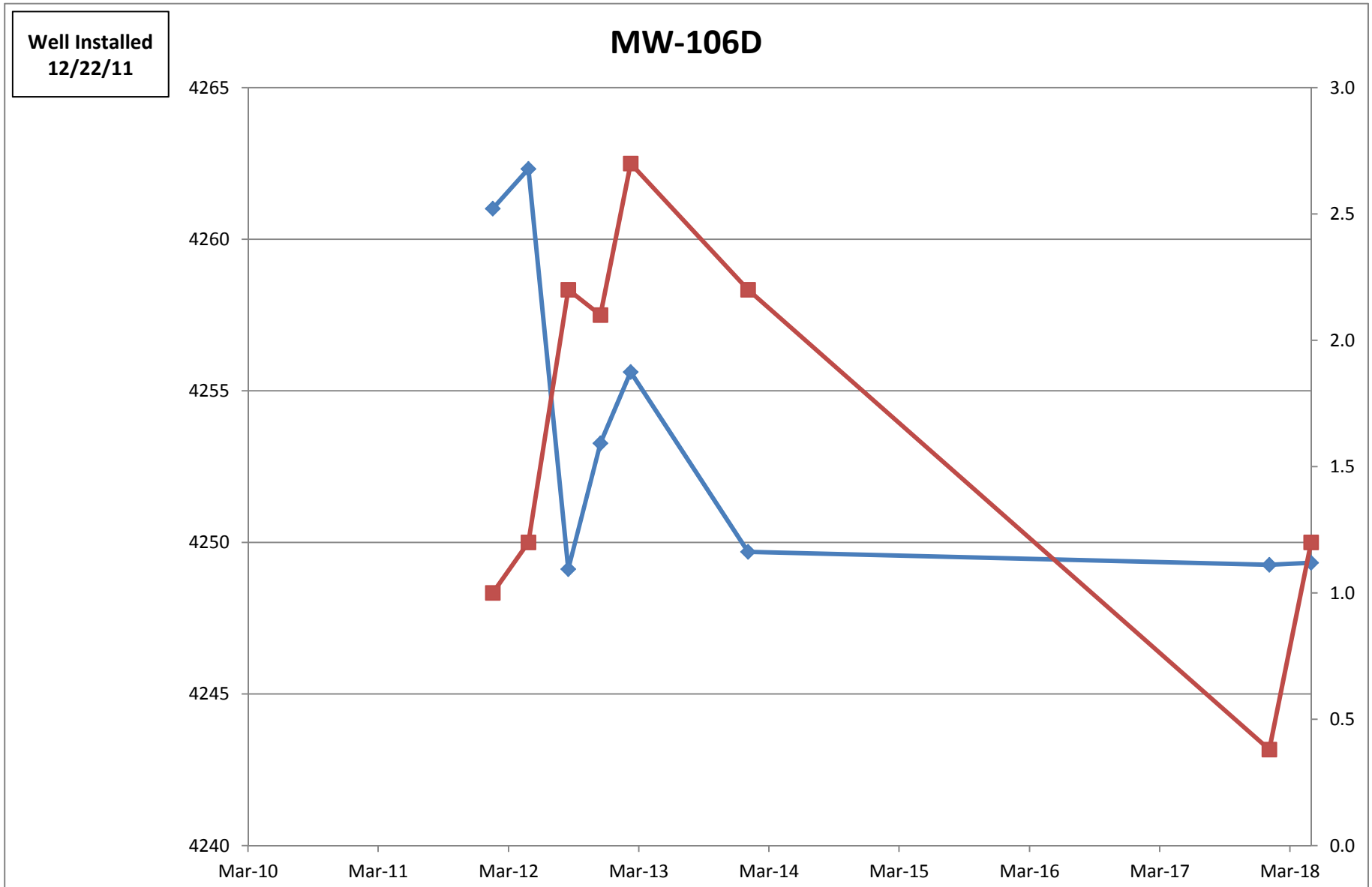
Water Table Elevation (ft)												4265.22	4264.14	4249.49	4253.22	4255.77	4249.80	4249.45	4249.62
PCE Conc. (ug/L)												9.60	7.80	8.40	4.60	6.70	7.30	2.00	0.90



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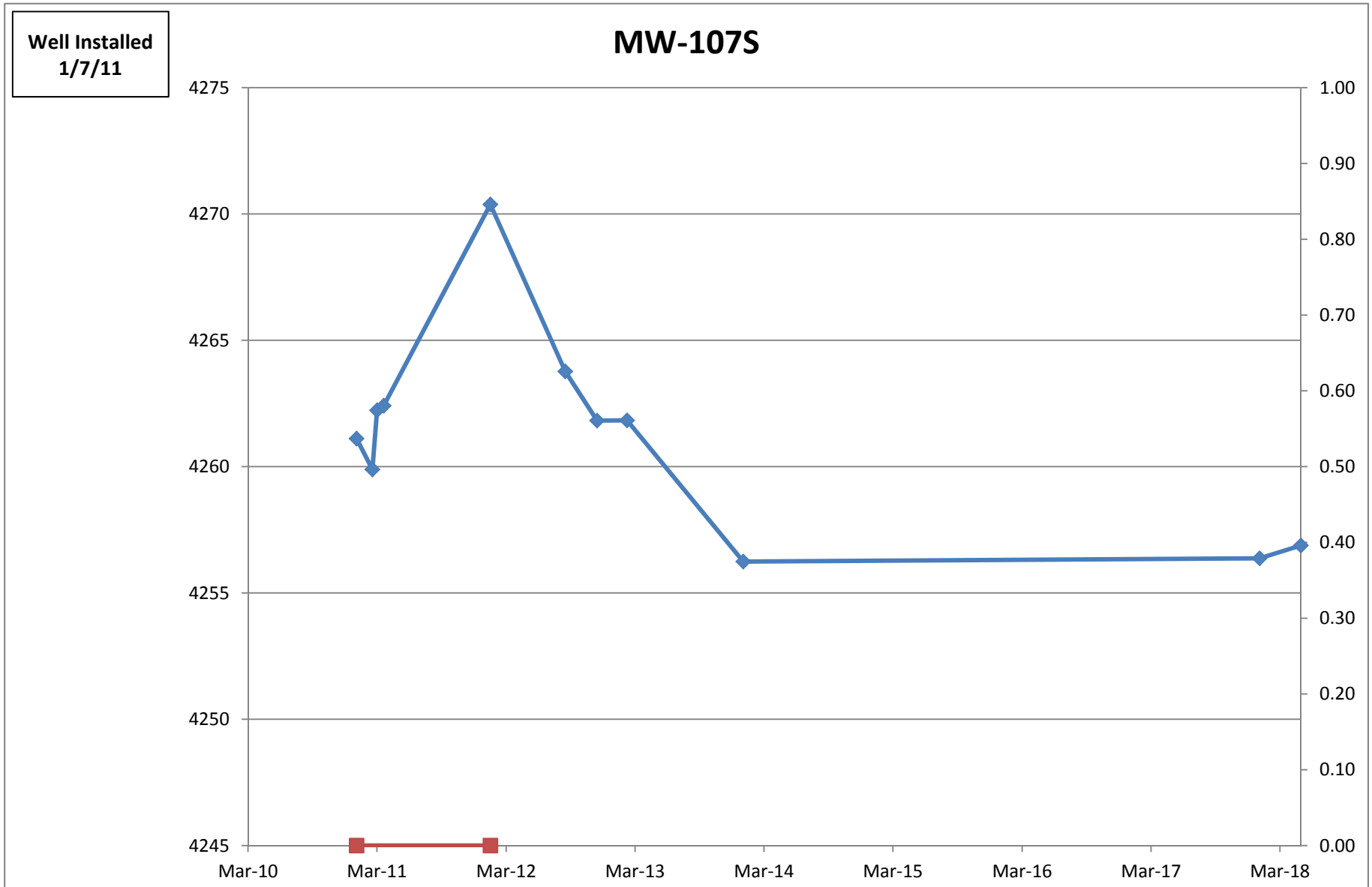
Water Table Elevation (ft)												4261.01	4262.32	4249.12	4253.27	4255.62	4249.69	4249.26	4249.33
PCE Conc. (ug/L)												1.00	1.20	2.20	2.10	2.70	2.20	0.38	1.20



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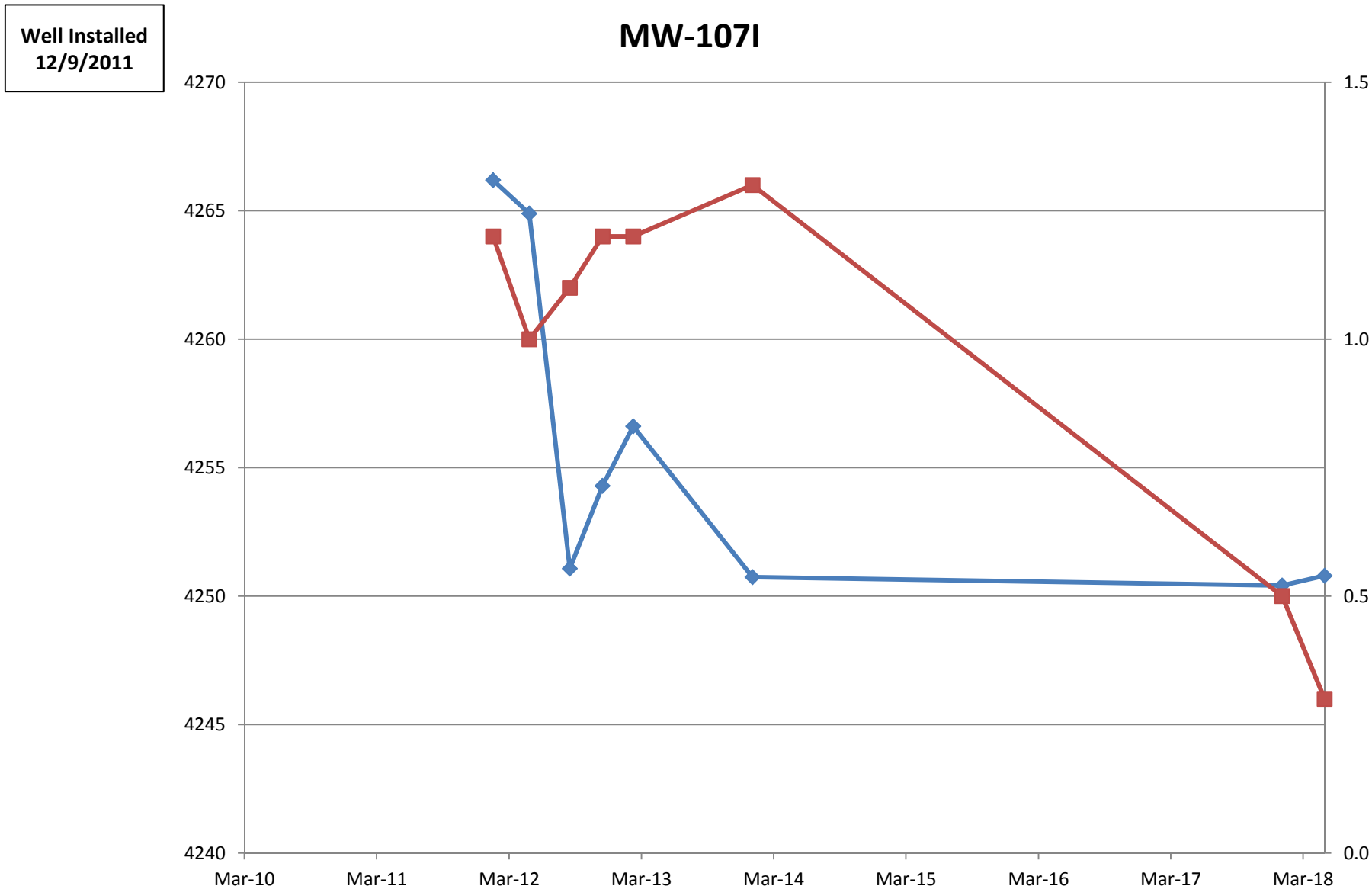
Water Table Elevation (ft)								4261.11	4259.89	4262.23	4262.41	4270.38		4263.77	4261.82	4261.83	4256.24	4256.37	4256.88
PCE Conc. (ug/L)								0.00				0.00							



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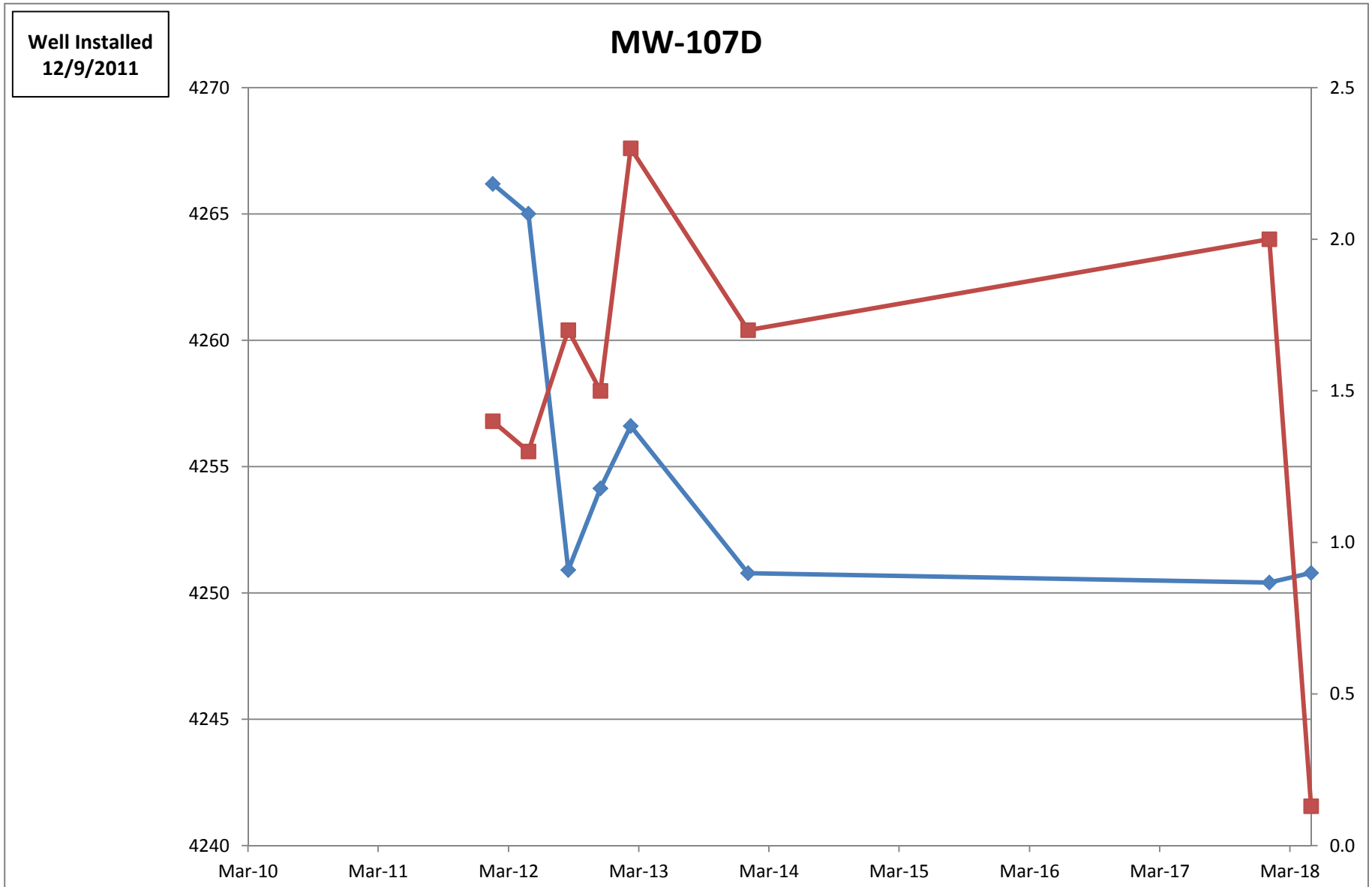
Water Table Elevation (ft)												4266.19	4264.89	4251.07	4254.29	4256.61	4250.74	4250.41	4250.79
PCE Conc. (ug/L)												1.20	1.00	1.10	1.20	1.20	1.30	0.50	0.30



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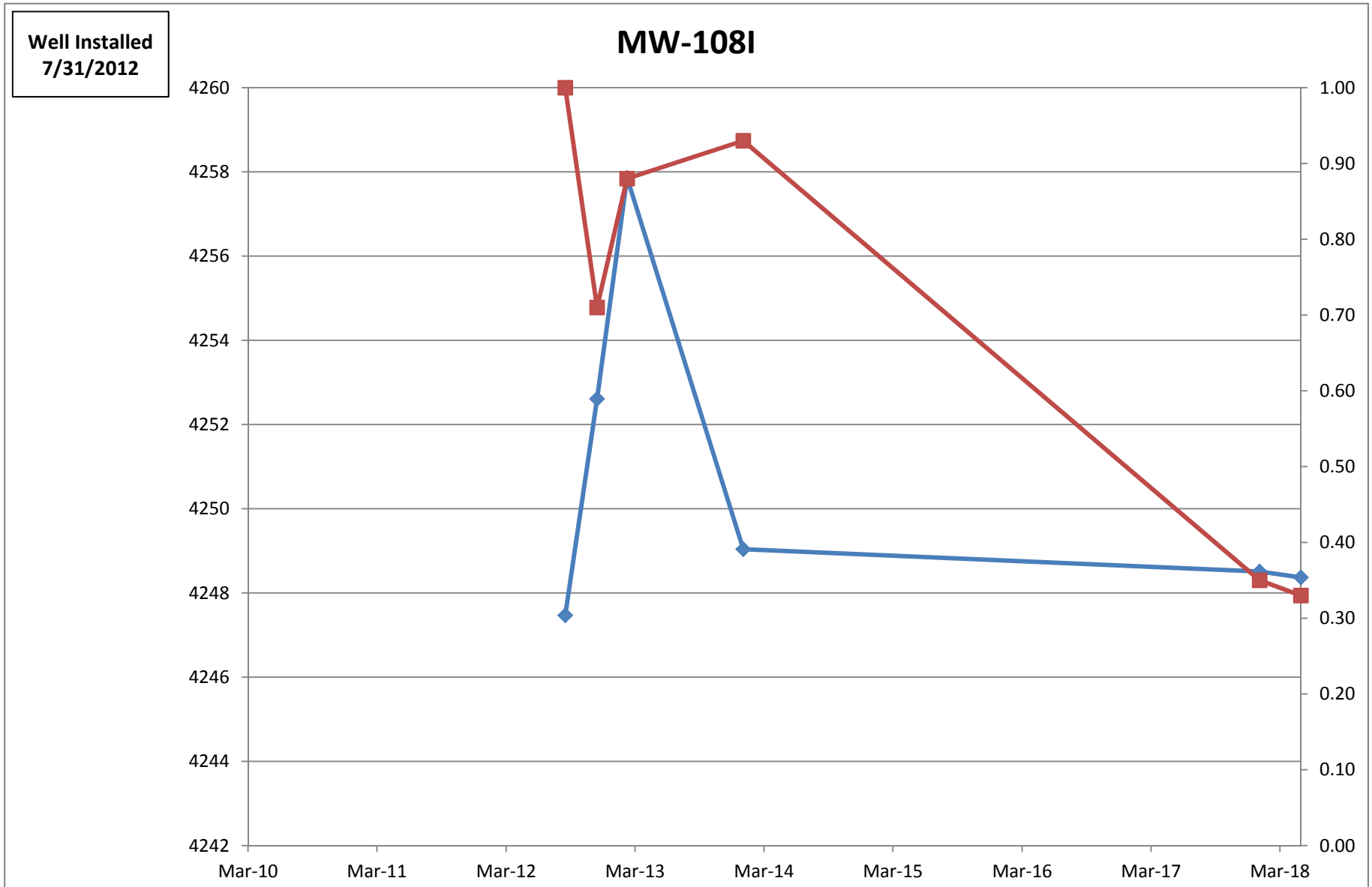
Water Table Elevation (ft)												4266.19	4265.01	4250.91	4254.14	4256.61	4250.78	4250.41	4250.79
PCE Conc. (ug/L)												1.40	1.30	1.70	1.50	2.30	1.70	2.00	0.13



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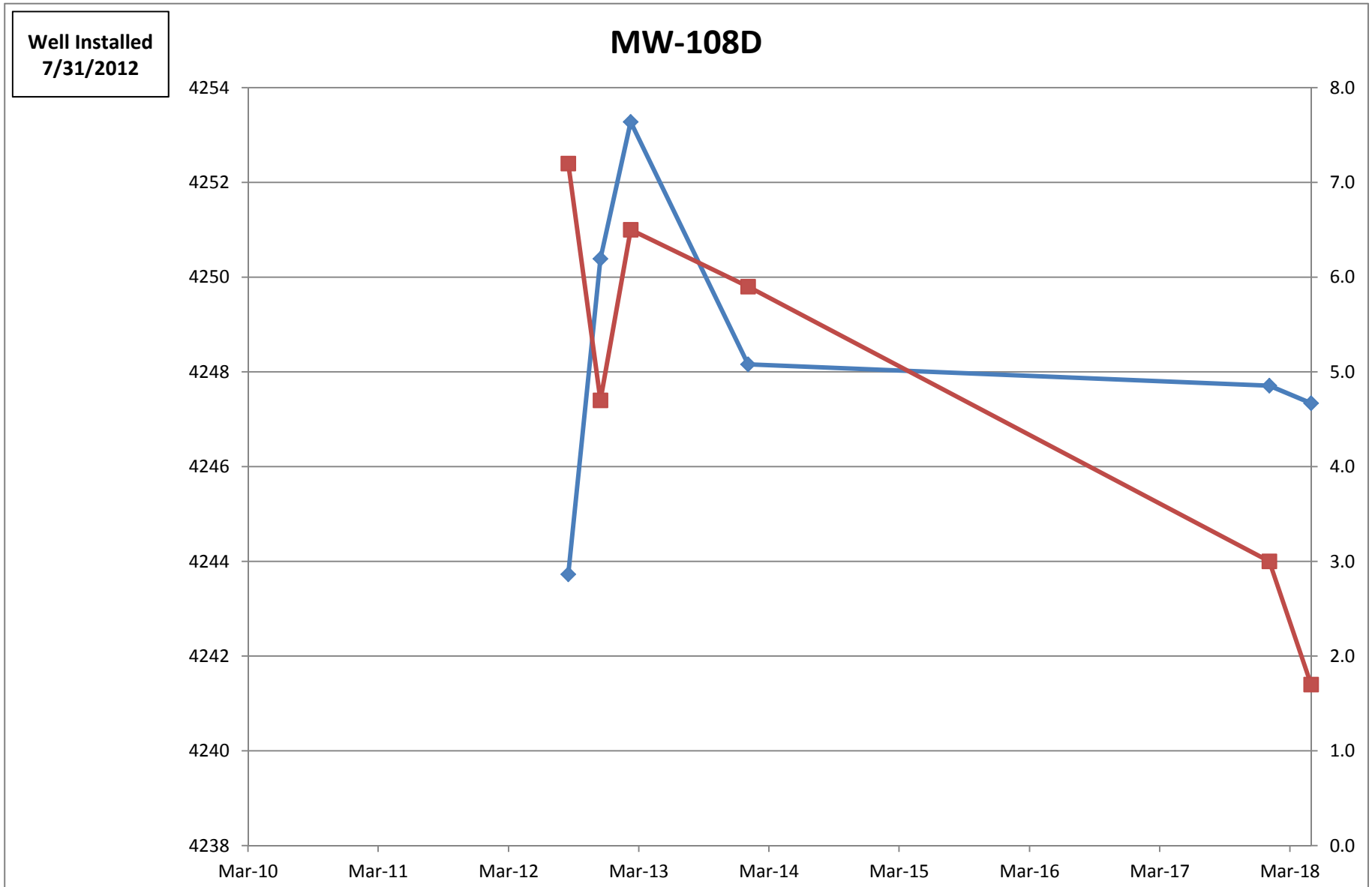
Water Table Elevation (ft)														4247.47	4252.61	4257.86	4249.04	4248.51	4248.37
PCE Conc. (ug/L)														1.00	0.71	0.88	0.93	0.35	0.33



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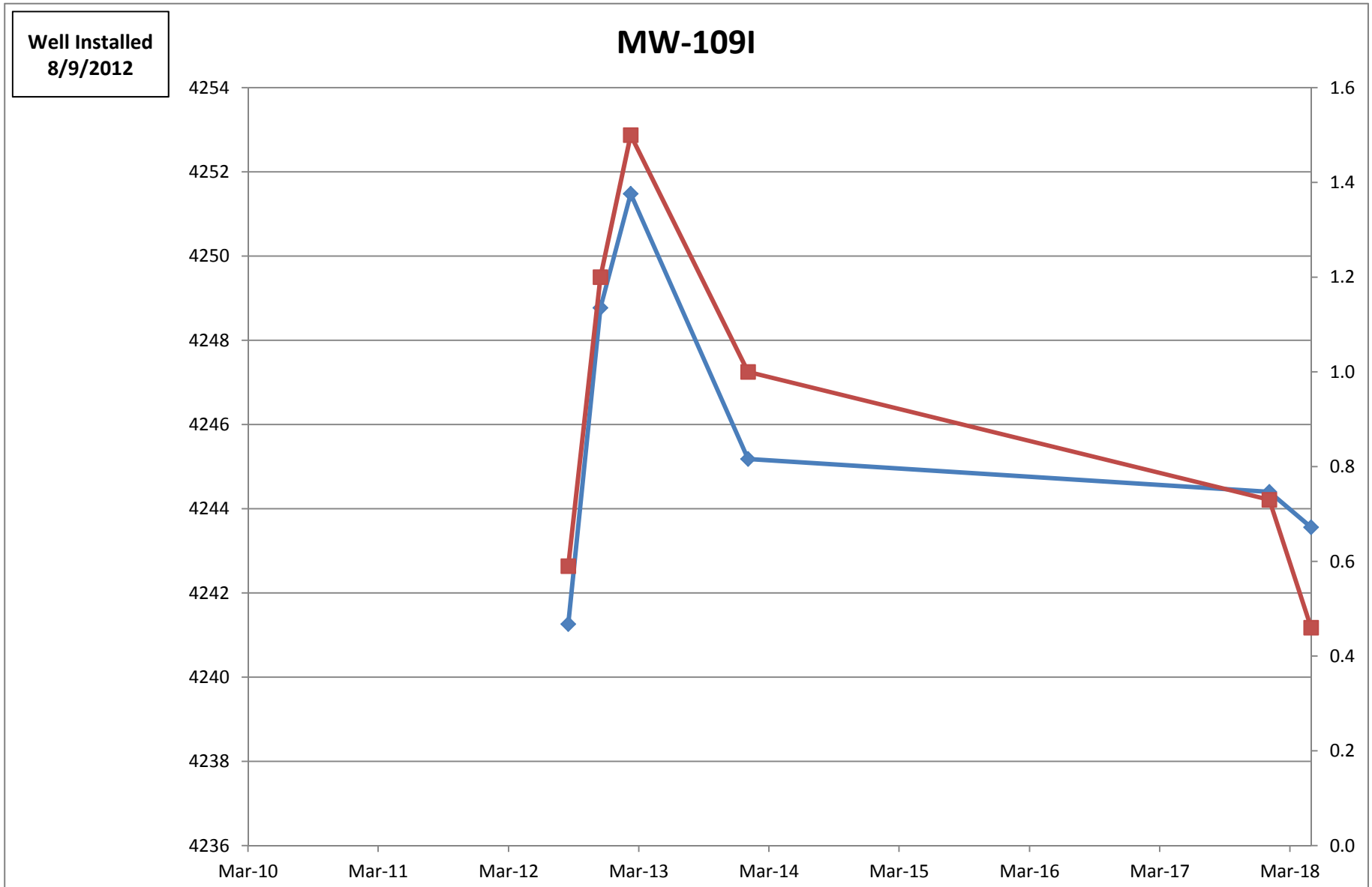
Water Table Elevation (ft)														4243.73	4250.39	4253.28	4248.16	4247.71	4247.34
PCE Conc. (ug/L)														7.20	4.70	6.50	5.90	3.00	1.70



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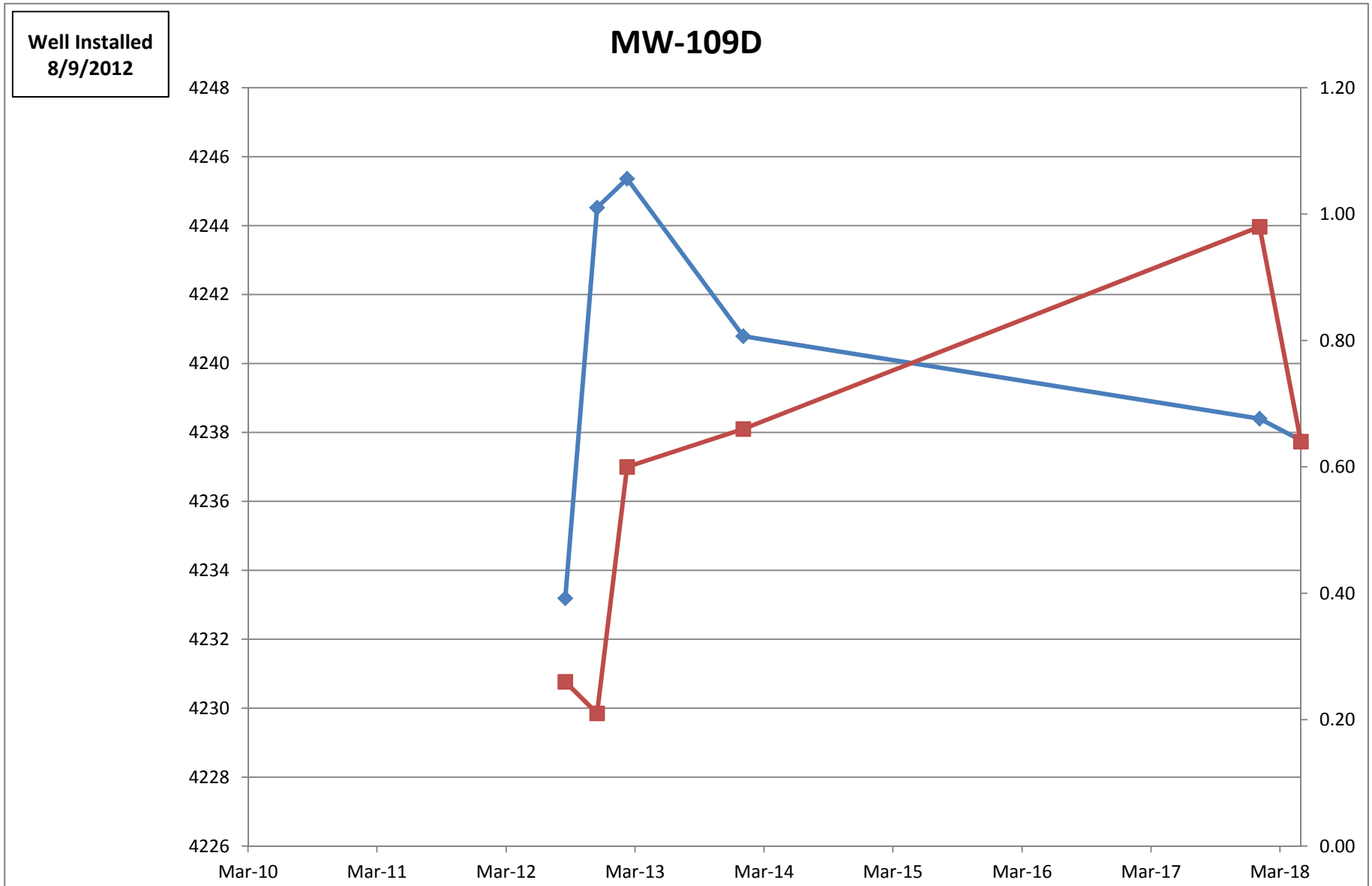
Water Table Elevation (ft)														4241.26	4248.77	4251.48	4245.18	4244.40	4243.56
PCE Conc. (ug/L)														0.59	1.20	1.50	1.00	0.73	0.46



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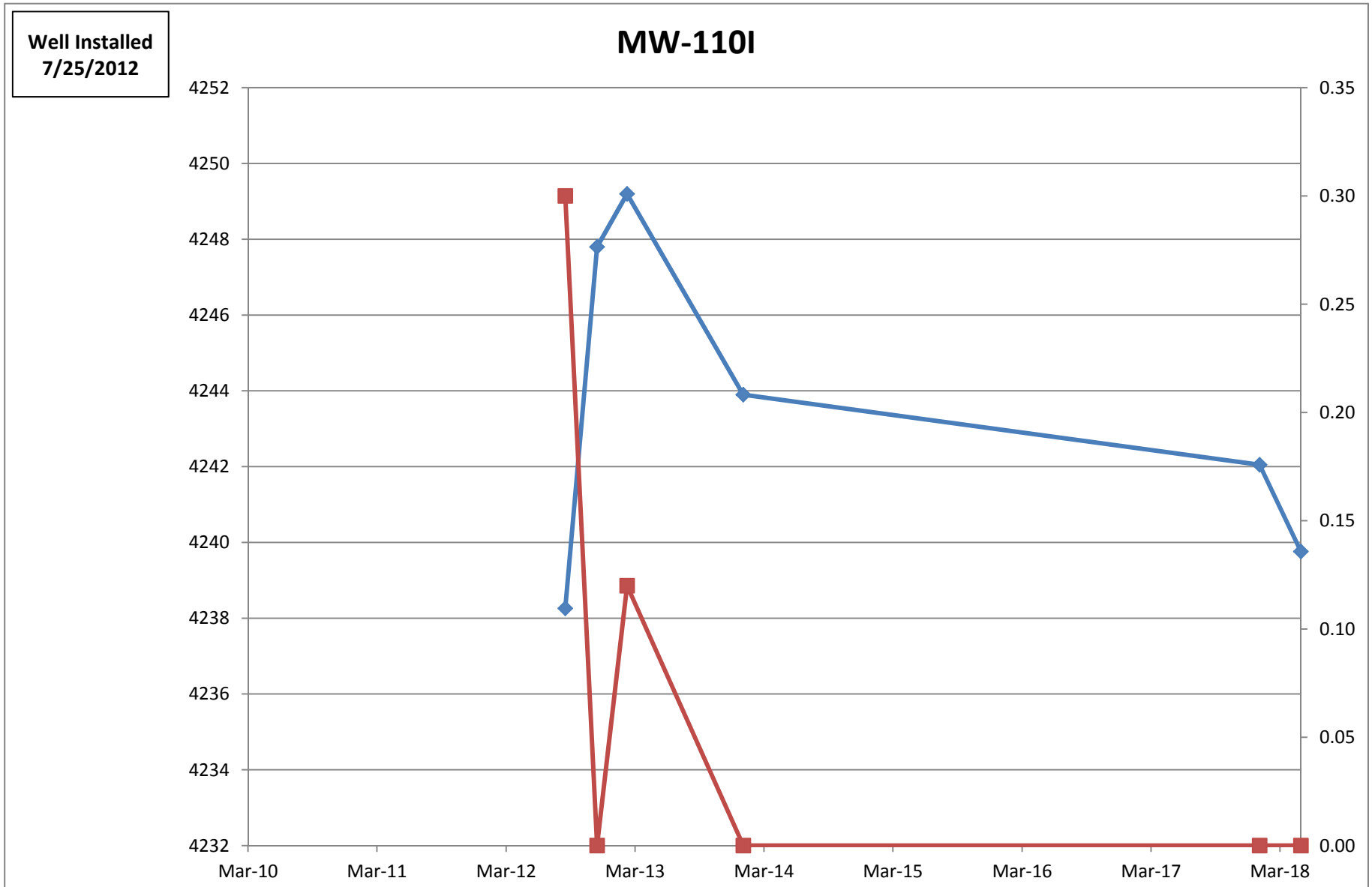
Water Table Elevation (ft)														4233.19	4244.52	4245.36	4240.79	4238.40	4237.77
PCE Conc. (ug/L)														0.26	0.21	0.60	0.66	0.98	0.64



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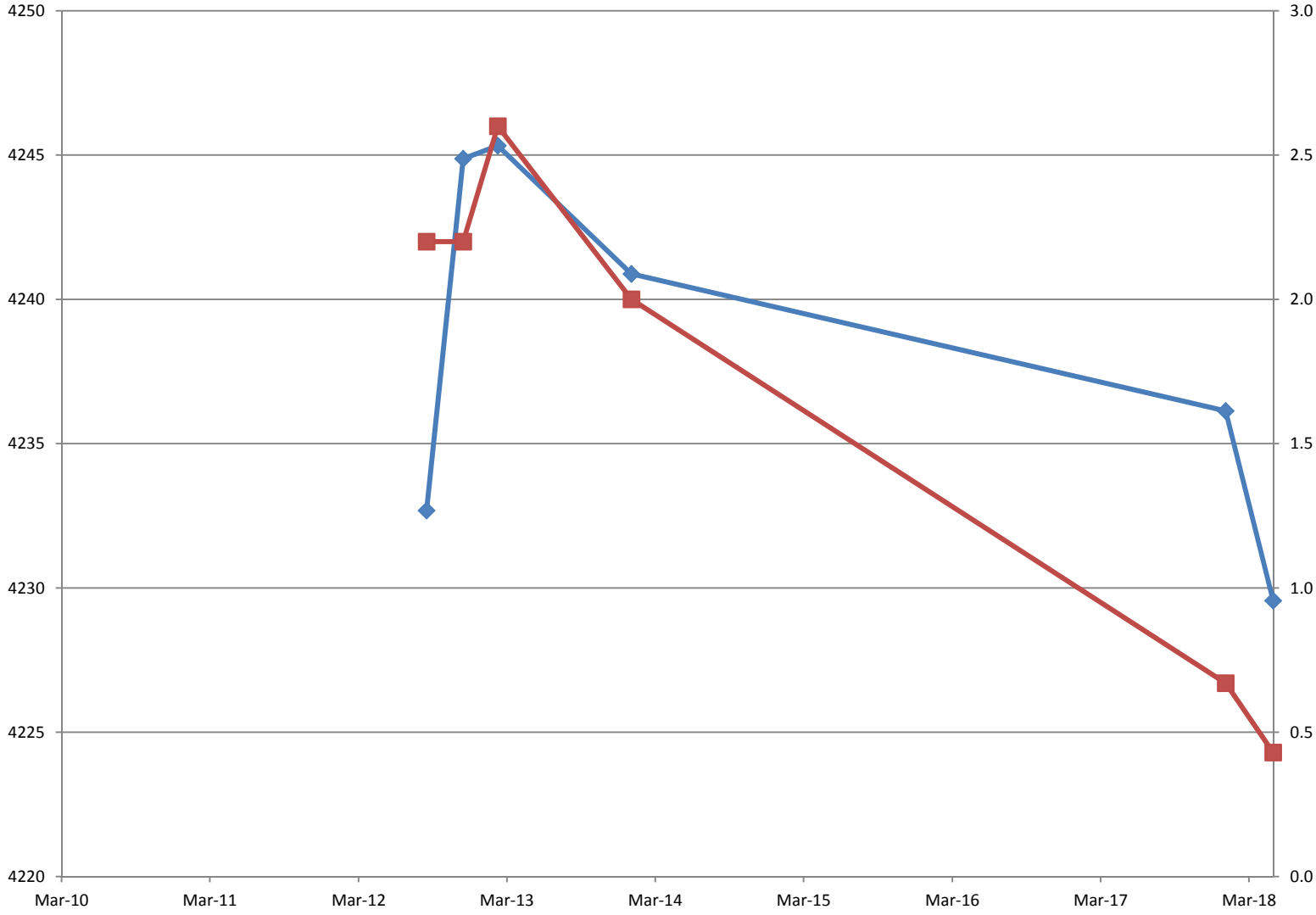
Water Table Elevation (ft)														4238.26	4247.80	4249.20	4243.90	4242.05	4239.76
PCE Conc. (ug/L)														0.30	0.00	0.12	0.00	0.00	0.00

Well Installed
7/25/2012

MW-110D



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Water Table Elevation (ft)														4232.68	4244.87	4245.32	4240.88	4236.13	4229.56
PCE Conc. (ug/L)														2.20	2.20	2.60	2.00	0.67	0.43